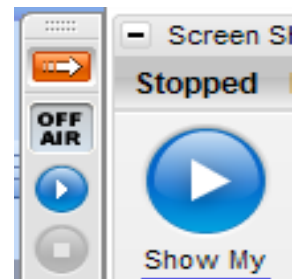


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How Do Health Insurer Market Concentration and Bargaining Power with Hospitals Affect Health Insurance Premiums?

Erin Trish, Ph.D. - University of Southern California

**ZurickDavis Webinar
August 10, 2015**

Acknowledgments

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- **Data Access: Kaiser Family Foundation/Health Research & Educational Trust**
- **Collaboration: Bradley Herring, Ph.D. – Johns Hopkins University**

Recent Attention on Insurer Consolidation

Insurers Playing a Game of Thrones

Companies pursue strategic megadeals as industry braces for seismic changes

THE WALL STREET JOURNAL.

With Merger Deal, Aetna, Humana Get Ahead of the Pack

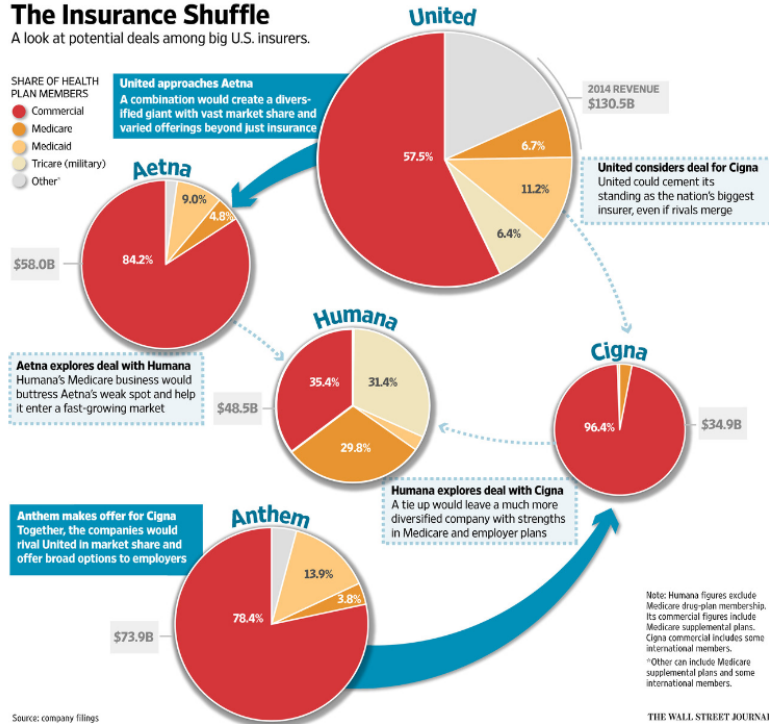
The Insurance Shuffle

A look at potential deals among big U.S. insurers.

SHARE OF HEALTH PLAN MEMBERS

- Commercial
- Medicare
- Medicaid
- Tricare (military)
- Other

United approaches Aetna
A combination would create a diversified giant with vast market share and varied offerings beyond just insurance



Anthem to acquire Cigna, leaving only 3 big insurance companies



Health Insurer Merger Mania -- Muscle-Bound Competitors And A New Cold War In Health Care

The New York Times

THE WALL STREET JOURNAL.

Bigger May Be Better for Health Insurers, but Doubts Remain for Consumers

Offsetting Effects of Insurance Concentration

- **Competition in US private health insurance markets is complex**
 - **What effect does insurer market concentration have on private health insurance premiums (i.e., profit margin)?**
 - **How does insurer market concentration interact with hospital market concentration (i.e., bargaining power over hospital prices)?**

 **Our goal is to disentangle these two offsetting effects**

Overview: Insurer/Hospital Market Power

Premium = expected spending * administrative loading factor

Hospital Market

Insurance
Market

	More Competitive	Moderately Concentrated	Highly Concentrated
More Competitive	$p = load \times spend$		
Moderately Concentrated			
Highly Concentrated			

Overview: Insurer/Hospital Market Power

Premium = expected spending * administrative loading factor

Hospital Market

Insurance
Market

	More Competitive	Moderately Concentrated	Highly Concentrated
More Competitive	$p = load \times spend$	$p = load \times spend$ ↑	
Moderately Concentrated			
Highly Concentrated			

Overview: Insurer/Hospital Market Power

Premium = expected spending * administrative loading factor

Hospital Market

		More Competitive	Moderately Concentrated	Highly Concentrated
Insurance Market	More Competitive	$p = load \times spend$	$p = load \times spend$ ↑	
	Moderately Concentrated	↑ $p = load \times spend$ ↓	← relative magnitudes are not clear →	
	Highly Concentrated			

Overview: Insurer/Hospital Market Power

Premium = expected spending * administrative loading factor

Hospital Market

	More Competitive	Moderately Concentrated	Highly Concentrated
More Competitive	$p = load \times spend$	$p = load \times spend$ ↑	$p = load \times spend$ ↑↑
Moderately Concentrated	$p = load \times spend$ ↑ ↓	$p = load \times spend$ ↑	$p = load \times spend$ ↑ ↑
Highly Concentrated	$p = load \times spend$ ↑↑	$p = load \times spend$ ↑↑ ↓	$p = load \times spend$ ↑↑ ↓↓

Insurance Market

Disentangling Insurance Concentration Effects

- Exploit that small employers typically purchase full insurance coverage whereas larger employers typically self-insure and purchase administrative services
- Measure insurer concentration for two transactions:

	(1) Insurer: Employer	(2a) Insurer: Hospital	(2b) Hospital: Insurer
Insurer Transaction to Model	Selling fully-insured coverage to smaller employers	Insurer negotiating prices with hospital systems	Hospital systems negotiating prices with insurers
Enrollment Used to Calculate Market Share	Fully-insured lives only	Combined fully- and self-insured commercial business	Hospital system private patient discharges

How Does Concentration Relate to Premiums?

- $\ln(\text{Premium}) = f(\text{Insurer Market} \times \text{Hospital Market})$

	(1) Insurer: Employer	(2a) Insurer: Hospital	(2b) Hospital: Insurer
Insurer Transaction to Model	Selling fully-insured coverage to smaller employers	Insurer negotiating prices with hospital systems	Hospital systems negotiating prices with insurers
Enrollment Used to Calculate Market Share	Fully-insured lives only	Combined fully- and self-insured commercial business	Hospital system private patient discharges
Hypothesized Relationship with Premiums	Positive <i>(Load Effect)</i>	Negative <i>(Price Effect)</i>	Positive <i>(Price Effect)</i>

How to Measure Concentration

- **Herfindahl-Hirschman Index (HHI):** sum of squared market shares of competitors in market
- **Example: “Five-to-Four” merger**

$$\text{HHI}(5) = 20^2 + 20^2 + 20^2 + 20^2 + 20^2 = 2,000$$

$$\text{HHI}(4) = 40^2 + 20^2 + 20^2 + 20^2 = 2,800$$

- **Defining markets geographically:**
 - Core-based statistical areas with metropolitan divisions (geographic area defined by census)
 - Counties

Data Sources

- **Premiums for fully-insured plans: KFF/HRET Employer Health Benefits Survey for 2006 through 2011**
- **Insurer Market Share: HealthLeaders-InterStudy enrollment data for 2005 through 2010**
- **Hospital Market Share: AHA Annual Survey data for 2005 through 2010**
- **Also include many other plan, firm, market, and year control variables**

Distribution of Market Concentration

Insurer: Employer HHI vs. Insurer: Hospital HHI



Insurer: Hospital HHI vs. Hospital: Insurer HHI



N = 5,270 Fully-Insured Plans
HHIs are scaled by 100

Results: Market Concentration and Premiums

- Results from our regression analyses indicate statistically significant relationships between market concentration and premiums consistent with hypotheses

	(1) Insurer: Employer	(2a) Insurer: Hospital	(2b) Hospital: Insurer
Empirical Result (OLS Regression Coefficient)	Positive (0.0021, p=0.029)	Negative (-0.0024, p=0.006)	Positive (0.0019, p=0.000)
Insurer Transaction to Model	Selling fully-insured coverage to smaller employers	Insurer negotiating prices with hospital systems	Hospital systems negotiating prices with insurers
Hypothesized Relationship with Premiums	Positive (<i>Load Effect</i>)	Negative (<i>Price Effect</i>)	Positive (<i>Price Effect</i>)

Magnitude of the Relationship

- Simulated premium change under a “5-to-4” merger

	(1) Insurer: Employer	(2a) Insurer: Hospital	(2b) Hospital: Insurer
Magnitude of Effect	1.7% Increase (+ \$78)	1.9% Decrease (- \$90)	1.5% Increase (+ \$67)
Empirical Result (OLS Regression Coefficient)	Positive (0.0021, p=0.029)	Negative (-0.0024, p=0.006)	Positive (0.0019, p=0.000)
Insurer Transaction to Model	Selling fully-insured coverage to smaller employers	Insurer negotiating prices with hospital systems	Hospital systems negotiating prices with insurers
Hypothesized Relationship with Premiums	Positive (<i>Load Effect</i>)	Negative (<i>Price Effect</i>)	Positive (<i>Price Effect</i>)

Does Concentration Balance Matter?

- **These relationships between insurer and hospital market concentration and premiums could depend on the relative balance of concentration**
 - **For example: if hospital markets are already relatively competitive, hospital prices may already be relatively low and insurers with stronger bargaining leverage may not be able to negotiate these downward any further**
- **To examine: stratify the analyses by the level of concentration in insurer/hospital markets**

Results: Balance of Concentration Matters

- **Negative relationship between premiums and insurer: hospital concentration (i.e., insurer bargaining power measure) stronger when**
 - Insurance markets are more highly concentrated
 - Hospital markets are more highly concentrated
- **Relationship between hospital market concentration and premiums relatively consistent among more and less concentrated insurance markets**

Summary of Key Findings

- **High degree of concentration among many insurance and hospital markets**
- **Evidence that higher levels of insurance concentration do have offsetting effects on premiums**
 - **Premiums higher when insurers have more concentration in selling coverage to employers**
 - **Premiums lower when insurers have more concentration in negotiations with hospitals**
- **Relationship between insurer and hospital concentration and premiums varies by level of concentration in other markets**

Conclusions and Policy Implications

- **Insurance markets are complex and the impact of consolidation can be expected to vary depending on local market conditions**
- **Relative balance (not just degree) of local market concentration among insurer and hospitals is important when considering effects on premiums**
- **Policies targeted toward increasing competition among insurance markets may be misguided absent other interventions to address hospital/provider bargaining leverage**
- **Higher prices resulting from hospital market consolidation are passed-through to consumers as higher premiums**

Additional Information/Questions

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How do health insurer market concentration and bargaining power with hospitals affect health insurance premiums?



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