The impact of system reform on commissioning in the NHS

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London, November 2009

HREP seminar: Commissioning
Presentation outline

- Introduction
- Aims
- Data sources
- Methods
- Empirical findings
- Discussion and conclusions
Introduction

• Policy aim: Commission health care services to secure the best quality care and health outcomes for local populations within a fixed budget.

• Payment by Results (PbR), Patient Choice and Practice Based Commissioning (PBC) increase the ability of patients and commissioners to “shop around” amongst secondary care providers.

• Policies sought to encourage new types of NHS providers (Foundation Trusts) and entry by private sector providers.
Aims

• Estimate effects of the introduction of PbR, Patient Choice and Foundation Trusts (FTs) on the concentration of elective admissions.

• Identify effects by exploiting
  – phased introduction across HRGs
  – geographic variation in Patient Choice, FTs
Previous findings

• GP fundholders used more providers; had less concentrated admissions, and were more active purchasers.

• Abolition of Health Authorities, GP fundholders and introduction of PCTs increased concentration.

• Merging of NHS Trusts increased concentration.
  
Why investigate admission concentration?

- New reforms encourage purchasers to consider alternative providers
  - Easier to change provider
  - Patient preferences
- Providers encouraged to attract patients
  - Improve quality, reduce waiting times and increase efficiency;
- Influence of reforms reflected by changes in admission concentrations across providers
Table 1. Implementation of reforms

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<tbody>
<tr>
<td>PbR</td>
<td>First 15 HRGs under PbR</td>
<td>Second 33 HRGs under PbR</td>
<td>Tariff 25% for remaining HRGs</td>
<td>Tariff 50% for remaining HRGs</td>
<td>Tariff 75% for remaining HRGs</td>
<td>All Trusts reach 100% PbR price</td>
<td></td>
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<tr>
<td>PbR and FT</td>
<td>First 25 FTs authorised</td>
<td>Further 7 FTs authorised</td>
<td>Further 27 FTs authorised</td>
<td>Further 30 FTs authorised</td>
<td>Further 26 FTs authorised</td>
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<tr>
<td>Patient Choice</td>
<td></td>
<td></td>
<td>Eligible NHS patients offered choice of 4 providers</td>
<td></td>
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<td>NHS patients offered choice of providers meeting NHS standards</td>
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Sources: Audit Commission of Healthcare Commission; Street A. and M. Miraldo (2007)
## Table 2. First 15 HRGs under PbR

<table>
<thead>
<tr>
<th>HRG Chapter</th>
<th>PBR wave</th>
<th>Code</th>
<th>Label code</th>
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<tbody>
<tr>
<td>Eyes and Periorbita</td>
<td>1</td>
<td>B02;B03</td>
<td>Cataract Extractions with Lens Implant</td>
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<tr>
<td>Cardiac surgery and primary cardiac condi-</td>
<td>1</td>
<td>E03; E04</td>
<td>Cardiac Valve Procedures; Coronary Bypass</td>
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<tr>
<td>tion</td>
<td>1</td>
<td>E15</td>
<td>Percutaneous Transluminal Coronary Angioplasty</td>
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<tr>
<td></td>
<td>2</td>
<td>E13; E14</td>
<td>Cardiac Catheterisation</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>E16</td>
<td>Other Percutaneous Cardiac Procedures</td>
</tr>
<tr>
<td>Musculoskeletal system</td>
<td>1</td>
<td>H01; H02</td>
<td>Hip Replacement (Bilateral; Primary)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>H03; H04</td>
<td>Knee Replacement (Bilateral; Primary)</td>
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<tr>
<td></td>
<td>1</td>
<td>H10</td>
<td>Arthroscopies</td>
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<tr>
<td></td>
<td>2</td>
<td>H09</td>
<td>Anterior Cruciate Ligament Reconstruct</td>
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<tr>
<td></td>
<td>2</td>
<td>H11; H12</td>
<td>Foot Procedures</td>
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<tr>
<td></td>
<td>2</td>
<td>H13; H14</td>
<td>Hand Procedures</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>H16; H17</td>
<td>Soft Tissue or Other Bone Procedures</td>
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<td></td>
<td>2</td>
<td>H18; H19</td>
<td></td>
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<tr>
<td></td>
<td>2</td>
<td>H20; H21</td>
<td>Muscle, Tendon or Ligament Procedures - Category 1</td>
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<tr>
<td></td>
<td>2</td>
<td>H22</td>
<td>Minor Procedures to the Musculoskeletal System</td>
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<tr>
<td>Skin, breast and burns</td>
<td>1</td>
<td>J02; J03</td>
<td>Major Breast Surgery including Plastic Procedures</td>
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<tr>
<td></td>
<td>1</td>
<td>J04; J05</td>
<td>Intermediate Breast Surgery</td>
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<tr>
<td>Vascular system</td>
<td>1</td>
<td>Q11</td>
<td>Varicose Vein Procedures</td>
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<tr>
<td>Digestive system</td>
<td>2</td>
<td>F71; F72</td>
<td>Abdominal Hernia Procedures</td>
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<td></td>
<td>2</td>
<td>F73; F74</td>
<td>Inguinal Umbilical or Femoral Hernia Repairs</td>
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<tr>
<td></td>
<td>2</td>
<td>F75</td>
<td>Herniotomy Procedures</td>
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<tr>
<td>Hepato-biliary and pancreatic system</td>
<td>2</td>
<td>G11; G12; G13; G14</td>
<td>Biliary Tract - Complex Procedures</td>
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<tr>
<td>Urinary tract and male reproductive system</td>
<td>2</td>
<td>L27; L28</td>
<td>Prostate Transurethral Resection Procedure</td>
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<tr>
<td></td>
<td>2</td>
<td>L29; L30</td>
<td>Prostate or Bladder Neck Minor Endoscopic Procedure</td>
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<tr>
<td>Female reproductive system</td>
<td>2</td>
<td>M01</td>
<td>Lower Genital Tract Procedures</td>
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Data sources

• Hospital Episode Statistics (HES)
  – First finished consultant episodes for elective admissions from 1997/98 to 2007/08.
  – Includes NHS patients admitted in independent hospitals or treated privately in NHS hospitals.

• National Patient Choice (NPC) surveys
  – Proportion of patients offered choice between May 2006 and March 2007.

• Monitor data
  – NHS FTs status by authorisation date.
Figure 1. Number of providers and elective admissions, by type of providers and by year
Figure 2. Elective admissions (%) in 2007/8, by type of provider and by HRG subset.
Methods: Outcome measures

• Six measures of commissioning activity for ‘frozen’ 2004/05 PCTs.

• Three measures of concentration of admissions:
  (i) Number of NHS and private providers responsible for 99% of admissions;
  (ii) Share of total admissions at the PCTs largest provider;
  (iii) Index of concentration (Herfindahl) at PCT level (sum of squared shares of admissions at each provider for each PCT).

• Three measures of changes in admission pattern (‘switching’):
  (i) Share of admissions at hospitals never used before;
  (ii) Share of admissions dropped from existing hospitals;
  (iii) Average change in provider shares.
Methods: Model estimation

- Difference in differences specification
- PCT fixed effects
- Separate time trends for early PBR HRGs
- Patient choice measure interacted with time
- Time varying Foundation Trust admission shares
Figure 3. Average levels of commissioning measures (all HRGs) over time.
Figure 4. Herfindahls in ‘frozen’ 2006/7 PCTs in 2002/3 and 2007/8
Figure 5. Difference in numbers of providers between PbR waves 1 and 2, and wave 3 HRGs

PbR wave 1 HRGs vs wave 3

PbR wave 2 HRGs vs wave 3
Figure 6. Difference in Herfindahl index between PbR waves 1 and 2, and wave 3 HRGs
Figure 7. Differences in change in shares between PbR waves 1 and 2, and wave 3 HRGs.

- **PbR wave 1 HRGs vs wave 3**
- **PbR wave 2 HRGs vs wave 3**
Effects of Patient Choice

- Patient choice associated with significant increase in concentration:
  - 10% increase in choice associated with 2% decrease in the number of providers used;
  - 10% increase in choice associated with 5% increase in Herfindahl concentration index.

- PCTs offering more choice had significantly less volatility across providers.
Effects of Foundation Trusts

- An increase in FT ‘exposure’ associated with a significant decrease in the number of providers used.
- Positive but insignificant association with the Herfindahl concentration index.
- Associated with an increase in switching to new providers and dropping of existing ones.
Discussion

• Limitations
  – Difficult to evaluate inter-related and simultaneous reforms
  – Measurement of Foundation Trust effect
  – Differential trends in concentration

• Further work
  – Additional year of data
  – Practice based commissioning
  – Improved specification of FT and PbR effects

• Implications
  – Policy changes have had real effects shown in market structure
Provisional Conclusions

• Downward trend in concentration after the system reforms of 2002/3
  – New providers, cessation of hospital mergers, PCT enlargement, increased activity, waiting time targets, PBC

• PbR associated with increased concentration and less switching.

• Patient choice associated with increased concentration and less volatility.
  – Does not imply detrimental to patient outcomes
  – Greater use of higher quality more accessible providers?

• FTs associated with increased concentration:
  – PbR effect? Quality signal??