



A Tale of Three Cities: Hospital and Health System Costs in the Midwest

ISSUE BRIEF

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There is tremendous variation in health care spending by geographic region in the United States.¹ To better understand this variation, CHRT analyzed health care markets, state-level regulation, and hospital cost variation in three Midwestern states, focusing on the largest city in each state: Detroit, Michigan; Indianapolis, Indiana; and Milwaukee, Wisconsin. These states were chosen for their diverse health care policies and market conditions. This brief describes trends in state-level health spending and factors that may contribute to the differences in spending among the three states.

¹ R.M. Henke et al. 2011. Geographic Variation: A View From the Hospital Sector. *Medical Care Research and Review*, 68(6): 699-711.

The Center for Healthcare Research & Transformation (CHRT) illuminates best practices and opportunities for improving health policy and practice. Based at the University of Michigan, CHRT is a non-profit partnership between U-M and Blue Cross Blue Shield of Michigan to promote evidence-based care delivery, improve population health, and expand access to care.

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Key Findings

- From 2001 to 2009, Michigan had the lowest overall health care spending per capita among the three states in this analysis, while Wisconsin had the highest. Michigan also had the lowest average annual growth in spending per capita from 1991 to 2009, and Wisconsin had the highest.^{2,3} Many complex factors contributed to these differences, and likely included market conditions and regulations that varied by state.
- In fiscal year (FY) 2013, Michigan had the lowest and Wisconsin had the highest per capita hospital spending among the three states in this analysis.
- Market conditions and policies affecting the size of hospitals' profit margins varied by state:
 - Wisconsin had the most fragmented health insurance market in the nation, with 10 health plans each having at least 5 percent of the market share, reducing the bargaining power of any one insurer. This likely gave the Milwaukee health systems a competitive edge in price negotiations with insurance companies, especially large systems with strong reputations.^{4,5,6}
 - Both Michigan and Indiana had one dominant insurance company with over 50 percent market share, giving the insurers strong bargaining positions to control total health care spending. However, Michigan has historically had lower overall health care costs than Indiana and, in FY2013, also had lower per capita hospital costs.^{7,8,9,10}
 - Indiana and Wisconsin do not regulate hospital expansion or construction with Certificate of Need (CON) laws, but Michigan does.¹¹ All of the Indianapolis and Milwaukee health systems built new facilities or expanded existing facilities in recent years, generally in higher-income areas where more patients had private insurance that reimbursed providers at higher rates.^{12,13}
- Michigan had CON laws that regulated hospital construction and investment in technology.¹⁴ As a result of the state regulation and the concentrated health insurance market, the Detroit hospitals and health systems may not have had the same opportunity as the Indianapolis and Milwaukee providers to command high prices, resulting in lower overall health care costs.
- In FY2013, health system operating and total profit margins varied greatly in the three cities in this analysis:
 - Milwaukee's health systems all had operating and total profit margins far above the national benchmarks. Operating margins ranged from 4.1 to 12.2 percent, compared to a benchmark of 2.2 percent. Total margins ranged from 6.6 to 15.2 percent, compared to a benchmark of 4.2 percent.
 - In Indianapolis, the majority of the health systems also had profit margins far above the national benchmark. Operating margins ranged from -0.2 percent to 10.6 percent, and total margins ranged from 15.6 to 17.4 percent. The health system with the highest total margin in this study was Indiana University Health, although it also had a negative operating margin.
 - In Detroit, in contrast, the majority of hospitals and health systems had profit margins below the national benchmark. Operating margins ranged from -9.4 percent to 4.1 percent, and total margins ranged from -0.8 percent to 5.8 percent. Several health systems had negative operating margins and one had a negative total margin, indicating that it lost money overall.

² Kaiser Family Foundation. 2014. Health Care Expenditures per Capita by State of Residence, 2009. <http://kff.org/other/state-indicator/health-spending-per-capita/> (accessed 1/1/15).

³ Kaiser Family Foundation. 2014. Average Annual Percent Growth in Health Care Expenditures by State of Residence, 2009. <http://kff.org/other/state-indicator/average-annual-percent-growth-in-health-care-expenditures-by-state-of-residence/> (accessed 1/1/15).

⁴ Kaiser Family Foundation. 2014. Large Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/large-group-insurance-market-competition/> (accessed 12/23/14).

⁵ Kaiser Family Foundation. 2014. Small Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/small-group-insurance-market-competition/> (accessed 12/23/14).

⁶ Kaiser Family Foundation. 2014. Individual Insurance Competition, 2012. <http://kff.org/other/state-indicator/individual-insurance-market-competition/> (accessed 12/23/14).

⁷ Kaiser Family Foundation. 2014. Health Care Expenditures per Capita by State of Residence, 2009. <http://kff.org/other/state-indicator/health-spending-per-capita/> (accessed 1/1/15).

⁸ Kaiser Family Foundation. 2014. Large Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/large-group-insurance-market-competition/> (accessed 12/23/14).

⁹ Kaiser Family Foundation. 2014. Small Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/small-group-insurance-market-competition/> (accessed 12/23/14).

¹⁰ Kaiser Family Foundation. 2014. Individual Insurance Competition, 2012. <http://kff.org/other/state-indicator/individual-insurance-market-competition/> (accessed 12/23/14).

¹¹ National Conference of State Legislators. 2014. Certificate of Need: State Health Laws and Programs. <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx> (accessed 12/23/14).

¹² G. Boulton. April 15, 2012. Froedtert Health, other systems court customers in affluent areas. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/froedtert-health-other-systems-court-customers-in-affluent-areas-g24vqj0-147497635.html> (accessed 12/24/14).

¹³ J.K. Wall. June 1, 2013. Indianapolis hospitals hit with tough bargaining environment. *Indianapolis Business Journal*. <http://www.ibj.com/articles/41633-indianapolis-hospitals-hit-with-tough-bargaining-environment> (accessed 12/22/14).

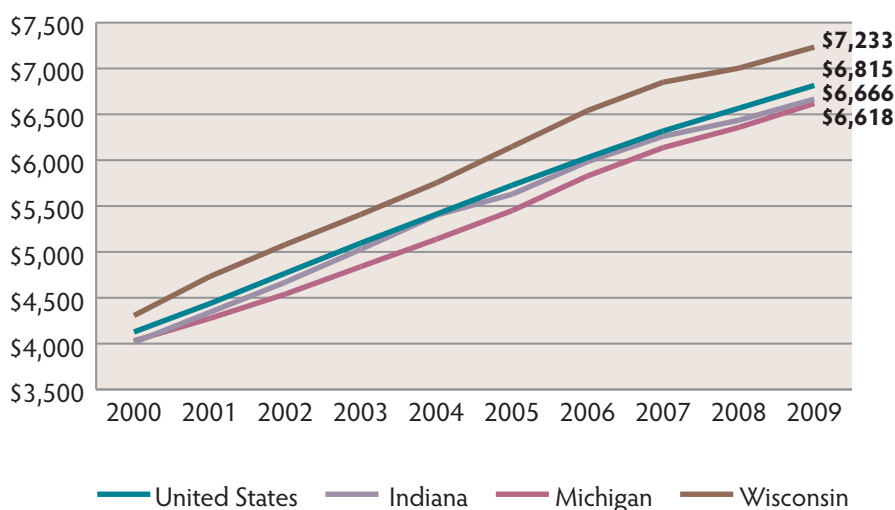
¹⁴ National Conference of State Legislators. 2014. Certificate of Need: State Health Laws and Programs. <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx> (accessed 12/23/14).

Trends in Health Care Spending by State

Total health care spending varies widely by state. From 2000 to 2009 (the most recently available state-level data), Wisconsin had higher total health care spending per capita than Indiana, Michigan and the United States overall. By comparison, Michigan and Indiana had lower total health care spending per capita than the national average during this time, and Michigan consistently had the lowest total per person costs since 2001.¹⁵ **FIGURE 1**

Similarly, Wisconsin had faster growth in health care spending per capita from 1991 to 2009, compared to Indiana, Michigan and the national average. Michigan was the only state in this analysis where total health care spending grew more slowly than the national average during this period.¹⁶ **FIGURE 2**

FIGURE:1
Health Care Spending per Capita by State of Residence, 2000-2009



Source: Kaiser Family Foundation

FIGURE:2
Average Annual Percent Growth in Total Health Spending per Capita, 1991-2009

Average Annual Percent Growth per Capita	
Indiana	5.5%
Michigan	5.2%
Wisconsin	6.0%
United States	5.3%

Source: Kaiser Family Foundation

¹⁵ Kaiser Family Foundation. 2014. Health Care Expenditures per Capita by State of Residence, 2009. <http://kff.org/other/state-indicator/health-spending-per-capita/> (accessed 1/1/15).

¹⁶ Kaiser Family Foundation. 2014. Average Annual Percent Growth in Health Care Expenditures by State of Residence, 2009. <http://kff.org/other/state-indicator/average-annual-percent-growth-in-health-care-expenditures-by-state-of-residence/> (accessed 1/1/15).

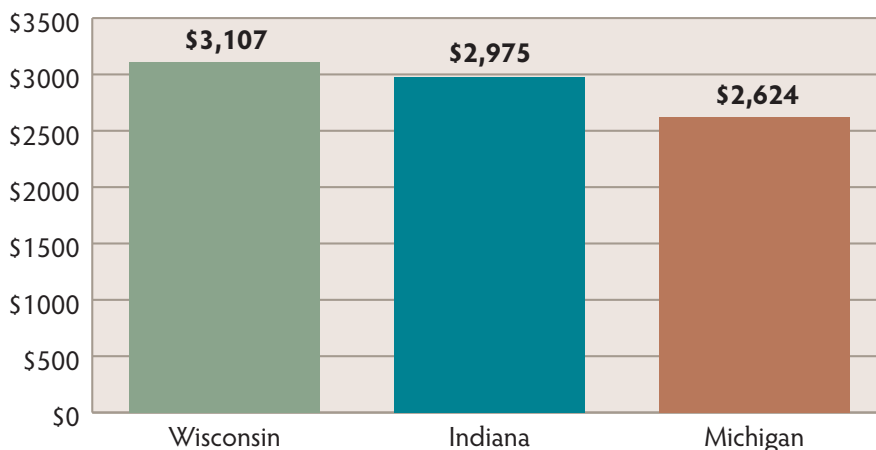
Hospital and Health System Costs

Hospital costs are generally the largest category of health care spending in the United States and also for individual states.¹⁷ The total cost of hospital and health system services is driven by the price per service and the total volume of services provided, both of which are affected by market conditions and state regulations. Payment levels for services are negotiated between each provider and each major payer (mainly insurance companies) in the provider's market, with higher prices resulting in higher potential profits. The volume of services that providers deliver is based on their physical capacity, operational efficiencies and ability to attract patients. Profit levels are also influenced by an organization's ability to control expenses and to earn additional income from investments, grants and donations.

Hospital Costs Per Capita by State

Among the three states in this analysis, the total cost of hospital care per state resident varied widely in FY2013.¹⁸ Michigan had the lowest per capita hospital costs (\$2,624) among the three states. Wisconsin and Indiana had substantially higher hospital costs per person (\$3,107 and \$2,975, respectively). **FIGURE 3**

FIGURE 3
Hospital Costs per Capita by State of Provider, FY2013



Source: CHRT analysis using Medicare Cost Report data and American Community Survey data.¹⁹



¹⁷ Kaiser Family Foundation. 2014. Health Care Expenditures per Capita by Service by State of Residence, 2009. <http://kff.org/other/state-indicator/health-spending-per-capita-by-service/> (accessed 12/23/14).

¹⁸ This report focuses on hospital costs rather than health insurance premiums. However, it is important to note that lower hospital costs may not correspond to lower premiums.

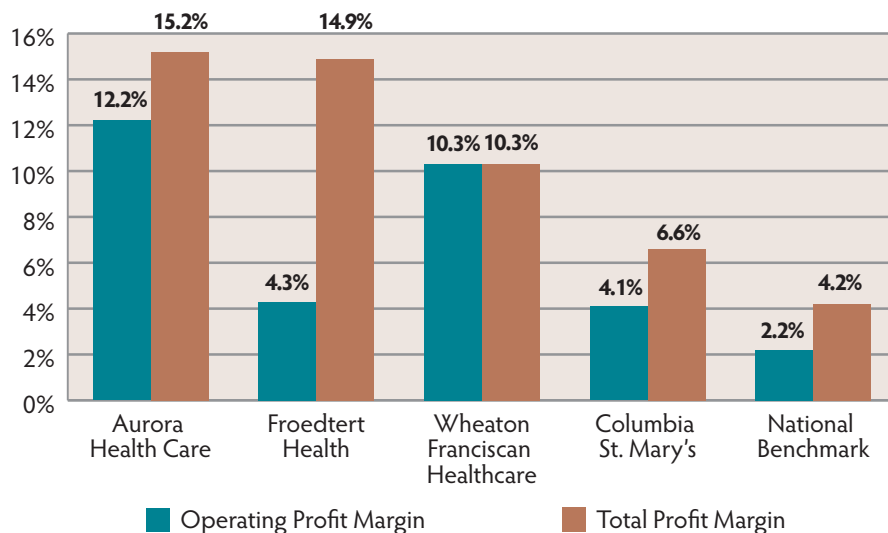
¹⁹ United States Census Bureau. N.d. American FactFinder: Community Facts. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed 2/23/15).

Hospital and Health System Costs *(continued)*

Operating and Total Profit Margins, Fiscal Year 2013

In FY2013, there was substantial variation in hospital and health system profit margins between Milwaukee, Indianapolis and Detroit, which contributed to the variation in total health care spending. This analysis focused on two types of profits: those earned through an organization's core business functions (operating profit margins) and those earned when all income was taken into account, including investments, grants and donations (total profit margins). National benchmarks for profit margins were calculated by Standard and Poor's Rating Services, based on the median operating and total profit margins for non-profit health care systems in FY2013.²⁰

FIGURE:4
Operating and Total Profit Margins for Milwaukee Health Systems, FY2013



Source: CHRT analysis of Medicare Cost Report data

Milwaukee, Wisconsin

The four Milwaukee health systems included in this study consistently earned operating and total profit margins above the national benchmark in FY2013. Operating margins ranged from 4.1 to 12.2 percent (the highest operating margin in this analysis), compared to a national benchmark of 2.2 percent.²¹ Total profit margins ranged from 6.6 to 15.2 percent, compared to a national benchmark of 4.2 percent. **FIGURE 4**

²⁰ Total profit margin is referred to as "excess" profit margin by health care rating agencies such as Standard and Poor's.

²¹ M.E. McNamara and J. H. Goldman. 2014. *U.S. Not-For-Profit Health Care System Ratios: Operating Performance Weakened in 2013*. (New York, NY: Standard and Poor's Financial Services). http://www.standardandpoors.com/spf/upload/Events_US/US_PF_Event_Webcast81414_NFPHC_Article2.pdf (accessed 12/30/14).

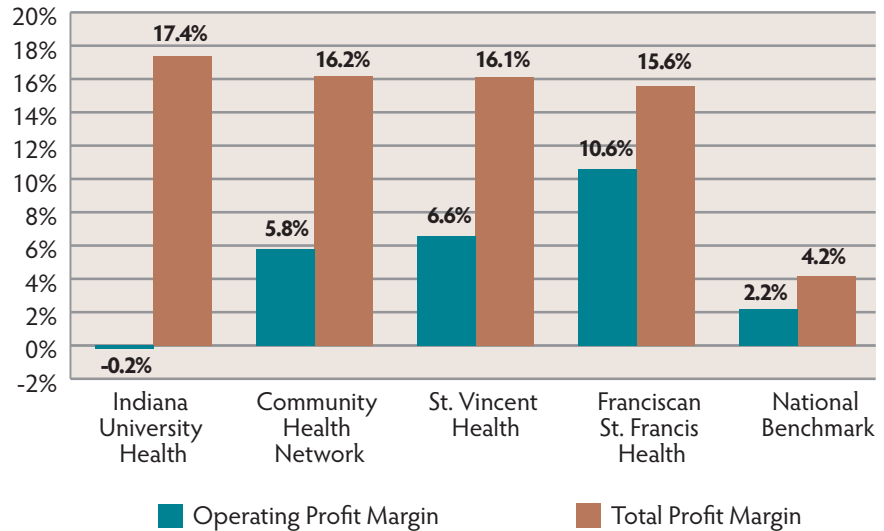
Hospital and Health System Costs *(continued)*

Indianapolis, Indiana

Three of the four Indianapolis health systems also had higher operating and total profit margins than the national benchmark in FY2013. The exception was Indiana University Health, which had a negative operating margin of -0.2 percent. However, this system had the highest total profit margin in this analysis when investments, grants and donations were considered, at 17.4 percent. In the three other Indianapolis health systems, the operating margins ranged from 5.8 to 10.6 percent, and the total margins ranged from 15.6 to 16.2 percent. **FIGURE 5**

FIGURE 5

Operating and Total Profit Margins for Indianapolis Health Systems, FY2013



Source: CHRT analysis of Medicare Cost Report data



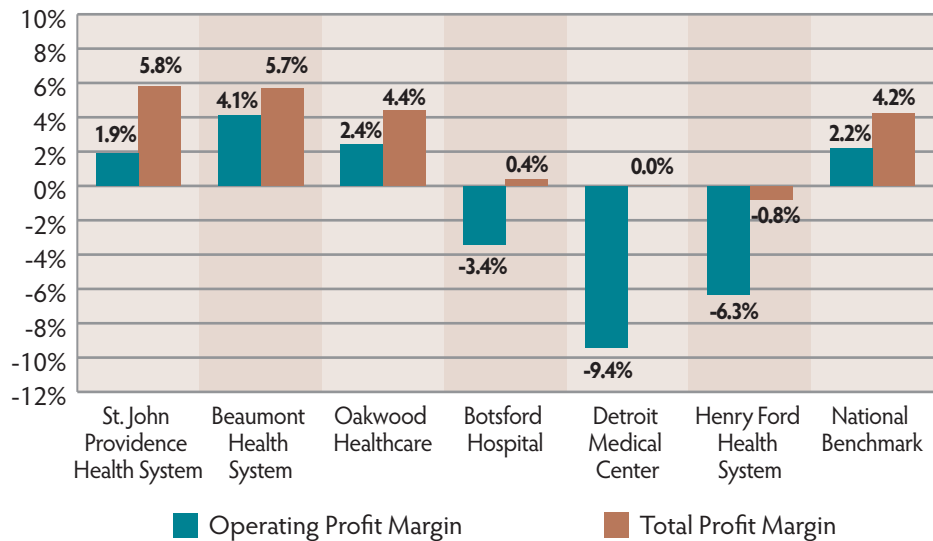
Hospital and Health System Costs *(continued)*

Detroit, Michigan

In contrast, the majority of the Detroit hospitals and health systems had lower profit margins than the national benchmark in FY2013. Three of the six providers operated at a loss, with operating margins of -9.4 to -3.4 percent. The total profit margins at these three providers were higher than their operating margins, ranging from -0.8 percent to 0.4 percent, but all of the margins were below the national benchmark, and one provider had a negative total profit margin in FY2013. For the three remaining providers, the operating margins ranged from 1.9 to 4.1 percent, and the total margins ranged from 4.4 to 5.8 percent. Only two of the Detroit providers, Oakwood Healthcare and Beaumont Health System, had both operating and total margins above the national benchmark. **FIGURE 6**

FIGURE 6

Operating and Total Profit Margins for Detroit Hospitals and Health Systems, FY2013



Source: CHRT analysis of Medicare Cost Report data

State-Level Factors Affecting Health Care Spending

Total health care spending was influenced by market conditions and state regulations, which affected providers' abilities to command higher prices for services and to increase utilization of services. The cost of hospital care also contributed to overall health care spending as the largest spending category in each state.²² There are many complex factors that can contribute to these differences and this analysis cannot determine which of these are causative. However, it is possible to identify some contributing factors that vary between the states, including health insurance market concentration and Certificate of Need (CON) laws.

Concentration of Health Insurance Markets

Indiana and Michigan had highly concentrated health insurance markets in 2012 (the latest year for which data on market concentration is available). Each of these states had one dominant insurance company with over 50 percent market share, putting the companies in a strong position to negotiate prices with providers.^{23,24,25} In contrast, Wisconsin had the most fragmented health insurance market in the nation, with 10 health plans each having at least 5 percent of the market share, reducing the bargaining power of any one insurer.^{26,27,28,29} This likely gave health systems in Wisconsin the ability to negotiate higher prices, particularly larger systems with strong reputations, resulting in higher hospital costs.

²² Kaiser Family Foundation. 2014. Health Care Expenditures per Capita by Service by State of Residence, 2009. <http://kff.org/other/state-indicator/health-spending-per-capita-by-service/> (accessed 12/23/14).

²³ M.R. McKellar et al. 2014. Insurer Market Structure and Variation in Commercial Health Care Spending. *Health Services Research*, 49(3): 878-892.

²⁴ G.A. Melnick et al. 2011. The Increased Concentration of Health Plan Markets Can Benefit Consumers Through Lower Hospital Prices. *Health Affairs*, 30(9): 1728-1733.

²⁵ A.S. Moriya et al. 2010. Hospital Prices and Market Structure in the Hospital and Insurance Industries. *Health Economics, Policy and Law*, 5: 459-479.

²⁶ Kaiser Family Foundation. 2014. Large Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/large-group-insurance-market-competition/> (accessed 12/23/14).

²⁷ Kaiser Family Foundation. 2014. Small Group Insurance Competition, 2012. <http://kff.org/other/state-indicator/small-group-insurance-market-competition/> (accessed 12/23/14).

²⁸ Kaiser Family Foundation. 2014. Individual Insurance Competition, 2012. <http://kff.org/other/state-indicator/individual-insurance-market-competition/> (accessed 12/23/14).

²⁹ Market concentration is measured by the Herfindahl-Hirschman Index (HHI). The index quantifies market concentration based on how evenly market share is distributed. HHI values range from 0 to 10,000, where zero indicates perfect competition and 10,000 indicates a complete monopoly. It is calculated by squaring the market share of each firm and summing these values. HHI values below 1,000 generally indicate that a market is highly competitive; values from 1,000 to 1,500 indicate an unconcentrated market; values from 1,500 to 2,500 indicate a moderately concentrated market; and values greater than 2,500 indicate a highly concentrated, or uncompetitive, market.

State-Level Factors Affecting Health Care Spending (*continued*)

Certificate of Need Laws

CON laws are one form of state regulation that can limit the use of expensive health care services and the construction of new facilities. These laws require health care providers to receive state approval before expanding capacity to deliver certain high-cost services. To receive such approval, providers must generally demonstrate that greater capacity for services will address unmet patient needs. Many experts believe that CON laws reduce overuse of expensive services by limiting the supply.^{30,31,32,33,34} "Overuse" can be defined as the utilization of health care services when there is no evidence to show that the patient will benefit from the service.³⁵ CON laws may help control hospital costs by limiting providers' ability to invest in expensive services or to build facilities in higher-income areas where more patients have private insurance that reimburses providers at higher rates.

In 2013, Michigan was one of 36 states with CON laws. The Michigan laws regulated hospitals' abilities to build new facilities, expand existing facilities, and invest in high-tech radiology such as magnetic resonance imaging and computed tomography scans, among other services. Indiana and Wisconsin did not have CON laws in 2013. Indiana repealed its CON laws in 1999. Wisconsin has not had CON laws that regulate acute care hospital services in decades. It did have CON laws that principally regulated nursing homes, long-term care and sub-acute care services, but these laws were repealed in 2011.³⁶

³⁰ L.P. Garrison, Jr. 1991. Assessment of the Effectiveness of Supply-Side Cost-Containment Measures. *Health Care Financing Review*, Supplement: 13-20. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4195140/> (accessed 2/18/15).

³¹ F. Hellinger. 2009. The Effect of Certificate-of-Need Laws on Hospital Beds and Healthcare Expenditures: An Empirical Analysis. *American Journal of Managed Care*, 15(10):737-744.

³² V. Ho et al. 2007. Cardiac Certificate of Need Regulations and the Availability and Use of Revascularization Services. *American Heart Journal*, 154: 767-775. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2084214/> (accessed 2/18/15).

³³ C.J. Conover and F.A. Sloan. 1998. Does Removing Certification-of-Need Regulations Lead to a Surge in Health Care Spending? *Journal of Health Politics, Policy and Law*, 23(3): 455-481.

³⁴ P.L. Delameter et al. 2013. Do More Hospital Beds Lead to Higher Hospitalization Rates? A Spatial Examination of Roemer's Law. *PLOS One*, 8(2): e54900. <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0054900> (accessed 1/1/15).

³⁵ D.M. Berwick. 2002. A User's Manual for the IOM's "Quality Chasm" Report. *Health Affairs*, 21(3): 80-90. <http://healthaffairs.org/content/21/3/80.full.pdf+html> (accessed 1/14/15).

³⁶ National Conference of State Legislators. 2014. Certificate of Need: State Health Laws and Programs. <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx> (accessed 12/23/14).

State-Level Factors Affecting Health Care Spending (*continued*)

Provider Response to Market Conditions

In 2013, all of the health systems in this analysis were seeking to expand their market share by building new facilities, expanding existing facilities or merging with other providers. Such expansions likely contributed to profit margins by helping providers deliver a higher volume of services, negotiate higher prices with insurers, or attract more patients with private insurance that reimbursed at higher rates. Many of the providers also sought to control operating expenses to increase profitability by improving efficiency and, in some cases, reducing staff.

In recent years in Milwaukee, all four of the health systems in this study had been building and expanding facilities in the city and the surrounding suburbs.³⁷ Many construction projects were ongoing in 2013, and all four systems were also actively pursuing partnerships.^{38,39,40,41,42} By 2014, each of the systems had formed partnerships with other providers, with the intention of contracting with health insurers to form narrow network plans.^{43,44} These partnerships may further increase the health systems' negotiating positions relative to the insurance companies, potentially resulting in higher future payments for health care services. The Milwaukee health systems did not announce any layoffs in 2013.

The Indianapolis health systems had been investing in new facilities in the past decade, particularly in the wealthier suburbs surrounding the city rather than in the urban core. By 2013, the four health systems in this study had facilities located near one another, whereas traditionally they had each served relatively distinct geographic areas. Indiana health insurers sought to use the systems' new geographic proximity to negotiate lower prices with providers. The insurers were developing plans with narrow networks, and argued that they could exclude some providers without harming patients' access to care because the systems' facilities were located so near to one another.⁴⁵ All four Indianapolis health systems reduced their workforces in 2013, with St. Vincent Health eliminating the most positions (865 positions) and Community Health Network eliminating the fewest (50 positions).^{46,47,48,49,50}

The Detroit health systems were also expanding and renovating facilities, even with Michigan's CON laws in place. From 2011 to 2013, several of the Detroit systems expanded their emergency departments and built specialty oncology centers.^{51,52,53} Additional expansion projects were announced in 2014, pending CON approval. Providers also pursued partnerships to increase market share. In 2014, three of the six Detroit providers—Beaumont Health System, Botsford Hospital and Oakwood Healthcare—merged to become Beaumont Health.⁵⁴ Two other providers sought to control operating expenses by reducing staff in 2013: the Detroit Medical Center eliminated 300 positions, and St. John Providence eliminated 100 positions.⁵⁵

³⁷ G. Boulton. April 15, 2012. Froedtert Health, other systems court customers in affluent areas. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/froedtert-health-other-systems-court-customers-in-affluent-areas-g24vcj0-147497635.html> (accessed 12/24/14).

³⁸ G. Boulton. November 29, 2014. Free-standing emergency departments carry a high price for convenience. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/free-standing-emergency-departments-carry-a-high-price-for-convenience-b99398740z1-284225751.html> (accessed 12/24/14).

³⁹ Wheaton Franciscan Healthcare. 2013. Wheaton Franciscan Healthcare to Build New Medical Clinic in Cudahy. <http://www.mywheaton.org/about-wheaton/newsroom/wheaton-franciscan-healthcare-to-build-new-medical-clinic-in-cud/> (accessed 12/24/14).

⁴⁰ Wheaton Franciscan Healthcare. 2013. Wheaton Franciscan Healthcare – All Saints to Open New Physician Office Building. <http://www.mywheaton.org/about-wheaton/newsroom/all-saints-to-open-new-physician/> (accessed 12/24/14).

⁴¹ G. Boulton. March 19, 2013. Colombia St. Mary's ProHealth Care to develop joint cardiothoracic surgery program. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/columbia-st-marys-prohealth-care-to-develop-joint-cardiothoracic-surgery-program-1u97gdd-198966601.html> (accessed 12/24/14).

⁴² Aurora Health Care. 2013. Aurora Health Care purchases Manitowoc Surgery Center. <http://www.aurorahealthcare.org/aboutus/news-media-center/release.asp?AutoNumber=823> (accessed 12/24/14).

⁴³ G. Boulton. August 6, 2014. Six Wisconsin health care systems form statewide network. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/six-wisconsin-health-care-systems-form-statewide-network-b99325675z1-270178061.html> (accessed 12/24/14).

⁴⁴ G. Boulton. November 11, 2014. Froedtert Health completes purchase of Network Health stake. *Milwaukee Journal Sentinel*. <http://www.jsonline.com/business/froedtert-health-completes-purchase-of-network-health-stake-b9938865z1-282313501.html> (accessed 12/24/14).

⁴⁵ J.K. Wall. June 1, 2013. Indianapolis hospitals hit with tough bargaining environment. *Indianapolis Business Journal*. <http://www.ibj.com/articles/41633-indianapolis-hospitals-hit-with-tough-bargaining-environment> (accessed 12/22/14).

⁴⁶ J.K. Wall. September 12, 2013. Worried about future, IU Health cuts 800 jobs despite profit rise. *Indianapolis Business Journal*. <http://www.ibj.com/articles/43479-worried-about-future-iu-health-cuts-800-jobs-despite-profit-rise> (accessed 12/22/14).

⁴⁷ J.K. Wall. June 28, 2013. St. Vincent Health eliminating about 865 jobs in Indiana. *Indianapolis Business Journal*. <http://www.ibj.com/articles/42213-st-vincent-health-eliminating-about-865-jobs-in-indiana> (accessed 12/22/14).

⁴⁸ J.K. Wall. October 23, 2013. Franciscan Hospitals to eliminate 935 full time positions. *Indianapolis Business Journal*. <http://www.ibj.com/articles/44199-franciscan-hospitals-to-eliminate-925-full-time-positions> (accessed 12/22/14).

⁴⁹ Kokomo Hospital plans on cutting 50 jobs. September 17, 2013. *Indianapolis Business Journal*. <http://www.ibj.com/articles/43557-kokomo-hospital-plans-on-cutting-50-jobs> (accessed 12/22/14).

⁵⁰ Franciscan Alliance, the parent company of Franciscan St. Francis Health, eliminated 935 positions statewide in 2013. It was not specified how many of these positions were at Franciscan St. Francis Health.

⁵¹ J. Greene. July 7, 2013. Beaumont plans \$140M expansion: ER, retail. *Crain's Detroit Business*. <http://www.craindetroit.com/article/20130707/NEWS/307079979/beamont-plans-140m-expansion-er-retail> (accessed 12/30/14).

⁵² J. Greene. May 10, 2013. Beaumont's new oncology unit in Troy focuses on families, integrates "green" principles. *Crain's Detroit Business*. <http://www.craindetroit.com/article/20130510/NEWS/130519982/beamonts-new-oncology-unit-in-troy-focuses-on-families-integrates> (accessed 12/30/14).

⁵³ J. Greene. July 7, 2013. Beaumont plans \$140M expansion: ER, retail. *Crain's Detroit Business*. <http://www.craindetroit.com/article/20130707/NEWS/307079979/beamont-plans-140m-expansion-er-retail> (accessed 12/30/14).

⁵⁴ J. Greene. November 5, 2014. Botsford Hospital announces \$160 million expansion. *Crain's Detroit Business*. <http://www.craindetroit.com/article/20141105/NEWS/141109935/botsford-hospital-plans-160m-expansion> (accessed 12/30/14).

⁵⁵ J. Greene. July 21, 2013. Health systems use "every tool" to keep on top of bottom lines. *Crain's Detroit Business*. <http://www.craindetroit.com/article/20130721/NEWS/307219980/health-systems-use-every-tool-to-keep-on-top-of-bottom-lines> (accessed 12/30/14).

Methodology

This analysis used financial data from Medicare Cost Reports for FY2013 accessed through the American Hospital Directory to assess hospital costs, and operating and total profit margins by state.⁵⁶ Virtually all U.S. hospitals submit cost reports annually to the Centers for Medicare and Medicaid Services to receive reimbursement for services provided to Medicare patients.⁵⁷ The reports include data from all payers (Medicare, Medicaid, private health insurance and uninsured patients), and are the only national data source available for all types of hospitals, regardless of whether they are for profit, not-for-profit, or government facilities.⁵⁸ For this reason, Medicare Cost Reports were used in this analysis rather than audited financial statements, which were not available for all the hospitals and health systems in the three communities in this analysis.⁵⁹

The per capita hospital costs by state were calculated using data from FY2013 Medicare Cost Reports and the 2013 population estimates from the American Community Survey.⁶⁰ First, the total cost of hospital care by state was calculated by summing the net patient revenue for all hospitals in the state that submitted a cost report in FY2013. The net patient revenue included total hospital revenue from providing patient care, excluding the cost of contractual allowances.⁶¹ The per capita hospital cost was determined by dividing each state's total net patient revenue by its population.

Indiana, Michigan and Wisconsin were chosen for comparison as three neighboring Midwestern states with diverse health care policies. The analysis compared the hospitals and health systems in the largest city in each state (Indianapolis, Detroit and Milwaukee, respectively). The providers in this analysis had at least one facility located in one of the three cities. For health systems with more than one hospital, data from these hospitals were aggregated to calculate operating and total profit margins, using the following definitions:

- Operating Profit Margin = Operating Income / Net Patient Revenue
- Total Profit Margin = Net Income / (Net Patient Revenue + Non-Operating Revenue)
- Operating Income = Net Patient Revenue – Total Operating Expenses⁶²
- Net Income = Operating Income + Non-Operating Revenue – Total Other Expenses
- Net Patient Revenue = Total Patient Revenue – Contractual Allowance

As of February 2015, data were not available for every hospital affiliated with the health systems in this analysis. The following systems were missing financial data as specified:

- The Detroit Medical Center (Detroit, Michigan) was missing data from the DMC Surgical Hospital, which has been temporarily closed due to extensive flooding in August 2014.⁶³
- St. Vincent Health (Indianapolis, Indiana) had only 6 months of FY2013 data available for St. Vincent Anderson Regional Hospital.
- Wheaton Franciscan (Milwaukee, Wisconsin) was missing data from one facility, the Midwest Spine & Orthopedic Hospital/Wisconsin Heart Hospital.

Medicare Cost Reports have several limitations when used to compare hospitals to one another. Medicare Cost Reports classification principles differ from generally accepted accounting principles, which may create differences in reported revenues, expenses and operating margins when contrasted to audited financial statements. Because the cost reports accept a wide range of accounting practices, comparisons across time or across hospitals may be problematic. The cost reports may overstate expenses compared to those reported in audited financial statements, resulting in lower stated operating margins.⁶⁴

The use of Medicare Cost Reports to calculate per capita hospital costs has additional limitations. The calculation assumes that all hospital care provided in a state was delivered to the residents of the state. However, some residents received hospital services in other locations, and some out-of-state residents traveled to the state to receive hospital care.

The national FY2013 benchmarks for total and operating margins were calculated by Standard and Poor's (S&P) Rating Services for non-profit health care systems FY2013.⁶⁵ The benchmarks represent the median operating and total margins of 139 health care systems rated by S&P, which included approximately 1,632 hospitals (about one-third of all U.S. hospitals).⁶⁶ The margins were calculated using audited financial statements rather than Medicare Cost Reports (no established benchmarks were available from cost report data). Standard and Poor's defines health care systems as providers that have three or more facilities with economic, business or geographic dispersion.⁶⁷ These medians were chosen as benchmarks because most of the providers in this analysis are non-profit health care systems, although some did not meet S&P's definition in FY2013. However, the S&P medians for non-profit stand-alone hospitals were only one-tenth of a percentage point lower for both operating and total profit margins.⁶⁸

⁵⁶ American Hospital Directory. 2014. <http://www.ahd.com/> (accessed 12/30/14).

⁵⁷ S.A. Magnus and D.G. Smith. 2000. Better Medicare Cost Report Data are Needed to Help Hospitals Benchmark Costs and Performance. *Health Care Management Review*, 25(4): 65-76.

⁵⁸ F. Asper. 2013. Introduction to Medicare Cost Reports. Research Data Assistance Center. [http://www.resdac.org/sites/resdac.org/files/Introduction%20to%20Medicare%20Cost%20Reports%20\(Slides\).pdf](http://www.resdac.org/sites/resdac.org/files/Introduction%20to%20Medicare%20Cost%20Reports%20(Slides).pdf) (accessed 12/30/14).

⁵⁹ Audited financial statements are an alternative source of financial data for many hospitals. However, this data is not public for all hospitals and health systems.

⁶⁰ United States Census Bureau. N.d. American FactFinder: Community Facts. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed 2/23/15).

⁶¹ Contractual allowances refer to discounts negotiated by insurers on behalf of their members.

⁶² Total operating expenses included depreciation expenses.

⁶³ J. Greene. September 30, 2014. DMC Surgery Hospital still closed after flooding, 127 employees to be laid off. *Crain's Detroit Business*. <http://www.craigslistdetroit.com/article/20140930/NEWS/140939972/dmc-surgery-hospital-still-closed-after-flooding-127-employees-to-be> (accessed 12/30/14).

⁶⁴ S.A. Magnus and D.G. Smith. 2000. Better Medicare Cost Report Data are Needed to Help Hospitals Benchmark Costs and Performance. *Health Care Management Review*, 25(4): 65-76.

⁶⁵ Total profit margin was referred to as "excess" profit margin by health care rating agencies such as S&P.

⁶⁶ American Hospital Association. 2015. Fast Facts on U.S. Hospitals. <http://www.aha.org/research/rc/stat-studies/fast-facts.shtml> (accessed 2/25/15).

⁶⁷ M.E. McNamara and J. H. Goldman. 2014. U.S. Not-For-Profit Health Care System Ratios: Operating Performance Weakened in 2013. (New York, NY: Standard and Poor's Financial Services). http://www.standardandpoors.com/spf/upload/Events_US/US_PF_Event_Webcast81414_NFPHC_Article2.pdf (accessed 12/30/14).

⁶⁸ M.E. McNamara and J.H. Goldman. 2014. U.S. Not-For-Profit Health Care Stand-Alone Ratios: Operating Margin Pressure Signals More Stress Ahead. (New York, NY: Standard and Poor's Financial Services). http://www.standardandpoors.com/spf/upload/Events_US/US_PF_Event_Webcast81414_NFPHC_Article1.pdf (accessed 12/30/14).

Conclusion

In 2013, there was substantial variation in hospital and health system profit margins in Milwaukee, Indianapolis and Detroit. All of the Milwaukee and Indianapolis health systems in this analysis earned total profit margins well above the national benchmark, and all but one had above-average operating margins as well, contributing to higher total health care costs. In contrast, most of the Detroit hospitals and health systems had profits below the national benchmark; half had negative operating margins, and one had a negative total margin. State regulations and market conditions likely influenced the profits earned in each community. The Milwaukee and Indianapolis providers may have been able to command higher prices or volumes of services due to local health insurance market conditions and fewer state regulations. The Detroit providers may not have had the same opportunity to negotiate high prices or provide more services due to a concentrated health insurance market and the presence of CON laws regulating hospital construction and investment in technology.



Center for Healthcare Research & Transformation

2929 Plymouth Road, Suite 245 • Ann Arbor, MI 48105-3206
Phone: 734-998-7555 • chrt-info@umich.edu • www.chrt.org



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