Consolidation in Healthcare

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Outline of Talk

• Recent History of Consolidation in Healthcare
• Effects of Horizontal Consolidation in Healthcare
  – On prices, quality, and costs
  – Primary focus on the hospital industry
• Effects of Vertical Consolidation in Healthcare
• The ACA, Consolidation, and Competition Policy
• Important Outstanding Questions

Why Is This Important?

• Healthcare Industries are Concentrated
• Healthcare Industries History of M&A
• Conflicting Signals
  – Antitrust Enforcement
  – Pressure to exploit scale economies
  – Pressure to exploit volume-outcome relationship
  – Pressure to bear risk
Hospital Prices and M&A

Price and M&A Nationally

- From 1994-2001, Hospital HHI rose 20%
  - Compared to 19.5% for overall inflation
- From 2001-2012, Hospital HHI rose 66%
  - Compared to 30% for overall inflation
- After the merger wave, it looks like price inflation increased
- Many potential problems with these measures
A Word on Measurement

- Herfindahl-Hirschman Index (HHI)
  - Measures how concentrated a market is
  - Equal to the sum of the squares of the market share of competitors
    - For a market with two equally sized competitors
      - $HHI = 50^2 + 50^2 = 2,500 + 2,500 = 5,000$
    - A monopoly market has $HHI=10,000$
      - Effective competitors = $10,000/HHI$

CA Prices and Concentration

The CA Price Run-Up

<table>
<thead>
<tr>
<th>Year</th>
<th>Price / Adjusted Discharge in 2006$</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>9,600</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>8,500</td>
<td>-13%</td>
</tr>
<tr>
<td>2006</td>
<td>15,600</td>
<td>84%</td>
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The Concentration Run-Up

- **National HHI run-up**
  - From 1990 to 2003
  - From 1,576 to 2,323
  - From about six to four effective competitors

- **California HHI run-up**
  - From 1990 to 2003
  - From 2,046 to 2,824
  - From five to a little over three competitors
Other Concentrated Industries

• Insurance
  – Average HHI of around 2,700 in 2003
  – Essentially all insurance markets “highly concentrated” (HHI>1,800)
  – Probable increase over time in concentration

• Physicians
  – Long-term secular increase in practice size
  – Severe measurement difficulties

Is Consolidation & Concentration Bad?

• Potential Beneficial Effects
  – Scale economies
  – Volume-outcome relationship
  – Risk bearing

• Potential Harmful Effects
  – Price increases
  – Quality decreases
Aggressive Antitrust

• During 80s & 90s
  – Government litigated 11 hospital cases to decision
  – Losing most
• Since 2007
  – Government litigated several more hospital cases
  – Winning most
• Additionally numerous pharmaceutical, medical
device, and insurance cases

Summation of History

• Hospitals and other healthcare industries are
  concentrated.
• The large hospital merger wave of the 90s was
  followed by a large price increase.
• Which provoked a significant response from the
  antitrust authorities
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Hospital Consolidation & Price

• A large, well-developed literature
• Featuring a variety of study types
• Findings
  – Hospital consolidation generally raises prices
  – Price rises occur for both for-profit and non-profit hospitals
  – Price rises greater where hospitals are geographically closer to one another
Cross-Sectional Studies

• Methodology
  – Examine hospitals situated in differing markets
  – Count numbers of competitors or calculate HHI
  – Correlate number of competitors with price, controlling for cost and demand factors

• Typical Findings
  – A 5 to 4 merger (increasing HHI by 800) raises prices by about 5%

Additional Considerations

• Not-for-profit and for-profit hospitals each have higher prices in markets with fewer competitors
• Price-concentration relationship leveling lately
• Limitations
  – Generally no insurance market controls
  – Difficult to nail down causation
  – Costs difficult to control for
  – CA and FL centric literature
Longitudinal Studies

- Methodology
  - Follow a sample of hospitals over time
  - Some merge, some do not
  - Compare price increases of merging with non-merging hospitals
  - Distinguish within-market and cross-market mergers

Longitudinal Findings & Limitations

- Findings
  - A solid majority of studies find merging hospitals raise prices post-merger more than do controls
  - Price increases range from 10% to 40%

- Limitations
  - Often based on small samples of hospitals
  - Data are often poor
Hospital Consolidation and Quality

• Recently become a large and well-developed literature
• Also features both cross-sectional and longitudinal study designs
• Quality measures
  – By far, most commonly risk-adjusted mortality
  – Quality indicators developed by AHRQ
  – Patient safety events

Findings on Consolidation & Quality

• Administered prices
  – For example, Medicare or Britain’s NHS
  – Consolidation reduces quality
• Market prices
  – Privately insured US patients
  – Mixed results. Some studies find consolidation reduces quality, some find it increases quality, some find null results
Insurance Consolidation

- A smallish, largely old, and problematic literature
  - Poor data on insurers
  - Difficulties with market definition
  - Difficulties with price measurement
- Insurer consolidation probably
  - Leads to modest reductions in hospital prices, perhaps 5% for a 5-4 merger
  - Leads to modest increases in insurer prices

Consolidation and Costs

- A large and well-developed literature
  - Much of it is old
- Methodology
  - Bulk of literature looks at cross-section of hospitals
  - Examines how average cost varies with scale
  - Some longitudinal literature examining mergers
Economies of Scale

• Scale economies
  – Studies largely but not entirely agrees on scale economies at small scale, say < 200 beds
  – Some studies finds scale economies continue up to very large hospitals
  – Some studies finds that scale economies then disappear

Merger Effects on Costs

• Longitudinal merger effects
  – Cost reductions can be large
  – But likely are large only when clinical consolidation occurs
  – Few studies in this branch of the literature, so conclusions are tentative
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Vertical Consolidation

• Physician-Hospital Consolidation
• Cuellar & Gertler (2006)
  – Hospital-physician integration raises prices
  – 5%-25% (greater increases in less competitive markets with less “open” integration)
• Ciliberto & Dranove (2006)
  – Hospital-physician integration lowers prices
  – About 10%
Vertical Consolidation and Costs

• Changing incentives changes physician behavior
  – Old literature comparing staff model HMOs to other insurance types
  – Newer literature looking at physician compensation

• Findings
  – The more salary-like a physician’s compensation, the less stuff he does (on average, of course)
  – Lowering expenditure

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ACA, Consolidation, and Antitrust

• ACA's encourages consolidation via ACOs
  – Economies of scale in risk bearing
  – Necessity (?) of consolidation to coordinate care

• Principle concerns
  – Will ACO effects spill over into private markets?
  – Will ACOs reduce quality competition in Medicare?
  – How will FTC and DOJ evaluate ACOs? Like they evaluate physician networks?

ACA, Exchanges, & Competition

• Another ACA effect is the creation of exchanges
  – For individuals and employees of small businesses
  – Likely to be important because of dumping

• Changing locus of plan choice to individuals
  – Making price competition sharper among plans?
  – Changing plan views about network breadth?
  – With what effects on the returns to and effects of consolidation in the privately insured market?
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Important Outstanding Questions

• Hospital-Physician Consolidation
  – Effects on price, quality, costs?
• ACOs
  – Dangerous to competition?
  – Under what circumstances?
  – With which design characteristics?
7TH ANNUAL
THOUGHT LEADERSHIP RETREAT

The Structure of Value