



## Health Reform Evaluation Programme

March 2010

# NEWSLETTER

### *Evaluating the NHS reforms, what have we learnt so far?*

Welcome to the second newsletter from the Health Reform Evaluation Programme. This programme of research is funded by the Department of Health Policy Research Programme and involves researchers from a range of British universities and research centres. The aim of the Programme as a whole is to provide independent scientific evaluation of reform policies in order to inform their effective implementation and subsequent development, and to ensure transparency and public accountability.

The health reforms that were set out in *Health reform in England: update and next steps* (DH 2005) were designed to work together and this programme of research was designed to provide an overarching view of the way these reforms have worked (or not) in the NHS. The individual studies that commenced in September 2007 have reported interim findings (based on data mostly collected in 2008 and 2009) and these are summarised in this newsletter. What follows is an attempt to draw tentative conclusions about the overall impact of the reforms:

1. The English NHS is still some distance away from functioning as a fully fledged market for publicly financed care. Entry and growth of new providers has been limited and the hospital market remains relatively concentrated. This is reinforced by the tendency of GPs to exercise choice on behalf of their patients and to choose local providers that they know. Nonetheless, since the introduction of the health reforms, competition in the hospital market has increased. This increase has occurred around, as well as in urban areas.
2. The quasi-market reforms appear to be likely to work better, at least in the short term, when applied to elective services, for example, surgery and diagnostics, and in locations where there is much more potential or actual competition between providers.
3. Overall, the effect of the reintroduction of the NHS quasi-market, but with individual patient choice of provider and fixed hospital prices, appears to have been modest so far (though in the direction expected) compared with the influence of government targets, especially the series of maximum waiting time targets. However, the offer of choice does appear to have the potential to alter the place of care of around 10% of patients which may be sufficient to induce competitive behaviour in relation to elective surgery.
4. However, the hospital market changes with fixed price competition and individual patient choice do appear to have had measurable positive effects:
  - a. hospitals in more competitive areas appear to have experienced faster improvements in patient outcomes, as assessed by mortality rates, than those in less competitive areas;
  - b. PbR appears to have had the expected effect in stimulating measured activity, raising day case rates and decreasing unit costs and with no apparent reduction in the quality of care as assessed by hospital mortality rates;
  - c. there is no evidence that the reintroduction of a quasi-market has harmed equity of use of care, at least in terms of the use of common elective services and the offer of patient choice seems to have been made relatively equally.
5. Commissioners are still generally seen as weaker than providers, particularly when

# HREP: evaluating the reforms

dealing with NHS Foundation Trusts, but commissioners can be influential in that their local market development strategies can have a big influence on the entry and growth of new providers.

6. Though the impact of the second NHS quasi-market of the 2000s has been modest so far, the reformed system appears to contain stronger incentives for quality and efficiency than its 1990s predecessor.

In this newsletter are updates from individual studies of the introduction of choice and competition in the NHS. Two studies of commissioning in the NHS, that commenced in September 2008 are still underway. The programme has been extended to include evaluation of the initiatives set out in *High Quality Care for All*. Findings from these studies, and how they inform an understanding of the progress of health reform in England, will be the subject of future newsletters. More information on the Health Reform Evaluation programme can be found at <http://hrep.lshtm.ac.uk>.

**Nicholas Mays**  
Scientific coordinator  
Contact: [Nicholas.Mays@lshtm.ac.uk](mailto:Nicholas.Mays@lshtm.ac.uk)

## Comparative Case Studies of Health Reforms in England

*Health reform in England: update and next steps* (DH 2005) presented a package of reforms designed to work together to provide incentives for improvements in quality of care (see fig.1). Therefore this study looks at the combined impact of the reforms. To do this three specialities (orthopaedics, diabetes care and early intervention in mental health) were studied in six sites in England.

The study involved a combination of quantitative data analysis (HES data, CQC ratings) and qualitative research. The qualitative component comprised documentary analysis and semi-structured interviews over two rounds. Round 1 interviews took place between October 2008 and May 2009. Round 2 interviews took place between September 2009 and December 2009.

### The impact of system reform

The study found that *Transactional Reform* had the most impact and influenced the impact of other reforms. Providers felt that Payment by Results (PBR) had provided a catalyst for supply-side efficiency and growth. However, commissioners felt tariff arrangements did not incentivise demand-side reform.

The impact of *Supply-side reform*, i.e. diverse providers, Independent Treatment Sectors (ITSCs) and Foundation Trusts (FTs), varied across

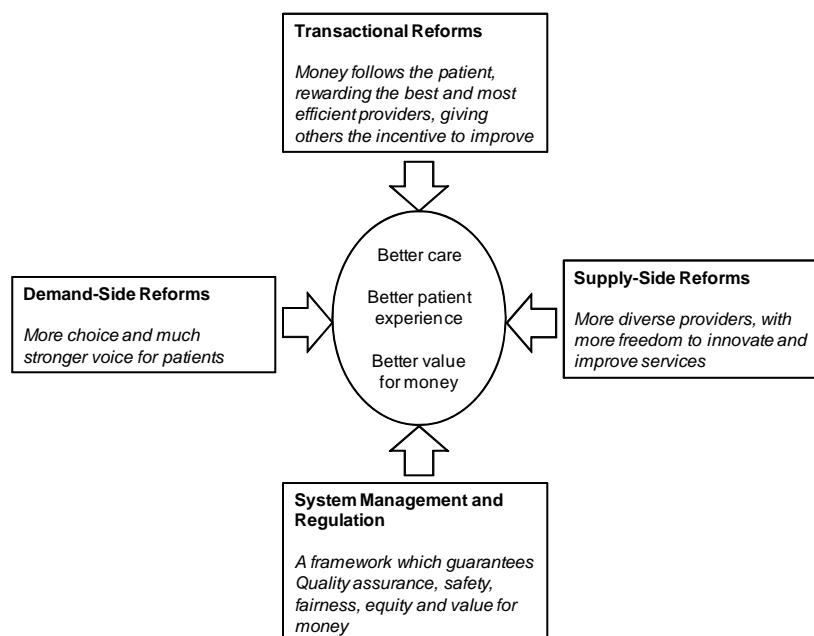


Figure 1. Framework for health reform in England

# HREP: evaluating the reforms

sites. The impact of ISTCs was shaped by the size of contract and the extent to which systems were able to meet the agreed capacity. Beyond ISTCs, wider private and third sector involvement was limited, although there was some evidence of 'sub contracting' to the private sector by FTs in order to achieve the 18-week waiting time target. Providers supported FT status which they felt brought improvements in governance and accountability. In contrast, commissioners felt the incentives and autonomy granted by FT status limited collaboration.

*Demand-side reform* aimed at creating patient choice did not have a significant impact due to the influence of 'local' identity and 'brand loyalty'. Figure 2 exemplifies the limited change in referral patterns over time in one of our case study sites.

organisational development and leadership. The impact of Practice Based Commissioning (PBC) was very much seen as 'work in progress'. For PBC to fully take hold, clinical 'champions', further investment and better incentives were needed.

The *System management and Regulation* reform stream was criticised for its focus on targets and inputs rather than on patient experience and clinical and organisational outcomes. In the view of local participants, SHA's and Monitor's focus on targets and the drive to meet the 18-week waiting time target came at a cost of strained relations across systems.

The Darzi *Next Stage Review* and subsequent White Paper *High Quality Care For All*, was supported for bringing in a new

HREP News  
March 2010

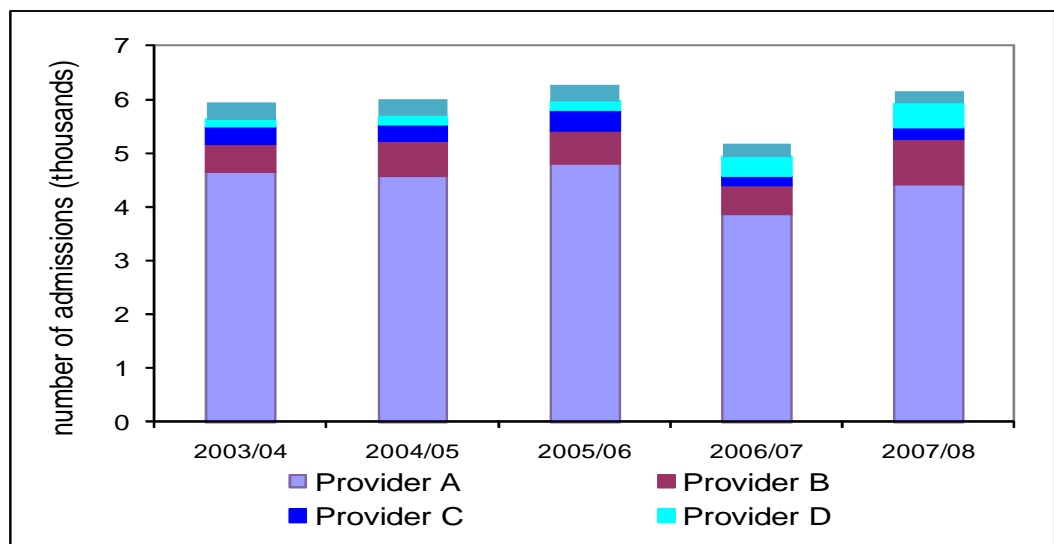


Figure 2. 'Urban PCT' elective orthopaedic admissions by provider

Although patient voice was seen to be a driver for change in service delivery, few of the people interviewed could give specific examples of how patients, public, governors or members of Foundation Trusts had shaped local strategy. Whilst there was system-wide support of integrated models of community care, commissioners struggled to implement change due to financial constraints, existing PBR arrangements, the 'power' of foundation trusts and internal problems with

focus on quality, patient experience and better outcomes. Darzi represented a change in emphasis of reform yet also symbolised continuity, as implementation of quality and care closer to home was already underway. The emphasis on clinical leadership and ownership of service change was welcome, but it was also perceived as 'disenfranchising the commissioner' and reinforcing the power of the supply side.

# HREP: evaluating the reforms

## The impact of reform across tracer conditions

Findings revealed that the reforms had most impact in acute care. Orthopaedics was the tracer condition most affected by the reforms. There was little influence of the reforms discernable in diabetes care and early intervention in mental health which operated within very different models of service delivery. In diabetes care, the main policy levers were the National Service Framework (NSF), Care Closer to Home, research evidence and NICE guidance. Here the emphasis was not on choice of hospital, but rather personalised care, patient 'voice' and moving care from hospital to community settings. Similarly in early intervention in mental health (EIMH) the main policy levers centred on the NSF and the Mental Health Policy Implementation Guide.

## Conclusion

The combined impact of health reform in local health systems generated significant differences of opinion between providers and commissioners, but participants were

unanimous in the view that reform had 'focused the mind'. The combination of *Transactional* and *Supply-side reform* has limited the impact of *Demand-side reform* and has brought tensions to the system in developing collaborative, integrated models of care. The reforms are imbalanced in the sense that the centre of gravity lies on the provider side. The implications of the combined impact of health reform bring into question the logic of the reforms outside of elective care and beyond conurbations such as London. The people we interviewed also called for a period of organisational stability and the need to live in 'less interesting times'.

Research Team:

**Martin Powell, Ross Millar, Abeda Mulla, Chris Fewtrell, and Hilary Brown**

Health Services Management Centre, University of Birmingham

**Hugh McLeod**

Health Economics Unit, University of Birmingham

**Nick Goodwin, Chris Naylor and Anna Dixon**  
The King's Fund

Contact: [m.powell@bham.ac.uk](mailto:m.powell@bham.ac.uk)

**HREP News**  
March 2010

## How do patients choose and how do providers respond?

This study aimed to examine the implementation of the patient choice policy and its impact on the quality of services. The study involved a survey of 6000 patients who booked an outpatient appointment in January 2009, and interviews with patients, GPs and senior hospital managers (undertaken between October 2008 and December 2009).

## Patient survey

The overall response to the survey was 36% (2181/5997). Half (49%) of respondents said they were offered a choice of hospital; of those, 49% said they were given two options, 49% between three and five options, and 2% more than five options. Only 8% of those offered a choice said that they remember being offered private sector options.

Many patients at ISTCs seemed unaware that they were run by private sector companies, with 22% of patients offered a choice at one centre and 48% at another saying that none of the choices they had been offered was run privately.

Patients drew on various information sources to help them choose, including their own past experience (41%), and advice from their GP (36%) and from friends and family members (18%). Only 4% had looked at the NHS Choices website and 1% consulted other websites. Cleanliness, quality of care, and the standard of facilities were the three most important factors that patients said had influenced their choice of hospital. Of patients who were offered a choice, only 14% said they would have liked more information (60% were satisfied with the amount of information they were

# HREP: evaluating the reforms

given, 22% did not want any information, 3% said they can't remember/didn't know and 0.5% said they were given too much information).

Of patients who said they were offered a choice, 29% were referred beyond their local hospital, compared to 21% who said they were not offered a choice ( $P < 0.01$ ). Put another way, 8% of patients appear to 'switch' to a non-local provider when offered a choice.

## GP interviews

There was overall support from GPs for the concept of greater choice although a number of reservations were expressed about the way choice is being implemented. Most of these reservations centred on the belief that few patients actually want choice beyond their local hospital(s). In rural areas where there was only one provider, choice was seen as a largely academic concept. In other areas where patients could choose between several providers, the GPs interviewed felt that choices were made on the basis of convenience or waiting times rather than clinical outcomes or quality of care. The choice programme was primarily viewed as serving the white middle class patient. Older patients and those whose first language is not English were thought to depend much more on their GP for advice when confronted with the prospect of choosing a provider.

The GPs provided little information to patients to support choice and in many cases felt that the information available to both patients and themselves was inadequate. Most relied on their personal knowledge of local consultants and services, and often appeared to feel uncomfortable if a patient chose a provider from outside the area. Many GPs thought the 18-week waiting time target restricted the availability of choice as popular consultants with long waiting lists were withdrawn from the list of available options. But they also wanted to preserve their ability to refer to a specified individual. Interviewees reported a range of practical difficulties from booking lines that were often engaged to the slowness and poor connectivity of the system, although many of the initial technical problems are being resolved.

The financial incentive offered by PCTs to practices to use the Choose and Book system seemed very important for a significant number of GPs interviewed. One PCT decided to withdraw the incentive during the course of the research. GPs interviewed after this decision thought they would probably stop using it.

## Provider interviews

There was a general understanding among providers of how the choice policy was designed to work and general support for concept of giving patients a choice of providers. However, most interviewees felt patients were not generally choosing and that GPs were the main influence on referral flows. Extensive GP liaison was being undertaken by hospitals, implying that they viewed GPs as more important shapers of patient flows than patients. Some used referral data to identify GPs whose referrals were low or decreasing for particular specialties. Consultants would then visit those practices to try and understand the reasons behind the changes. Many other forms of GP engagement were occurring, including newsletters, open evenings and hospital staff attending PBC meetings.

All trusts involved in the study were experiencing high volumes of referrals, which limited the threat of patients choosing alternative providers. There was some limited competition for patients living at the edge of local catchment areas. NHS providers felt little competition from the independent sector and often worked collaboratively with it to treat patients on waiting lists within target treatment times.

There were a number of different competitive strategies among NHS trusts:

- \* Large trusts (often including a university teaching hospital) focussed on tertiary and specialist activity;
- \* Medium sized trusts looking to develop their tertiary services in 'niche' specialisms in order to 'repatriate' patients currently receiving specialist treatment elsewhere;
- \* Medium sized trusts looking to increase referrals to their elective services - focussing on putting

# HREP: evaluating the reforms

consultants in the community to 'feed' referrals to the trust;

- \* Small and medium sized trusts operating over-capacity just seeking to treat patients within waiting time targets rather than expanding and developing services (possibly looking to expand into delivery of community services).

Research team:

**Anna Dixon, John Appleby, Ruth Robertson and Francesca Frosini**

The King's Fund

**Peter Burge and Chong Woo Kim**

RAND Europe

**Helen Magee and Bridget Hopwood**

Picker Institute Europe

**Nancy Devlin**

Office of Health Economics

Contact [r.robertson@kingsfund.org.uk](mailto:r.robertson@kingsfund.org.uk)

**HREP News**  
March 2010

## Increasing the diversity of providers in the NHS

A major aim of the market reforms has been to widen the range of providers available to NHS patients to include private companies and social enterprises. This study investigates the impact of this diversity on quality and innovation in the provision of health services funded by the NHS. The study uses both qualitative and quantitative methods based on case studies of four local health economies.

### Findings from qualitative research

The qualitative component of the research has involved interviews with both commissioning and provider organisations from public, private and third sector organisations. One of the clear messages to come out of the research is the importance of the strategy of commissioning organisations towards the creation of a market. Commissioners hold the key to the extent of diversity of provision, and their varying strategies have strongly influenced the degree of diversity in each case study area.

The study found that, concerning quality, private organisations improved the

quality of service delivery by introducing more efficient patient pathways, and through a greater emphasis on patient experience. Third sector organisations have emphasised the latter aspect, adopting a holistic approach in which patients and the wider community are seen as partners in a joint effort to improve well-being. Concerning innovation, while the NHS organisations have greater resources to drive innovation in clinical practice, private and third sector organisations have innovated more in organisational and working practices. An important area of innovation among the third sector providers has been to extend health care services to a broader range of community activities than has been possible through traditional NHS organisations. Thus the evidence shows that, while product innovation is greater in the NHS organisations, process innovation has been greater in the private sector and third sector organisations.

The study also looked at what drives entry and growth of new providers. There were strong barriers to the entry of new organisations, from existing providers who resisted new entrants and for providers from the third sector, due to economies of scale in the bidding process which disadvantaged small niche providers. The growth of new providers has also been inhibited. The growth of private sector providers has been inhibited in more deprived areas by the more extensive demands of patients, suggesting that the business models of private providers were not appropriate for the type of population served. Third sector organisations in such areas have been inhibited from growing their services by the short duration of their contracts.

Finally, the research investigated the impact of new entrants on the strategies and practices of incumbent providers. NHS Trusts have responded to the entry of new ISTCs by introducing new surgical pathways, and have placed a greater strategic emphasis on improving the patient experience. However, information sharing among incumbents has diminished as competition has intensified. The entry of new third sector providers in the community care field has led to a sense of fragmentation in the provision of community

# HREP: evaluating the reforms

health services, and to a more competitive orientation of traditional NHS organisations.

## Findings from analysis of patient experience

Independent Sector Treatment Centres (ISTCs) were introduced in 2002 to provide routine elective surgery and diagnostic procedures for NHS patients. They were intended to increase capacity, increase patient choice, and reduce waiting times. In order to identify quality differences between these and NHS acute hospitals, a patient experience survey carried out by the Department of Health and the Care Quality Commission was reanalysed. The survey compares patient experience ratings in areas such as the cleanliness of facilities, food quality, explanations provided by medical staff, delays, privacy and dignity.

Simple comparisons of means reveal a better patient experience in ISTCs compared to NHS providers. However, taking into account the characteristics of the patients, the patient selection process, and individual hospital characteristics, whether the hospital is private or public does not affect the overall level of quality that patients report. At the level of individual hospitals, there are significant differences in patient experience, and

unsurprisingly individual hospitals do certain things 'better' than others. For certain groups of patients, and particularly for those requiring more straightforward medical treatments, the quality reported by patients in ISTCs is better. Other groups of patients report a better experience in NHS hospitals.

## Ongoing work

Data on a range of quality indicators have been collected, such as readmission rates derived from the HES database. These indicators will be used to identify differences in the quality of treatment attributable to the type of provider. A survey to be distributed to all providers will investigate the role of corporate governance, staff incentives, and provider type in determining the quality of care in different types of providers.

Research Team

**Will Bartlett**

London School of Economics

**Pauline Allen, Simon Turner, Jenny Roberts**

London School of Hygiene and Tropical Medicine

**Virginie Pérotin**

University of Leeds

**Bernarda Zamora**

University of Bristol

Contact: [w.j.bartlett@lse.ac.uk](mailto:w.j.bartlett@lse.ac.uk)

**HREP News**  
March 2010

## Effects of health reform on health care inequality

This study was motivated by awareness that the entry to the NHS market of a wider range of acute hospital service providers, together with an increasing emphasis on competition for NHS patients, could lead to incentives for 'cream skimming' (i.e. selection of patients who are easier to treat and less costly than the administered price). Since a disproportionate share of the more severe and/or more complex cases may come from more deprived communities, it is possible that 'cream skimming' could exacerbate existing inequalities in hospital use.

## Do the poor cost more?

The first part of the study examined whether

hospital patients living in low income areas of England did indeed cost more to treat. Using hip replacement as an example, and using length of stay as an indication of cost, the study looked at the relationship between length of stay and income deprivation between 2001/2 and 2006/7 (taking into account patient age, sex, number of diagnoses, procedure type, time trends and trust effects). Patients from the poorest areas (the lowest 10%) stayed 12-15% longer than those from the least deprived (the top 10%) or 8% longer after adjusting for patient characteristics and trust effects. This relationship did not change during the period, despite substantial NHS expenditure growth and reform, along with substantial declines in

# HREP: evaluating the reforms

average length of stay and waiting time. The major determinants of length of stay were age and number of diagnoses. The conclusion is that under the current NHS fixed price payment system, there are potential incentives for hospitals to avoid offering hip replacements to elderly patients, patients with substantial co-morbidity and, to a lesser extent, patients from low income areas.

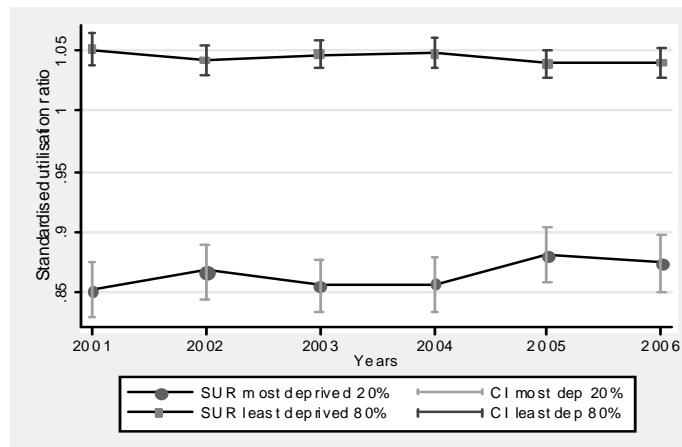
an increase in public hospital case mix co-morbidity and that quasi-market competition appeared to be associated with a significant increase in public hospital case mix co-morbidity in 2006/7. Thus there is no obvious sign of 'cream skimming', at least in the case of hip replacement.

One explanation of these findings is that the pressure to meet waiting time targets was having a greater effect on elective case

mix co-morbidity during the period than any effect of private sector entry or competition. This is consistent with the findings of the six local case studies of the impact of the reform mechanisms described above (Powell et al). Private sector penetration of the acute hospital market for NHS patients, even for electives, has been very limited to date (see

study of provider diversity, above). Other analyses show that, if anything, there has been a narrowing of the deprivation-related gradient of utilisation of elective surgery since 2001 rather than any widening, suggesting no increase in inequity associated with the market reform period (see Figure 3 which plots the standardised utilisation rates (SUR) for NHS elective hip replacement rates (excluding ISTCs) between 2001/2 and 2006/7, comparing the patients from the most and least deprived areas of the country). If anything, Figure 3 hints at a reduction in inequality of the uptake of elective hip replacement between more and less deprived areas.

**Figure 3. Trends in SUR 2001/2 to 2006/7 (most deprived 20% vs. least deprived 80%)**



## Does fixed price competition lead to 'cream skimming'?

The next part of the study examined whether private sector entry and fixed price competition generated 'cream-skimming'. If cream skimming had occurred then we could expect to see two things. Firstly, we could expect private sector entry to increase the severity of cases treated in local public hospitals (as measured by the number of diagnoses, age and deprivation). Secondly, we could expect that competition in the NHS quasi-market would reduce the severity of cases as public hospitals attempted to reduce the cost and complexity of the cases they treated in order to compete more effectively.

Again using the example of hip replacement, we found that private sector entry was not significantly associated with

Research team:

**Richard Cookson and Mauro Laudicella**

University of York

Contact: [rc503@york.ac.uk](mailto:rc503@york.ac.uk)



## **How does competition affect patient care?**

This study uses routine activity statistics to examine whether, and if so how, the competition between providers of NHS hospital services is affecting patient care across the whole of England. For each hospital an index of market concentration was calculated. This index measured the potential for competition that each hospital faced, and thus their potential market power. For each PCT, a similar index of purchasing concentration was calculated. This index measured the extent to which each PCT commissioned services from a variety of sellers.

This analysis provides a summary of the opportunity for local competition on the 'buyer' and 'seller' side but it may hide differences at specific service ('product') level. The study therefore examined a range of services to examine whether competition varied across them. The services selected were two elective treatments for which choice and competition were more likely (hip replacement and cataract removal); one set of services for which competition was less likely (emergency treatment of acute myocardial infarction(AMI) (patients were likely to have very little choice because of the need for speed in delivery of care); one service supplied by few hospitals for which patients travel long distances (coronary artery bypass grafts(CABGs)); and one service for which patients need continuity of care and for which localness may be very important (maternity care).

The index is known as the Herfindahl-Hirschman Index. It ranges from zero to 10000; the higher the value the more concentrated (i.e. less competitive) is the market and the greater market power for hospitals. Highly concentrated markets are dominated by one or a small number of hospitals, each of which have considerable market power. The calculation of the Herfindahl-Hirschman Index followed standard practice in the literature and is based on the flows of patients between their residential neighbourhoods and the hospitals they attended.

Early findings from the study are that, compared to non hospital markets, English hospital markets are highly concentrated, although elective procedures are less concentrated than non-elective ones. Purchasing patterns are also concentrated. These results are not sensitive to choice of competition measure.

There is variation in hospitals' market concentration across England. Not surprisingly, this is closely linked to the geographical setting: hospitals in rural areas have considerably more concentration and thus market power than those in urban areas. The purchasing concentration of PCTs mirrors that of hospitals to a large extent, being lower in urban areas than rural ones. However, there are some exceptions to this. For example, in the South East and the Midlands, a few PCTs appear to have very heavily concentrated purchasing patterns despite being located in areas in which there are opportunities for greater diversity of purchasing as there are more than one hospital located relatively nearby.

The health care market in England is also more concentrated at the specific service level than for all elective services together. In other words, hospital trusts dominate the provision of single service in their local areas to a greater extent than they dominate across a whole range of services. This dominance in one service is mirrored in PCTs' purchasing patterns. While PCTs may buy elective care from a range of providers, in their purchasing of particular procedures they tend to use a very limited number of providers.

In terms of the specific procedures we examined, the market for hip replacements is less concentrated than those for other services. Hip replacements are a service for which waiting lists have historically been long and the procedures relatively straightforward. However, long waiting times and a straightforward procedure do not automatically result in a competitive market. For cataracts, NHS providers have

# HREP: evaluating the reforms

considerable market power and PCTs buy from relatively few providers.

The patterns of market concentration shown for the six services in this study are likely to be a function of the historical referral patterns between PCTs and hospitals, the geographical locations of hospitals and the willingness of patients to travel. For example, the higher concentration for cataract replacements than for hip replacements probably reflects the fact that patients for the former procedure are older (average age 75) than those for hip replacements (average age 69) and so less willing to travel.

## Change in competition since the introduction of reforms

Analysis looked at changes in competition since the introduction of market reforms, (specifically PbR and patient choice policies). Data from 2003/04 was compared with that from 2007/08. Analysis found an increase in competition since the policy was introduced. This increase was seen around, as well as in urban areas (Figure 4).

## Competition and patient outcomes

A Difference in Difference analysis examined the relationship between competition and

HREP News  
March 2010

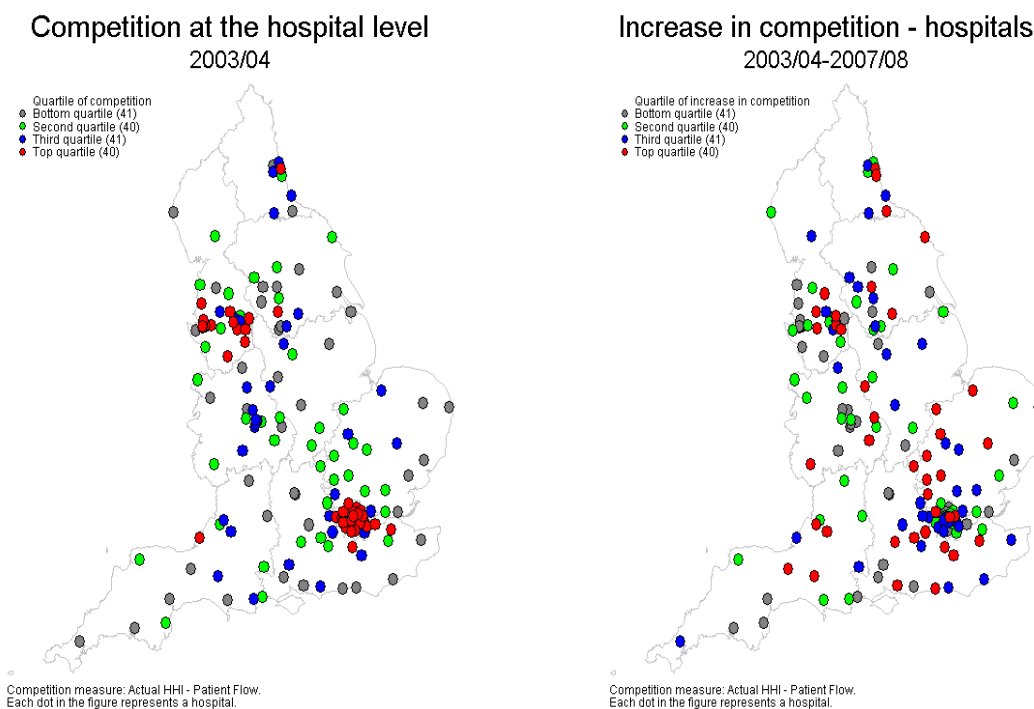


Figure 4. Changes in competition in hospital markets 2003/04-2007/08

The results show that simple rules of thumb, such as the number of hospitals which provide the service, are not a guide as to monopoly power. The study has shown that monopoly is as important in maternities, where there are many hospitals, than for CABGs, where there are few. Thus mergers between maternity hospitals could lead to as much potential abuse of market power as mergers between CABG providers.

a range of patient outcomes. This analysis holds constant for other policy changes, such as waiting time targets, that have been applied to hospitals experiencing competition and those that have not.

The analysis shows an increase in competition between 2003/4 and 2007/8. The increase in competition was associated with an increase in clinical quality (as measured by a decrease in hospital death

# HREP: evaluating the reforms

rates), and a fall in length of stay. There were no other changes in waiting times, other clinical outcomes, staffing or throughput measures. This suggests that productivity may have increased as a result of the reforms.

Research team:

**Carol Propper**

University of Bristol and Imperial College

**Rodrigo Morrenes-Serra**

Imperial College

**Jennifer Dixon**

Nuffield Trust

**Martin Gaynor**

Carnegie Mellon University

Contact: [Carol.Propper @bristol.ac.uk](mailto:Carol.Propper@bristol.ac.uk)

## Evaluation of Payment by Results

This evaluation of Payment by Results was commissioned ahead of the other studies that make up the Health Reform Evaluation Programme, but due to its' relevance, it has since been included in the programme. This study took advantage of the fact that PbR was not implemented in Scotland and that it had a staged implementation in England to compare outcomes overtime between countries and between different types of provider in England.

A Difference in Difference analysis found length of stay fell more quickly and the proportion of day cases increased more quickly where payment by results was implemented, suggesting a reduction in the unit costs of care associated with payment by results.

In terms of volume, there were mixed results with no evidence of growth over the longer term. This finding may be due to a variety of factors, such as fixed local budgets and capacity constraints. Interviews with NHS managers, undertaken as part of this study, found that providers did not want to destabilise the local health economy. Although the outcome measures available are limited, there was no evidence of any negative effect on quality indicators such as in-hospital all-cause mortality associated with PbR.

The policy creates an incentive for 'upcoding' and this study found an increase in 'with complication' codes. The policy also creates incentives to maintain activity levels, which may impact on the development of community-based care.

Research Team:

**Shelley Farrar and Deokhee Yi**

University of Aberdeen

**Matt Sutton**

University of Manchester

**Martin Chalkey**

University of Dundee

**Jon Sussex**

Office of Health Economics

**Anthony Scott**

University of Melbourne

Contact: [S.Farrar@abdn.ac.uk](mailto:S.Farrar@abdn.ac.uk)

**HREP News**  
March 2010

*If you would like more information on any aspect of the Programme or the individual projects please contact:*

### Health Reform Evaluation Programme

Health Services Research Unit  
London School of Hygiene &  
Tropical Medicine  
Keppel Street  
London WC1E 7HT  
United Kingdom

+44 (0)20 7612 8239  
[Lorelei.Jones@lshtm.ac.uk](mailto:Lorelei.Jones@lshtm.ac.uk)  
[www.lshtm.ac.uk/hsrc/hrep](http://www.lshtm.ac.uk/hsrc/hrep)