

# Module 4: Healthcare Competition

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Econ 771

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# Competition in Theory

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# Fixed Prices

Alternative expression for quality:

$$z_j = (\bar{p} - c_q) (\eta_s + \eta_D) \frac{Ds_j}{c_z}$$

- Quality increasing in  $\bar{p}$
- Quality increasing in share and demand elasticities
- Quality increase in overall market share and market demand
- Quality decreasing in marginal cost

# Market Prices

$$z = \frac{p}{d} \times \frac{\epsilon_z}{\epsilon_p}$$

Dorfman-Steiner condition:

- Quality increases if the quality elasticity increases or if price increases
- Quality increases if the price elasticity decreases or the marginal cost of quality decreases

**Prediction for competition:** Hospitals will compete on whatever matters most to patients.

# Bargaining

$$-q_{mj} - \alpha \sum_i \sum_d \gamma_{id} c_{id} (1 - c_{id}) \left( \sum_{k \in N_m} p_{mk} s_{ikd} - p_{mj} \right),$$

- $c_{id}$  denotes the coinsurance rate
- final term is the difference between hospital  $j$ 's price and the weighted average price of all other hospitals (weighted by their market share)
- $c_{id} \times (1 - c_{id})$  shows role of coinsurance in steering patients to different hospitals

# Competition in Practice

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# Key Issues

1. Measuring competitiveness
2. Reduced form - mergers, closures, structure-conduct-performance
3. Structural estimation with bargaining models



# Measuring competitiveness

- Common measure is Herfindahl-Hirschman Index (HHI),  $\sum_{i=1}^N s_i^2$ .
  - 2,500 is considered **highly concentrated**
  - 1,800 is considered **unconcentrated**
- "Willingness to pay" is more recent measure (theoretically supported)
- Both require a measure of the geographic market

# Defining the market

Lots of subjectivity...

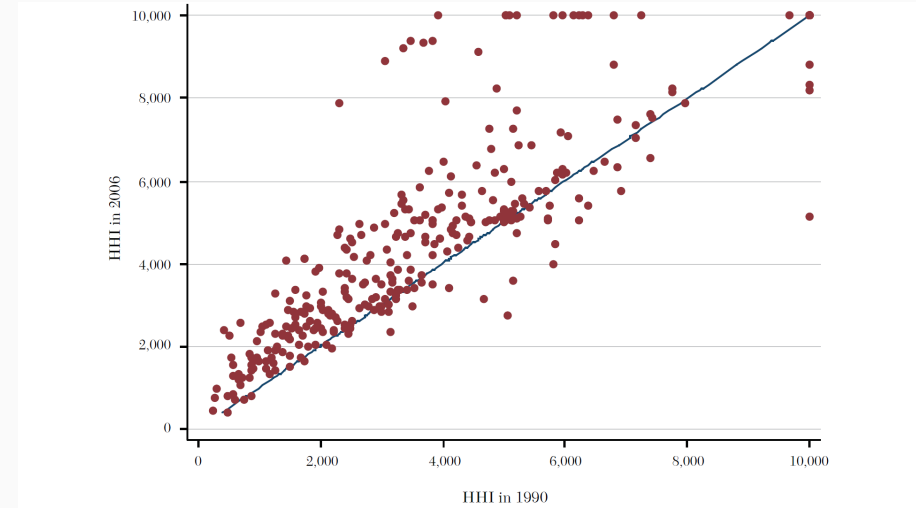
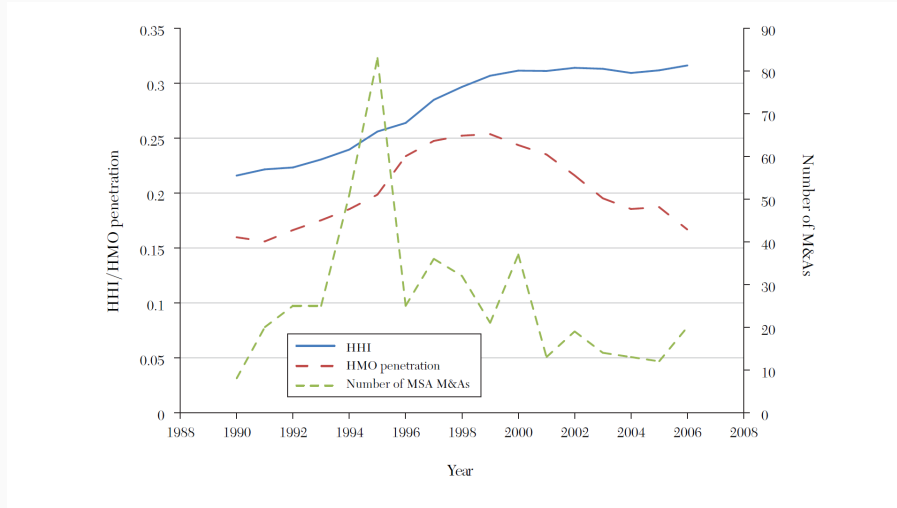
- Radius around a hospital?
- Concentric circles to define "catchment" areas?
- Patient/physician referrals?
- At what product-level do hospitals compete?

# Trends in competitiveness

Almost any way you define it, hospital markets are more and more concentrated (less competitive) in recent decades.

- 1990: 65% of MSAs highly concentrated, 23% unconcentrated
- 2006: 77% highly concentrated, 11% unconcentrated

# Hospital concentration over time



Source: Gaynor, Ho, and Town (2015). The Industrial Organization of Health Care Markets. Journal of Economic Literature.

# Hospital concentration over time

- More data and [interactive report](#) from the Health Care Cost Institute.
- [Presentation](#) from the National Institute for Health Care Management

# Why?

Historical perception of hospital competition as "wasteful" and assumption that more capacity means more (unnecessary) care:

- Limit public spending by limiting competition
- Prevalence of certificate of need (CON) laws

# Effects of reduced competition

1. Higher prices
2. Lower quality, 2020 NEJM Paper
3. Maybe lower costs (but not passed on to lower prices)

Effects for both "in-market" and "out-of-market" mergers