The Accuracy of Hospital Merger Screening Methods

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*The views expressed in this presentation are mine and not necessarily those of the FTC or any individual Commissioner.
Outline

• Objective:
  • To test the pre-merger predictions of various hospital merger screening tools against the post-merger price changes for a relatively large sample of consummated hospital mergers

• Outline
  • Literature/Case Review:
    • History of hospital antitrust enforcement
    • Hospital competition literature
  • Hospital merger screening tools
  • Mergers and price change measurement
  • Comparison of pre-merger predictions and post-merger price changes
Hospital Merger History

- 1981-1992: 397 hospital mergers
  - FTC/DOJ challenged 15
  - 14 preliminary injunctions granted
- 1993-2000: 1,042 hospital mergers
  - FTC/DOJ/CAAG challenged 8
  - 0 preliminary injunctions granted

- Why the change?
  - For-Profit vs. Non-Profit
  - Increasing reliance on Elzinga/Hogarty test and Critical Loss Analysis for geographic market definition
  - Judicial contempt for and general backlash against HMOs
  - State action immunity
Hospital Competition Research

- Extensive literature on price and quality effects of hospital competition and mergers
- New economic models and tools developed for hospital competition analysis:
  - Town and Vistnes (2001)
    - Willingness-to-Pay (WTP)
  - Antwi, Gaynor, and Vogt (2013)
    - Logit Competition Index (LOCI)
  - WTP and LOCI merger price effects driven largely by diversion
  - Analogous to Upward Pricing Pressure Index (UPPI)
FTC Activities

- Hospital Merger Retrospectives Project
  - Detailed study of four consummated hospital mergers
- Merger Litigation Task Force
- Evanston Northwestern Healthcare/Highland Park Hospital
  - FTC challenged consummated merger using administrative litigation
Recent Merger Challenges

- Inova/Prince William Hospital (2008)
- Promedica/St. Luke’s (2011)
- OSF/Rockford (2011)
- Phoebe Putney/Palmyra (2011)
- Reading Health/SIR (2012)
- Capella/Mercy Hot Springs (2013)*

* No complaint was issued in this case, but the FTC’s Bureau of Competition stated that it recommended a challenge before the merger was abandoned. See http://www.ftc.gov/news-events/press-releases/2013/06/statement-ftc-competition-director-richard-feinstein-todays
Use of New Screening Tools

- ProMedica/St. Luke’s
  - Diversion ratios, WTP, and merger simulation
- OSF/Rockford
  - Diversion ratios and WTP
- UKCC Private Health Care Market Investigation
  - LOCI
- Research on the accuracy of the new tools:
  - Fournier and Gai (2007): Compares WTP-based merger simulation to the price change for one merger
  - May (2013): Compares WTP changes to price changes for two mergers
  - Brand and Balan (2013): Compares diversion ratios, WTP changes, and merger simulations to post-merger price changes in data produced by a virtual market/bargaining model
Overview

• Comparison of screens to price changes for 23 consummated mergers

• Multiple screens evaluated, including traditional market shares/concentration measures
  • All screens constructed with data usually available in initial investigation

• Selection bias due to active antitrust enforcement (Carlton (2009))
  • Sample includes 10 mergers from North Carolina 1997-2001
The Contenders

- Herfindahl-Hirschman Index (HHI)
  - Hospital-location-based bed shares in the Hospital Referral Region (HRR)
    - Approximates EH/CLA markets
  - Patient-location-based discharge shares in the acquired hospital’s Hospital Service Area (HSA)
  - Patient-location-based discharge shares in the combined hospitals’ weighted service area
- Diversion Ratios
- WTP change
- LOCI price change estimate
- WTP-based merger simulation
The Mergers

• 23 mergers of competing general acute care (GAC) hospitals across 7 states
• Post-merger case-mix-adjusted commercial price change relative to controls
  • Price measured using method of Dafny (2009)
  • In most cases, control group is the set of all non-merging, urban GAC hospitals with >100 beds in the state (but outside of the merging hospitals’ MSA)
• All measures are based on GAC services performed at non-federal short-term GAC hospitals
The Results: WTP

Hollow dots = North Carolina
The Results: WTP

WTP Change
Excluding Merger 4

Hollow dots = North Carolina
The Results: HHI

HHI HRR Bed Shares

Post-Merger Price Change

HHI Delta HRR Beds

Hollow dots = North Carolina

Dot size proportional to post-merger HHI
The Results: HHI

HHI HRR Bed Shares
Excluding Merger 4

Dot size proportional to post-merger HHI
Hollow dots = North Carolina
Conclusions

• Diversion ratios, WTP, and LOCI provide information not captured with traditional measures
• Merger simulation performs poorly, but this is likely due to the limitations of the data
• All of the HHIs perform poorly
• Going forward, we need:
  • Better data to calibrate models and measure merger effects
    • All-payer claims data
  • Better models of hospital competition