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How has hospital consolidation affected the price and quality of hospital care?

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SUMMARY OF KEY FINDINGS

The 1990s witnessed a wave of hospital consolidation, dramatically increasing the number of people living in highly concentrated hospital markets.

The balance of evidence shows that consolidation:

> **Raised hospital prices by at least five percent and perhaps much more.**

> **Produced modest cost savings for merging hospitals.** Hospitals merging operations (and not just ownership) experienced the most savings.

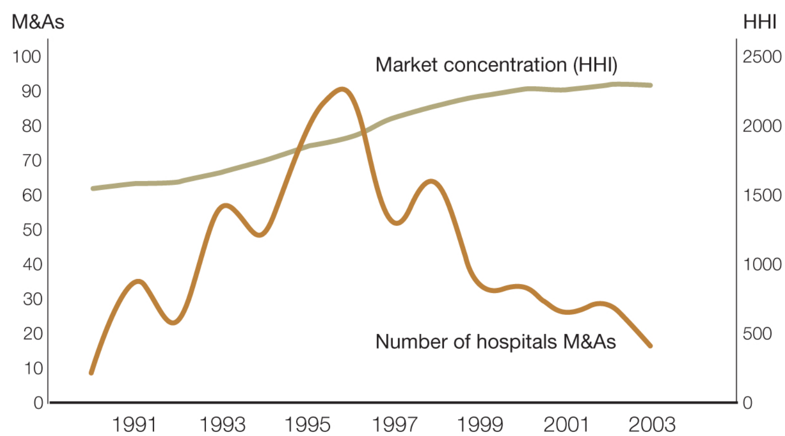
> **Possibly resulted in lower quality.**

How did the hospital market change in the 1990s?

A wave of hospital mergers and acquisitions in the 1990s transformed the inpatient hospital market. By the mid-1990s hospital merger and acquisition activity was nine times its level at the start of the decade (Figure 1). By 2003, almost ninety percent of people living in the nation's larger MSAs faced highly concentrated markets.

Stakeholders and policy-makers have raised concerns about this consolidation trend, pointing to potential impacts on health care costs and quality. This brief analyzes the drivers of consolidation and evidence on how it has affected hospital prices, cost and quality.

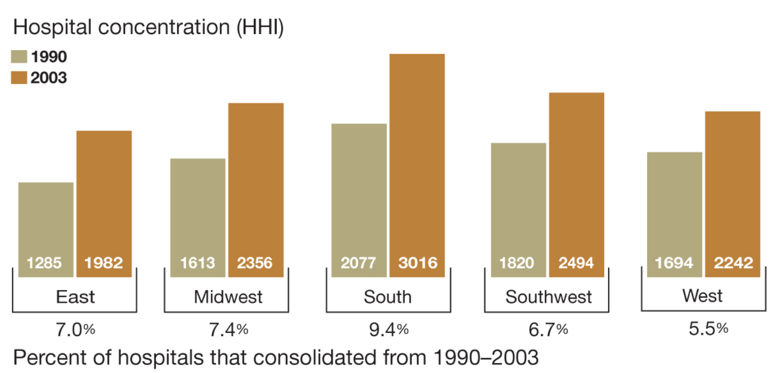
Figure 1. Trends in hospital mergers and acquisitions, 1990–2003



Source: American Hospital Association and authors' calculations. See note on page 4.

The hospital consolidation wave was national in scope, but was most striking in the South. In 2003, as a decade earlier, the South was the most consolidated region with the highest percentage of merging hospitals. The percent rise in consolidation was greatest in the East, however, where the concentration level (HHI) increased 54 percent from 1990 to 2003.

Figure 2. Changes in hospital concentration (HHI) by region, 1990–2003



Source: American Hospital Association and authors' calculations

Hospital consolidation in the 1990s raised inpatient prices by five percent or more.

Two main challenges confront researchers studying the impact of mergers on hospitals.

The first is to come up with a reasonable definition of the market. The best studies define the market based on patient flows between facilities rather than on larger and more arbitrary classifications such as MSAs or counties.

The second challenge is to measure hospital prices. The best measures of price are the amounts actually paid to hospitals (transaction prices) adjusted to account for how sick patients are. Weaker measures base price on what hospitals charge.

STUDY TYPES

Simulation studies examine hypothetical hospital mergers via simulation. Researchers create models using data on demand, market power and cost conditions facing various hospitals in a given market. They use these models to play out hypothetical market scenarios, including mergers.

Event studies examine prices before and after mergers to assess the effect of consolidation on prices.

SCP studies examine whether hospitals in concentrated markets have higher prices than hospitals in unconcentrated markets.

What drove the wave of hospital consolidations during the 1990s?

- **The quantitative evidence does not show that managed care was the driver for consolidation,** although the results are mixed and the fear of managed care may still have contributed.

Several market changes–including technological developments that reduced inpatient demand and left hospitals with excess capacity–might have spurred consolidation. In surveys, hospital CEOs most commonly cite the promise of efficiency gains and opportunities to consolidate services and strengthen their financial position as reasons for consolidating (Reference 1).

How does hospital consolidation affect the price of inpatient care?

- **Research suggests that hospital consolidation in the 1990s raised inpatient prices by at least five percent and likely significantly more.** Prices increase 40 percent or more when merging hospitals are closely located.

There are three distinct types of studies assessing how consolidation affects prices. Each uses different assumptions and methodologies, resulting in varying findings (figure 3 and sidebar). Because of its relative strengths, the simulation approach is now commonly used by federal antitrust authorities to evaluate the antitrust implications of mergers.

Figure 3. Impact of consolidation on inpatient prices: results from strong studies of three types

Study type	Price increase	Author
Simulation	53 percent	Gaynor and Vogt
Event	40 percent	Dafny
Structure-Conduct Performace (SCP)	4–6 percent	Keeler et al. Capps et al.

See note on page 4.

Mergers can lead to lower hospital costs, but do not produce higher quality.

- **Mergers raise prices for merged entities and for their rivals.** When merged firms raise prices, it is easier for non-merged competitors to follow suit. In one community, prices went up 23 percent for a merged hospital and 17 percent for its competitor, relative to controls (Reference 2).

- **Consolidations between neighboring hospitals produce the largest price increases.**

How does hospital consolidation affect hospital costs (what it costs to deliver care)?

- As discussed earlier, hospital CEOs say two of their motivations for merging were to consolidate services and achieve operational efficiencies. Both could lower hospital costs.

- **Consolidation produces modest cost savings.** As a group, merged hospitals have lower cost growth than their non-merged counterparts. Savings are significant (14 percent) if hospitals merge operations, not just ownership (Reference 3).

How does consolidation affect quality of care?

- **While the evidence is limited and mixed, the majority of studies find that hospital consolidation lowers hospital quality.** The strongest studies also show this result.

- **The presence of managed care may be a factor.** One study found that concentration decreased hospital quality (and competition increased it) when HMO penetration was high, but not where it was not (Reference 4).

THE EVANSTON CASE

Prior to the Evanston case, the U.S. Department of Justice (DOJ) and the Federal Trade Commission (FTC) have been unsuccessful in seven consecutive attempts to block hospital mergers and had not won a hospital case since 1989.

An October 2005 ruling to dissolve a 2000 merger in Evanston, Ill reverses this pattern and is an important landmark for at least three reasons. First, the court found that the hospital market was geographically limited. Second, the court found that a modest increase in concentration led to a significant increase in hospital prices. Third, the judge ordered the divesture of the merged entity.

The Evanston case highlights the importance of understanding the impact of hospital concentration on prices, costs and quality of inpatient care. The ruling also establishes that consummated hospital mergers raising antitrust issues may be reexamined.

Policy Implications

> **Hospital markets in most parts of the country have not become monopolized.** As Figure 1 shows, the typical MSA had slightly more than four effective competitors in 2002. In most industries, market consolidation goes in waves. Should there be another unchecked wave of hospital competition in the future, such a wave is likely to result in higher prices and lower quality. In some markets, there may be a monopoly provider, and these markets present special challenges for regulators.

> **Geographical markets for hospital services appear to be narrower than courts have typically found.** Properly assessing the geographical market for hospital care is a critical step in the evaluation of hospital mergers. Consolidation between closely neighboring hospitals leads to significant price increases even in markets that appear relatively competitive under typical market definition strategies.

> **Policy-makers might consider encouraging new hospital entry as a way to increase competition, but this raises several issues.** There are a number of mechanisms policy-makers might use to increase competition by encouraging new hospital entry including relaxing CON laws and restrictions on specialty hospitals. It is important to consider, however, possible costs associated with entry. For example, if specialty hospitals focus only on profitable lines of business, they may impair general hospitals' ability to deliver quality care to patients in unprofitable lines of business. Furthermore, in markets with excess capacity, additional entry may exacerbate this problem, increasing health care costs.

THE SYNTHESIS PROJECT (Synthesis) is an initiative of the Robert Wood Johnson Foundation to produce relevant, concise, and thought-provoking briefs and reports on today's important health policy issues.

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Figure 2: American Hospital Association and Authors' calculations.

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Notes:

Figure 1 graphs the total number of horizontal mergers, acquisitions and system expansions (M&A) in populous MSAs. Consolidation level is measured through the Herfindahl-Hirschman index (HHI).

Figure 3: The SCP results are based on a decrease from 5 to 4 competitors in a market, while the Event and Simulation studies are for a decrease from 3 to 2 competitors.