



Changes in Health Care Financing & Organization (HCFO)

# findings brief

## key findings

- Most hospitals do not operate in markets with only a few dominant health plans.
- In most markets, hospital concentration exceeds health plan concentration.
- Hospital prices are higher in more concentrated hospital markets.
- Hospital prices in the most concentrated health plan markets are approximately 12 percent lower than in more competitive health plan markets.

## Consolidation in Health Plan and Hospital Markets: Implications for Hospital Prices

### Overview

Over the past two decades, a wave of hospital mergers and acquisitions has resulted in many highly concentrated hospital markets across the United States. This phenomenon has raised concerns that consolidated hospitals are using their increased bargaining power to secure higher prices from health plans, thereby adding to the nation's already unmanageable health care costs. A report by the Robert Wood Johnson Foundation's Synthesis Project found that hospital consolidation in the 1990s raised prices by at least 5 percent, with some studies finding price increases of more than 40 percent when merging hospitals are closely located.<sup>1</sup>

For their part, hospitals and other health care providers point out that consolidation among health plans has also occurred in recent years. Hospitals warn that health plans' power to drive down provider prices could have serious implications for quality of care and patients' access to it. Despite the importance of these issues, however, few studies have examined the relationship between the level of concentration in health plan

markets, the level of concentration in hospital markets, and the prices hospitals charge.

In a HCFO-funded study, Glenn Melnick, Ph.D., University of Southern California, and Yu-Chu Shen, Ph.D., Naval Postgraduate School, studied how both health plan market concentration and hospital market concentration interact to affect hospital prices and ultimately consumer welfare.<sup>2</sup> Using descriptive and statistical analyses, the researchers described the markets in which most hospitals operate, assessed the implications for hospital prices, and identified strategies for promoting competition in the post-health reform era.

### Sample and Methods

For their analyses, the researchers examined data for all general, acute care hospitals not owned by the federal government that were located in Metropolitan Statistical Areas (MSAs) in 2001 and 2004. They obtained hospital data from Medicare hospital cost reports, the American Hospital Association Annual Surveys, and a database of multihospital systems. Additional



Robert Wood Johnson Foundation

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data came from the Area Resource File, the Medicare Impact files, and InterStudy, a health care data company that provided 2001 and 2004 managed care data for health maintenance organizations and preferred provider organizations. The final analytical sample contained 4,017 hospital-year observations and included more than 90 percent of all hospitals located in MSAs.

In their descriptive analysis, the researchers summarized the distribution of hospitals and MSAs across different levels of market concentration. They then constructed a multivariate model to estimate the effects of both health plan and hospital market concentration on hospital prices, adjusting for other factors affecting hospital prices (i.e. the level of managed care penetration). In a second model, the researchers tested for the possibility that the effects of health plan concentration on prices were much stronger in the most concentrated markets (compared to less concentrated markets) by dividing health plan markets into four categories based on plan concentration. The categories were developed using a standard concentration index with values that ranged from close to 0 to 10,000. A monopoly market had a value of 10,000, while a value close to zero represented a highly competitive, less concentrated market.

Because actual hospital prices paid by private health plans are not available on a national basis, the researchers constructed their statistical models to produce a valid proxy for hospital prices. The researchers also controlled for changes in net hospital revenue related to case-mix and quantity, and included time and geographic variables to control for general trends and regional differences in hospital prices over time.

## Results

The researchers found that while hospital and health plan market concentration varies across the country, most hospitals do not operate in highly-concentrated health plan markets. The researchers' analysis showed that 64 percent of hospitals operate in markets where health plans are not very concentrated, while 7 percent are in the most concentrated health plan markets. In fact, hospitals tend to face less competition in their markets than health plans face in theirs. According to the study results, more than 90 percent of all hospitals

operate in markets where the hospital market concentration exceeds the health plan market concentration.

In their statistical analysis, the researchers found that higher health plan concentration is associated with lower hospital prices. For example, a 1,000-point increase in the health plan concentration index is, on average, associated with 2.5 percent lower hospital prices. The researchers note that significant price reductions occur only when health plan concentration values exceed 3,200. The researchers found that in these highly-concentrated health plan markets, hospital prices are approximately 12 percent lower, compared with more competitive health plan markets.

The study results are also consistent with previous research showing that hospital prices are higher in more concentrated hospital markets. For example, the researchers found that a 1,000-point increase in hospital concentration values is associated with an 8.3 percent increase in hospital prices.

## Limitations

The researchers note that while their market concentration data cover the period between 2001 and 2004, their results are likely to remain valid today. However, because their statistical results are generally descriptive in nature, the researchers are limited in their ability to make strong causal inferences regarding the effect of hospital and health plan market concentration on consumer welfare. In addition, the researchers acknowledge that their conclusions regarding the concentration of hospital versus health plan markets depend in part on their definition and measurement of health plan products and markets.

## Discussion and Policy Implications

The study results provide several key insights into how levels of health plan and hospital market concentration impact hospital prices. First, the findings suggest that, contrary to conventional wisdom, very few hospitals operate in markets with only a few dominant health plans. Second, the findings support providers' claim that highly-concentrated health plan markets can lead to lower hospital prices. The study is also consistent with previous research showing that hospital prices are

higher in more concentrated hospital markets. Taken together, the researchers' findings show that more concentrated health plan markets can counteract the price-increasing effects of concentrated hospital markets.

These findings have particular relevance for state and federal officials overseeing the implementation of key provisions in the Patient Protection and Affordable Care Act. The researchers note that as states begin to regulate insurance premiums in order to control costs, efforts to restore competition to hospital markets may have an even larger effect. While regulators should continue to monitor health plan consolidation, the researchers recommend they also adopt proactive policies to increase competition in hospital markets. One strategy would be to require hospitals in consolidated systems to negotiate prices with health plans independently. The findings also underscore the importance of preserving competition as provider-based accountable care organizations become more prevalent.

## Conclusion

As policymakers consider how best to control the prices of health care services, this study suggests that strategies to promote competition in hospital markets may be particularly effective. A continuing challenge will be how to bring prices down while preserving patients' access to care and the quality of care they receive.

## For More Information

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## About the Author

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## Endnotes

- 1 Vogt WB, Town R. How has hospital consolidation affected the price and quality of hospital care? Princeton, NJ: Robert Wood Johnson Foundation, 2006.
- 2 For complete findings see Melnick GA, Shen Y, Wu VY. The increased concentration of health plan markets can benefit consumers through lower hospital prices. *Health Aff.* 2011;30(9):1728-1733.