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Simon Burgess, Carol Propper and Deborah  
Wilson

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**Simon Burgess**, University of Bristol, Dept. of Economics and CMPO

**Carol Propper**, University of Bristol, Dept. of Economics and CMPO

**Deborah Wilson**, University of Bristol, CMPO

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Centre for Economic Policy Research

90–98 Goswell Rd, London EC1V 7RR, UK

Tel: (44 20) 7878 2900, Fax: (44 20) 7878 2999

Email: [cepr@cepr.org](mailto:cepr@cepr.org), Website: [www.cepr.org](http://www.cepr.org)

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## **ABSTRACT**

### **Extending Choice In English Health Care: The implications of the economic evidence\***

Extending choice in health care is currently popular amongst English, and other, politicians. Those promoting choice make an appeal to a simple economic argument. Competitive pressure helps make private firms more efficient and consumer choice acts as a major driver for efficiency. Giving service users the ability to choose applies competitive pressure to health care providers and, analogously with private markets, they will raise their game to attract business. The paper subjects this assumption to the scrutiny provided by a review of the theoretical and empirical economic evidence on choice in health care. The review considers several interlocking aspects of the current English choice policy: competition between hospitals, the responsiveness of patients to greater choice, the provision of information and the use of fixed prices. The paper concludes that there is neither strong theoretical nor empirical support for competition, but that there are cases where competition has improved outcomes. The paper ends with a discussion of the implications of this literature for policies to promote competition in the English NHS.

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Simon Burgess  
Department of Economics  
University of Bristol  
8 Woodland Road  
Bristol  
BS8 1TN

Tel: (44 117) 928 8436  
Fax:(44 117) 954 6997  
Email: [simon.burgess@bristol.ac.uk](mailto:simon.burgess@bristol.ac.uk)

Carol Propper  
Department of Economics  
University of Bristol  
8 Woodland Road  
Bristol  
BS8 1TN

Tel: (44 117) 928 8427  
Fax:(44 117) 954 6997  
Email: [Carol.Propper@bristol.ac.uk](mailto:Carol.Propper@bristol.ac.uk)

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Deborah Wilson  
CMPO  
University of Bristol  
8 Woodland Road  
Bristol  
BS8 1TN  
Tel: (44 117) 928 7795  
Fax:(44 117) 954 6997  
Email: d.wilson@bristol.ac.uk

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## Introduction

Choice in health care is currently popular amongst English politicians. In July 2005 the current administration and the two major opposition parties all espouse ‘choice’ as a means of improving health care services in England<sup>1</sup>. They are not alone in this: other European countries seeking to increase choice include Denmark, Sweden, Norway and Holland. Why does enhancing choice seem so attractive to policy-makers? There is an appeal to a simple economic argument. Competitive pressure helps make private firms more efficient. They cut costs and improve their goods and services in order to attract consumers, and this continual drive for improvement is good for the economy. Consumer choice acts as a major driver for efficiency. It seems easy to transfer this logic to the provision of public services. Giving service users the ability to choose applies competitive pressure to health care providers and, analogously with private markets, they will raise their game to attract business.

The aim of this paper is to subject this assumption to the scrutiny provided by the theoretical and empirical economic evidence on choice in health care and then to use this evidence to examine the potential impact of the policies currently being used to promote choice in health care by the present Labour administration. Does either economic theory or the empirical evidence suggest that greater choice will improve health outcomes? What is the impact of combining choice with centrally fixed prices? Will all patients gain, or are some likely to lose? If gains are likely, what steps may the Department of Health need to take to ensure that these gains are realised?

The paper begins with a description of the current policies intended to enhance choice in the English NHS. We then review the evidence as to whether these policies will improve outcomes, after a brief description of the methods used to select material for review. Our review concentrates on four topics that are relevant for the present UK policy set-up: the impact of competition in health care markets, the responsiveness of consumers to greater choice, the use of information and the effects of using centrally set prices. Our focus is on patient choice as a policy instrument for stimulating hospital competition, not with choice per se as a policy goal<sup>2</sup>. We end by discussing the implications of these findings for the effect of extending choice in the English health care system.

## The current choice based policies

In practice, despite the simple appeal of ‘choice’, the term is actually used in many different ways and can refer to quite different institutional arrangements. Choice in health care may include choice of location of treatment, choice of doctor or other medical staff or choice of procedure. The form of choice being introduced in England at present is primarily choice of location of hospital treatment, which may also entail choice of doctor or other medical staff.

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<sup>1</sup> While differing in some details, both major opposition parties seek to increase patient choice (Conservatives, 2005b, Liberal Democrats, 2005b).

<sup>2</sup> Patient choice is often advocated as a goal in itself, allowing for personalisation or responsiveness of health services, given differences across patients in their preferences for services (for example, Appleby et al 2003).

In all health care systems, direct patient choice of hospital of treatment is limited. In the UK NHS, individuals will first see a generalist, a GP<sup>3</sup>. The GP provides information on the condition the individual has and, if hospital care is required, will refer the individual to a hospital. Locality-based grouping of GP practices (primary care trusts or PCTs) receive budgets, based on population health, to buy hospital care. This care is bought by placing contracts with health care providers.

Within this system, which maintains the split of provider and purchaser instituted in the internal market reforms of the 1990s (Le Grand 1991), the policies of the current administration are to increase considerably the choice of hospital (Department of Health, 2004). From the end of 2005, patients requiring hospital treatment will have the option to choose from at least four to five different health care providers (chosen by their PCT), paid for by the NHS. By 2008, patients will have the right to choose from any provider, as long as they meet clear NHS standards and are able to do so within the national maximum price that the NHS will pay for the treatment that patients need<sup>5</sup>.

In some contracting systems, buyers can negotiate both price and quality with sellers of health care. The 1990s UK internal market was an example of such a system (Propper, 1995). In contrast, the current English arrangements will have a system of centrally set prices for each type of treatment. The centrally set price for any treatment will be the average cost of such treatment across all hospitals<sup>6</sup>. Purchasers will buy care at these prices, the intention being that this will focus buyers and sellers on quality rather than on costs. To enable this, the volume of information available on the quality of all health care providers, including hospitals and PCTs has been increased<sup>7</sup>.

The English Department of Health (DoH) has strongly encouraged private sector entry into the hospital services market. Since 2001 it has set up 32 independent Diagnostic and Treatment Centres, which are independent of the NHS, but funded by contracts placed by PCTs. The DoH plans that by 2008 independent sector providers will provide up to 15% of procedures on behalf of the NHS and PCTs have been instructed that by the end of 2005, one of the five choices offered to patients should be from the private sector<sup>8</sup>.

The central features of this system are the separation of purchaser and provider with competing providers, centrally set prospective prices, the provision of greater information on quality and the encouragement of entry, mainly from the private sector. We now review the evidence as to whether these features improve outcomes

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<sup>3</sup> Even in private insurance systems individuals are typically limited in the extent of direct choice of hospital by the terms of their insurance. The main choice that the individual has is of insurer and insurance plan.

<sup>4</sup> The Labour administration policies at April 2005 do not include those to increase choice of GP.

<sup>5</sup> Damiano et al (2005) show that the location of hospitals in England is such that most individuals in 2001 had potentially at least 2 hospitals within a 30 minute travel time.

<sup>6</sup> The overall system is known as 'payment by results' and the prices as the 'national tariff'.

<sup>7</sup> For example, by establishing the HealthCare Commission.

<http://www.healthcarecommission.org.uk/Homepage/fs/en> (accessed 4 April 2005).

<sup>8</sup> <http://www.dh.gov.uk/PolicyAndGuidance/OrganisationPolicy/SecondaryCare/TreatmentCentres/TreatmentCentresArticle> (April 2005 (accessed 4/4/2005)).

in health care. We examine four topics: competition between hospitals, whether patients respond to choice, the use of information and the effect of centrally set prices.

## **Methodology**

The literature selected for review met the following criteria. First, almost all the literature was from the discipline of economics, as the purpose of this review is to examine the economic arguments and findings. Second, we focused initially on published material, as this has the mark of quality conferred from the refereeing process. But subsequently we broadened out our search to include the 'grey' literature, including the reports of major US governmental reviews. Third, we sought evidence from outside the USA, firstly from the UK, but also from other NHS type systems and other non-NHS type European systems<sup>9</sup>.

The mechanics of this search were as follows. We initially searched the websites of key researchers in the field for lists of published material. We used Web of Science to search for papers that cite key articles by these authors. Working 'backwards', we looked through the bibliography of key articles for earlier relevant papers. We then carried out subject searches in journal databases including JSTOR, Ingenta, Elsevier Science Direct, Oxford Journals Online, Web of Science, Medline, and FindArticles. Search terms for these journals included various combinations of the words 'competition hospitals', 'choice health', 'patient choice'. Whenever relevant articles were found, we again looked both 'backwards' (at citations in that paper) and 'forwards' (for other papers citing this one). We also searched specific journal websites including (but not limited to) the British Medical Journal, the Journal of the American Medical Association, the New England Journal of Medicine and major economics journals. When searching medical journals, keywords such as 'competition', 'choice', and 'market' were used. Finally, searches in a number of internet search engines (Google, Teoma and Yahoo) were used to find both academic and non-academic (e.g. think tank) articles, and this was supplemented with direct searches of the websites of think tanks.

## **Competition between hospitals**

This section examines the theoretical and empirical economic evidence on the effect of greater competition between providers in health care markets. Most of the empirical evidence focuses on a narrow set of outcomes, primarily the effect of competition on prices and quality of health care, sometimes with a focus on winners and losers. The majority of studies provides evidence only on positive questions, such as 'does competition increase quality?' Few of these studies allow normative analysis, which would assess whether greater competition is beneficial overall. Further, most of the evidence comes from the United States. There is relatively little evidence for England or the UK as a whole, and even less for the rest of Europe.

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<sup>9</sup> The US studies and UK paper are almost entirely drawn from the economics literature and use an economic methodology. Of the large volume that was collected, we selected papers with the strongest methodology. The European evidence less plentiful and some of that evidence cited here relies on less data.

## **The impact of competition on health care markets: what economic theory predicts**

Health care markets are usually thought to differ from textbook competitive markets in a number of important ways. These include the fact that the product is differentiated (each individual gets a slightly different product), that information is imperfect and that government regulation is extensive as a response to these departures from the textbook competitive market. In addition, many firms, even in a system like that of the USA, are not-for-profit (Dranove and Satterthwaite 2000). In these types of complex markets, economic theory fails to provide strong guidance as to whether competition is optimal.

In particular, where there is product differentiation, competition can provide too little quality or variety, too much, or just the right amount. The intuition is as follows. Competition may 'underprovide' variety since competitive firms cannot capture the consumer surplus from additional variety. A monopolist may provide more variety as it is the only seller in the market and can capture the consumer surplus. Alternatively, competition may produce too much variety since in a competitive market part of the profit from new variety will come from 'stealing demand' from other firms. A firm deciding to offer a new variety will not take account of this external effect so there will be excessive product variation (Gaynor and Vogt, 2000).

Analyses that take account of the multi-product nature of hospital production and the imprecision of measures of both quality and price have shown that the impact of competition between hospitals on price and quality is ambiguous (Dranove and Satterthwaite, 2000). The impact of competition will depend on the responsiveness of the buyer of health care to both quality and price. This will depend on how precisely price and quality can be observed. If price and/or quality cannot be measured and reported well, this will make the buyer less responsive to changes in price or quality. If quality is observed accurately but price is observed poorly, then demand becomes less responsive to price, allowing producers to raise their prices, but also giving the provider an incentive to increase and possibly 'overproduce' quality. If price is observed accurately but quality is observed poorly, then the levels of quality supplied will be too low. Finally, if quality has several attributes, one of which is easier to observe than another (for example, clinical quality and patient amenity), then competition may lead to overproduction of the one that is easily observed and underproduction of the one that is less easy to observe.

Furthermore, there will be an interaction between the nature of the market and the method of price setting. First, this interaction will affect the general level of prices. In a market in which buyers of health care are covered by generous health insurance (as in the United States before the 1980s), buyers will not be sensitive to price, but will be responsive to differences in quality. So price may be high, but quality will also be high. In markets where buyers have 'harder' budget constraints (as in the UK during the 1990s internal market), price may be more important and hospitals will compete on prices, leaving quality to fall below efficient levels. Where a single price is fixed for all providers for a treatment (as in the current arrangements in England), there will also be no price competition. In this case, all competition will be in terms of quality. Competition may lead to excessive levels of quality and excessive product

differentiation (Gaynor 2004). But if government reimbursement for a treatment is too low, competition may lead to the quality of this treatment being too low.

Second, this interaction will affect patients differentially. As individuals differ in the severity of their illnesses, any regime that sets a single price for all patients of a certain type – for example, a single price for the treatment of a certain condition – will set up incentives to treat the less costly patients and to avoid treating or ‘undertreat’ the more costly patients. Such regimes include the diagnosis-related group (DRG) system used in the United States by the government and any kind of prospective payment system, in which reimbursement is set in advance of treatment. These incentives exist regardless of whether there is competition or not, but competition may sharpen them, resulting in differential treatment of patients. So, for example, patients who are more expensive to treat may get less good quality care or remain untreated (known as ‘skimping’ and ‘dumping’) while hospitals compete for lower cost patients by offering them better quality (‘creaming’) (Ellis, 1998). Differential treatment might also arise in markets where patients are covered by insurers who differ in the generosity with which they reimburse hospitals.

### **The US evidence on competition and health outcomes**

Almost all the evidence comes from the US market, and much of this comes from one – albeit very large – market, California. Some of the early evidence is difficult to interpret because of the methods of analysis used. In early studies, hospital markets were not well defined, and there was no recognition of the fact that the measure of competition might be affected by the outcomes that were being studied. Later studies tend to have paid more attention to these issues, and are more reliable indicators of outcomes.

The impact of competition depends on the ‘rules of the game’: the institutional features of the health care market. Three regimes can be identified in the US health care market (Dranove and Satterthwaite 2000). In the first, which operated in the 1960s, consumers were covered by generous insurance and hospitals reimbursed for their full costs. In the second, government payers (Medicare) introduced prospective payment schemes and utilisation review. Private insurers followed their lead. Prospective payment schemes reimburse hospitals according to average cost for a procedure or treatment group. These schemes give two incentives: to lower costs and to avoid treating high cost patients. The third regime began in the 1980s, took hold in the 1990s, and is known as managed care. Payers created preferred provider organisations, which contracted with hospitals to obtain discounted prices. This system limits the number of hospitals that can be chosen by the health care users. Alongside preferred provider organisations have grown up managed care organisations (known as health maintenance organisations or HMOs), in which the insurer enrolls the individual for a set period for a fixed fee. Managed care organisations have an incentive to be concerned about price and have also been very active in seeking information on quality.

#### *The effects on prices and quality of competition*

Most studies suggest that the switch to both prospective payment and managed care increased price competition and lowered costs (or lowered the growth in costs). But

there is also evidence that hospitals in competitive markets decreased the amount of uncompensated care they provided in response to the introduction of increased price competition (Gruber, 1992; Dranove and Satterthwaite, 2000; Gaynor and Vogt, 2000).

In terms of the effect on quality, it is the generally accepted view (though the empirical support is quite weak) that the first regime resulted in a 'medical arms race' (Robinson and Luft, 1985). As buyers were not sensitive to price, hospitals competed on quality, both to attract buyers and to attract physicians to practice at their hospitals. This had the impact of raising both price and quality in areas with more hospitals. Recent attention has focused on the impact of managed care on quality. Many of these studies have focused on one measure of quality (or rather its absence): deaths after emergency admissions for heart attacks (acute myocardial infarction or AMI). An influential early study focused on the treatment of elderly patients admitted to hospital with a heart attack. All these patients, because of their age, were covered by government insurance (Medicare), which pays generously for AMI treatment. This shows that higher competition was associated with lower AMI death rates post-1990 (Kessler and McClellan, 2000). Later studies show more mixed results (for example, Hamilton and Ho, 2000; Gowrisankaran and Town, 2003; Volpp et al, 2003).

Incentives for hospitals to increase quality when operating in competitive markets may depend on the precise mix of payers that the hospitals have. There is evidence that HMOs have preferences for higher quality (Chernew et al, 1998; Escarce et al, 1999). This leads to both price reductions and quality improvements in competitive environments where HMO penetration is high. On the other hand, where reimbursement rates are set by Medicare (or another government insurer) that sets relatively low rates, hospitals may respond to competition for patients by decreasing quality (Gowrisankaran and Town, 2003). The argument is that the hospital has no control over reimbursement rates, and if they are too low, the hospital may not have an incentive to compete for these patients by supplying better quality. If this is the case, the outcome of competition will depend on the precise mix of payers. Gowrisankaran and Town (2003) examine the treatment of both Medicare and HMO patients and find that competition reduced death rates for HMO patients but increased those of Medicare patients. There is also research showing that falls in reimbursement rates are associated with poorer quality. A change in payment methods in New Jersey reduced subsidies for hospital care for the uninsured and changed hospital payment to price competition from a rate setting system based on hospital cost. This led to an increase in AMI mortality and a relative decrease in the use of cardiac procedures (Volpp et al, 2003).

#### *Differential treatment of patients and differential responses by hospitals*

Competition may also lead to differential treatment of different types of patients, although this outcome has been less studied. Kessler and Geppert (2003) examine the treatment given to elderly Medicare patients admitted to hospital following a heart attack. They investigate the extent to which (lack of) competition has an impact on patients who are otherwise sicker compared with those who are otherwise healthier. They find that in more competitive markets, there was greater variation in medical care. Furthermore, this variation was on average beneficial. Healthy patients in more competitive markets received less intensive treatment than those in more concentrated

markets, without any significant loss of health benefits. Sick patients in less competitive markets received less intensive treatment than similar patients in more competitive markets, with worse health outcomes. The effect of competition is that there is more appropriate treatment, with greater variety in treatment styles across hospitals in more competitive areas and that neither patient group loses.

A related issue is whether price-based competition changes the type of services provided. Mukamel et al (2000) examine whether hospitals in more price competitive environments will shift resources from activities related to clinical service, which are not easily observed and evaluated by patients, into hotel services, which are easily observed. They study the change to selective contracting in California in the early 1980s and find some evidence to support resource shifting. In not-for-profit hospitals, resource use declined more in clinical services than in hotel services.

Not-for-profit hospitals play a large part in the US health care market. Do they behave differently with respect to competition? One view is that not-for-profits mergers are not harmful, as epitomised by several cases in the United States where courts believed that non-for-profit status would mean that mergers would not have anti-competitive effects. One court judgement stated: 'The Board of University Hospital is simply above collusion'. Recent studies have challenged this view. The evidence seems to indicate no significant differences between the pricing behaviour of for-profit and not-for-profit hospitals (Sloan 2000). Not-for-profit hospitals use their market power in a way similar to for-profits: studies of not-for-profit mergers find that mergers lead to price increases. Nor do not-for-profit and for-profit hospitals appear to differ in terms of the amount of uncompensated care they give. Not-for-profits exploit market power when they have the opportunity to do so. This implies that the for-profit/not-for-profit status of hospitals that wish to merge should not be considered a factor in predicting whether a merger is likely to be anti-competitive (Federal Trade Commission and Department of Justice, 2004).

### **Evidence on competition and health outcome from outside the United States**

The evidence on competition between hospitals outside the United States is extremely limited, mainly because such competition has been extremely limited. In addition, some of this evidence is less about competition per se than about the effect of changes to the payment mechanisms that have accompanied policies to increase patient choice.

#### *Evidence from the UK*

The primary non-US evidence on competition comes from the UK internal market in hospital care that operated between 1991 and 1997. This internal market encouraged competition between NHS hospitals for contracts for hospital care from two sets of buyers: the geographically-based district health authorities and the smaller GP fundholders. Prices could be negotiated between hospitals and the buyers and price lists (though not including any discounts) were supposed to be publicly available. Information on quality was very limited. The evidence suggests that greater competition was associated with lower costs (Söderlund et al, 1997). The bargaining power of district health authorities was lower than that of GP fundholders, and hospitals that had greater business from fundholders had lower posted prices (Propper et al, 1998; Propper, 1996). On the other hand, two large-scale studies of the

association between competition and quality suggest that quality – as measured by deaths of patients admitted to hospitals with heart attacks – fell during the internal market (Propper et al, 2004, Propper, Burgess and Abraham, 2002). This combination of falls in price and quality fits with the predictions of economic theory: where demanders are sensitive to price and quality information is weak, both prices and quality are likely to fall as competition increases.

There is a considerable body of evidence to suggest that the two types of purchasers were differentially able to reap the benefits from provider competition. Fundholders were able to secure shorter waiting times for their patients, were more able to move contracts and generally appeared to be more responsive to patients' wishes and more willing to exploit competition between hospitals for their business (Le Grand, 1999; Croxson et al, 2001; Propper, Croxson and Shearer, 2002; Dusheiko et al, 2004). This may in part be due to their smaller size: district health authorities were concerned that if they removed their business the whole hospital would fail. It is also likely to be due to self-selection among GPs of fundholding status. So there is some evidence of differential treatment of patients from different buyers. There has been no systematic study of whether 'skimming', 'creaming' or 'dumping' occurred. Case study evidence suggests that fundholders did not engage in patient dumping, even though they had the incentive to do so (Matsaganis and Glennerster, 1994).

#### *Evidence from Norway, Sweden and Denmark*

These three Nordic countries have an NHS-type system where care is provided by the public sector and finance is provided through taxation. Patient choice has been introduced, primarily to decrease waiting times. In all three countries, it has been accompanied by a move towards output-related (DRG-type) payments. A recent review concluded that in Denmark and Sweden the incentives for hospitals to accept patients from outside their area have been weak and perhaps unsurprisingly, only a small proportion of patients went out of area under these schemes (Williams and Rossiter, 2004). The evidence does not support a strong reduction in waiting times in Denmark and no evaluation of the impact on waiting times appears to have been made for Sweden. On the other hand, there is some evidence that the move towards output-based payments increased technical efficiency in Swedish hospitals (Gerdtham et al, 1999). There appears to be little assessment of the impact of such choice in Norway.

In summary, the evidence makes it clear that 'institutions matter'; the effects of competition depend on the features of the market<sup>10</sup>. Important features include whether prices are set centrally or not, who makes the choice of provider, and the availability of information on quality and prices. Where buyers care about price, competition between hospitals has led to lower costs or lower cost growth, both in the US and in the UK. The relationship between competition and quality has been less studied but the best US evidence suggests that quality is higher where markets are more competitive (though this was not the case in the English internal market). Not-for-profit hospitals appear to respond to competition in very similar ways to for-profit hospitals. Poor information limits the effectiveness of competition and choice.

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<sup>10</sup> Similar conclusions apply to the market in education (Burgess et al 2005).

## Do patients respond to greater choice?

This section focuses on how patients in primarily NHS-type systems react to being offered greater choice of provider of hospital care. A secondary question is whether this has an effect on the behaviour of hospital providers.

Direct patient choice may be limited in many health care systems, not just NHS-type ones. Even in private insurance systems, attempts to contain the growth of costs mean that patient choice is typically exercised at the point of choice of insurer, rather than in direct choice of hospital conditional on insurance. Patients who are allowed to choose hospitals will make these choices on the basis of the benefits and costs associated with each of the hospitals they may choose between. Factors that play a part in this calculation will include what illness they have, the severity of the illness, the quality of the hospitals, the costs of accessing and using them, and the amount of information they have, both about their medical health and the benefits of care provided at different hospitals. Individuals who differ along these dimensions are likely to differ in their willingness to exercise choice.

The UK evidence comes from two sources: the recent patient choice pilots and the internal market of 1991-97<sup>11</sup>.

### The patient choice pilots

The patient choice pilots offered patients who had been waiting over six months for treatment a choice of different provider. The evidence suggests that a high level of patients have exercised choice under the scheme: 67% in the London scheme; 50% in the national coronary heart disease pilot; and 75% in the Manchester pilot. This high take-up is likely to be affected by the fact that in order to qualify, all patients had to have been waiting six months, that patients were provided with high levels of information about the available choices open to them, and that they were given advice and financial assistance with transport and accommodation for companions (Williams and Rossiter, 2004). This higher take-up is in contrast to rather low take-up for patient choice policies in other countries. The reasons may include the fact that the financial factors in the UK pilots either did not operate, or operated only weakly, in choice schemes in other NHS-type systems and that take-up might have been affected by the pilot nature of the schemes.

It does not appear that the patients who took up choice differed in terms of severity or the deprivation of the area in which they lived. This finding may be peculiar to the nature of the pilots. Patients were relatively homogenous: all had been waiting for at least six months and travel costs and information costs were similar across all groups. In general, we would expect patients to differ in their willingness to travel. Responses to a survey that accompanied the scheme indicated that there were *stated* differences in willingness to travel and in the importance of attributes of hospitals. Patients who are older, female, have lower educational qualification or who look after children are less likely to indicate that they wish to take up choice. Patients are willing to trade-off waiting time against reputation of the hospital, with some indication that this trade-off is affected by the income of the patient. The very limited Nordic and French evidence

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<sup>11</sup> This section draws heavily on Williams and Rossiter 2004.

from patient choice in these countries systems suggests patients who travel have different socio-economic status; the French evidence also suggests patients who travel have different medical conditions (Williams and Rossiter, 2004).

Extending patient choice may also change the flow of patients to hospitals. It seems likely that more severely ill patients will want to go to more high-tech hospitals, leading to a change in the distribution of patients across hospitals. Recent US research indicates that, even among heart attack patients, the more severely ill travel further and to more specialist hospitals (Tay, 2003). Furthermore, the trade-off between distance and quality varies with patient characteristics. If such trade-offs are made for patients in need of emergency treatment, it is likely they will be made more by those needing elective care.

It also appears that lower waiting times for those in the scheme were not at the expense of patients who were not in the scheme. Waiting times for all patients fell as sending hospitals responded to loss of patients (and funding) by improved performance on waiting times and receiving hospitals did not increase waiting times for other patients at the hospital (Dawson et al, 2004).

### **Evidence from the GP fundholding scheme**

The evidence from the GP fundholding scheme is less about direct patient choice than about the impact of decisions by fundholders on the waiting times of their patients and the extent to which hospitals responded to the incentives provided under the fundholder scheme. The strongest empirical evidence suggests that fundholding led to a reduction in waiting times for patients of fundholders, but not for other patients (Dowling, 2000; Croxson et al, 2001; Dusheiko et al, 2004). There is also some evidence that fundholders were able to secure shorter waiting times for their patients only where they paid directly for them: in other words, without direct financial incentives, hospitals were not willing (or able) to get shorter waiting times for patients of fundholders needing other treatments (Croxson et al, 2001). On the other hand, there is some evidence that fundholders were especially, but not uniquely, successful in persuading consultants to conduct outreach programmes (Williams and Rossiter, 2004).

In summary, direct patient choice is limited in many systems. Further, it may conflict with choice exercised by the agents who place contracts with hospitals on behalf of groups of patients. Greater payer choice may mean less patient choice, as payers seek to develop relationships with a limited set of providers. Patients in England have expressed willingness to travel to non-local hospitals and have done so when given assistance to exercise this choice. When such support is absent (or the wait at the local hospital is perhaps shorter or less uncertain), the evidence from other European countries suggests there is relatively little take-up of such travel options. Individuals who are better informed and individuals whose illnesses are more severe may be more likely to travel and this may lead to greater differences across hospitals in patient severity.

### **The use of information in health care markets**

In the last five years, the amount of information in the English hospital market has increased greatly, some of it provided by the Department of Health, but also from a media-led coalition<sup>12</sup>. While the provision of information is a pre-requisite for informed choice, the evidence – mainly from the United States – on the provision of information on provider performance suggests that such information does not necessarily improve outcomes.

### **The use of information**

A comprehensive review (Marshall, 2002) suggests very different use of information among consumers, buyers and health care providers. Although consumers state they want more information about provider performance, published data has only a small impact on consumer decision-making. For example, only one in nine coronary artery bypass graft patients from four Pennsylvania hospitals were aware of the Pennsylvania report cards on cardiac surgeons. Less than one quarter of these patients said it had any significant impact on their choice of surgeon. Furthermore, there was a low willingness to pay for the report cards. Lack of interest in, and lack of use of, performance data appears to be due to difficulties in understanding the information, lack of trust in the data, problems with timely access to the information, and lack of choice.

Purchasers use information on providers to a greater extent than patients, but there is evidence that they find it inadequately packaged and targeted. Providers are more responsive to performance data than consumers or purchasers (or individual doctors). Unsurprisingly, organisations shown in a positive light by performance reports are more likely to use the information for benchmarking and internal performance monitoring. Those identified as poor performers are more likely to criticise the validity of the data (Propper and Wilson 2003).

### **The impact of information on health outcomes**

Public reporting of performance may engender positive responses by providers. But it may also have unintended consequences. This stems from the fact that outcomes, particularly quality, are very difficult to measure in health care<sup>13</sup>. Information on performance provides providers with the incentive to do well according to the criteria that are published: the problem is that they will do this by increasing efforts to improve the published criteria, which is not necessarily the same thing as improving actual outcomes. Possible responses include the improvement of performance and the exodus of poor performers, but also less positively, the selection of patients, differential treatment of patients and manipulating the data to appear to do better (Propper and Wilson, 2003). Examples of manipulation of the data from the UK include the re-categorisation of patients during the 1990s to reduce published inpatient waiting lists. Smith (1995) provides a list of some of the less positive responses of providers to the publication of information in health care.

Report cards have been introduced in the United States to provide information, at the level of individual surgeons in hospitals, on the quality of outcomes. There are

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<sup>12</sup> [www.drfooster.com](http://www.drfooster.com)

<sup>13</sup> Propper and Wilson (forthcoming) review the issues involved in creating and using quality measures.

relatively few studies of their impact. Studies of the impact of the mandatory New York coronary artery bypass graft surgery report cards, which were introduced in the late 1980s, concluded that mortality decreased, and the severity of patients operated on increased. Possible explanations include the exodus of low volume, high mortality surgeons, a marked improvement in the performance of non-low volume surgeons, and improvement in the performance of surgeons new to the system (Hannan et al, 1994).

Dranove et al (2003) use the same data to examine the impact of report cards on appropriate matching of patients to hospitals, on the quality and incidence of intensive cardiac treatments and on the resource use and health outcomes that determine the net consequences of report cards on social welfare. They find that report cards led to substantial selection by providers of patients, increased sorting of patients to providers on the basis of severity of their illness, and significant declines in the use of intensive cardiac procedures for sicker patients. Treated patients in the two states (New York and Pennsylvania) that had report cards were less ill than those treated in states without report cards. Patients within a hospital were more similar in terms of severity and those who were sicker were more likely to go to teaching hospitals. The introduction of report cards also altered the treatments given so that both healthier and sicker patients received more treatment. But while this improved the outcomes for healthier patients, it worsened outcomes for sicker ones, because hospitals avoided performing intensive surgical therapies that were monitored for sicker patients and instead used less effective medical therapies. Overall, Dranove et al (2003) conclude that these cards reduced patient welfare, though the longer-term effects might be more positive. For example, the increased patient sorting that report cards engender might lead to more accurate and effective treatment as hospitals become more specialised in the treatment of certain types of patients.

In summary, while consumers have access to more information, information in health care markets is often too complex for direct use by consumers. It is often in a form that is of limited use for buyers of health care. It is most widely used by providers themselves and they appear to respond quickly to the incentives given by the information. In these responses they will focus on improving measured outcomes; this may or may not improve outcomes and there is considerable evidence of 'gaming the system'.

### **The impact of centrally set prices**

As noted above, the current UK government has introduced centrally set fixed prices as part of its 'choice' package. The United States led the way in introducing fixed prices for treatments. In 1983, Medicare implemented a prospective payment system and private payers followed suit. Under the prospective payment system, the amount a hospital receives for treating a patient is based on the diagnosis-related group (DRG) for the episode of hospitalisation. Each DRG has a payment weight assigned to it, based on the average cost of treating patients in that DRG. Hospitals receive this predetermined amount regardless of the actual cost of care. The UK 'payment by results' system is broadly similar to this. Such systems are intended to give incentives to bring down costs, as providers can keep the difference between actual expenditure and the DRG payment. But it is important that prices correctly reflect the economic costs of the activity. Paying too much wastes resources, while paying too little

reduces both output and capacity, lowers the quality of the services that are provided, and diminishes the incentives for innovation (Cookson and Dawson, forthcoming).

US research suggests that in the presence of competition, providers are extremely responsive to signals given by centrally set prices. For example, prior to the adoption of the prospective payment system, the average length of stay in hospital had been stable for around seven years. Once the prospective payment system went into effect, the average length of stay began an immediate decline, the number of certain procedures dropped precipitously and others rose by well over 100% (Federal Trade Commission, 2004). Medicare's administrative pricing system has also (albeit inadvertently) made some services very lucrative and others unprofitable. The results of the pricing distortions are that some services are more or less available than they would be based on the demand for the service. An example is provided by cardiac care. Medicare reimbursement rates in the early 2000s make this type of care very profitable. Hospitals use this profit to subsidise the provision of less profitable (or unprofitable services), but this pricing distortion also creates a direct economic incentive for specialists in cardiac care to enter the market. In response, general hospitals in the United States have tried to find ways to limit the expansion of competition (Federal Trade Commission 2004).

Single prices may also encourage differential treatment of patients. As noted, above, they give incentives to overprovide services to patients with expected costs below the fixed price ('creaming'), to offer low quality to patients with expected costs above the fixed price ('skimping') and to underprovide services to patients with expected costs greater than the fixed price ('patient dumping') (Ellis, 1998). Setting a single price does not necessarily encourage high quality. There is no evidence from the UK, but the US Medicare system has been claimed to be 'largely neutral or negative towards quality' (Federal Trade Commission, 2004). The reasons are as follows. All providers meeting basic requirements are paid the same regardless of the quality they provide. At times, providers are paid more when complications occur as a result of error (for example, if a patient is pushed into a better rewarded DRG as a result of medical complications), thus actually providing an incentive for poorer quality.

## **Discussion**

In this section we offer observations on three issues: the quality and relevance of the evidence; policies that will need to be adopted if competition is to be promoted; and some of the conflicts that appear to be embodied in the current promotion of choice.

### **The quality and relevance of the evidence**

As noted at several places above, most of the evidence comes from the USA. The quality of recent US evidence is high, in terms of methodological approach and the data on which it is based. But there is considerably less evidence from the UK and even less from Europe: the result of less experience with choice based policies, more recent implementation of such policies and poorer availability of routine data with which to evaluate policy. So the political drive (from all three major parties) for a choice based policy in England is not highly evidenced based.

A reading of the evidence suggests that competition between providers in health care can result in lower costs and/or higher quality. From this, it can be inferred that choice, in the form of payer choice of hospitals, has the potential to improve outcomes in the English health care market. But the strong caveat is that the institutions of the market must be appropriately designed. And in this the NHS is to some extent entering uncharted waters, as the internal market of the 1990s was heavily circumscribed. In addition, major institutional change also requires cultural change. It is beyond the scope of this article to discuss cultural change, but the importance of institutions and market structure does lead us to a set of observations on the type of policies that may be needed to support the current choice arrangements.

## **Policies to promote choice**

### *The need for market regulation*

If it is accepted that payer driven competition is broadly beneficial, then the logic is that it should be promoted. Competition is intended to increase pressure on hospitals (Propper et al 2002), something that hospitals, just as other firms in a market, are likely to want to avoid. In the US, hospitals have tried to reduce this pressure by entering into preferential pricing agreements, negotiating access rights to selected buyers or by merging. The former two routes are not open to English hospitals under the national tariff arrangements. So it is likely that they will try to reduce competitive pressure by seeking mergers with other providers<sup>14</sup>.

Since 1991, there has been considerable rationalisation in the English NHS<sup>15</sup>. From this, we can infer that the Department of Health has been in favour of mergers, presumably both on the grounds of rationalisation of service provision and as a way of dealing with hospitals in financial difficulties.

Providers seeking to merge are likely to appeal to the fact they are not-for-profit and that they serve local communities. This defence has been used by hospitals in the US (Gaynor and Vogt 2000) and - in some cases - accepted by the courts. But the US experience suggests that the benefits of mergers between not-for-profits may well be exaggerated by those appealing to their community orientated motives and that decreases in competition arising from mergers by not-for-profits have an equally negative impact on outcomes as mergers by for-profits (Abraham et al 2003). This suggests that, if the benefits of competition are to occur, the Department of Health will need a pro-competitive strategy: proposed mergers will need to be subjected to more rigorous evaluation than mergers have been in the past. A pro-competitive strategy might take as its starting place the treatment of mergers in the rest of the economy: the competition authorities can block a merger if it has or is likely to result in a substantial lessening of competition<sup>16</sup>. This approach may run counter to the inclination of the Department of Health to allow mergers regardless of their impact on

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<sup>14</sup> This response has also occurred in the English social care market: Knapp et al (2001, p302) note the increasing propensity for mergers.

<sup>15</sup> As part of the original set-up of the internal market, new hospital groupings were formed. Merger activity has continued since then. Between 1997 and 2002 the number of acute trusts had fallen by a quarter, while the number of non-acute trusts had fallen by over half. Source: authors' own calculations from NHS data.

<sup>16</sup> Enterprise Act, 2002 (Competition Commission 2003).

market concentration, but is necessary if the spare capacity that a competitive market requires is to exist in the English hospital market.

*Policies to deal with differential treatment of patients and differential performance of hospitals*

The prospective price system that is being introduced as part of the choice programme gives hospitals incentives not to accept more severely ill patients ('dumping'), to undertreat such patients ('skimping') and to seek to attract the less severely ill and overtreat these ('creaming'). These incentives are present whether or not competition exists, but are intensified when hospitals are subject either to actual competition or competition based on league tables.

While the existence of these incentives does not necessarily mean that hospitals will respond in this way<sup>17</sup>, two features of the current policy regime make such incentives quite sharp. First, the 'payment by results' policy intends that a large component of provider's income will be based on prospective fixed price per case payment<sup>18</sup>. Second, the publication of data on outcomes is increasing and poor outcomes will contribute negatively to a hospital's measured performance. Even though the controls for variation in severity are likely to improve, it is never possible to account fully for all factors beyond the hospital's control (Propper and Wilson, 2003), and variation in severity is likely to be one factor that is difficult to control fully for (Landron et al 2003). This means there will be both a financial and a 'league table' impact from high severity patients.

The evidence suggests that this may lead to differential treatment of patients within hospitals (Dranove et al, 2003), as well as possibly differential treatment across hospitals. Greater choice may lead to the concentration of sicker individuals in hospitals that signal higher quality, such as teaching hospitals. This effect may be exacerbated by the entry of new providers who concentrate on patients who are easier to treat and 'cream-skim' these patients away from other providers. Such concentration of patients in certain hospitals is not necessarily welfare reducing. A higher volume of patients of high severity may allow hospitals to reap economies of scale in treatment, so improving outcomes. But hospitals with high volumes of high severity patients will also make losses and will have poorer measured outcomes, unless outcome measures reflect patient severity. As adjustments for severity can never be full, there may also be a need to reduce the 'power' of the incentive structure by reducing the reliance on fixed prices and changing the way that quality is measured.

More generally, the market may be subject to considerable short-term disruption as fixed prices and the encouragement of entry mean changes in the pattern of service delivery. The use of fixed prices encourages the entry of hospitals that are below

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<sup>17</sup> The GP fundholding scheme in the internal market had incentives for GPs to select patients (Matsaganis and Glennerster 1994), but GPs did not seem to respond to these incentives, possibly because the institutional arrangements were such that GPs were not responsible for very high cost patients.

<sup>18</sup> Around 70 percent of activity will be covered by HRG payments (see <http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/> National tariff 2005 (accessed 4/4/2005).

average cost into the provision of elective activity. One way to achieve this is to be efficient: another may be to provide only a limited set of services. Such new entrants may undercut existing providers who are either inefficient or who are not properly reimbursed for the full range of services they produce, and have therefore inflated their elective procedure prices. Reduction of inefficiency is beneficial. But if there is positive value from provision of a full range of services (for example, if there is a positive option value from the existence of emergency care alongside elective care) and this is not currently reflected in prices, the short run disruption to such providers – and their potential patients - will not have longer term benefits. In this case there is a need for policies to maintain multi-service providers in operation whilst they adjust their prices and the services they offer.

### **Potential conflicts in the exercise of choice**

Patient choice may not be equally exercised by all patients. Payer choice is not the same thing as patient choice, and if the first is to operate well, the latter may have to be restricted. At present, politicians are blurring this distinction: as the market evolves, this conflict will become more apparent. In resolution of this conflict, most systems are characterised by payer choice and limited direct patient choice. If this is dominant form that choice takes, the distribution of benefits will depend on the behaviour of the purchasing agents. PCTs will have incentives to promote patient choice if the performance targets they face include waiting times. But they will also have incentives to minimise the cost of implementing choice. The outcome may be that poorer individuals have longer waiting times because their travel and information costs are higher. More generally, it is not clear whether choice is being introduced to keep middle class individuals within the NHS, or to bring the advantages of the choice to all NHS users. All these equity issues are currently unresolved: a fuller discussion is provided in Dixon et al (2003).

### **Conclusions**

At best, the literature suggests that greater competition between hospitals can improve outcomes, but the institutional design is critical. With respect to the current English arrangements, it is first clear that, to promote hospital competition, there will need to be stronger pro-competitive strategies than operated during the internal market of the 1990s. Secondly, the strength of the incentives embodied in the current 'payment by results' schemes and hospital league tables may have to be reduced to prevent poorer outcomes for higher severity patients. Finally, at present the difference between payer- and patient-driven choice is blurred in political rhetoric: the conflict between these two will become more apparent as payer choice is rolled out.

## References

- Abraham J M, Gaynor M and William B Vogt, (2003) 'Entry and Competition in Local Hospital Markets'. University of Bristol, CMPO discussion paper 03/088.
- Appleby, J, Harrison, A and Devlin, N (2003) 'What is the real cost of more patient choice?' London: Kings Fund.
- Chernew M, Scanlon D and Hayward R, (1998), 'Insurance type and choice of hospital for coronary artery bypass graft surgery', *Health Services Research*, 33 (3): 447-66.
- Competition Commission (2003) *Merger References: Competition Commission Guidelines*, London: HMSO (March 2003).
- Conservatives (2005b), *The right to choose*, Conservative health policy summary available at: <http://www.righttochoose.com/policysummary.cfm> (accessed 08/02/05).
- Cookson, R and Dawson, D (forthcoming) 'Hospital competition and patient choice in publicly funded health care' in Jones A (ed.) *The Elgar Companion to Health Economics*. Cheltenham: Edward Elgar (2006)
- Crosson B, Propper C and Perkins A, (2001), 'Do doctors respond to financial incentives? UK family doctors and the GP fundholder scheme', *Journal of Public Economics*, 79 (2): 375-398.
- Damiani M, Propper C and Dixon, J, (2005), 'Mapping choice in the NHS: analysis of routine data', *British Medical Journal*, 330 (2 February): 7486.
- Dawson D, Jacobs, R, Martin S and Smith, P, (2004), *Evaluation of the London Patient Choice Project: system wide impacts*, Report to the Department of Health, York: University of York.
- Department of Health (2004), *The NHS improvement plan: Putting people at the heart of public services*, available at: [http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/fs/en?CONTENT\\_ID=4084476&chk=i6LSYm](http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4084476&chk=i6LSYm) (accessed 08/02/05).
- Dixon, A., Le Grand, J., Henderson, J., Murray, R. and Poteliakhoff, E. (2004) 'Is the NHS equitable? A Review of the Evidence.' *LSE Health and Social Care Discussion Paper Series*. London School of Economics and Political Science (2003).
- Dowling, B, (2000), *GPs and purchasing in the NHS*, Aldershot: Ashgate.
- Dranove D and Satterthwaite M, (2000), 'The industrial organization of health care markets' in Culyer AJ and Newhouse JP (eds), *Handbook of Health Economics*, Amsterdam: North Holland.
- Dranove D, Kessler D, McClellan M and Satterthwaite M, (2003), 'Is more information better? The effects of report cards on health care providers', *Journal of Political Economy*, 111 (3): 555-588.

- Dusheiko M, Gravelle H and Jacobs R, (2004), 'The effect of practice budgets on patient waiting time: allowing for selection bias', *Health Economics* 13: 941-958.
- Ellis R, (1998), 'Creaming, skimping and dumping: provider care on the intensive and extensive margins', *Journal of Health Economics*, 17: 537-555.
- Escarce, J, Van Horn R, Pauly M, Williams S, Shea J and Chen W, (1999) 'Health Maintenance Organizations and hospital quality for coronary artery bypass surgery', *Medical Care Research and Review*, 56 (3): 340-62.
- Federal Trade Commission and Department of Justice (2004) *Improving health care: a dose of competition*, Washington, DC: Federal Trade Commission and Department of Justice.
- Gaynor M and Vogt W, (2000), 'Antitrust and competition in health care markets' in Culyer AJ and Newhouse JP (eds), *Handbook of Health Economics*, Amsterdam: North Holland.
- Gaynor M, (2004a), 'Competition and quality in health care markets: what do we know, what don't we know?' Paper commissioned by the Federal Trade Commission, mimeo, Department of Public Policy, Carnegie Mellon University, Pittsburgh.
- Gerdtham U, Löthgren M, Tambour M and Rehnberg C, (1999), 'Internal markets and efficiency in health care: a multiple output stochastic frontier analysis', *Health Economics*, 8: 151-164.
- Gowrisankaran G and Town, R, (2003), 'Competition, payers and hospital quality', *Health Services Research*, 38: 1403-1421.
- Gruber J, (1992), *The effect of price shopping in medical markets: hospital responses to PPOs in California*, NBER Working Paper 4190, Cambridge, MA: NBER.
- Hamilton B and Ho V, (2000), 'Hospital mergers and acquisitions: does market consolidation harm patients?', *Journal of Health Economics*, 19 (5): 767-791.
- Hannan E, Kilburn H Jr, Racz M, Shields E and Chassin M, (1994), 'Improving the outcomes of coronary artery bypass surgery in New York State,' *Journal of the American Medical Association*, 271: 761-766.
- Kane T and Staiger D, (2002), 'The promise and pitfalls of using imprecise school accountability measures', *Journal of Economic Perspectives*, 16 (4): 91-114.
- Kessler D and Geppert J, (2003), *The effects of hospital competition on variation in utilization and quality of care*, presented at Agency for Healthcare Research and Quality/Federal Trade Commission Provider Competition and Quality Conference, May 28, 2003.
- Kessler D and McClellan M, (2000), 'Is hospital competition socially wasteful?' *Quarterly Journal of Economics*, 115 (2): 577-616.
- Landon, B.E., S.T. Normand, D. Blumenthal and J. Daley (2003), 'Physician clinical performance assessment: prospects and barriers', *Journal of the American Medical Association*, 290 (9), 1183-1189.
- Le Grand J (1991), Quasi- Markets and Social Policy, *Economic Journal* 101, 405, 1256-67.

- Le Grand J, (1999), 'Competition, co-operation or control – tales from the British National Health Service', *Health Affairs*, 18 (3): 27-39.
- Liberal Democrats (2005b), *Better health, less bureaucracy*, Liberal Democrat health policy summary available at: [http://www.libdems.org.uk/documents/policies/Policy\\_Briefings/12\\_Feb2004\\_Health.pdf](http://www.libdems.org.uk/documents/policies/Policy_Briefings/12_Feb2004_Health.pdf) (accessed 08/02/05).
- Marshall M, (2002), *The publication of performance data in the National Health Service*, available at: [http://www.chi.nhs.uk/eng/ratings/academic\\_papers/index.shtml](http://www.chi.nhs.uk/eng/ratings/academic_papers/index.shtml)
- Matsaganis, M, and Glennerster, H, (1994), 'The threat of 'cream skimming' in the post-reform NHS', *Journal of Health Economics*, 13 (1): 31-60.
- Mukamel D, Mushlin A, Weimer D, Zwanziger J, Parker T and Indridason I, (2000), 'Do quality report cards play a role in HMOs' contracting practices? Evidence from New York State', *Health Services Research*, 35 (1): 319-32.
- Propper C and Wilson D, (2003), 'The use and usefulness of performance measures', *Oxford Review of Economic Policy* 19 (2): 250-267.
- Propper C and Wilson D, (forthcoming), 'The use of performance measures in health care systems', in Jones A (ed.) *The Elgar Companion to Health Economics*. Cheltenham: Edward Elgar (2006).
- Propper C, (1996), 'Market structure and prices: the responses of hospitals in the UK National Health Service to competition', *Journal of Public Economics*, 61 (3): 307-335.
- Propper C, Burgess S and Abraham D, (2002) *Competition and quality: evidence from the NHS internal market 1991-1999*, CMPO Working Paper, Bristol: University of Bristol.
- Propper C, Burgess S and Green K, (2004), 'Does competition between hospitals improve the quality of care? Hospital death rates and the NHS internal market' *Journal of Public Economics*, 88 (7-8): 1247-1272.
- Propper C, Croxson B and Shearer A, (2002), 'Waiting times for hospital admissions: the impact of GP fundholding', *Journal of Health Economics*, 21 (2): 227-252.
- Propper C, Wilson D and Söderlund N, (1998), 'The effects of regulation and competition in the NHS internal market: the case of general practice fundholder prices', *Journal of Health Economics*, 17 (6): 645-73.
- Robinson J and Luft H, (1985), 'The impact of hospital market structure on patient volume, average length of stay, and the cost of care', *Journal of Health Economics* 4: 333-356.
- Sloan F (2000) Not for Profit Ownership and Hospital Behaviour in A J Culyer and J Newhouse (eds) *The Handbook of Health Economics*. Amsterdam: North Holland, Vol 1B, pp1142-1174.
- Smith P, (1995) 'On the unintended consequences of publishing performance data in the public sector', *International Journal of Public Administration*, 18 (2/3): 277-310.

- Söderlund N, Csaba I, Gray A, Milne R and Raftery J, (1997), 'Impact of the NHS reforms on English hospital productivity: an analysis of the first three years', *British Medical Journal*, 315: 1126-1129.
- Tay A, (2003), 'Assessing competition in hospital care markets: the importance of accounting for quality differentiation', *Rand Journal of Economics*, 34 (4): 786-814.
- Volpp K, Williams S, Waldfogel J, Silber J, Schwartz J and Pauly M, (2003), 'Market reform in New Jersey and the effect on mortality from acute myocardial infarction', *Health Services Research* 38: 509-527.
- Williams J and Rossiter A, (2004), *Choice: the evidence*. London: Social Market Foundation.