

ST. LOUIS HEALTH CARE INDUSTRY OVERVIEW

2018

Volume 2: Hospital Quality and Financial Overview





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High prices the main driver of staggering cost

National health spending hit \$3.3 trillion in 2016. Employers and consumers paid \$2.1 trillion. Government programs, funded by tax revenues, paid the rest. **High prices were the main driver of costs, a recent American Medical Association study said** (p. 14). Despite spending twice as much as other high-income countries, the U.S. continues to lag on health outcomes.

St. Louis hospital operating margins exceed U.S. average

St. Louis hospitals were paid more than \$9.1 billion, up 5.3% from 2015 (p.11). **Average payments varied widely** across and within hospital systems (p. 15). For the second year, aggregate operating margins held at 5%, outperforming the national average of 2.7%. Acquisitions, building projects and start-up costs for a new hospital drove non-operating expenses higher, particularly in the Illinois metro area. Thus, total profits decreased as expense growth outpaced revenues (p.12).

Is price or process improvement driving Mercy's margin?

Mercy's 11% operating margin was the largest among St. Louis hospital systems in 2016. It has doubled over the past decade. Many factors may have impacted Mercy's margin, such as growth in per case payments, suggesting price increases have contributed. Yet, multi-year efforts to measure, innovate and refine care processes while transitioning to value-based contracts may have also played a role. **The latter could prove beneficial for patients and the community, if Mercy used some of the savings from process improvements to hold the line on future price increases.**

Five St. Louis hospitals achieve top quality rating

In an effort to aid consumers in their pursuit of safe, high-value care, the Centers for Medicare and Medicaid Services (CMS) ranks all hospitals nationally on a 5-star rating system. The **star rating analyzes 57 measures of quality, such as rates of infections, complications, readmissions, patient experience and other outcomes** and includes some aspects of efficient care delivery. In St. Louis, 15% of hospitals received the 5-star distinction in 2016, compared to 9% nationally. No local hospital earned the top rating in 2015 (p. 2). Top-rated hospitals outperformed other hospitals on the more heavily weighted areas of outcomes, safety and patient experience.

Higher prices do not mean better quality

To identify "best value" this report graphs hospitals' star quality score against average adjusted all-payer, cost per case (p.14). **Among the 5-star hospitals, Mercy Washington and Barnes-Jewish West County had the lowest average adjusted payments and the best value.** These hospitals generally provide less-complicated services and may care for fewer economically disadvantaged patients than other metro area facilities. **Also 5-star, Mercy St. Louis and St. Luke's hospitals were more expensive than average and thus were not top value. Academic medical centers, 2-star rated Barnes-Jewish and 1-star rated St. Louis University,** received the highest average payments and the lowest quality ratings. Along with **Christian, SSM DePaul, SSM St. Mary's and OSF Saint Anthony's,** these hospitals provide the most care to lower-income populations.

Value-based payments spur improvements

Nationally and locally, outcomes have improved since the CMS value-based payments began six years ago. While hospital-wide unplanned return visits decreased slightly in 2016, **the greatest progress in reducing readmissions has been for hip and knee replacement surgeries** (p. 6). Fewer St. Louis hospitals saw penalties for preventable patient safety events in the **Hospital-Acquired Condition Reduction Program**, despite CMS expanding the metrics to non-intensive care unit settings. Over **75% of local hospitals reduced central-line infections and 30% fewer had infection rates above the national average** (p.7). In 2018, some local hospitals earned a larger bonus in **Hospital Value-Based Purchasing** as they improved outcomes and outpaced the national average on safety (p. 3).

A hospital changes its policy, charity care grows

Charity care increased to 2.3% of St. Louis hospitals' aggregate operating revenue driven by a twofold increase in charity care at Mercy hospitals. The system changed its application process to make it easier for patients to apply for assistance in 2016, which included patients that would have been eligible in 2015 (p.19).

Consumers fed up with paying more; want better value

After decades of shouldering ever-increasing costs, Americans are reaching the upper limit of what they can afford and questioning the value of high health care prices. Some self-employed people, for example, say health benefits costs have risen to triple their mortgage payment, and are opting to forego coverage.¹ This is not surprising given that health care now consumes 25% more household income than in 2007, measurably reducing spending on food, housing and clothing, the Labor Department said.² According to a 2017 survey, consumers no longer believe higher cost means better value and want quality health care delivered at a fair price.³

Reducing price increases, improving health care value

Nationally and locally, the implementation of value-based payment programs over the years has improved hospital care quality and safety. Still, much opportunity remains to further improve care delivery, **as this report's early assessment of St. Louis hospital value indicates higher prices do not translate to better quality care.** Efficient operations are known to produce safer, higher quality health care with fewer complications, reducing waste and cost. The recent shift toward value-based payments has the potential to better match resources to patients' clinical needs, reduce unnecessary care and improve outcomes. As cost efficiencies are realized, providers and health plans have a responsibility to share savings with their customers. However, this will occur only if health care purchasers and consumers step into their role: expecting the best care at a reasonable price and recognizing and rewarding providers that deliver value.

¹ J Tozzi, "Why Some Americans Are Risking It and Skipping Health Insurance," Bloomberg, March 26, 2018.

² A Sussman, "Burden of Health-Care Costs Moves to the Middle Class," WSJ, August 25, 2016.

³ A Mehrotra, et al. "Americans Support Price Shopping For Health Care, But Few Actually Seek Out Price Information," Health Affairs, August 2017.



Section One: Quality and patient safety

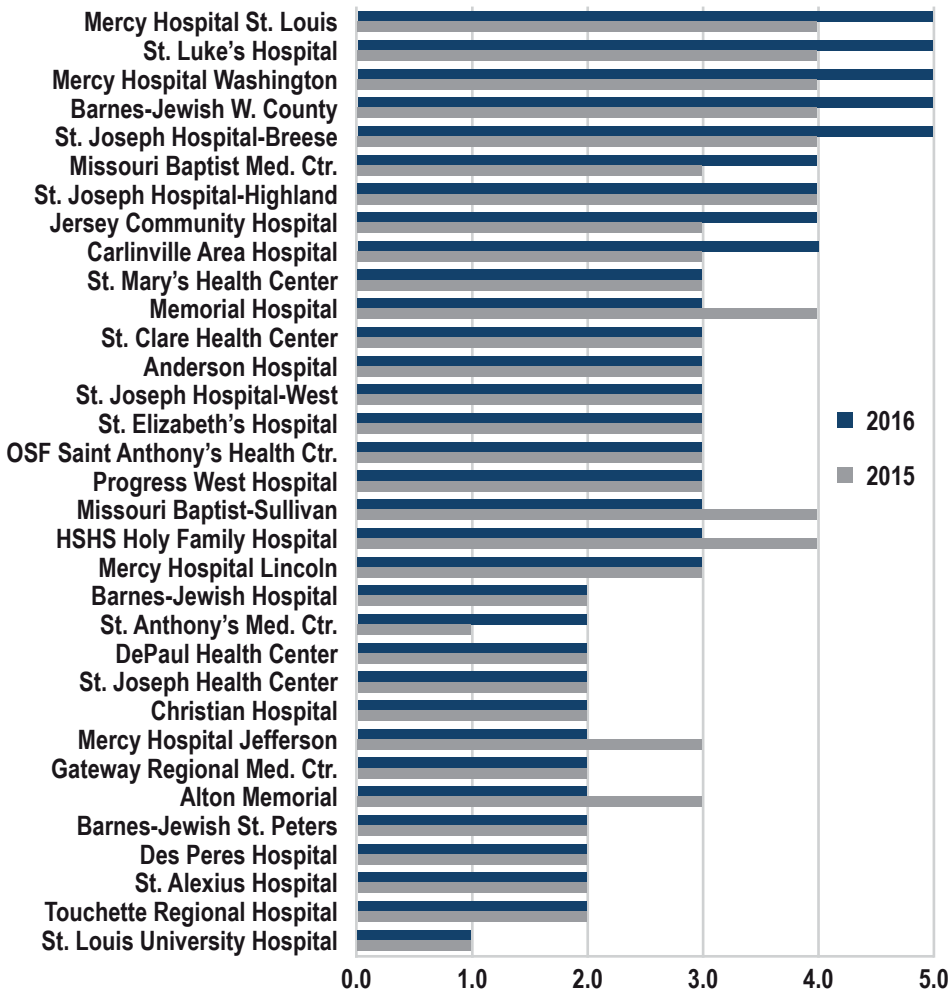
The choice of hospital matters. The Centers for Medicare and Medicaid Services (CMS) updated its bi-annual overall star rating program results on Hospital Compare for patients to use as a starting point when selecting a hospital. The rating blends 57 quality, safety, patient-reported experience and efficiency measures into a single score.



Nationally, there was a **threefold increase in the number of hospitals that earned a 5-star rating** in 2016 compared to the prior year. Changes in the scoring methodology resulted in more accurate differentiation of hospitals among the five categories. **In St. Louis, five hospitals received the 5-star designation**, as shown in the graph below. **Locally, 15% of hospitals received a 5-star rating compared to 9% nationally. St. Louis had no 5-star hospitals in 2015.**

Although Medicare offers hospitals a variety of pathways to achieve a 5-star rating, top-rated hospitals generally had better scores in the more heavily weighted outcome and patient experience domains (see box to the right). For example, **Mercy and St. Luke's outperformed lower rated hospitals on mortality and readmissions. Smaller hospitals, such as St. Joseph-Breese, Mercy Washington and Barnes-Jewish W. County scored better on safety and patient experience.**

St. Louis Area Hospitals CMS Overall Star Rating, 2015-2016



Source: Centers for Medicare and Medicaid Services. Mercy Hospital Lincoln's rating is based on inpatient data only.

Slightly fewer local hospitals received 3-star ratings and above in 2016. Despite lower readmissions across the region, 75% of hospitals in this group garnered penalties for higher than expected readmissions, including 3 out of 5 top-rated hospitals.

Twelve hospitals received 2-stars, up from nine in 2015 and only one was given 1 star. Many lower-rated hospitals were below average on outcomes and patient experience. **Nearly all were penalized in CMS value-based purchasing and readmissions reduction programs and four received hospital-acquired condition reduction program penalties.** Of the two teaching hospitals, Barnes-Jewish was rated 2 stars and St. Louis University only 1 star, the same as the previous year.

Overall Star Rating

Mortality 30-Days After Discharge (22%)

- Heart attack
- Coronary artery bypass graft
- Chronic obstructive pulmonary disease
- Heart failure
- Pneumonia
- Stroke
- Death among surgical inpatients

Readmission 30-Days After Discharge (22%)

- Coronary artery bypass graft
- Chronic obstructive pulmonary disease
- Elective hip & knee replacement
- Hospital-wide, risk-adjusted
- Pneumonia
- Stroke
- Excess days in acute care after discharge for heart attack and heart failure
- Outpatient Colonoscopy 7-day visit rate

Safety (22%)

- Central line catheter infections
- Catheter-associated urinary tract infections
- Surgical site infection colon surgery & abdominal hysterectomy
- Methicillin-resistant Staphylococcus aureus
- Clostridium difficile infection (CDI)
- Complication rates hip & knee replacement
- AHRQ PSI 90 composite

Patient Experience (22%)

- Hospital cleanliness and quietness
- Nurse communication
- Doctor communication
- Hospital staff responsiveness
- Pain management
- Medication communication
- Discharge information
- Overall hospital rating
- Willingness to recommend hospital
- Care transition 3-item metric

Efficient Use of Medical Imaging (4%)

- MRI lumbar spine for low back pain
- Double CT scan of the abdomen
- Double CT scan of the chest
- Cardiac imaging for low-risk surgery
- Simultaneous brain & sinus CT scan

Timeliness of Emergency Care (4%)

- Admit time from emergency department (ED)
- Time to admit from ED after physician order
- Median time ED arrival to ED departure
- Door to diagnostic evaluation in ED
- Pain management for fracture in ED
- Transfer time for acute coronary intervention
- Median time to ECG

Effectiveness of Care (4%)

- Influenza immunization
- Personnel influenza immunization
- ED patient left without being seen
- Brain scan within 45 minutes for stroke in ED
- Appropriate normal colonoscopy follow-up
- Appropriate colonoscopy follow-up for polyps
- Aspirin at arrival
- Early elective deliveries before 39 weeks
- Hospital-acquired lung or leg blood clot
- Bone metastases external beam radiotherapy

Bonuses increase as outcomes and patient safety improve



Now in its sixth year, the Hospital Value-Based Purchasing (VBP) Program is one of the earliest incentive payment systems developed by the Centers for Medicare and Medicaid Services (CMS). It rewards providers for delivering better patient experience and health outcomes at lower cost. To fund the program, CMS withholds a percentage of hospital reimbursement which is redistributed as an inpatient payment adjustment. In 2018, CMS paid approximately \$1.9 billion in bonuses for performance in 2016 relative to peers and their own results. Depending on results, a provider may receive as much as a 3% increase in payment or 1.65% decrease. The program is revenue neutral to CMS.

Measure ALERT!

In 2018, CMS restructured the VBP clinical care domain to focus solely on outcomes. In other changes, the safety domain added a metric for early elective deliveries without medical reason and patient experience now includes a care transition measure (see box below). For the first time, the four care areas on which hospitals are scored were weighted equally at 25%.

Nationally, more hospitals earned bonuses (57%) in 2018, up from 55% in the previous year. Total performance improved, driven by 10-point increases in average clinical outcomes (43.1) and safety scores (53.5), while patient experience also improved (38.2). In St. Louis, only 50% of hospitals earned a bonus, down from 59% in 2017, and the average bonus increased to 0.18%, shown in the table below. Local hospitals outperformed the national average on safety (56.5) while clinical outcomes also improved (38.9), increasing overall performance. Patient experience and efficiency scores declined, driving the increase in the number of hospitals penalized.

Medicare Hospital Value-Based Purchasing (VBP), 2018						
Hospital	Clinical Care Outcomes 2016	Experience of Care/ Care Coord. (HCAHPS) 2016	Patient Safety 2016	Efficiency 2016	Total Blended Performance Score	Bonus or Penalty %
St. Luke's Hospital	90.00	64.00	61.43	30.00	61.36	1.55%
Barnes-Jewish W. County	30.00	49.00	63.33	90.00	58.08	1.36%
HSHS Holy Family Hospital	10.00	51.00	100.00	70.00	57.75	1.34%
St. Joseph Hospital-Breese	30.00	100.00	70.00	20.00	55.00	1.18%
Mercy Hospital Washington	46.67	35.00	70.00	50.00	50.42	0.91%
Barnes-Jewish St. Peters	40.00	45.00	68.00	40.00	48.25	0.79%
Memorial Hospital	83.33	32.00	40.00	30.00	46.33	0.68%
St. Elizabeth's Hospital	36.67	36.00	82.86	20.00	43.88	0.54%
Mercy Hospital St. Louis	73.33	33.00	55.71	10.00	43.01	0.49%
St. Clare Health Center	63.33	44.00	45.71	10.00	40.76	0.36%
Touchette Regional Hospital	20.00	32.00	100.00	0.00	38.00	0.20%
Progress West Hospital	30.00	37.00	33.33	50.00	37.58	0.17%
OSF Saint Anthony's Health Ctr.	23.33	54.00	57.50	10.00	36.21	0.09%
Missouri Baptist Med. Ctr.	46.67	30.00	45.71	20.00	35.60	0.06%
Alton Memorial	16.67	30.00	40.00	50.00	34.17	-0.02%
St. Anthony's Med. Ctr.	30.00	31.00	51.43	20.00	33.11	-0.09%
Jersey Community Hospital	33.33	64.00	NA	0.00	32.44	-0.12%
Des Peres Hospital	36.67	42.00	47.50	0.00	31.54	-0.18%
St. Alexius Hospital	40.00	13.00	72.50	0.00	31.38	-0.19%
Barnes-Jewish Hospital	56.67	25.00	42.86	0.00	31.13	-0.20%
Gateway Regional Med. Ctr.	16.67	19.00	78.33	10.00	31.00	-0.21%
St. Mary's Health Center	60.00	18.00	35.71	10.00	30.93	-0.21%
Christian Hospital	53.33	22.00	40.00	0.00	28.83	-0.33%
St. Joseph Hospital-West	30.00	22.00	51.43	10.00	28.36	-0.36%
St. Joseph Health Center	30.00	23.00	54.29	0.00	26.82	-0.45%
Mercy Hospital Jefferson	33.33	24.00	45.71	0.00	25.76	-0.51%
Anderson Hospital	3.33	23.00	57.14	10.00	23.37	-0.65%
St. Louis University Hospital	26.67	11.00	15.00	0.00	13.17	-1.24%
St. Louis Average	38.93	36.04	56.50	20.00	37.65	0.18%

Hospital Value-Based Purchasing Program Domains

Clinical Care Outcomes (25%)

- Heart attack 30-day mortality rate
- Heart failure 30-day mortality rate
- Pneumonia 30-day mortality rate

Patient & Caregiver Experience of Care/Care Coordination (HCAHPS) (25%)

- Nurse communication
- Doctor communication
- Hospital staff responsiveness
- Medication communication
- Hospital cleanliness and quietness
- Care transition
- Discharge information
- Overall hospital rating

Safety (25%)

- Catheter-associated urinary tract Infection (CAUTI)
- Central line-associated bloodstream infection (CLABSI)
- AHRQ PSI 90 composite (p. 4)*
- Surgical site infection colon surgery & abdominal hysterectomy
- Methicillin-resistant Staphylococcus aureus (MRSA)
- Clostridium difficile infection (CDI)
- Pregnancy & delivery care: Early elective deliveries before 39 weeks

Efficiency & Cost Reduction (25%)

- Medicare spending per beneficiary

*Agency Healthcare Research and Quality Patient Safety Indicator includes 8 compliance metrics.

The Hospital-Acquired Condition Reduction Program (HAC) aims to make care safer by penalizing hospitals with higher rates of avoidable adverse events. The Centers for Medicare and Medicaid Services (CMS) levies a 1% payment reduction on hospitals with a risk-adjusted HAC score in the bottom 25% compared to peers.

Since the HAC reduction program represents events that are preventable and should not occur in any patient population no matter their social circumstance, CMS will not adjust the measures for social risk factors. This avoids holding providers to different standards, masking disparities in care quality or minimizing incentives to improve outcomes for disadvantaged populations, CMS said.¹

St. Louis Area Hospitals, 2018 Hospital-Acquired Condition (HAC) Reduction Program Penalties								
Lower Scores are Better Hospital Name	HAC		Domain 1 (15%)	Domain 2 (85%)				
	1% Penalty	Score	PSI 90 Score	CLABSI Score	CAUTI Score	SSI Score	MRSA Score	CDI Score
St. Louis University Hospital	Yes	0.78	2.29	0.93	0.42	0.46	0.54	0.54
St. Clare Health Center	Yes	0.70	-0.03	2.19	0.15	0.13	-0.57	-0.57
Barnes-Jewish St. Peters	Yes	0.56	2.33	2.19	-0.68	-0.42	-0.32	-0.32
Christian Hospital	Yes	0.43	2.33	0.82	0.28	0.10	-0.06	-0.06
DePaul Health Center	Yes	0.37	1.20	1.00	0.52	-1.35	-0.61	-0.61

Source: The Centers for Medicare and Medicaid Services. Scores are based on performance in 2016. Penalties apply to inpatient Medicare payments, indirect medical education and disproportionate share payments. *See text box below for an explanation of these adverse events.

In 2018, CMS made several notable changes to the HAC reduction program:



- New scoring methodology reduced the impact of extreme or outlying measure results.
- Domain 1, Serious Complications - Recalibrated PSI 90 composite, using Medicare patient population only and increased the number of measures from eight to 10, as shown in the box below.
- Central Line-Associated Blood Stream Infections and Catheter-Associated Urinary Tract Infections - Expanded measurement sites beyond ICUs to include medical, surgical, and medical-surgical wards.

Hospital-Acquired Condition Reduction Program, 2018

Domain 1 (15%)

Serious Complications (Recalibrated PSI 90 Composite)

- Pressure Ulcer Rate (bedsore)
- Iatrogenic Pneumothorax Rate (lung collapse)
- In-Hospital Fall with Hip Fracture Rate
- Perioperative Hemorrhage or Hematoma Rate
- Unrecognized Abdominopelvic Accidental Puncture/Laceration Rate
- Postoperative Measures:
 - Acute Kidney Injury Requiring Dialysis Rate
 - Respiratory Failure Rate
 - Pulmonary Embolism or Deep Vein Thrombosis Rate (lung or leg blood clot)
 - Sepsis (serious bloodstream infection)
 - Wound Dehiscence (surgical incision reopens)

Domain 2 (85%)

Healthcare Associated Infections

- Central Line-Associated Blood Stream Infections (CLABSI) in Intensive Care Units and Select Wards
- Catheter-Associated Urinary Tract Infections (CAUTI) in Intensive Care Units and Select Wards
- Surgical Site Infections (SSI)
 - Abdominal Hysterectomy
 - Colon Surgery
- Methicillin-resistant Staphylococcus aureus (MRSA)
- Clostridium difficile Infection (CDI)

In 2018, the HAC reduction program reduced payments by 1% to hospitals that scored above 0.3712, shown in the table above. Lower scores and negative scores indicate better performance. The bottom quartile cut-off was 6.57 in 2017 based on the old scoring methodology, thus hospital scores cannot be directly compared to prior years.

Interestingly, nationally and in St. Louis, introduction of the new scoring methodology and the expanded number of conditions subject to penalties resulted in fewer hospitals penalized. This is exactly the opposite compared to the effects of expansion in past years.

Nationally, 751 hospitals saw penalties in 2018, down from 769 the previous year. In St. Louis, only five hospitals were penalized, down from seven in 2017 (see table above). Four of the five local hospitals have been penalized in past years of the program.

The new recalibrated PSI 90 composite measure used by CMS is based on the Medicare Fee-for-Service population. In comparison, the former measure from the Agency for Healthcare Research and Quality (AHRQ PSI 90) focused on the all-payer population. Therefore, the PSIs currently used by CMS are categorized as “recalibrated” to differentiate them from the all-payer population used by AHRQ. In 2019, the VBP program (p. 3) will begin using the recalibrated PSI 90.

¹ M Castellucci, “New data from CMS’ hospital-acquired condition reduction program have analysts questioning value,” *Modern Healthcare*, December 21, 2017.

Readmission rates decrease across conditions in year six

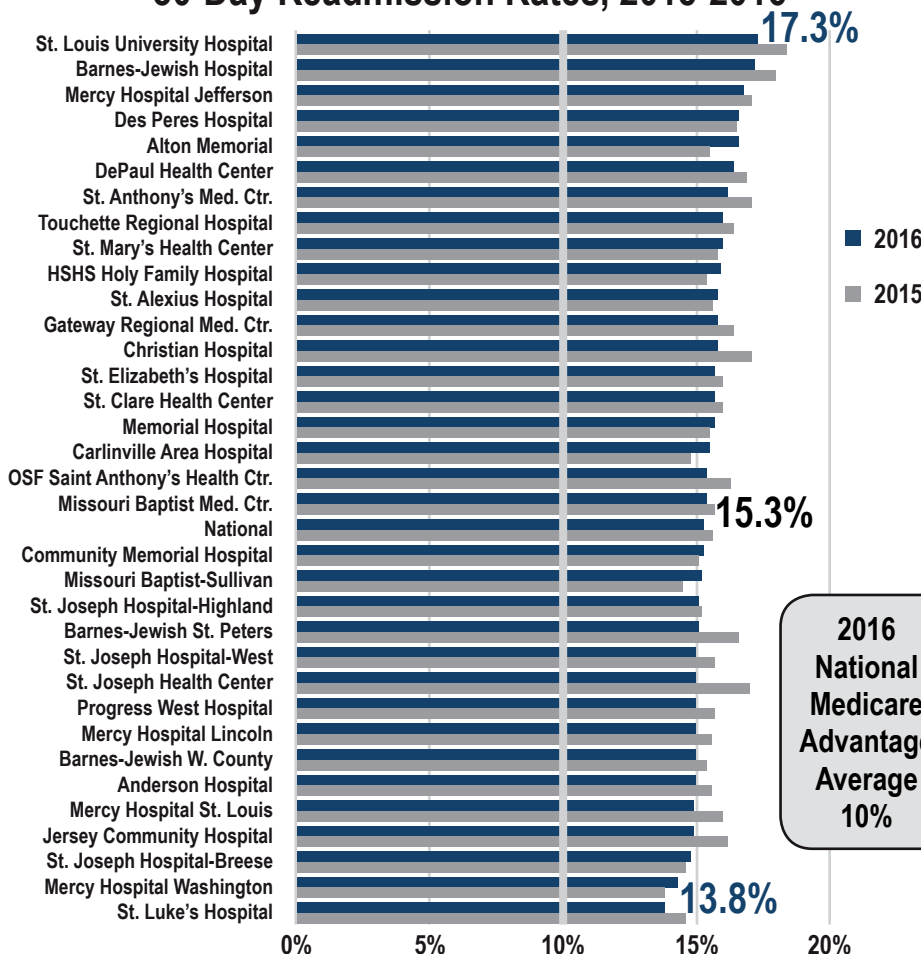
In 2016, readmission rates nationally continued to decrease (15.3%). The Centers for Medicare and Medicaid Services encourages hospitals to make certain patients have adequately recuperated and are prepared to go home by penalizing hospitals for having too many patients return within 30 days of discharge for six conditions: chronic lung disease (COPD), heart attack, heart failure, hip and knee replacement, heart bypass surgery and pneumonia. The Hospital Readmission Reduction Program (HRRP) is now in its sixth year.

High rates of readmissions have been a concern for decades since Medicare began paying a lump sum per admission based on diagnosis related group (DRG). Prior to DRG payment, hospital lengths of stay were longer. The implementation of DRGs has been accompanied by shorter patient stays and an increase in readmissions. The HRRP penalizes higher than expected readmissions to more fully align incentives and offset these effects.

Medicare penalized 74% of hospitals in St. Louis and 80% nationally in 2016, the same as the prior year. Penalties reduce what Medicare pays each hospital per patient stay. Locally, 25 hospitals saw penalties (see box below right) with 4 out of 5 fined in each year of the program. The BHC congratulates St. Luke's Hospital which had the lowest readmission rates and zero penalties in 4 out of 6 years.

Higher rates of unplanned return visits to local hospitals for heart failure, COPD and pneumonia were the major drivers of penalties. Some hospitals also had greater overall readmissions (see graph below), yet variation decreased and the gap in performance narrowed. Medicare Advantage plans continue to demonstrate that lower rates are possible, with just 10% of patients readmitted 30 days after discharge.

St. Louis Area Hospitals Hospital-Wide, Risk Adjusted 30-Day Readmission Rates, 2015-2016



St. Louis Hospitals, 2018 Medicare Hospital Readmission Reduction Program Penalties

Mercy Hospital Jefferson	2.83%
Alton Memorial	2.09%
Barnes-Jewish St. Peters	1.90%
Christian Hospital	1.69%
Gateway Regional Med. Ctr.	1.68%
OSF Saint Anthony's Health Ctr.	1.35%
Des Peres Hospital	1.18%
St. Anthony's Med. Ctr.	1.17%
Progress West Hospital	1.08%
Missouri Baptist Med. Ctr.	0.94%
St. Joseph Health Center	0.90%
Memorial Hospital	0.61%
DePaul Health Center	0.52%
St. Elizabeth's Hospital	0.52%
St. Alexius Hospital	0.51%
St. Clare Health Center	0.48%
Touchette Regional Hospital	0.25%
Barnes-Jewish Hospital	0.23%
Barnes-Jewish W. County	0.18%
St. Louis University Hospital	0.17%
Anderson Hospital	0.15%
St. Mary's Health Center	0.15%
Mercy Hospital St. Louis	0.08%
St. Joseph Hospital-West	0.06%
St. Joseph Hospital-Breese	0.05%

Source: Kaiser Health News, Centers for Medicare and Medicaid Services.

Some have objected to the Medicare metrics arguing that they do not measure actual differences in hospital performance and are more of a reflection of sociodemographic status that makes readmission more likely, such as poor health literacy or non-adherence to medication.¹ A recent study found **when the same patients were admitted with similar diagnoses to multiple hospitals in the best and worst performing quartiles within one year**, based on Medicare hospital-wide readmission metrics, they had significantly **higher risk of readmission after discharge at worse-performing facilities**. In these cases, the characteristics of the patients, including their level of social disadvantage, level of education or degree of underlying illness, were broadly the same. The alignment of these results adds evidence that the readmission metric classifies true differences in performance.²

¹ J Rau, "Under Trump, Hospitals Face Same Penalties Embraced by Obama," *Kaiser Health News*, August 3, 2017.

² H Krumholz, et al. "Hospital Readmission Risk – Isolating Hospital Effects from Patient Effects," *New England Journal of Medicine*, September 14, 2017.



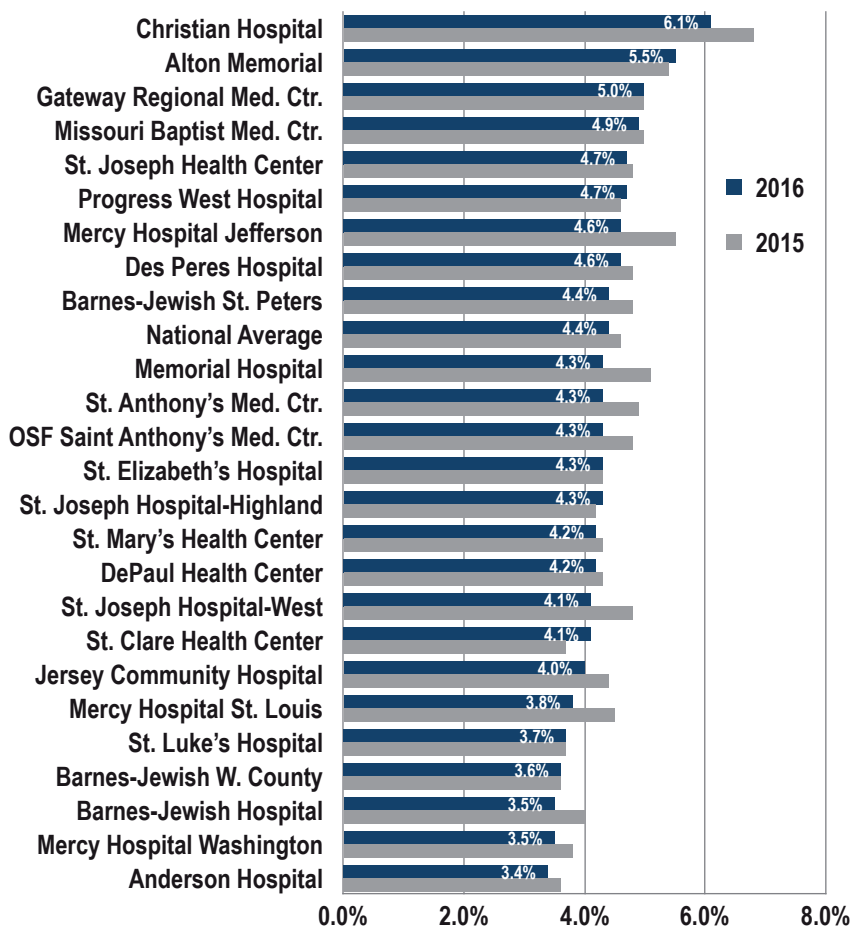
Local hospital readmissions drop below national rates

More than any other condition, nationally and locally hospitals have shown the greatest progress in reducing unplanned return visits for hip and knee replacement surgeries. Since the Centers for Medicare and Medicaid Services (CMS) included these procedures in the Hospital Readmission Reduction Program four years ago, average risk-adjusted readmission rates have decreased more than 20%.

In 2016, readmissions dropped to 4.4% nationally and 4.3% in St. Louis, down from 4.6% the prior year. Early results from public and private bundled payment models demonstrate better quality and reduced cost for hip and knee replacements that, in part have driven these reductions.¹ For the first time, 68% of local hospitals saw readmission rates below the national average (see graph below), variation declined and the performance gap narrowed.

Signature Medical Group (SMG) surgeons opted into Medicare's initial voluntary bundled payment program more than five years ago. Using a team approach, surgeons, physical therapists and case managers carefully assess the needs of patients and families before surgery and design treatment plans to ensure the patient, family and home environment are well prepared for optimal recovery after surgery. Patients are versed before surgery in post-procedure exercises and discharge planning, including home visits and care coordination, to best support recovery at home. **"Patients know what to expect prior to surgery which lessens their fear and apprehension during recovery,"** said Dr. Coles L'Hommedieu, SMG.

St. Louis Area Hospitals Risk-Standardized Readmission Rate Elective Hip and Knee Replacement, 2015-2016



Source: Centers for Medicare and Medicaid Services.

St. Louis Hospitals, 2016 Comprehensive Care for Joint Replacement Model Results

	Compl. Rate	Recon. Payment
Mercy Hospital Jefferson	4.9%	
Barnes-Jewish St. Peters	3.7%	
Alton Memorial ★★	3.6%	\$7,596
Memorial Hospital	3.3%	
Progress West Hospital	3.3%	
Missouri Baptist Med. Ctr.	3.2%	
St. Joseph Health Center ★	3.2%	\$24,029
Des Peres Hospital	3.1%	
St. Elizabeth's Hospital	3.1%	
DePaul Health Center	3.0%	
St. Joseph Hospital-West ★★	3.0%	\$3,974
Saint Anthony's Health Ctr.	2.9%	
Christian Hospital ★★	2.9%	\$11,601
National Average	2.8%	
Jersey Community Hospital	2.8%	
Barnes-Jewish Hospital	2.6%	
Barnes-Jewish W. County ★★ ★	2.6%	\$79,839
St. Anthony's Med. Ctr. ★★	2.4%	\$45,575
St. Joseph-Highland	2.4%	
St. Clare Health Center	2.3%	
St. Mary's Health Center	2.3%	
Anderson Hospital	2.2%	
Gateway Regional Med. Ctr.	2.2%	
Mercy Hospital St. Louis ★★ ★	2.1%	\$75,038
St. Luke's Hospital ★★ ★	2.0%	\$41,953
Mercy Hospital Washington ★★ ★	2.0%	\$26,634
Total	2.8%	\$316,239

Quality Rating: Excellent ★★ ★ Good ★★ Acceptable ★

In St. Louis, only Anthem and SSM Health offer bundled payments for knee and hip replacements to fully-insured commercial members. The most widespread model is the CMS Comprehensive Care for Joint Replacement (CJR) program which imposed mandatory bundled payments for hip and knee replacements across the nation in April 2016. **St. Louis hospital results for the first CJR model year** are shown in the box above right. **Four hospitals received excellent quality scores**, four were rated good and one was acceptable. Complication rates decreased across hospitals. **Nine hospitals held actual episode spending below the target price and received reconciliation payments.**

The CJR Model sets risk-adjusted target prices and holds hospitals, physicians, and post-acute care providers accountable for managing quality and costs across all components of the care episode from admission through recovery. Initially all providers are paid the usual Medicare payments. If expenses are held below the target, providers receive reconciliation payments. However, if costs exceed the target, providers must repay Medicare.

¹ B Mouille, et.al. "NEW RISK, NEW BUSINESS MODELS: How to Succeed in Bundled Payments for Total Joint Replacement," *NEJM Catalyst*, July 2017.

Local hospitals make more progress on reducing infections



Infections that patients acquire during the process of hospital care are a serious health care quality issue accounting for 99,000 deaths and \$28 - \$33 billion in excess costs annually in the U.S., the CDC said. Surgical site, central-line associated bloodstream infections (CLABSI), ventilator-associated pneumonia and catheter-associated urinary tract infections account for 75% of health care-associated infections (HAI).

Central lines are tubes placed into a large vein, often in the chest, which end near the patient's heart. While central lines can be pathways for bacteria, **most infections can be prevented** with correct insertion, cleaning, and care practice. This is **urgent given the rise in antimicrobial-resistant bacterial infections** which are more difficult to treat. In acute care hospitals, 1 in 6 CLABSIs are caused by antibiotic-resistant pathogens, the CDC said.

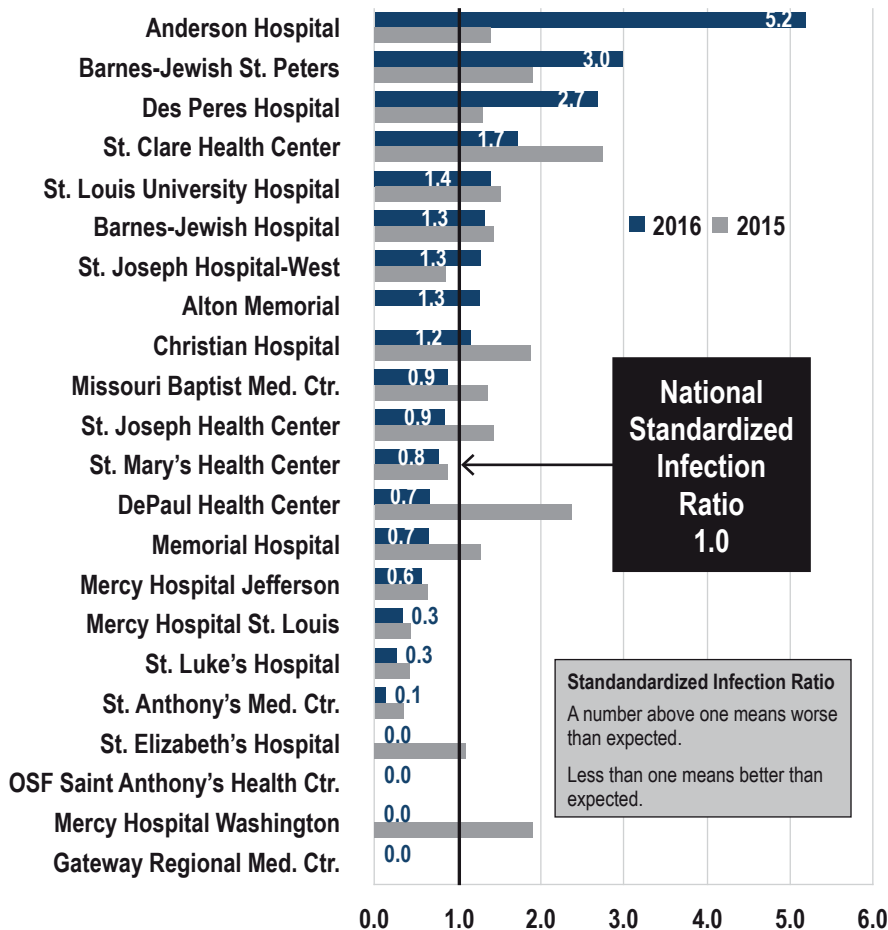
The CDC reports Standardized Infection Ratios (SIR), a risk-adjusted metric that compares a hospital's experience to a standard population. A SIR above one is worse than expected and below is better than expected. Nationally, hospitals **decreased CLABSI SIRs an average of 50% from 2008 to 2012**. Despite this, **rates in 2016 were similar to those in 2012** as progress lagged in reducing CLABSIs outside of the ICU, the CDC said.

In St. Louis, the majority of hospitals (77%) saw a decrease in CLABSIs in 2016 (see graph below) and 30% fewer had SIRs above one or worse than expected (above the national average) compared to the prior year.

Hospitals must report certain infections to the CDC to avoid financial penalties. Medicare's quality incentive programs also assess penalties in part on select HAIs including CLABSI. **Locally, nearly all hospitals that scored above one in 2016 saw penalties in the Hospital Value-Based Purchasing and Hospital Readmission Reduction programs and four were fined for Hospital-Acquired Conditions** (pgs. 3, 4 and 5).

Central Line-Associated Bloodstream Infections Standardized Infection Ratios (SIR) Intensive Care Units & Select Wards St. Louis Area Hospitals, 2015 - 2016

A score of zero is best



In 2015, the federal government launched the **National Action Plan for Combating Antibiotic-Resistant Bacteria (CARB)** which recognizes the interconnected relationship between infection, antibiotic use, and antimicrobial resistance. It focuses on prevention of HAIs, surveillance to detect the emergence of resistant organisms, research to develop new antibiotics and other therapeutic agents and international cooperation.

The CARB is a broad-based effort supported by the CDC, other federal agencies and Medicare provider quality incentive programs. **Progress is already evident.** In U.S. hospitals, **Methicillin-resistant Staphylococcus aureus (MRSA) bacteremia declined 13% between 2011 and 2014, and a further 5% by 2016.** Meanwhile, **C. difficile infections decreased 8% between 2011 and 2014, and a further 7% by 2016.**¹

In 2016, Missouri passed legislation aimed specifically at reducing antimicrobial resistance. By August 28, 2017 **each hospital and ambulatory surgical center was required to establish an antimicrobial stewardship program (ASP)** that is aligned with the CDC's Core Elements of Antibiotic Stewardship.

In Missouri, approximately 29% of hospitals and 64% nationally had an ASP in 2016 that followed the CDC's core elements that include:

- **Leadership Commitment:** Resources
- **Accountability:** Responsibility for outcomes
- **Drug Expertise:** Improve antibiotic use
- **Action:** Evaluate ongoing treatment
- **Tracking:** Clinicians' prescribing and resistance patterns
- **Reporting:** Tracking results to clinicians
- **Education:** Educate clinicians on prescribing

Source: Centers for Medicare and Medicaid Services (CMS) Hospital Compare. The SIR is a complex metric that adjusts for risk based on a number of factors such as patient care location and affiliation with a medical school. It also requires a minimum sample size to produce a score. In the U.S., CLABSIs occur in approximately 44.7% of ICUs and 55.3% of wards.

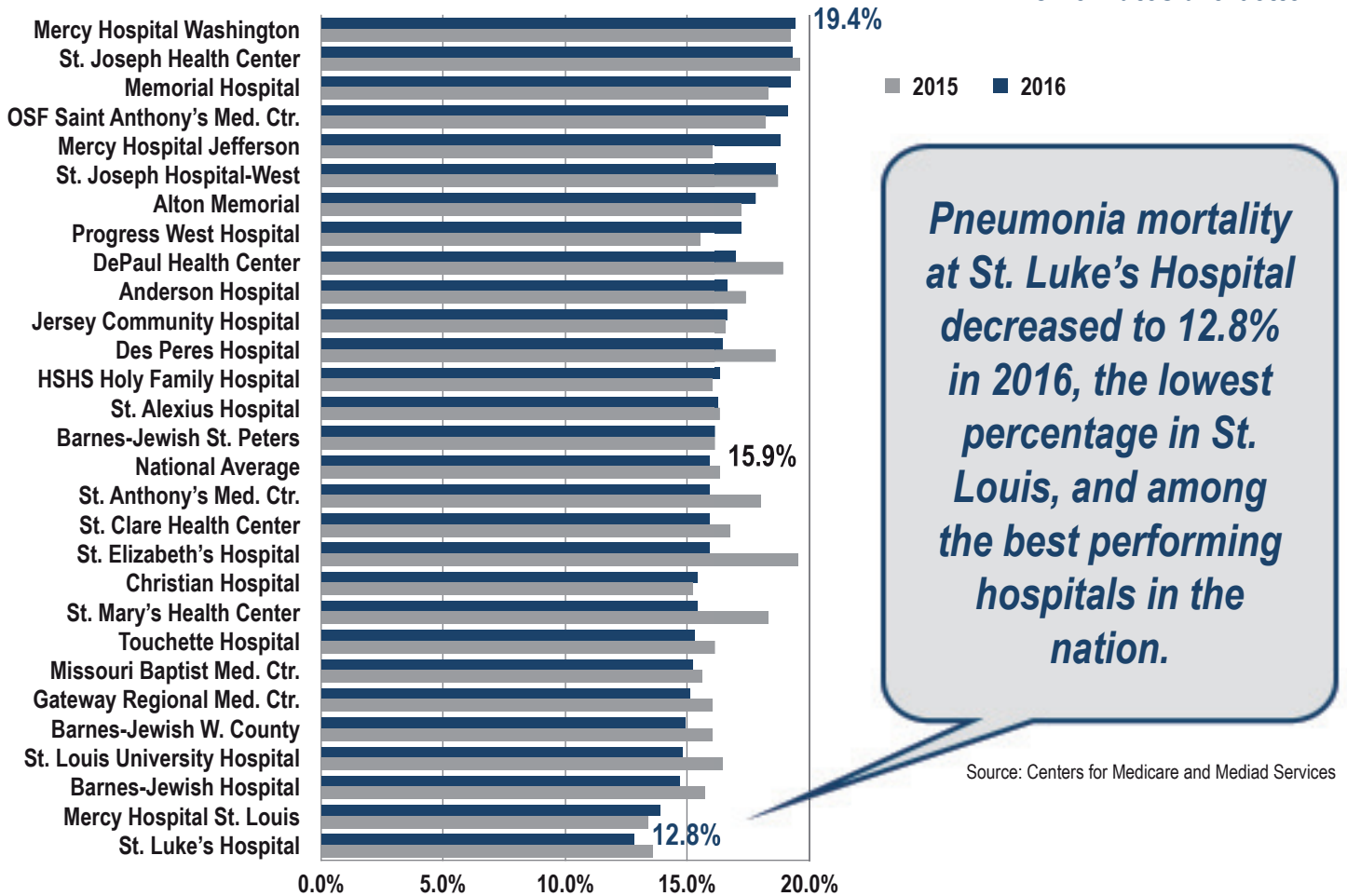
¹ National Action Plan For Combating Antibiotic-Resistant Bacteria, Progress Report for Years 1 and 2, October 2017.



National and local pneumonia mortality rates decline

St. Louis Area Hospitals, Pneumonia 30-Day Mortality Rates, 2015-2016

Lower rates are better



Pneumonia mortality at St. Luke's Hospital decreased to 12.8% in 2016, the lowest percentage in St. Louis, and among the best performing hospitals in the nation.

Source: Centers for Medicare and Medicaid Services

From 2010 to 2016, risk-adjusted mortality rates at U.S. hospitals decreased 1.7% across medical conditions, with the largest percentage point decline occurring in 2016 indicating health care quality continues to improve, the Medicare Payment Advisory Commission said.¹

In 2016, pneumonia mortality rates within 30 days of discharge decreased to 15.9% nationally, down from 16.3% compared to the prior year. Pneumonia is the most common cause of acute hospitalization in the United States, yet the quality of care for patients with pneumonia varies widely across hospitals. Nationally, mortality rates for pneumonia ranged from 9.3% to 26.1%.

In St. Louis, pneumonia mortality rates were 16.4% on average in 2016, down from 16.9% the previous year. More than 60% of local hospitals saw a decrease in mortality, as shown in the graph above. Still, there was wide variation among hospitals and the performance gap widened.

For two consecutive years, two local hospitals have been the top performers. As noted above, St. Luke's had the lowest mortality rate among local hospitals of 12.8%, down from 13.6% in 2015. St. Luke's attributes this success to its highly skilled physicians and close monitoring by its respiratory therapy service. Mercy Hospital St. Louis had the second lowest rate of 13.9%, up slightly from 13.4% in the prior year. Evidence-based medicine pathways have been integrated into the electronic medical record and it has high compliance with pathway use. Mercy St. Louis' data suggests there is lower mortality with pathway use.

Approximately 25% of local hospitals saw double-digit declines in pneumonia mortality. St. Elizabeth's hospital saw the largest decrease while St. Mary's, Des Peres, St. Anthony's Medical Center, DePaul and St. Louis University hospitals also saw large declines.

The Medicare program currently includes pneumonia mortality rates in its overall star rating program and adjusts hospital payments based on this metric in its Hospital Value-Based Purchasing program. Lower pneumonia mortality among local hospitals generally coincides with higher star ratings, larger bonuses and fewer penalties. In the future, Medicare may redesign the incentive program using an all-condition mortality metric.²

^{1,2} Report to Congress, Medicare Payment Advisory Commission, March 2018.

Most St. Louis hospitals receive “A” and “B” grades for safety



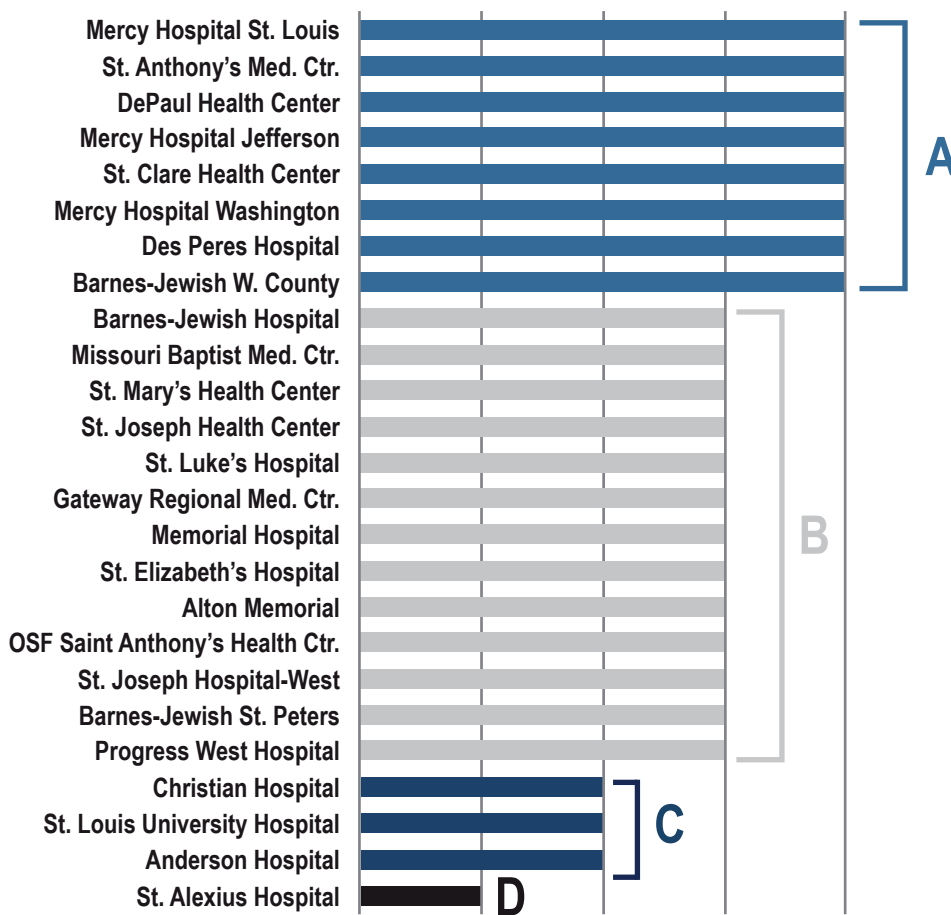
Ensuring patient safety is central to a high quality, efficient health care system. The Leapfrog Group Hospital Safety Grade reflects hospitals’ efforts to create a culture of safety over time (process and structural measures) as well as its safety-related results (outcome measures – see box below right). The score assigns a letter grade of “A” through “F.” In comparison, the CMS star program only considers results.

In 2018, nationally the percentage of hospitals that received grades “A, B, C and D” was about the same as the prior year. In St. Louis, a slightly higher percentage (32%) of hospitals earned a Leapfrog grade “A” in 2018, compared to 30% nationally.

For the fifth consecutive year, Des Peres and Mercy Hospital St. Louis received an “A” from Leapfrog. Notably, DePaul and St. Anthony’s Medical Center achieved an “A” in 2016, up from a “C” the previous year which stemmed from significant improvements in creating a culture of safety and reducing infections and other complications. Of the 13 (52%) hospitals that achieved “B” grades, six hospitals improved from grade “C” and six saw performance decline from grade “A.”

Leapfrog Hospital Safety Grade assigns equal weight to hospital efforts to improve patient safety, patient experience and outcomes.

Leapfrog Hospital Safety Grade St. Louis Hospitals, May 2018



Leapfrog Hospital Safety Grade

Process & Structural Measures (50%)

Leapfrog Hospital Survey

- Computerized Physician Order Entry
- ICU Physician Staffing
- Safe Practices:
 - Leadership to prevent errors
 - Staff work together to prevent errors
 - Track and reduce risks to patients
 - Enough qualified nurses
 - Handwashing

Patient Experience: Hospital Compare (HCAHPS)

- Nurse communication
- Doctor communication
- Hospital staff responsiveness
- Medication communication
- Discharge information

Outcome Measures (50%)

Hospital Compare (Patient Safety)

- Foreign object retained after surgery
- Air or gas bubble in the blood
- Patient falls
- Dangerous bedsores: Stage 3 or 4
- Death among surgical inpatients
- Iatrogenic pneumothorax (lung collapse)
- Accidental puncture or laceration
- Postoperative measures:
 - Respiratory failure
 - Lung or leg blood clot
 - Surgical wound splits open

Leapfrog Hospital Survey

- Central-line catheter infections (ICU Only)
- Catheter-associated urinary tract infections (ICU Only)
- Surgical site infection of the colon
- Methicillin-resistant Staphylococcus aureus (MRSA) bloodstream infection
- Clostridium difficile (C. diff) intestinal infections

Some performance survey answers may be taken from the American Hospital Association survey.

The Leapfrog Hospitals Safety Grade will be updated in 2018. In addition to updating existing measures in ways that raise the bar in the use of safety technology, new measures of importance to purchasers and the public will be added:

- **Computerized Physician Order Entry (CPOE):** Increase percentage of orders through an inpatient CPOE system from 75% to 85%.
- **Bar Coded Medication Administration:** Assesses hospital use of BCMA data for quality improvement.
- **New Measures**
 - **Pediatric Patient Experience of Care and radiation dose for Pediatric CT Scans.**
 - **Minimum hospital and surgeon volume standards** for carotid endarterectomy, mitral valve repair, aortic aneurysm repair, lung resection, esophageal resection, pancreatic resection, rectal cancer surgery and bariatric surgery for weight loss.
 - **Surgical appropriateness:** Hospital policies that monitor surgical necessity and prevent overuse of surgical procedures.



Section Two: Financial Performance

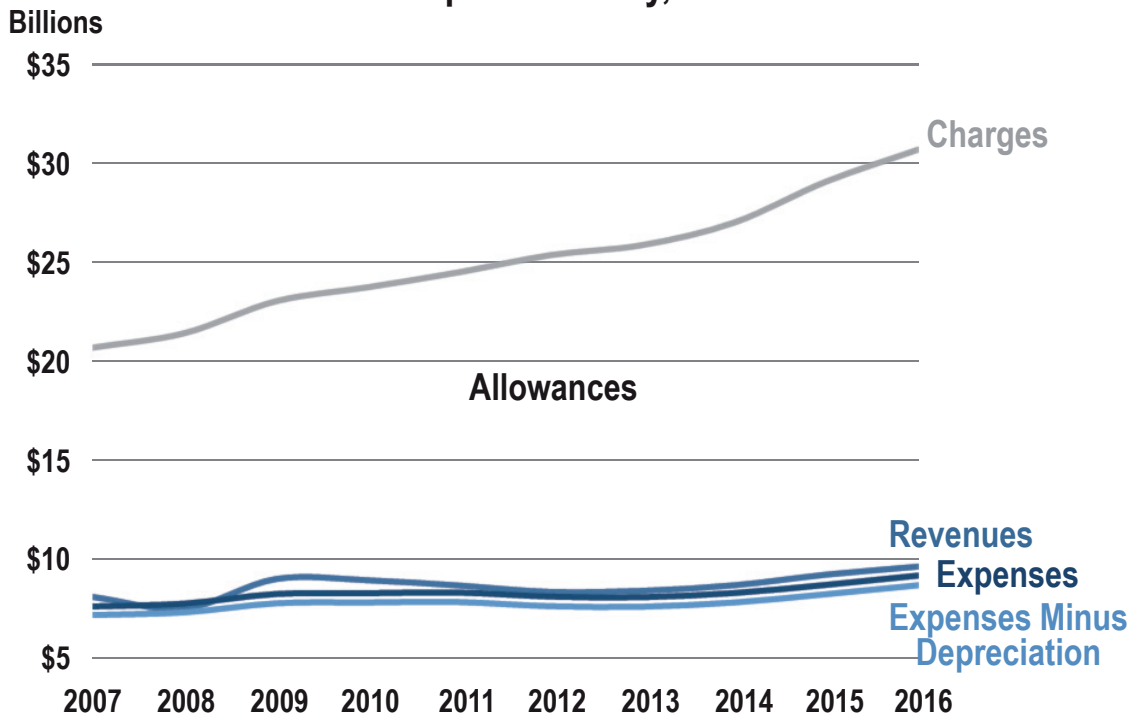
In 2016, U.S. health spending hit \$3.3 trillion, increasing 4.3%, after 5.8% growth in the prior year. As a result of this increase, health care took an increasing share of the overall economy, rising to 17.9% of gross domestic product.

Private health plans accounted for the largest share of health expenditures, growing 5.1%, after a 6.9% increase in 2015. This was driven by fewer services being used, after a slowdown in enrollment in both employer-sponsored plans and products purchased outside of the Affordable Care Act exchanges.¹

Employer-sponsored health benefits costs increased 2.4% in 2016, after 3.8% growth in the previous year, Mercer's National Survey of Employer-Sponsored Health Plans said. More employees moving into lower-cost consumer-directed health plans, increased engagement in workforce health initiatives, and use of telemedicine and transparency tools offered by employers helped hold down costs.² Still, health care was increasingly more expensive despite the lower use of services.

Medicare spending grew 3.6%, after a 4.8% increase in 2015 driven largely by a slowdown in Medicare Advantage enrollment and lower hepatitis C and diabetes prescription drug spending. Medicaid costs increased 3.9%, following a 9.7% increase the previous year as enrollment decelerated. A continued decline in **disproportionate share payments to hospitals and states' increased efforts to control costs.**³

Aggregate Charges, Revenues and Expenses St. Louis Area Hospital Industry, Shown in 2016 Dollars



Charges increased 5.5% in 2016.

Revenues increased 4.4% in 2016.

Expenses increased 5.4% in 2016.

Source: Centers for Medicare and Medicaid Services Medicare Cost Reports and audited financial statements. Inflation adjustments are based on the St. Louis area CPI (including medical component) provided by the U.S. Labor Department.

In 2016, St. Louis hospital market charges topped \$30 billion in 2016, a 5.5% increase and more than twice the rate of inflation. This represents total list prices for hospital services across the region, also referred to as the chargemaster. These prices may provide the starting point for fee negotiations with payers for hospitals and studies show charges have been used to maximize revenue among different services. Some hospital representatives say government and health plans pay negotiated rates, thus billed charges are largely irrelevant. While some local hospitals' policies offer Medicare rates to uninsured patients, others may charge as much as three times the negotiated price to people who lack coverage. Charges also affect insured patients that receive care out-of-network, and raise premiums for auto, casualty and workers' compensation insurance.

Revenues increased to \$9.6 billion, up 4.4% from the previous year driven by a nearly \$450 million increase in operating revenue. In St. Louis, inpatient days and discharges were flat to declining in 2016, while there was a notable shift in outpatient revenue that increased approximately 10%. Unlike previous years, **emergency department visits increased slightly by 2%**, down from 10% growth in the year prior. Non-operating revenue increased to \$63 million, up nearly 80% compared to 2015.

Expenses increased 5.4% as operating costs increased nearly \$509 million in 2016. Expenses related to mergers and acquisitions as well as start-up costs associated with opening a new hospital, Memorial Hospital East in Illinois, have in part driven the increase. In addition, on-going capital construction projects and integration of medical practices purchased in recent years have also contributed to increases in labor, technology, depreciation and other costs.

^{1,3} M Hartman, A Martin, N Espinosa, A Catlin, et al., "National Health Care Spending In 2016: Spending and Enrollment Growth Slow After Initial Coverage Expansions," *Health Affairs*, 37, No. 1 (2018).

² "Health Benefit Cost Growth Slows to 2.4% in 2016 As Enrollment in High Deductible Plans Climbs," Mercer's National Survey of Employer-Sponsored Health Plans, October 26, 2016.



Hospital Financial Performance, 2007-2016

Summary of Aggregate Financial Statements and Financial Indicators for St. Louis Area Hospitals

All figures are in millions of dollars.	2007 ^{1,2}	2008 ^{1,2}	2009 ²	2010 ²	2011 ²	2012 ²	2013 ²	2014 ²	2015 ²	2016 ²
INCOME SUMMARY										
Total Gross Charges	18,029	19,193	20,621	21,757	23,186	24,581	25,445	26,842	28,780	30,620
Less: Allowances	(11,405)	(12,258)	(13,251)	(14,185)	(15,449)	(16,864)	(17,617)	(18,681)	(20,089)	(21,472)
Net Patient Revenue	6,624	6,935	7,370	7,572	7,738	7,717	7,828	8,161	8,691	9,148
Other Operating Revenue	230	202	266	274	273	317	335	376	366	359
Total Operating Revenue	6,854	7,137	7,636	7,846	8,011	8,034	8,163	8,536	9,057	9,507
Total Operating Expenses	6,575	6,877	7,318	7,521	7,753	7,782	7,885	8,159	8,524	9,033
Income (Loss) from Operations	278	259	318	325	258	252	278	378	533	473
Non-Operating Revenue	170	(439)	392	317	128	22	66	60	34	63
Non-Operating Expenses	(29)	(45)	(32)	(39)	(48)	(44)	(26)	(48)	(56)	(81)
Excess (Deficit) of Revenues Over Expenses	420	(225)	678	603	338	229	317	390	511	455
BALANCE SHEET										
Current Assets:										
Cash and Marketable Securities	238	592	369	338	275	507	527	465	356	362
Net Patient Accounts Receivable	945	1,050	973	998	1,115	1,227	1,223	1,252	1,316	1,464
Other Receivables	65	95	34	59	75	137	207	255	447	79
Other Current Assets	316	205	230	246	239	252	249	301	328	325
Total Current Assets	1,565	1,942	1,605	1,640	1,703	2,123	2,206	2,273	2,448	2,230
Land, Building and Equipment Cost	6,954	7,580	8,070	8,487	8,733	8,893	9,364	9,686	10,009	10,074
Accumulated Depreciation	(3,748)	(4,024)	(4,333)	(4,639)	(4,891)	(5,268)	(5,571)	(5,963)	(6,279)	(6,064)
Net Land, Building and Equipment Cost	3,205	3,556	3,737	3,848	3,842	3,625	3,793	3,723	3,730	4,010
Investments Held by Trustee	551	475	386	430	424	403	368	372	352	344
Deferred Financing Costs	2	1	1	2	2	2	0	0	0	0
Other Cash and Investments	741	597	1,033	1,096	1,213	861	913	1,172	1,339	1,186
Other Assets	1,711	1,363	1,663	1,815	1,907	1,320	1,419	1,619	1,776	2,595
Total Assets	7,774	7,934	8,426	8,832	9,090	8,333	8,700	9,159	9,646	10,355
LIABILITIES AND FUND BALANCE										
Current Liabilities	1,390	1,747	2,014	2,199	2,099	927	914	935	916	1,237
Long-term Debt	1,115	1,202	1,281	1,224	1,168	996	956	975	989	810
Other Liabilities and Reserves	317	680	368	242	254	292	273	269	268	337
Fund Balance	4,953	4,306	4,763	5,167	5,571	6,118	6,556	6,980	7,473	7,981
Total Liabilities and Fund Balance	7,774	7,934	8,426	8,832	9,090	8,333	8,700	9,159	9,646	10,355
Endowment, Specific Purpose and Other Restricted Fund Balances	195	160	186	208	195	77	84	92	101	98
FINANCIAL INDICATORS										
Operating Margin	4.06%	3.64%	4.16%	4.14%	3.22%	3.13%	3.40%	4.43%	5.88%	4.98%
Profit Margin	5.97%	-3.35%	8.44%	7.39%	4.15%	2.84%	3.85%	4.54%	5.62%	4.75%
Return on Equity	8.47%	-5.22%	14.23%	11.67%	6.07%	5.07%	6.46%	7.49%	9.03%	8.28%
Mark-up Percentage (Charges over Cost)	174.2%	179.1%	181.8%	189.3%	198.7%	215.9%	222.7%	228.0%	237.6%	239.0%
Allowances as % of Charges	63.3%	63.9%	64.3%	65.2%	66.6%	68.6%	69.2%	69.6%	69.7%	70.1%

¹ In 2008, BJC HealthCare system's (\$477.6) million non-operating loss was included in non-operating revenue. St. Alexius and Forest Park hospitals were sold to Success Healthcare in 2008. Due to the transfer in ownership, 2007 and 2008 data could not be verified.

² Carlinville Area, Community Memorial, Greenville Regional, Jersey Community and St. Joseph (Highland) hospitals' data were added to existing aggregate data from 2003 to 2012 for the first time in the 2014 report. These hospitals became part of the St. Louis metropolitan statistical area after the U.S. Census in the year 2000. In 2014, Saint Anthony's Health Center (SAHC) was acquired by OSF and reported 10 months of data. In 2015, SAHC reported 11 months of data. On 3/1/2015, Mercy acquired Lincoln County Medical Center and reported only 4 months of data for 2015.

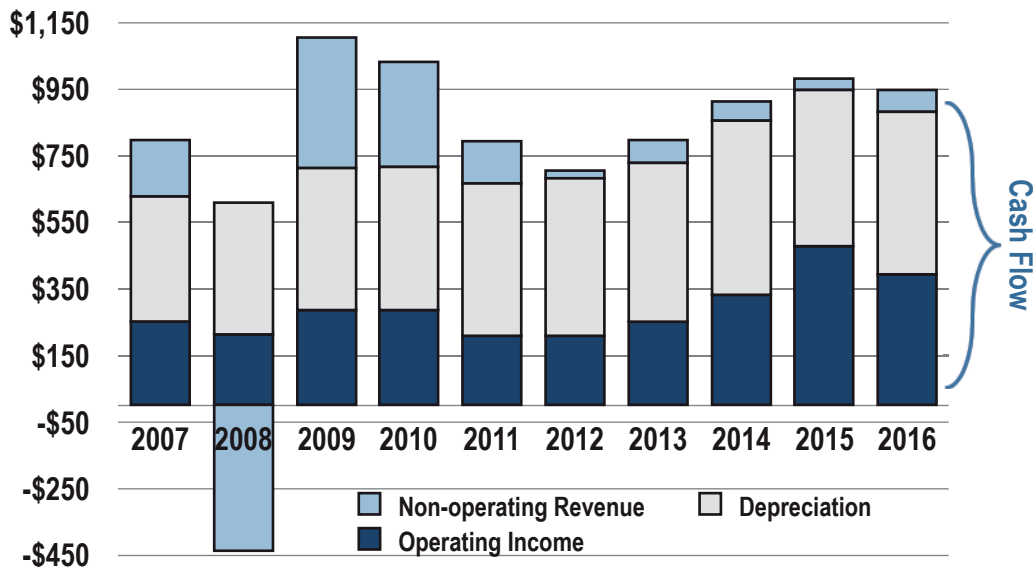
Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports and audited hospital financial statements. Note: Changes in previously reported data are based on most current information available including numerous restatements. All figures are rounded. All data in this table are not adjusted for inflation. Differences in accounting practices for expenses and investment income may understate some St. Louis hospital systems' profits. Although consistent with accepted accounting principles, hospital systems may allocate 100% of certain expenses (i.e., executive salaries) and investment and investment income proportionately to individual subsidiary hospitals while others retain some or all of these expenses at the system level. BHC has worked to collect this information and adjust for differences as possible but due to limited access to data, viewers should make comparisons with this in mind. BHC will continue its efforts to fully accommodate these differences in future reports and will adjust data retrospectively to allow trends to be evaluated.



Acquisitions, building projects drive expenses higher, profits lower

Aggregate Hospital Performance - Total Profit Profile St. Louis Area Hospital Industry, 2007-2016

Millions



In 2016, local hospital income decreased nearly 12%. Merger and other capital spending activities, in part, drove expenses higher. Cash flow remained strong despite a 5% decline as measured by operating income and depreciation.

Source: Medicare Cost Reports, audited financial statements, and MHA/AHA Annual Licensing Surveys. Data are not adjusted for inflation. Non-operating revenue is now reported mainly at the hospital system level.

Nationally, non-profit hospitals posted a median 2.7% operating margin in 2016, down from 3.4% the previous year, according to Moody's Investor's Service. Annual operating expenses grew 7.5%, faster than the 6.6% increase in revenues during the same period. **Expense growth was largely driven by labor and supply costs as more people gained private insurance coverage and hospital employment increased.** Median profit margins decreased to 3.7%, down from 5.7% the previous year.¹

In St. Louis, operating margins were 5% in 2016, about the same as the prior year, yet results varied across the region. **Missouri hospitals in the metro area posted an average 6.6% operating margin**, driven by the Mercy health system which garnered the largest margin in the region and accounted for over 70% of the increase in income. Illinois metro hospitals saw operating income drop resulting in a -6.6% margin.

The **region's profit margin decreased to 4.8%, down from 5.6% in 2015 due to higher expenses at Metro East hospitals.** During the period, BJC HealthCare purchased Memorial Hospital in Belleville and opened a new hospital, Memorial Hospital East, both in Illinois. Costs associated with the acquisition resulted in a 30% drop in operating income, BJC said.² St. Elizabeth's Hospital, a member of Hospital Sisters Health System, built a new replacement hospital and saw a nearly \$38 million income decline. SSM expenses increased 7.7% coinciding with the acquisition of St. Louis University Hospital, which was offset by a 9% increase in operating revenue.

The **St. Louis hospital market is now highly concentrated** as measured by the Herfindahl-Hirschman Index (HHI), a commonly accepted measure of market concentration used by the Department of Justice. In the local market the index was over 2,500, which the agency considers to be highly concentrated and likely to enhance market power. **This could drive up prices and potentially harm consumers.**

In 2016, **charity care costs increased to 2.3% of operating revenue** in St. Louis, up 9% compared to the prior year (see table below). Still, this percentage is under 3% of operating revenue, which is the level recommended by the Coalition Board in 1998 as the **minimum threshold of charity care that non-profit hospitals should provide.**

Bad debt expense decreased slightly for the second consecutive year to 2% of operating revenue. **Still, the amount of charity care and bad debt expense, referred to as "uncompensated care" accounted for only 4.3% of expenses in the region, having little impact on profitability.**

System Name	MHA Charity Care as % of op. rev.		Operating Margin	
	2015	2016	2015	2016
BJC HealthCare	2.5%	2.4%	5.6%	3.8%
SSM Health	2.8%	2.7%	6.2%	7.3%
Mercy	1.3%	2.5%	8.9%	11.1%
St. Luke's Hospital	1.1%	1.3%	5.0%	2.1%
Hospital Sisters Health System	1.0%	2.0%	-3.4%	-19.7%
Missouri Non-Merged	1.7%	1.1%	0.0%	-4.4%
Illinois Non-Merged	1.0%	1.0%	3.4%	0.0%
Aggregate St. Louis Hospitals	2.1%	2.3%	5.9%	5.0%
Increase (Decrease) 2015/2016		9%		(15%)

¹ "Not-for-Profit Healthcare and Public Hospitals -US: Preliminary 2016 Medians Skew Lower As Revenue and Expense Pressures Hinder Profitability," Moody's Investors Service, May 16, 2017.

² A Mueller, "BJC records revenue jump from Memorial, but it comes at a price," St. Louis Business Journal, March 10, 2017.

2016 Individual hospital and system results



System name (market share ¹)	Avail. beds	Patient days	Avail. occup. %	Avg. LOS	FTE per occup. bed	Net profit	Profit margin	Profit margin net of deprec.
BJC HealthCare (35.59%)								
Alton Memorial	152	26,679	48.0%	3.8	3.6	184,893	0.13%	8.24%
Barnes-Jewish Hospital	1,323	324,619	67.0%	6.0	5.5	63,932,381	3.45%	9.09%
Barnes-Jewish - St. Peters	113	20,611	49.8%	4.2	3.2	7,126,037	6.10%	14.60%
Barnes-Jewish W. County	77	6,051	21.5%	2.4	4.7	12,565,584	10.88%	16.92%
Christian Hospital	460	62,295	37.0%	5.1	4.4	-19,958,503	-7.70%	-2.66%
Memorial Hospital	316	58,011	50.2%	4.5	5.1	-11,714,510	-4.96%	-0.77%
Memorial Hospital East ²	94	9,204	42.6%	3.3	5.4	-32,931,971	-100.68%	-76.47%
Missouri Baptist Hospital - Sullivan	35	7,918	61.8%	4.1	1.9	373,697	0.69%	7.32%
Missouri Baptist Med. Ctr.	450	91,720	55.7%	4.4	4.0	25,474,197	4.35%	9.96%
Progress West Hospital	72	10,484	39.8%	3.3	4.5	-1,154,362	-1.72%	7.46%
St. Louis Children's Hospital	280	78,011	76.1%	7.4	8.5	58,014,937	9.85%	15.08%
Network Total	3,372	695,603	57.0%	5.2	5.2	101,912,380	2.51%	8.37%
SSM Health (26.45%)								
Cardinal Glennon Children's Hospital	191	52,698	75.4%	5.7	6.3	45,509,598	12.71%	16.27%
DePaul Health Center	442	120,667	74.6%	5.6	2.8	47,123,231	11.41%	13.97%
St. Clare Health Center	180	42,654	64.7%	4.6	4.1	5,039,680	2.71%	6.93%
St. Joseph Health Center ³	406	73,361	49.4%	5.4	3.0	8,142,066	3.48%	7.43%
St. Joseph Hospital - West	116	32,383	76.3%	3.9	3.8	15,047,747	11.28%	15.22%
St. Louis University Hospital	329	100,915	83.8%	6.0	3.8	24,727,826	5.03%	10.00%
St. Mary's Health Center	420	86,815	56.5%	4.4	3.9	15,158,347	4.22%	7.72%
Network Total	2,084	509,493	66.8%	5.2	3.8	160,748,495	7.39%	11.19%
Mercy (22.15%)								
Mercy Hospital Jefferson	206	44,532	59.1%	5.6	3.4	11,748,803	7.57%	15.24%
Mercy Hospital Lincoln	25	3,417	37.3%	4.4	4.1	-1,197,344	-4.21%	-3.63%
Mercy Hospital St. Louis	816	202,321	67.7%	4.8	3.9	184,376,259	17.42%	21.76%
Mercy Hospital Washington	148	19,012	35.1%	2.8	4.1	28,688,750	16.05%	20.38%
St. Anthony's Med. Ctr. ⁴	671	110,896	45.2%	4.4	4.5	-14,991,000	-3.33%	1.73%
Network Total	1,866	380,178	55.7%	4.6	4.0	208,625,468	11.15%	15.89%
St. Luke's Hospital (4.91%)								
Des Peres Hospital ⁵	107	15,636	39.9%	3.5	4.9	-1,654,879	-1.60%	2.31%
St. Luke's Hospital	399	58,919	40.3%	4.3	5.1	18,150,000	3.67%	8.45%
Network Total	506	74,555	40.3%	4.1	5.5	16,495,121	2.76%	7.39%
Hospital Sisters Health System (3.22%)								
HSHS Holy Family Hospital ⁶	42	4,971	32.3%	4.0	2.7	-4,289,188	-15.84%	-9.86%
St. Elizabeth's Hospital	230	33,497	39.8%	3.9	5.0	-51,975,000	-33.13%	-23.09%
St. Joseph Hospital (Breese, IL)	49	3,306	18.4%	2.7	5.5	-1,984,000	-3.72%	1.84%
St. Joseph Hospital (Highland, IL)	25	6,542	71.5%	6.4	3.5	-1,381,000	-3.40%	5.38%
Network Total	346	48,316	38.2%	4.0	5.3	-59,629,188	-21.45%	-12.85%
Missouri Non-Merged (1.18%)								
Kindred Hospital (Kindred Healthcare)	60	17,995	81.9%	25.5	3.4	510,086	1.76%	3.21%
St. Alexius Hospital (Success Healthcare)	164	37,890	63.1%	10.2	3.7	-4,307,677	-7.36%	-4.81%
Total	224	55,885	68.2%	10.2⁷	3.2	-3,797,591	-4.34%	-2.15%
Illinois Non-Merged (6.50%)								
Anderson Hospital	150	29,313	53.4%	3.3	4.5	31,674,253	17.34%	21.59%
Carlinville Area Hospital	25	3,621	39.6%	7.4	2.4	915,348	3.83%	15.08%
Community Memorial Hospital	25	1,063	11.6%	4.5	2.4	904,795	5.34%	11.02%
Gateway Regional Med. Ctr. (Quorum Health)	332	37,344	30.7%	5.1	3.2	2,839,422	2.51%	9.03%
Jersey Community Hospitalxx	46	2,928	17.4%	3.2	3.3	1,115,252	2.81%	6.84%
OSF Saint Anthony's Health Ctr.	118	13,405	31.0%	3.7	4.5	-7,907,526	-10.88%	-4.75%
Touchette Regional Hospital	124	9,840	21.7%	3.7	4.5	900,921	1.58%	6.03%
Total	820	97,514	32.5%	4.0	4.6	30,442,465	6.02%	11.43%
Aggregate for 38 St. Louis Hospitals	9,218	1,861,544	55.4%	4.9⁷	4.3⁸	454,797,150	4.75%	9.87%

¹ Market share percentages for each network are based on total number of discharges for the hospitals in the network. Hospital network configurations are current as of 2018.

² Memorial Hospital East in Shiloh, IL opened on May 16, 2016, thus only 7.5 months of data are reported for 2016.

³ St. Joseph Health Center & St. Joseph Hospital-Wentzville report on a combined basis.

⁴ Mercy finalized acquisition of St. Anthony's Medical Center in June 2017.

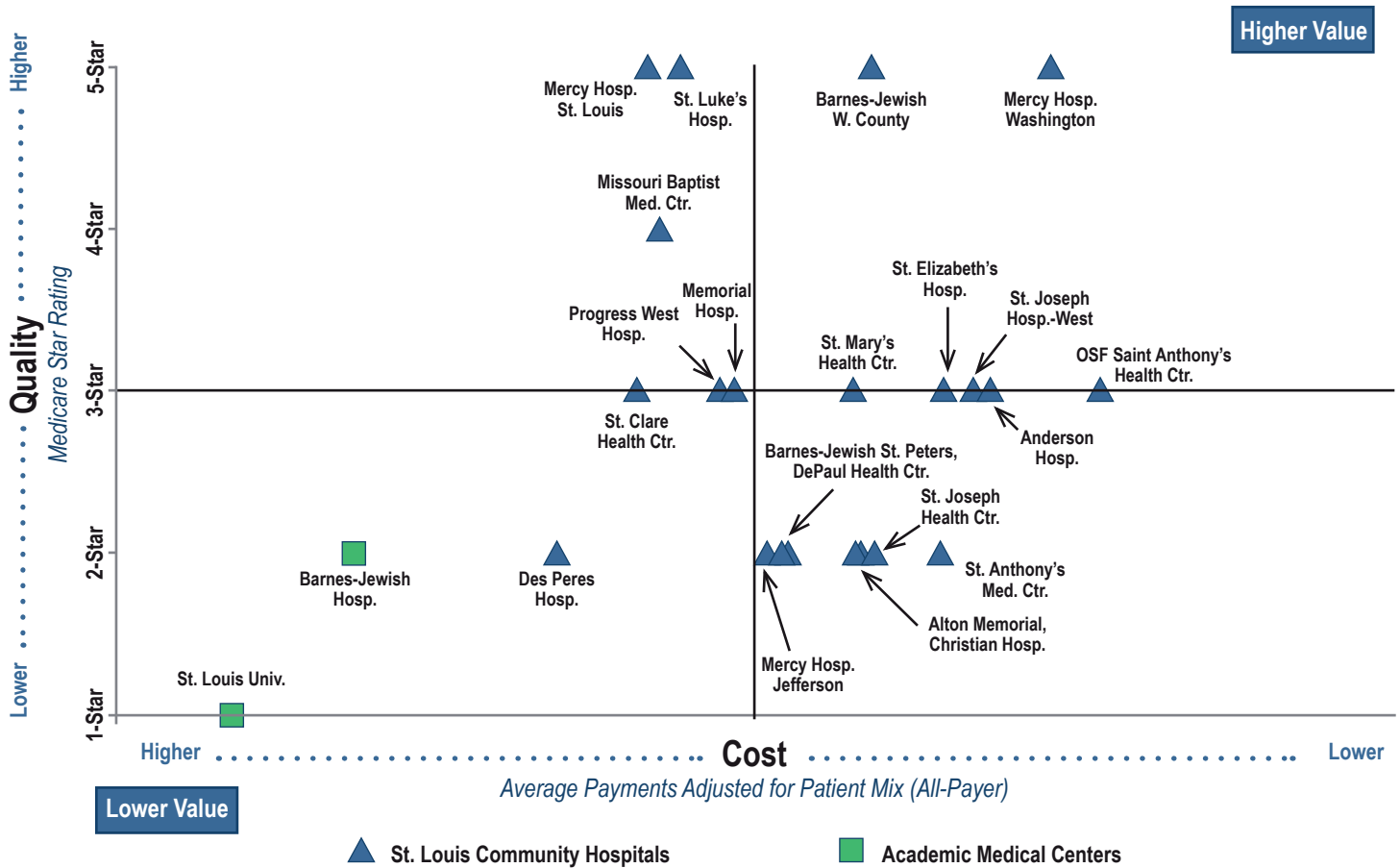
⁵ St. Luke's Hospital agreed to purchase Des Peres Hospital in January 2018.

⁶ Hospital Sisters Health System acquired Greenville Regional Hospital in May 2016 and renamed it HSHS Holy Family Hospital.

⁷ Kindred Hospital, a long-term acute care hospital, is not included in the aggregate average LOS figure.

⁸ St. Louis average excludes two teaching hospitals, Barnes-Jewish Hospital and St. Louis University Hospital, that may have higher numbers of FTEs.

Comparing Value, Non-Profit St. Louis Hospitals, 2016 (Excludes Pediatric, Rural and Critical Access Hospitals)



The U.S. spent nearly twice as much on health care as other high-income countries in 2016, despite trailing most nations on health outcomes. **High prices were the main driver of the staggering cost, a recent American Medical Association study found.**¹

American consumers report the desire for quality care at a fair price among their top concerns.² Hospitals have been working to measure, refine and standardize their processes of care to improve safety, care quality and patient experience. Research and learning from other industries suggests these efforts will pay off, resulting in better health outcomes at lower cost, delivering what consumers want.³ Some hospitals, as indicated here, are further ahead in this important work.

The graph above attempts to identify “best value”... by connecting quality and cost. It plots hospitals’ overall Medicare star rating in which care quality, safety and patient experience are heavily weighted (see p. 2) against the average payment received by the hospital across all payers (see p. 15). All measures are case mix adjusted. The upper right quadrant represents the best value -- an above average quality rating at a lower average payment -- while the lower left quadrant reflects the opposite (lower quality and higher payments).

Hospital payments ranged widely, even within similar quality ratings. Among the top quality (5-star rated) hospitals, Mercy Washington had the best value, followed by Barnes-Jewish West County. While also the best quality, Mercy St. Louis and St. Luke’s hospitals are more expensive and thus do not make the high value quadrant. It should be noted that two of the lower value hospitals, 2-star rated Barnes-Jewish and 1-star rated St. Louis University, are also academic medical centers and **along with Christian, SSM DePaul, SSM St. Mary’s and OSF Saint Anthony’s (Alton), these hospitals provide the most care to lower-income populations.**

This chart provides a starting point to assess comparative value across hospitals and changes over time. Like all measures it has limitations. For instance, Medicare data dominates many of the quality metrics in the overall star ratings. BHC welcomes input from community partners and lessons learned from other regions.

¹ I Papanicolas, LR Woskie, AK Jha, “Health Care Spending in the United States and Other High-Income Countries,” *JAMA*. 2018;319 (10):1024-1039.

² F Scott-Morton, T Lee, “We Can’t Spend All Our Money on Health Care,” *NEJM Catalyst*, April 13, 2018.

³ S Alexander, “Can high-quality healthcare actually cost less?” *Premier*, www.premierinc.com.

Hospital value varies widely within quality ratings, systems



In 2016, patients, employers, Medicare and Medicaid paid St. Louis hospitals more than \$9.1 billion for inpatient and outpatient hospital care (see p.11), up 4.4% compared to the prior year adjusted for inflation. The Average Payment Adjusted for Patient Mix across all payers was \$5,337, slightly below the previous year. The average payment amount varied widely among hospitals and within systems, as shown in the table below. St. Louis University garnered the largest average payment while OSF Saint Anthony's Health Center (Alton) received the lowest.

The three largest hospital systems - BJC, SSM, and Mercy - accounted for approximately 85% of overall patient revenue in the St. Louis hospital market in 2016. However, exercise caution when comparing average payments among hospitals within each system and across the region. Patient volumes vary considerably at the individual hospital level. As mentioned earlier in the report, Medicare star ratings and average payments provide a starting point for consumers when planning ahead for hospital care for themselves and their families. Choosing a hospital is a complex and personal decision that reflects individual needs and preferences. People should consider a variety of factors when choosing a hospital, such as physician guidance about care needs and other sources of information specific to a patient's medical condition or procedure, such as rates of complications and patients' experiences. Based on this information, patients have a better opportunity to find the best value hospital that meets their health care needs.

St. Louis Area Non-Profit Hospitals Value Comparison, 2015 - 2016

System Name (Market Share ¹) (Excludes Pediatric, Critical Access and Rural Hospitals)	Quality		Financial				
	Medicare Star Rating	Average Payment Adjusted for Patient Mix (All-Payer) ¹	Average Payment Adjusted for Patient Mix (All-Payer) ¹		% Change	Operating Margin	
			2015	2016		2015	2016
BJC HealthCare (35.59%)							
Alton Memorial	3	2	\$4,843	\$4,931	1.8%	9.85%	5.76%
Barnes-Jewish Hospital	2	2	\$8,088	\$7,790	-3.7%	3.19%	2.82%
Barnes-Jewish - St. Peters	2	2	\$5,215	\$5,231	0.3%	9.62%	10.75%
Barnes-Jewish W. County	4	5	\$4,861	\$4,853	-0.2%	12.79%	13.26%
Christian Hospital	2	2	\$5,013	\$4,914	-2.0%	-0.06%	-3.64%
Memorial Hospital	4	3	\$5,727	\$5,437	-5.1%	13.35%	0.86%
Missouri Baptist Med. Ctr.	3	4	\$5,670	\$5,769	1.7%	6.15%	7.33%
Progress West Hospital	3	3	\$4,502	\$5,489	21.9%	5.32%	6.83%
SSM Health (26.45%)							
DePaul Health Center	2	2	\$4,947	\$5,214	5.4%	11.01%	11.18%
St. Clare Health Center	3	3	\$5,169	\$5,888	13.9%	0.52%	2.44%
St. Joseph Health Center ²	2	2	\$5,047	\$4,847	-4.0%	4.52%	3.71%
St. Joseph Hospital - West	3	3	\$5,186	\$4,437	-14.4%	13.53%	11.25%
St. Louis University Hospital	1	1	\$8,122	\$9,052	11.5%	-4.69%	5.70%
St. Mary's Health Center	3	3	\$4,960	\$4,939	-0.4%	7.43%	3.65%
Mercy (22.15%)							
Mercy Hospital Jefferson	3	2	\$3,943	\$5,299	34.4%	5.37%	7.57%
Mercy Hospital St. Louis	4	5	\$5,629	\$5,831	3.6%	13.05%	16.64%
Mercy Hospital Washington	4	5	\$5,052	\$4,110	-18.6%	18.22%	15.93%
St. Anthony's Med. Ctr. ³	1	2	\$4,362	\$4,573	4.8%	-1.55%	-1.18%
St. Luke's Hospital (4.91%)							
Des Peres Hospital ⁴	2	2	\$6,826	\$6,325	-7.3%	4.12%	-1.60%
St. Luke's Hospital	4	5	\$5,820	\$5,672	-2.5%	5.15%	2.98%
Hospital Sisters Health System (3.22%)							
St. Elizabeth's Hospital	3	3	\$4,423	\$4,553	2.9%	-9.00%	-33.10%
Illinois Non-Merged							
Anderson Hospital	3	3	\$5,019	\$4,363	-13.1%	7.28%	1.93%
OSF Saint Anthony's Health Center	3	3	\$4,026	\$3,899	-3.2%	-2.10%	-11.92%
Hospitals' Payment Average, Unweighted⁵			\$5,356	\$5,337			

¹ Market share percentages for each network are based on total number of discharges for the hospitals in the network. Hospital network configurations are current as of 2018. The Average Payment Adjusted for Patient Mix reflects inpatient and outpatient hospital care for all-payers and is Medicare case-mix adjusted. For the first time in 2016, outpatient payments accounted for 52% of hospital revenue. ² St. Joseph Health Center & St. Joseph Hospital-Wentzville report on a combined basis. ³ Mercy acquired of St. Anthony's Medical Center in June 2017. ⁴ St. Luke's Hospital agreed to purchase Des Peres Hospital in January 2018. ⁵ Based on all-payer average payments per adjusted discharge and patient mix for 29 St. Louis hospitals.



St. Louis Area Hospital Industry, 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Missouri Hospitals										
Barnes-Jewish Hospital	2.18%	3.60%	3.45%	3.74%	4.02%	3.53%	3.17%	4.35%	3.19%	2.82%
Barnes-Jewish - St. Peters	11.78%	12.51%	17.77%	15.78%	10.93%	8.12%	7.56%	10.63%	9.62%	10.75%
Barnes-Jewish W. County	14.04%	11.80%	11.82%	15.57%	15.38%	13.14%	12.78%	14.39%	12.79%	13.26%
Cardinal Glennon Children's Hospital	15.64%	9.61%	9.79%	7.11%	3.10%	10.57%	12.44%	11.76%	12.46%	11.89%
Christian Hospital	-3.13%	-1.79%	1.81%	-0.55%	-4.76%	-2.75%	-13.76%	-18.83%	-0.06%	-3.64%
DePaul Health Center	1.67%	1.42%	2.41%	3.31%	4.37%	7.80%	6.22%	11.37%	11.01%	11.18%
Des Peres Hospital	10.43%	10.27%	9.44%	7.64%	5.55%	0.08%	9.28%	5.42%	4.12%	-1.60%
Kindred Hospital	18.31%	13.93%	3.18%	-5.14%	0.48%	0.20%	2.06%	4.90%	8.65%	1.76%
Mercy Hospital Jefferson	0.85%	3.82%	6.31%	4.32%	0.45%	3.37%	7.12%	2.76%	5.37%	7.57%
Mercy Hospital Lincoln ¹	-2.45%	2.04%	-6.19%	-8.73%	-4.39%	-6.06%	-7.91%	-10.85%	-22.32%	-4.32%
Mercy Hospital St. Louis	8.37%	9.34%	7.97%	7.20%	6.52%	8.71%	9.71%	10.03%	13.05%	16.64%
Mercy Hospital Washington	2.68%	5.60%	0.33%	-5.89%	-6.23%	-5.01%	10.32%	13.58%	18.22%	15.93%
Missouri Baptist Hospital - Sullivan	-0.75%	-11.35%	-4.23%	-4.33%	-2.92%	-1.02%	-10.90%	-3.77%	-1.56%	1.21%
Missouri Baptist Med. Ctr.	7.25%	9.05%	8.14%	9.06%	9.50%	8.03%	7.39%	7.36%	6.15%	7.33%
Progress West Hospital	-74.31%	-38.49%	-11.11%	-10.89%	-9.37%	-0.78%	1.17%	-1.00%	5.32%	6.83%
St. Alexius Hospital ²	0.33%	1.38%	2.58%	1.18%	-0.74%	0.64%	1.43%	7.03%	-5.04%	-7.38%
St. Anthony's Med. Ctr.	0.90%	-0.85%	0.90%	0.87%	1.09%	-1.27%	0.80%	0.18%	-1.55%	-1.18%
St. Clare Health Center	n/a	n/a	-22.99%	1.07%	0.20%	1.31%	-6.87%	-3.38%	0.52%	2.44%
St. Joseph Health Center ³	1.43%	-2.85%	6.12%	2.54%	4.11%	1.80%	-3.28%	3.27%	4.52%	3.71%
St. Joseph Hospital - West	2.58%	0.22%	3.34%	6.44%	7.14%	8.13%	8.80%	14.83%	13.53%	11.25%
St. Louis Children's Hospital	12.54%	10.57%	11.12%	8.71%	6.77%	7.77%	8.91%	6.32%	9.20%	9.73%
St. Louis University Hospital	2.17%	1.78%	-1.80%	1.75%	-2.63%	-16.06%	-5.49%	-9.30%	-4.69%	5.70%
St. Luke's Hospital	4.04%	2.13%	2.54%	3.89%	4.56%	2.63%	3.89%	4.46%	5.15%	2.98%
St. Mary's Health Center	0.63%	1.89%	6.81%	7.80%	5.44%	5.23%	4.00%	7.28%	7.43%	3.65%
Aggregate for Missouri Hospitals	4.22%	4.03%	4.52%	4.66%	3.89%	3.67%	4.15%	4.79%	6.03%	6.59%
Illinois Hospitals										
Alton Memorial Hospital	5.90%	1.46%	8.15%	8.12%	-0.86%	-1.07%	-7.33%	1.91%	9.85%	5.76%
Anderson Hospital	1.98%	1.47%	0.34%	1.31%	0.18%	0.37%	3.96%	10.74%	7.28%	1.93%
Carlinville Area Hospital	2.25%	9.01%	7.50%	5.04%	-2.37%	-0.13%	0.82%	0.53%	10.71%	3.38%
Community Memorial Hospital	5.77%	4.87%	0.73%	2.29%	3.04%	0.11%	0.68%	0.39%	0.01%	-1.39%
Gateway Regional Med. Ctr.	10.08%	13.42%	7.76%	2.47%	-1.27%	-7.69%	-2.18%	-2.04%	2.38%	2.51%
HSHS Holy Family Hospital ⁴	-2.90%	-0.61%	-5.41%	-6.17%	-1.71%	-5.76%	-5.49%	-2.07%	-7.02%	-16.04%
Jersey Community Hospital	0.77%	2.06%	-0.79%	-3.92%	3.35%	-2.59%	-5.69%	2.72%	3.73%	3.33%
Memorial Hospital	5.54%	3.91%	2.99%	4.77%	6.82%	8.42%	-0.33%	7.65%	13.35%	0.86%
Memorial Hospital East ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-97.23%
OSF Saint Anthony's Health Ctr. ⁶	5.08%	-0.83%	0.58%	4.11%	-1.38%	3.91%	4.45%	-10.05%	-2.10%	-11.92%
St. Elizabeth's Hospital	-2.92%	-7.66%	-1.84%	-8.31%	-15.11%	-7.66%	-11.62%	-10.50%	-9.00%	-33.10%
St. Joseph Hospital (Breese, IL)	8.58%	8.92%	10.57%	5.35%	5.88%	10.99%	13.46%	13.09%	11.83%	3.10%
St. Joseph Hospital (Highland, IL)	1.94%	n/a	-2.18%	-4.33%	-0.77%	-30.05%	-0.54%	3.59%	1.18%	-2.60%
Touchette Regional Hospital ⁷	4.79%	-1.27%	-4.91%	-4.62%	-5.15%	-3.16%	-2.24%	0.00%	0.14%	1.56%
Aggregate for Illinois Hospitals	3.19%	1.28%	2.03%	0.88%	-1.06%	-0.35%	-1.65%	1.94%	4.88%	-6.57%
Aggregate for St. Louis Area Hospitals	4.06%	3.64%	4.16%	4.14%	3.22%	3.13%	3.40%	4.43%	5.88%	4.98%

¹ On 3/1/2015, Mercy acquired Lincoln County Medical Center, renamed Mercy Hospital Lincoln. Mercy Lincoln's FYE changed to 6/30; thus, only 4 months of data are reported for 2015.

² Beginning in 2004, St. Alexius-Broadway Campus and St. Alexius-Jefferson Campus reported on a combined basis as St. Alexius Hospital. In December of 2008, Forest Park and St. Alexius Hospitals were acquired by Success Healthcare, and due to the transfer in ownership, 2007 and 2008 data could not be verified. In 2010, St. Alexius Hospital-Forest Park Campus, formerly Forest Park Hospital, was closed.

³ Statistics for St. Joseph Health Center-Wentzville are combined under St. Joseph Health Center in St. Charles.

⁴ On 5/2/2016, Greenville Regional Hospital was acquired by Hospital Sisters Health System. The hospital was renamed HSHS Holy Family Hospital.

⁵ Memorial Hospital East in Shiloh, IL opened on May 16, 2016; thus, only 7.5 months of data are reported for 2016.

⁶ Statistics for St. Clare's Hospital are combined under Saint Anthony's Health Center (SAHC). In 2014, SAHC was acquired by OSF. It reported 10 months of data in 2014 and 11 months of data in 2015.

⁷ Beginning in 2009, Kenneth Hall Regional Hospital and Touchette Regional Hospital reported on a consolidated basis. Kenneth Hall Regional Hospital closed at the end of 2009.

Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports and audited hospital financial statements. All data in this table are not adjusted for inflation.

Note: Changes in previously reported data are based on the most current information. Hospitals no longer in operation as of 2016 are not individually listed, but their results for 2007-2016 are included in aggregate figures.



St. Louis Area Hospital Industry, 2007-2016

Missouri Hospitals	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Barnes-Jewish Hospital	7.74%	-32.40%	17.78%	14.30%	7.02%	4.43%	3.90%	4.76%	3.77%	3.45%
Barnes-Jewish - St. Peters	11.84%	-8.39%	17.26%	14.99%	7.67%	4.80%	3.65%	7.80%	4.59%	6.10%
Barnes-Jewish W. County	8.28%	4.46%	3.71%	7.93%	8.37%	11.55%	10.88%	12.01%	10.31%	10.88%
Cardinal Glennon Children's Hospital	21.19%	9.98%	13.79%	9.85%	5.26%	11.91%	12.63%	11.89%	12.25%	12.71%
Christian Hospital	-1.51%	-7.93%	11.04%	5.13%	-2.32%	-7.11%	-13.47%	-23.35%	-4.81%	-7.70%
DePaul Health Center	0.79%	0.15%	1.21%	2.66%	4.44%	7.83%	6.39%	11.35%	10.78%	11.41%
Des Peres Hospital	6.41%	7.14%	9.47%	7.66%	5.59%	0.14%	9.32%	5.43%	4.12%	-1.60%
Kindred Hospital	7.71%	13.94%	3.18%	-5.14%	0.48%	0.20%	2.06%	4.90%	8.65%	1.76%
Mercy Hospital Jefferson	2.28%	4.71%	7.16%	4.62%	1.48%	2.68%	8.81%	2.82%	5.38%	7.57%
Mercy Hospital Lincoln ¹	3.80%	7.31%	-0.73%	-2.92%	0.75%	-1.28%	-2.42%	-4.91%	-22.33%	-4.21%
Mercy Hospital St. Louis	8.52%	10.60%	8.19%	7.26%	6.63%	8.88%	9.79%	10.80%	13.66%	17.42%
Mercy Hospital Washington	2.69%	5.61%	0.35%	-5.86%	-6.19%	-4.96%	10.33%	13.69%	18.28%	16.05%
Missouri Baptist Hospital - Sullivan	-3.02%	-14.17%	-4.89%	-4.74%	-3.25%	-1.72%	-11.50%	-4.45%	-2.15%	0.69%
Missouri Baptist Med. Ctr.	9.49%	-3.20%	14.74%	13.93%	8.43%	5.16%	4.50%	4.67%	2.93%	4.35%
Progress West Hospital	-67.71%	-54.00%	-18.10%	-18.44%	-17.10%	-9.22%	-5.87%	-8.52%	-2.81%	-1.72%
St. Alexius Hospital ²	0.33%	1.38%	2.60%	-1.85%	-7.81%	0.69%	1.45%	9.59%	-5.02%	-7.36%
St. Anthony's Med. Ctr.	3.06%	4.08%	0.18%	-0.71%	3.42%	-5.60%	4.21%	3.31%	0.30%	-3.33%
St. Clare Health Center	n/a	n/a	-30.12%	-1.29%	0.11%	1.59%	-6.63%	-3.64%	0.40%	2.71%
St. Joseph Health Center ³	0.52%	-3.95%	4.83%	1.46%	4.26%	1.87%	-3.00%	3.25%	4.53%	3.48%
St. Joseph Hospital - West	1.19%	-1.49%	1.76%	5.64%	7.30%	8.49%	8.94%	15.01%	13.57%	11.28%
St. Louis Children's Hospital	12.92%	-10.48%	19.00%	15.33%	8.12%	8.44%	9.26%	6.08%	9.12%	9.85%
St. Louis University Hospital	2.17%	1.78%	-1.80%	1.75%	-2.63%	-16.06%	-5.49%	-9.09%	-4.59%	5.03%
St. Luke's Hospital	5.43%	6.34%	4.25%	4.34%	4.96%	2.35%	4.20%	4.99%	5.55%	3.67%
St. Mary's Health Center	4.13%	1.15%	8.45%	9.11%	6.30%	5.68%	4.03%	7.34%	7.26%	4.22%
Aggregate for Missouri Hospitals	5.94%	-4.20%	9.20%	7.91%	4.74%	3.27%	4.33%	4.77%	5.79%	6.31%
Illinois Hospitals										
Alton Memorial Hospital	13.22%	1.58%	22.48%	16.86%	-1.97%	-5.14%	-6.79%	-2.24%	5.15%	0.13%
Anderson Hospital	5.60%	-1.19%	5.16%	6.73%	0.31%	3.74%	9.11%	13.05%	7.59%	17.34%
Carlinville Area Hospital	5.17%	11.32%	8.46%	5.97%	-3.20%	1.16%	1.19%	-0.73%	9.79%	3.83%
Community Memorial Hospital	7.24%	6.60%	1.83%	2.97%	3.87%	1.16%	1.54%	1.52%	2.73%	5.34%
Gateway Regional Med. Ctr.	10.07%	13.31%	7.76%	2.47%	-1.27%	-7.69%	-2.18%	-2.04%	2.38%	2.51%
HSHS Holy Family Hospital ⁴	-2.42%	-0.13%	-5.19%	-5.81%	-1.51%	-5.60%	-4.61%	-1.22%	-6.25%	-15.84%
Jersey Community Hospital	1.65%	2.78%	0.19%	-3.86%	3.71%	-2.07%	-3.37%	2.94%	4.71%	2.81%
Memorial Hospital	8.28%	4.65%	5.39%	6.95%	7.40%	9.92%	0.44%	7.98%	13.17%	-4.96%
Memorial Hospital East ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-100.67%
OSF Saint Anthony's Health Ctr. ⁶	6.01%	2.03%	0.69%	4.57%	0.40%	7.54%	8.01%	-8.83%	-1.91%	-10.88%
St. Elizabeth's Hospital	-0.04%	-8.03%	-5.10%	-5.94%	-11.54%	-9.72%	-7.25%	-9.79%	-9.00%	-33.13%
St. Joseph Hospital (Breese, IL)	18.99%	6.58%	-6.73%	13.04%	21.65%	12.28%	21.21%	27.07%	13.33%	-3.72%
St. Joseph Hospital (Highland, IL)	2.88%	n/a	-3.59%	-3.39%	1.30%	-31.42%	-0.52%	4.40%	1.50%	-3.40%
Touchette Regional Hospital ⁷	6.02%	-0.52%	-4.39%	-2.77%	-9.50%	-3.21%	-2.24%	0.02%	0.15%	1.58%
Aggregate for Illinois Hospitals	6.17%	1.37%	3.85%	4.11%	0.38%	0.09%	0.67%	2.94%	4.46%	-6.16%
Aggregate for St. Louis Area Hospitals	5.97%	-3.35%	8.44%	7.39%	4.15%	2.84%	3.85%	4.54%	5.62%	4.75%

¹ On 3/1/2015, Mercy acquired Lincoln County Medical Center, renamed Mercy Hospital Lincoln. Mercy Lincoln's FYE changed to 6/30; thus, only 4 months of data are reported for 2015.

² Beginning in 2004, St. Alexius-Broadway Campus and St. Alexius-Jefferson Campus reported on a combined basis as St. Alexius Hospital. In December of 2008, Forest Park and St. Alexius Hospitals were acquired by Success Healthcare, and due to the transfer in ownership, 2007 and 2008 data could not be verified. In 2010, St. Alexius Hospital-Forest Park Campus, formerly Forest Park Hospital, was closed.

³ Statistics for St. Joseph Health Center-Wentzville are combined under St. Joseph Health Center in St. Charles.

⁴ On 5/2/2016, Greenville Regional Hospital was acquired by Hospital Sisters Health System. The hospital was renamed HSHS Holy Family Hospital.

⁵ Memorial Hospital East in Shiloh, IL opened on May 16, 2016; thus, only 7.5 months of data are reported for 2016.

⁶ Statistics for St. Clare's Hospital are combined under Saint Anthony's Health Center (SAHC). In 2014, SAHC was acquired by OSF. It reported 10 months of data in 2014 and 11 months of data in 2015.

⁷ Beginning in 2009, Kenneth Hall Regional Hospital and Touchette Regional Hospital reported on a consolidated basis. Kenneth Hall Regional Hospital closed at the end of 2009.

Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports and audited hospital financial statements. All data in this table are not adjusted for inflation.

Note: Changes in previously reported data are based on most current information. Hospitals no longer in operation as of 2016 are not individually listed, but their results for 2007-2016 are included in aggregate figures.

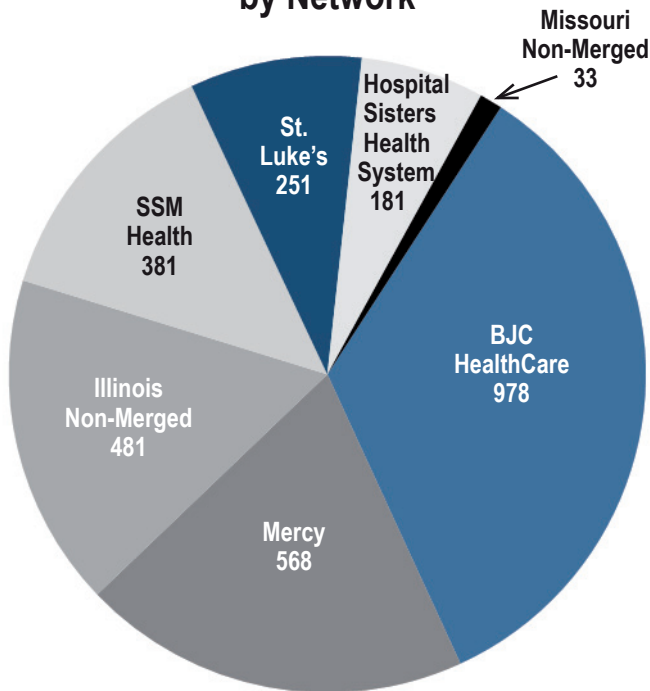


Excess capacity stalls as beds, utilization edge lower

In 2016, excess capacity at St. Louis hospitals held at 31% of available inpatient beds. There were 2,879 unused beds at local hospitals on an average day in 2016, about the same as the previous year. Still, this was 17% more than a decade ago. “Excess available beds” is a measure of inpatient capacity. A hospital is at “full” occupancy if 80% of available beds are used in a given year. The “excess” figure indicates the number of surplus beds below 80% occupancy (Technical Notes, p. 21).

Nationally, aggregate **hospital occupancy rates were 62% in 2016**, the same as the previous year. Medicare discharges decreased 2.8% while outpatient services increased 1.1%. In 2016, 21 hospitals closed and 11 hospitals opened, both decreasing slightly compared to the previous year. The one-third of hospitals that closed converted to stand-alone emergency departments (ED) or outpatient facilities without EDs, in line with previous trends. Access to services remains good and there continues to be excess capacity in most markets, the Medicare Payment Advisory Commission said.¹

Excess Available Beds in 2016 by Network



Inpatient days decreased (-0.5%) and discharges declined (-2.0%) in St. Louis in 2016, compared to the previous year, in line with national trends.² **Medicare drove the overall decrease in utilization as patient days and discharges dropped (-4%)** (see table below). Medicaid days (-0.4%) and discharges (-2.8%) decreased, contributing to the downward trend. **Despite these declines, there was a dramatic 5% jump in patient days and a 0.9% increase in discharges for commercially insured and uninsured patients.** This increase was not shared equally among local hospitals. **Mercy St. Louis saw the largest growth in inpatient days which accounted for half of the overall increase.** This was driven by a **significant increase in neonatal intensive care unit (NICU) days.** Nearly all of the NICU days were for patients with private health insurance coverage, Mercy said.

In 2016, nearly 10% of babies were born prematurely in the U.S., increasing for the second consecutive year, the National Center for Health Statistics said. Lack of prenatal care, obesity, tobacco use and some fertility treatments can all lead to early births. **Missouri was one of 19 states and the District of Columbia with the most preterm births.**

In 2016, occupancy at local hospitals was 55%, yet remained below the national average. **For the second year, SSM Health had the highest occupancy rate at 65%.**

¹ Report to Congress, Medicare Payment Advisory Commission, March 2018.

² M Hartman, A Martin, N Espinosa, A Catlin, et al., “National Health Care Spending In 2016: Spending and Enrollment Growth Slow After Initial Coverage Expansions,” *Health Affairs*, 37, No. 1 (2018).

Inpatient Hospital Utilization Trends, 2007 - 2016

	2007	2008	2009	2010	2011	2012	2013	2014 ³	2015 ³	2016
Discharges										
Medicare	173,537	175,987	173,013	170,116	170,255	162,272	158,643	164,730	168,721	162,068
Medicaid	67,863	69,480	70,245	73,853	73,959	72,728	67,691	68,662	74,701	72,638
Other	161,709	162,123	167,938	154,618	150,628	153,932	151,604	142,180	137,407	138,590
Total	403,109	407,590	411,196	398,587	394,842	388,932	377,938	375,573	380,829	373,296
Inpatient Days¹										
Medicare	978,466	994,088	955,456	920,387	918,909	862,428	845,590	860,280	915,965	879,132
Medicaid	347,403	359,980	362,413	371,576	372,024	373,596	359,580	371,864	375,093	373,432
Other	673,346	658,270	671,801	667,719	640,385	632,930	601,380	590,158	569,355	598,102
Total	1,999,215	2,012,338	1,989,670	1,959,682	1,931,318	1,868,954	1,806,550	1,822,302	1,860,413	1,850,666
Average Length of Stay²										
Medicare	5.6	5.6	5.5	5.4	5.3	5.3	5.3	5.2	5.4	5.4
Medicaid	5.1	5.1	5.1	5.0	5.0	5.1	5.3	5.4	5.0	5.0
Other	4.1	4.0	4.0	4.3	4.2	4.1	3.9	4.1	4.1	4.4
Total	4.9	4.9	4.8	4.9	4.9	4.8	4.7	4.8	4.8	4.9
# of Hospitals	40	39	39	38	39	39	38	38	37	38

Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports and internal utilization statements. Hospital network configurations are current as of 2018.

¹ Utilization categories are defined as 1) Medicare managed care (starting in 1997) and fee for service (indemnity) programs, 2) Medicaid managed care and traditional programs, and 3) Other, including commercially insured and the uninsured. Changes to previously reported data are based on the most current information.

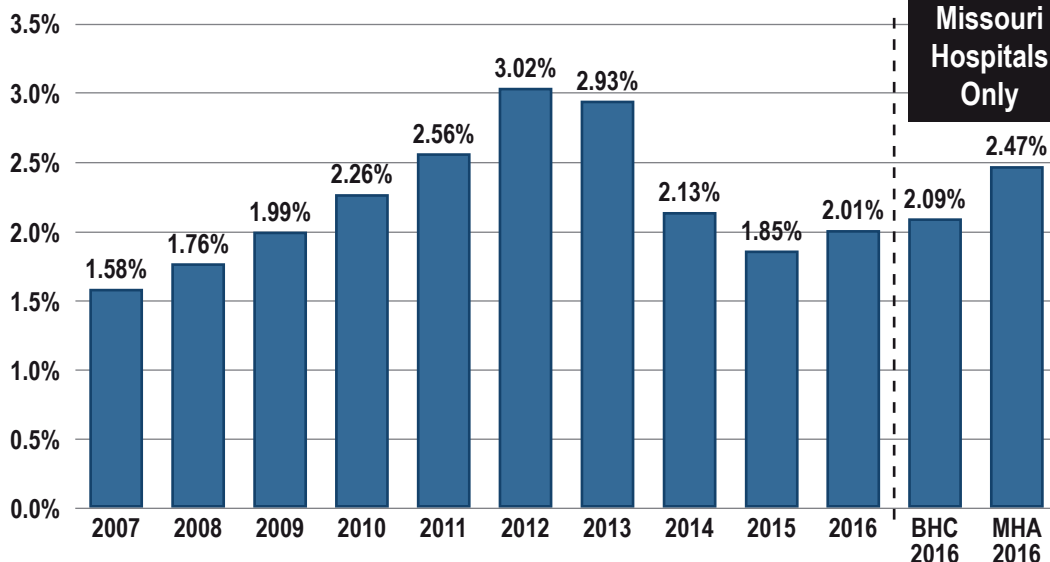
² Kindred Hospital is excluded from average length of stay because it is a long-term acute care hospital.

³ In 2014, Saint Anthony's Health Center (SAHC) was acquired by OSF and reported 10 months of data in 2014 and 11 months of data in 2015. On 3/1/2015, Mercy acquired Lincoln County Medical Center, and reported only 4 months of data for 2015. Data for 2014 and 2015 for these hospitals was estimated to reflect 12 months.



Charity care edges higher with changes in hospital process

St. Louis Area Hospitals Charity Care as a % of Operating Revenue, 2007-2016



St. Louis hospital charity care increased 9% in 2016 after three consecutive years of decline.

For the second year, bad debt expense declined, down 3% compared to the previous year.

Source: Centers for Medicare and Medicaid Services Medicare Cost Reports, audited financial statements, the Missouri Hospital Association (MHA) website focusonhospitals.com, and MHA/AHA Annual Licensing Surveys. Changes in previously reported data are based on most current information.

Charity care as a percentage of operating revenue provided by St. Louis hospitals grew to 2.01% in 2016, up from 1.85% the previous year, as shown in the graph above. This was driven by a sharp increase in charity care by three local hospitals in the Mercy system. Locally, the number of hospitals that provided charity care at or above 3% of operating revenue increased to 10, up from six in 2015 (p. 20). The majority of these hospitals are part of the BJC, Mercy and SSM hospital systems. For the fourth consecutive year, Christian Hospital provided the highest level of charity care in the region at nearly 9% of operating revenue. Still, no local hospital system provided charity care at or above 3% of operating revenue.

In 2016, Mercy modified its process to determine patients' eligibility for charity care. This change resulted in a system-wide increase in charity care of 97% and a nearly 40% drop in bad debt as a percentage of operating revenue. Mercy's vendor company Experian, a credit rating agency, receives patients' applications for assistance and analyzes their financial status. A patient could request financial assistance before a procedure, during treatment or after a balance had been billed. Mercy also allowed for a year look back in fiscal year 2015. Thus, if a patient had bad debt balances within that timeframe that were eligible for charity, they could ask for financial assistance at that time.

In Missouri, hospital charity care at Missouri hospitals increased 12% statewide in 2016, after decreasing 11% the prior year, MHA said. Bad debt decreased 7% across the state, compared to a 3% decrease in 2015. This reduced the increase in total charity care and bad debt to 3% combined. Hospitals refer to the combined metric as uncompensated care.

In the US, most hospitals are non-profit and are exempt from most federal, state and local taxes in exchange for providing community benefit. Whether hospitals provide sufficient community benefits to justify these tax exemptions has been a long-standing health policy issue. To encourage investment in community health improvement, the Affordable Care Act (ACA) requires non-profit hospitals to report the amount of community benefit they provide to the Internal Revenue Service (IRS) annually on Form 990, and complete a community health needs assessment every three years. In St. Louis, community benefit spending reported by non-profit hospitals to the IRS was approximately 7.8% of operating expenses in 2016, up from 7.5% in the previous year. Nationally, average spending on community benefit was 8.1%. Locally and nationally, the pattern of community benefit spending has remained largely unchanged since 2013. Charity care and unreimbursed costs of Medicaid accounted for approximately 73% of spending, while only 4% was spent on community health improvement.¹

The Medicaid Disproportionate Share Hospital (DSH) Program was created in the 1980s to compensate hospitals that provide care to a greater share of Medicaid and uninsured patients. About 2,700 hospitals across the nation receive Medicaid DSH, yet payment amounts vary widely. The ACA authorized gradual reductions in DSH funding assuming that more people would gain coverage and hospitals would require less compensation for uninsured patients. Since some states including Missouri opted not to expand Medicaid, over the years Congress has repeatedly delayed reductions in DSH funding. Recently, the Bipartisan Budget Act of 2018 postponed the cuts until fiscal year 2020.

In 2016, St. Louis hospitals received \$628 million in DSH payments, up from \$596 million in 2015, a 5.5% increase. Operating revenue grew at approximately the same rate, thus DSH payments were the same as the previous year at 7.3% of operating revenue (see p. 20). Based on data from the Missouri Hospital Association (MHA) website, charity care was 2.47% of operating revenue for Missouri hospitals in the St. Louis region (see graph above). The difference between BHC and MHA charity care is due to timing differences in hospital charity care accounting.

¹ G Young, S Flaherty, E Zepeda, S Singh, G Cramer, "Community Benefit Spending By Tax-Exempt Hospitals Changed Little After ACA," *Health Affairs*, January 2018.



Charity care & disproportionate share payment by network, 2015-2016

System Name	2015 Operating Revenue (000)	2016 Operating Revenue (000)	2015 BHC Charity cost as % of op. rev. ¹	2016 BHC Charity cost as % of op. rev. ¹	2015 MHA Charity cost as % of op. rev. ¹	2016 MHA Charity cost as % of op. rev. ¹	2015 Missouri DSH (000) ³	2016 Missouri DSH (000) ³	2015 MO DSH as % of op. rev. ³	2016 MO DSH as % of op. rev. ³
BJC HealthCare²										
Alton Memorial	\$140,020	\$142,113	0.88%	1.22%	0.98%	1.50%	NA	NA	NA	NA
Barnes-Jewish Hospital	1,807,559	1,840,318	2.32%	2.22%	2.70%	2.73%	\$163,302	\$161,275	9.03%	8.76%
Barnes-Jewish - St. Peters	112,133	116,728	1.05%	0.79%	2.43%	2.42%	6,147	2,440	5.48%	2.09%
Barnes-Jewish W. County	109,377	115,321	0.77%	0.68%	1.75%	1.77%	2,891	3,123	2.64%	2.71%
Christian Hospital	261,156	258,810	4.69%	4.80%	8.27%	8.97%	27,784	29,130	10.64%	11.26%
Memorial Hospital ²	273,429	233,138	1.31%	1.16%	0.50%	0.37%	13,527	18,699	4.95%	8.02%
Memorial Hospital East		32,060		0.58%		1.13%				
Missouri Baptist Hospital - Sullivan	50,610	53,945	5.65%	4.62%	5.49%	4.03%	3,725	4,110	7.36%	7.62%
Missouri Baptist Med. Ctr.	525,570	584,138	0.78%	0.68%	1.95%	1.55%	13,124	14,777	2.50%	2.53%
Progress West Hospital	63,219	66,812	1.58%	1.25%	1.92%	2.17%	2,946	2,303	4.66%	3.45%
St. Louis Children's Hospital	549,766	586,336	1.44%	0.46%	0.82%	0.49%	91,667	90,411	16.67%	15.42%
Network Total	\$3,892,839	\$4,029,720	1.98%	1.73%	2.48%	2.41%	\$325,112	\$326,267	8.66%	8.46%
SSM Health										
Cardinal Glennon Children's Hospital ³	\$330,233	\$354,763	0.97%	0.33%	1.02%	0.35%	NA ³	NA ³	NA ³	NA ³
DePaul Health Center	383,616	411,570	2.97%	2.91%	3.14%	3.07%	\$18,329	\$21,091	4.78%	5.12%
St. Clare Health Center	169,220	185,568	1.93%	3.00%	2.03%	3.15%	10,653	12,044	6.30%	6.49%
St. Joseph Health Center	225,059	234,020	3.01%	3.00%	3.15%	3.11%	13,134	14,586	5.84%	6.23%
St. Joseph Hospital - West	155,545	133,393	2.49%	2.63%	2.64%	3.32%	7,470	8,051	4.80%	6.04%
St. Louis University Hospital ³	381,359	491,361	3.77%	2.45%	3.82%	2.66%	39,284	45,586	10.30%	9.28%
St. Mary's Health Center ³	343,939	356,807	3.26%	3.49%	3.38%	3.60%	69,826	75,267	20.30%	21.09%
Network Total	\$1,988,971	\$2,167,482	2.72%	2.48%	2.83%	2.65%	\$158,696	\$176,624	7.98%	8.15%
Mercy										
Mercy Hospital Jefferson	\$137,714	\$155,088	1.59%	4.44%	1.68%	4.67%	\$9,888	\$10,150	7.18%	6.54%
Mercy Hospital Lincoln ⁴	9,221	28,412	1.04%	4.11%	1.07%	4.28%	1,186	1,125	4.29%	3.96%
Mercy Hospital St. Louis	965,366	1,048,821	1.27%	2.65%	1.26%	2.62%	40,681	56,155	4.21%	5.35%
Mercy Hospital Washington	170,574	178,473	2.10%	4.45%	2.14%	4.47%	19,923	16,493	11.68%	9.24%
St. Anthony's Med. Ctr. ⁴	457,218	459,093	0.75%	0.73%	0.76%	0.44%	15,813	15,109	3.46%	3.29%
Network Total	\$1,740,094	\$1,869,887	1.24%	2.52%	1.25%	2.46%	\$87,491	\$99,032	4.98%	5.30%
St. Luke's Hospital										
Des Peres Hospital ⁵	\$113,796	\$103,529	0.25%	0.41%	0.27%	0.61%	\$5,052	\$4,566	4.44%	4.41%
St. Luke's Hospital	488,898	491,246	1.25%	1.38%	1.28%	1.41%	5,380	5,421	1.10%	1.10%
Network Total	\$602,694	\$594,775	1.06%	1.21%	1.09%	1.27%	\$10,432	\$9,987	4.98%	1.68%
Hospital Sisters Health System										
HSHS Holy Family Hospital ⁶	\$30,382	\$27,033	0.44%	0.42%	0.43%	0.30%	NA	NA	NA	NA
St. Elizabeth's Hospital	159,449	156,906	1.43%	3.18%	1.10%	2.47%	NA	NA	NA	NA
St. Joseph Hospital (Breese, IL)	53,967	57,090	1.45%	1.79%	1.42%	1.21%	NA	NA	NA	NA
St. Joseph Hospital (Highland, IL)	37,428	40,962	1.44%	2.47%	0.55%	2.20%	NA	NA	NA	NA
Network Total	\$281,226	\$281,991	1.33%	2.53%	1.01%	1.97%	NA	NA	NA	NA
Missouri Non-Merged										
Kindred Hospital (Kindred Healthcare)	\$32,696	\$28,933	0.00%	0.00%	0.00%	0.00%	\$2,871	\$3,194	8.78%	11.04%
St. Alexius Hospital (Success Healthcare)	55,689	58,498	0.00%	1.73%	2.61%	1.64%	11,233	13,267	20.15%	22.68%
Total	\$88,385	\$87,432	0.00%	1.72%	1.65%	1.10%	\$14,105	\$16,461	15.96%	18.83%
Illinois Non-Merged										
Anderson Hospital	\$145,449	\$154,020	0.82%	0.90%	0.68%	0.80%	NA	NA	NA	NA
Carlinville Area Hospital	23,510	23,795	0.70%	0.75%	0.70%	0.65%	NA	NA	NA	NA
Community Memorial Hospital	14,188	15,834	0.28%	0.10%	0.26%	0.10%	NA	NA	NA	NA
Gateway Regional Med. Ctr. (Quorum)	122,760	113,033	0.24%	0.66%	0.22%	0.68%	NA	NA	NA	NA
Jersey Community Hospital	32,176	39,854	0.38%	0.13%	0.06%	-0.02%	NA	NA	NA	NA
OSF Saint Anthony's Health Ctr. ⁷	70,633	72,014	2.74%	1.69%	2.83%	1.30%	NA	NA	NA	NA
Touchette Regional Hospital	53,857	56,835	2.34%	2.25%	2.10%	2.09%	NA	NA	NA	NA
Total	\$462,572	\$475,386	1.08%	1.02%	1.00%	0.90%	NA	NA	NA	NA
Aggregate for St. Louis Hospitals	\$9,056,780	\$9,506,672	1.85%	2.01%	2.10%	2.30%	\$595,836	\$628,371	7.27%	7.33%

¹ BHC charity care cost is the product of charity care gross charges times the cost-to-charge ratio. Missouri Hosp. Assoc. (MHA) charity care cost is reported on the <http://focusonhospitals.com/community-investment> website. When hospitals do not report to MHA, data from the Medicare Cost Report (MCR) Worksheet S-10 is used. When Illinois hospitals did not provide charity care cost, the amount in the "BHC" column is obtained from the Illinois Health Facilities & Services Review Board reported on the <http://www.hfsrb.illinois.gov> website. Illinois charity care data in the "MHA" column was obtained from the MCR, Worksheet S-10, if available.

² BJC charity care charges include an unspecified mix of full charge and discounted amounts which may cause amounts to be understated when the cost-to-charge ratio is applied. In November 2015, Memorial Hospital became an affiliate of BJC HealthCare and was later acquired. The DSH amount shown for Memorial Hospital is part of the Illinois provider tax/assessment program.

³ Source: Missouri Department of Social Services and audited financial statements. Cardinal Glennon/St. Mary's Health Center data are combined. SSM acquired St. Louis University Hospital on 8/31/2015.

⁴ On 3/1/2015, Mercy acquired Lincoln County Medical Center and reported only 4 months of data. Operating revenue was annualized for 2015 DSH percentages. Mercy finalized acquisition of St. Anthony's Medical Center in June 2017.

⁵ St. Luke's Hospital agreed to purchase Des Peres Hospital in January 2018.

⁶ Hospital Sisters Health System acquired Greenville Regional Hospital on 5/2/2016 and renamed it HSHS Holy Family Hospital.

⁷ Statistics for St. Clare's Hospital are combined under Saint Anthony's Health Center (SAHC). In 2014, OSF acquired SAHC and reported 10 months of data in 2014 and 11 months of data in 2015.

Sources: CMS Medicare Cost Reports, audited financial statements, AHA/MHA Licensing Surveys, MHA and HFSRB websites. Hospital network configurations are current as of 2018. Note: To assess charitable commitment, it is necessary to evaluate 1) Charity care expense, 2) Bad debt expense, 3) Case-mix (especially as it relates to the Medicaid population), and 4) Other charitable programs in which significant allowances and discounts are provided. All figures are not adjusted for inflation. Changes in previously reported data are based on most current information. Hospitals no longer in operation as of 2016 are not individually listed, but their results for 2015 and 2016 are included in aggregate figures.

Financial Year 2017 Financial Data (000)

St. Louis Area Hospitals	Fiscal Year	Total Revenue	Total Operating Revenue	Total Expenses*	Gain from Operations	Net Profit	Operating Margin	Profit Margin
Mercy**								
Mercy Hospital Jefferson	6/30	\$157,477	\$157,444	\$144,922	\$12,522	\$12,555	7.95%	7.97%
Mercy Hospital Lincoln	6/30	32,859	32,859	31,747	1,111	1,112	3.38%	3.38%
Mercy Hospital St. Louis	6/30	1,103,620	1,092,656	923,294	169,363	180,326	15.50%	16.34%
Mercy Hospital Washington	6/30	184,862	184,773	161,328	23,433	23,533	12.68%	12.73%
St. Anthony's Medical Center	6/30	444,228	414,197	471,304	-57,107	-27,076	-13.79%	-6.10%
Total		\$1,923,046	\$1,881,929	\$1,732,595	\$149,323	\$190,450	7.93%	9.90%
Hospital Sisters Health System								
HSHS Holy Family Hospital***	6/30	\$17,221	\$17,218	\$15,350	\$1,868	\$1,871	10.85%	10.86%
St. Elizabeth's Hospital	6/30	154,916	154,429	185,728	-31,299	-30,812	-20.27%	-19.89%
St. Joseph Hospital (Breese, IL)	6/30	67,113	67,113	51,022	16,091	16,091	23.98%	23.98%
St. Joseph Hospital (Highland, IL)	6/30	42,665	42,665	39,648	3,017	3,017	7.07%	7.07%
Total		\$281,915	\$281,425	\$291,748	\$-10,323	\$-9,833	-3.67%	-3.49%
Other								
Carlinville Area Hospital	7/31	\$24,633	\$24,489	\$24,721	\$-232	\$-88	-0.95%	-0.36%
Jersey Community Hospital	6/30	41,845	41,778	41,085	693	759	1.66%	1.81%
St. Luke's Hospital	6/30	519,281	512,496	490,035	22,461	29,249	4.38%	5.63%
Total		\$2,790,719	\$2,742,118	\$2,580,185	\$161,922	\$210,535	5.90%	7.54%

* Total Expenses include non-operating expenses that may have an effect on profit margins. Non-operating expenses are not used in the calculation of operating margins.

** Mercy Health (f/k/a Sisters of Mercy Health System) is the parent organization for Mercy. Caution must be used when evaluating net profit and profit margins for individual Mercy Health hospitals since they do not fully reflect investment gains and losses from Mercy Health. Mercy finalized acquisition of St. Anthony's Medical Center in June 2017.

*** Hospital Sisters Health System acquired Greenville Regional Hospital in May 2016 and renamed it HSHS Holy Family Hospital which reported 6 months of data for 2017.

Technical Notes

Hospital Financial Data

The St. Louis Area Business Health Coalition (BHC) has analyzed hospital financial data for 36 years. Data for these analyses are gathered from hospital audited financial statements, licensing surveys and Centers for Medicare and Medicaid Services' Medicare Cost Reports (MCR). The resulting reports are based upon standard accounting assumptions and procedures. A financial profile is produced for each institution which is then verified by the individual institutions. When an individual institution disagrees with the financial profile, supporting documentation is submitted before changes are made to the profile. From the individual reports, aggregate tables are produced reflecting Missouri and Illinois hospitals in the St. Louis area. In some situations, prior year data are updated based on revised MCR and/or current hospital audited financial statements. As a result, the data presented in this document reflect the most current information available to the BHC and may differ from previous reports.

Financial Formulas (For leap years: Use 366 for all formulas using days)

OPERATING MARGIN	$\frac{\text{Total Operating Revenue} - \text{Operating Expenses}}{\text{Total Operating Revenue}}$
PROFIT MARGIN	$\frac{\text{Excess of Revenue Over Expenses}}{\text{Total Operating Revenue} + \text{Non-operating Revenue}}$
RETURN ON EQUITY	$\frac{\text{Excess of Revenue Over Expenses}}{\text{Fund Balance}}$
MARK-UP PERCENT	$\left[\frac{\text{Total Gross Charges}}{\text{Total Operating Expense}} \right] - 1$
ALLOWANCES AS PERCENT OF CHARGES	$\frac{\text{Allowances}}{\text{Total Gross Charges}}$
COST TO CHARGE RATIO	$\frac{\text{Total Operating Expenses}}{\text{Total Gross Charges}}$
OCCUPANCY PERCENTAGE	$\frac{\text{Patient Days}}{\text{Number of Beds} \times 365}$

Calculation Methodology for Excess Available Acute Care Inpatient Beds (2016)

1. <u>Total Bed Days Used*</u>	<u>1,850,666</u>
366	366
2. <u>Total Beds Used Per Day</u>	<u>5,071</u>
80% Occupancy	.80
3. Total Available Beds Minus Available Beds Required for 80% Occupancy	9,218 - 6,339
= Excess Capacity (2016)	<u>2,879</u>

* Total Bed Days Used = Inpatient Days



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About the BHC

The St. Louis Area Business Health Coalition (BHC) represents leading St. Louis employers in their efforts to improve the well-being of their employees and enhance the overall value of their health benefit investments. BHC employers seek a transparent health care market where comparative information about quality, cost and outcomes is used to achieve high-quality, patient-centered and affordable care for all people in the region.

The BHC Foundation is a separate non-profit subsidiary organization to the BHC. The BHC Foundation's purpose is to provide pertinent health care information to the community.

About this Report

This report analyzes, summarizes and presents information and trends on the St. Louis area hospital industry for fiscal year 2016, with limited data for fiscal year 2017. The report includes data from the following sources: Centers for Medicare and Medicaid Services (CMS) Medicare Cost Reports and Hospital Compare, audited hospital financial statements, the American Hospital Association (AHA) and Missouri Hospital Association (MHA) annual licensing surveys and Community Benefit data, The Leapfrog Group, the Missouri Department of Health and Senior Services (DHSS), the Missouri Department of Social Services, and the Internal Revenue Service Form 990 Schedule H, as well as additional information voluntarily submitted by providers. This report may be downloaded from the BHC website, at www.stlbhc.org.

Data Limitation and Cautions

BHC has made every effort to provide accurate information. Each hospital was given the opportunity to verify its financial and utilization data. As with any analysis of hospital industry data, a note of caution is recommended. BHC depends upon the accuracy of the data sources and cannot guarantee the complete accuracy of all the data in this report. For example, hospital data from Medicare Cost Reports may contain a level of error. In this case, data inaccuracies that may remain for individual hospitals would have minimal impact on weighted average values and virtually no impact on the overall conclusions regarding St. Louis hospital performance.

Please read and become familiar with the technical discussion while reviewing or interpreting the data detailed in this report.

Acknowledgments

BHC would like to acknowledge the hospital representatives who voluntarily provided BHC with financial and utilization information. Hospital representatives and their staff worked extensively with BHC to verify the accuracy of the data. The additional time and effort spent analyzing and verifying the data was invaluable to the project's success.

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