Consolidation and Competition in US Health Care

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Introduction

- The US relies on markets for the provision and financing (~1/2) of health care
  - That means that the health care system will only work as well as the markets that support it, but...
  - Those markets don't work as well as they could/should
    - Spending high and increasing ($3.4 trillion; $10,372 per capita, 18.1% of GDP)
    - Prices are high and rising, there are egregious billing practices, quality problems, too little organizational innovation
  - Consolidation, concentration, and market power have a large part to do with that
    - Markets are highly concentrated
    - More consolidation is happening
  - Matters for cost, quality, service, innovation, for any health reforms – depend on markets

Well, At Least It's Art

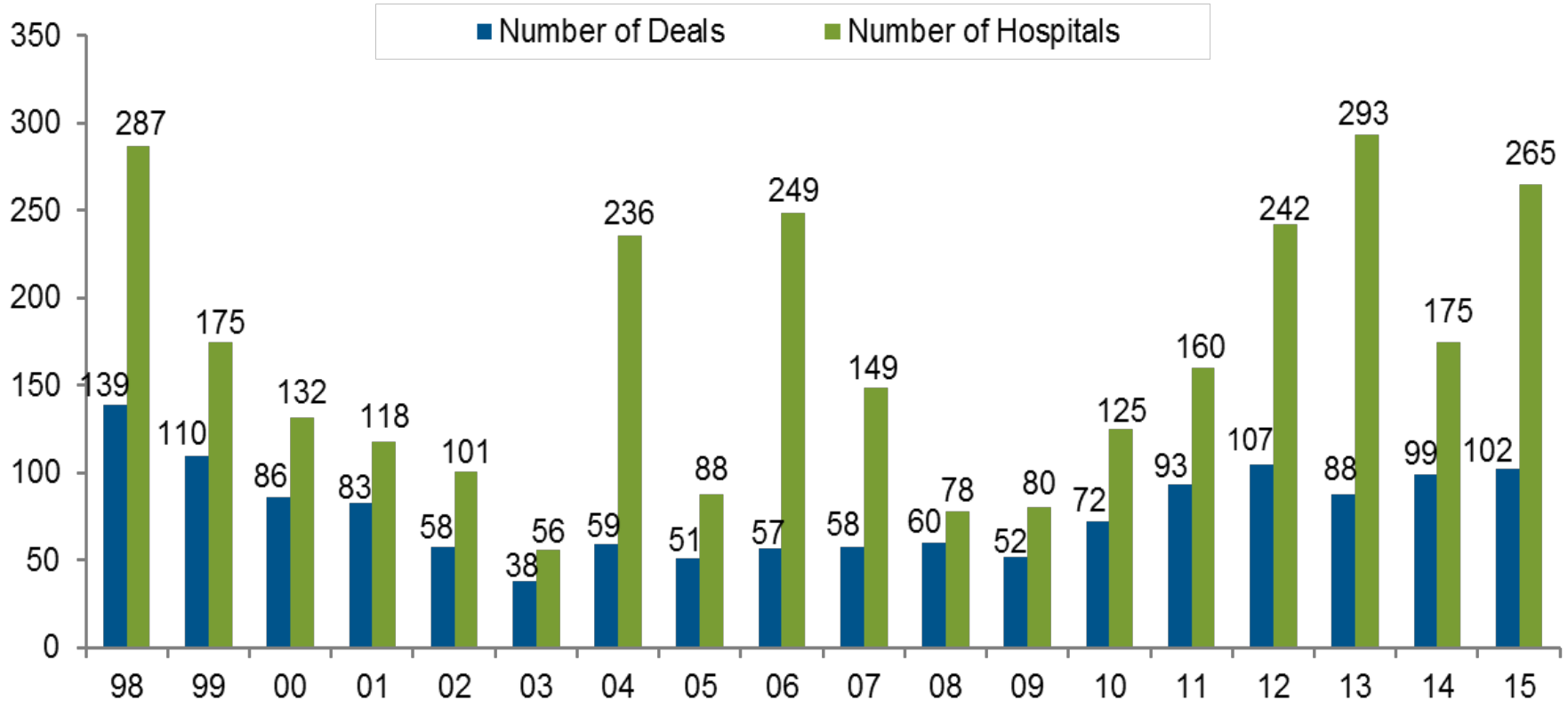
by Andy Warhol
(Pittsburgh native,
CMU '49)
~ 1985-86
was available via Christie's
$15-20,000

How Does Competition Work in Health Care?

- Competition determined by presence/absence of good alternatives
  - Private health care prices are determined by negotiations between providers and insurers
    - Providers' prices are driven by how important it is for an insurer to include them in their network
    - Compete for patients within network based on quality, services, reputation, location
  - Insurers compete to sell insurance to employers
    - If there are fewer insurers in a market, they have the ability to set higher premiums
  - Public prices are set administratively (Medicare)
    - Competition is based on quality, services, reputation, location; not price
- Consolidation within health care markets affects competition, and consequently prices and quality

Hospital Consolidation

- 1,412 mergers from 1998-2015 (~28% of hospitals in operation in 1998)
  - 102 mergers in 2016, 115 in 2017; 1,629 1998-2017
- Most urban areas now dominated by 1 or 2 large hospital systems



http://www.aha.org/research/reports/tw/chartbook/ch2.shtml

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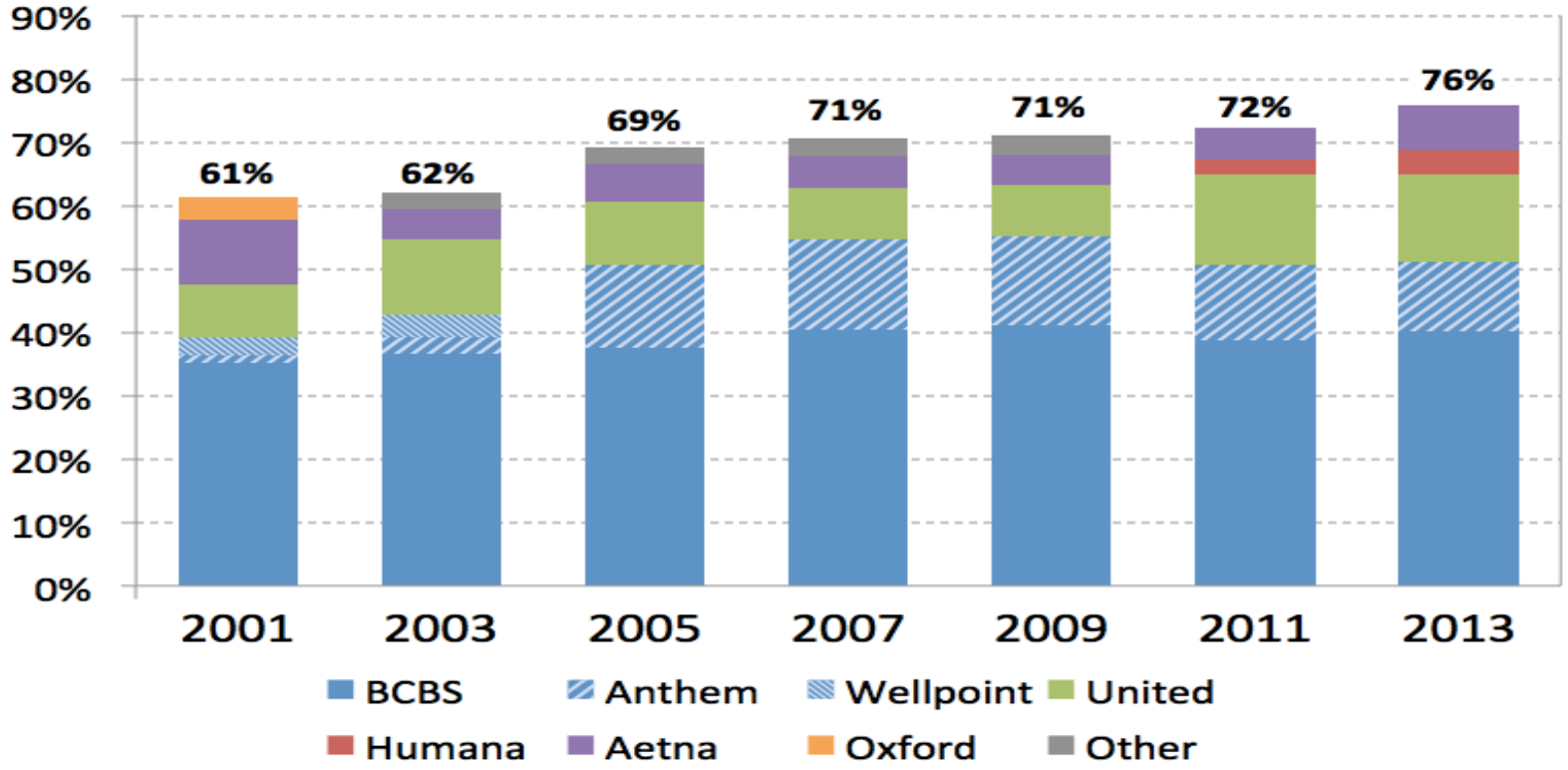
Physician Practice Consolidation

- Practice size growing
  - 80% of physicians in practices of 10 or less in 1983; 61% in 2014
  - % in solo practice: 40% in 1983, <20% in 2014
- Markets for specialist physicians highly concentrated; markets for primary care physicians becoming more concentrated
  - 65% of Metropolitan Statistical Areas (MSAs) highly concentrated for specialists, 39% for primary care physicians
- Lots of acquisitions of physician practices by hospitals
  - 33% of physicians now employed by hospitals; 44% of primary care physicians
  - Horizontal consolidation: competing practices acquired by a hospital

Insurer Consolidation

- 57 to 69% of MSAs highly consolidated in 2016
- 4 insurers had 76% of the national, fully insured commercial market in 2013; 61% in 2001
- 2 largest insurers had 70% market share in 2014 in 1/2 of MSAs



Market Share of Top 4 Insurers, Fully-insured Commercial
Source: NAIC & CCIIO. Excludes California. Courtesy Leemore Dafny

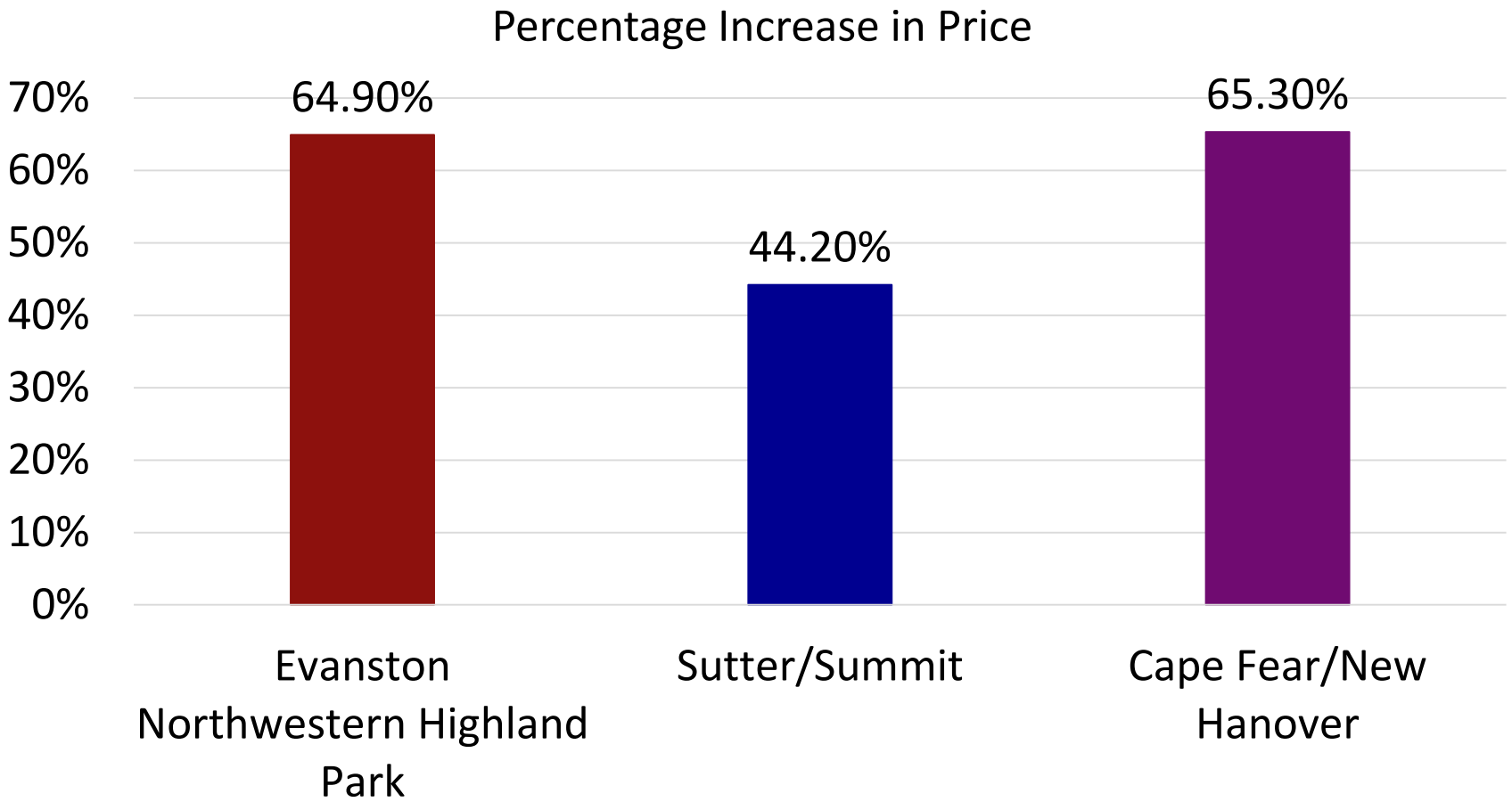
Potential Benefits of Consolidation

- Consolidation could lead to potential benefits ("Triple Aim")
  - Coordination of care, less fragmentation
  - Investment in care coordination, quality
  - Reduction of costly, unnecessary duplication
  - Achievement of scale
  - Population health
- But, …
  - Consolidation isn't integration
  - Evidence doesn't support the claims
    - Costs not lower
    - Little evidence of improved quality; not a consistent finding
    - No evidence of increased charity care
    - Nonprofits not cheaper or better.
  - The vaunted reputation of integrated delivery systems doesn't hold up to inspection

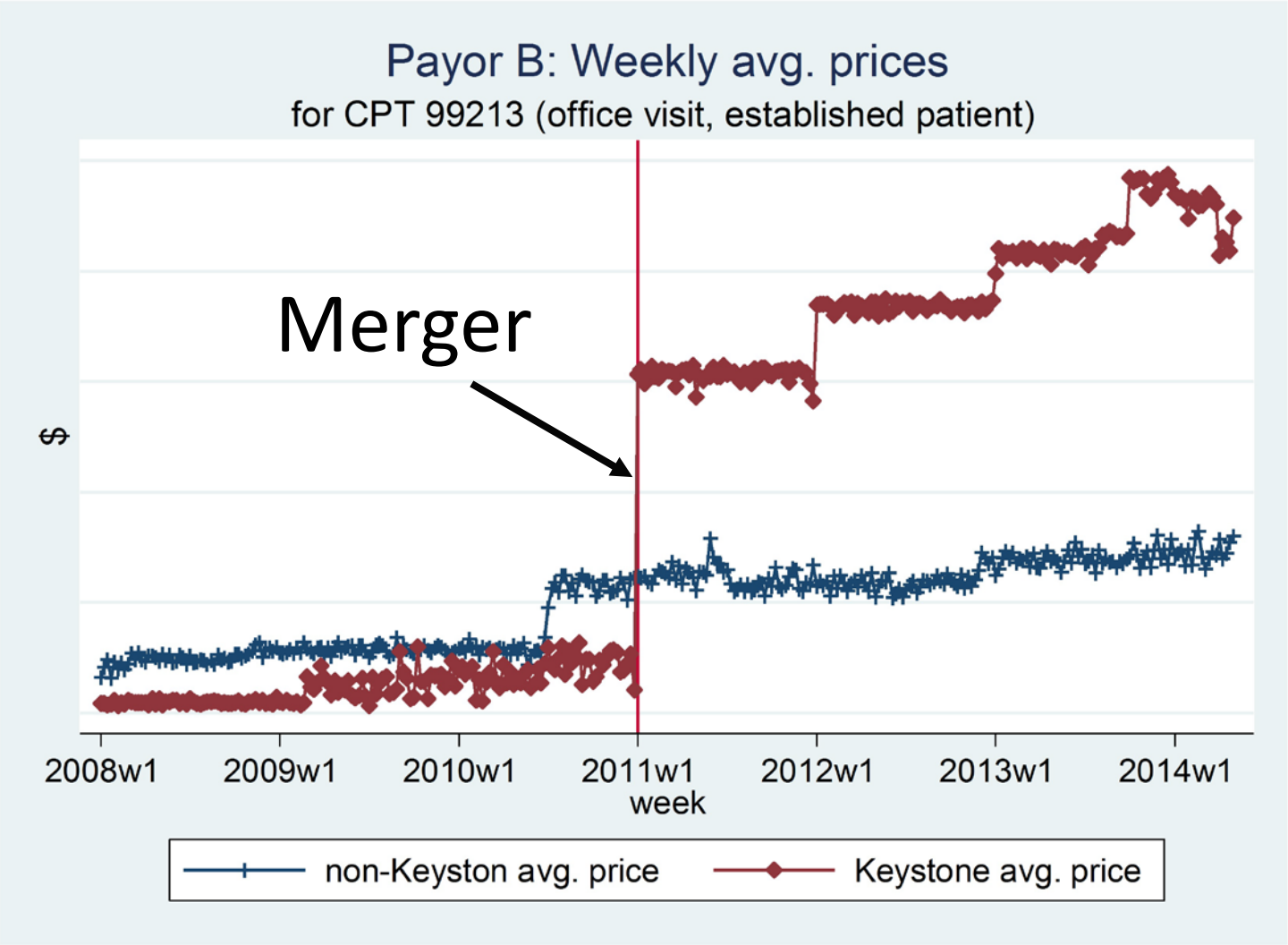
Harms Due to Consolidation

- Consolidation leads to substantially higher prices
  - Mergers between close competitors lead to price increases anywhere from 10% up to over 60%
  - 6% average price increase from all US hospital mergers 2007-2011
- Reduced competition harms quality when prices are regulated
- Effects of competition on quality when prices are market determined is not as clear
  - Most rigorous studies show reduced competition harms quality
- "Cross-market mergers" can harm competition
  - Price increases (10%, 17%) due to mergers between hospitals in different locations
- Restrictive contracts
  - Dominant hospitals negotiate restrictive terms in insurer contracts

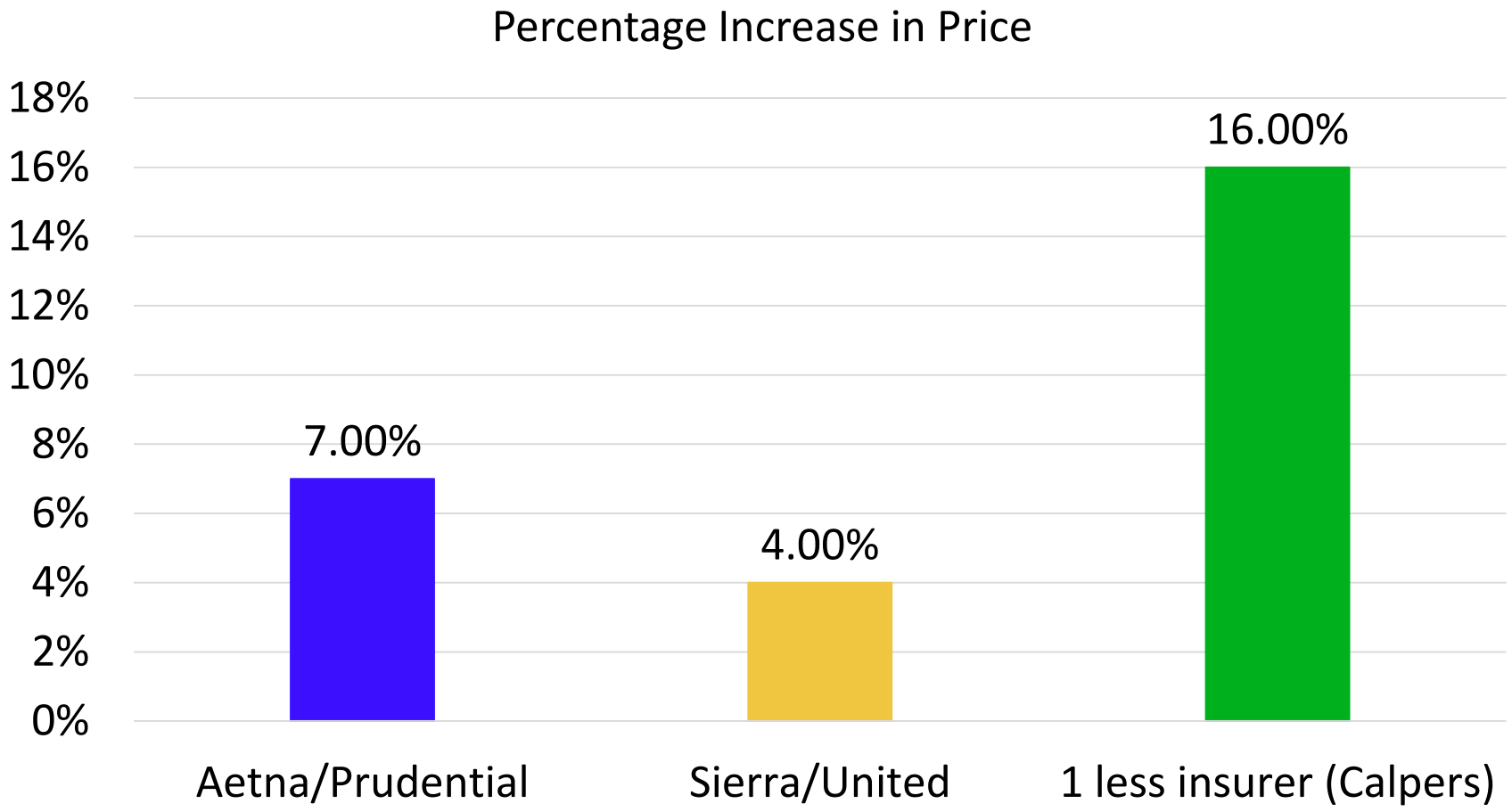
Some Hospital Price Increases Following a Merger



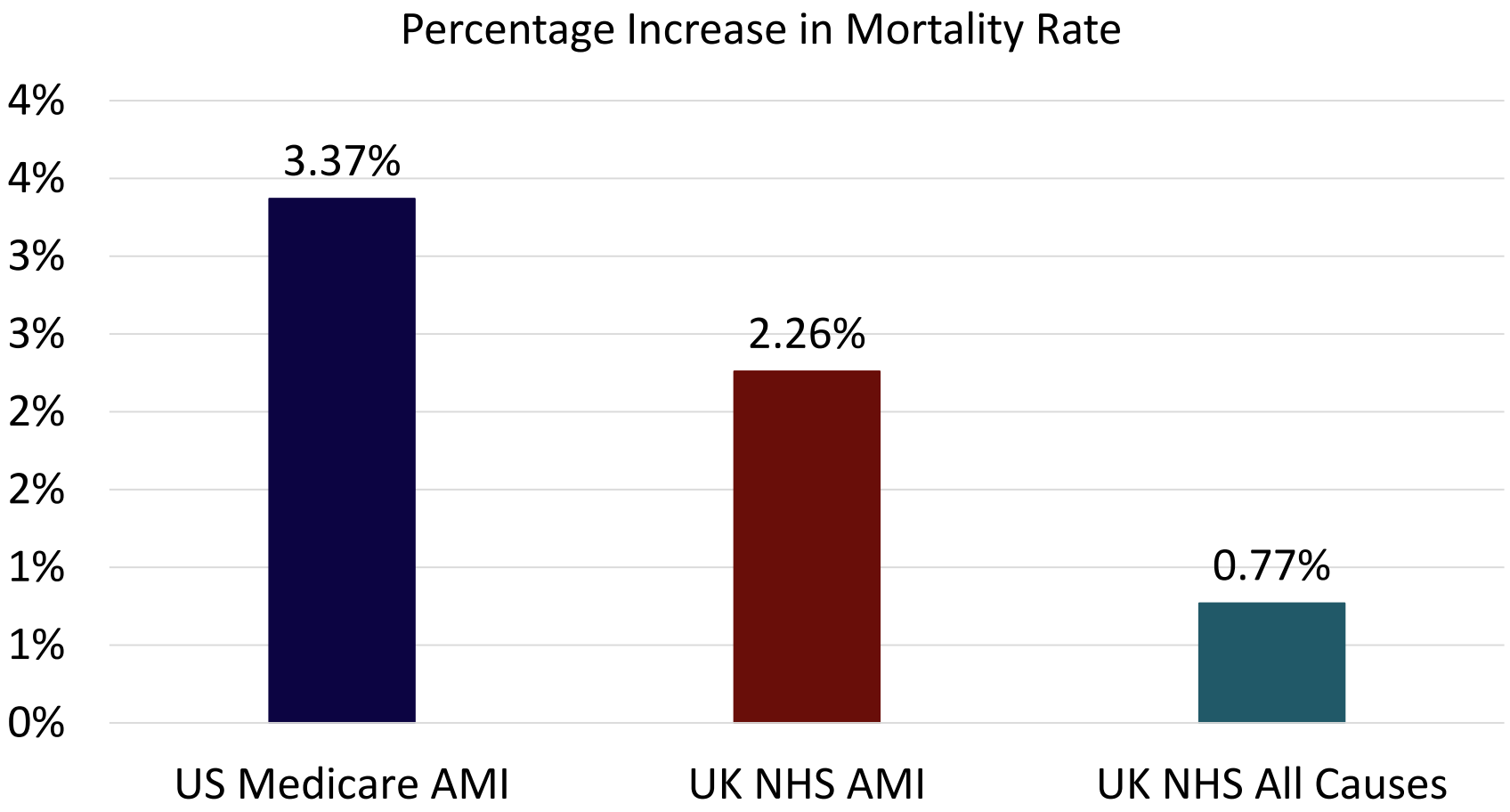
Merger of Orthopedic Practices in PA



Some Insurer Premium Increases Following a Merger



Mortality Rate Increases Due to Market Concentration



Policies Toward Health Care Markets

- Competition policy for health care
  - Antitrust: Federal and States
    - Continue and step up horizontal merger enforcement
    - Pursue vertical cases
    - Pursue anticompetitive practices
  - Regulations: Federal and States
    - Coordinate, minimize regulatory burden
      - Higher compliance costs lead to incentive to consolidate
    - Eliminate/modify regulations that restrict competition and protect incumbents
  - Payment: Federal, Private Insurers
    - End distortions that incentivize consolidation
  - Employers
    - Private exchanges
    - Reward value
- What to do in highly consolidated markets?
  - Break up large, integrated systems?
  - Regulation/oversight?
    - Price cap regulation?
    - Arbitration?

The Challenge

- We in the US are facing a great challenge to our health care system
- If left unchecked, consolidation could undermine our best efforts to control costs, improve care and make our system more responsive and dynamic
- We need new and vigorous policies to encourage beneficial organizational change and innovation
- If we fail, we will likely have an even more expensive, less responsive health system that will be exceedingly hard to change
- In my opinion, this is the #1 priority for health care

END

REFERENCES

Evidence on Benefits of Consolidation - Providers

- Schmitt (2017) – cost savings from hospital mergers
  - Acquired hospitals have lower costs; acquiring hospitals do not
  - Mergers in the same market do not lower costs
- Burns et al. (2013) – horizontal & vertical physician integration
  - Most physicians small practices (2/3rds < 5 docs; 4/5ths , 10).
    - Why, if bigger is better?
  - Growing % in large (11+) groups, assembled by hospitals (~20% of docs).
  - There are limited scale and scope economies in physician practice.
    - Evidence doesn't support large multispecialty practices better.
  - Little evidence supporting efficiency of large, vertically integrated, multispecialty groups.
    - Hospital acquisitions of physician practices may not result in greater efficiency.
- McWilliams et al. (2013) – effects of integration on physician group performance for Medicare
  - Larger hospital based groups had higher per beneficiary spending, higher readmission rates, and similar performance on process measures of quality.
  - Larger independent groups performed better than smaller groups on all process measures, and had lower per beneficiary spending in counties where risk sharing was more common.
- Weeks et al. (2010) – effects of integration on physician group performance
  - Large multispecialty groups that were members of the Council of Accountable Physician Practices had lower spending and better quality measures for Medicare beneficiaries (although differences weren't large).
- Hwang et al. (2013) – effects of integrated systems
  - Most studies show association between integration and quality.
  - Few showed reduced utilization or cost savings.

Evidence on Benefits of Consolidation - Providers

- Goldsmith et al. (2015) – effects of integrated delivery networks
  - Little evidence that IDNs have lower costs or higher quality.
  - Growing evidence that hospital-physician integration has raised physician costs, raised hospital prices, and per capita medical spending.
  - Hospital integration into insurance not associated with shorter LOS or lower charges per admission.
  - IDN investment associated with lower operating margins and return on capital.
  - Diversification into more business lines associated with negative operating performance.
  - Few or no scope economies within health plans, hospitals, or physician groups, or between them.
  - Prominent IDNs (UPMC, Intermountain, Geisinger, Henry Ford, Advocate,…) don't perform better than non-IDN peers in the same market.
- Burns et al. (2015) – effects of hospital systems on costs
  - Examine 4,000 US hospitals from 1998 to 2010.
  - No evidence that system members have lower costs.
- Tsai and Jha (2014) – effects of hospital consolidation on costs and quality
  - Merging can increase volumes, but that doesn't necessarily improve outcomes.
  - Integration of care requires clinical integration and data sharing.
    - This is costly and hard.
    - Large systems not necessarily motivated to share data outside the system.
  - Larger systems better able to make investments in quality measurement and improvement.
    - Little evidence to suggest smaller institutions can't do this.
    - Leadership more important than expensive investments.
    - Not all quality interventions are expensive (e.g., checklists).
    - EHRs are expensive, but small institutions appear to be keeping up.
  - Evidence shows that competition improves quality.

Evidence on Benefits of Consolidation - Providers

- Vogt and Town (2006) – effects of hospital consolidation on costs, quality.
  - Combining facilities lowers costs, mere consolidation does not.
    - Hospital closure, consolidating service lines
  - Some evidence of substantial scale economies.
  - Consolidation lowers quality of care.
- Gaynor and Town (2012) – effects of hospital-physician integration.
  - Physician-hospital consolidation has not led to improved quality or reduced costs.
- Gaynor, Kleiner, and Vogt (2015) – hospital scale and scope economies.
  - There are scale economies – seem to be exhausted around 330 beds
  - No evidence of scope economies (cheaper to produce both secondary and tertiary care, or different kinds of treatments, nervous system, eye).
  - Nonprofits don't have lower costs.
- Testimony of expert Kenneth Kizer in St. Luke's case
  - Employment of physicians hasn't been shown to be a superior organizational form.
  - Organizational function is key, not a specific organizational form.
  - Financial integration does not imply clinical integration.
  - Clinical integration achieved with many different forms of organization.
    - Less integrated: Fairview Health, Geisinger CABG, Sutter Health, Parc Nicollet, MSSP.
    - More integrated: Presbyterian Health, Virginia Mason, Geisinger, Intermountain, Cleveland Clinic, Kaiser.
  - IDSs don't necessarily produce integrated care.
    - VA early 90s; Military health care.
- Capps et al (2010) – consolidation and charity care.
  - No "Robin Hood" effect.
    - Nonprofit hospitals with market power don't spend more of their profits on charity care.

Evidence on Benefits of Consolidation - Insurers

- Do larger insurers get lower provider prices? What are the impacts on quantity?
  - Does scale reduce provider prices?
    - Direct studies: Yes, but steering is potentially more important; Wu (2009) and Sorensen (2003)
    - Indirect studies of link between insurer concentration and prices: Yes
      - Melnick et al. (2011), McKellar et al. (2014), Ho and Lee (2013), Cooper et al. (2015), Feldman and Wholey (2001), Gaynor et al. (2010), Trish and Herring (2015), Dafny et al. (2012)

- Might this count as a merger efficiency?
  - US Department of Justice - no

Evidence on Harms from Consolidation: Hospital Prices

- Haas-Wilson and Garmon (2011)
  - Merger of Evanston Northwestern and Highland Park hospitals
  - Four out of five insurers experienced substantial price increases due to the merger
  - 20.1%, 26.5%, 35.1%, 64.9%
- Tenn (2011)
  - Merger of Sutter and Summit hospital systems in SF Bay area
  - Summit prices increase post-merger by 28.4%, 28.7%, 44.2% for 3 insurers
- Thompson (2011)
  - Merger of Cape Fear and New Hanover hospitals in Wilmington, NC
  - Price increases of 56.5%, 65.3% for two insurers, no effect for one insurer, price decrease of 30% for one insurer
- Vita and Sacher (2001)
  - Merger of Dominican Santa Cruz and AMI-Community hospitals in Santa Cruz, CA
  - Only two hospitals in Santa Cruz; 1 other hospital (Watsonville) in Santa Cruz county
  - Price increases of 23% at Dominican, 17% at Watsonville
- Gaynor and Vogt (2003)
  - Merger of Tenet and Ornda hospital corporations
  - 2 Tenet hospitals in San Luis Obispo county (Sierra Vista, Twin Cities); one Ornda hospital (French)
  - 3 hospitals in SLO itself (French, General, Sierra Vista)
  - Five hospitals in San Luis Obispo county, two more within 50 miles
  - Merger would have led to price increases of 53% at French, 32% at Sierra Vista, 33% at Twin Cities, 5% at General, 5% Arroyo Grande

Evidence on Harms from Consolidation: Hospital Prices

- Dafny (2009)
  - Hospitals increase price by 40% following mergers of nearby rivals.
- Nevo, Gowrisankaran, and Town (2015)
  - Merger of Inova Health System and Prince William hospital in Northern Virginia.
  - Price increase of 30.5% at Prince William.
- Cooper, Craig, Gaynor, and Van Reenen (2018)
  - 6% price increase on average from all mergers in US 2007-11
  - Monopoly hospitals have 12% higher prices
  - Hospitals with few competitors negotiate more favorable contract forms
- Lewis and Pflum (2017)
  - Mergers between hospitals in different markets lead to 17% price increases
- Dafny, Ho, and Lee (2016)
  - Mergers between hospitals in different markets in the same state lead to 10% price increases
- Trish and Herring (2015)
  - 3 to 2 hospital merger: 4.2% increase in premiums

Evidence on Harms from Consolidation: Physician Prices

- Physician practice mergers
  - Can lead to substantial price increases (Dunn and Shapiro, 2014, Baker et al., 2014a)
    - A merger of 6 orthopedic groups in southeastern Pennsylvania generated price increases of nearly 25% for one payer, 15% for another
  - Can lead to higher price growth (Baker et al., 2014a)
- Hospital acquisitions of physician practices
  - Higher spending (Robinson and Miller, 2014, Baker et al., 2014b) and higher prices (Baker et al., 2014b, Capps et al., 2015)
  - Such acquisitions led to an average price increase of 14% and increase of 4.9% in patient spending
  - Changed referral patterns (Baker et al., 2015)
    - To acquiring hospital
    - More likely to go to high cost, low quality hospital

Evidence on Harms from Consolidation: Insurer Prices

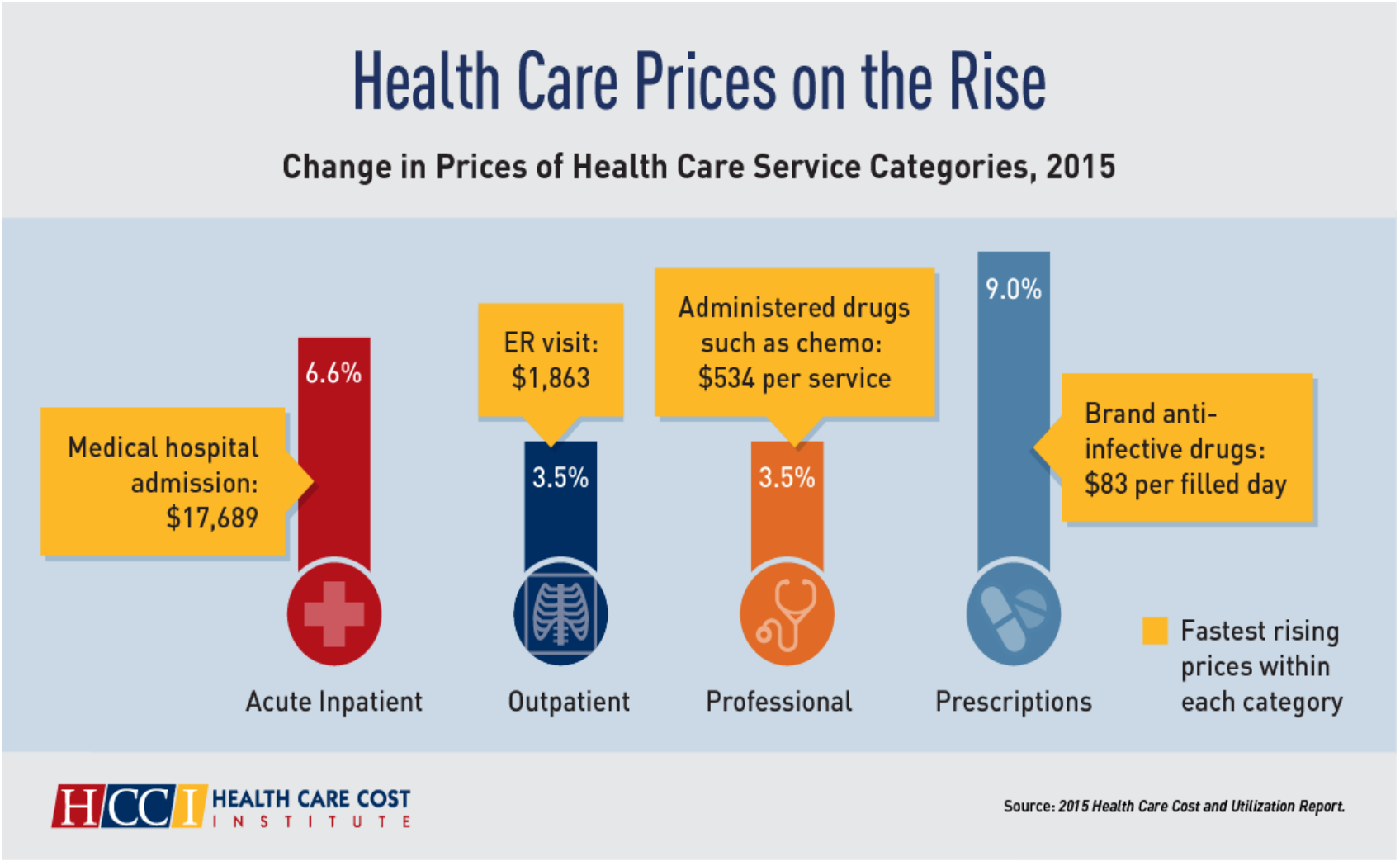
- Increased market concentration leads to substantial premium increases
  - Commercial, large group insurance market (Dafny et al. 2012)
    - Increase in concentration led to 7% increase in premiums 1998-2006
    - ~$34 billion per year; $200 per insured person
  - Small group insurance market (Guardado et al. 2013)
    - Merger of United and Sierra in Nevada
    - 13.7% increase in premiums due to the merger
  - Individual exchange market (Dafny et al. 2014)
    - Premiums would have decreased by 5.4% had United participated in the exchanges
    - Exchange premiums would have been 11.1% lower if all insurers in a state had participated
  - Medicare Advantage bids (Song et al. 2012)
    - Each additional insurer in a market lowered bids by $1.28
  - Large employer (CalPERS) (Ho and Lee, 2017)
    - Eliminating an insurer can lead to substantial premium increases (16.6%)
- Changes in concentration are correlated with premium increases
  - Employer-sponsored, fully-insured (Trish and Herring 2015)
  - 3 to 4 merger leads to 4.67% increase in premiums(~$215)

Evidence on Harms from Consolidation: Provider Quality

- Consolidation can lead to substantially lower quality – administered prices
  - **3.37 percentage points higher mortality rate** in most (v. least) concentrated markets for Medicare heart attack patients (Kessler and McClellan, 2000)
  - Higher mortality rates in more concentrated markets for English NHS patients (Cooper et al., 2011; Gaynor et al., 2014; Bloom et al., 2015)
  - Higher mortality rates in more concentrated physician markets for Medicare PCI patients (Eisenberg, 2015)
- Consolidation can lead to lower quality – market determined prices (but some studies go the other way)
  - Hospital merger (Evanston) had no effect on some quality indicators, harmed others (Romano and Balan, 2011)
  - Hospital mergers in NY state had no impacts on many quality indicators, led to increases in mortality for AMI, heart failure patients (Capps, 2005)
  - Removal of barriers to entry led to increased market shares for low mortality rate CABG surgeons in PA (Cutler et al., 2010)

ADDITIONAL SLIDES

Prices Drive the Growth in Private Health Spending



http://www.healthcostinstitute.org/report/2015-health-care-cost-utilization-report/

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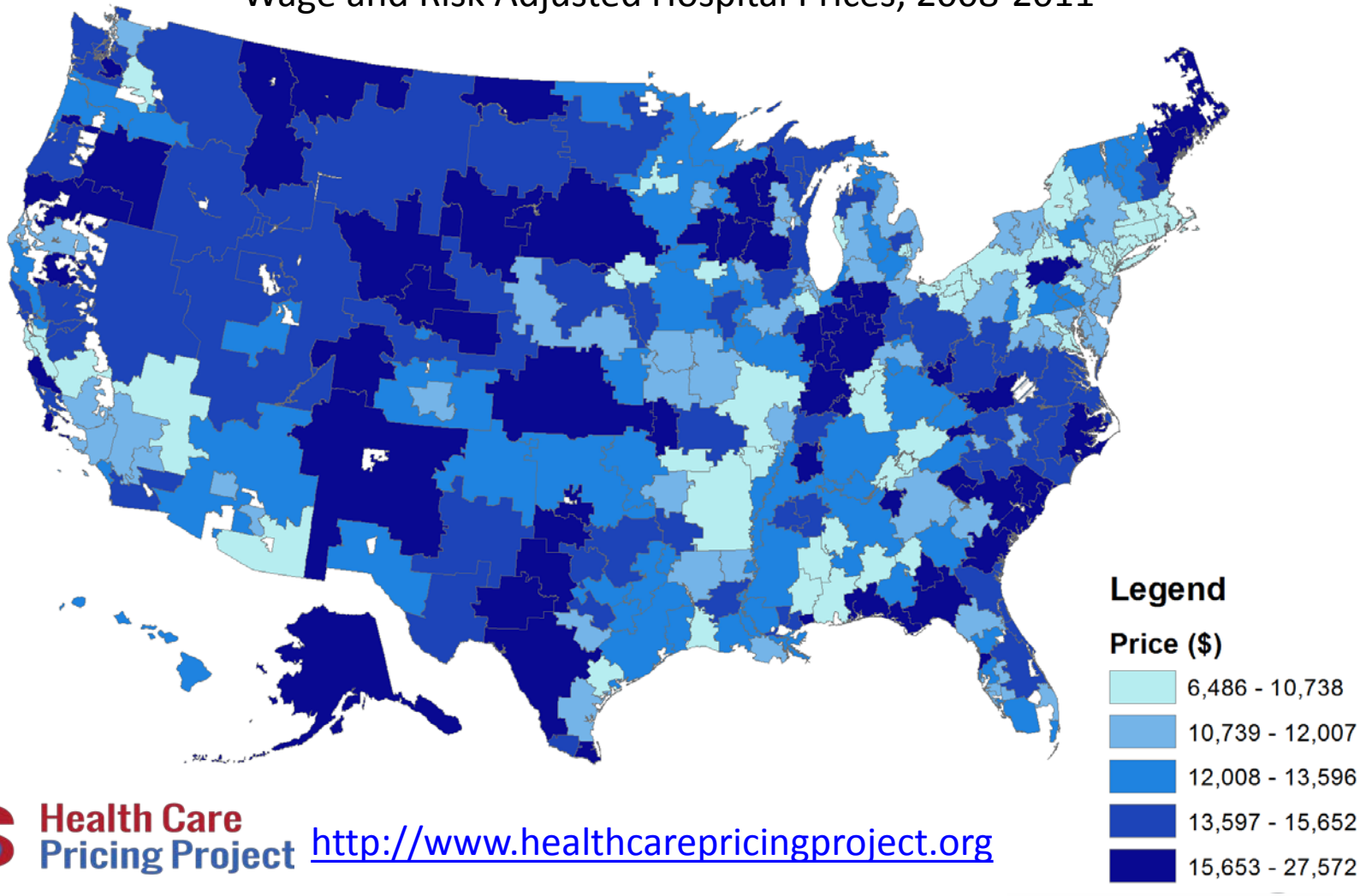
Very Large Differences in Prices Across the US

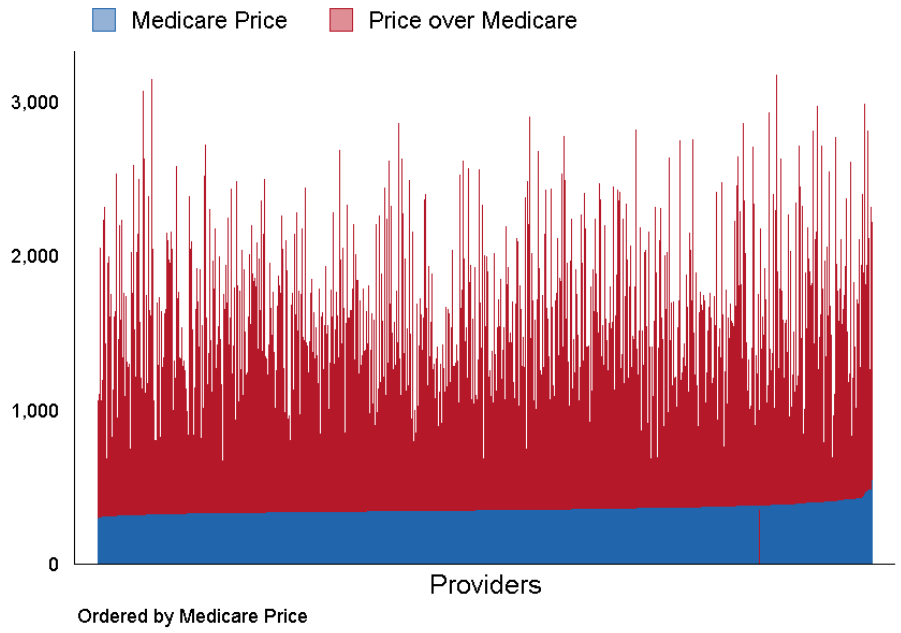
Wage and Risk Adjusted Hospital Prices, 2008-2011

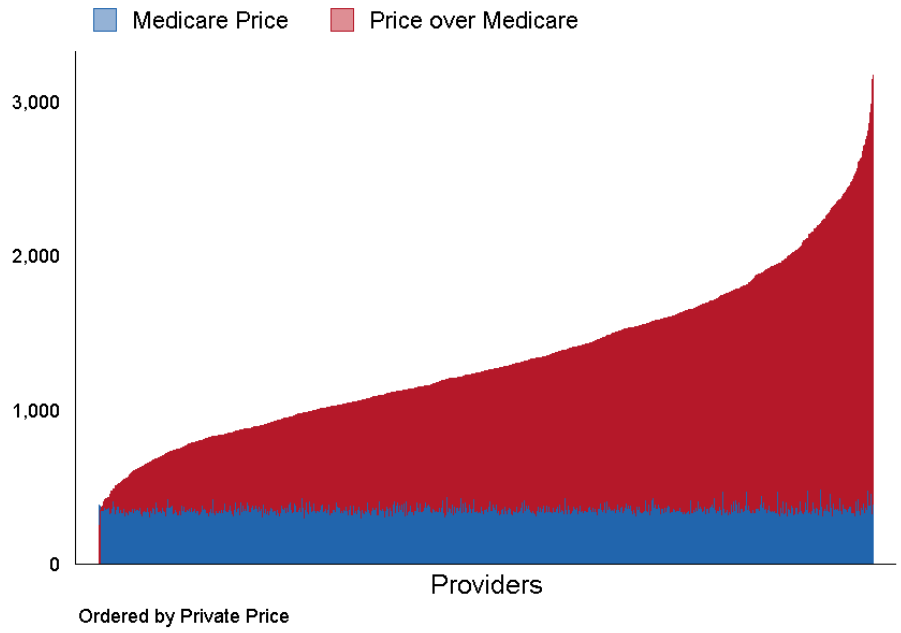


Health Care Pricing Project

http://www.healthcarepricingproject.org

National Variation in Prices and Medicare Fees: Knee MRI





Medicare Knee MRI Prices

Mean	353
Min - Max	293 - 546
p10-p90	325 - 389
IQR	335 - 366
p90/10 ratio	1.2
IQR ratio	1.09
Coefficient of Variation	0.08
Gini Coefficient	0.04

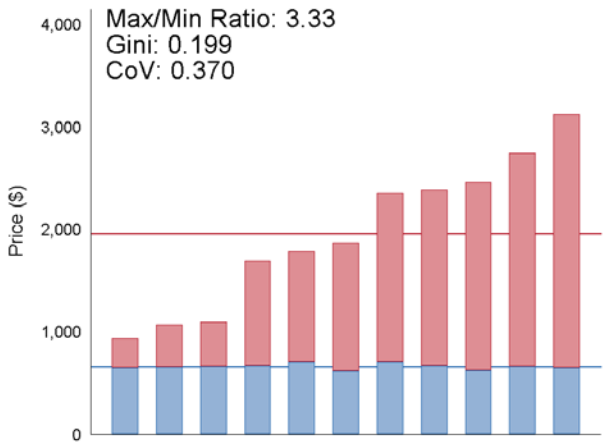
Private Knee MRI Prices

Mean	1,331
Min - Max	260 - 3,174
p10-p90	745 - 2,036
IQR	960 - 1,629
p90/10 ratio	2.73
IQR ratio	1.70
Coefficient of Variation	0.38
Gini Coefficient	0.21

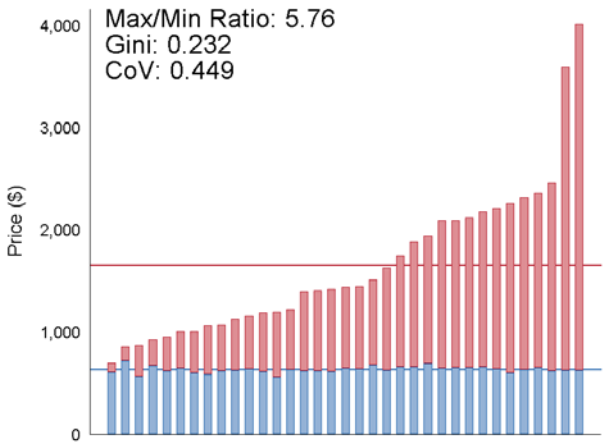
Note: Each column is a hospital

Variation in Prices Within Markets: Colonoscopy

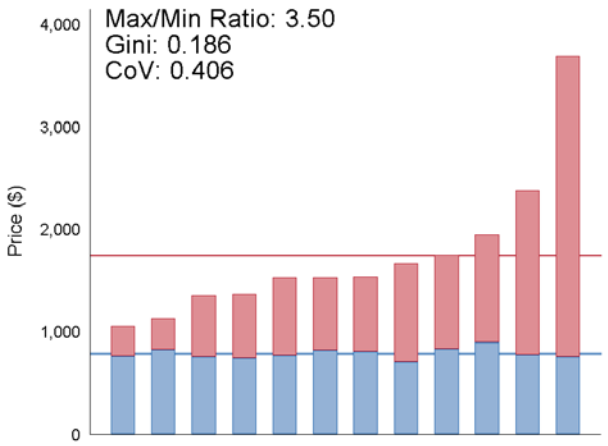
Denver, CO



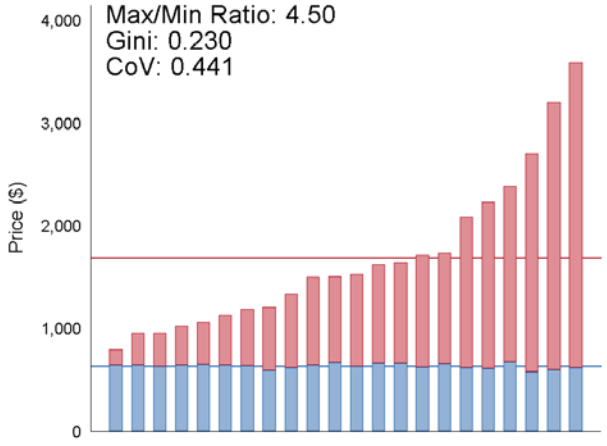
Atlanta, GA



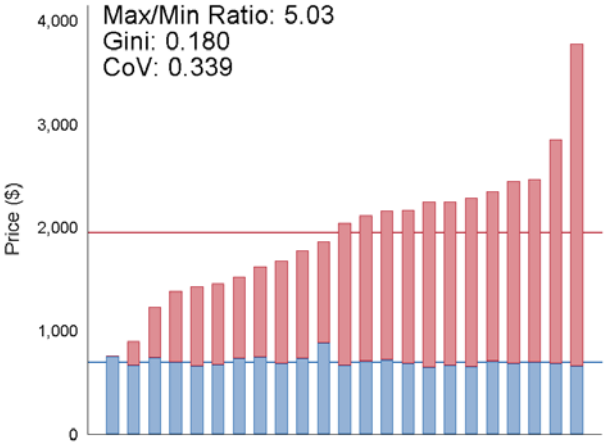
Manhattan, NY



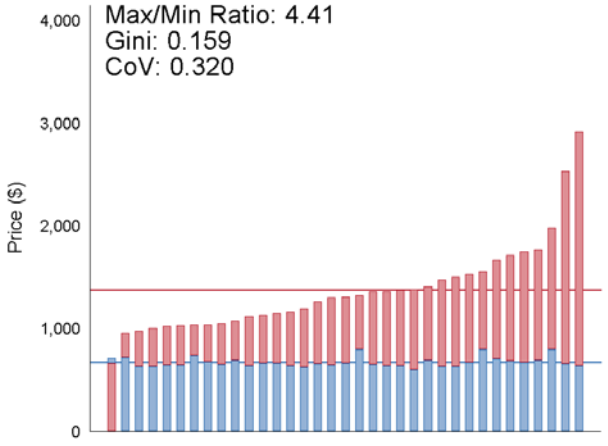
Columbus, OH



Philadelphia, PA



Houston, TX



Private Price Medicare Reimbursement

Note: Each column is a hospital. Prices are regression-adjusted, 2008 – 2011, and in 2011 dollars.

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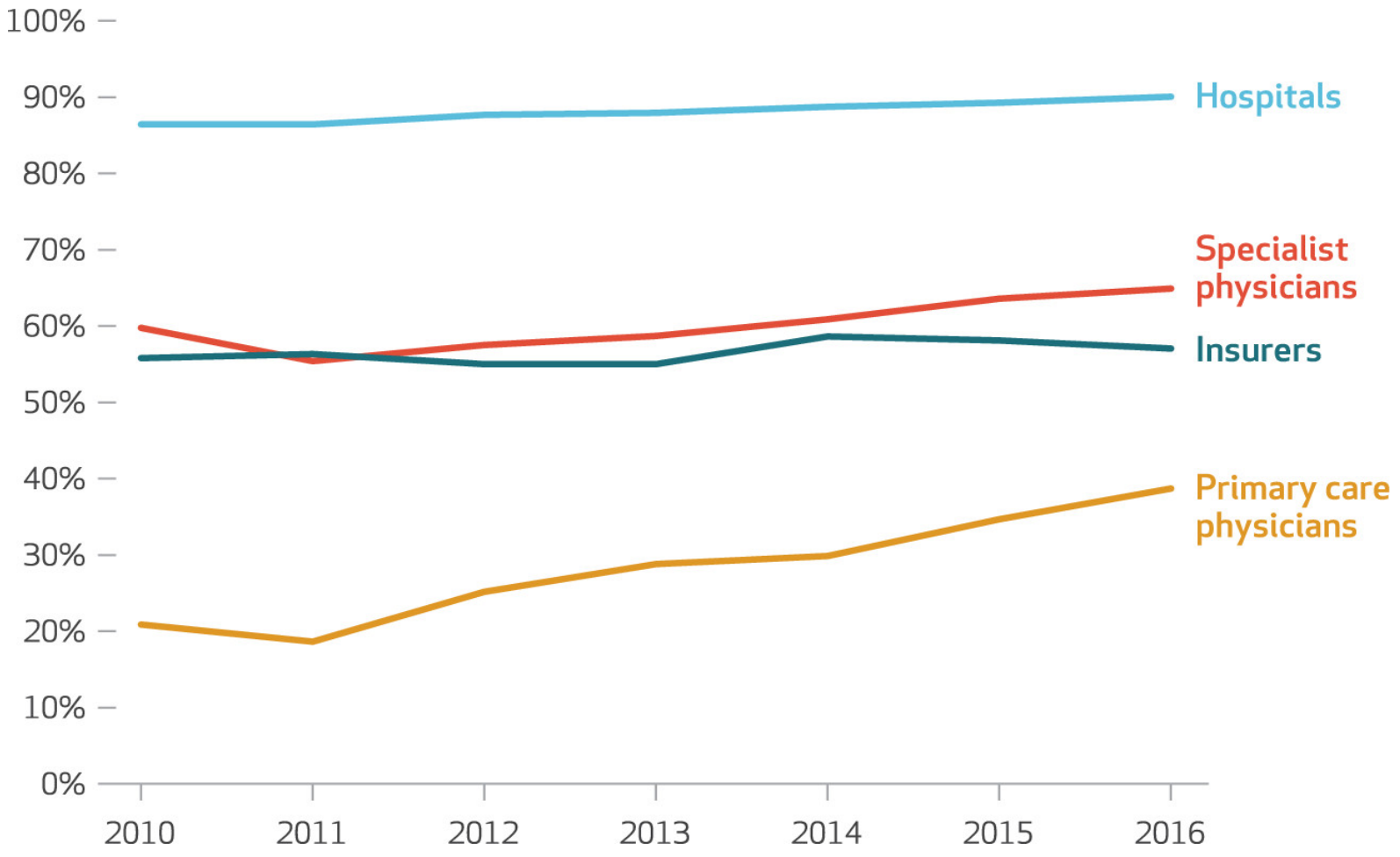
Markets are Highly Concentrated

Percent Highly Concentrated (HHI>2,500) 2010-2016



Source: Fulton, B., Health Affairs, 2017, 36:9, 1530-1538

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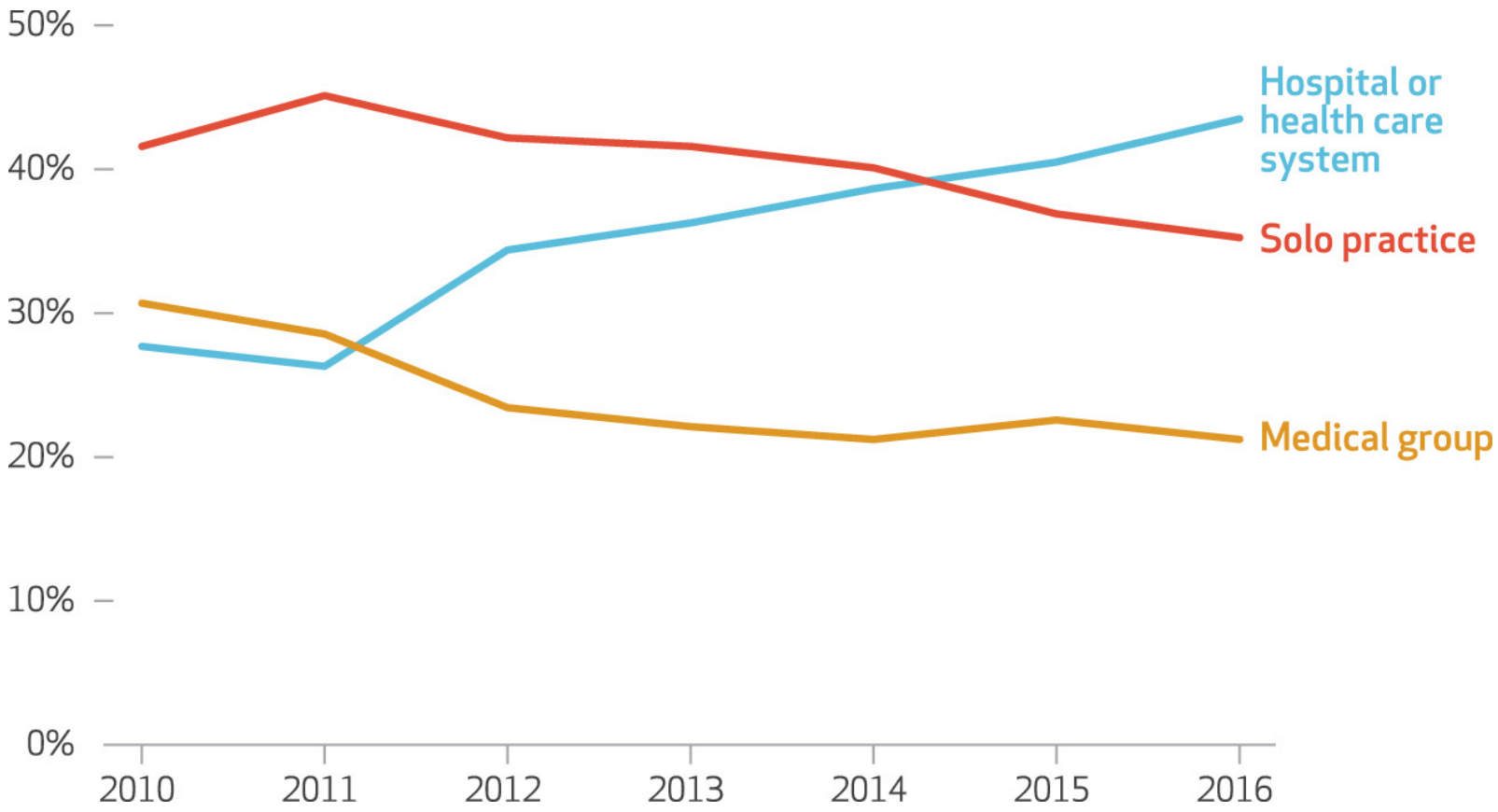
Physician Practices Owned by Hospitals



Source: Fulton, B., Health Affairs, 2017, 36:9, 1530-1538

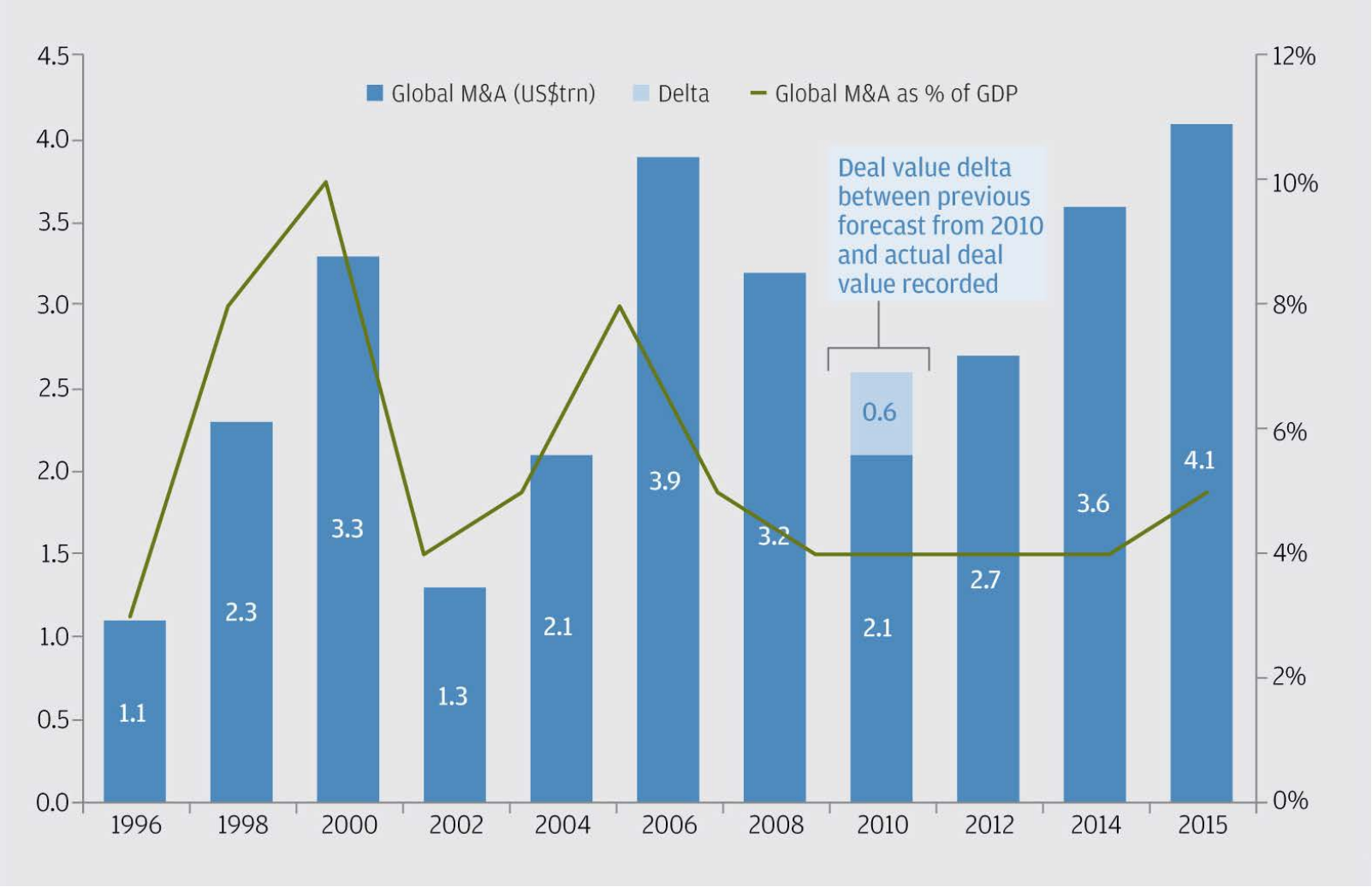
Recent Mergers

- Insurer-Pharmacy/Minute Clinics/Pharmacy Benefits Management
  - Aetna/CVS
  - Cigna/Express Scripts
- Insurer-Physician Practices/Surgery Centers
  - United/DaVita
- Insurer-Home Health/Hospice/Community Care
  - Humana/Kindred
- Insurer-Retailer
  - Humana/Walmart
- Pharmacy-Pharmaceutical Sourcing/Distributor
  - Walgreens/AmerisourceBergen
- Not-for-Profit Hospitals
  - Ascension/Providence St. Joseph
    - Largest not-for-profit health system
  - Catholic Health Initiatives/Dignity Health
    - 2nd largest not-for-profit health system
  - Carolinas HealthCare/University of North Carolina Health System
- Next…?

Why Is This Happening?

- Newton's Third Law? ("For every action, there is an equal and opposite reaction.")
  - Payers respond to provider consolidation by consolidating; providers respond to payer consolidation by consolidating
  - Vicious (not virtuous) cycle
  - Little evidence, but this is probably part of the story
    - Antitrust enforcers blocking mergers slow/eliminate this cycle.
- Game of musical chairs
  - Don't want to be the one left standing when the music stops
- Attempts to solidify/enhance market position
  - Maintain/increase rates, revenue, profits
  - A major driver of consolidation
- Concerns about the future
  - Payment reform, cost control, policy changes, changes in market environment…
    - Little evidence payment reform has led to consolidation as of yet
- Reaction to the ACA
  - Not part of the law
  - But reaction to change seems likely
- End of recession/part of worldwide merger wave

Worldwide Merger Wave



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Cleveland Clinic

- Wall Street Journal interview with Toby Cosgrove, CEO; December 18, 2012
- WSJ: You are **consolidated** in the Cleveland area. Do you use that leverage in negotiating **prices** with health insurers?
- Dr. Cosgrove: **Yes**, we do. We also consolidate services and drive efficiency of services across this organization. … We've consolidated … to … have higher quality and **lower cost**, more efficiency.
- WSJ: Has that translated into **lower prices** that you charge to private insurers?
- Dr. Cosgrove: **No**.

Competition/Antitrust

- Competition determined by presence/absence of close substitutes/good alternatives
- Merger
  - Competitive harm – how likely is it the merger will harm competition and consumers?
    - Will merger eliminate a close competitor?
    - Are there other close competitors in the market?
    - How likely is it that there will be timely and effective entry?
    - Provider: How important is it for a health insurer to have the merged firm in their network?
    - Insurer: How important is it for employers to offer the merged firm's plans to their employees?
  - Efficiencies (benefits)
    - Will merger create a more efficient firm?
      - Lower costs, higher quality
    - Is the merger necessary to achieve those efficiencies?
    - Will the efficiencies be passed on to consumers?

How Does Competition in Health Care Work?

- Consumers don't pay for the product directly, due to insurance
  - Not like markets for toothpaste, air travel, etc.
- **Employers** buy health insurance from **insurers**
  - **Insurers** *compete* to sell insurance to **employers**
    - *Compete* on **premiums**, benefits, provider networks, service
  - **Employees** enroll in plans offered by their employers
    - Pay part of premium directly
    - Pay part indirectly (lower pay or increase)
- **Insurers** contract with **providers** to be part of the networks for enrollees
  - **Providers** *compete* to be included in **insurers' networks**
    - *Compete* on **prices,** quality, services, reputation
  - **Providers** compete with others in the network to **attract patients**
    - *Compete* on **quality**, services, reputation, location

Competition/Antitrust

- Competition determined by presence/absence of close substitutes/good alternatives
- Merger
  - Competitive harm – how likely is it the merger will harm competition and consumers?
    - Will merger eliminate a close competitor?
    - Are there other close competitors in the market?
    - How likely is it that there will be timely and effective entry?
    - Provider: How important is it for a health insurer to have the merged firm in their network?
    - Insurer: How important is it for employers to offer the merged firm's plans to their employees?
  - Efficiencies (benefits)
    - Will merger create a more efficient firm?
      - Lower costs, higher quality
    - Is the merger necessary to achieve those efficiencies?
    - Will the efficiencies be passed on to consumers?

Concerns About Consolidation

- Mergers between close competitors can lead to:
  - Higher prices (unilateral and coordinated effects)
  - Lower quality, less investment in care coordination, quality improvement
  - Resistance to better forms of payment/contracting
  - Less dynamic, innovative marketplace
- Given how much consolidation there has been, many mergers will now be between close competitors
- Cross-market mergers
  - May become a higher proportion of mergers
- In consolidated markets, greater concerns about:
  - Vertical restraints/mergers
  - Anticompetitive practices