

Nuffield Occasional Papers  
Health Economics Series: Paper No. 1

# Mergers in the NHS

Made in Heaven  
or Marriages of  
Convenience?

Maria Goddard and  
Brian Ferguson

Introduction by  
John Wyn Owen



The Nuffield Trust  
FOR RESEARCH AND POLICY  
STUDIES IN HEALTH SERVICES

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## INTRODUCTION

The government is once again undertaking a comprehensive health spending review. At the same time it has found funds to avoid a winter of emergency inpatient closures and lengthening waiting lists.

Sustainable financing of health care with appropriate mechanisms for individual community and national priority setting are important public policy objectives which have been under scrutiny over many years and must now be addressed with some urgency. The Trust has informed this debate in the past and will continue to do so.

These Occasional Papers offer the economists' contribution and should be of interest to policy-makers at the highest level as they strive to improve the effectiveness of the National Health Service, improve patient care and create the right incentives to reward efficient performance within inevitable financial constraints.

Paper 1 – *Mergers in the NHS: Made in Heaven or Marriages of Convenience?* – by Maria Goddard and Brian Ferguson, addresses a central theme of the recent NHS reforms – the introduction of competition on the supply side of the internal market. The aim of this was to provide the incentive for efficiency and responsiveness through decentralised decision-making.

The authors examine hospital and service merger policy and practice in the National Health Service in the United Kingdom. They suggest that the evidence on the impact of mergers in the health care sector remains inconclusive and that the expected benefits from merger often fail to materialise. A cautious approach to merger activity and a clear framework for assessment are essential.

John Wyn Owen  
December 1997

## FOREWORD

The application of economic analysis to health and health care has grown rapidly in recent decades. Alan Williams' conversion of Archie Cochrane to the virtues of the economic approach led the latter to conclude that:

“allocation of funds and facilities are nearly always based on the opinion of consultants but, more and more, requests for additional facilities will have to be based on detailed arguments with ‘hard evidence’ as to the gain to be expected from the patient’s angle and the cost. Few could possibly object to this.”\*

During most of the subsequent twenty-five years many clinicians have ignored Cochrane’s arguments whilst economists busily colonised the minds of those receptive to their arguments. More recently clinicians and policy makers have come to equate, erroneously of course, health economics with economic evaluation. Thus the architects of the Department of Health’s R&D strategy have insisted that all clinical trials should have economic components and tended to ignore the broader framework of policy in which economic techniques can be used to inform policy choices by clinicians, managers and politicians. †

The purpose of this series of Occasional Papers on health economics is to demonstrate how this broad approach to the use of economic techniques in policy analysis can inform choices across a wide spectrum of issues which have challenged decision makers for decades. The authors do not offer ‘final solutions’ but demonstrate the complexity of their subjects and how economics can provide useful insights into the processes by which the performance of the NHS and other health care systems can be enhanced.

The papers in this series are stimulating and informative, offering readers unique insights into many aspects of health care policy which will continue to challenge decision makers in the next decade regardless of the form of government or the structure of health care finance and delivery.

Professor Alan Maynard  
University of York

\* Cochrane AL. *Effectiveness and Efficiency: random reflections on health services*. Nuffield Provincial Hospitals Trust, London, 1972.

† Maynard A and Chalmers I (eds). *Non-random Reflections on Health Services Research: on the 25th anniversary of Archie Cochrane's Effectiveness and Efficiency*. British Medical Journal Publishing, London, 1997.

## PREFACE

A central theme of the NHS reforms was the introduction of competition on the supply side of the internal market. NHS Trusts were expected to compete with each other to win contracts from purchasers, resulting in enhanced Trust efficiency and responsiveness to the demands of purchasers. Thus, the 1989 White Paper announced that the independence of Trusts would allow greater control by those providing the services and, "...supported by a funding system in which successful hospitals can flourish, it will encourage local initiative and greater competition. All this in turn will ensure a better deal for the public, improving choice and quality of the services offered and the efficiency with which those services are delivered and ...competition with other hospitals, where it is effective, should also constrain costs".<sup>1</sup> Competition was therefore expected to provide the incentives for efficiency and responsiveness through decentralised decision-making, rather than relying on central control and planning.

Whilst it was clear that the scope for competition would vary geographically and with different types of services, the perceived importance of the role of supply-side competition was reiterated later in the guidance issued by the Department of Health on mergers and joint ventures.<sup>2</sup> This emphasised the need to consider the impact of mergers between hospitals or individual services on the level of competition in the relevant market and stressed that such developments should only go ahead where the benefits from merger would outweigh any anti-competitive effects. This reflects the welfare trade-off approach to the evaluation of mergers in which the potential costs in terms of enhanced monopoly power are weighed against the potential benefits from enhanced efficiency.

However, despite this emphasis on creating and preserving a degree of supply-side competition, several commentators have noted the trend towards concentration of services in the NHS,<sup>3,4</sup> with speculation that the number of hospitals will continue to fall dramatically with fewer and larger hospitals becoming the norm. The new government has also stated its intention to consider hospital merger as one route to achieving financial savings<sup>5</sup> and one of its first announcements on management costs referred to the use of ‘appropriate’ Trust mergers.<sup>6</sup> However, although the concentration of hospital services is often assumed to lead to efficiency gains and quality improvements, the supporting evidence for such gains is not conclusive and there are also trade-offs to consider in terms of patient choice and access.<sup>7</sup>

Following some definitions of what is meant by the term ‘merger’, consideration is given to why mergers often raise concerns both in general and in the health care sector specifically. This is followed by a brief overview of merger activity. The driving forces behind mergers are then examined, followed by a review of the evidence on the impact of hospital mergers and concentration of hospital services. The policy implications are explored with reference to both UK and US merger policy in the health care sector. The experience of applying merger policy in the US is then assessed in order to draw out some issues and lessons for the UK. The experience from the US is used as merger policy has been in place there for longer than in the UK and thus, in contrast to the lack of empirical evidence in the UK, offers a wealth of experience on which to draw. In the final section, the appropriateness of UK merger policy is considered within the current policy context and potential changes to the health care market.

**ABSTRACT**

The central structural theme of the 1990 UK NHS reforms was the creation of a purchaser/provider split in health care. By introducing an element of competition on the supply side of the market, it was hoped that efficiency gains would be secured. One response of providers has been to merge their activities, whether through specialty or service mergers, a formal Trust merger process or through their initial applications for NHS Trust status (one Trust could be vested with the assets of multiple hospital sites). The consequence has been to increase the concentration of hospital services in some areas, thus potentially counteracting the competitive forces envisaged by the reforms. The Department of Health reiterated the importance of supply-side competition later in its guidance relating to mergers and joint ventures. The very title of the guidance *Local Freedoms, National Responsibilities* highlights the perceived trade-off between securing the efficiency gains from local purchaser/provider contracting and the need for a regulatory framework to ensure appropriate public accountability. The current government has indicated that Trust mergers are very much on the new agenda, partly as a route to achieving a reduction in management costs and the level of bureaucracy.

Within this context, the authors consider the reasons for merger generally and in the specific case of health care in the UK. The experience of the US health care sector is drawn upon as detailed guidelines have been in place longer and there is a wealth of empirical evidence on which to draw. The UK guidance, although simpler and more recent, may prove to be more far-reaching given its inclusion of mergers which deal with services or specialties: that is, at a level of analysis below that of the whole hospital. This potentially allows more freedom of entry to particular sectors, thereby making the market more contestable in certain areas.

Attention is drawn to the complexities associated with evaluating the costs and benefits of mergers. It is extremely difficult to define study controls and to allow for a wide array of confounding factors, the latter being further complicated by the fact that the expected benefits of mergers may not be realised in short timescales. Where evidence does exist, reviews suggest that efficiency may actually decline post-merger, due to unforeseen problems in integration between the merging parties. To date, there is no systematic evidence on post-merger performance or the impact of hospital mergers in the UK NHS. The lack of such evidence reinforces the need to define a framework within which to assess the costs and benefits of merger proposals. Assessments of benefits should include both economic benefits – usually couched in terms of economies of scale and scope – and a consideration of non-economic benefits (such as whether the proposed merger improves patient accessibility).

There is a need for more explicit links to other central policies, for example those which relate to ‘failing Trusts’ and those which constitute important driving forces underlying merger activity. The latter category would include professional recommendations for service delivery and training requirements, and other central policies on medical training which have important implications for supply-side configuration. Given the pressures which exist for further specialisation and, perhaps unavoidably, greater concentration of at least some services, along with the perceived potential reduction in management costs from merger, further merger activity in the NHS seems inevitable. The onus should be upon those proposing such mergers to demonstrate the likely benefits to purchasers and patients, based on evidence and clear performance criteria which can be evaluated and monitored both prior to and post-merger. Alongside the

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emphasis on maintaining a degree of supply-side competition and avoiding the potential abuse of monopoly power, it is critical that adequate leverage is encouraged on the purchasing side. This does not involve solely increasing the monopsony power of purchasers through merger activity, but should also entail continuing improvements in the availability and quality of information upon which purchasers at all levels base their decisions. This will help to ensure that, if provider mergers prove to be mere marriages of convenience, the purchasers at least have the evidence base with which to initiate divorce proceedings.

## SOME DEFINITIONS: WHAT IS MEANT BY 'MERGER'?

Mergers can take a variety of forms. Vertical mergers involve the combination of firms at different parts of the production process, with a single firm producing the goods or services which either suppliers or customers could provide. Horizontal mergers involve the combination of two or more firms producing similar goods or services. There is also a distinction between merger and consolidation as the former technically refers to the dissolution of one or more organisations and their incorporation by another (this arrangement can also be classed as an acquisition if the status of each party is unequal and depending on the arrangements for purchase); the latter involves the formation of a new organisation following the dissolution of two or more organisations.

In the health care sector it is common to use the term integration rather than merger to represent the various re-structuring activities which, in some countries, are seen to be contributing towards the development of integrated (or 'seamless') care. The type of arrangements between organisations involved in such cases varies enormously but the most vital distinction in terms of the discussion of merger is the extent to which the alliances, partnerships, joint operating arrangements and other co-operative arrangements rely on contractual (in the form of either short- or long-term contracts) relationships rather than the unified ownership or management of the integrated parties which characterise mergers. It is often the case that joint ventures and similar arrangements lead eventually to merger between the two parties, which has led the former to be characterised as 'dating' and merger as 'marriage'.<sup>8</sup> The arrangements which fall short of actual merger may be potentially more important than formal mergers in terms of their impact on the health care market.

The focus of this paper is on horizontal rather than vertical mergers, even though the latter are becoming more important in some areas.

## SOME DEFINITIONS: WHAT IS MEANT BY 'MERGER'?

For example, in the UK, GP fundholder groups increasingly resemble vertically integrated units as they are able to supply in-house some of the services which they formerly purchased. The net impact of these developments on health care system costs remains unclear.

Mergers may occur within or across particular service or geographical markets. Horizontal mergers across geographical markets, which are illustrated in the development of hospital chains in the USA, are often seen as posing fewer problems for antitrust policy as long as their share of local markets remains at an acceptable level.<sup>9</sup> Indeed, as the greatest threat of entry to a local market may come not from alternative local providers but from national and regional chains outside the local market, it could be argued that this promotes rather than hinders competition and contestability.<sup>10</sup> In the UK there has been some speculation about the development of ownership chains, but proposals by Trusts to set up *new* sites in other areas may be outside the current law,<sup>11</sup> although the management of existing sites may be feasible and this is discussed further in later sections.

A further distinction is necessary in the discussion of mergers in the NHS: mergers at the *Trust* level and at the level of *individual services*. Mergers between whole Trusts are not as common as the merger of services or specialties currently provided at more than one location onto a single site. The latter has no impact on competition if the sites are owned by the same Trust, but where there is an arrangement to re-locate services at one Trust rather than two or more, competition for that service may indeed be affected. The importance of this sort of re-configuration which falls short of merger is acknowledged in the guidance issued by the Department of Health which covered not only formal mergers but also merger activity involving services or specialties<sup>2</sup>.

## WHY WORRY ABOUT MERGERS: THE ROUTE TO MARKET DOMINANCE?

### Economic theory

Horizontal merger is one route through which a firm can acquire dominance over the supply of goods or services in a market. A dominant or monopolistic supplier may be able to restrict the volume of service or charge higher prices than those that would prevail in a more competitive environment.<sup>12</sup> The structure-conduct-performance perspective which emphasises the link between the structure of the market and the conduct of those within the market was particularly popular in the 1950s and 1960s and influenced the development of competition policy aimed at combating the potentially adverse consequences of concentration.

The efficiency of the firm may also depend in part on the degree of competition faced by the decision-makers within the firm. A dominant firm will face poor incentives for efficiency and its key decision-makers may seek above all a quiet life, with a tendency to be slow to innovate.<sup>13</sup>

Williamson has advocated a welfare trade-off approach to the analysis of mergers, stressing the possible efficiency gains from merger which should be weighed against increases in market power.<sup>14</sup> This coincided with the Chicago school critique of the structure-conduct-performance paradigm and a focus on concentration and high profits as a *consequence* of efficiency rather than stemming from market power.<sup>14</sup> This insight is of less direct relevance to the UK health care sector in which existing NHS Trust financial rules do not generate incentives to make high profits.

The theory of contestable markets<sup>15</sup> stressed the importance of ease of entry rather than market structure *per se*. More recently, the New Institutional Economics approach has led to a re-evaluation of the

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circumstances in which monopoly provision may be an efficient way of organising production. The traditional view that hierarchies exist *within* firms and market mechanisms *between* firms has been challenged. For example, market mechanisms are increasingly perceived as useful within firms to create desired incentive conditions, while hierarchical links are often extended to inter-firm relations.<sup>16</sup> A monopoly structure may therefore be consistent with efficient outcomes and requires a more sophisticated form of analysis than some conventional economic approaches.

Although merger is one route through which market power can be created, market concentration and market power are by no means equivalent. The extent to which a dominant firm can maintain a price higher than the competitive level will also depend upon the responsiveness of purchasers and other suppliers to changes in relative prices. This will depend on factors such as the availability of realistic substitutes for the product or service in question, the level of spare capacity and ease of entry into the market.

In markets where there are sufficient competitors to prevent the emergence of a single dominant firm, collusive behaviour may still be an issue. If merger activity creates a small number of relatively large firms within a market, there is a possibility that they will co-operate in order to produce non-competitive outcomes. The extent to which collusion in the health care sector leads to abuse of market power will again depend upon the responsiveness of demand to price changes, and on the behaviour of firms in terms of how they expect rivals to react to unilateral price changes.<sup>17</sup>

It is clear from this brief summary of different approaches that no single theory or approach is sufficient to analyse the impact of

mergers. Equal consideration must be given to the internal organisation and efficiency of firms as to the consequences of merger on market structure and inter-firm behaviour. The recognition of the 'fading boundaries of the firm'<sup>16</sup> is an important insight when applying these theoretical principles to a complex sector such as health care.

### **Mergers in the health care sector: is economic theory relevant?**

To what extent are mergers, as one route to acquiring monopoly power, a potential problem in the health care system? Clearly they are considered to be an important issue in some countries and both the UK<sup>2</sup> and USA<sup>9</sup> governments have set out policy on mergers in the hospital sector in the past.

Some would argue about the relevance of analysing health care markets using an economic framework based on traditional monopoly theory, pointing particularly to the nature of institutions and relationships in the NHS which suggests that competitive behaviour is either not possible or may be inefficient.<sup>18,19</sup> However, whilst acknowledging the special nature of the market participants in the NHS and the fact that the stylised notion of perfect competition does not exist, this does not mean that monopoly power is an issue which can be ignored as it can give rise to potential inefficiency.

First, the existence of monopoly power can give poor incentives for management to take action in order to operate efficiently; instead they may prefer a quiet life. Implementing cost-saving mechanisms is likely to cause Trust management considerable time and effort, so the avoidance of such practices is likely to be attractive to Trusts enjoying a degree of market power. Additionally, the pricing regime in the NHS, which allows Trusts to cover costs plus an allowance for

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rate of return on capital, provides further incentives for those in monopoly positions to put less effort into restricting costs, as they are able to pass cost increases directly onto purchasers in the form of higher prices.

Where providers enjoy a dominant position for some services and not others, they have an incentive to load higher proportions of fixed costs onto those services in which they have a monopoly whilst pricing other services at a more competitive level. Although in theory such planned cross-subsidisation is not allowed, in practice there may well be scope to engage in such activities as accounting practices are not sufficiently sophisticated to allow detection. Unless it is argued that price has absolutely no impact on purchasing decisions, then policies which help to discourage this activity will be potentially beneficial. Thus even in the USA where anti-trust legislation is aimed mainly at profit-making enterprises, its policy on hospital mergers emphasises the potential problems associated with non-profit hospitals which have less incentive to reduce costs in order to reap larger profits.<sup>20</sup> This may be reflected not only in cost-reducing efforts but also in terms of lower quality and a lack of responsiveness and service innovation.

The extent to which a dominant provider can abuse market power in the NHS will vary considerably between services. For those services where purchasers can shift some or all of their business as patients are more willing to travel, and where alternative suppliers may find it relatively easy to enter the market, even a dominant provider will find it difficult to maintain high prices and/or poor quality over time. For example, in the case of many elective services, a purchaser may choose to place contracts further away if a competitor offers a significantly lower price. In addition, private sector providers may be tempted into this market niche (at relatively low cost) to take

advantage of relatively high prices. However, this is unlikely to be the case for services such as emergency care where providers are more easily able to take advantage of their dominance due to high entry costs and the importance of easy access.

Although quantitative evidence is not available, some purchasers attribute their success in achieving gains from the reformed NHS to their ability to switch business between providers, even if this concerns a relatively small proportion of overall business.<sup>21,22</sup> Indeed, even where geographical circumstances do not permit competition in the market, some purchasers have realised that their future leverage with providers depends upon the creation of contestability<sup>22</sup> where the threat of competition is used to encourage providers to perform well.

In addition, mergers which involve the re-configuration of services onto centralised sites and the closure of others will have implications for patients in terms of ease and cost of access. Although a recent review of available evidence on the link between distance and access was not definitive due to the poor quality of most studies, there was some evidence to support the hypothesis that those living further away from services make less use of prevention and screening services and have fewer outpatient follow-up visits for some services.<sup>23</sup>

Whether mergers can be expected to deliver benefits overall to patients depends largely on the incentives generated for improving efficiency. To this extent the insights of economic theory are essential to the analysis of the impact of mergers in the health care sector. Furthermore, the notion of contestability is of considerable importance in a market where set-up costs are high but entry is possible at least in the case of specific services. Creating the appropriate incentives for providers to be efficient is a necessary

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requirement for purchasers to be able to achieve greater health benefits for a given level of resource. This in turn requires that providers' costs can be detected, so that any cost reductions are passed onto purchasers in the form of lower prices. More fundamentally, it is necessary to consider the perceived link between competition and efficiency gains.

**The link between competition and efficiency in health care**

Most of the available published evidence on the impact of competition on costs, price and quality comes from the USA and Canada and is apparently contradictory. Work conducted in the 1970s and early 1980s showed that competition did not produce the expected benefits in terms of reduced costs and profits, but instead often resulted in competition in terms of enhanced facilities, greater range of services and service quality.<sup>24-27</sup> Service and quality competition may be inefficient if it adds more to the cost of the service than it provides in benefits to patients. Thus competition became associated with the 'medical arms race' and wasteful duplication.

However, once account is taken of the financial environment operating at the time and the nature of demand, these results can be reconciled with later, apparently contradictory, findings. Hospitals responding to reimbursement from traditional health insurance companies based on costs or charges, where enrolees have a free choice of provider and limited co-payments, will have every incentive to enhance quality in order to attract patients and no incentive to control costs. With the introduction of prospective payment systems (PPS) and managed care, incentives to engage in price competition were sharpened and studies using data from the late 1980s onwards have illustrated the expected relationship between greater

competition and lower costs.<sup>28-31</sup> The introduction of selective contracting by many managed care plans restricts patients to attending only those hospitals which have been chosen by the plan to cater for enrollees. The choice will be influenced by price as well as quality and managed care organisations which can choose from a number of providers could be expected to extract greater cost and quality advantages than if they faced a single supplier.

In the UK, very little empirical evidence on the link between competition and price or costs exists, mainly due to the paucity and difficult interpretation of data, but the available evidence supports the existence of a negative relationship between competition levels and costs. At present, the comparison of prices in the NHS is not straightforward as the relevant product is often difficult to identify and compare between providers. If providers progress towards pricing on the basis of costing standard activity units such as healthcare resource groups (HRGs), then this should pose less of a problem. Propper's study of the prices charged by Trusts for extra contractual referrals (ECRs) showed that market structure (measured very crudely) did have some impact on the prices charged, in the direction expected.<sup>32</sup> Similar analyses of the prices charged to GP fundholders revealed a weak negative relationship between the level of competition and price.<sup>33</sup> An analysis of four years of hospital cost data from more than 200 providers found a significant relationship between measures of market concentration and costs: hospitals in more competitive areas had lower costs and this 'competition effect' seemed to intensify over time.<sup>34</sup>

It is not possible to provide definitive answers regarding the expected link between competition and efficiency, especially in the UK context. The authors are not aware of any research which has evaluated systematically the link between the degree of competition and contract

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prices across a range of services. In addition, because providers have not yet had to set prices according to standardised units of activity, underlying costs across providers are in any case not comparable. (Even with standardised units of activity such as HRGs, it would be difficult to detect selective cross-subsidisation and costs/prices would remain difficult to compare.) In the UK context, the link between competition and efficiency, although not proven beyond doubt, appears to operate in the expected direction, reinforcing the need to evaluate the impact of hospital mergers carefully.

## TRENDS IN MERGER ACTIVITY IN THE HEALTH CARE SECTOR

Mergers between NHS Trusts are recorded by the Department of Health where they require Ministerial approval. Since 1991, 13 mergers have been approved and undertaken; one has been approved and commenced in April 1997; consultation is currently underway for a further three (as at February 1997; personal communication, NHS Executive). These are shown in Table 1.

**TABLE 1: Mergers between NHS trusts**

Region	Trusts
<b>South Thames</b>	Guys & St Thomas's Trusts Homewood Trust & Weybourne Community Trust Maidstone & Weald of Kent*
<b>North Thames</b>	St Bartholomew's Trust, London Chest Hospital Trust and Royal London Hospital Harrow Community Trust & Hillingdon Community Trust Royal Free Hampstead & Royal National Throat Nose & Ear Trust
<b>South West</b>	West Dorset Community & Dorset Mental Health Trusts Isle of Wight Community Trust & St Mary's Trust
<b>North West</b>	Mancunian Community Trust & part of Central Manchester Community Trust Royal Liverpool University Hospitals & Broadgreen Hospital Trusts Wirral Community Trust & West Cheshire Trust*
<b>Trent</b>	Lincoln Hospitals & Louth & District Healthcare Trusts
<b>Northern &amp; Yorkshire</b>	Newcastle Mental Health Trust & part of Newcastle General Hospital South Durham Health Care Trust & South West Durham Mental Health Trust Hartlepool Community Trust & Hartlepool & Peterlee Trust Pontefract & Pinderfields Trusts*
<b>West Midlands</b>	North East Worcestershire & South Worcestershire Community Trusts

\* Under consultation

## TRENDS IN MERGER ACTIVITY IN THE HEALTH CARE SECTOR

The mergers differ in nature with some involving community and mental health services (e.g. West Dorset); others involving acute and community mergers (e.g. Isle of Wight Community and St Mary's acute); whilst others join together larger acute Trusts (e.g. Guys and St Thomas). However, these figures underestimate the true extent of merger activity in the NHS. Those which do not involve the dissolution of one Trust as part of the merger process do not require Ministerial approval so are not included. Thus the 'takeover' of smaller units by an established Trust will not appear (e.g. merger between Premier Health Trust in the West Midlands and five small acute hospitals). Neither will those mergers which occurred at the early stages of the reforms where a first or second wave Trust took over an existing Directly Managed Unit (DMU) (e.g. Northgate Trust with Prudhoe DMU in Northern and Yorkshire; Birmingham Heartlands with Solihull Hospital DMU). Also, merger activities below the level of the whole Trust which may involve significant re-configuration and concentration will not appear as they do not count as official mergers. The importance of these developments is acknowledged in the Department of Health's guidance on mergers which defines merger activity as relating to services and specialties as well as Trusts, but no formal record of these changes are kept, hence it is difficult to obtain an overall picture of how service concentration has changed. However, acute service reviews have been undertaken in almost every city and in many this has led to changes which have increased service concentration.<sup>35,36</sup> A recent review of acute service re-configurations in twenty commissioning authorities reinforces the overall picture of increased concentration in services and specialties.<sup>37</sup>

Although increased concentration in the form of fewer and larger hospitals is not wholly attributable to merger activity, data showing the

growth of larger hospitals (apart from those in the 1,000 plus group) and the reduction in smaller ones can be revealing (see Table 2).

**TABLE 2: Proportion of non-psychiatric hospitals by size, England**

%	1959	1979	1989/90
up to 50 beds	42.7	37.4	35.5
51-250	43.3	43.8	41.8
251-500	10.1	11.8	13.7
501-1,000	3.6	6.4	8.9
over 1,000	0.4	0.6	0.3

Source: adapted from Harrison and Prentice<sup>3</sup>

Whilst the previous government announced a commitment to small local hospitals (Press Release, 8th January 1996), emphasising their important role in the provision of NHS care, merger activity appears set to continue in the NHS, especially as almost every health authority and region is undertaking some sort of review of acute services capacity. Indeed, the recent review of acute services in Leeds concluded with a strong recommendation from the review team for a merger between St James and Seacroft Trust and United Leeds Trust, which would create the biggest Trust in the country.<sup>38</sup> A recent review of acute Trusts in Oxfordshire considered the need to reduce the number of Trusts from eight to around four.<sup>39</sup> Media reports constantly refer to proposals for new mergers or rumours about mergers in the pipeline and the new government has stated their intention of using Trust mergers as a route to reducing management costs.<sup>40-45</sup>

In summary, it is clear that mergers at all levels have been a dominant feature of the post-reform NHS and there are no signs that this activity is abating.

## WHY DO HOSPITALS MERGE?

The theory of the dominant firm would predict that one reason for merger activity is the desire to acquire market power and take advantage of a monopoly position. However, whilst the creation of a dominant provider which can exercise market power may well be one *consequence* of mergers between hospitals, there is some evidence which suggests there may be more important drivers for mergers in the NHS other than the desire to exploit monopoly power.

### Removal of excess capacity

In the early years of the reforms, many of the re-configurations in the hospital sector were said to be due to the existence of spare capacity in the acute sector which needed to be dealt with in a planned way rather than being 'left to the market'. For example, it was argued in the Tomlinson Report on hospital services in London, that re-configurations were required due to a perceived mismatch between over-supply of secondary care (estimated to be between 1,365 and 7,200 'excess beds') and under-supply of good quality primary care.<sup>46,47</sup>

Where genuine over-supply exists (e.g. proxied by bed occupancy rates) and fixed resources are being under-utilised, mergers can produce short-run cash savings and reduce average costs through better utilisation of resources and reduction in duplication. In the USA, merger activity in the hospital sector has been strongly related to the existence of spare capacity and subsequent high unit costs which have encouraged hospitals to exploit the perceived efficiency gains from merger. A decline in hospital utilisation rates and length of stay, coupled with continued increases in input prices, has reduced hospital profits, with net patient revenue margins declining by 95% since 1987.<sup>48</sup> The prospective payment systems introduced in the mid-1980s for Medicare patients and the expansion of managed care have added

to cost pressures in the USA. Faced with financial difficulties, merger may be the only alternative to closure for many hospitals struggling to remain viable. In a survey of merging hospitals in the USA, the reduction in duplication of services and staffing was cited most frequently as the reason for merging.<sup>49</sup> The avoidance of closure was also mentioned by one-third of respondents, with most respondents offering several reasons relating in general to efficiency motives.

Arguments about spare capacity have led to debate about the number of beds needed to meet demand. The UK has seen a consistent decline in the total number of hospital beds available since 1984, as illustrated in Table 3.

**TABLE 3: Average number of available daily in-patient beds in all specialties (England)**

	1984	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Number (000s)	335	270	255	243	232	219	212
Rate per 1,000 population	7.1	5.7	5.3	5.0	4.8	4.5	4.3

Source: Health & Personal Social Services Statistics

Simultaneously, the demand for hospital services has risen as measured by finished consultant episodes, and over one million people remain on waiting lists. In addition, there has been an acceleration in emergency admissions, the causes of which are still being debated. Increased activity rates have been accommodated by much more intensive use of acute beds, shorter lengths of stay and a large rise in day case activity (see Table 4 overleaf).

The existence of spare capacity is not necessarily a reflection of inefficiency as some level of planned reserve capacity is required if

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**TABLE 4: Cases treated in all specialties (England)**

(000)s	1984	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Inpatients	6,867	7,477	7,524	7,755	7,828	7,988	8,065
Day Cases	903	1,163	1,261	1,547	1,808	2,106	2,474

Source: Health &amp; Personal Social Services Statistics

providers are to be able to respond adequately to changes in demand. The issue is whether there is still spare capacity in the acute sector beyond this 'optimum' level, which may lead to future merger activity, or whether it has reached some sort of critical level beyond which further reductions are not possible. This is not an easy question to answer and the use of 'bed norms' per thousand population, which were used in the past to guide planning in the NHS, is now not very relevant given the changes to the nature of medical technology and health care provision. Whilst some would argue that the reduction in spare capacity has gone too far too quickly without a commensurate expansion of primary care,<sup>50</sup> and many Trusts are now struggling to meet demand at peak periods, there may still be specific geographical areas in which the reduction of acute spare capacity has driven re-configurations and mergers. This has been especially true of large urban conurbations served by a number of general hospitals, none of which could be sustained in their original forms in the face of the shifting emphasis to primary care. In the USA, where acute hospital care has been slashed, there is now debate about whether this 'obsessive quest to gut the hospital' has done anything to save money and may even have added to total health care costs.<sup>51</sup>

In conclusion, whilst it may be the case that specific geographical areas still face a degree of spare capacity which merger could potentially

eliminate, it is clear that there has already been a substantial reduction in apparent excess capacity in the acute sector and it is not clear how much further there is to go. Moreover, as the greatest resource savings will accrue where under-utilised capital is removed from the system following merger (both short-term cash gains and lower costs due to reduction in capital charges), those that do not result in closure of hospital sites and units will not realise such gains. Given the political and public emphasis on retaining access to local hospitals despite mergers aimed at consolidation of services (e.g. Solihull and Heartlands hospital merger in the West Midlands), it is possible that many mergers will fail to reap all the savings that might be predicted.

There remains, however, a countervailing argument that advances in medical technology may continue to lead to reductions in length of stay. If this is supplemented by appropriate developments in primary and community care, the level of excess capacity in the secondary care sector may increase over time. In this situation, there may be more benefits to reap from merger activity which reduces the level of spare capacity.

### **Economies of scale and scope**

Distinct from the savings brought about by combining hospitals where each is experiencing excess capacity which can be eliminated through concentrating a reduced level of total activity in one location, economies of scale refer to the benefits that can be achieved by operating efficiently at higher rather than lower levels of production. If these exist, mergers which combine two efficient smaller hospitals into a single larger unit will reap efficiency gains. What is often overlooked is that empirical work on this issue assumes that hospitals are operating efficiently, therefore the extent to which it can guide

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decisions on mergers involving hospitals which are not doing so is rather limited.<sup>23</sup> Nevertheless, the claim that mergers will result in economies of scale is a frequent argument and is reflected in the UK policy guidance which includes a summary of the evidence for the existence of both economies of scale and scope.<sup>2</sup> A US study found that the achievement of economies of scale was cited frequently by merging parties as a main reason for merger.<sup>49</sup>

Economies of scale and scope can be analysed in relation to both cost savings and quality gains. Whilst the arguments relating to a negative relationship between long-run average costs and the scale or volume of production (economies of scale related to costs) is perhaps best known, the link between the range of services provided and costs (economies of scope in relation to costs) may be more important in the provision of hospital care. As treatment of a particular condition often requires an input from several specialties, it can be argued that having each specialty on one site will reduce costs (the impact on quality is discussed later). The desire to maintain or create links between specialties has indeed been offered as one reason for merger.<sup>52</sup> In addition, this has been a powerful argument in the debate about the number and configuration of A&E departments in the UK as there are various views about the range of services required to support a functioning A&E department, relating strongly to perceived links between specialties.

In relation to quality, the arguments for merger producing economies of scope again appear superficially strong. The emphasis on 'seamless care' for the patient and the benefits of having on a single site the full range of services which might be required for treatment has been used as a reason not only for merger of whole hospitals, but also for the realignment of services between Trusts. For example, in the Leeds acute

services review, the argument for centralising many services on a single site was to ensure the availability of specialties with ‘critical links’ to each other.<sup>38</sup> The arguments concerning a link between volume and quality (economies of scale in relation to quality) have been put forward in most of the major re-configurations which have involved increased concentration of services.<sup>37</sup> Clearly, the belief in the existence of a significant link between greater treatment volumes and better outcomes has been a major driving force in many mergers.

### **Influence of professional guidance on service delivery**

The importance of a perceived relationship between volume or range of services and quality of care has been enhanced by the views of various professional groups which often put forward guidance on the organisation of service delivery. This may take the form of guidance on the composition of the clinical team, the minimum population to be served or links between different professionals and specialties within the unit. For example, the British Paediatric Association has published recommendations on the care of critically ill children<sup>53</sup> which have implications for the minimum size of a unit and the range of services required to ensure good quality care. Whilst these may be disputed by some commentators on the grounds of lack of good research evidence and reliance on expert opinion,<sup>54</sup> they remain influential in guiding purchasers’ service specifications and in terms of the ability of Trusts to attract staff willing to work in units which do not conform to these standards.

A range of Royal College and other professional guidance was reviewed recently and the results published in a report which also included the outcome of interviews with representatives from Royal Colleges and senior managers from both Trusts and Health Authorities.<sup>55</sup> It was

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found that very few guidance documents on service delivery cited published or unpublished literature in support of quality claims. However, a combination of minimum staffing numbers and consultant to population ratios based largely on belief lead to recommendations for a minimum acceptable size of population to be served by all the main specialties. For more specialised services such as renal transplantation and coronary angioplasty, these recommendations are exerting pressure for concentration.

Whilst the guidance is just that – guidance – there is evidence to suggest that clinicians and managers feel these are strong drivers towards concentration and hence merger.<sup>37</sup>

#### Changes in training of medical staff

There is evidence to suggest that some NHS managers consider that changes in policy relating to training are more influential than service delivery guidance in causing pressures to merge.<sup>55</sup> The Royal Colleges again play an influential role as they set out the requirements which a hospital must meet in order to achieve training accreditation. If these are not met to the satisfaction of the relevant College (and there is some discretion in how they are applied), the hospital will find it almost impossible to attract junior doctors (who will be reluctant to spend time in a hospital without it counting towards training requirements) and thus it will be difficult to provide a service at all.

The training requirements relate to areas such as the minimum size of the unit in which the trainees work, the composition of their workload in terms of the number and range of cases they see, consultant staffing levels and supervision, specified time set aside for training, and resources available (such as library facilities). The emphasis on the quantity and range of cases seen suggests a relationship between

workload and training outcomes, for which no evidence is cited, being based instead on professional opinion and experience.<sup>55</sup>

The main pressure for concentration results not just from the training requirements but from their interaction with the national policy of reduced hours of working for junior doctors (the 'New Deal' reforms). As the number of working hours permitted declines, the number of trainees required to provide the same service will increase and each of them will be able to see fewer cases during the training period. The implications of this are twofold. First, the organisation of on-call rotas will be made more difficult as junior doctors play a major role in staffing these; second, doctors will be able to see fewer cases during their working hours. If training requirements remain unchanged, larger volumes of service will be necessary in order to meet the minimum workload levels. Smaller departments which do not meet these levels may see merger with a department from another Trust as one option to avoid the possibility of not providing the service altogether.<sup>41,56</sup> Purchasers may encourage such developments in order to ensure they have access to the service in a particular geographical area. The Leeds Review provides a good example of how staffing and training requirements can drive merger proposals between sites in specialties such as paediatric surgery, vascular surgery, ENT and urology.<sup>38</sup>

Other national policies related to medical training are also likely to cause pressure for greater concentration of services and thus potential mergers at the specialty level. In particular, the reforms to specialist medical training which have recently been introduced<sup>57</sup> may affect the viability of small departments or small hospitals because of accreditation difficulties. This is largely because the reforms will reduce the length of the training period as well as requiring greater

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supervision from consultants, together with a reduction in the amount of time which junior doctors spend contributing towards service provision.

#### **Government policy on service delivery**

In some specific areas, government policy dictates the way in which services are to be provided by setting down the requirements for a good service. One recent example of this is the Calman reforms on the provision of cancer services.<sup>58</sup> Although the Calman report highlights the need for networks of expertise with primary care as the focus of care, it also calls for the creation of designated Cancer Units and Cancer Centres. A natural response of Trusts is to form alliances to put together a case for designated Cancer Unit status, covering an explicit range of cancer sites. There are several factors underlying this, not least the belief that economies of scale will be achieved by concentrating activity. Also, the trend towards greater specialisation (even within particular types of cancer) is likely to lead to pressures to concentrate services, particularly if there is supporting evidence on a positive relationship between volume and quality. Such factors will almost certainly increase the pressure to concentrate expertise, despite the underlying philosophy of the Calman report which is to take services to the patient. Re-configurations of services, possibly involving Trust mergers or simply joint agreements to seek Cancer Unit or Centre status, will continue to take place to realise the perceived benefits of specialised cancer care.

#### **Capital developments**

Individual Trusts may not be able to raise the necessary resources for modernisation or expansion of capital developments. The creation of a larger Trust offers several advantages to both providers and

purchasers. For instance, a merger would offer the opportunity to rationalise out-of-date facilities and build new developments which would not be viable for a single Trust due to insufficient demand. In addition, there may be a better chance of gaining purchaser support for such developments if they also offer a reduction in surplus capacity or duplication of services, helping to offset any increased short-term costs associated with the new development. Finally, a larger Trust offering a fuller range of services will be able to spread risk over a greater volume and range of activity. All these factors may be especially relevant where Trusts are seeking private sector finance.

### **Response to uncertainty**

Merger of Trusts or of specific services within Trusts may be a response on behalf of providers to perceived demand uncertainty. The greater the control a provider can exercise over its local market, the less it will be affected by changes in demand and contract conditions. Once the reforms had bedded down and purchasers began to make shifts in the traditional service locations, providers often felt threatened and merger may have been one route to establishing greater certainty in future levels and pattern of demand. The tendency for some GP fundholders to switch contracts around fairly frequently probably exacerbated the degree of uncertainty faced by Trusts as the growth of GP fundholding continued.

### **Rescue of a failing trust**

There are a number of reasons why a Trust might no longer be financially viable and therefore merge with another Trust. In the case of excess capacity arising from falling demand, if merger is seen as a more palatable alternative to closure, this implies that the failing hospital site will continue to provide services post-merger. This will

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reduce the extent to which efficiency gains can be made and possibly result in a poor service being provided at the site which faced insufficient demand. It may be possible to downsize rather than close the hospital or to re-organise services between the two sites in order to provide some minimum level at the site which has insufficient demand to support a full range of services.

However, in other cases the underlying demand might be sufficient to support a hospital but due to bad management or clinical performance, the quality of service is so poor that purchasers have withdrawn their business. Whilst this has indeed been cited as a reason for merger,<sup>52</sup> alternatives to rescuing such a Trust exist and merger might be a last resort rather than the best option.

#### Expansion of market power

The desire to increase market share and market power may in itself be a driver in some circumstances, especially for profit-making organisations. Whilst it is unlikely ever to be singled out as the main reason for Trust mergers in the UK, it has been studied in the USA, although hospitals are still more likely to emphasise the potential efficiency gains from merger as they will be subject to antitrust challenges. However, evidence to support this strategy in practice has been found. In a longitudinal study of three communities in the USA,<sup>59</sup> the nature of competition within and between hospital markets was examined. In the most competitive area, the authors explored the emergence of mergers between some of the seven hospitals, none of which originally had any degree of market power. Following a period of expansion and diversification by some of the hospitals in order to carve a niche for their hospital, they became aware of the futility of their individual competitive strategies and various proposals for

merger arose. By the end of the study period (five years) after several mergers and re-configurations, the market was characterised by a small number of dominant firms and a substantial part of the total market was produced by four corporations. The authors concluded that in this case study, the strategy was certainly one of seeking to enhance market power: "...that of the numerous reasons advanced for mergers in industrial sectors and amongst hospitals in particular, a singular motivation was pursued in [this community]; in an era of increasing competition, the stronger hospitals moved with determination to reduce competition and establish domination. The fundamental motive was market control".<sup>59</sup>

By considering the impact of the announcement of hospital merger proposals and of antitrust challenges to mergers on the rates of return on competitors' stock, Woolley sought to distinguish between the traditional oligopoly theory of hospital behaviour (where merging parties seek to gain market power) and the efficiency rationale for merger.<sup>60</sup> He concluded that there is evidence to support the traditional oligopoly theory for merger. However, there are some flaws in the analysis (in particular the way in which Woolley identified the rival hospitals within the relevant market) and re-analysis of the data has suggested that they actually support an efficiency rationale for merger instead.<sup>61</sup> This has been disputed by the original author who suggests that the efficiency rationale has to be stretched to accommodate the results; whereas they are mostly consistent with the oligopoly theory.<sup>62</sup> It is probably wise to take note of the observation made by one of the authors, that Woolley's methodology often produces results which are consistent with more than one hypothesis.<sup>61</sup>

A study of the reorganisation of hospitals following merger revealed that over 57% of the 60 merger studies involved one partner not

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providing acute services post-merger, either because of closure or conversion to complementary activities.<sup>63</sup> The authors claim that this supports the view that the purpose of merger was to eliminate competition rather than expand horizontal networks, although the removal of excess capacity might also provide an explanation for this pattern of change.

#### Summary

Clearly, there is unlikely to be a single reason for merger as it is a complex process involving the interaction of both economic and non-economic factors. Detailed analysis of specific cases can illustrate the complexity of the merger process and the range of political factors which may also be important.<sup>64</sup> In the USA, the major 'selling point' used to convince local communities of the desirability of a merger between hospitals is savings to patients and businesses in the form of lower prices.<sup>65</sup> Some studies provide evidence to support the view that hospital mergers in the USA are largely concerned with increasing market power. In the UK, the major driving forces appear to be the removal of excess capacity, using merger as an alternative to closure and a way of reducing costs, alongside the impact of national and professional guidance on service delivery and training.

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Policy in both the UK and USA has been directed at assessing the expected impact of merger proposals by weighing up the likely costs and benefits in advance. However, what happens in practice once the merger has occurred is not well documented or understood. In the UK, no systematic evidence on post-merger performance or the impact of hospital mergers is collected and, as far as the authors are aware, no empirical work has been undertaken. Even in the USA where merger activity has been substantial, commentators have noted the dearth of empirical evidence relating to the gains from hospital merger.<sup>66</sup>

If the evidence from mergers in other sectors is used as a guide to what can be expected in the health care sector, then one would conclude that many of the gains claimed for mergers *ex ante* do not ever materialise. Comprehensive reviews of the literature in both the USA and UK suggest that efficiency actually declines post-merger in many cases, due to unforeseen problems in integration between the merging firms.<sup>14</sup>

### Methodological problems

In interpreting results based on post-merger performance, several methodological issues should be highlighted. The first relates to the nature of the comparisons made. Some studies adopt a before-and-after approach, comparing average values for the characteristics and performance variables for the pre-merger hospitals with the new post-merger entities as a group. Others work on a case-by-case basis and compare individual pre- and post-merger situations. Whilst both these offer an insight into how far the predicted benefits of merger have been achieved, they carry the risk of confounding by attributing changes in performance to the merger event rather than to changes in the external environment. An attempt to overcome this is made in some of the literature by choosing a control group of non-merging hospitals. If a

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baseline comparison is made between hospitals which merged and those which did not, a judgement can be made about the extent to which the merging hospitals differed significantly from non-merging hospitals. This is important as they are by definition a self-selecting group. Also, the inclusion of a control group helps to control the impact of changes in the external environment, for example where significant policy changes occurred during the period concerned.

A further methodological difficulty relates to the time period over which changes are likely to develop post-merger. Studies which compare the performance of hospitals in the immediate period following merger will indeed capture the short-term impact but may miss longer-term developments. It is clear that the process of merger is not costless and many of these costs will be borne in the short term before it is possible to make more substantial changes which may reduce costs or improve efficiency in the longer run. Several of the studies discussed below attempt to take the longer term into account by making repeated observations for some years after the mergers have occurred. Unfortunately, one drawback of taking the longer-term focus is that it increases the chances that the external environment within which the hospitals operate has also changed. This makes it even more vital to include some form of control mechanism.

Finally, the nature of the variables used to assess performance should be considered. Whereas most of the studies consider some financial measures, those that focus on costs rather than prices or charges do not present an accurate picture of the impact of the merger on consumers. Whilst merger may have the potential to produce reductions in unit costs (e.g. due to economies of scale and scope or removal of excess capacity), this will benefit consumers only if the reductions are passed on (via purchasers) in the form of reduced prices. If merger allows

providers to take advantage of their monopoly position through charging higher prices (and the evidence reviewed earlier suggests this may indeed happen even in the UK), then hospitals may find it relatively easy to retain efficiency gains in the form of higher profits. Thus in order to conclude that financial savings are a beneficial outcome of merger, close attention needs to be given to what happens to these savings once they have been made.

### **Direct evidence on hospital mergers**

The author of one of the earliest studies examined 32 mergers of non-profit hospitals occurring between 1956-70.<sup>67</sup> The dominant acquiring hospital was matched with a non-merging hospital (matching factors included location, size, type and range of services offered) and published data were used to create indicators of efficiency (which included cost measures, lengths of stay, occupancy rates, staff/patient ratios, labour productivity, bed numbers) and indicators of effectiveness (included measures of the scope of services offered, labour intensity, output as indicated by patient days). Mean values for groups of merging and matched non-merging hospitals were calculated and their performance was compared in terms of the average change or mean difference in each indicator. Data were collected for the year before the merger and then for three, five and seven years post-merger which gave an opportunity to capture longer-term effects. The results indicated that the merging hospitals experienced a significant and ongoing increase in average cost per case, average cost per day and total expenditure.

Whilst the authors suggested that a short-term increase would be expected due to predicted costs (i.e. acquiring the organisation, updating facilities etc.), the longer-term picture did not suggest that these were

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offset by efficiency gains. Merging hospitals did not expand in terms of bed numbers as fast as their non-merging pairs, although reductions in bed numbers were rare. In terms of effectiveness indicators, the merging hospitals produced a greater range of services than their counterparts. The evidence on all other variables was inconclusive.

The most important aspect of this analysis is revealed by sub-analysis of hospitals based on their size and whether they are located in a rural or urban area. Small hospitals (<300 beds) and hospitals in more rural areas performed well on the indicator of labour intensity which suggested that they had been able to attract more personnel. The authors interpret this as a positive sign given that small and rural hospitals often found it hard to recruit and hold qualified personnel. Additionally, rural hospitals (all of which had <300 beds) were the only ones which achieved a reduced average cost per case, reduced length of stay and higher occupancy rates over time than the non-merging counterparts.

Thus the authors conclude that mergers appear to be viable for small rural facilities but that the benefits for larger and for urban hospitals are more questionable and cast doubt on the economies of scale argument for merger. Indeed they state that: “Mergers of the other large, urban hospitals should ... be viewed with caution.... Although they succeed in increasing the service capability of the hospitals involved, the evidence suggests that such service achievements were gained only with a concomitant increase in costs and expenses. Merger does not appear a promising answer to the financial problems of urban hospitals”.

During the 1980s, the US health care environment changed substantially and it is possible that mergers occurring in later years

would have a different impact. Several studies have examined mergers which occurred during this period. One such study<sup>68</sup> considered the impact of mergers during the period 1980-85, distinguishing between acquired hospitals (55), acquiring hospitals (45) and those which consolidated by forming a new entity (62 hospitals forming 32 new entities in total). Data were collected from published sources for each merging hospital for the year prior to merger and for each consolidated entity for one year before and one year after the consolidation. These were compared with data for all other hospitals in the USA at the mid-point of the study. Measures of institutional characteristics included size, type of service, ownership and occupancy rate.

Most mergers involved a larger hospital acquiring a smaller one and most of the acquiring hospitals had above-average occupancy rates. Location characteristics included metropolitan versus non-metropolitan area and size of the community in which the merger occurred. A large proportion of merged and consolidated hospitals were in metropolitan areas. Financial characteristics included measures of short-term liquidity and overall profitability which were calculated for the five years preceding merger and up to four years afterwards, standardised to control for changes in the hospital industry over time. These indicated that hospitals involved in either merger (or consolidation) were financially close to the industry averages and that no clear financial gains or losses characterised those hospitals either before or after merger (or consolidation). However, the use of financial ratios has been criticised on the grounds that these may hide offsetting financial effects which leave the ratio unchanged.<sup>69</sup>

Greene reports on a survey of 36 hospitals which merged into 18 institutions between 1985 and 1987.<sup>65</sup> Data on operating and financial characteristics were analysed for two years prior to merger, the merger

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year and two years following merger. The revenue and expenditure figures were adjusted for geographical variations in labour costs and case-mix differences, but no attempt was made to provide data on industry averages or matched comparisons to control for changes in the external environment. One interesting feature of this survey was the distinction between costs and charges which can indicate whether any efficiency savings achieved by merger actually reduce costs to purchasers and consumers. Immediately following the merger, most financial indicators illustrated a downturn which was attributed to the problems of aligning cultures, dealing with poor staff morale and strained relations with the community.

Financial prospects improved one and two years following the merger, but although expenditure was reduced, the study found that charges were increased (this was measured by the mark-up on ancillary services). This, along with higher patient revenues, increased profitability by around 4% over two years. Reductions in the number of staff per bed and a greater number of admissions per bed contributed towards lower cost per admission. The author concludes that these findings appear to contradict the hospital industry's claim that mergers can help to reduce health care costs to consumers. The survey responses suggest that merger proposals should place less emphasis on financial benefits to the community, especially in the short term, and more on quality and innovation. Large financial benefits appear to be achievable only if one facility closes or is converted to a non-acute use, but due to the unpopularity of such proposals amongst staff and the public, these options are rarely stated in merger plans. However, this survey noted that in order to cope with some of the financial problems appearing immediately after merger, many boards actually reversed their stated policies and closed down one of the merging hospitals or converted it

to non-acute care uses. This does raise some potentially adverse consequences in terms of accessibility.

A similar picture regarding financial impact emerges from a survey undertaken of mergers occurring between 1985 and 1990<sup>49</sup> in which financial data from 28 acute hospitals which merged into 14 facilities were analysed. Data were examined for three years before and four years after merger and were compared with the industry average during the relevant time period. The merging hospitals were able to reduce the growth in costs by almost 2% over the four years; by year four post-merger, the annual growth in cost per case was just over 2%, compared with their average of 7% in the years prior to merger and over 6% in the industry as a whole. This slower growth in costs was attributed mainly to reducing bed numbers or closing or converting facilities, improving occupancy rates and reducing administrative costs through staff layoffs. However, during the post-merger period, prices also increased with annual price increases in real terms rising from 8.33% before merger to 9.42% after merger. The largest price rises were in the year following the merger, but the increases had slowed by the fourth year. An interview survey also revealed that consolidation of previously competing services ended the local medical arms race. However, the addition of tertiary services to larger, newly merged organisations, unintentionally triggered a regional medical arms race as hospitals in the surrounding areas built up services in order to compete with their new and stronger competitor.

The short-term effects of 92 hospital mergers which took place between 1982-89 were examined in a study which controlled for secular trends by using a random group of non-merging hospitals for comparative purposes.<sup>70</sup> A matched group of hospitals was not considered necessary as the study was concerned with a before-and-

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after comparison of merging hospitals rather than with merged versus non-merged hospitals. The authors chose a random sample within which to investigate trends in the environment which might affect all hospitals over the time period. Published data were used to consider the impact of merger on three areas of operation:

- ◆ scale of activity (measured by numbers of staffed beds and admissions);
- ◆ staffing practices (measured by total number of personnel and number of nurses);
- ◆ operating efficiency (measured by occupancy rates and total expenses per admission).

Data from the three years before and after merger were used to calculate mean values of each variable and rates of change were also examined. The authors stratified mergers by three categories: size similarity, ownership similarity and period of merger. It could be expected that changes in operational variables would be more evident where:

- ◆ merging hospitals are of dissimilar size (as the dominant hospital would be able to force changes on the smaller one);
- ◆ ownership is similar (as common ownership status may reflect similar values and orientation which facilitates change); and
- ◆ mergers occur more recently (as they face greater financial pressures from PPS).

The results show that the greatest impact is on operating efficiency rather than the other variables. Although occupancy rates fell after

merger, the rate of change was significantly lower in the merging hospitals than elsewhere. Similarly, increases in expenditure per admission were seen after merger but these were less than the increase in non-merging hospitals. It is suggested that the merged hospitals were able to improve operating efficiency relative to non-merging hospitals by slowing the trends towards higher costs and lower occupancy rates that were occurring in the industry as a whole. This improvement was not, however, apparent in terms of before-and-after comparisons of the merging hospitals.

The other areas investigated showed no significant differences which could be attributed to merger rather than to initial differences between groups or to changes in the external environment. The sub-group analysis produced a significant finding only for the blunting of a trend towards increasing ratios of nurses per bed in mergers between hospitals with different ownership. All other differences were attributable to pre-existing trends. Mergers occurring during later periods produced more pronounced changes in operating variables as predicted.

Anderson adopted a case study approach of four US mergers from the 1980s and 1990, in which chief executives were interviewed about their experience with mergers.<sup>71</sup> It should be noted that the reported claims relating to costs were not supported by published data and there is no control for changes attributable to factors other than the merger itself. Each merger arose from different sets of circumstances but in each case some level of savings was established (following initial difficulties in some as the unanticipated costs of merger became apparent). The merger between two hospitals which both faced reduced demand led to closure of one facility but after several years some specialised services had been re-opened at the original site. Two neighbouring

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hospitals opted to keep both sites open as they perceived that each served different markets.

A more technical approach to the evaluation of efficiency gains or losses from merger considered 79 mergers occurring between 1980 and 1988 in the USA, attempting to measure productive and scale efficiencies using data envelopment analysis (DEA).<sup>72</sup> For each merger case, aggregate pre-merger and post-merger efficiency indices were created and compared. The study used three types of returns to scale scenarios and various specifications of input and output. Using published data, the authors concluded that of the 53 mergers on which they had sufficient post-merger data, 39 of them experienced an average post-merger gain in productive efficiency of 9.8%; 12 experienced an average loss of 9.41% and two neither gained nor lost. This suggests a 5% net efficiency gain from mergers compared to their predicted efficiency had they not merged.

Lynk considers the impact of mergers at the level of clinical departments, focusing on an area which is often overlooked in studies of efficiency gains in hospitals.<sup>73</sup> He investigates the ability of clinical departments which are physically located on a single site to manage the volatility in demand for services. Estimates are made of the cost savings which could be achieved by combining separate sites, arising largely through reductions in the level of staffing required for handling peak-load periods of demand. The average potential cost reduction from consolidation, estimated across clinical services, is 8.8% of the total costs associated with providing staffed beds.

Investigation of the outcome of hospital mergers in the context of multihospital systems has been undertaken in one study<sup>74</sup> which defines systems as two or more physically separate hospitals sharing

common ownership. This study considers the characteristics of 13 local hospital systems and compares them with non-system hospitals. A Monte Carlo approach is taken to choose the latter group, ensuring that they contain the same number of hospitals and comparable numbers of beds to those in the systems. The hypothesis being tested is that system hospitals may be able to reduce costs and achieve reputation benefits through the exploitation of economies of scale and scope. The authors conclude that whilst their analysis provides some support for the existence of reputation benefits linked to marketing strategies, it does not support the view that significant cost reductions accrue from hospital merger through the exploitation of other economies of scale. The authors also summarise previous empirical research on hospital chains and conclude that this has produced mixed results.

### **Summary of direct evidence**

The research highlights the distinction between location and ownership which needs to be considered in determining the impact of mergers. Hospital chains are becoming more common in the USA but are less relevant to the UK health care sector at present as the ownership (or, more accurately, the management) of NHS Trusts is limited to the hospitals within a local area and a single Trust. Thus spatial monopoly is the focus within the NHS. However, where hospital chains are local, the findings are more relevant as they at least suggest that there may be potential benefits from consolidating physical plant.

However, overall the results from these studies are clearly not conclusive. Those which attempt to control for confounding variables are likely to be the most methodologically sound and their results can

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be given more weight. The results remain unconvincing, suggesting that the predicted efficiency gains of merger do not always appear and that unexpected costs often arise. Although additional costs can be expected in the shorter term, especially where new capital developments are undertaken as part of the process, the unexpected costs are usually associated with difficulties in integrating systems and personnel from two different organisations. For example, some case studies have noted the need to make adjustments both to incompatible information systems and to salaries in order to maintain parity.<sup>71</sup> Most studies have focused on financial variables and changes in the range of services offered, due to the difficulties associated with measuring other variables such as quality of services, especially over relatively short time periods.

### Other relevant evidence

The perceived importance of economies of scale and scope is clearly a driver for much of the merger activity in the NHS. There is a body of literature on these issues which, although it does not address hospital merger specifically, explores the link between scale of activity and costs or quality in the health care sector. In cases where merger results in higher levels of concentration, this literature provides useful evidence to assess claims that merger will produce cost and quality benefits due to increased scale of activity.

Although several reviews of available evidence have been undertaken,<sup>75</sup> none of them has been comprehensive. However, more recently, a systematic review of the literature relating to economies of scale and scope has been undertaken, and represents the most up-to-date and comprehensive summary available.<sup>23</sup> The review took into account the methodological problems associated with interpretation of the

literature, particularly the quality of the statistical techniques used and the failure of many studies to adjust for case-mix.

The authors reviewed a range of different types of study which investigated the link between the volume and scope of hospital activity and costs. The overall conclusion on scale and cost was that: "...the more reliable [flexible econometric cost] studies find constant returns or even diseconomies for the average hospital, the latter being defined as one with roughly 200-300 beds," and "...[DEA techniques] reinforce the view that economies can be exploited only up to a hospital size of about 200 beds. It also suggests that hospitals larger than 650 beds are scale-inefficient". These findings echo some of the specific research on mergers which suggested that only mergers amongst small rural hospitals achieved reduced average costs.<sup>67</sup> This is further reinforced by the findings of two recent studies which investigated economies of scale in Health Maintenance Organisations (HMOs) in the USA.<sup>76,77</sup> In both studies, economies of scale were found for small HMOs, but were exhausted relatively quickly and thus the authors concluded that mergers of large HMOs could not be justified in terms of economies of scale.

Examining the link between volume and quality, once account is taken of the lack of case-mix adjustment in the majority of studies, the evidence to support this relationship becomes less clear. Whilst volume effects are apparent in some of the better studies, these usually appear at the level of specific procedures and are exhausted at relatively low levels of activity. The authors recommend that any claims for such benefits through concentration should be explained further by those proposing change, especially in terms of the process through which gains will be achieved.

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What are the implications of these findings in relation to mergers in the NHS? Firstly, merging hospitals which are *not* currently operating at maximum efficiency may be able to realise economies of scale despite the findings of the empirical work, as the latter assumes hospitals are already operating efficiently. Secondly, some of these benefits may be achieved through routes other than merger: for example, if the volume-quality link is at the level of the clinician and is largely due to manual dexterity and experience, this may be achieved through specialisation of tasks within a clinical team, rather than through merger of the whole service. Thirdly, although merger *may* lead to savings in management or overhead costs, there is no automatic presumption that it will reduce average *total* costs. It is not even clear that mergers will result in more efficient management practices: it is possible that more management is required to run a large organisation than two small ones.<sup>23</sup>

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### UK policy – description

Although the framework for dealing with mergers in the wider economy is contained within existing legislation in the form of the powers of the Monopolies and Mergers Commission to investigate and make a recommendation to the Secretary of State for Trade and Industry on merger proposals,<sup>78</sup> the Department of Health chose to develop its own guidance (with no legal status) for the NHS in 1994.<sup>2</sup> This decision seems to have been prompted by recognition of the fact that the sort of service and specialty mergers covered by Department of Health guidance are unlikely ever to be picked up by the Secretary of State for Trade and Industry and referred to the Monopolies and Mergers Commission as the subject of a full investigation and evaluation (personal communication, NHS Executive 1997).

The Department of Health's policy on provider mergers in England covers mergers between whole Trusts and those at the service or specialty level.<sup>2</sup> The stated goal of the policy is to allow mergers or joint ventures with net beneficial effects to go ahead, but to ensure that proposed mergers/joint ventures do not lead to the acquisition and abuse of monopoly power. A local decision limit, defined by market share (for mergers) and size (for joint ventures) is set out with the aim of allowing mergers which fall into this category to proceed without investigation as they are unlikely to have a significant effect on competition. For specialties which account for more than 5% of any of the merging parties' total activity, the decision limit excludes any merger which will lead to joint market share in excess of 50% of total market activity. Where the merger would impact on accident and emergency services, the 50% market share rule also applies. For joint ventures, if the value of the shared equipment or technology is over £1 million, then unless the parties can show that none of them could

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support the venture alone, the venture falls outside the limits and would be investigated. Other policy-specific clauses are added to exclude particular activities from the decision limit, for example mergers between acute and community Trusts.

The guidance outlines the nature of the assessment process for merger activity which falls outside the limits and which is subsequently investigated. The aim is to quantify the impact on competition and, in cases where this is likely to have a negative effect, to assess whether any offsetting economic or non-economic factors are sufficient to outweigh the competitive effects. The steps in the assessment of merger proposals are as follows:

**1) Measuring the impact on competition.**

This is divided into three sub-sections:

- (a) defining the service and the market.
- (b) measuring the extent of concentration in that market.
- (c) assessing the probability of entry by other suppliers.

**2) Estimation of other benefits.**

- (a) economic benefits.
- (b) non-economic benefits.

Step 1 involves the definition of the economic market which is normally required for the calculation of concentration levels using some form of index. In the UK guidelines, the use of concentration indices is not advocated. However, as some indication of market share is required, it is still necessary to define the relevant market in which this should be calculated. There is an ongoing debate in the literature (and in the USA courts) about how to define health care markets and many methods require data which are not available routinely in the UK. Rather than entering into this debate, the UK guidance advocates

an approach based on defining travelling time zones around each provider as the starting point for definition of the market. For A&E services, the definition is based on a 14 or 19 minute travel time zone (urban and rural areas respectively) according to Patient's Charter standards for ambulance response times; for other services, the zone is set at 30 minutes. Although the use of distance and location has been advocated as an appropriate way of defining markets, there are still many unresolved methodological issues which arise from these conceptually simpler approaches.<sup>26,79-81</sup> The UK guidance also attempts to incorporate some aspects of a market definition based on price increases, by including some of the suggested sources of evidence from the USA antitrust guidelines. For example, consideration is given to whether purchasers have previously switched providers in response to price or other factors.

Following the decision to adopt simple methods of defining markets, it is not surprising that the UK guidelines do not attempt to outline methods for calculating concentration which would rely on detailed market share information. Indeed, the issue of how concentration will be calculated and interpreted is left open to interpretation and it is not clear how the guidance has been used in practice. It states that concentration will be defined in terms of the number of providers and the proportion of activity that they account for in a given geographical area: in other words, on the basis of market share, but with no subsequent calculation of indices. Cut-off points are to be used to define areas of low, medium and high concentration and these are to be a function of the maximum travel times recommended for certain services. The guidance concludes that in certain cases a judgement of the size of the market will need to be made by the Regional Office.

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Assessing the probability of entry is required as if entry is easy and likely to occur in a timely way in response to the exercise of monopoly power, then the market is contestable even if it is dominated by one or few providers. The guidance notes that entry is likely to be higher where sunk costs are low and the time taken to enter is short, and lists some factors to be considered in making an assessment on entry (e.g. possibility of other Trusts having spare capacity, entry from the private and voluntary sector).

Step 2 considers the potential benefits from merger which may offset any loss of competition. The economic benefits relate to the efficiency arguments for merger and are listed as economies of scale and scope in relation to both costs and quality of service. Some examples of situations in which efficiency may be enhanced are listed: e.g. services where a minimum throughput is required in order to utilise expensive capital equipment or specialised labour; services which have large overhead costs; or services where there is a positive relationship between volume and outcomes.

The guidance also summarises the published literature relating to economies of scale and scope. Evidence on economies of scale in relation to costs is reported to be mixed and subject to substantial methodological problems, and it is recommended that it would be "...unwise to base decisions on the organisation of hospital services on the basis of this literature alone."<sup>2</sup> Similarly, in relation to quality, the evidence is limited and "...is strongest for only a limited number of procedures and services". Again there are several methodological issues (in particular lack of case-mix adjustment) which lead the Department of Health to conclude: "it is ... not advisable to use this evidence as the sole justification for decisions about the optimum way of organising services"<sup>2</sup> The summary of evidence on economies of

scope is equally cautious. The non-economic benefits are given less weight in the assessment process and include the creation of employment opportunities and the implications of closure of new units or of those popular with the public (this assumes that merger is acting to prevent failure in some circumstances, an issue covered in the UK guidance in relation to the financial viability of Trusts).

The responsibilities of various parties are listed, with the Regional Office taking the main role in assessment and decision-making and the burden of proof for the benefits of merger resting with the merging parties.

### **USA policy – description**

In the USA, the number of hospital mergers has accelerated sharply in recent years, involving acquisitions by large chains as well as mergers within the non-chain profit-making sector and also those involving the not-for-profit hospitals. Twenty-three hospital mergers were recorded by the American Hospital Association in 1991; 15 in 1992 and 18 in 1993. However, in 1994, more than 10% of American hospitals (674) were involved in some form of merger.<sup>82</sup> Whilst half of these were merged into for-profit chains, 301 non-chain hospitals were involved in 176 transactions. The growth of for-profit chains has been phenomenal and is illustrated by the experience of Columbia/HCA corporation which in 1988 owned four hospitals with 511 beds; by 1995 this had grown to 332 hospitals and over 61,000 beds, representing one-and-three-quarter million admissions.<sup>83</sup>

The Department of Justice and Federal Trade Commission published Horizontal Merger Guidelines in 1992<sup>9</sup> which updated its 1984 policy, largely making technical changes and explaining some of the analytical processes in more detail. The broad framework and policy emphasis

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remained the same: to prevent anti-competitive mergers yet avoid deterring the larger universe of pro-competitive or competitively neutral mergers, and to allow greater predictability of merger challenges, enabling the business community to avoid antitrust problems when planning mergers. The guidelines outlined the steps that would be taken in order to determine whether the government would challenge a horizontal merger, noting that the standards would be applied reasonably and flexibly depending on the particular circumstances of each case. The steps are as follows:

- 1) Will the merger significantly increase concentration and result in a concentrated market?
- 2) Will the merger, in the light of concentration and other factors that characterise the market, raise concern about potential adverse competitive effects?
- 3) Will entry be timely, likely and sufficient either to deter or counteract any adverse competitive effects?
- 4) What are the efficiency gains which cannot reasonably be achieved by the parties through other means?
- 5) If the merger did not occur, would either party fail and exit the market?

These are used to answer the ultimate question: namely, whether the merger is likely to create or enhance market power, again taking a welfare trade-off approach to the evaluation of mergers. These steps are very similar to those employed by the Department of Health with the exception of the failing party argument which is not used explicitly in the UK guidance on mergers.

Market concentration is measured using the Herfindahl-Hirschman Index (HHI) which equates to the sum of the squared market shares of all providers operating in the relevant market. The guidance is specific about the levels considered to indicate a concentrated market and therefore raise competitive concerns. It takes into account both the absolute post-merger level of concentration and the change in concentration brought about through merger. A post-merger HHI of below 1,000 is regarded as signalling an unconcentrated market, so mergers within such markets are considered unlikely to have an adverse impact on competition and do not usually require further investigation. A post-merger HHI of between 1,000 and 1,800 is regarded as 'moderately concentrated'. In these markets, mergers which produce an increase in the HHI of less than 100 points are considered unlikely to have adverse effects; but those producing an increase of more than 100 points, 'potentially raise significant competitive concerns' and additional factors affecting competition will be explored. A post-merger HHI of above 1,800 signifies a highly concentrated market and mergers producing an increase in HHI of more than 50 points are regarded as potentially serious in terms of their impact on competition. A 'safety zone' is defined (similar to the DH 'local decision limits') for cases which would not be challenged (except in exceptional cases) even if merger resulted in HHI levels outside these thresholds. Mergers in which one party had fewer than 100 beds and an average daily inpatient census of less than 40 patients over a three-year period would not be challenged. This reflects the belief that there are economies of scale which are likely to offset anti-competitive effects at low volumes of beds.

Other factors which characterise the market are considered and the guidelines contain a list of the type of factors involved. This includes

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the extent to which market conditions are conducive to co-ordination between parties; the ease of detection and punishment of collusion; and the degree to which buying power is concentrated in the market, as this may offset anti-competitive behaviour.

Ease of entry is also included as an important step in the assessment: where entry is considered easy, the merger is viewed as having no antitrust concern and is thus not analysed further. Easy entry is defined as passing the three tests of timeliness, likelihood and sufficiency. Unlike the UK guidance which makes only passing reference to entry, the US guidance is specific about definitions and the type of information required to assess each factor. Entry is regarded as timely if it can be achieved within two years from the initial planning stage to having a significant market impact. The guidance also notes that where the relevant product is a durable good for which consumers may defer purchases in response to a significant commitment to entry, the competitive effects may be counteracted over this period. Hence entry which occurs beyond the two-year period may still be considered.

This point seems particularly relevant to the health care sector as although entry may not be possible in the short-term, purchasers can choose not to make significant investments in the development of existing services if they are aware that new services are planned by other providers. For entry to be a likely response to merger, it must be profitable and potential entrants will need to be sure that long-term profitability is sufficient to outweigh the investment risk. This would be possible if the entrant could secure the pre-merger prices, so it would need to take into account the effect of increased supply on prices.

Detailed guidance is given on the estimation of expected revenues and the entrant's share in anticipated growth. In the UK, capital projects

funded with private sector finance should take into account such issues and the risks in terms of sunk costs are less of a problem for the NHS partners. The notion of 'sufficient' entry refers to the magnitude, character and scope of entry. Even if entry is likely, it may not be sufficient to deter anti-competitive concerns, especially if the incumbents exercise control over the assets required for entry.

Efficiency gains which could not be achieved other than through merger are considered as potential offsetting benefits, as in the case of the UK guidance where the focus is on economies of scale and scope. The US version notes that general reductions in administrative or overhead expenses may be difficult to demonstrate unless they are related to specific operations of the merging parties. Again, in the health care sector where merger proposals are usually accompanied by claims for reductions in management costs, it is important to be clear about exactly how such gains are to be achieved.

The 'failing firm' defence considers a situation where one merging party would exit the market if the merger did not occur. Here, the competitive impact of the merger would be negligible and thus of no concern to antitrust law. However, the term 'imminent failure' is defined carefully and it is clear that there must have been demonstrable efforts to dispose of the assets of the failing firm. Also, if the merger did not go ahead, the assets of the firm would be expected to exit the market altogether.

### **Comparison of UK and US merger policy**

The UK and USA guidance both have similar policy goals and assessment processes which reflect the welfare trade-off approach to the evaluation of mergers. The main difference in content lies in: (a) the more detailed process (e.g. defining levels of concentration,

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assessment of entry) which is described by the USA guidance, and (b) the extent to which the guidance is specific about the sources of data for establishing each step. The ‘failing firm defence’ does not appear in the UK guidelines but it is possible that one of the non-economic benefits mentioned in the merger assessment process – the implications of closing a unit popular with the public or in which there has been recent investment – is actually a coded way of considering the ‘failing firm’ defence. This may in part be due to sensitivities around the failure of Trusts in the NHS and a reflection of the fact that in a managed market like the NHS, political expediency will play as important a role as economic factors in major decisions affecting healthcare service provision. Indeed, the highly regulated nature of the UK healthcare sector<sup>84</sup> accounts for much of the difference in policy emphasis between the UK and US.

In addition, the USA guidelines are used to enforce antitrust policy through the courts and have resulted in a number of decisions opposing mergers where they were found to have anti-competitive effects. In contrast, the UK guidance has no such standing and it is not clear how it is being used in practice.

Although this suggests that the US policy is more thorough, systematic and far-reaching than the UK approach, there is one respect in which the UK guidance goes further and has potentially more impact on the structure of the market. This lies in the inclusion of mergers of services and specialties below the level of whole hospital mergers. Whilst the US rules cover joint ventures in terms of purchase of equipment, they do not specify that their rules apply specifically to service-level mergers. In practice it is likely that hospitals will develop monopolies in particular services and locations, even if alternative providers exist for some of the other services they provide. Since this sort of activity is

far less likely to attract the attention and analysis which may accompany the merger of two Trusts, and as subsequent service mergers may take place and lead eventually to complete merger, it could be argued that it is at this level that merger policy is most needed. Indeed, some have argued that the US policy needs to recognise that in the current climate, “...market power [of hospitals] ultimately emanates from actions at the clinical service level rather than at some broader institutional level.”<sup>85</sup>

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It is not straightforward to explore how the UK policy has been applied as much of the data and evidence used in the assessment and decision-making processes do not appear in the public domain. This is especially true when the merger is below the level of the whole Trust or does not require one Trust to be dissolved, since no Ministerial approval is needed in such cases. Moreover, as the guidance is exactly what it says – ‘guidance’ – the Regional Offices which are responsible for implementing most of the processes are not obliged to undertake the assessments as described, and it is not clear whether they would be challenged if they failed to do so.

### Assessing the effect on competition

In order to calculate the impact of the merger on the market, both the UK and US policy require identification of the market within which the merging parties operate. Two aspects of the market need to be defined: the product (or service) market and the geographical market.

The *product* market is defined in the US guidelines as a set of services such that, if hospitals within the market were to raise their prices collectively for these services, purchasers would not divert sufficient demand to other services to make that price increase unprofitable. Thus the sellers would be able to raise the price significantly and permanently within the market. The service or set of services defined as a product market will be those for which there are no close substitutes. However, data are unlikely to be available to estimate how the demand for one service is likely to change in response to changes in the price of other services, and it is not even clear which sort of prices should be used in such an analysis.<sup>80</sup>

The UK guidance therefore reproduces some of the suggested sources of evidence from the USA guidelines in order to estimate the likely

reaction of buyers to a price increase. For example, consideration should be given to whether the provider takes into account purchaser substitution between services when making business plans, and whether purchasers have considered switching services before in relation to relative price and other factors. Other indicators suggested in the USA include industry or public recognition of a market as an entity, together with persistent and sizeable disparities in price between the product and other products. In addition, the potential for supply-side substitutes<sup>20</sup> tends to be judged on the basis of potential for entry and the extent to which facilities are unique to the production of the service in question. The problem in defining the product market in health care is that hospitals provide a range of services for different markets. Whilst it is clear that the competitive analysis can be undertaken using several different markets, what has caused debate in the USA is the tendency of the antitrust law to take a 'cluster of services' approach to hospital markets. In particular, the agencies have normally defined the relevant product market to be the group of services that constitute acute inpatient hospital care, treating them all as a single product market.<sup>86</sup> The justification for this is that although individual services within the group may not be substitutes from the point of view of patients (e.g. maternity versus orthopaedic services), if a purchaser contracts for this set of services at a hospital then it is a product market as long as a collective price increase for these services would be profitable.

The FTC specifically acknowledged this approach during a case involving American Medical International (AMI) acquisition of another hospital in 1979 which was overturned as being in violation of antitrust laws.<sup>85</sup> In this case, AMI had argued unsuccessfully that the relevant product market should include any supplier of services

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offered by hospitals whether these services were supplied on an inpatient or outpatient basis or by a hospital or other type of provider. As outpatient care increasingly substitutes for inpatient services and as providers other than traditional hospitals start to compete in the acute care sector, the cluster approach may be less pertinent. Indeed, in a later case involving the Hospital Corporation of America (HCA), the court agreed with HCA's assertion that the product market for acute services should include the services wherever and whoever provided them, and thus agreed that outpatient as well as inpatient care should be included in the cluster of services used to define the product market.

Clearly this is an important issue as the wider the definition of the product market, the more likely it is that merging parties can identify competitors and this will mitigate the extent to which the merger increases market concentration. Whilst some argue that the changing nature of the hospital market suggests the need for narrowly-defined markets,<sup>85</sup> others have suggested that one way of informing decisions is to consider the stance of the purchaser.<sup>20</sup> Thus if the purchaser is willing to contract separately for individual services within the cluster and to have contracts with different providers for services within the set, then a collective price increase within the bundle of services would not be profitable for hospitals within that market. For instance, if a purchaser is willing to contract separately for organ transplants or heart surgery then these may belong in a different product market from other inpatient services. This seems a particularly useful approach for the UK situation where purchasers do indeed sometimes contract separately for individual services rather than write general contracts for all inpatient care. In cancer services for instance, a purchaser may not identify separately cancer patients within a general

surgery and gynaecology block contract, but may contract separately for more specialised cancer services such as radiotherapy.

In the UK guidance there is also an added caveat in relation to the quality of the service: the guidance notes that if quality is sufficiently different between providers then a service could be perceived as being a different product. This has been echoed in some of the US decisions in which, for example, state-owned psychiatric hospitals were excluded from the product market for a merger of private psychiatric hospitals on the grounds of “testified differences in quality, scope of services...”<sup>85</sup>

The *geographical* market consists of the smallest area such that, if the hospitals imposed a small but significant increase in price, purchasers could not divert sufficient business to hospitals located outside that area to make the price increase unprofitable. Geographical markets are likely to differ depending on the product as the market for specialised services and elective care will be larger than that for general and emergency services. Thus in the HCA merger case, the courts recognised that depending on the service, the relevant geographical market could vary from the single county involved in the merger, the six-county metropolitan statistical area (MSA) or the thirteen-county health service area. Evidently, the larger the market, the less likely it is that a merger will produce levels of concentration sufficient to warrant a challenge.

The main problem in defining such boundaries is the extent to which geopolitical boundaries such as MSAs or DHAs or LAs represent meaningful ways of defining alternatives available to patients. Geographical markets depend on the willingness of purchasers to switch to hospitals outside the market and this depends in turn both on perceptions of quality and reputation and also upon the willingness

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and ability of patients to be treated at other hospitals. In order to reflect this, most of the analysis of hospital markets in the USA has focused on patient migration data which considers flows between hospitals and patients. Measures such as the Elzinga-Hogarty (EH) test use two criteria to judge where the boundaries of a market should fall. The first is the little in from outside (LIFO) standard which measures the volume of services that are both locally produced and consumed as a percentage of total local consumption; the second is the little out from inside (LOFI) standard which measures the volume of services that are both locally produced and consumed as a percentage of total local production. Large values for LIFO and LOFI statistics indicate that relatively little output is imported or exported from a particular area. In the case of hospital care, the EH statistics are constructed using patient flow data which give the locations of hospitals where patients are treated and are usually based on patient days or numbers of admissions and discharges.

The use of such methods for defining markets is not straightforward and many have criticised the arbitrary cut-off points which are used.<sup>81,87</sup> In addition, these measures are limited as they reflect only what is currently happening and cannot be taken to signify that other patients from a particular area would be willing to switch hospitals or that purchasers would make such a switch in response to price changes. Factors other than residence of the patient will influence the willingness of purchasers to switch, including travel times and transport facilities and the extent to which they view local hospitals as part of their community.<sup>80,87</sup> In the UK, switches in response to price changes will be feasible only if the HA can secure GPs' agreement to refer the majority of their patients to an alternative hospital. Although ECRs will always allow for some flexibility, HAs will place contracts

only with hospitals which they are confident GPs will use. The views of GPs in turn are likely to be influenced by their opinions of individual consultants within the hospital and the reputation of particular services. These important qualitative features need to be considered alongside attempts to define markets using quantitative techniques.

### **Inconsistency in measuring market concentration**

In the light of the difficulties associated with defining both the product and geographical markets and the range of approaches possible, it is not surprising that the measurement of concentration using HHIs is not straightforward. The use of different market definitions will alter the results of HHIs: narrower definitions of both the product and geographical market will tend to produce higher values for measures of concentration.

Wilder and Jacobs use alternative definitions of the product and geographical market to illustrate the range of HHIs possible in a rural and metropolitan area in the USA and at the level of specific surgical procedures.<sup>88</sup> They find that measures of concentration made at a very general level, similar to those used in previous merger challenges, disguised what was happening at a more disaggregated level. Indeed, overall measures of concentration were very similar in both types of market, despite the fact that the rural area consisted of a county with a single hospital and the metropolitan area covered two counties and had four hospitals. However, once the HHIs were calculated for specific procedures, the picture became much more complex and the degree of concentration varied widely.

Merger proposals between two hospitals in Illinois (Rockford Memorial and Swedish American) were thwarted when the Justice department calculated that the HHI would increase from 2,584 to

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5,976 if the merger were allowed.<sup>89</sup> This was on the basis of considering the relevant product and geographical market to be general acute care hospitals in the Rockford area. The merging parties contested the definition and in particular claimed that the geographical market was composed of at least ten counties, which would have lowered the HHI values.

In response to criticism that the application of HHIs can be misleading, policy-makers in the US have responded by noting that the HHIs and changes in HHIs are used as a 'preliminary screen' for testing for competitive effects and can be used to predict whether or not an investigation is opened.<sup>20</sup> However, they are not used mechanistically and once the decision to investigate is made, the process will use additional information to take into account the significance of the concentration results.

**Interpretation of the 'other' market factors**

Clearly the calculation of quantitative measures such as concentration levels is problematic and open to interpretation in terms of the definition of the relevant markets. Equally, when the assessment process in both the UK and US guidelines focuses upon other less quantifiable factors, problems of interpretation are even more apparent.

*Efficiency gains*

Consideration of the efficiencies resulting from merger is one area in which quantitative data could potentially be used to provide more objective measures. The US guidelines are clear that the efficiency gains must firstly be well documented and specific rather than related to general reductions in costs or savings in administrative overheads;

secondly that it should be clear that the gains will be passed on to consumers in the form of lower prices; and thirdly that the efficiencies could not be gained through routes other than merger (a joint venture for example). The UK guidance places much emphasis on the lack of published evidence for the existence of economies of scale and scope, but says little about any shorter term cash gains which could accrue from merger, especially where rationalisation of sites or reduction in spare capacity are likely.

Experience in the USA shows that the Justice Department has often ruled that the efficiency gains put forward by merging parties are insufficiently convincing, for example in the case of University Health Inc.<sup>90</sup> Efficiency gains were emphasised more in the 1992 guidelines, but even so, in three out of the four merger cases decided after litigation, in which potential efficiencies were a significant issue, the arguments of the parties were rejected on the grounds that they were factually unpersuasive.<sup>91</sup> In a case involving Rockford Memorial and Swedish American, the hospitals also claimed substantial efficiency gains, projecting cost savings of \$43 million in the first five years. However, as the two hospitals were not located near each other, the evidence for such huge savings was not considered persuasive.

In the AMI case, the parties involved argued that the merger would save \$1.2 million in annual operating savings and capital savings of \$12.2 million, the former arising from the decision to locate almost all the medical services at the hospital with a lower unit cost.<sup>89</sup> However, the courts decided that they had failed to establish the existence of cost savings, and pointed out that as the merger had taken place 17 months before the court action, they would have expected to see evidence of consolidation already occurring in order to reap the efficiency gains. This in fact had not occurred, which led the court to believe either that

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the efficiencies did not exist or were small, or that the level of post-merger market power held by AMI meant they had little incentive to exploit the gains.

The US decisions appear to suggest an awareness that the market conditions post-merger will affect the extent to which such gains are likely to be exploited and passed on to consumers. Those facing little competition will find less incentives to cut costs and offer innovative services, and this may be particularly true for non-profit making hospitals.

***Quality gains***

The UK guidance places a lot of emphasis on potential quality gains from merger and includes economies of scale and scope in terms of quality as one way in which mergers may enhance efficiency. This is probably a reflection of the fact that many recent NHS re-configurations have been driven by perceived quality gains from concentrating services, or by guidance on best practice issued by various professional bodies. Whilst the emphasis thus seems appropriate, what is much less clear from the guidance is the sort of evidence which will be considered valid. The literature review included in the guidance<sup>2</sup> and subsequent evidence<sup>23</sup> suggest that Trusts are unlikely to be able to cite published evidence to support their claims. Supporting evidence is therefore likely to comprise professional views and opinions of those involved in the merger or, in some cases, the views expressed by working parties or groups from outside the area involved in the merger. Evidence relating to quality gains seems to receive little weight in the decision-making processes in the USA as it is less amenable to quantification and authentication.<sup>86</sup>

### *Entry*

Attempts have been made in the USA to be precise in terms of what constitutes easy entry. It is more difficult in the UK context to assess the likelihood of entry given that there is no definition of what might be defined as entry and no cut-off point beyond which entry is considered to be unlikely.

### *Failing firms*

The failing firm defence in the USA has been used to apply the merger guidelines less stringently in cases where the merger involves a hospital in financial difficulty.<sup>92</sup> However, despite the fact that it has been demonstrated that mergers involving a financially weak hospital are indeed less likely to be challenged, a counter-argument has been put forward to explain why this does not represent variation in how the failing firm defence is interpreted or applied.<sup>20</sup> Hospitals in a weak financial situation but which are not expected to exit the market in the near future are not treated as failing firms as they do not meet the relevant criteria, but they are likely to be of minimal competitive significance. This means that they will have been considered in the analysis of the competitive effects of merger and as they offer little competitive threat, their acquisition by another hospital is unlikely to raise significant competitive concerns.

### *Non-economic benefits*

Some of the additional non-economic benefits which are included in the UK guidance are also likely to be open to interpretation and, apart from a general statement that most weight should be given to the economic benefits, there is no indication of how important these non-economic benefits have to be in order to be considered valid. The all-encompassing nature of some of the factors make it unlikely that a

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merger would ever be challenged in some circumstances. For example, if merger is used as an alternative to closure of a unit, then one of the non-economic benefits includes consideration of the implications of closure of a unit which is popular with the public. As hospital closures are inevitably unpopular, mergers will always proceed unless limits are placed on the weight to be given to this factor.

In summary, the USA guidelines, even though they are quite clearly outlined and contain very specific definitions of particular terms, have been problematic when applied to particular merger cases. The degree of openness in interpretation of aspects of the UK guidance is likely to lead to similar problems.

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A more fundamental issue is whether merger policy is appropriate for the NHS at all. The Department of Health appears to base its merger policy on the belief that preserving competition between providers will lead to efficiency gains and that substantial structural changes which might reduce the degree of competition should therefore be investigated in order to ensure that there are compensating benefits. The Department of Health has therefore chosen to follow the type of economic regulation used in other markets in the UK and in the health care sector in other countries, in order to preserve a degree of competition on the supply side. The merger policy is therefore consistent with the stated aims of the NHS reforms. Of course, the new government is likely to stress rather different aims in designing any future merger policy.

One of the key points in any regulatory regime is the extent to which each of the different components of the regime work consistently together towards the stated policy goal. The UK merger guidance was not published in isolation and other sections of the guidance cover purchaser mergers, collusion and the management of providers in difficulty. However, as the foreword to the guidance notes, there are many other forms of regulation which are applied to the NHS: the management relationship between purchasers and the NHS Executive; the public accountability and probity standards applied to Trusts; and the self-regulation of the many professionals involved in the delivery of health care. In addition, it is clear that the NHS retains some of the planning and central management functions which existed prior to the NHS reforms and which are operated alongside the market-orientated mechanisms.

It is necessary to consider whether there are aspects of the *current* regulatory regime or features of the health care market which clash with the principles underlying the merger guidance. Equally, it is

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important to assess whether proposed changes in the health care market might also affect the appropriateness of current policy.

### Role of entry in the NHS

The US guidance emphasises the potential for entry to offset the competitive concerns raised by mergers, and defines quite clearly what is to be considered 'easy entry'. In contrast, the UK guidance is rather more vague. Dawson has criticised the UK merger guidelines for the role given to potential entry from Trusts with existing spare capacity and from other providers, such as the private or voluntary sector and primary care providers.<sup>19</sup> It is argued that the rules which apply to other aspects of Trust behaviour will limit the extent to which they can compete for market share, other than in temporary ways such as using spare capacity to meet extra demand from waiting-list initiatives. For the signal from a potential supplier to be credible, Dawson argues that capital commitment is usually required. However, since access to public funding for capital (beyond a minimum level) is centrally controlled, it is unlikely that the Department of Health will allow Trusts to borrow capital in order to mount a threat to an incumbent Trust in another location. Thus she predicts that GPs and the private sector are likely to be the only credible entrants. As they are unlikely to have an interest in the full range of acute care, competition will be selective and based on differential regulation rather than economic efficiency.

This underplays the potential for Trusts to compete in terms of new entry for a number of reasons. There are some services for which access to capital will not be required in order to compete. Although Dawson asserts that the use of spare capacity will be limited as purchasers will not be prepared to make a major change of provider based on possible temporary capacity, there are many cases where spare capacity of capital

is unlikely to be temporary and can be dealt with either by selling buildings or by using them to develop and expand new services. In the latter case it becomes more important to identify other inputs (apart from capital) which are needed to set up a service.

Where substantial capital is required, it is true that the need to fulfil the requirements of the Department of Health and Treasury in order to gain access to public capital funding does provide a barrier to Trusts wishing to develop new services. The central administration of capital resources is aimed not only at ensuring consistency in allocating funds but also avoiding wasteful duplication. Providers requesting capital funds are required to demonstrate that the scheme represents value for money and that they have support from purchasers. Whilst some purchasers would be in a position to confirm that they would be willing to switch business away from a current provider in order to support the new provider (especially if quality was an issue), there are cases where this is unlikely to occur and entry will be limited in these cases.

Similar arguments have been forwarded in the USA where Certificate of Need (CON) laws exist in most States in an attempt to avoid duplication of facilities and over-supply of beds which may increase costs and hence prices. Commentators have highlighted the tension between such laws and the focus on competition which is embodied in the merger guidelines.<sup>48</sup> Similarly, the existence of entry barriers in the form of past CON denials for new bed capacity in a particular geographical area has formed an important part in decisions to turn down merger proposals.<sup>89</sup> Of course, the previous UK government saw a much smaller role for public sector capital in the NHS through increasing use of the Private Finance Initiative (PFI) which might, in theory, have reduced the barriers to entry. However, progress on major

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privately financed capital projects in the NHS appears to be very slow and it is not clear how successful the new government will be in speeding up existing proposals nor indeed how the initiative will be used in the future.

More importantly, the threat of entry could be enhanced by the Department of Health if the ownership and operation of assets in the NHS were clearly separated. For example, a purchaser who is dissatisfied with the way in which the A&E service is being provided at the local hospital has little leverage, since the local provider will have an effective monopoly which cannot be contested. However, if it was possible to force the incumbent provider to lease or rent the assets associated with the A&E service to another Trust (if poor management is the problem) or to allow alternative groups of doctors to use the assets (where clinical quality is an issue), then the threat of entry becomes credible. This could in theory apply at all levels, from access to a single machine or operating theatre through to the total assets of the Trust.

Indeed, the Department of Health suggests this course of action (in a rather guarded manner), not within the guidance on mergers, but in the section covering the management of Trusts in difficulty. It is acknowledged in the guidance that there may be a difference between financial viability of the Trust in its current form and viability under a different management. The Regional Offices are in a position to advise the Trust chairman where 'management appears to be poor but the Trust appears to be viable in the long term'. Although there is no legal impediment to this separation as the Secretary of State ultimately owns all assets, strong professional and practical barriers make this an option which is difficult to achieve in practice. Whilst there are some examples of this occurring in the NHS at present (e.g. where one Trust might allow doctors from other Trusts to use facilities) these seem to

be restricted to cases where all parties are gaining from the arrangement and enter into it willingly; it would be far more difficult to achieve if the incumbent Trust was losing business. Professional ties amongst groups of medical staff would also make it difficult for Trusts to gain co-operation for such ventures. At present one Trust in Scotland appears to be close to losing its whole management board, which may set a precedent for future actions.<sup>93</sup>

In summary, there is at least some potential for increasing the extent to which the threat of entry could be used as a method of enhancing competition in the NHS, thus offsetting the effects of merger and monopoly power and increase the extent to which the regulatory regimes work in harmony.

### **Structure of the supply side of hospital markets**

Another accusation levelled against the application of merger policy towards the health care sector relates to the basic structure of hospital markets. The cumulative effect of alleged economies of scale and the existence of barriers to entry suggest that hospital markets are inevitably highly concentrated except in the most urban areas, hence policy which focuses largely on concentration measures is unsuitable and irrelevant to health care. In the USA, a study which computed the HHIs for hospital markets in 1983 and 1988 found that the majority of markets lay in the range defined as highly concentrated.<sup>92</sup> By calculating changes in HHI levels for hypothetical mergers in each market, the authors concluded that more than two-thirds of all potential mergers – and more than half the mergers involving the smallest hospitals in a market – could prompt regulatory concern using the US guidelines. Thus they argue that, due to the nature of the health care market, the guidelines are not sufficiently discriminatory.

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This limits the predictability of merger policy as the analysis suggests that the merging parties in a large number of cases could expect to be challenged under the HHI rules. Although this has been contested on the grounds that the calculation of HHIs undertaken by the authors may be suspect, and more importantly, that they have been too mechanistic in their interpretation of concentration measures,<sup>20</sup> predictability remains a key issue in the design of regulatory policy.

The UK guidance also emphasises that a key policy aim is to clarify in what circumstances providers can expect to operate freely and when they can expect intervention from the centre (hence the title of the guidance: *Local Freedoms, National Responsibilities*). The 'local decision limits' are set at a level likely to prompt a large number of assessments if the guidance is followed to the letter. For example, the range of services to fall outside the limit if combined market share is over 50%, includes all those which constitute more than 5% of a Trust's total activity. This is likely to include all the key specialties in most general hospitals, although sub-specialties may well be excluded. Market shares are much less likely to fall outside the limits when they involve Trusts specialising in different services, but the main contenders for such partnerships – acute and community mergers – are excluded from the guidance as a special case. There is no evidence available to assess the extent to which mergers have fallen outside the local decision limits since the guidance was published. The Department of Health does note that the guidance is to be kept under review, so presumably the impact of the local decision limits is being assessed and may be subject to change.

### Policy for the failing firm

Another feature of the hospital market which may affect the relevance of merger policy is the nature of the demand conditions experienced in the past and expected trends. The demand for acute beds has fallen both in the UK and USA and changes in medical technology (e.g. more day case surgery) and an increasing focus on community and primary-led care may signify a continuation of this trend. As some commentators have noted,<sup>19</sup> the need to reduce excess capacity is probably the main reason why many mergers in the NHS have been allowed to proceed without question and have indeed been actively encouraged both by purchasers wishing to share in the expected savings and by the Department of Health's wish to avoid the potential closure of hospitals.

The same tendency has been suggested by a comparison of challenged and unchallenged mergers in the USA, in which the authors claim that the merger guidelines have been applied less stringently in markets facing falling admission rates and sharper population decreases.<sup>92</sup> Although the US policy provides for a 'failing firm' defence, this is very carefully defined and failing hospitals may be unlikely ever to meet the criteria: for example, non-profit hospitals will appeal to charitable sources and even for-profits rarely close.<sup>94</sup> However, Bazzoli *et al* argue that this criterion has been applied less stringently in conditions where hospitals are faced with financial distress due to falling demand.<sup>92</sup> Although this has been contested, policy-makers have on occasion suggested that due to the public health implications of a failing hospital, they may be willing to allow a merger where a hospital is 'ailing' rather than failing.<sup>48</sup>

If it is the case that in both the UK and USA, mergers are more likely to be allowed in areas where hospitals are facing excess capacity, is this

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at odds with a merger policy based on preserving competition? If the reduction in excess capacity could be achieved through another route, such as downsizing or re-configuration of services, the USA guidelines suggest that the merger should not be allowed. The UK guidance, however, does not mention this caveat and this would be a useful addition to policy. It would emphasise the need to consider more carefully the potential alternatives to merger where a Trust is facing financial difficulties. What is clear from the earlier discussion on excess capacity is that the *cause* of failing demand needs to be established: if the Trust is failing to attract demand because of poor quality or badly run services, then the problem may be more appropriately attributed to management deficiencies. In this case merger may not be the only, or indeed the correct, approach. If hospitals which fail due to poor management or clinical quality are ‘rescued’ through merger, this does not promote appropriate incentives to other providers. Where there are simply insufficient patients in an area to warrant the presence of the hospital then closure may be preferable to merger as the latter will need to involve closure of sites anyway. There are signs that the Department of Health recognises the importance of establishing the reasons for Trusts’ failure and the need to have a more explicit exit regime.<sup>95</sup>

#### Changing nature of the market

The changing nature of both the supply and demand side of the market has implications for the future of merger policy. On the supply side, the focus of such policy in the UK and USA has been on the ownership and transfer of services. In the USA, commentators have called for the broadening of merger policy to allow consideration of the anti-competitive effects of other relationships between hospitals and doctors, as provider networks which do not involve cross-

ownership become more common.<sup>96</sup> In the UK, although the merger policy focuses both on mergers between whole Trusts and those involving the transfer of services or specialties to another Trust, the guidance also recognises the potential for collusive behaviour between providers. However, as the Department of Health itself acknowledges in the guidance, the nature of health care provision will inevitably involve a degree of collaboration between Trusts and it is therefore not appropriate to apply strict rules discouraging co-operation or collaboration in all circumstances. Whilst UK policy therefore acknowledges the existence of arrangements which do not rely on common ownership, there remains the problem of how to collect evidence of anti-competitive behaviour and enforce the guidance. It has been suggested that in the USA, implementation would have to rely upon complaints from affected parties and this is probably applicable also for the UK.

On the demand side, the ability of purchasers to use their countervailing monopsony power is a key issue. As Dawson notes, the US experience with managed care has illustrated how the emergence of large, strong purchasers through the growth of managed care had a significant impact on costs and prices.<sup>19</sup> Thus it may be desirable to encourage the development of purchaser power, not solely in terms of size, but also improving the availability and quality of information on which they base decisions. The UK guidance contains a section on purchaser merger but the focus is largely on ensuring that larger purchasing organisations remain sensitive and responsive to their populations (i.e. on the nature of the agency relationship between consumers and purchasers), rather than on their bargaining power in relation to monopoly providers.

The development of GP fundholding could be interpreted as a

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fragmentation of the purchasing function which may allow monopoly providers to exploit their position in relationships with fundholders, whose purchases account for a much smaller proportion of Trust income than those of larger commissioning authorities. However, the development of GP consortia and multifunds has enhanced the market power of fundholders and in the UK there are at least 16 multifunds covering over 3 million patients.<sup>97</sup> Indeed, Trusts appear keen to ensure that even individual fundholders are content. Although early evidence suggested that fundholders were willing to switch between providers (usually on quality grounds),<sup>98,99</sup> a more recent Audit Committee report suggests that the majority of fundholders have made no major changes to where they refer.<sup>100</sup> The shape of purchasing may evolve further under the pre-election proposals put forward by the current government and it is possible that the leverage of purchasers will be enhanced. This could occur through the merger of Health Authorities to create fewer but larger purchasers and through the creation of local commissioning groups to include all GPs working in co-operation with Health Authorities.<sup>101</sup>

**Conclusion**

The evidence on the impact of mergers in the health care sector is inconclusive and suggests that the expected benefits from merger often do not materialise. Current UK policy is open to a large degree of interpretation and some elements clash with other aspects of the regulatory regime in the NHS and with potential changes in the health care market. A cautious approach to merger activity and an explicit framework for assessment is therefore needed.

Even the most vehement critics of the relevance of USA merger policy in the health care sector do not recommend that it is abandoned

completely and many argue for a review of the adequacy of current regulation on the grounds that it may need to be further tightened.<sup>66</sup> When the UK guidance was published, one commentator noted that: “...detailed examination of costs and benefits [of merger] should be welcomed...” as Health Authorities were often “unduly impressed” by the claims of merging providers.<sup>102</sup>

In considering the future of merger policy in the UK, there are some fundamental political considerations as the new Labour government will not wish to emphasise the role of supply-side competition, instead their focus is on co-operation and collaboration. However, although the emphasis may change, merger proposals are always likely to raise issues relating to their impact on costs and quality, the potential for longer-run economies of scale and scope, and non-economic factors such as public opinion. Having a framework within which to assess the costs and benefits of the proposals is therefore likely to offer a useful management tool, whatever the political context.

The need for a more explicit framework is further strengthened by recent reports<sup>5,6</sup> that the new government will look to mergers between hospitals as a way of achieving significant health care cost savings. It is not at all clear from the evidence whether such marriages are ‘made in heaven’ or are simply politically convenient as a perceived ‘quick fix’ which ultimately deflects attention from difficult choices about health care priorities.

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The purpose of the 'internal market' reforms were to increase the supply side efficiency of the NHS. More recently, government policy has resulted in an ambitious programme of hospital mergers.

Unfortunately the evidence base for this policy is absent. There has been a reluctance, nationally and internationally, to evaluate hospital mergers and the studies available are often of poor quality.

The authors, Maria Goddard and Brian Ferguson, conclude that where evidence exists, hospital efficiency may actually decline post-merger due to the transition costs associated with the rationalisation of facilities. They conclude that there is no evidence in the UK NHS that hospital mergers reduce costs, particularly where they are not accompanied by rationalisation in the number of hospital sites. Thus the current hospital merger mania appears to be politically rather than scientifically driven and may bring few benefits to the NHS.