

# Hospital Procurement with Concentrated Sellers: A Case Study of Hip Prostheses

**KEYWORDS:** Medical devices, competition, concentration, diversification, oligopoly, buyer power

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## INTRODUCTION

- Total hip replacement surgery is a routine procedure, carried out throughout the NHS, and accounting for a large share - 2.9% - of the aggregate NHS budget for surgery.
- The market for hip prostheses is characterised by horizontal product differentiation because no one prosthesis type best meets the needs of all patients.
- In addition to the needs of the patient, three other players are involved in the choice of hip prosthesis: the surgeon, the hospital and the prosthesis manufacturer.

## METHODOLOGY

- A case study of artificial hip prostheses is used to indirectly explore how procurement choices are made within the NHS.
- The study focuses on three issues surrounding hip prosthesis purchasing decisions:
  - The relative importance of the preferences of patients, surgeons and hospitals in the choice
  - The potential exercise of market power by the manufacturers of hip prostheses, and
  - The bargaining power of the hospital.
- A set of hypotheses is evaluated econometrically using data from the National Joint Registry for England and Wales and from the Hospital Episode Statistics. The resulting dataset covers a sample of 258,069 patients who underwent total hip replacement from 2004 to 2008 in over 300 hospitals.

## KEY FINDINGS

### Market structure

- On the buyer side, while the NHS as a whole is a near-monopsonist, buying is conducted at the individual hospital level and so the market comprises a much larger number of fragmented buyers.
- The industry supplying hip prostheses to the NHS is highly oligopolistic with the potential for the exercise of market seller power. Concentration levels are such that, if observed in other markets, they would raise concern about seller market power:
  - At the national level, the NHS as a whole purchases hip prostheses from the equivalent of just four large sellers.
  - But, typically, individual hospitals are buying from only two sellers or, in some instances, one seller.
- The leading firms tend to concentrate their sales on some, but not all, hospitals. This implies there is the potential for seller market power through market sharing.

### Determinants of procurement choices

- The analysis reveals little evidence that patient heterogeneity is a major determinant of diversity of procurement choices. More important factors are hospital size which is

CCP Executive Summary

Working paper 13-13

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related to the number of surgeons, the status of the hospital, recent NHS reforms and the potential role of the supplier.

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## THE CCP

The ESRC Centre for Competition Policy (CCP), at the University of East Anglia, undertakes competition policy research, incorporating economic, legal, management and political science perspectives, that has real-world policy relevance without compromising academic rigour.

## FOR MORE INFORMATION

The full working paper (13-13) and more information about CCP and its research is available from our website: [www.ccp.uea.ac.uk](http://www.ccp.uea.ac.uk)

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