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Private Health Plans Pay Hospitals Much Higher Prices in Indiana than in Michigan: Explanations and Implications

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Executive Summary

Premiums for employer-sponsored health insurance have been growing at a rate well above growth in wages or overall inflation. Excess premium growth, in turn, suppresses wage growth and creates financial hardship for the middle class while, at the same time, reducing government tax revenues and employment. Spending on hospital care represents the largest expenditure category for the privately insured, and the key driver of increasing hospital expenditures has been growth in unit prices.

RAND released a hospital price transparency study in 2019 that compared negotiated unit prices paid by private health plans with the administered prices in the Medicare program. That study revealed that private hospital prices in Indiana are roughly double the prices in Michigan.

The stark difference in hospital prices between Indiana and Michigan raises three main questions:

1) what are the differences, in market structure and institutions, that can explain the price gap?
2) how do hospitals in Michigan and Indiana differ in efficiency and quality of care? and
3) what lessons can be drawn for policy makers in other states and at the national level?

The key difference between Michigan and Indiana lies in the governance of the dominant insurer. The dominant insurer in Michigan is Blue Cross Blue Shield of Michigan (BCBSM), a state-based not-for-profit insurer governed by a board with heavy representation by unions and employers. BCBSM has historically been regulated as a quasi-public entity, with a state-imposed mission that included cost control and state oversight over hospital contracting and pricing. In Indiana, the dominant insurer is Anthem, a national for-profit insurer with relatively little oversight by the state or employers based in Indiana.

Hospitals in Michigan, compared to those in Indiana, operate more efficiently and, on the whole, appear to provide care of similar or better quality. Together, these findings suggest that reining in prices paid to hospitals by private health plans can spur efficiency gains without necessarily harming quality of care. The “Michigan pricing model” reflects a decades-long history, and a set of institutions, that is generally missing in other states.

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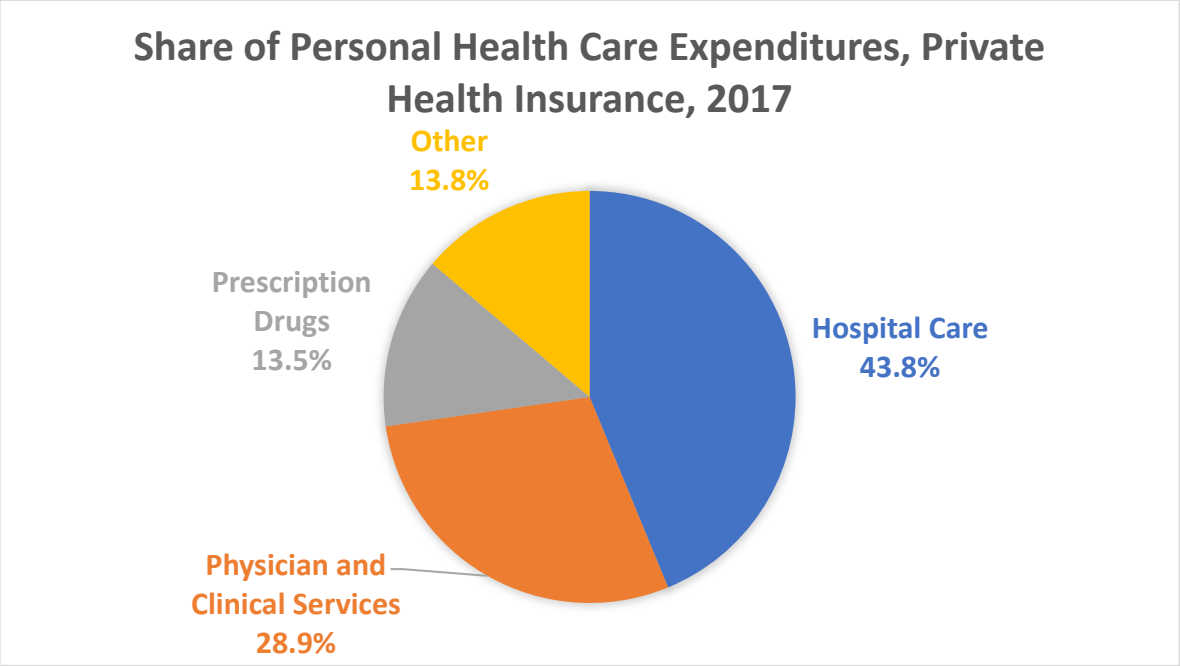
I. Context

Most Americans enroll in health insurance coverage through an employer, and in 2019 premiums for employer-sponsored health insurance reached $7,188 for single coverage and $20,576 for family coverage.[1] Since 2009, premiums for employer-sponsored family insurance have grown at an annual rate of 4.4%, while over the same period average hourly earnings for private-sector employees have grown at only 2.4%.[2] Employers nominally pay around three-quarters of these premiums, but standard economic theory holds that employees ultimately bear most or all of these rising premium costs in the form of reduced growth in wages and other benefits. Premiums paid for employer-sponsored health insurance receive favorable tax treatment, so growth in those premiums reduces government tax revenues.[3] And, there is some evidence that growth in premiums for employer-sponsored health insurance reduces employment and overall economic output.[4,5]

Hospitals represent by far the largest major expenditure category for private health insurance (see the blue slice in Figure 1), and the share of private health plans' expenditures on hospital care has grown from 40.2% in 2011 to 43.8% in 2017. Therefore, trends in spending on hospital care have a direct and major impact on the trends in private health insurance premiums.

Figure 1. Hospitals Represent Largest Expenditure Category for Private Health Insurance



Source: Author's analysis of National Health Expenditures data.[6]

Analyses by the Health Care Cost Institute suggest that growth since 2013 in spending by private health plans on hospital care has been driven entirely by increases in prices, not utilization.[7] And, a recent study released by the RAND Corporation has highlighted the wide degree of variation—among states, hospitals, and hospital systems—in the prices that private health plans pay hospitals.[8]

The prices that private health plans pay hospitals generally do not reflect a well-functioning competitive market,[9] due to several notable sources of market dysfunction:

- hospital markets are highly and increasingly consolidated;[10, 11,12]
- benchmarking and comparing prices for hospital services requires significant data access and technical expertise;
- employers, even those who self-insure their health plans, are generally blocked by health plans and providers from inspecting or assessing the contracts that health plans have agreed to with providers
- privately insured patients pay only a small share of hospital costs out of pocket, which largely insulates them from the prices that health plans have agreed to pay hospitals;
- patients rely on physician recommendations regarding which services to receive and where, and physicians, in many cases, are incentivized to steer patients to higher-priced facilities and settings.[13,14]

There are two broad sets of options for reining in unreasonably high hospital prices. The first set of options would promote market-based price competition among hospitals, while the second set of options would apply government price controls—these options are not mutually exclusive, and can be pursued in parallel. Options for promoting competition include heightened scrutiny of proposed mergers by antitrust regulators, prohibitions on anti-competitive contracting practices such as anti-steering provisions, and oversight of contracting practices by state insurance commissioners.[15,16] Government price controls, on the other hand, could take the form of moving new populations into the existing Medicare program ("Medicare for More"), or creating a new universal coverage program with administered prices ("Medicare for All"). Some states are also considering creating "public option" health plans with administered pricing.[17,18]

Based on the results of the RAND hospital price transparency study and other sources, the prices paid to hospitals by private health plans are substantially lower in Michigan than in Indiana. This study uses the Michigan-Indiana price gap to examine two key questions:

1. What differences in institutions and market dynamics account for the large difference in prices, and are there pro-competitive factors at play in Michigan that could be applied in other states?
2. How do hospitals in Michigan cope with substantially lower prices paid by private health plans, and what does this imply for how hospitals in other states would respond if their private prices were reined in?

Definitions, Scope and Methods

This study focuses on prices paid by private employer-sponsored health plans for hospital care in Michigan and Indiana. "Price" refers to the negotiated allowed amount per medical service, including the health plan liability plus any patient cost sharing. This analysis *does not* use billed charges or "list prices." All price comparisons in this analysis include adjustments for the patient diagnoses and the intensity of the service provided, or "casemix." Some price comparisons also take into account local differences in the cost of doing business, graduate medical education, and other factors.

The analysis includes general medical and surgical hospitals, including hospitals paid under Medicare's inpatient prospective payment system (IPPS) and critical access hospitals (CAHs). The analysis excludes specialty hospitals, such as children's hospitals, long-term care hospitals and psychiatric hospitals. The analysis is further limited to inpatient services (those requiring an overnight stay in the hospital) and outpatient services (generally provided to ambulatory patients on a single day). This excludes other types of services provided by some hospitals, such as skilled nursing facility services, home health care, and hospice. The analysis only includes facility services, and excludes professional services.

The study methodology combines a review of published literature, descriptive analyses using publicly available data sources, and stakeholder interviews. Published literature included community reports on Detroit and Indianapolis from the Center for Studying Health System Change,[19,20,21] and from the Georgetown Center on Health Insurance Reforms.[22] Key public data sources included RAND Hospital Data (www.hospitaldatasets.org), reports from the Health Care Cost Institute (www.healthcostinstitute.org), and the Kaiser Family Foundation's State Health Facts (https://www.kff.org/statedata/). The author interviewed representatives of the health plan and hospital industries in Michigan and Indiana, and those interviews were key to understanding institutional features and the negotiating dynamics among hospitals and health plans.

II. Overview of Michigan and Indiana

Michigan and Indiana are both states in the Great Lakes region with populations of similar size and income (Table 1), and similar number of hospitals (Table 2). Both states have major metropolitan areas, most notably Detroit and Indianapolis, but also significant rural areas, as indicated by the number of critical access hospitals (CAHs). Both states have one dominant "Blues" insurer and many competing hospital systems (Table 3).

Table 1. Key Population Characteristics of Michigan and Indiana

	Michigan	Indiana	National
Population (millions, 2016) [23]	9.7	6.4	314.5
Median household income (2017)[24]	$54,909	$54,181	$60,336
Share of population in poverty (2017)[25]	12%	11%	11%
Health insurance coverage, share of nonelderly population (2017)[26]			

Employer	61%	61%	57%
Nongroup	6%	6%	8%
Medicaid	25%	20%	22%
Other Public	2%	3%	3%
Uninsured	6%	10%	10%

Table 2. Number of Hospitals, Quantity of Services, and Revenues in Michigan and Indiana[27]

	Michigan	Indiana
Number of hospitals (2016)	130	120
Not-for-profit	109	74
For-profit	12	25
Government	9	21
Critical access hospitals	36	35
Major teaching hospitals	29	2
Minor teaching hospitals	28	20
Number of staffed hospital beds (thousands, 2016)	20.9	15.0
Staffed hospital beds per 1000 population (2016)	2.2	2.3
Inpatient hospital days per 1000 population (2016)	492.9	322.5
Discharge equivalents per 1000 population (2016)	210.1	128.8
Hospital net patient revenue ($ billions, 2016)	$30	$22
Hospital net patient revenue per capita (2016)	$3,053	$3,422

Table 3. Insurers and Hospital Systems in Michigan and Indiana

	Michigan	Indiana
Dominant insurer	Blue Cross Blue Shield of Michigan	Anthem
Major hospital systems	Ascension Health	Ascension Health
	Beaumont Health	Community Health Network
	Henry Ford Health System	Community Health Systems (CHS)/Lutheran
	McLaren Health Care Corporation	Franciscan Alliance
	TENET Healthcare Corporation	Indiana University Health
	Trinity Health	Parkview Health

Although Michigan and Indiana share many superficial similarities, several key differences are worth noting:

- Michigan, compared to Indiana, has a larger share of its under-65 population enrolled in Medicaid (25% versus 20%) and a correspondingly smaller share uninsured (6% versus 10%);
- on a per capita basis, hospitals in Michigan provide a much larger quantity of services than hospitals in Indiana;
- hospitals in Michigan, despite providing a much larger quantity of services, earn substantially lower net patient revenue per capita than hospitals in Indiana.

III. The Michigan-Indiana Hospital Price Gap

Before analyzing the sources and implications of the hospital price gap, it is important, first, to establish that a price gap exists. Unfortunately, no single data source provides a comprehensive and definitive measure of prices paid to hospitals by private health plans at the state level. This section reviews findings from several studies that report hospital prices in Michigan and Indiana (see Table 4 for a summary). Taken together, the evidence points consistently and convincingly to a large divergence, with prices paid by private health plans 30 or more percent lower in Michigan than in Indiana.

The following studies, each using different data sources and methodologies, provide alternative views on private hospital prices in Michigan and Indiana.

- *The RAND National Hospital Price Transparency Study ("RAND 2.0")*. In May, 2019, RAND released a report on hospital prices paid by private health plans ("RAND 2.0").[28,29] It focuses on "relative prices," meaning negotiated prices paid by private health plans as a percent of the amount that Medicare would have paid to the same facilities for the same services. This approach takes advantage of adjustments applied in the Medicare program for casemix (i.e. the complexity and intensity of treatments provided to individual patients), local wages, graduate medical education, and uncompensated care.

  Among the 25 states included in RAND 2.0, Michigan had the lowest prices relative to Medicare in 2017, and Indiana had the highest. Indiana's relative prices in 2017 exceeded 300% of Medicare, roughly double the relative prices in Michigan.

  One limitation of RAND 2.0 is that claims data were obtained from self-insured employers and health plans who chose to participate in the study, and they represent a small share of the privately insured in Indiana and Michigan. Another limitation is that RAND 2.0 focuses on negotiated allowed amounts, which includes the insurer's obligation and the patient cost sharing obligation. If patients do not pay their cost sharing obligations, hospital revenues will be less than the allowed amounts that appear on the claims data.

- *Johns Hopkins University (JHU)*. A team of researchers from the Johns Hopkins Bloomberg School of Public Health prepared a memo for the Senate Committee on Health, Education, Labor and Pensions (HELP).[30] That memo includes a state-level analysis, using the MarketScan claims database, of prices paid by private health plans for hospital inpatient care. The JHU memo, like RAND 2.0, reports private prices as a percent of Medicare.

  MarketScan includes claims data from 44 million covered lives,[31] which represents a much larger share of the privately insured than RAND 2.0 and is a strength of the study design. The key

limitation of the JHU memo is that they only calculate and report relative prices for hospital inpatient care.

- *Health Care Cost Institute (HCCI)*. HCCI releases an annual Health Care Cost and Utilization Report, which includes detailed data files reporting state-level prices, spending and utilization by service category among nonelderly enrollees in private employer-sponsored plans.[32,33] HCCI's claims data are provided by four national carriers—Aetna, Humana, Kaiser Permanente, and UnitedHealthcare—that represent roughly one quarter of the nonelderly privately insured.[34]

  The key limitation of HCCI's reports is that they do not include any claims data from the Blues plans. For Indiana, Michigan, and other Blues-heavy states, that omission is significant. Within a state, Blues plans typically negotiate deeper discounts than the national insurers included in HCCI, and the degree of the disparity between Blues discounts and other insurers' discounts likely varies by state. Still, cross-state comparisons using HCCI provide useful information about general patterns in pricing and spending.

- *RAND Hospital Data*. All Medicare-certified hospitals are required to submit cost reports each year to CMS. CMS then audits, compiles and distributes those cost report data through the Healthcare Cost Report Information System (HCRIS). RAND processes the publicly available HCRIS data and produces hospital-, state-, and national-level files that include financial and operational data reported by hospitals, plus financial metrics calculated from those data such as operating margins (profitability).

  RAND estimates private revenues for each hospital by starting with net patient revenues and subtracting revenues from Medicare, Medicaid, and CHIP. RAND then estimates private prices as a percent of Medicare using the ratio of private revenue-to-charges over Medicare revenues-to-charges.[35] The key limitation of this HCRIS-based relative price is that hospitals do not report private revenues directly, and those revenues must be estimated by subtracting public revenues. The resulting price ratio may be inaccurate if hospitals report any of the fields inaccurately, and it does not differentiate between prices paid by the privately insured versus uninsured, or among prices paid by different types of private plans (e.g. fully insured versus self-insured employer-sponsored plans, or employer-sponsored versus individual market plans).

Table 4. Prices Paid by Private Health Plans for Hospital Care in Michigan and Indiana

Setting	Price measure	Data source	Year	Michigan	Indiana	Difference, Michigan vs. Indiana, percent
Hospital inpatient	Percent of Medicare	RAND 2.0	2017	153%	236%	-35.2%
Hospital outpatient	Percent of Medicare	RAND 2.0	2017	161%	403%	-60.0%
Hospital inpatient	Percent of Medicare	JHU memo to Senate HELP	2016	171%	255%	-32.9%
Hospital inpatient	Private price per service, casemix-adjusted	HCCI	2017	$16,516	$22,139	-25.4%
Hospital outpatient	Private price per service, casemix-adjusted	HCCI	2017	$443	$649	-31.7%
Hospital inpatient and outpatient	Percent of Medicare	RAND Hospital Data[36]	2016	147%	223%	-34.2%

Prices Paid by Medicare for Hospital Care in Indiana and Michigan

Medicare sets prices for hospital care based on a national payment formula, but the prices Medicare pays vary from hospital to hospital and state to state, based on local wages and hospital characteristics. Medicare's hospital prices are relevant for this study for two reasons. First, Medicare prices are used as a benchmark for some measures of private prices. Second, many analysts, particularly from the hospital industry, point to alleged underpayments by Medicare as an explanation for high prices paid by private health plans ("cost shifting").

To compare prices paid by Medicare for hospital care in Michigan and Indiana, we used the Medicare Geographic Variation files produced by the Centers for Medicare & Medicaid Services (CMS).[37,38] These files include "actual costs" as well as "standardized costs" by type of provider (including hospital inpatient and hospital outpatient) and by state. Standardized costs represent a simulated amount that Medicare would have paid if a uniform national fee schedule had been applied.[39] We use the ratio of actual costs for hospital care divided by standardized costs for hospital care as a Medicare price index that reflects all of Medicare's price adjustments. We then measure each state's relative Medicare price as its Medicare price index divided by the national Medicare price index.

Table 5. Relative Medicare Prices for Hospital Inpatient and Outpatient Services in Michigan and Indiana, 2017

	Michigan	Indiana	Difference, Michigan vs. Indiana, percent
Hospital inpatient	99.4%	90.5%	9.8%
Hospital outpatient	97.2%	95.9%	1.4%
Hospital inpatient and outpatient combined	98.8%	92.0%	7.4%

Source: Author's analysis of the CMS Geographic Variation files.[38]

As shown in Table 5, Medicare pays higher prices to hospitals in Michigan compared to Indiana, with the price disparity much larger for hospital inpatient care (9.8%) than hospital outpatient care (1.4%). These Medicare price differences reflect two facts: 1) Michigan has a slightly higher cost of doing business than Indiana, and 2) hospitals in Michigan provide significant amounts of graduate medical education which increases their Medicare prices for inpatient care.

IV. Why Are Private Hospital Prices So Much Higher in Indiana than in Michigan?

The potential explanations for relatively high hospital prices paid by private health plans in Indiana can be broken into two broad categories:

- "*cost shifting*": hospitals in Indiana, due to external forces, *are forced to* negotiate high prices with private health plans to remain financially viable; and
- "*leverage*": hospitals in Indiana, in their negotiations with insurers, can obtain higher prices due to a lack of leverage on the insurer side.

A. "Cost shifting"

For the cost shifting explanation to hold, we would need to find three things to be true:

1. hospitals in Indiana are operating relatively **efficiently**;
2. hospitals in Indiana are not unusually **profitable**; and
3. hospitals in Indiana face negative **external forces** that adversely affect their financial condition and require that they negotiate high prices with private health plans.

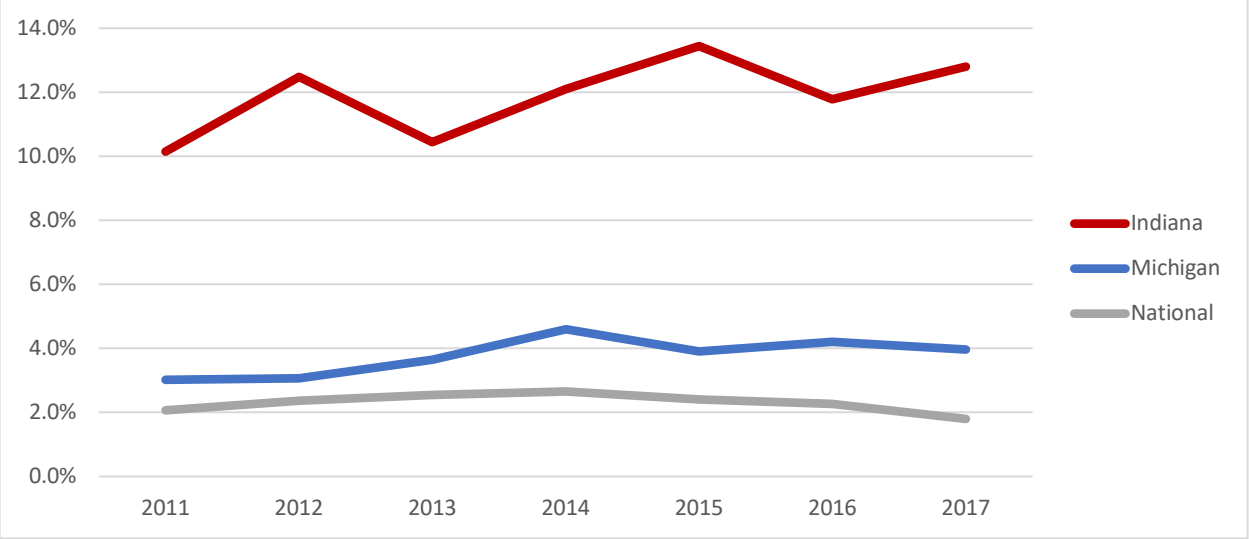
1. Efficiency

The next section demonstrates that hospitals in Indiana operate *inefficiently* relative to hospitals in Michigan, which, by itself, suggests that hospitals in Indiana are *not forced to* negotiate the high private prices that we observe—if hospitals in Indiana operated as efficiently as hospitals in Michigan, they could maintain financial viability with lower private prices and private revenues.

2. Profitability

To gauge hospital profitability, we focus on "operating margins." Operating margins equal income (profits) as a share of revenues, including revenues and expenses related to patient care but excluding donations, government appropriations, investment income, and revenues and expenses that are not related to patient care (e.g. parking, gift shops, and cafeterias).[40] As illustrated in Figure 2, hospitals in Indiana have *unusually high operating margins*, which is not consistent with the cost shifting explanation—if hospitals in Indiana had margins closer to Michigan, or closer to the national average, they could remain financially viable with lower private prices and revenues.

Figure 2. Hospital Operating Margins are Unusually High in Indiana



Source: Author's analysis of RAND Hospital Data.[Error! Bookmark not defined.,41]

3. Negative external forces

One negative external force affecting hospitals' financial condition is the uninsured population. If a state has a large uninsured population, that can drive up the costs of hospitals' charity care and bad debt. And, as shown in Table 1 above, the share of the nonelderly population that remains uninsured is 4 percentage points higher in Indiana than in Michigan (10% vs. 6%).

The size of a state's uninsured population depends, at least in part, on how the state handled the Medicaid expansion option under the Affordable Care Act (ACA). Both Michigan and Indiana expanded their Medicaid programs to cover childless adults up to 138 percent of the federal poverty level, both states expanded their programs late (Michigan's program began April, 2014, and Indiana's began February, 2015), and both obtained federal waivers that allowed them to charge premiums to some beneficiaries.[42,43] But, for reasons that are not obvious, the post-ACA drop in Michigan's uninsured population (53%) was larger than the drop in Indiana's uninsured population (41%).[43,44] Hospitals in Indiana do, therefore, appear to face a negative external force in the form of a relatively large uninsured population.

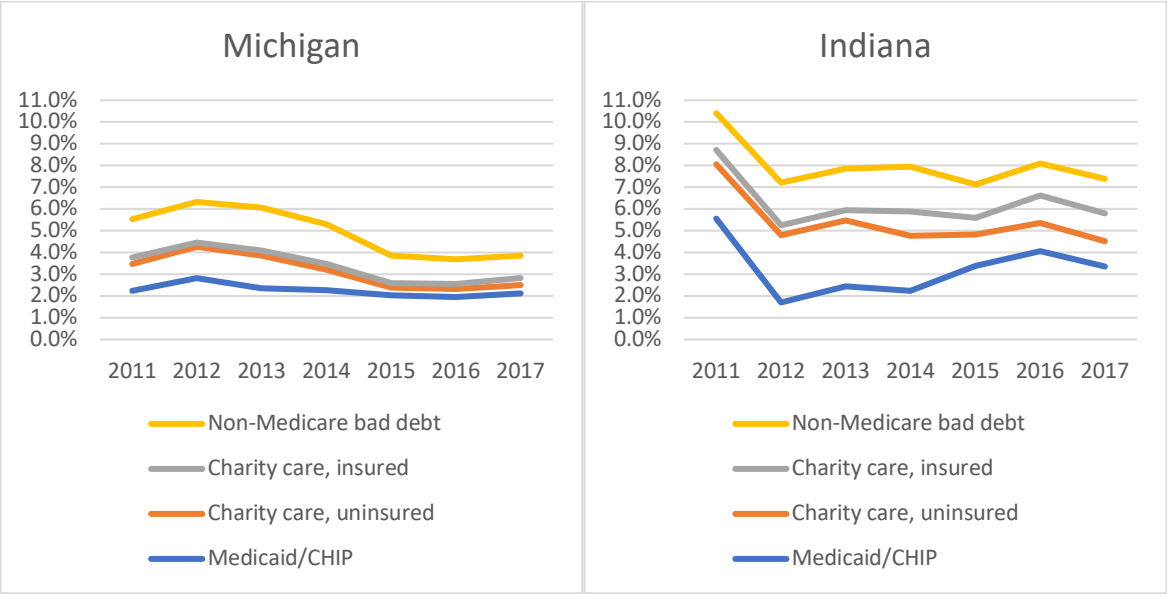
Another possible negative external force that hospitals may face is low Medicaid reimbursements. Unfortunately, it is difficult to accurately compare the generosity of Medicaid hospital payments in different states, due to the complexities in Medicaid financing. But, based on the available information, Michigan and Indiana appear to be similar in their Medicaid reimbursements for hospitals. The Medicaid Payment Advisory Commission (MACPAC) found, based on an analysis of 2010 Medicaid claims data, that Michigan and Indiana had very similar Medicaid payment rates for hospitals, both of which were below the national average.[45] That claims analysis excluded non-claims based supplemental payments, which can be substantial. MACPAC reports that total non-claims based Medicaid supplemental payments in 2017 was $0.5 billion in Indiana, and $1.1 billion in Michigan.[46] Based on the Medicare hospital cost reports, Medicaid payment-to-cost ratios in Michigan have been fairly stable in the 80-to-90 percent range, while in Indiana the Medicaid payment-to-cost ratio has varied widely from year to year, ranging from 70% to over 100%.

To compare the burden of uncompensated care on hospitals in Michigan and Indiana, we use the Medicare hospital cost reports (Worksheet S-10). Hospitals use that worksheet to report four categories of uncompensated care costs:

- unreimbursed costs for Medicaid, which equals hospitals costs for treating Medicaid patients minus net revenues;[47]
- cost of charity care for the uninsured;
- cost of charity care for the insured; and
- non-Medicare bad debt.[48]

For each of these four categories of uncompensated care, we measured trends in costs as a share of hospitals' total operating expenses in Michigan and Indiana.

Figure 3. Uncompensated Care Costs as a Share of Operating Expenses, by State, Year, and Cost Category (Stacked)



Source: Author's analysis of RAND Hospital Data.[36]

As shown in Figure 3, in the post-ACA period Indiana hospitals, compared to Michigan, have uncompensated care costs that are roughly twice as large as a share of total expenses (8% in Indiana versus 4% in Michigan). In Michigan, charity care for the uninsured and bad debt both declined substantially following the implementation of the ACA in 2014. In Indiana, in contrast, hospitals continue to incur substantial charity care costs for the uninsured post-ACA (1% of expenses), and they also incur significant and growing charity care costs for the insured (another 1% of expenses).

Hospitals in Indiana do face negative external forces, the key one being a relatively large uninsured population. It is important, however, to put those forces in context. Uncompensated care costs, as a share of operating expenses, are 4 percentage points higher in Indiana than in Michigan. If private health plans account for roughly half of hospitals' expenses in Indiana, then covering a shortfall of 4 percent would require an increase in private prices of 8 percent. Instead, the differences in prices that we observe between Indiana and Michigan are on the order of 50 to 100 percent, not 8 percent.

B. Leverage

Michigan and Indiana both have a dominant insurer (Anthem of Indiana, and Blue Cross Blue Shield of Michigan, see Table 6), both of which are "Blues plan," meaning they are licensees of the Blue Cross Blue Shield Association. In general, greater market concentration among insurers has been found to be associated with lower provider prices.[49] But, clearly, the mere presence of a dominant Blues insurer does not lead by itself to moderate hospital prices.

Table 6. Market Shares of Dominant Insurers in Michigan and Indiana in 2018

	Michigan	Indiana
Dominant insurer	Blue Cross Blue Shield of Michigan	Anthem
Total enrollment in private fully insured plans (individual, small group, and large group) (millions)	2.5	0.7
Dominant insurer's enrollment in private fully insured plans (millions)	1.5	0.3
Market share of dominant insurer, fully insured plans	59%	48%
Insurer market concentration including fully insured and self-insured lines of business (Herfindahl-Hirschman Index, or HHI)	4598	3529
Market share of dominant insurer including fully insured and self-insured	66%	56%
Market share of second-largest insurer including fully insured and self-insured	9%	16%

Sources: Kaiser Family Foundation State Health Facts[50,51,52] ; American Medical Association[53].

Stakeholders highlighted several differences between the dominant insurers in the two states as contributing to the observed differences in hospital prices.

- *Governance*
    - Anthem of Indiana is one division of Anthem, a national for-profit corporation that operates Blues plans in fourteen states. Anthem of Indiana consults with local advisory boards that include brokers and clients, but ultimately corporate policy is set by a nine-member board of directors comprising national business leaders.[54] Employers in Indiana do not have direct input into Anthem corporate policy.
    - BCBSM is a state-based nonprofit insurer with a 35-member board of directors.[55] Roughly one-third of the BCBSM board represents unions and the automakers, which gives the major employers in that state a direct and substantial line of input into BCBSM operations and company policy. The BCBSM board also includes the CEO of the Michigan Health & Hospital Association (MHA), which is seen as dividing the loyalties of MHA and making the MHA beholden to the interests of BCBSM rather than solely supportive of hospitals' interests.
- *State regulatory involvement in hospital contracting*
    - The State of Indiana reviews health insurer's rates in the nongroup and small group markets for fully insured products but is not directly involved in Anthem of Indiana's contracting with hospitals.

- Since the 1980s, BCBSM has been organized as a quasi-public nonprofit corporation that was strictly regulated under Public Act 350 (PA350). (In 2014, BCBSM converted to become a mutual insurance company.[56]) PA350's requirements included that BCBSM offer insurance to all state residents, that BCBCBSM's board consist mainly of consumer representatives, and that provider contracts be approved by the state and that they "assure access, high quality care, and cost containment."[57]

  Pursuant to PA350, BCBSM regularly updates their "Participating Hospital Agreement" (PHA) with "nonbinding input" from MHA.[58] The PHA is used as a model hospital contract and is submitted for approval to the state.[59] The core reimbursement principle embodied in the PHA is that hospital prices are set based on the costs of an efficient provider plus allowances for uncompensated care and a modest (3 percent) margin.

- *Degree of market dominance*

  - BCBSM is a "must-have" insurer for hospitals in Michigan, meaning that hospitals generally do not perceive refusing to contract with BCBSM as a viable option. BCBSM accounts for two-thirds of the privately insured in Michigan, and the American Medical Association has identified Michigan as one of the states in the top ten in insurer concentration.[60] Although Anthem of Indiana is also a dominant plan, its degree of dominance is somewhat less.

V. Hospital Efficiency

Previous studies have found that hospitals facing revenue constraints reduce their operating expenses to remain financially viable,[61] and hospitals facing generous reimbursements allow their expenses to rise.[62] This section tests whether those general observations apply, and, specifically, whether hospitals in Michigan operate more efficiently than hospitals in Indiana. The concept of "efficiency" here is narrow, focusing on the resources used to produce hospital care without consideration of the quality or health impacts of that care.

Hospital efficiency is difficult to gauge given the variability among facilities in their size and technical capabilities, the patients they treat, and the services they provide. We will focus on four measures of efficiency (Table 7):

- *Casemix-adjusted costs per inpatient stay for Medicare fee-for-service (FFS) beneficiaries*. This measures the Medicare-allowable costs per inpatient stay, divided by the average casemix weight, among the Medicare FFS population. This measure of efficiency is narrow—it only includes Medicare FFS patients, and it also excludes outpatient services—but it takes advantage of the availability of a rich set of data from the Medicare FFS program on costs and casemix. (As a share of inpatient hospital days, in 2017 Medicare FFS accounted for 36% in Indiana and 37% in Michigan.[63])
- *Standardized costs per inpatient stay for Medicare FFS beneficiaries*. This measure includes adjustments for casemix, as well as hospital teaching, wages, and the low-income patient population. To calculate standardized costs, we divide casemix-adjusted costs per inpatient stay

by each state's relative Medicare prices for hospital inpatient services (shown above in the text box on "Prices Paid by Medicare").

- *Administrative cost share*. Following previous studies, we measure the share of hospital costs represented by administrative activities.[64] The administrative cost share is taken from the RAND Hospital Data files, which are derived from Medicare hospital cost reports.
- *Occupancy*. Higher occupancy generally indicates a higher degree of efficiency, as hospitals have more patients over which to spread their fixed costs.[65,66]

Table 7. Hospitals in Michigan Score Higher on Measures of Efficiency than Hospitals in Indiana

Efficiency measure	Which direction indicates higher efficiency?	Michigan	Indiana	Difference, Michigan vs. Indiana, percent	Difference, Michigan vs. Indiana, percentage points
Costs per inpatient stay for Medicare fee-for-service beneficiaries, adjusted only for casemix	Lower	$6,855	$7,441	-7.9%	
Costs per inpatient stay for Medicare fee-for-service beneficiaries, adjusted for casemix, local wages, teaching, and low-income patient population	Lower	$6,896	$8,220	-16.1%	
Administrative cost share	Lower	23.0%	27.7%		-4.7%
Occupancy	Higher	62.7%	57.0%		5.7%

Based on each of the four measures of efficiency, hospitals in Michigan are significantly more efficient than hospitals in Indiana.

VI. Quality

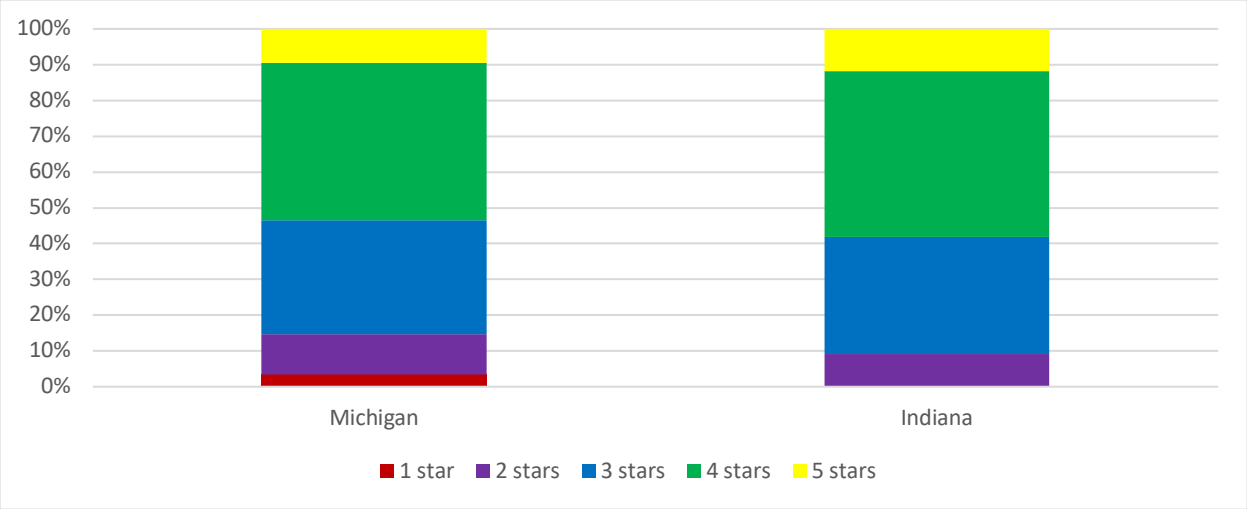
Several studies provide evidence that reductions in Medicare's hospital payment rates can lead to a worsening in health care outcomes among Medicare beneficiaries.[67,68,69,70] Those findings raise the concern that any reductions in prices paid to hospitals by private health plans will lead to lower quality and worse outcomes.

We perform a simple cross-sectional comparison of hospital quality in Michigan and Indiana using three data sources: CMS Hospital Compare 5-star ratings,[71] Leapfrog Hospital Safety Grades,[72] and U.S. News & World Report (USNWR) state rankings on hospital quality. This cross-sectional analysis is limited in at least two ways. First, measuring and comparing hospital quality is notoriously difficult.[73] Second, these quality comparisons are suggestive of a range of possibilities, but they do not directly answer the question of how quality would be affected by changes in private prices.

In general, Michigan hospitals perform as well or better than hospitals in Indiana. USNWR ranks Michigan 9th nationally in hospital quality (1st is best) and ranks Indiana 13th.[74] As shown in Figure 4,

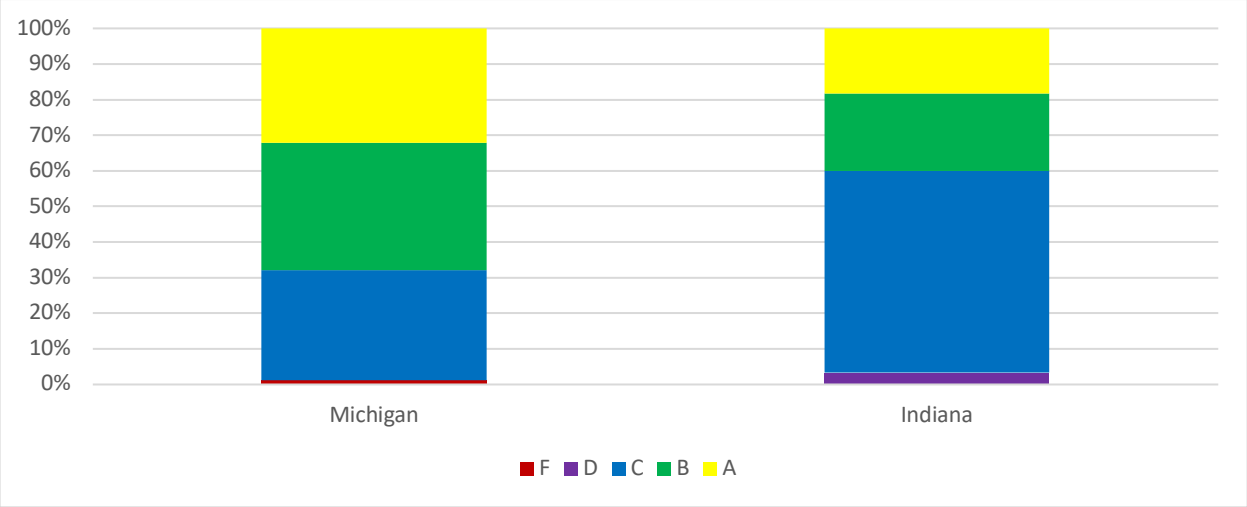
hospitals in Michigan and Indiana are distributed similarly across the Hospital Compare 5-star ratings. And, as shown in Figure 5, hospitals in Michigan perform noticeably better on the Leapfrog Hospital Safety Grade measure.

Figure 4. Share of Hospitals with Hospital Compare Star Ratings 1 through 5



Source: Author's analysis of Hospital Compare ratings, April 2019.[75]

Figure 5. Share of Hospitals with Leapfrog Patient Safety Grades A through F



Source: Author's analysis of Leapfrog Patient Safety Ratings.[76]

Based on the available quality measures, hospitals in Michigan, despite being paid relatively low prices by private health plans, provide care of equal or better quality than hospitals in Indiana. The implication is that reining in *private* prices does not invariably lead to substandard hospital quality and outcomes. Michael Chernew and Richard Frank recently observed that hospital quality reflects the organizational mission and many factors beyond mere revenues, and that "regulations that reduce prices inflated by

market power"—i.e. prices paid by private health plans— "may have a different (smaller) effect than regulations reducing prices set closer to efficient levels of cost."[77]

Blue Cross Blue Shield of Michigan highlights its "Collaborative Quality Initiatives," which are partnerships among the insurer and providers with the goal of improving quality and reducing variation. These collaboratives appear to have had positive, measurable impacts on quality,[78] which supports the notion that insurers can simultaneously rein in prices and foster quality improvements.

VII. Conclusions

The "Michigan pricing model" consists of: 1) a highly dominant insurer, 2) a governance model for that insurer that includes direct and heavy influence from major local employers, 3) state-imposed regulation of the dominant insurer that includes a mandate to keep tight controls on hospital prices and costs, and 4) a decades-long history of price-setting based on reasonably justified costs rather than hospital market leverage. Other states cannot adopt Michigan's history, but they can adopt other elements of the Michigan model. For example, employers in Summit County, Colorado, have formed the Peak Health Alliance in an effort to give themselves visibility into, and direct influence and leverage over, price negotiations with hospitals and physicians.[79] And, Rhode Island's Health Insurance Affordability Standards introduced state-based regulation of insurers' contracts with providers, prohibiting contracting based on discounted charges and limiting year-over-year growth in unit prices.[80]

If states can manage to rein in hospital prices, the comparison of Indiana and Michigan suggests that hospitals can adapt and operate more efficiently, and that the quality of care does not necessarily have to suffer. But, improvements in efficiency and maintenance of quality should not be expected to follow automatically from price reductions. While reining in private prices, employers, insurers and policy makers should proactively pressure hospitals to maintain and improve quality, a strategy that can be summed up as "pay less, demand more." Michigan's high level of per capita hospital utilization also offers a cautionary note—employers and policy makers cannot focus solely on unit prices, they also need to benchmark and manage the utilization dimension as well.

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