Impact of Hospital Consolidation on Health Insurance Premiums

Data Brief: Evidence suggests that as the degree of hospital consolidation increases, so do insurance premiums.

In MO, GA, and OH, people paid higher premiums in regions with high hospital consolidation.

Care coordination can & should be delivered without provider consolidation that enhances market power.

KEY TAKEAWAYS

This study demonstrates statistically significant positive correlations between health insurance premiums for coverage purchased on some Federally-facilitated and State-based Exchanges and the level of hospital consolidation.

In Missouri, for example, people living in highly consolidated markets paid 31% - 46% more per year than those living in areas of the state with greater levels of hospital competition.

In Georgia, insurance premiums were 35% - 52% higher than those plans offered to residents in markets having less provider consolidation.

Likewise in Ohio, consumers enrolled through the Exchange paid about 10% more for their health insurance premium each year when residing in a less competitive hospital market.
Background

Discussions about the transformation of the U.S. health care system are often tied to the coverage expansions under the Affordable Care Act (ACA) through new insurance Exchanges and Medicaid. However, the ACA’s payment incentives for providers and payers to deliver higher-quality, lower-cost care can also accelerate ongoing changes to payment and care delivery in the private sector. These alternative payment and delivery models reward value and quality over the volume of procedures and are upending traditional staffing priorities, care coordination pathways, and business structures. In theory, these alternative arrangements will be better aligned to deliver efficient and high-quality care to consumers.

As these efforts to reform the delivery of care have been put into place, there has been a contemporaneous uptick in the consolidation of hospital systems and other health care providers. The drive by hospitals to consolidate and increase market power was well underway prior to passage of the ACA. But since the reform law’s passage, provider consolidation has accelerated. Some have suggested that this increase in consolidation is a result of increased pressure on all stakeholders to deliver innovative solutions to reduce cost and improve quality. Others have suggested that the same incentives that drove anticompetitive provider consolidation pre-ACA (increased market power creating the ability to charge higher prices) continue to be the dominant incentives for such consolidation post-ACA. Additionally, the kind of care coordination that the ACA encourages can, and should, be delivered without provider consolidation that creates or enhances market power.

The Impact of Provider Consolidation

The impact of provider consolidation on overall health care costs has been the subject of extensive research. While hospitals contend that consolidation can lead to operational efficiencies and improvements in quality of care, evidence suggests otherwise. A growing number of studies have suggested that provider consolidation may be motivated less by aiming to achieve operational efficiencies and more by the removal of competitive rivals and increasing market power. In a 2014 study, Baker, Bundorf, and Kessler found that a one standard-deviation increase in the Herfindahl-Hirschmann Index (HHI), a standard measure used by economists of market competition levels, resulted in a 4% increase in hospital prices and more than a 6% increase in total hospital expenditures incurred by payers, despite a negligible change in the volume of patients admitted to the hospital. Robinson and Miller examined the cost implications of hospitals acquiring physician practices and medical groups. After controlling for various county and hospital characteristics, such as physician supply, hospital profit status, size, etc., they found that local hospital ownership and multihospital health system ownership of provider groups resulted in per patient expenditures that were 10%-20% higher than patients seen at independently owned groups. This translates into an extra $1,200-$1,700 per patient per year.

Similar findings were reported by Capps, Dranove, and Ody, who found that physician prices increased, on average, by 14% for medical groups acquired by hospital systems. These increases varied by group with primary care physicians increasing their prices by about 12% after being acquired by a local health system; even more significant, the costs of services provided by specialists, like cardiologists, increased by 34% after joining a health care system.

A September 2013 research brief by the Center for Studying Health System Change reported that “it is clear that provider market power is key in price negotiations and that certain hospitals and physician groups, known as ‘must-haves,’ can extract prices much higher than nearby
competitors,” and that “increases in provider prices explain most if not all of the increase in premiums” in recent years. Gaynor and Town noted in their 2012 study that hospital mergers that occurred in already concentrated markets could result in price increases of as much as 20%, without any corresponding improvement in the quality of care.

The effects of hospital consolidation on the quality of care remains an ongoing area of scientific inquiry, with results from some studies suggesting that by decreasing competition, hospital consolidation may lead to lower quality of care. Sohn and Rathouz found that patients undergoing angioplastic surgery at hospitals located in relatively more competitive local marketplaces had better survival than those undergoing the same procedure at facilities facing less competition. Capps found that hospital mergers were associated with increases in mortality for acute myocardial infarct patients and those suffering from heart failure. Finally, an analysis by Rogowski, et al. identified beneficial impacts on mortality where hospitals face more competitors. Overall, though, much analytical work remains to be done to definitively describe the relationship between the level of hospital consolidation and quality of care.

Understanding Impact of Hospital Consolidation on Exchange Premiums

Given the coverage expansion under the ACA through the new Exchange marketplaces, it is even more critical to understand the implications of hospital consolidation on premiums. Under these new insurance marketplaces, consumers shop for coverage among competing plans, and the federal government provides advance premium tax credits to most individuals whose annual incomes are below 400% of the federal poverty level. Based on recent estimates, approximately 85% of enrollees received such federal assistance. Thus, rising premiums not only impact the individual but taxpayers as well, who subsidize those increasing premiums.

If hospital systems are able to use monopoly power to extract price increases for their services due to a lack of competition, it will have a substantial impact on consumers, government budgets, and taxpayers. A recent study in the Antitrust Health Care Chronicle examined the impact of provider consolidation on the cost of coverage through California’s Exchange and found that premiums in more competitive hospital markets (e.g., Los Angeles) were 8% lower on average than premiums in markets with high hospital concentration. As a result, a typical consumer in more competitive markets, such as Los Angeles, saw average monthly savings of $32.90 in reduced premiums when compared to consumers purchasing coverage in San Francisco, a market with fewer hospital competitors.

This data brief builds on the analysis performed on premiums in California by applying similar methodology to other Exchange markets. We examined correlations between premiums and hospital concentration measures in 12 states – both Federally-facilitated and State-based Exchanges – with a sufficient number of rating areas to make statistically valid inferences.

METHODS: To assess the impact of hospital consolidation on premiums, monthly premium data as of October 29, 2014, were downloaded for the individual and small group markets from the Qualified Health Plan Landscape files compiled from the Health Insurance Oversight System for Federally-facilitated states, the System for Electronic and Rate Form Filing for the partnership states, and the Office of Personnel Management for multistate plans. Monthly premium data do not include any tax credits that will lower premiums.

The measure for market competition, the Herfindahl-Hirschmann Index (HHI), is a standard measure used in economic analyses of market competition and frequently used by both the Department of Justice and the Federal Trade Commission. The HHI ranges from 0 (perfect competition) to 10,000 (monopoly) and is calculated as the sum of squared hospital market shares, based on either the annual number of admissions or the number of hospital beds for all non-federal medical/surgical hospitals, excluding psychiatric care, respiratory care, chemical dependency facilities, and long-term care/skilled nursing facilities. HHI values were calculated using admissions and hospital beds; however, since the results from both approaches were similar, only the HHI based on admissions are reported herein. Hospitals that are a
part of a broader health care system were collapsed into the system level. Market structures were defined at the county level, with HHI values calculated for each county. HHI values were then mapped to the appropriate rating area, per the Centers for Medicare & Medicaid Services. For rating areas that included more than one county, a weighted average HHI, weighted by the 2010 county populations as reported by the United States Census Bureau, was calculated and assigned to the entire rating area.

For each rating area, a simple average was calculated by metal levels (e.g., Catastrophic, Bronze, Silver, and Gold) for all monthly premiums across all plan types (e.g., PPO, HMO, etc.) offered in that rating area. An insufficient amount of data for Platinum level plans was available, and thus excluded from the study.

To describe, at the state level, any correlations between insurance premiums and the level of hospital concentration, Pearson’s $r$ was calculated using the monthly premiums and HHI values for those states having at least 10 rating areas.

**RESULTS:** Analysis shows positive correlations between premiums and the degree of hospital concentration (Table 1). Statistically significant positive correlations were detected for Missouri, Georgia, and Ohio, which suggests that as the degree of hospital consolidation increased, insurance premiums increased as well. However, no statistically significant correlations were identified for the remaining states in the study.

Focusing on those three states with significant positive correlations, variations can be observed within each state that helps to explain the relationship between hospital consolidation and insurance premiums, observed at the overall state level (Table 2). In the state of Missouri, for example, monthly premiums ranged from 31%-46% higher across metal tiers (e.g., Catastrophic, Bronze, Silver, and Gold) for those Missourians residing in the most heavily consolidated rating areas of the state (#2 and #10) versus those residing in the least provider consolidated rating areas (#3 and #7). This difference translates into extra premiums of $660 per year – for those having Catastrophic coverage – to an extra $1,020 per year in premiums – for Gold level plan members.

A similar pattern emerges upon closer examination of the level of hospital competition across the state of Georgia. Those Georgians residing in the three rating areas (#3, #5, and #8) having the greatest level of hospital competition in the state enjoy monthly premiums that range from $152, for Catastrophic coverage, to $281 for Gold level plans. By contrast, for those individuals residing in the three most heavily provider consolidated rating areas of the state (#1, #7, and #15), monthly premiums ranged from $231 up to $405, for Catastrophic and Gold level plans, respectively. This represents a 35%-52% differential in premiums, which costs Georgia households an extra $828-$1,488 each year.

Finally, the variations in insurance premiums from the least consolidated provider markets to the most consolidated markets were observed in Ohio as well. Insurance premiums were 9%-13% higher in the least competitive hospital marketplaces (rating areas #7, #8, and #10) compared to premiums in more competitive markets (rating areas #4 and #5). Although not as drastic as the differences recorded in Missouri and Georgia, Ohioans still paid an extra $19-$33 per month for their insurance coverage, simply because they resided in marketplaces with little-to-no hospital competition. Across all three states (Missouri, Georgia, and Ohio), those rating areas with the highest levels of competition tended to include some of the most populous counties in the state and usually included one or more major metropolitan areas. For example, rating area #3 in

<table>
<thead>
<tr>
<th>State</th>
<th>Monthly Premium, mean (SD)</th>
<th>HHI Score, mean (SD)</th>
<th>Pearson’s $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>$240 (+21)</td>
<td>7,720 (+2,231)</td>
<td>0.60*</td>
</tr>
<tr>
<td>Georgia</td>
<td>$280 (+42)</td>
<td>8,799 (+1,578)</td>
<td>0.52*</td>
</tr>
<tr>
<td>Ohio</td>
<td>$242 (+15)</td>
<td>7,328 (+2,250)</td>
<td>0.47*</td>
</tr>
</tbody>
</table>

*Statistically significant correlation ($p>0.10$)
Georgia had a population of over 5 million inhabitants, almost half of the entire state’s population, including Atlanta, Decatur, Marietta, and their surroundings. Rating area #3 in Missouri contained almost 1.1 million individuals residing in Kansas City and its surrounding metro area. While in Ohio, the #4 rating area, which includes the greater Cincinnati area, had a 2010 population of over 1.4 million people.

Evidence exists that supports a possible relationship between the level of competition in the local hospital market and insurance premiums. This relationship was detected at a statistically significant level for 3 of the 12 states investigated in this study. While no significant correlations were detected for the remaining states, that may merely be a reflection of the already established high level of hospital consolidation in those states. In general, in Missouri, Georgia, and Ohio, those rating areas having the highest levels of competition tended to be very populous and included at least one major city.

Table 2: Mean Monthly and Annual Insurance Premiums By Level of Hospital Consolidation for Each Metal Tier

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>MONTHLY BASIS:</th>
<th>ANNUAL BASIS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Least Consolidated</td>
<td>Most Consolidated</td>
</tr>
<tr>
<td>MISSOURI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catastrophic</td>
<td>$119</td>
<td>$174</td>
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<tr>
<td>Bronze</td>
<td>$183</td>
<td>$247</td>
</tr>
<tr>
<td>Silver</td>
<td>$229</td>
<td>$307</td>
</tr>
<tr>
<td>Gold</td>
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<td>$356</td>
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<tr>
<td>GEORGIA</td>
<td></td>
<td></td>
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<tr>
<td>Catastrophic</td>
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<td>$231</td>
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<tr>
<td>Bronze</td>
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<td>$266</td>
</tr>
<tr>
<td>Silver</td>
<td>$238</td>
<td>$326</td>
</tr>
<tr>
<td>Gold</td>
<td>$281</td>
<td>$405</td>
</tr>
<tr>
<td>OHIO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catastrophic</td>
<td>$141</td>
<td>$160</td>
</tr>
<tr>
<td>Bronze</td>
<td>$200</td>
<td>$219</td>
</tr>
<tr>
<td>Silver</td>
<td>$237</td>
<td>$266</td>
</tr>
<tr>
<td>Gold</td>
<td>$286</td>
<td>$319</td>
</tr>
</tbody>
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End Notes


6 White C, Bond AM, and Reschovsky JD. High and Varying Prices for Privately Insured Patients Underscore Hospital Market Power. The Center for Studying Health System Change’s *Research Brief* No. 27, September 2013.


8 Sohn MW, and Rathouz PJ. Competition Among Hospitals and Quality of Care: Hospital-Level Analysis. *Unpublished manuscript*, University of Chicago, 2003.


10 Rogowski J, Jain AK, Escarce JJ. Hospital Competition, Managed Care, and Mortality after Hospitalization for Medical Conditions in California. *Health Services Research*, 42(2), 2007.


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