What Do We Know About Competition and Quality in Health Care Markets?

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Introduction

- Competition in health care is being widely considered as a policy approach to issues of cost and quality in many countries.
- The advisability of this approach is often hotly debated, but we don't have a lot of systematic evidence on if and how competition affects quality, and whether or not that's a good thing.
- What I'm going to do today is review the research literature relevant to this question, focusing on the economics literature, and tell you what I think we know and don't know from research at this point.
- I'll conclude with some suggestions for future research and discussion of policy implications.

Outline

1. Background
   - 1.1 Cost Control
   - 1.2 Competition Policy
   - 1.3 Quality
2. Question
3. Performance Standard
   - 3.1 Social Welfare
   - 3.2 Optimal Quality
4. Economic Theory
   - 4.1 Results
   - 4.2 Guidance
5. Empirical Evidence
   - 5.1 Regulated Prices
   - 5.2 Prices Set by Providers
6. Summary and Conclusions

Cost Control

Cost control has emerged as a key issue for most countries' health systems.

Health care spending has increased rapidly over time (% of GDP more than doubled in G7 countries since 1960).

- This has led to health system reforms aimed at combating the increase in health care costs.
- In addition, quality problems have recently emerged as another area of concern.

Approaches to Cost Control

Regulatory Limits – 1970s, 80s

- Cut fees, ration access (esp. to new technology)
  - Growth in costs slowed, health didn't seem worse.
- But, cost growth resumed, unless regulatory limits continually tightened.
  - Rationing more visible and onerous (longer waits; reduced access).

Market-oriented approaches being adopted or considered.

- Provider competition; consumer incentives
- U.K., France, Netherlands, Germany, Israel, Italy, Belgium, Australia, ...
- Attraction of reducing costs without public cuts in entitlements.
- Downside of (possibly) reducing equity.

Competition Policy

Once a market-oriented approach (consumer choice) is adopted, competition policy becomes relevant.

- Presumption that unregulated monopoly is bad; self-regulation ineffective (at promoting social welfare).

Obviously relevant in the U.S.

- U.S. relies on markets for health care delivery and financing.
- Lots of consolidation in U.S. health care markets.
  - Over 900 deals from 1994-2000.
  - Many urban markets now dominated by 2-3 large hospital systems – 6-12 independent firms used to be typical.

Competition Policy - Regulated Prices

Increasingly relevant outside of the U.S., as market-based reforms are pursued or considered.

- If supply is decentralized then competition policy becomes relevant, even if financing is centralized.
  - Even if price is set centrally, non-price aspects of service determined by providers.
- Similarly for decentralized financing (insurance plan choice).

Quality

Quality is of major concern in health care.

- Effect of health care quality on well-being can be very large.
- When price has a reduced role, quality looms larger in choice and competition.
  - Regulated prices
  - Un-regulated prices, heavily insured consumers
- Quality problems have been identified in the U.S.
  - Institute of Medicine reports identifying substantial "overuse," "underuse," and "misuse."
  - Recent research has found that Britons are in better health than Americans, controlling for risk factors. May imply quality differences between U.S. and U.K.

Impact of Competition

Leads to question about the impact of competition on quality.

- Does competition improve quality? Reduce quality?
- Is this good, bad, or indifferent?

What does research have to tell us?

- Theory
- Empirics

Social Welfare

I will use the standard measure of performance in economics — social welfare.

- Social welfare — consumer plus producer surplus, summed over all individuals (well-being of all entities in society, added up).
- Utilitarian type measure.
- Competition law may only consider consumer welfare.

Optimal Quality

Healthcare quality involves better or worse health, including death.

- Excessive quality can imply that mortality rates are too low.
- Implies society would be better off by increasing mortality rates — not a pleasant prospect.

Same economic concepts apply here as to any problem of resource allocation (consider costs and benefits).

- We don't spend unlimited resources to save (statistical) lives.
  - Traffic and airline safety (risks are not zero).
- We want to devote resources to reducing patient mortality up to the point where the marginal benefit is balanced by marginal cost.
- This means there is a socially optimal mortality rate that is greater than zero.
- If value of reduction in mortality is not that great, may be better to devote resources to education, defense, etc.

Intuition

Economists, competition policymakers, and the courts intuitively think competition is a good thing.

- Presumption of competition law and policy.

Not so clear in economic theory of differentiated products.

- Products that consumers do not regard as identical, and thus not perfectly substitutable.
- Products can be better (Honda vs. Yugo), or different (Coke vs. Pepsi).

Results

Theory shows that competition does not necessarily lead to socially optimal quality.

- Too much, too little, or just right.
  - Level of quality.
  - Amount of product variety.

Theory does provide guidance in thinking about the issues.

- If prices are fixed (e.g., regulated), competition leads to more quality.
  - Not necessarily socially optimal. Can lead to excessive quality.

Guidance

When firms set both prices and quality, results are less clear. There are still some insights, however.

- Price and quality depend on relative responsiveness of demand to price vs. quality.
  - Quality will decrease relative to price when demand becomes more responsive to price or less responsive to quality, and vice versa.
    - Demand less responsive to price $\longrightarrow$ higher price-cost margins, so higher quality is profitable.
- Quality reduction not necessarily bad; could improve social welfare.
  - If at starting point quality was too high (e.g., firms had market power).

Examples

- Managed care in the U.S.
  - Increased price responsiveness.
  - Lower hospital prices; quality may have decreased.
- N.H.S. payer-driven competition
  - Increased price responsiveness.
  - Hospital quality decreased.
- Quality improvement movement
  - Increased quality responsiveness.
  - Increased quality.
  - Increased prices.

Overview

- Most research is quite recent; literature growing rapidly (better data, quality measures).
- I'll divide the research into 2 areas.
  - Markets with regulated prices.
  - Markets with prices set by providers.

Regulated Prices

Most studies show a positive effect of competition on quality.

- Example - Kessler, D. and McClellan, M. (2000) "Is Hospital Competition Socially Wasteful?" *Quarterly Journal of Economics*, 115:2, 577-615.
  - Study of U.S. Medicare patients suffering heart attacks.
  - Impact of hospital market concentration $\left(HHI = \sum s_i^2\right)$ on mortality.
  - Results
    - Probability of death 1.46 percentage points higher in most concentrated markets (4.4% difference).
    - Implies more than 2,000 less (statistical) deaths per year in least concentrated markets.
  - Consistent with economic theory.
  - Relevant for price regulated health care systems.
  - Can't make inferences about social welfare.

Example 1

Results from studies of markets where providers set prices are mixed. Some show competition reduces quality; some show it improves quality.

- Example 1 - Propper, C., Burgess, S., and Gossage, D. (2003) "Competition and Quality: Evidence from the NHS Internal Market 1991-1999," Working Paper No. 03/077, CMPO, University of Bristol.
  - Study effect of competitive reforms in the NHS on mortality for heart attack patients.
  - Competition introduced in 1991, actively promoted through 1995; not thereafter.
  - Results
    - Substantial increases in mortality following competitive reforms.
    - Increases in mortality due to competition cancelled out mortality reductions that would have occurred due to improved treatment methods.
  - Consistent with theory.
  - Welfare effects unclear.

Example 2

- Example 2 - Sari, N. (2002) "Do Competition and Managed Care Improve Quality?" *Health Economics* 11:7, 571-84.
  - Study effect of hospital market concentration on a set of clinical quality indicators.
    - E.g., mortality, obstetric complications, adverse or iatrogenic complications, wound infections, surgery complications, caesarean section, inappropriate surgery (http://www.qualityindicators.ahrq.gov).
    - 16 U.S. states, 1992-97.
  - Results
    - Quality significantly higher in less concentrated (more competitive) markets.
    - 10 percent increase in hospital market share leads to a 0.18 percent decrease in quality.
  - Consistent with theory.
  - Welfare effects unclear.

What Do These Different Results Tell Us?

At 1st glance, these results seem inconsistent. However, this is not necessarily so.

- Recall the guidance from economic theory.
  - Quality has become less profitable.
- If there is a big increase in the responsiveness of demand to price then we expect to get not just lower prices, but lower quality.
  - Reforms in NHS may well have done just that.
- If quality responsiveness increased more than price responsiveness, then quality will increase.
  - Given pre-existing price competition in the U.S., this may be what happened there.
- In both cases, we don't know what happened to social welfare.
  - Was quality at the reference point(s) too high, too low, or just right?

What Do We Know? What Next?

- I've reviewed the literature relevant to competition and quality in health care markets.
- Economic theory does not provide an unambiguous answer to the question of whether competition is welfare enhancing.
  - It does provide guidance for thinking about the issues.
- 1st generation of empirical studies provides a very valuable base of knowledge for future research.
  - The results don't allow us to draw conclusions about whether competition has been welfare enhancing or decreasing.
- Next Steps
  - Sort out factors that determine impact of competition on quality.
  - Specify models that allow for welfare analysis.

Policy

- Market-oriented healthcare reforms are being considered or enacted by many countries.
- The U.S. uses markets for the delivery of care.
- Policymakers have to decide on reforms and regulation, including competition law.
- Courts and competition regulators have to make decisions about firms in health care markets.
- Evidence on the effects of competition on quality in health care is vital to these policy decisions.

Takeaways for Policymakers

- Regulated Price Regime
  - "Green-ish light" for competition.
  - Evidence that competition improves quality, welfare effects unclear.
- Prices Set by Providers Regime
  - "Yellow light" for competition.
  - Evidence isn't clear on whether competition increases or decreases quality, let alone if this is good or bad.
- Considerable scope for research to contribute to policy on these issues.