

ST. LOUIS HEALTH CARE INDUSTRY OVERVIEW

2008

Financial and Quality Performance



St. Louis Area

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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 health of their enrollees 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 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 health care industry for fiscal year 2006 with limited data for fiscal years 2007 and 2008. The report includes data from the following sources: Health Insights (QIO), Ingenix, Leapfrog, 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 Missouri Department of Health and Senior Services (DHSS), NCQA Physician Recognition Programs, and Primaris, as well as additional information voluntarily submitted by providers. In addition to the print version, 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. For hospital-related sections of the report, each hospital was given the opportunity to verify its financial data. Physician recognition data was obtained directly from the NCQA website at www.ncqa.org. As with any analysis of health care industry data, a note of caution accompanies this report. BHC depends upon the accuracy of the individual sources of data and can not 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 the appendices to 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 they spent analyzing and verifying the data were invaluable to the success of this project.

BHC wishes to acknowledge the work of Ingenix, a leading provider of health data, information, and research, for their guidance and expert analysis of hospital data for the St. Louis region. The following organizations contributed to this report by providing certain data, analysis, recommendations, or consultation: **Health Insights (QIO), the Leapfrog Group, DHSS, and the Missouri Department of Social Services.** **BHC would also like to recognize Novo Nordisk for their financial support of the research and publication of this report.**

BHC especially thanks its members and other St. Louis organizations that provided funding to the BHC Foundation to make this publication possible. ■



As the new administration and Congress work to stimulate the failing economy, the high cost of health care has become a key issue. It threatens our government's fiscal solvency, compromises our nation's ability to create jobs, and places a heavy financial burden on all Americans. High health care costs have contributed to the loss of jobs in manufacturing and other sectors. The generous health benefits that go with these jobs have disappeared as well, reducing the pool of privately insured available to subsidize the "cost shift."

In an effort to address this national crisis, six unlikely partners banded together: they are workers (SEIU), physicians (AMA), patients (Cancer Action Network), insurers (Regence BCBS), and pharmaceutical research companies (PhRMA). Their message is: **Health care reform that fixes the related problems of poor quality, rising costs, and people losing health coverage is essential to economic reform. Solutions must place the patient at the center of our health care system while driving efficiencies. Lowering our nation's total health care spending is critical to U.S. companies' ability to compete globally.**

Missouri wages increased 17%, while employer-sponsored health benefit costs increased 76%, from 2000 to 2007, according to Families USA. Those with jobs have seen their wages stagnate. If Missouri's trend of above average growth in health care costs continues, the state's attractiveness to business will lessen, negatively impacting employment.

Access to Care for the Underserved. St. Louis hospitals provided charity care equal to 1.42% of operating revenue in 2006. The highest reported in more than a decade, this amount remains well below the taxes paid by for-profit hospitals that also provide charity care and other community benefit. The St. Louis Regional Health Commission (RHC) reports that access to health care for the underserved has improved (page 7). Yet the safety net remains inadequate. This raises questions about whether **a sufficient amount of the subsidy paid by employers and the public through the "cost shift" and other mechanisms is actually used to provide care and improve health for the underserved.**

Hospital profits reached record levels in 2006, despite flat utilization and higher charity care and bad debt expenses. In addition to direct revenue from public and private payers, hospitals also receive state and federal subsidies including disproportionate share (DSH) program payments, DSH "add-on" payments and donations. To better understand this important component of hospital revenue see page 7.

Patients have a right to safe, effective, and coordinated care. While some progress is being made, much work remains to achieve desired levels of health care quality and safety. St. Louis hospitals' national rank on Hospital Compare scores edged up slightly in 2007. Yet marked variation in hospital performance remains (page 20). Despite being the 3rd state to mandate infection reporting, Missouri's overly complex reporting practices make it difficult to discern trends for individual hospitals. Findings clearly show that hospital acquired infections remain a serious problem in Missouri (page 23).

Missouri still does not require hospitals to report when one of 28 serious preventable mistakes occurs. **BHC supports**

legislation to require hospitals to do the following: 1) inform the patient, 2) analyze and take preventive action, 3) report event to the Missouri Department of Health, and Senior Services and, 4) waive payment.

Patient experience is now recognized as a critical component of quality and health outcomes. As a result, steps are being taken to design care around patients' needs. To understand differences, CMS mandated the use of a standardized patient experience survey (HCAHPS—Hospital Consumer Assessment of Healthcare Providers and Systems). Initial results for 2008 indicate **congratulations are due to St. John's Mercy Medical Center for achieving St. Louis' top score** (page 21).

Encouraging signs Electronic medical record implementations are well underway at nearly every St. Louis hospital. Eight hospitals have fully operational bar-code medication administration systems, an important advance for preventing medication mistakes (page 24). Several hospitals are actively engaged in Lean Management and other process improvement tools (page 8). More than 200 physicians in St. Louis are to be commended for achieving NCQA recognition for excellence in the care of diabetes, heart/stroke, and back pain. BHC is also encouraged by St. Louis employers' progress in wellness and health literacy initiatives.

Understanding health care value. Central to reforming our health care system is aligning provider payment incentives to encourage better rather than more care. Value assessment is early in its evolution and, as in other industries, it is multidimensional. For the first time, the BHC is able to provide three distinct dimensions of comparative resource use at St. Louis hospitals. Hospital operating cost per discharge is provided on page 9. Three-year trends indicate dramatic variation in costs among St. Louis hospitals. **BJC and St. Anthony's Medical Center are again due congratulations** for achieving consistent management of cost. A combination of Medicare payment and quality data offers a window into comparative hospital value on page 10. Congratulations to **SSM St. Joseph Hospital West** for attaining the highest value score. Hospital care intensity for chronic illness based on a new *Dartmouth Atlas of Health Care* report begins on page 12. This report compares St. Louis hospitals to those listed at the top of *U.S. News and World Report's* Best Hospitals Honor Roll.

The Time is Now

Health care in America costs too much and, on the whole, delivers too little value. This breakdown is a significant contributor to our nation's economic crisis, including the loss of jobs. The failures of our economy prove the need for transparency, mutual trust, and cooperation. Health care must share these values. If we fail to fix our health care system, our economic picture will grow bleaker. We are a nation of health care communities, each of which must find ways to better manage health, care, and cost. Everyone, including consumers, employers, government, hospitals, physicians, nurses, insurers, and suppliers, must play a role in changing our health care culture. Each has a responsibility to set aside immediate self-interest and align with long-term systemic goals. Each must lead, compromise, and sacrifice to make affordable, high-quality health care a reality for all Americans. The time has come for this community to take action. ■



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Long before the recession took its toll on the economic well-being of American workers, spiralling health care costs have been slowly eroding their wages. In each of the last five years, health care spending has jumped an average of 6.8% while inflation-adjusted median family income has declined 2.6%—or nearly \$1,000 annually.¹

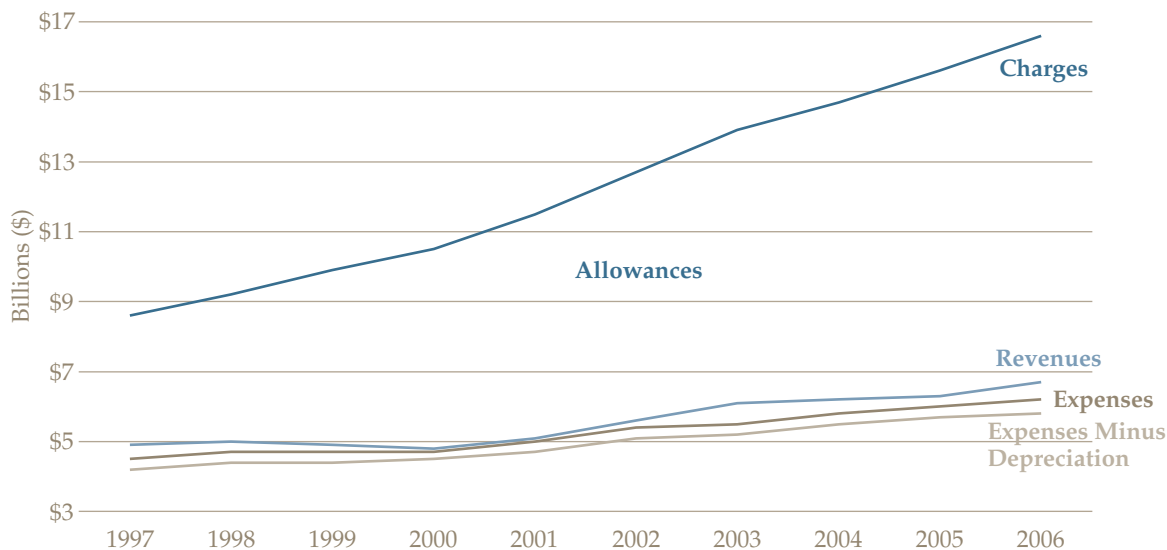
Health care costs are expected to increase 6.7% per year until 2017, from \$2.1 trillion in 2006 to \$4.3 trillion. Controlling health costs is crucial to stabilizing wages and living standards for all Americans.

On a positive note, significant investments in health care information technology (HIT) are being made throughout

the region. HIT provides the foundation for health care improvements and therefore holds tremendous promise for improving the safety, quality and affordability of health care which is encouraging news for the community.

St. Louis employers continue to invest in workplace wellness and health literacy initiatives with an emphasis on prevention and chronic disease management. Although challenges remain to improve affordability and access to health care, improvements in cooperation and collaboration among stakeholders and investment in prevention and HIT are welcome developments in building a better health care future.

Aggregate Charges, Revenues, and Expenses St. Louis Area Hospital Industry Shown in 2006 Dollars



Charges increased 6.5% in 2006.

Revenues increased 5.5% in 2006.

Expenses increased 2.8% in 2006.

Source: Centers for Medicare and Medicaid Services Medicare Cost Reports and audited financial statements.

Inflation adjustments are based on the U.S. Labor Department's St. Louis area CPI (including medical component); consolidated hospital organizations may not report all of their non-operating revenue and expenses by individual hospital and their cumulative effect may not be fully reflected in these results.

Charge inflation increased 6.5% in 2006 to just over \$16.6 billion, the largest increase in three years. The average increase for individual hospitals varied widely from -14% to 18%, even within a single hospital system. While hospital services are subject to negotiated fixed fees, charge inflation is important for the community to understand. A surprising amount of payments for outpatient services are still based on "discounted" charges and services for uninsured and self-pay patients are billed at a percentage of these excessive charges.

Revenues increased 5.5% to reach nearly \$6.7 billion in 2006 as new and expanded services came on-line, primarily in high-margin specialty and outpatient services. Less profitable inpatient service utilization remained flat or negative leaving revenue growth to again be driven by increases in

outpatient and diagnostic services and favorable investment returns. This trend is expected to accelerate in the near term as new, larger facilities become operational, renovation, and expansion projects are completed, and CMS phases in new severity-adjusted DRGs (MS-DRGs).

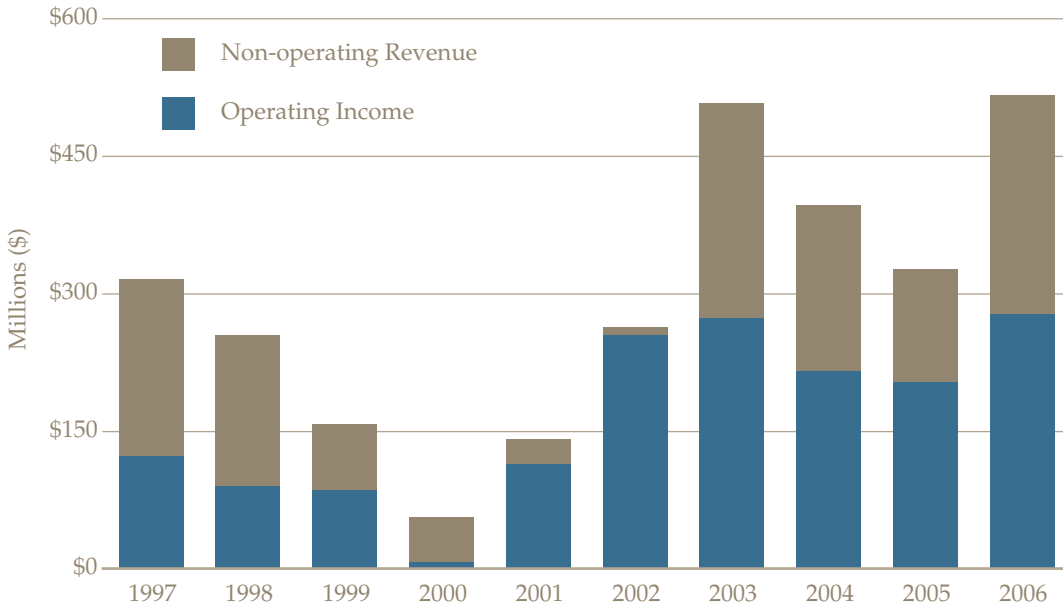
Expenses grew at an inflation-adjusted rate of 2.8% in 2006 **resulting in the lowest percentage increase in three years.** Losses in past years drove some hospitals to shed unprofitable service lines, especially among safety-net hospitals, and improve efficiency as average length of stay fell to 4.8 days.

Together, gains in revenue coupled with lower expenses resulted in a 55% increase in aggregate net profit for the region. This represents the second largest increase in profitability in 10 years. ■



2006 St. Louis hospital profit margins twice the national average

Aggregate Hospital Performance Total Profit Profile St. Louis Area Hospital Industry, 1997–2006



In 2006, St. Louis hospital profits rose to the highest level in a decade.

Aggregate operating and profit margins were nearly double the national average.

Sources: Medicare Cost Reports, audited financial statements, and MHA/AHA Annual Licensing Surveys.

Healthy Profits: St. Louis hospital profits rose substantially in 2006 as revenue growth accelerated and growth in expenses slowed. **Operating profit rose to \$278 million, a 10 year high. This occurred despite flat to negative inpatient utilization, and higher charity care and bad debt expense.**

Investments from the \$4.8 billion St. Louis hospitals hold in reserve earned healthy returns in 2006. As a result, non-operating income nearly **doubled** to \$238 million.

St. Louis hospitals aggregate profit margins consistently rest above the national average. St. Louis hospitals earned higher profits than the national average for 11 of the 14 years between 1993, when market consolidation occurred, and 2006. Investment losses from failed attempts at physician-practice ownership shrunk profits during the three years St. Louis hospitals trailed the national average. One must ask if the hospital mergers that occurred in 1993 resulted in faster growth in hospital profits rather than economies of scale for the community.

Capital spending has risen steadily over the last five years. Investments include more than a billion dollars in high-margin medical technology, profitable outpatient services, and two new hospitals. In 2006, some of those services became operational, and likely helped fuel **faster revenue growth**. As more new hospitals and other services come on-line, this trend is expected to continue.

Above average growth in health care costs has a negative impact on employment and the region's overall attractiveness to business. Furthermore, research from academics and the experience of other hospital systems shows this growth in services and the resulting higher costs might not be necessary or in the best interest of patients.

Dr. Elliot Fischer and others at Dartmouth Medical School found that U. S. regions with a larger supply of medical resources, such as hospital beds and diagnostic technology, spent more on health care without producing better outcomes or survival rates (see pages 12, 13, and 20).

By employing Lean, Six Sigma and other process improvement strategies, leading hospitals across the nation have found they improve operating efficiency, reducing the need for capital expansion while providing patients better care. Dr. Gary Kaplan, chief executive of Virginia Mason Health System in Seattle, has found that wherever his academic medical center applies Lean, it can reduce costs by 50 percent while improving quality.

Similar efforts underway at St. Louis area hospitals are encouraging. Given the heavy burden of rising health care costs on the economy and the opportunity to improve medical care, wherever possible, decision makers should choose efficiency improvement over expansion. ■

2006 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 (29.76%)								
Alton Memorial Hospital	128	25,261	54.07%	4.18	5.0	\$ 19,958,370	16.10%	21.01%
Barnes-Jewish Hospital	1,323	292,989	60.67	5.43	6.6	159,664,841	12.50	18.17
Barnes-Jewish Hospital—St. Peters	103	28,498	75.80	4.07	4.4	16,193,008	14.46	20.52
Barnes-Jewish Hospital—West County	67	16,237	66.40	4.60	3.5	9,341,264	11.01	17.56
Christian Hospitals NE/NW	439	88,397	55.17	6.02	4.5	3,736,444	1.52	7.57
Missouri Baptist Hospital—Sullivan	56	7,731	37.82	4.17	2.8	(124,825)	-0.38	5.15
Missouri Baptist Medical Center	386	101,462	72.02	4.74	4.6	42,901,634	12.06	17.78
St. Louis Children's Hospital	271	67,262	68.00	5.78	8.1	52,270,294	14.94	21.15
Network Total	2,773	627,837	62.03%	5.23	5.8	\$303,941,030	11.77%	17.56%
SSM Health Care (20.66%)								
Cardinal Glennon Hospital	172	46,264	73.69%	6.76	6.8	\$ 34,286,590	16.38%	20.33%
DePaul Health Center	418	106,127	69.56	4.72	4.4	(420,740)	-0.16	2.31
St. Joseph Health Center—St. Charles ²	403	70,805	48.14	4.78	4.3	(625,456)	-0.35	3.50
St. Joseph Hospital—Kirkwood	273	31,772	31.89	3.65	5.2	(8,540,620)	-8.79	-5.76
St. Joseph West—Lake St. Louis	125	25,643	56.20	3.29	4.4	2,139,169	2.32	6.06
St. Mary's Health Center	435	88,016	55.43	3.86	5.1	11,107,160	4.23	8.17
Network Total	1,826	368,627	55.31%	4.42	4.9	\$ 37,946,103	3.45%	6.93%
St. John's Mercy Health Care (11.28%)								
St. John's Mercy Hospital—Washington	179	21,850	33.44%	3.37	4.5	\$ 4,905,692	5.68%	12.53%
St. John's Mercy Medical Center	852	206,972	66.55	5.30	4.9	37,599,937	5.89	11.65
Network Total	1,031	228,822	60.81%	5.03	4.8	\$ 42,505,629	5.87%	11.75%
Tenet HealthSystem (5.80%)								
Des Peres Hospital	143	39,960	76.56%	4.27	3.7	\$ 7,492,146	6.29%	9.81%
St. Louis University Hospital	337	84,963	69.07	6.05	3.9	(1,480,916)	-0.44	3.78
Network Total	480	124,923	71.30%	5.34	3.8	\$ 6,011,230	1.33%	5.37%
Missouri Non-Merged, Non-Affiliated (17.80%)								
Forest Park Hospital ³	242	28,472	32.23%	5.34	10.7	\$ (2,274,291)	-2.67%	-0.27%
Jefferson Memorial Hospital	210	38,810	50.63	4.07	6.3	2,962,404	3.14	8.76
Kindred Hospital	94	21,448	62.51	28.52	3.2	2,287,472	7.17	16.67
Lincoln County Memorial Hospital	25	5,724	62.73	5.54	3.5	2,022,847	7.07	11.78
St. Alexius Hospital ^{3,4}	283	54,244	52.51	6.39	3.1	914,042	1.05	2.15
St. Anthony's Medical Center	566	138,451	67.02	4.87	4.3	18,541,000	5.08	11.29
St. Luke's Hospital	439	82,856	51.71	4.54	4.7	21,087,000	6.36	11.47
Total	1,859	370,005	54.53%	4.90⁶	4.9	\$ 45,540,474	4.45%	9.56%
Illinois Non-Merged, Non-Affiliated (14.70%)								
Anderson Hospital	135	31,259	63.44%	3.86	4.3	\$ 8,368,526	7.41%	10.89%
Gateway Regional Medical Center	228	50,157	60.27	5.78	2.8	12,267,513	11.78	14.22
Kenneth Hall Regional Hospital (East St. Louis, IL) ⁵	169	15,413	24.99	5.12	4.7	580,336	1.39	4.48
Memorial Hospital of Belleville	313	62,334	54.56	4.20	5.2	18,202,086	8.96	14.12
St. Anthony's Health Center (Alton, IL)	111	25,584	63.15	4.18	5.4	5,103,192	5.06	8.37
St. Elizabeth's Hospital (Belleville)	264	63,414	65.81	4.57	4.7	1,599,518	1.00	6.99
St. Joseph Hospital (Breese, IL)	57	7,130	34.27	3.36	5.0	4,611,300	13.28	20.82
Touchette Regional Hospital	105	9,487	24.75	3.84	5.9	8,266,984	21.25	23.76
Total	1,382	264,778	52.49%	4.47	4.7	\$ 58,999,455	7.40%	11.76%
Aggregate for 33 St. Louis Hospitals	9,351	1,984,992	58.16%	4.88⁶	4.9⁷	\$494,943,921	7.41%	12.44%

¹ Market share percentages listed by each network are based on total number of discharges for the hospitals in the network. Hospital network configurations are current as of 2008.

² Beginning in 2006, St. Joseph Health Center and St. Joseph Hospital—Wentzville reported on a combined basis.

³ Forest Park Hospital and St. Alexius Hospitals (formerly Alexian Brothers and SouthPoint Hospitals) were sold to Envision Hospital Corporation (formerly Doctors Community Healthcare Corporation) in November 2004 by Tenet Healthcare Corporation.

⁴ St. Alexius—Broadway and St. Alexius—Jefferson Campus reported on a combined basis under St. Alexius Hospital.

⁵ St. Mary's Hospital of East St. Louis was acquired by the Southern Illinois Healthcare Foundation February 1, 2004 and was renamed Kenneth Hall Regional Hospital.

⁶ Kindred Hospital, a long-term acute care hospital, is not included in the aggregate average LOS figure.

⁷ St. Louis average excludes two teaching hospitals, Barnes-Jewish Hospital and St. Louis University Hospital, that may have higher numbers of FTEs.



Excess capacity reaches highest level in five years

Excess capacity grew 11%, to 2,559 excess available acute care beds in 2006, the highest level since 2001. This is equivalent to approximately six empty community hospitals, an increase of one empty hospital since 2005. Given the level of capital expansion by St. Louis hospitals, growth in excess capacity was expected.

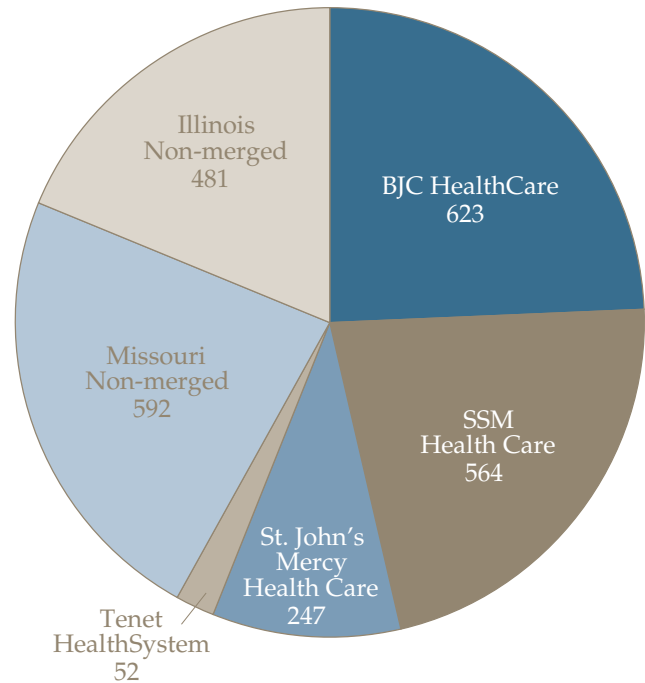
BJC and SSM, the two hospital systems with the most market share, had the largest increases in available beds in 2006. This was followed, to a lesser degree, by bed capacity increases at St. Luke's, Tenet and St. Anthony's Medical Center.

The table below demonstrating 10-year utilization for three payer groups: Medicare, Medicaid, and "Other" (privately insured and uninsured) finds that:

- Inpatient days fell 1% and discharges rose 0.6%.
- Medicare inpatient days and discharges declined across all facilities in the region.
- Medicaid utilization decreased in the region overall, though Medicaid admissions increased at the two largest systems, BJC and SSM, in 2006. Closure of Forest Park Hospital's obstetrics practice and expansion of the Illinois Medicaid program may partially explain the increases at BJC and SSM.
- "Other" discharges grew 4% and patient days grew 0.5%.

As hospital beds grew and utilization fell, aggregate St. Louis inpatient hospital occupancy declined to 58.1%, down from 59.8% in 2005. ■

Excess Available Beds in 2006 per Network
(assuming 80% occupancy is the equivalent of "full")



See glossary for the definition of excess available beds.
Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports and internal utilization statements. Hospital network configurations are current as of 2008.

	1997 ¹	1998 ¹	1999	2000 ¹	2001	2002	2003	2004	2005	2006
Discharges										
Medicare ²	134,941	132,780	133,623	144,245	156,330	162,700	161,665	167,385	174,738	171,857
Medicaid	47,656	44,890	46,960	53,770	56,924	59,781	64,016	65,926	64,037	62,996
Other	166,455	172,025	167,027	148,374	158,128	160,464	163,122	162,236	162,422	168,580
Total	349,052	349,696	347,610	346,389	371,382	382,945	388,803	395,547	401,197	403,433
Inpatient Days										
Medicare	884,557	833,923	841,192	886,167	904,159	952,302	958,425	984,159	1,002,440	989,216
Medicaid	228,163	233,863	252,272	276,843	281,161	308,338	327,463	337,555	330,412	323,929
Other	635,816	670,939	703,165	649,387	656,763	650,086	678,304	677,869	668,704	671,847
Total	1,765,393	1,738,726	1,796,629	1,812,397	1,842,083	1,910,726	1,964,192	1,999,583	2,001,556	1,984,992
Avg. Length of Stay³										
Medicare	6.5	6.2	6.2	6.1	5.7	5.8	5.9	5.9	5.7	5.8
Medicaid	4.8	5.2	5.4	5.1	4.9	5.1	5.1	5.1	5.2	5.1
Other	3.9	3.9	4.2	4.4	4.1	4.0	4.2	4.2	4.1	4.0
Total	5.0	4.9	5.1	5.2	4.9	5.0	5.1	5.1	5.0	4.8
# of Hospitals	39	39	39	38	35	35	35	34	34	33

¹ As a result of hospital mergers in fiscal years 1997, 1998, and 2000, Medicare cost reports were filed for fewer than 12 months and available data were used to estimate 12-month utilization. Utilization trends in 1999 and 2000 were affected by the closure of four hospitals.²¹
² 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.
³ Kindred hospital is excluded from average length of stay because it is a long-term acute care hospital.



Most hospital revenues come from direct payments for services from government programs, such as Medicare and Medicaid, and commercial insurers. In addition to these payments, hospitals also have a number of **opportunities for payment subsidies** provided by state and federal governments. The **disproportionate share (DSH)** program was designed in the early 1980s to compensate hospitals for care provided to Medicaid and poor Medicare patients. In 1991, a federal law enabled hospitals to “voluntarily” increase the amount of DSH subsidies they received. In Missouri, it is administered by the Medicare Hospital Reimbursement Program (MHRP).

How does it work? The Federal Reimbursement Allowance (FRA) enables the federal government to provide financial support to state-run Medicaid programs in proportion to the state’s funding of its Medicaid program. In accordance with the FRA, Missouri hospitals voluntarily assess themselves and pay a “tax” to the state.² Using a complex formula to determine the maximum federal subsidy; the state submits a portion of the “tax” in a claim to the federal government and retains the other portion in a state FRA fund. The federal government then “matches” the claim. The combined state FRA fund and federal match is paid to hospitals through the MHRP as a supplement to their Medicaid DSH revenue. In 2006, St. Louis hospitals received more than \$364 million, or nearly 6.6% of their operating revenue, in DSH “add-on” payments according to the Missouri Department of Social Services (see page 31). Illinois had a similar hospital assessment program in 2006.

Revenue sources to cover unpaid costs of care

Although providers receive DSH, other subsidies, and donations to cover the costs of care for Medicare, Medicaid, and the uninsured, they also routinely increase charges to privately insured

patients to cover “underpayments” from government programs. Commonly referred to as the “cost shift,” it effectively places a hidden “tax” on the privately insured. The amount of this hidden tax paid by St. Louis patients, employers, and insurers for all hospital services in 2006 was on average 29 cents more for every dollar spent. Since the high cost of health care is the primary driver of the increase in the uninsured, more must be done to improve the affordability of health care in the St. Louis region.

Access to care for the uninsured

The St. Louis Regional Health Commission (RHC) was formed in 2002 to strengthen the safety net, five years after St. Louis’s last public hospital closed in 1997. RHC created the St. Louis Integrated Health Network (IHN) in 2003 to coordinate primary/specialty care safety net services in St. Louis. **This resulted in a 23% increase in routine primary and preventive care visits.** The St. Louis County clinics and federally qualified health centers (FQHC) provided 70% of these visits with the other 30% provided by private clinics staffed by volunteer providers, private physician offices, and hospital-based clinics. Improving access to specialty care proved more challenging and wait times did not improve until 2007. Emergency department visits overall remained constant during the period. A state and local voucher system pays for a portion of the care provided by hospitals.³

Despite these improvements, safety net care remains inadequate—FQHCs in St. Louis are underfunded \$166 million each year according to a 2003 RHC report.⁴ Based on findings from RHC’s report and others, the question must be asked: **is a sufficient amount of the extra money paid by employers and the public through the “cost shift” and other mechanisms used to improve access to care for the underinsured and the uninsured? ■**

St. Louis Area Hospitals Payment to Cost Ratio by Payer Type, 2006

Hospitals and Hospital Systems	Medicare		Medicaid		Commercial	
	Ratio	% Rev.	Ratio	% Rev.	2005	2006
SSM Health Care	\$0.99	41%	\$0.65	17%	\$1.21	\$1.25
BJC HealthCare	0.95	40	0.59	16	1.38	1.37
St. Anthony’s Health Center (Alton)	0.76	49	0.97	15	1.48	1.24
Tenet HealthSystem	0.94	48	0.74	15	1.31	1.26
St. John’s Mercy Health Care	0.86	36	0.84	13	1.19	1.30
St. Anthony’s Medical Center	0.90	51	0.73	9	1.18	1.21
St. Luke’s Hospital	0.94	53	0.66	2	1.15	1.13
St. Louis Aggregate	\$0.94	43%	\$0.75	16%	\$1.27	\$1.29

Note: Ratio represents on average the amount of revenue collected for each dollar of expense by payer. Payments below \$1.00 indicate the hospital is paid less on average than its cost and those above \$1.00 are more than their cost. The percentage of revenues estimates the percent of total revenues at each hospital covered by the payer based on annual discharges. For example, using the information provided and subtracting from 100, one could determine that about 42% of SSM’s revenues come from commercial payers. Since Medicaid is generally the lowest payer, the table is sorted by the highest percentage of Medicaid business.

Source: CMS Medicare Cost Reports, audited financial statements, and AHA/MHA Licensing Surveys. Certain hospitals for whom data were unavailable were excluded from the aggregate including Forest Park, Kindred, St. Alexius, Gateway Regional Medical Center, Kenneth Hall Regional, St. Joseph—Breese, IL, and Touchette Regional.

The United States spends far more on health care than any other nation. Switzerland, the next most expensive nation, spends half as much per person. Despite its investment, the U.S. ranks last among 19 industrialized nations in preventing deaths from treatable conditions.⁵ **By reducing waste, the quality of the nation's health care system could be improved and access to necessary medical services could be expanded.**

The problems with U.S. health care are well documented. Despite having some of the world's most highly trained medical professionals utilizing the latest technology and research, care lacks coordination; quality and safety varies; and millions lack health coverage. Misaligned economic incentives exacerbate the problem, rewarding the quantity rather than the quality of care provided. If a hospital or physician provides an unnecessary test, revenues go up. If patients stay well, revenues fall.

Is there a solution? According to the research of Dr. Donald Berwick and colleagues at the Institute for Healthcare Improvement (IHI) in Cambridge, Massachusetts, improving the U.S. health care system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations, and reducing per capita costs of health

care. These interdependent goals, called the **"Triple Aim,"** offer a framework for achieving high-value health care.

Despite obstacles, local and national physician leaders are working to achieve these goals. In the St. Louis region, St. John's Mercy Health Care has studied with Boeing Co., learning the benefits of Lean management techniques and how to apply them to health care. Barnes-Jewish Hospital has used Lean and other process improvement tools to improve care for heart attack patients, reduce emergency room wait times and shorten lengths of stay. This mirrors efforts nationally by the Virginia Mason Medical Center, Denver Health, and ThedaCare. All have adopted Lean management principles to reduce costs, improve quality and boost patient satisfaction, while maintaining profitability.⁶

In primary care, The National Committee for Quality Assurance (NCQA) is leading the way in promoting programs that recognize physicians who deliver high-quality care for certain key medical conditions (see pages 18 and 19). It also recognizes physicians who use up-to-date information and systems, and function as patient-centered medical homes or practices designed to improve patients' health and experience of care.

Monitoring cost performance in St. Louis

Meaningful and consistent information on the cost and quality of health care services is essential to ensuring access to safe, effective and affordable care. Performance assessment in health care is early in its evolution and, like other industries, is multidimensional. The following five pages offer insight into the comparative performance of St. Louis hospitals from three distinct approaches; all are valid and useful. Care is suggested when making a firm judgment based on a single performance parameter or one point in time.

When hospitals merged in 1993, the promised benefit for the community was improved efficiency from centralized management and economies of scale. In an effort to ease comparisons and to better understand system performance, where possible, results have been aggregated by hospital systems.

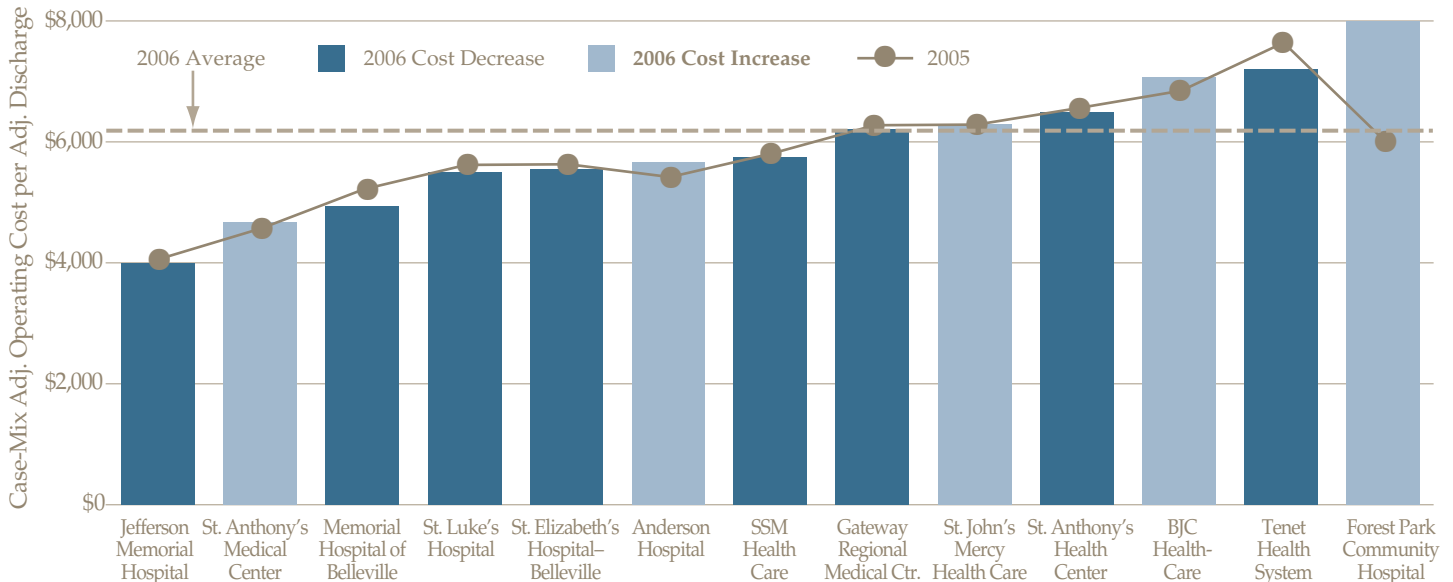
- **Hospital cost per discharge** is provided again on page 9. Defined globally, cost includes operating expenses related to care for patients from commercially insured, self-pay, uninsured, Medicare, Medicaid, and other government programs. Case-mix adjustment accommodates for differences in illness severity.
- **Health Care Value for the Medicare Population** is the theme on pages 10 and 11. Hospital-specific cost and

quality performance is measured based on the 2007 Medicare Provider Analysis and Review file (MEDPAR) and the Leapfrog Hospital Quality and Safety Survey. Cost performance is based on severity-adjusted Medicare payments per case and length of stay for specific medical conditions. Quality, or effectiveness, is based on a combination of measures: Severity-adjusted mortality, Leapfrog, CMS Hospital Quality Alliance Hospital Compare, and the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators.

- **Hospital care intensity (HCI)** for patients with severe chronic illness varies widely. Most patients receive episodic care from multiple providers that is rarely coordinated, the quality of care is remarkably uneven, and the growing costs of chronic disease care present a threat to not only patients and their families but also to the nation. Pages 12 and 13 present the findings of a recent report from the Dartmouth Atlas project that tracks the intensity of care of Medicare patients with severe chronic illness for hospitals in the St. Louis region that includes comparisons to hospitals placed at the top of *U.S. News and World Report's* Best Hospitals Honor Roll. ■



Hospital Cost per Discharge, 2005 to 2006



	JMH	SAMC	MHB	SLH	SEHB	AH	SSM	GRMC	SJMHC	SAHC	BJC	THS	FPCH
2004	-19.3%	1.5%	-9.5%	1.7%	9.4%	13.2%	2.4%	0.3%	14.3%	15.4%	2.1%	8.5%	29.0%
2005	3.6%	3.8%	9.9%	12.2%	10.7%	-4.6%	6.5%	17.1%	1.3%	20.3%	1.7%	3.9%	-7.7%
2006	-1.6%	2.3%	-5.5%	-2.0%	-1.5%	4.7%	-1.0%	-1.0%	0.1%	-0.1%	3.3%	-5.7%	36.0%
3 Year Trend	-5.9%	2.6%	-2.0%	3.9%	6.4%	4.3%	2.7%	5.4%	5.3%	12.9%	2.4%	2.1%	20.6%

Sources: Ingenix ReimbursementAnalysis using publicly available data including CMS Medicare Cost Reports, audited financial statements, MHA/AHA Annual Licensing Surveys, and Commercial insurance. Changes in percentage increase/decrease for certain hospitals for 2005 were the result of the removal of Medicaid tax donation and FRA pool expenses from operating expenses.

St. Louis hospital cost trend

Four years ago, BHC took the first step in evaluating the efficiency of St. Louis hospitals by comparing their average cost per discharge adjusted for case mix. This year, for the first time, BHC is able to show three-year trends. The table above shows the year-over-year percentage change in average case-mix adjusted cost per discharge from 2003 to 2006. It also shows the average three-year trend. For example, Jefferson Memorial Hospital's (JMH) cost decreased 19.3% from 2003 to 2004, increased 3.6% from 2004 to 2005, etc.

What were the results?

- In aggregate, average cost per discharge grew an average of 7.4% a year from 2003 to 2006. Hospital expenditures escalated sharply from 2003 to 2005. **Expenditures began to grow more slowly in 2006.** These trends were mirrored by hospitals nationally.
- Dramatic variation in operating costs among individual hospitals persists even after adjusting for case mix. The individual factors driving this variation are not obvious.
- **Congratulations are again due to BJC HealthCare and St. Anthony's Medical Center** for achieving consistent management of cost.

Will slower cost growth last? While encouraging, it is unclear whether this trend will continue. **What is the**

solution? The adoption or expansion of process improvement programs, such as Lean, could temper cost growth and improve the quality, coordination and efficiency of care for patients limiting the need for additional building projects.

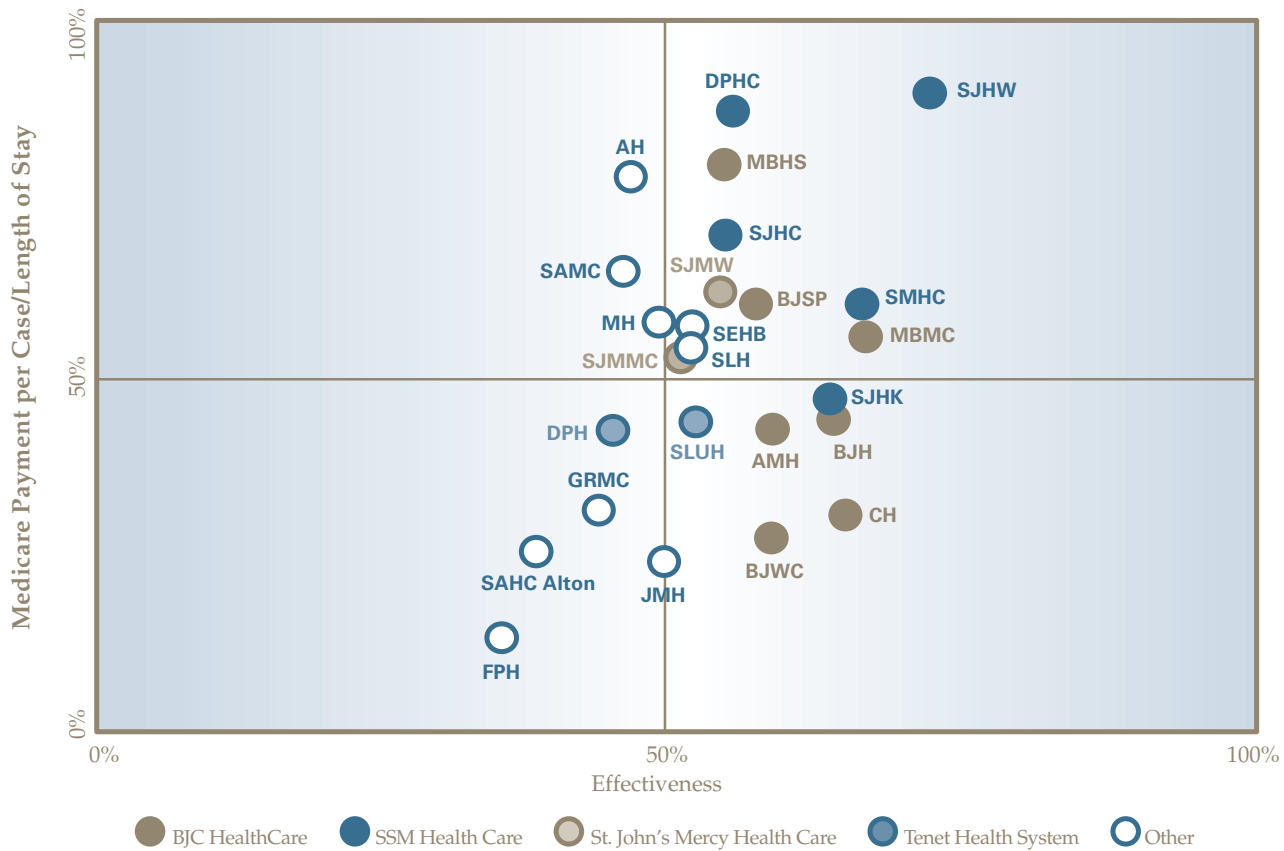
Does it work? Leading providers, such as Seattle's Virginia Mason Medical Center have demonstrated that process improvement can lower cost, strengthen quality, boost patient satisfaction, and reduce the need for expansion. BHC is encouraged by the early results of local hospitals in this area (see page 8). **Given the heavy burden of rising health care costs on the economy and the potential gains from process improvement, all providers should consider efficiency preferable to expansion in the long term.** ■

Methodology

Provided by ReimbursementAnalysis, a consulting solution from Ingenix, that analyzes profitability and reimbursement rates by payer group (i.e., Medicare, Commercial, etc.) and provides unit cost benchmarking. In this analysis, costs included in operating expenses unrelated to net patient revenues (i.e., cafeteria, parking lot, research, etc.) and those related to SNF and Home Health were removed from each hospital's operating expenses. The resulting expenses related to net patient revenues were divided by the adjusted patient discharges, excluding SNF and Home Health discharges, to calculate an average cost per adjusted patient discharge and then divided by the case-mix index. The case-mix index was estimated by weighting the Medicare and commercial case mix based on discharges. Lincoln County Memorial, Kenneth Hall Regional, Kindred, St. Alexius, St. Joseph—Breese, and Touchette Regional Hospitals cost data were excluded from this analysis.



St. Louis Area Hospitals 2007 Performance



Source: Centers for Medicare and Medicaid Services (CMS) Medicare Provider Analysis and Review (MEDPAR) file.

In health care as in other industries, what is not measured is difficult to improve. Providers, employers, consumers, and policy makers' efforts to understand and improve the quality and affordability of health care are hindered by the absence of information. In St. Louis, and for Missouri and Illinois as well, the only hospital-specific information on the cost and quality of care available (i.e., by medical condition or medical/surgical procedure) is from Medicare. Although they do not cover maternity or pediatric care, Medicare data provide an important window into the cost and quality, or value, of hospital care.

Using national data and measures for St. Louis area hospitals, the graph above provides the community an opportunity to assess hospital-specific differences in quality and cost performance. It plots a composite clinical effectiveness score along the horizontal axis, and Medicare payments per case/length of stay (LOS) as a cost performance indicator along the vertical axis (see page 11 for hospital-specific scores, methodology discussion and list of metrics). All information is case-mix adjusted. The chart is divided into quadrants. The upper right quadrant represents above average performance in effectiveness and Medicare payment per case/LOS, while the lower left quadrant is just the opposite,

indicating below average performance in both categories. Hospitals located in the upper right corner of the quadrant provided Medicare the best value; that is, both higher quality and lower cost than other hospitals for this time period.

BHC congratulates SSM St. Joseph Hospital West (SJHW) for providing better health care value for the Medicare population, as compared with other St. Louis hospitals.

Most St. Louis hospitals are closer to the center of the chart, indicating performance of average value, while hospitals performing in the lower left quadrant have room for improvement. Performance assessment using these indicators is early in its evolution, and special care is suggested when making a firm judgment based on data from one point in time.

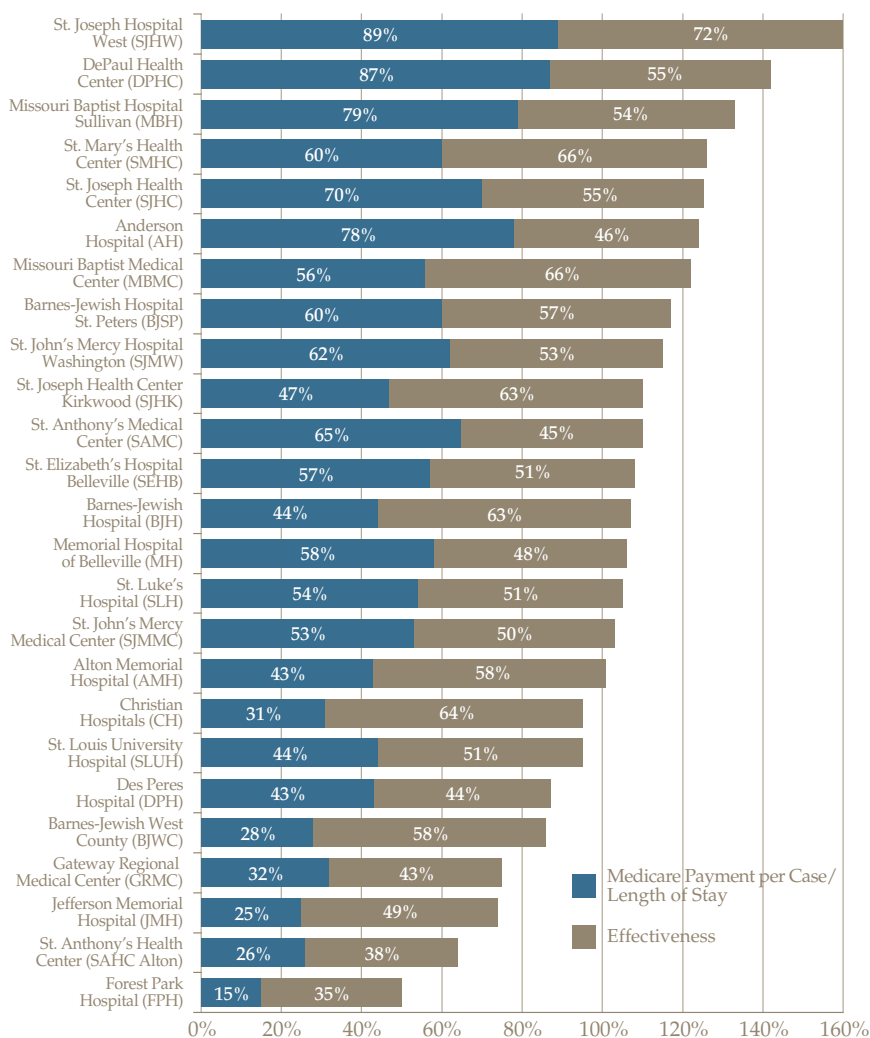
While the information presented here is a good start, more information on the non-Medicare population is essential for a fair and complete provider evaluation so that those truly distinguished by their excellence can be recognized and rewarded. The best strategy for the community would be for all payers and employers to work together to produce similar comparative information for Medicaid and the commercially insured population. ■



Hospital-specific performance for Medicare payment per case/length of stay and effectiveness are shown in the bar chart below. The Medicare payment per case/length of stay composite score is comprised of 20 condition-specific, severity-adjusted Medicare payment per case and length of stay (LOS) measures. The effectiveness score is comprised of up to 44 measures: 20 condition-specific, severity-adjusted mortality measures (the same conditions used in the Medicare payment per case/length of stay composite); eight Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators (PSI); 12 Leapfrog Hospital Quality and Safety Survey measures; and four CMS Hospital Quality Alliance (HQA) Hospital Compare composite measures (see box at right for complete list).

The Leapfrog Survey responses are received directly from the Leapfrog Group; all other measures are calculated from the 2007 Medicare Provider Analysis and Review (MEDPAR) file. Unlike many other states, AHRQ PSI hospital results using Missouri's all-payer discharge data set are only available to the federal government since Missouri hospitals, through their Association, have declined to report them to the public.

The scores illustrated below are the same as those used in the value graph on page 10 and are listed from highest to lowest based on the sum of the two scores. Maximum performance is 200%, 100% for each score. The majority had maximum scores between 100% and 125% with dramatic variation in each hospital's effectiveness and Medicare payment per case/length of stay. ■



Effectiveness Measures

- CMS Hospital Compare Measures (see page 20)
- AHRQ Patient Safety Indicators (complications)
 - Failure to Rescue
 - Iatrogenic Pneumothorax
 - Selected infections due to medical care
 - Postoperative measures:
 - Hemorrhage or hematoma
 - Physiologic and metabolic derangements
 - Respiratory failure
 - Sepsis
 - Wound dehiscence after abdominal pelvic surgery
- Severity-Adjusted Mortality Clinical Conditions
 - Cardiac Surgery
 - Cardiology
 - Endocrinology
 - Gastroenterology
 - General Medicine
 - General Surgery
 - Gynecology
 - Hematology-Oncology
 - HIV Infections
 - Nephrology
 - Neurology
 - Neurosurgery
 - Orthopedics
 - Otolaryngology
 - Plastic Surgery
 - Pulmonary
 - Thoracic Surgery
 - Transplant
 - Urology
 - Vascular Surgery
- Leapfrog Hospital Quality and Safety Survey (see page 24)

Medicare Payment per Case/Length of Stay (LOS) Financial Performance

- 20 severity-adjusted clinical conditions (see Effectiveness indicators above listed under Severity-Adjusted Mortality Clinical Conditions)

The 20 condition-specific, severity-adjusted Medicare payment per case, LOS, mortality and AHRQ PSI measures require a minimum of 30 patients and CMS HQA measures require a minimum of 25 patients to be considered valid. Scores are based on a hospital's quintile performance for each valid measure compared to hospitals nationally. Mortality measures are based on a hospital's z-score (the actual score's standard deviation) for greater statistical accuracy. All other measures are based on a hospital's actual score.



Variation in care is an important symptom of the underperformance of the U.S. health care system. Over the past 20 years, the *Dartmouth Atlas* has documented the glaring variation in medical resource use and spending in the U.S. This research indicates that the influence of serious illness on variation is small; differences in medical opinion and the supply of resources in local markets play a much larger role. It also shows that more care often does not result in better outcomes.

BHC is pleased to present the findings of the 2008 *Dartmouth Atlas* report, "Tracking the Care of Patients with Severe Chronic Illness." The report uses the Hospital Care Intensity Index (HCI) to compare providers. The HCI measures the volume of care provided by hospitals and physicians based on two variables, the number of days patients spent in the hospital and number of physician visits they experienced as inpatients. It is computed as the age-sex-illness standardized ratio of patient days and visits. For each variable, the ratio of a given hospital's utilization in relation to the average utilization of all hospitals was calculated, and the two ratios were averaged to create the index. The HCI was converted into a percentile score according to where a region or hospital fell in relation to all others in the U.S.

Medicare data were used, as they offer a large, accessible, and homogenous dataset (all enrollees are 65 and older with the same levels of coverage, and same administrative practices). Other research comparing care quality and cost variations in the Medicare and privately-insured populations suggests there are similar variations among the under-65 privately-insured population. The data were further standardized with regard to:

Severity of Illness: In order to standardize for differences in illness severity, patients were selected who had at least one of nine specific chronic illnesses (i.e., heart failure) from 2001 to 2005.

Outcomes: Selection of patients who died was deliberate to overcome arguments that one facility achieved better outcomes than another. Since all patients died, the outcomes were known to be equal, and the care they received for the 24 months preceding death was evaluated.

Key Findings: States, regions, and hospitals with high HCI scores used inpatient care much more than those with low scores. **Physicians and hospitals that overtreated in the last six months of life, when patients were sickest, also overtreated in the previous 18 months of life, when patients were not as ill.** This pattern was consistent for academic medical centers and community hospitals.

Why does it matter? High intensity care was associated with higher mortality and lower quality scores and also tended to be more expensive. **Why?** Aggressive treatment exposes patients to greater risk of infections and medical errors. This overtreatment, particularly for fragile, severely ill patients, can

result in greater suffering without improved function or longevity and is often more care than they or their families want or benefit from. Such care is not high quality, or compassionate, and is a waste of precious health care dollars.

When does this occur? Patients are more at risk for overtreatment when there is a lack of firm scientific evidence to guide clinical decisions, such as when to hospitalize or admit a patient to an ICU, and when this lack of evidence or consensus on the appropriate treatment is combined with excess capacity of beds, providers and other services. More medical resources drive more aggressive care, often diminishing the quality of life for the chronically ill. This research suggests that communities may be placed unnecessarily at risk for overtreatment by the **escalating capital investment** in facilities and diagnostic technology. ■

St. Louis results: The table on the facing page ranks the variation in the Hospital Care Intensity (HCI) index for 32 St. Louis area hospitals. They are compared to the top 30th HCI percentile performance of all U.S. hospitals. They are listed from lowest to highest since a lower HCI percentile is better. We focus on three measures in addition to the HCI: Medicare spending per decedent (combined hospital and physician reimbursement); per decedent resources hospitals have available (i.e. beds); and utilization, or the amount of care delivered per decedent.

Averages are also included for the nation, St. Louis, and the five academic medical centers (AMCs) the *U.S. News and World Report* (USN&WR) placed at the top of its 2008 Best Hospitals Honor Roll for America's Best Hospitals: John's Hopkins University Hospital, Mayo Clinic's St. Mary's Hospital, the University of California Hospital at Los Angeles (UCLA), the Cleveland Clinic Foundation Hospital, and the Massachusetts General Hospital (MGH).⁷ All were benchmarked to the hospitals in the top 30th HCI percentile.

- **The Mayo Clinic and six St. Louis hospitals outperformed others and achieved results better than the top 30th percentile.** Much of this resulted from fewer physician visits and fewer days spent in the hospital.
- For the remaining St. Louis and USN&WR Honor Roll hospitals, as well as national and St. Louis averages, HCI underperformed compared to the 30th percentile. They tended to have higher numbers of beds, patients spent more days in the hospital, and patients received more visits from physicians.



The table illustrates the degree of variation that exists among hospitals in a single region. It shows differences in the intensity of hospital care resource utilization, payments, and available beds. Data from the top five hospitals from *U.S. News & World Report* America's Best Hospitals show similar variations. The study design standardizes for differences in severity of illness and outcomes.

The study dispels the myth that more care is better care and provides valuable insight and practical recommendations for reforming the payment system and improving the quality and efficiency of the American health care system. The complete report is available on the *Dartmouth Atlas of Care* website: <http://www.dartmouthatlas.org>

St. Louis Hospitals Compared to *U.S. News and World Report* Best Hospitals Honor Roll* Hospital Care Intensity Index (HCI) during the Last Two Years of Life

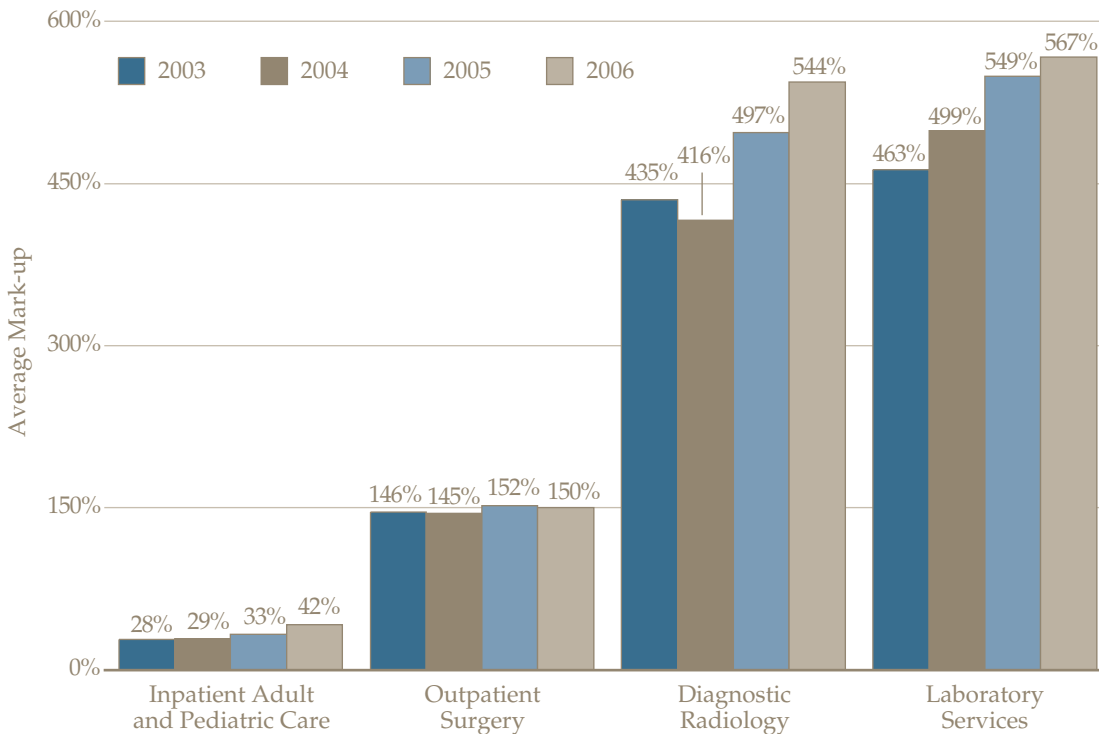
Hospital Level Measures Benchmarked to 30th HCI Percentile (2001–2005)								
	USN&WR Honor Roll Rank*	HCI Index Percentile compared to all U.S. Hospital	Average Payment per decedent	Bed inputs per 1,000 decedents	Days per decedent		MD Visits per decedent	
					Rate	Ratio to Benchmark	Rate	Ratio to Benchmark
St. John's Mercy Hospital—Washington	—	10th	\$40,820	44.7	16.3	0.89	50.8	0.92
Anderson Hospital	—	15th	\$37,258	46.3	16.9	0.92	47.8	0.87
Lincoln County Medical Center	—	22nd	\$43,755	47.3	17.3	0.94	53.6	0.97
St. Joseph's Hospital, Breese, IL	—	25th	\$41,641	56.6	20.7	1.12	53.3	0.97
Alton Memorial Hospital	—	27th	\$41,573	56.0	20.5	1.11	53.4	0.97
Missouri Baptist Hospital Sullivan	—	28th	\$47,058	61.3	22.4	1.22	47.9	0.87
Mayo Clinic—St. Mary's Hospital	2	28th	\$53,432	58.2	21.3	1.15	50.8	0.92
30th Percentile (Nat'l Benchmark)		30th	\$43,558	50.4	18.4	1.00	55.0	1.00
St. Joseph Hospital—West	—	33rd	\$46,790	51.0	18.6	1.01	57.8	1.05
St. Anthony's Health Center, Alton	—	37th	\$44,577	58.0	21.2	1.19	74.2	1.35
St. Joseph Hospital Kirkwood	—	41st	\$41,754	55.0	20.1	1.09	59.7	1.08
National Average		50th	\$52,838	64.7	23.5	1.11	70.1	1.27
Cleveland Clinic Hospital	4	51st	\$55,333	65.5	23.9	1.30	62.8	1.24
St. Louis University Hospital	—	58th	\$67,124	74.6	27.2	1.48	54.5	0.99
Gateway Regional Medical Center	—	60th	\$51,249	70.4	25.7	1.40	60.2	1.09
Johns Hopkins Univ. Hospital	1	60th	\$85,729	78.2	28.6	1.55	56.9	1.12
Barnes-Jewish St. Peter's Hospital	—	62nd	\$49,270	60.9	22.3	1.21	69.6	1.27
Barnes-Jewish Hospital	12	64th	\$63,281	75.3	27.5	1.49	61.1	1.11
St. Joseph Health Center	—	65th	\$47,533	60.1	21.9	1.19	74.2	1.35
Forest Park Hospital	—	69th	\$57,722	71.5	26.1	1.42	64.7	1.18
St. Louis, MO** Hospital Average		70th	\$49,599	56.2	20.5	1.11	67.9	1.23
DePaul Health Center	—	71st	\$51,335	68.6	25.0	1.36	71.5	1.30
St. Mary's Health Center	—	73rd	\$53,735	64.3	23.5	1.28	75.9	1.38
St. Anthony's Medical Center	—	74th	\$46,513	67.2	24.5	1.33	72.5	1.32
St. Elizabeth's Hospital (Belleville)	—	75th	\$45,344	67.5	24.6	1.34	74.6	1.35
St. Alexius Hospital	—	75th	\$46,810	78.7	28.7	1.56	64.8	1.18
Jefferson Memorial Hospital	—	75th	\$47,972	68.3	24.9	1.35	75.6	1.37
St. John's Mercy Medical Center	—	80th	\$55,393	76.5	27.9	1.52	78.0	1.42
Missouri Baptist Medical Center	—	80th	\$49,477	72.5	26.5	1.44	78.5	1.43
Des Peres Hospital	—	81st	\$52,460	77.7	28.4	1.54	72.8	1.32
St. Luke's Hospital	—	82nd	\$52,765	74.5	27.2	1.48	80.9	1.47
Massachusetts General Hospital	5	82nd	\$78,666	79.2	28.9	1.57	75.4	1.37
Memorial Hospital	—	87th	\$46,550	75.9	27.7	1.51	85.9	1.56
Christian Hospital	—	88th	\$50,941	76.8	28.0	1.52	89.3	1.62
UCLA Medical Center	3	90th	\$93,842	85.8	31.3	1.70	101.3	1.84

Source: *Dartmouth Atlas of Health Care* 2008. Note: The minimum population count for reporting hospital measures based on MedPAR, Inpatient, Hospice, HHA, and DME files is 80 deaths; for Part B (physician) and Outpatient files it is 400 deaths.

** Regional HCI Indices include people who were low users of the system or were never treated at a hospital. Therefore, their per capita inpatient rates are much lower than the hospitals by definition (since they include people in the denominator who did not contribute to the numerator).



Average Mark-up by Hospital Service St. Louis Area Hospital Industry, 2003 to 2006



Average mark-up approximates the relationship between the charge and the cost of providing services.

It represents the relative profitability of services, not the actual profit margin.

A mark-up of 0% indicates the charge equals the cost of providing the service.

A mark-up of 100% indicates charges double the cost of providing the service.

Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports.

For decades, hospitals have lost money on inpatient care and made up for it with higher mark-ups on outpatient services. Not surprisingly, high profits in diagnostic radiology, particularly CT and MRI scans, have provided strong economic incentives to purchase redundant technology and increase their use, even when it is not clinically indicated.

Nationally, the **use of CT and MRI scanners has more than doubled since 1995.**⁸ Provider reimbursement methods, legal concerns, and few tools to monitor testing appropriateness all contribute to this increase.⁹ While the value of these diagnostic tools is well recognized, concern has grown about their safety, particularly CT scans. A 2007 *New England Journal of Medicine* report suggested that about **one-third of CT scans are unnecessary** and **that overuse of these tests may be a significant factor in raising the public's cancer risk in coming decades.**¹⁰ For example, a CT scan of the abdomen delivers an amount of **radiation equal to 500 x-rays.**¹¹

Imaging mark-ups are shown in the table to the right to illustrate the lure of profits in the use of imaging. The resulting overuse and oversupply of this expensive technology all too often exposes patients to unnecessary risk and places a heavy cost burden on the public at large. **Patients should be informed of this risk and also of any direct or indirect remuneration their physician will receive as a result of ordering the study. The physician should also clearly define the clinical importance of the study result to the patient's current treatment.** ■

	Low Mark-up	High Mark-up
Inpatient Care	-73%	350%
Outpatient Surgery	4%	531%
Diagnostic Radiology	-36%	1,490%
CT Scans	826%	2,336%
MRI Scans	430%	1,217%
Laboratory Services	0%	1,048%

Data for CT and MRI mark-ups were available for less than half of all St. Louis hospitals. Provider specific mark-up available from the BHC.

Capacity matters

In much of health care, supply defines utilization or the demand for services. When there is an oversupply of capacity, more procedures are performed, whether or not they are medically appropriate. Variation in provider assessment and diagnostic judgment and/or the absence of clear treatment consensus make some medical conditions "supply sensitive" or susceptible to overtreatment. For these conditions, greater capacity increases the likelihood that these patients will be placed needlessly at risk (see pages 12 and 13 for more on treatment variation).

Excess capacity and outpatient utilization are growing in the St. Louis area (see page 7). Data on the volume of procedures by provider for the St. Louis population are available only from one source—Medicare. Using Medicare data, a Milwaukee foundation recently conducted a study to compare surgical utilization rates of supply-sensitive services in 15 Midwestern cities. Overall, St. Louis consistently placed third highest in volume of surgical procedures based on population from 2003 to 2005.¹²

Average mark-up percentage by network 1997–2006



System Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
BJC HealthCare										
Alton Memorial Hospital	111.7%	103.0%	125.1%	142.3%	178.2%	190.7%	194.8%	203.5%	205.3%	206.4%
Barnes-Jewish Hospital	89.8	91.1	104.8	121.7	124.8	114.6	121.6	129.7	125.7%	130.0
Barnes-Jewish Hospital—St. Peters	114.0	118.9	131.5	147.0	157.5	171.6	169.1	162.5	167.6%	174.7
Barnes-Jewish Hospital—West County	85.5	97.4	104.9	124.4	153.1	162.3	171.0	172.2	161.5%	162.1
Christian Hospitals	126.6	119.2	127.2	136.2	144.7	181.7	179.4	182.2	168.9%	161.4
Missouri Baptist Hospital—Sullivan	61.8	79.7	66.7	92.8	107.3	123.3	126.3	145.4	135.3%	123.9
Missouri Baptist Medical Center	120.5	126.0	130.8	136.5	153.8	168.1	167.6	168.2	160.9%	157.1
St. Louis Children's Hospital	37.8	43.6	51.5	50.4	51.3	52.4	52.1	56.2	64.0%	63.8
Network Total	94.1%	95.5%	106.0%	118.2%	125.8%	128.5%	132.1%	137.7%	134.3%	134.5%
SSM Health Care										
Cardinal Glennon Hospital	62.1%	64.4%	86.8%	98.2%	92.7%	103.9%	122.4%	121.2%	136.3%	133.6%
DePaul Health Center	102.0	118.9	131.4	143.8	148.6	180.4	199.0	200.6	207.2	191.5
St. Joseph Health Center—St. Charles	109.4	116.5	140.9	154.9	171.3	193.6	228.4	209.7	235.1	237.9
St. Joseph Hospital—Kirkwood	114.7	138.6	151.1	152.7	170.4	198.4	214.3	202.5	199.3	228.5
St. Joseph Health Center—Wentzville ¹	80.3	N/A	73.9	41.5	77.1	93.9	120.9	109.7	69.1	N/A
St. Joseph Hospital West—Lake St. Louis	107.7	131.5	159.2	161.6	187.5	202.7	237.6	221.6	258.5	252.9
St. Mary's Health Center	117.8	127.4	144.8	164.2	171.5	188.9	208.0	206.5	211.3	199.0
Network Total	101.0%	113.5%	129.5%	142.2%	151.0%	172.6%	195.4%	188.2%	198.5%	200.4%
St. John's Mercy Health Care										
St. John's Mercy Hospital—Washington	90.9%	125.3%	111.5%	113.0%	130.4%	133.6%	132.6%	153.0%	189.6%	212.5%
St. John's Mercy Medical Center	108.3	107.9	105.5	109.1	116.6	116.9	125.5	142.6	158.2	180.2
Network Total	93.2%	110.2%	106.3%	109.6%	118.5%	119.2%	126.4%	143.9%	161.8%	184.0%
Tenet HealthSystem										
Des Peres Hospital ²	107.1%	115.4%	178.8%	231.7%	250.0%	279.8%	359.6%	345.1%	343.7%	408.9%
St. Louis University Hospital ²	65.1	41.4	98.0	109.1	182.9	170.8	216.9	225.9	223.0	237.2
Network Total	68.1%	51.8%	111.8%	130.7%	197.6%	194.9%	248.7%	251.9%	250.5%	278.1%
Missouri Non-Merged, Non-Affiliated										
Forest Park Hospital ³	80.4%	108.3%	135.6%	151.2%	221.8%	238.6%	277.8%	210.9%	192.8%	152.4%
Jefferson Memorial Hospital	93.3	98.0	101.2	101.5	100.4	98.2	95.6	112.8	115.5	147.9
Kindred Hospital	177.1	176.6	201.4	183.0	160.0	165.3	183.1	193.0	173.0	234.6
Lincoln County Memorial Hospital	69.5	63.6	74.7	68.6	74.2	83.3	72.0	83.8	87.3	82.4
St. Alexius Hospital ⁴	N/A	N/A	N/A	N/A	N/A	N/A	N/A	229.8	174.5	152.6
St. Alexius Hospital—Broadway Campus ³	77.4	68.7	63.8	51.9	68.8	115.9	297.1	N/A	N/A	N/A
St. Alexius Hospital—Jefferson Campus ³	99.2	112.5	161.2	206.8	243.2	273.3	226.8	N/A	N/A	N/A
St. Anthony's Medical Center ⁵	97.9	108.3	104.3	113.9	109.8	93.7	107.5	119.7	135.1	151.4
St. Luke's Hospital	90.0	109.4	108.1	112.7	118.4	117.9	116.6	125.8	114.7	123.2
Total	94.1%	106.6%	113.0%	121.8%	136.2%	135.5%	143.3%	145.0%	137.3%	142.9%
Illinois Non-Merged, Non-Affiliated										
Anderson Hospital	94.0%	100.2%	98.4%	106.1%	109.7%	104.3%	115.1%	126.2%	149.0%	148.4%
Gateway Regional Medical Center ⁶	113.7	129.6	128.5	115.3	96.7	153.1	189.3	245.4	311.2	361.1
Kenneth Hall Regional Hospital (E. St. Louis) ⁷	33.8	14.6	17.0	9.3	21.3	18.9	21.2	30.7	29.4	47.2
Memorial Hospital of Belleville	98.9	93.4	96.5	97.9	97.2	106.7	108.4	109.3	116.4	147.8
St. Anthony's Health Center (Alton) ⁸	150.3	188.8	176.5	194.8	208.4	213.4	215.7	223.0	255.9	305.2
St. Elizabeth's Hospital (Belleville)	103.4	106.0	110.8	113.6	112.2	122.3	128.9	114.8	131.4	180.1
St. Joseph Hospital (Breese, IL)	63.2	64.5	68.7	70.7	71.2	80.1	88.1	91.7	89.4	101.6
Touchette Regional Hospital	61.8	43.4	42.3	36.7	41.0	59.0	49.8	55.6	50.2	48.3
Total	101.1%	105.0%	104.6%	106.7%	107.1%	120.3%	128.6%	136.3%	157.2%	190.2%
Aggregate for 34 St. Louis Hospitals	92.2%	97.9%	107.0%	120.9%	133.2%	139.3%	152.6%	156.4%	159.8%	169.6%

¹ St. Joseph Health Center—Wentzville (as the former Doctors Hospital—Wentzville) fiscal year 1998 information was unavailable. They filed an 8.5 month Medicare Cost Report for fiscal year 2000 just prior to acquisition by Essent Healthcare of Missouri June 28, 2000 and were renamed Crossroads Regional Hospital. They were acquired by SSM Health Care in November 2005 and in 2006 began reporting on a combined basis with St. Joseph Health Center.

² Des Peres and St. Louis University Hospitals reported 11 months of data in 1998.

³ Southpointe Hospital was renamed St. Alexius Hospital—Jefferson Campus in 2003. Forest Park Hosp., St. Alexius Hosp.—Broadway Campus (formerly Alexian Bros. Hosp.), and St. Alexius Hosp.—Jefferson Campus were sold to Doctors Community Healthcare Corp. in November 2004 by Tenet Healthcare Corp. Due to this transfer in ownership, 2002, 2003 and 2004 data could not be verified.

⁴ Beginning in 2004, St. Alexius—Broadway Campus and St. Alexius—Jefferson Campus reported on a combined basis under St. Alexius Hospital.

⁵ From 1997 to 1999, statistics for St. Anthony's Medical Center and St. Clement's Hospital are combined under St. Anthony's Medical Center.

⁶ Gateway Regional Medical Center (formerly St. Elizabeth's Medical Center of Granite City) was acquired by Community Health Systems on January 1, 2002.

⁷ St. Mary's Hospital of East St. Louis was acquired by the Southern Regional Healthcare Foundation February 1, 2004 and was renamed Kenneth Hall Regional Hospital.

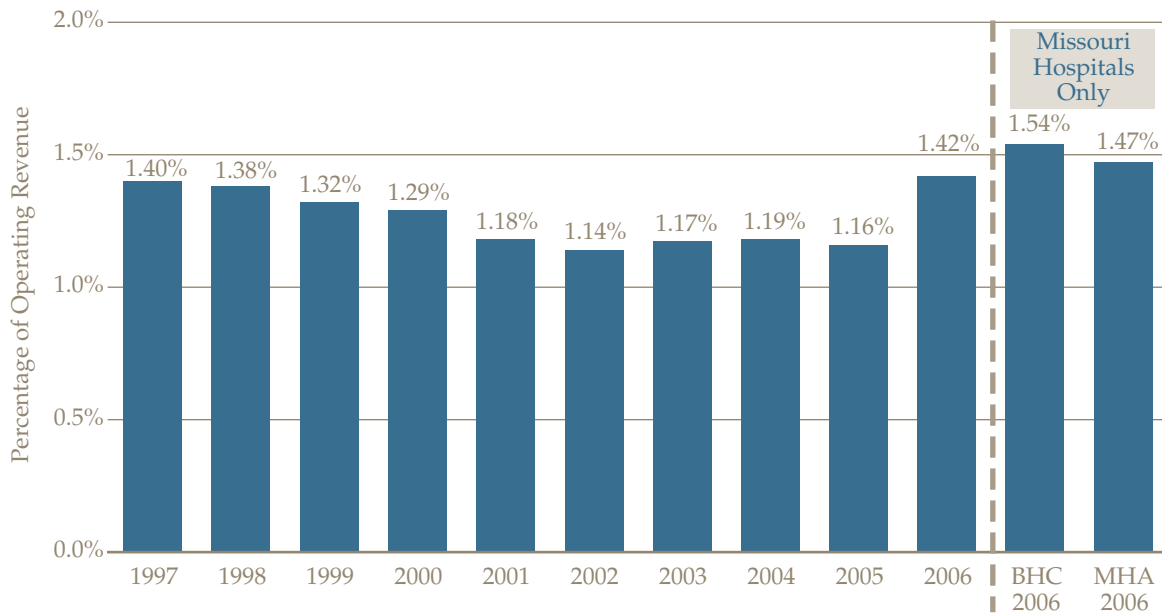
⁸ Statistics for St. Anthony's Hospital and St. Clare's Hospital are combined under St. Anthony's Health Center.

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

Note: Changes in previously reported data are based on most current information. Hospital network and affiliate configurations shown on this page are current as of 2008.

Hospitals change charity care policies

Charity Care as a Percentage of Operating Revenue 1997–2006



Charity care provided by St. Louis area hospitals increased 22% in 2006. For the third year, BHC reported higher levels of charity care than the Missouri Hospital Association (MHA).

Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports, audited financial statements, internal financial statements, the Missouri Hospital Association (MHA) website focusonhospitals.com, and MHA/AHA Annual Licensing Surveys. Certain hospitals retroactively increased the amount of charity care reported for 2005. In addition, Medicaid tax donation and FRA pool contribution expenses for 2005 were reported in 2006 MHA Annual Licensing surveys for the first time, and BHC reclassified them to Contractual Allowances, thereby reducing operating revenue. Both actions increased charity care as a percentage of operating revenue for 2005.

Charity care reaches levels seen prior to 1997. St. Louis area hospitals reported higher levels of charity care as a percent of operating revenue in 2006 than they had in more than 10 years. Charity care for a few St. Louis hospitals reached 3% of operating revenue, the level the BHC Board recommended as a minimum threshold in 1998.

Growing pressure from the government and the public regarding non-profit hospitals' tax-exempt status has prompted many area hospitals to change their policies on charity care. This has led to more variations in the way hospitals define and report charity care. It also has caused some to restate and increase amounts previously reported for 2005 and 2006. In some cases, amounts hospitals formerly reported as bad debt were reclassified as charity care after a collection agency determined the patient could not pay. The evolution of these policies makes it difficult to understand charity care practices across hospitals and the trends in the amount of care being provided to the poor.

Despite differences in methods, for the past two years BHC and the Missouri Hospital Association have reported similar amounts of charity care for St. Louis hospitals. This changed in 2006 when MHA reported charity care for BJC HealthCare at a notably higher level than BHC reported.

According to BJC HealthCare, during 2008 some of its 2006 bad debt was retroactively reclassified as charity care after collection efforts found that patients could not pay. Although other St. Louis hospitals are facing similar issues, charity care

amounts for those hospitals did not change. It is expected that this is a one year event. Many hospitals are now implementing methods to better determine if a patient qualifies for charity care upon admission.

Should the public be concerned? Accounting rules define charity care as health care services that are never expected to result in payment. Therefore, these services should never be booked as a receivable or revenue in a financial statement. This is an important distinction since bad debt is accounted for as a receivable until collection efforts are unsuccessful. Moving bad debt to charity care is inconsistent with accepted accounting standards. And for patients, **the consequences of collection efforts are harsh.**

According to the research of Sydney Watson of St. Louis University School of Law, and others, when medical bills go to collection agencies or attorneys, patients frequently feel pressured to put medical debt on credit cards or take out loans. They may also find themselves facing legal judgments that garnish wages, attach bank accounts, place liens on homes, or even force foreclosure.¹³ While it can be difficult for hospitals to ascertain if an individual qualifies for assistance, the heavy penalties of the collection process on all parties make it prudent for hospitals to find better means of identifying patients that qualify for charity care. BHC looks to St. Louis non-profit hospitals to honor their charitable missions by establishing more effective ways of communicating their charity care and financial assistance policies to patients. ■

Charity care profile by network 2004–2006



System Name	2004 Operating Revenue	2005 Operating Revenue	2006 Operating Revenue	2004 BHC Charity cost as % of op. rev. ¹	2005 BHC Charity cost as % of op. rev. ¹	2006 BHC Charity cost as % of op. rev. ¹	2004 MHA Charity cost as % of op. rev. ¹	2005 MHA Charity cost as % of op. rev. ¹	2006 MHA Charity cost as % of op. rev. ¹
BJC HealthCare									
Alton Memorial Hospital	\$ 96,278,828	\$ 110,126,789	\$ 109,535,827	1.29%	1.09%	1.50%	N/A	N/A	N/A
Barnes-Jewish Hospital	996,684,525	1,075,362,035	1,158,919,842	2.15	1.42	1.60	0.88%	1.42%	2.00%
Barnes-Jewish Hospital—St. Peters	86,349,397	99,063,776	108,655,438	0.40	0.60	0.89	0.34	0.58	1.10
Barnes-Jewish Hospital—West County	78,024,315	76,926,555	84,293,546	0.25	0.37	0.37	0.24	0.38	0.71
Christian Hospitals	248,509,158	244,192,451	229,163,376	1.79	1.98	2.32	1.48	1.88	3.09
Missouri Baptist Hospital—Sullivan	31,292,194	31,564,770	33,152,839	0.55	1.93	2.16	0.52	1.87	3.22
Missouri Baptist Medical Center	333,256,106	345,962,582	340,320,357	0.29	0.49	0.63	0.26	0.50	1.05
St. Louis Children's Hospital	278,842,298	300,123,547	330,521,249	0.50	0.70	0.77	1.14	0.67	1.10
Network Total	\$2,149,236,821	\$2,283,322,505	\$2,394,562,474	1.40%	1.16%	1.34%	0.84%	1.15%	1.77%
SSM Health Care									
Cardinal Glennon Hospital	\$ 184,597,702	\$ 181,132,164	\$ 203,359,548	0.33%	0.15%	0.43%	0.24%	0.11%	0.46%
DePaul Health Center	224,876,899	248,624,442	260,780,898	1.69	1.90	1.45	1.46	1.46	1.35
St. Joseph Health Center—St. Charles	142,922,207	153,910,396	178,308,733	1.42	1.62	1.86	1.26	1.25	1.83
St. Joseph Health Center—Wentzville ²	22,956,438	24,218,902	N/A	1.04	N/A	N/A	N/A	N/A	N/A
St. Joseph Hospital—Kirkwood	92,836,791	98,733,152	97,990,722	0.52	1.18	1.14	0.46	0.90	1.15
St. Joseph Hospital West—Lake St. Louis	62,463,822	71,520,471	92,841,124	1.16	1.37	1.18	0.97	1.08	1.10
St. Mary's Health Center	220,994,637	245,018,647	258,327,720	1.78	1.47	1.51	1.78	1.13	1.46
Network Total	\$ 951,648,496	\$1,023,158,174	\$1,091,608,745	1.24%	1.33%²	1.29%	1.13%²	1.02%²	1.25%
St. John's Mercy Health Care									
St. John's Mercy Hospital—Washington	\$ 72,706,996	\$ 75,910,181	\$ 86,326,656	0.71%	1.00%	1.61%	0.65%	0.91%	1.44%
St. John's Mercy Medical Center	534,089,839	590,246,406	637,890,033	0.94	0.97	1.47	1.08	0.92	1.39
Network Total	\$ 606,796,835	\$ 666,156,587	\$ 724,216,689	0.92%	0.98%	1.49%	1.03%	0.92%	1.39%
Tenet HealthSystem									
Des Peres Hospital	\$ 98,414,763	\$ 106,091,411	\$ 119,111,186	0.17%	0.11%	0.27%	0.19%	0.11%	0.30%
St. Louis University Hospital	305,981,000	308,619,020	333,636,564	1.96	2.30	3.09	1.51	2.13	2.90
Network Total	\$ 404,395,763	\$ 414,710,431	\$ 452,747,750	1.52%	1.74%	2.35%	1.19%	1.62%	2.21%
Missouri Non-Merged, Non-Affiliated									
Forest Park Hospital ³	\$ 104,361,647	\$ 109,477,656	\$ 85,158,550	0.63%	1.31%	1.01%	0.86%	1.13%	1.00%
Jefferson Memorial Hospital	91,395,954	101,001,564	98,342,689	0.45	0.35	0.60	1.01	0.30	0.60
Kindred Hospital ⁴	18,189,883	25,801,060	31,892,283	N/A	N/A	0.00	0.00	N/A	N/A
Lincoln County Memorial Hospital	22,517,906	23,072,546	25,888,837	0.21	0.51	1.18	0.22	0.49	1.10
St. Alexius Hospital ^{3,5}	86,794,253	96,874,984	86,740,747	1.26	0.48	0.36	2.25	0.45	0.33
St. Anthony's Medical Center	314,980,000	335,731,000	352,813,000	0.86	0.86	0.95	0.77	0.82	0.90
St. Luke's Hospital	274,105,000	307,192,000	320,783,000	0.32	0.32	0.55	0.30	0.29	0.56
Total	\$ 912,344,643	\$ 999,150,810	\$1,001,619,106	0.65%⁴	0.64%⁴	0.72%⁴	0.78%	0.59%⁴	0.72%⁴
Illinois Non-Merged, Non-Affiliated									
Anderson Hospital	\$ 79,526,939	\$ 95,473,428	\$ 111,249,685	0.57%	0.72%	0.56%	N/A	N/A	N/A
Gateway Regional Medical Center	87,764,269	107,866,488	104,110,226	0.38	0.99	1.56	N/A	N/A	N/A
Kenneth Hall Regional Hospital (E. St. Louis)	43,190,945	40,022,154	41,822,938	1.91	2.68	10.46	N/A	N/A	N/A
Memorial Hospital of Belleville	159,978,114	171,442,373	194,276,022	0.99	1.14	1.18	N/A	N/A	N/A
St. Anthony's Health Center (Alton) ⁶	88,296,847	87,996,893	99,718,672	3.30	2.29	2.92	N/A	N/A	N/A
St. Elizabeth's Hospital (Belleville)	141,569,466	153,765,842	159,377,807	0.82	1.28	2.18	N/A	N/A	N/A
St. Joseph Hospital (Breese, IL)	29,238,411	32,322,361	33,679,706	0.13	0.28	0.28	N/A	N/A	N/A
Touchette Regional Hospital	30,879,868	29,806,449	38,444,850	2.64	5.33	2.97	N/A	N/A	N/A
Total	\$ 660,444,859	\$ 718,695,988	\$ 782,679,906	1.23%	1.45%	2.11%	N/A	N/A	N/A
Aggregate for 34 St. Louis Hospitals	\$5,684,867,417	\$6,105,194,495	\$6,447,434,670	1.19%⁴	1.16%^{2,4}	1.42%⁴	0.93%²	1.03%^{2,4}	1.47%⁴

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 found on the www.focusonhospitals.com website.
² Operating revenue for Crossroads Reg. Hosp. (now St. Joseph-Wentzville) was excluded from these figures since the hospital did not report charity care to MHA in 2004 or to MHA and BHC in 2005. SSM Health Care retroactively increased the amount of charity care reported for 2005. In addition, Medicaid tax donation and FRA pool expenses for 2005 were reported in 2006 MHA Annual Licensing Surveys for the first time and BHC reclassified them to Contractual Allowances thereby reducing operating revenue. Both actions increased charity care as a percentage of operating revenue for 2005.
³ St. Alexius and Forest Park hospitals were sold to Doctors Community Healthcare Corporation in 2004, and due to the transfer in ownership, 2003 and 2004 data could not be verified.
⁴ Operating revenue for Kindred Hospital was excluded from these figures since the hospital did not report charity care to BHC in 2004 and 2005 or to MHA in 2005 or 2006.
⁵ Beginning in 2004, St. Alexius—Broadway Campus and St. Alexius—Jefferson Campus reported on combined basis under St. Alexius Hospital.
⁶ Statistics for St. Anthony's Hospital and St. Clare's Hospital are combined under St. Anthony's Health Center.
Sources: Centers for Medicare and Medicaid Services Medicare Cost Reports, audited financial statements, and AHA/MHA Licensing Surveys. Note: In order to assess a hospital's charitable commitment, it is necessary to evaluate the following: 1) Charity care performance, 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 available including numerous restatements. Hospital network and affiliate configurations shown on this page are current as of 2008.

Achieving clinical excellence takes more than simply understanding the science, particularly when caring for patients with a chronic illness. It takes a care setting that is accessible to patients, avails time for listening and teaching, engages patients in decision-making, and systematically manages data such as laboratory findings. As a result, care is better coordinated, errors are less likely, and patients achieve better self-management skills.

The St. Louis region is fortunate to have more than 200 physicians, many primary care physicians, taking action to ensure the quality of the care they provide. **BHC commends the physician leaders, noted on the next page, who have voluntarily stepped forward to have their performance measured against national quality standards defined by the National Committee for Quality Assurance (NCQA).** If you are looking for a new experience in patient care, consider choosing an NCQA-designated physician.

The National Committee for Quality Assurance (NCQA), a respected 501c3 organization, has been dedicated to improving health care quality since it's founding in 1990. NCQA's Physician Recognition programs identify clinicians via medical record review who consistently deliver high-quality care for key conditions. The criteria are established through an open process with input from many partners, including the American Diabetes Association and the American Heart/Stroke Associations and the best evidence available. The American Board of Family Medicine (ABFM) recognizes NCQA recognition in its Board Certification for Family Physicians. **NCQA's physician recognition programs are the only national source of publicly available information about physician services that look at the results of actual care.**

A list of NCQA physician recognition programs and brief description is provided below. Each program is designed to recognize physicians who demonstrate they consistently provide high quality care to patients with certain conditions. For a complete description of each program, clinical measures, performance criteria, and applications to participate, go to www.ncqa.org.

Diabetes Physician Recognition Program (DPRP)

Heart/Stroke Recognition Program (HSRP)

Back Pain Recognition Program (BPRP)

Measurements aim to promote evidence-based care, delivered in a patient-centric setting that includes comprehensive patient assessment and reassessment, judicious use of imaging, patient education, and shared treatment decision-making with the patient.

Physician Practice Connections (PPC)

Recognizes physician practices that use up-to-date information and systems to enhance patient care.

PPC—Patient-Centered Medical Home (PPC-PCMH)

Recognizes physician practices functioning as medical homes by using systematic, patient-centered and coordinated care management processes.

In August 2008, the **CMS Physician Quality Reporting Initiative (PQRI) announced an extra benefit of NCQA DPRP recognition.** Participating physicians can opt to have NCQA submit their data to CMS for use in the PQRI thus reducing their reporting burden. As CMS's pay-for-reporting initiative, PQRI will reward physicians an amount equal to 1.5% of each Medicare claim in 2008; in 2009 it will rise to 2%.

Providing top-quality care is a priority and also a challenge for physicians. While they know and understand quality criteria, **physicians are not solely responsible for care outcomes.** The lack of central care coordination inherent in the U.S. health care system has a profound effect on quality. When there are multiple providers involved in a patient's care, there are many hand-offs to other providers and missed communications can occur. It is encouraging to see a rising number of St. Louis physicians working to improve the system by achieving NCQA designation; the number of recognized physicians rose by more than 80 this year. Despite this, Missouri ranks only 16th among states in the number of physicians with one of NCQA's three clinical quality designations. More physicians are encouraged to help lead the way in promoting better primary care by seeking this designation that recognizes them for delivery of high-quality care.

BHC offers assistance to St. Louis physicians in achieving NCQA DPRP recognition or re-certification through a grant from Novo Nordisk.

BHC staff reviews medical records in physician offices, reviews results with physicians, offers suggestions on improvement, and submits the application to NCQA. The service provides resources and tools to support the delivery of consistent, high quality diabetes care. For providers interested in this service, please contact Melissa Hogan-Watts at BHC. ■



National Committee for Quality Assurance (NCQA) Diabetes Physician Recognition Program (DPRP) Heart/Stroke Recognition Program (HSRP) Back Pain Recognition Program (BPRP)

Physician Name	HSRP	DPRP
Christopher Abercrombie	♥	●
Helene Aisenstat		●
Robert Aisenstat		●
Juan Alvarez	♥	
Phillip Apprill	♥	
Chelmer Barrow	♥	●
William Beaman	♥	●
Matthew Beckerdite		●
Joe Beckmann		●
Donald Binz	♥	
Robert Bonsanti	♥	
Christopher Bowe		●
David Brown	♥	●
Damon Broyles		●
Kathleen Brunts		●
Lisa Burns		●
Richard Burns	♥	●
Kent Campbell	♥	
Charles Carey	♥	
Jennifer Carpenter		●
Thomas Chapman		●
Siroth Charmond		●
Duck Chun	♥	
Philip Conway	♥	●
James Corder		●
David Cravens	♥	
Robert Curtin		●
Peter Danis	♥	●
Dennis Disch	♥	
David Dobmeyer	♥	
Ralph Duda, Jr.		●
Manoj Eapen	♥	
Joseph Eckert		●
Kathleen Eubanks-Meng		●
Darlene Eyster	♥	
Leonard Fagan	♥	
Jeffrey Faron	♥	●
Mark Faron	♥	●
Anne Fitzsimmons	♥	
William Fritz	♥	●
Michael Fuller		●
Mary Gamache	♥	
Paul Ganninger	♥	
Francisco Garriga	♥	
Christine Gentry	♥	
Rodrigo Goh	♥	
Michael Goldmeier	♥	
Andrew Grabowski		●
Nathan Granger		●
Gary Gray	♥	●
Brian Grus		●
Betsy Grybinas		●
Thomas Gutmann		●
Kristen Hahn-Cover	♥	●
Thomas Hale	♥	●
Thomas Hastings		●

Physician Name	HSRP	DPRP
Gavin Helton	♥	●
Michael Hemmersmeier	♥	
Joseph Hilgeman	♥	●
Grant Hoekzema		●
Mark Houston	♥	●
Raymond Hu	♥	
Justin Hugo		●
Susan Hull		●
Melissa Johnson		●
Heather Jordan		●
Paul Joslin		●
M. Kancherla	♥	
David Kardesch	♥	
Andrew Kazdan	♥	●
Dalius Kedainis		●
L. Kennington		●
James Ketchum	♥	●
John Kilgore	♥	
Carolyn Koenig		●
James Koller		●
Scott Kuennen		●
Robert Kunkel		●
Edward Kunst	♥	●
Laura Lasack		●
Michael Lefevre	♥	
Joseph LeMaster	♥	
Daniel Lischwe	♥	
Steven Livingstone	♥	
Rebecca Llorens	♥	●
James Lord		●
Thomas Lord	♥	
Catherine Lowder		●
Mel Lucas	♥	●
Edward Lynch	♥	●
Daniel Maestas	♥	●
Stanley Mathew		●
James McDonald		●
Veronica McGregor		●
Bernard McGuire	♥	●
Zinnat Meghjee		●
David Mehr	♥	
Marc Merbaum	♥	●
Marsha Mertens		●
Sandra Minchow-Proffitt		●
Shamita Misra	♥	
Keith Morris	♥	●
David Morton	♥	
Terrell Mulford	♥	●
Timothy Murphy		●
Jyotimaya Nanda	♥	
Tajaswini Nayak		●
Joseph Novinger	♥	
John O'Brien		●
Richard Ortiz		●
Josey Page	♥	
David Pernikoff		●

Physician Name	HSRP	DPRP
Robert Poetz		●
Amin Radparvar		●
Bharathi Raju		●
Alan Rauba		●
Naveed Razzaque		●
Sheryl Ream		●
Jeffrey Reese	♥	
Christy Richardson		●
Erika Ringdahl	♥	
Tracy Riordan	♥	●
David Rosenberg	♥	
Bassam Roukoz	♥	
Kelly Rourke		●
Jacqueline Ruplinger	♥	
Stephen Sanders	♥	●
Jennifer Scheer	♥	●
David Schlitt	♥	●
David Schoenwalder	♥	●
Michael Schoenwalder		●
Paul Schoephoerster		●
Kristen Scullin		●
Laurie Senol		●
David Sewall	♥	
Jennifer Sewing		●
David Shaw		●
Christine Sigman		●
Kevin Smith		●
Robert Snitzer	♥	
Donald Snodgrass	♥	●
Thomas Sommers		●
George Stachecki		●
Keith Starke	♥	
Stephen Staten		●
George Thampy		●
Joseph Thompson	♥	
Michael Treisman	♥	●
Thomas Tyree	♥	
Jason VanGundy	♥	
Paul Vatterott		●
Gary Vickers	♥	●
Daniel Vinson	♥	
Cami Watkins	♥	
Raymond Weick		●
Dennis Wen	♥	
Daniel Whitehead		●
Brian Wiethop		●
William Wilcox		●
Catherine Wilke		●
Jane Williams		●
Harold Williamson	♥	
John Zalewski	♥	●
Beth Zimmer		●
Steven Zweig	♥	

Tom Reinsel is the 1st physician recognized in the Back Pain Recognition Program

Hospital Compare, a collaborative effort of the Centers for Medicare and Medicaid (CMS) and the Hospital Quality Alliance (HQA), reports on the quality of care delivered by U.S. hospitals. Based on scientific evidence, the measures are intended to inform consumer health care decisions and improve care quality. Beginning in 2004, hospitals were required by CMS to report on an initial set of 10 quality performance measures (the “starter set”) in order to receive incentive payments, or risk receiving reduced payments if they did not. Since then, hospitals have provided data on additional measures identified by the HQA bringing the current set to 24 measures, with CMS auditing only the 10 starter measures. St. Louis hospitals’ performance on the full 24 measures compared with hospitals nationally as ranked by HealthInsight, a CMS-certified, quality improvement organization, is provided below.

Nine hospitals, or less than half, scored above the 75th percentile, a level of performance research indicates will result in

fewer deaths as compared to lower percentile performance.¹⁴ A closer look finds that many St. Louis hospitals consistently fall short on basics that are crucial for good chronic care management and prevention of unnecessary hospital readmissions (i.e., discharge instructions for heart failure). Is the shortage of nurses impacting this measure?

Congratulations to the 14 hospitals that improved performance in 2007. This is the largest number to improve in three years of reporting and nearly double the number since 2006. These improvements edged the aggregate rank four points higher and were driven largely by better scores for pneumonia care and surgical infection prevention; however, overall performance for the region remained mediocre. **BHC recognizes St. John’s, Washington, MO, for its 4th year of achieving top performance and an even higher score for 2007, and Jefferson Memorial Hospital for having the largest improvement in their ranking (47 points).** ■

Frequency (%) that St. Louis Hospitals Provide Recommended Care and National Performance Rankings: Jan.–Dec. 2007

Hospital	Frequency of Recommended Care (Goal = 100%)				National Performance Ranking	
	Heart Attack	Heart Failure	Pneumonia	Surgical Infection	2007 Nat'l Rank	2006 Nat'l Rank
Alton Memorial Hospital	99%	89%	95%	81%	54th	90th
Anderson Hospital	90	94	91	92	74th	77th
Barnes Jewish Hospital	96	92	86	90	71st	80th
Barnes Jewish Hospital, St. Peters	96	86	96	89	73rd	79th
Christian Hospitals	96	88	94	87	65th	68th
DePaul Health Center	96	91	95	97	95th	87th
Des Peres Hospital	97	92	95	80	57th	71st
Gateway Regional Medical Center	93	88	90	83	45th	18th
Jefferson Memorial Hospital	96	96	91	89	76th	29th
Memorial Hospital of Belleville	95	95	88	86	61st	56th
Missouri Baptist Medical Center	98	90	90	93	78th	74th
St. Anthony’s Medical Center	93	81	91	91	63rd	57th
St. Elizabeth’s Hospital, Belleville	96	81	92	87	58th	33rd
St. John’s Mercy Hospital, Washington	97	96	98	98	98th	95th
St. John’s Mercy Medical Center	98	88	94	95	89th	86th
St. Joseph Health Center	99	89	96	94	91st	83rd
St. Joseph Hospital, Kirkwood	94	86	94	94	81st	80th
St. Joseph Hospital, West	98	84	93	92	73rd	66th
St. Louis University Hospital	96	95	94	85	80th	69th
St. Luke’s Hospital	95	90	94	90	73rd	81st
St. Mary’s Health Center	98	94	94	94	90th	82nd
St. Louis Hospital Average	96%	90%	93%	90%	74th	70th

Hospital Compare Measures

Heart Attack (Acute Myocardial Infarction or AMI)

- Aspirin at arrival
- Aspirin at discharge
- ACE Inhibitor for Left Ventricular Systolic Dysfunction (LVSD)
- Beta Blocker at arrival
- Beta Blocker at discharge
- Thrombolytic agent within 30 minutes of arrival
- PCI within 120 minutes of arrival
- Smoking cessation advice

Heart Failure

- Assessment of Left Ventricular Function (LVF)
- ACE Inhibitors for LVSD
- Discharge instructions
- Smoking cessation advice

Pneumonia

- Oxygenation Assessment
- Initial Antibiotic Timing
- Pneumococcal Vaccination
- Influenza Vaccination
- Blood culture prior to first antibiotic received
- Smoking cessation advice
- Appropriate antibiotic

Surgical Infection Prevention

- Antibiotic 1 hour prior to surgical incision
- Antibiotics stopped within 24 hours after end of surgery
- Appropriate Antibiotic
- Blood Clot Prevention Ordered
- Blood Clot Prevention Treatment

Analysis Methodology

The score for each clinical area (frequency of recommended care) represents the hospital’s combined performance for all measures.

To compute national rankings, each hospital’s performance on each measure was ranked on a 0–1 scale (similar to grading each measure on a curve). An average rank was computed across all 24 measures for each hospital in contrast to the national comparison group. It is expressed as a percentile among all hospitals in the national sample. The combined St. Louis hospital rank at the 74th percentile identifies an important opportunity for improvement. ■



A patient's perspective of care is a critically important component of health care quality. Yet, comparative information on patient satisfaction has not been well known. Past research has shown outcomes tend to be better when patients report high satisfaction with care.

Hospitals have surveyed patient satisfaction for years, but survey tools lacked standardization, so results were not comparable. For this reason, the Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) was created to publicly report the patient's perspective of hospital care.

HCAHPS was developed by a partnership of public and private organizations, and funded by the Centers for Medicare and Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ). HCAHPS is a National Quality Forum (NQF) endorsed set of standardized measures. It represents an important advance in achieving consistent measurement. Results are based on **six composite scores...**

- 1) Physician communication
- 2) Nurse communication
- 3) Responsiveness of staff
- 4) Pain management
- 5) Communication about medication
- 6) Discharge information

...and four individual items

- 1) Cleanliness of hospital
- 2) Quietness of hospital
- 3) Overall rating
- 4) Willingness to recommend

St. Louis hospital results for one of the most important survey questions, "Would you recommend this hospital to your friends and family?" are shown on the table to the right. **Congratulations to St. John's Mercy Medical Center for a score of 80%—the highest score of any hospital in the region.** Slightly more than half of St. Louis hospitals did better than Missouri and national averages.

In a recent *New England Journal of Medicine* study, a national review of HCAHPS results found that more than a third of patients gave low ratings for pain management.¹⁵ This is surprising since pain management has been a target of quality improvement initiatives. More than half of St. Louis hospitals received low ratings for pain management, mirroring the national trend. Poorly coordinated care resulting in long waits for pain medication could be partially to blame.

In the study, patient satisfaction was also associated with the quality of clinical care for the four conditions measured by Hospital Compare (see page 20). Locally and nationally, hospitals could make staff more responsive, hospitals quieter and improve overall patient satisfaction.

In many ways, a patient's rating of hospital care represents the "bottom line." The consistent correlation between better patient-reported experiences and better quality care suggests the aim of high-quality, patient-centered care is a reasonable and attainable goal. ■

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

April 2007 to March 2008

Hospital Name	Patients would definitely recommend this hospital
St. John's Mercy Medical Center	80% ★
Missouri Baptist Medical Center	78
Barnes-Jewish West County	77
Barnes-Jewish St. Peters	76
St. Luke's Hospital	76
Barnes-Jewish Hospital	75
St. Joseph Hospital (Breese)	75
St. Joseph Hospital—Kirkwood	73
Memorial Hospital of Belleville	73
Alton Memorial Hospital	72
St. Joseph Hospital—West	72
Des Peres Hospital	72
St. Louis University Hospital	72
Average for 24 St. Louis Hospitals	69
Missouri Baptist Hospital—Sullivan	69
National Average	68
St. John's Mercy Hospital Washington	68
St. Joseph Health Center—St. Charles	67
Missouri Average	66
Anderson Hospital	66
St. Elizabeth's Hospital (Belleville)	66
DePaul Health Center	64
St. Anthony's Medical Center	64
St. Mary's Health Center	63
Lincoln County Medical Center	63
Jefferson Memorial Hospital	60
Christian Hospitals	59
Hospital System Averages	
St. John's Mercy Health Care	74
BJC HealthCare	72
Tenet HealthSystem	72
SSM Health Care	68

Note: HCAHPS results were not available from Hospital Compare for the following hospitals: Forest Park, Gateway Regional Medical Center, Kenneth Hall, Progress West, St. Alexius, St. Anthony's Health Center (Alton), and Touchette Regional.



Reducing infections to zero is an achievable goal

Healthcare-associated infections (HAI) are among the greatest risks patients face. The federal Centers for Disease Control and Prevention (CDC) estimates there are 1.7 million HAI cases each year in hospitals, 99,000 patients die after contracting them, and costs are projected at \$20 billion a year. Given the tragic consequences of HAIs for patients and their families, and the growing number of drug-resistant bacteria, it is urgent that infection protocols are followed at every facility.

Central Line-Associated Bloodstream Infection (CLAB) by Hospital Compared with State and National Rates By Intensive Care Unit (ICU) Type, Rates per 1,000 Central Line-Days

Hospitals and Hospital Systems	Coronary		Medical		Surgical		Neonatal		Pediatric	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
Barnes-Jewish Hospital	4.5	3.0	3.4	3.7	2.8	1.1	*	*	*	*
Missouri Baptist Medical Center	*	*	*	*	*	*	0.0	0.0	*	*
St. Anthony's Medical Center	3.0	*	*	0.0	2.8	1.9	*	*	*	*
St. John's Mercy Medical Center	0.8	0.0	*	*	*	*	1.2	1.4	0.0	0.0
St. Louis University Hospital	*	*	3.4	6.0	*	*	*	*	*	*
St. Mary's Health Center	*	*	4.6	10.9	5.1	4.8	0.8	1.7	*	*
Cardinal Glennon Hospital	*	*	*	*	*	*	1.4	1.9	6.7	3.7
St. Louis Children's Hospital	*	*	*	*	*	*	6.0	4.1	5.2	5.4
Missouri Rate	2.0	1.0	2.4	2.1	2.1	1.6	3.0	2.7	5.2	4.3
National Rate	3.5	2.8	5.0	2.9	4.6	2.7	6.4	4.6	6.6	5.3

Note: Bold type indicates infection rate was higher as compared with all Missouri hospitals based on significance tests. (*) Indicates a facility was not required to report, did not provide the service, or data sample size was too small.

- Use caution when making decisions on data from one point in time.
- Variation may result from better infection tracking and reporting.
- Such differences are expected to be minimized over time.
- These caveats aside, standard measures and public reporting will translate to significant reductions in the number of preventable infections...a huge step forward in public safety.



St. Louis area Central Line-Associated Bloodstream (CLAB) infection rates fell for the majority of hospitals in 2007. State and national CLAB rates also decreased in every ICU setting, another encouraging sign. Pressure to reduce them intensified in October 2008 when Medicare stopped paying for vascular catheter-associated infections. At the same time, the federal Agency for Healthcare Research and Quality (AHRQ) provided funding to the American Hospital Association (AHA) to extend a program designed by Dr. Peter Pronovost of Johns Hopkins University to prevent CLAB infections in intensive care units (ICU) in 10 states. The program's five key evidence-based procedures include:

- Handwashing
- Draping patients before inserting the central line
- Proper skin cleansing
- Removing catheters as soon as possible, and
- Avoiding catheters in the groin.

The program was tested in more than 100 ICUs in Michigan, with more than half reporting CLAB infection rates falling to zero within three months.

According to a recent survey of infection control professionals, ventilator-associated pneumonia (VAP) was the most commonly reported healthcare-associated infection (HAI) after CLAB and Surgical Site Infections. Unlike other states, reporting on rates of ventilator-associated pneumonia (VAP) has been postponed in Missouri due to the lack of a "standard" method of diagnosis. Instead, a process measure that helps to prevent VAP, elevation of the head of the bed (HOB), was reported and individual hospital results can be found on the DHSS website, at www.dhss.mo.gov. ■

Central Line-Associated Bloodstream Infection (CLAB) by Hospital Compared with State and National Rates Rates per 1,000 Central Line-Days

Hospitals and Hospital Systems	Medical Surgical ICU	
	2006	2007
Barnes-Jewish St. Peters	1.7	0.6
Barnes-Jewish West County	0.0	0.0
Christian Hospitals	4.7	2.3
DePaul Health Center	1.7	1.1
Des Peres Hospital	4.3	3.3
Forest Park Hospital	4.0	7.1
Jefferson Memorial Hospital	1.9	2.3
Lincoln County Medical Center	*	*
Missouri Baptist Hospital, Sullivan	0.0	0.0
Missouri Baptist Medical Center	2.3	0.6
St. Alexius Hospital	4.4	2.7
St. John's Mercy Hospital, Washington	0.0	0.0
St. John's Mercy Medical Center	2.9	2.0
St. Joseph Health Center	1.6	1.5
St. Joseph Hospital Kirkwood	0.0	0.0
St. Joseph Hospital West	2.7	0.0
St. Luke's Hospital	2.7	0.0
Missouri Rate	2.4	1.9
National Rate	3.6	2.2

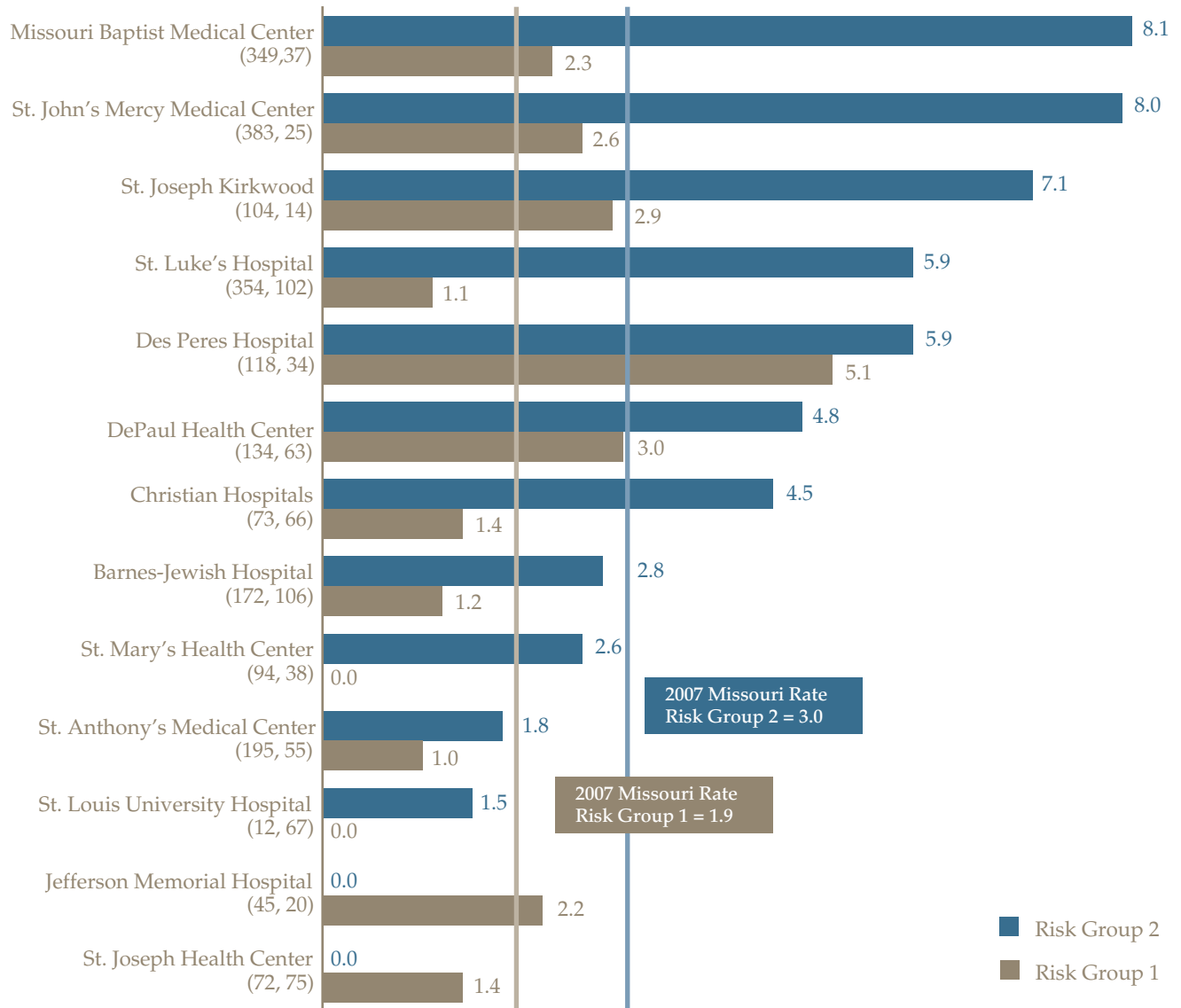
Note: Bold type indicates infection rate was higher as compared with all Missouri hospitals based on significance tests.

* Indicates a facility was not required to report, did not provide the service, or data sample size was too small.



Coronary Artery Bypass Graft (CABG) Rates per 100 Procedures, 2007

Hospital Name (Case count by Risk Group: 1 & 2)



Note: Due to low numbers of patients, results for hospitals providing care to patients in risk categories (0) and (3) are not shown. Surgical site infection (SSI) rates were zero for those risk categories.

Surgical site infections (SSI) are one of the most common causes of infections in hospitals. For the second year, SSI rates have been made available for consumers for abdominal hysterectomy, coronary artery bypass graft (CABG), and hip repair based on risk groups by the DHSS. Provider specific performance for only one procedure, CABG, is provided in the chart above due to space limitations. SSI rates for 2006 can be found on page 21 of BHC's 2007 report at www.stlbhc.org. Provider-specific 2007 SSI rates for abdominal hysterectomy and hip repair can be obtained from the BHC and from the DHSS website.

Given the vital role of the heart, infection (e.g., mediastinitis) is a severe complication of CABG surgery that is associated with

mortality of 10% to 47% and, if patients survive, they experience poor health outcomes.^{16,17} Preventing infection is of paramount importance for this procedure and has prompted CMS to include mediastinitis as one of the hospital-acquired conditions it stopped paying for in October 2008 (see page 25). Hospitals in all four St. Louis hospital systems and St. Luke's had higher than average infection rates in 2007. Rates were also higher in 2007 as compared to 2006 for those hospitals except for St. Luke's whose rate fell nearly 40%. While it is unclear why rates were higher, it must be acknowledged that better infection surveillance and reporting may have resulted in higher rates. ■



Enhanced patient safety through information technology

Information technology (IT) offers important advances in knowledge management and care coordination that can improve the safety, quality, and efficiency of care for patients. The Leapfrog Group offers a voluntary, nationally standardized reporting system that enables consumers to compare hospital IT systems and safety practices. Only five St. Louis hospitals report to Leapfrog. As a result of the absence of standardized reporting, the public is unable to understand or compare the safe practices and system capabilities of hospitals.

To understand what IT system implementations are fully operational, BHC queried St. Louis hospitals in August 2008. The good news is that nearly every hospital in the St. Louis area is in the process of implementing electronic medical records (EMR). EMRs have the potential to link the hospital with primary care and specialty physicians, and with lab, pharmacy, and other services providing better care coordination.

Medication administration errors remain the most frequent medical mistake. The number of St. Louis hospitals offering bar-code medication administration, an important advance for preventing medication mistakes, has not increased during 2008. **BHC again recognizes the following hospitals for making the investment in bar-code medication administration a priority: St. John's Mercy of Creve Coeur and Washington, Missouri Baptist Medical Center, Progress West, Barnes-Jewish St. Peters and West County hospitals, St. Luke's Hospital, and Tenet's Des Peres Hospital.** When seeking care, patients would be served to select a physician that practices at a hospital that utilizes a bar-code medication administration system. Likewise, nurses benefit from working in a facility that has taken extra steps to reduce the likelihood of their making a medication error. ■



BHC commends the St. Louis area hospitals listed below for their commitment to patient safety and public accountability, as demonstrated by their voluntary reporting to Leapfrog.

The Leapfrog Group's mission is to trigger giant leaps forward in the safety, quality and affordability of health care for all Americans. It encourages public reporting of hospital quality, safety, and efficiency practices through a voluntary survey that differentiates safe practices that have been shown to reduce errors (see table below).

More than 2,600 hospitals were targeted in the Leapfrog Survey. Of the targeted hospitals, 41% publicly reported to Leapfrog. In the St. Louis region, only 12% of hospitals publicly reported to Leapfrog. **The St. Louis region continues its distinction of having one of the fewest hospitals reporting of Leapfrog's 38 regions.**

Hospital Name	CPOE	ICU	Safe Practices	Reduce Hospital Injuries	Never Events
Anderson Hospital					
Des Peres Hospital				Did Not Respond	
Jefferson Memorial Hospital				Did Not Respond	
Lincoln County Medical Center				Did Not Apply	
Saint Louis University Hospital				Did Not Respond	



Fully meets standard



Substantial progress



Some progress



Willing to report

Selected Leapfrog Leaps

For the complete list of results, go to www.leapfroggroup.org

How did hospitals do?

Computer physician order entry (CPOE) —integrates orders with other patient information and checks for potential errors.	Nationally, 7% of hospitals that reported to Leapfrog fully met this leap.
Intensivists (ICU) —requires hospitals to have a critical care-trained physician onsite at least eight hours per day, and telephonic availability off-hours.	Nationally, 33% of hospitals that reported to Leapfrog fully met this leap.
Safe Practices Score —13 safe practices endorsed by the National Quality Forum that together create a culture of safety.	Nationally, 26% of hospitals that reported to Leapfrog fully met this leap.
Never Events —requires adherence to defined practices related to the National Quality Forum (NQF) Serious Reportable Events.	Nationally, 62% of hospitals reporting to Leapfrog fully met this leap.
Reduce In-Hospital Injuries —Requires adherence to practices that reduce injuries such as falls, fractures, and burns.	Nationally, 28% of hospitals reporting to Leapfrog fully met this leap in 2008.



Preventing adverse medical events and infections saves lives and money. In a recent study by the Agency for Healthcare Research and Quality (AHRQ), medical errors that occurred during or after surgery were estimated at \$1.5 billion per year. Patients who developed preventable infections after surgery were twice as likely to die.¹⁸

Who picks up the tab? According to a recent study supported by The Commonwealth Fund, consumers, employers, and health plans are charged almost 80% of the cost of adverse events.¹⁹

Patients have a right to safe and effective care. In October 2008, Medicare reached a major milestone to ensure patient safety when it stopped paying for certain hospital-acquired conditions. Some of these conditions are also National Quality Forum (NQF) "never events." The adjacent table shows both lists.

Medicare's policy on hospital-acquired conditions ensures that patient safety remains in the forefront, making it a necessity for hospitals, physicians, and staff to work together to understand why a mistake happened and make the changes necessary to prevent it from happening again. The good news is that hospitals are putting processes in place to prevent these conditions in St. Louis and across the nation as a result of this policy.

Where does Missouri stand?

Currently, 26 states require some form of adverse event reporting. Missouri does not. Hospitals are not required to tell anyone, including the patient or the Missouri Department of Health and Senior (DHSS) Services, when an adverse event occurs.

In November 2008, the Missouri Hospital Association (MHA) Board of Trustees announced a **voluntary initiative** to encourage hospitals to adopt the following three pro-active steps in response to any one of the full NQF lists of reportable adverse health care events:

- Inform the patient
- Report the Event (to a federally-designated patient safety organization (PSO))
- Waive payment

Are St. Louis hospitals on board? Lincoln County, St. Luke's, and both Tenet hospitals have agreed to all three steps. BJC, SSM, St. Anthony's, St. John's, and Anderson hospitals have agreed to inform the patient and waive payment.

Unfortunately, some St. Louis hospitals have indicated the intention to become a federally-designated patient safety organization, and report to themselves, rather than report to an external PSO, such as the Missouri Center for Patient Safety. This compromises the objectivity of the review and doesn't provide the accountability the public deserves.

NQF's Reportable Adverse Health Care Events, aka "Never Events"

- Surgery performed on the wrong body part or wrong patient
- Wrong surgical procedure performed on the patient
- Retention of foreign object after surgery or other procedure
- Stage 3 or 4 ulcers (bedsores) acquired after admission to the facility (not necessarily resulting in death)
- Artificial insemination with the wrong donor sperm or egg
- Any incident in which a line designated for oxygen or other gas contains the wrong gas or toxic substance
- Infant discharged to the wrong person
- Care provided by a person impersonating physician, nurse, etc.
- Abduction of a patient
- Sexual assault of a patient

Death and disability associated with...

- Medication error
- Incompatible blood/blood products administration
- Labor or delivery of low-risk pregnancy
- Hypoglycemia
- Hyperbilirubinemia in neonates in the first 28 days of life
- Spinal manipulative therapy
- Use of restraints or bedrails
- Electric shock or elective cardioversion
- A Fall or burn
- Death due to unusual causes following surgery
- Contaminated drugs or devices
- Device malfunction
- Intravascular air embolism
- Patient disappearance, suicide, or attempted suicide
- Patient or staff injured due to physical assault

Note: Medicare's list of hospital-acquired conditions is shown in bold blue type and also includes:

- Catheter-associated urinary tract infections
- Vascular catheter-associated infections
- Mediastinitis after coronary artery bypass surgery
- Surgical site infections after elective orthopedic and bariatric surgery
- Deep vein thrombosis or pulmonary embolism following a knee or hip replacement
- Severe complications from poor control of blood glucose

Ten States Lead the Way Minnesota was the first state to require public reporting of NQF's never events by hospital. Minnesota also strongly encourages hospitals to share knowledge around preventing adverse events. Now, nine more states require public reporting and provide additional information regarding trends, findings of root cause analyses, and successful prevention strategies.²⁰ **Understanding where and why these events occurred and how they can be prevented is imperative to achieving safe and effective care.**

Missouri hospital leaders could foster similar learning by fully adopting MHA's recommendations and **demonstrate their commitment to eliminating these events by reporting to the DHSS.** They should also work together through the Missouri Center for Patient Safety to share knowledge, develop prevention strategies and create an error-free culture that better serves Missouri patients. ■

Hospital Financial Performance 1997–2006

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

All figures are in millions of dollars.	1997 ¹	1998 ¹	1999 ²	2000 ^{1,2}	2001 ²	2002 ²	2003 ²	2004 ²	2005 ²	2006 ²
Income Summary										
Total Gross Charges	\$ 6,930	\$ 7,535	\$ 8,201	\$ 9,024	\$10,165	\$11,348	\$12,739	\$14,024	\$15,334	\$16,616
Less: Allowances	3,350	3,823	4,412	5,116	5,836	6,504	7,614	8,550	9,428	10,380
Net Patient Revenue	3,581	3,712	3,789	3,908	4,329	4,844	5,125	5,474	5,906	6,236
Other Operating Revenue	148	186	201	183	143	153	192	211	199	206
Total Operating Revenue	3,728	3,899	3,991	4,091	4,472	4,997	5,317	5,685	6,105	6,442
Total Operating Expenses	3,605	3,807	3,961	4,096	4,412	4,810	5,054	5,483	5,911	6,185
Income (Loss) from Operations	123	91	29	(4)	60	187	263	202	194	257
Non-Operating Revenue	186	164	71	49	28	(13)	234	181	123	238
Excess (Deficit) of Revenues Over Expenses	\$ 309	\$ 255	\$ 100	\$ 45	\$ 88	\$ 174	\$ 497	\$ 383	\$ 317	\$ 495
Balance Sheet										
Current Assets:										
Cash and Marketable Securities	\$ 402	\$ 405	\$ 442	\$ 66	\$ (77)	\$ (73)	\$ (76)	\$ (257)	\$ (317)	\$ 72
Net Patient Accounts Receivable	714	854	885	826	773	769	758	771	819	872
Other Receivables	32	80	25	39	24	22	32	40	31	97
Other Current Assets	194	120	119	8	90	96	119	198	193	192
Total Current Assets	1,342	1,460	1,471	939	810	814	833	752	725	1,233
Land, Building and Equipment Cost	3,798	4,431	4,275	4,462	4,830	5,069	5,391	5,643	5,946	6,335
Accumulated Depreciation	(2,046)	(2,367)	(2,287)	(2,455)	(2,633)	(2,691)	(2,892)	(3,030)	(3,238)	(3,437)
Net Land, Building and Equipment Cost	1,752	2,064	1,988	2,007	2,197	2,378	2,499	2,613	2,708	2,898
Investments Held by Trustee	209	309	325	309	353	305	405	602	732	886
Deferred Financing Costs	6	2	2	4	3	1	1	2	2	2
Other Cash and Investments	1,140	545	396	436	436	408	471	589	605	645
Other Assets	578	662	744	983	1,071	1,095	1,328	1,503	1,616	1,785
Total Assets	\$ 5,026	\$ 5,042	\$ 4,926	\$ 4,678	\$ 4,870	\$ 5,001	\$ 5,537	\$ 6,061	\$ 6,388	\$ 7,450
Liabilities and Fund Balance										
Current Liabilities	\$ 597	\$ 665	\$ 695	\$ 649	\$ 736	\$ 737	\$ 779	\$ 882	\$ 969	\$ 1,460
Long-term Debt	1,031	1,303	1,207	1,067	1,120	1,109	1,088	1,115	959	993
Other Liabilities and Reserves	266	117	113	217	238	271	284	277	283	276
Fund Balance	\$ 3,132	\$ 2,957	\$ 2,911	\$ 2,744	\$ 2,776	\$ 2,884	\$ 3,385	\$ 3,787	\$ 4,177	\$ 4,721
Total Liabilities and Fund Balance	\$ 5,026	\$ 5,042	\$ 4,926	\$ 4,678	\$ 4,870	\$ 5,001	\$ 5,537	\$ 6,061	\$ 6,388	\$ 7,450
Endowment, Specific Purpose and Other Restricted Fund Balances	119	111	114	96	97	100	126	162	169	182
Financial Indicators										
Operating Margin	3.30%	2.34%	2.19%	0.16%	2.55%	5.09%	5.15%	3.80%	3.34%	4.32%
Profit Margin	7.89	6.27	2.47	1.08	1.95	3.50	8.96	6.54	5.08	7.41
Return on Equity	9.88	8.62	3.44	1.62	3.17	6.03	14.69	10.12	7.58	10.48
Mark-up Percentage (Charges over Cost)	92.2	97.9	107.0	120.9	133.2	139.3	152.6	156.4	159.8	169.6
Allowances as % of Charges	48.3%	50.7%	53.8%	56.7%	57.4%	57.3%	59.8%	61.0%	61.5%	62.5%

¹ As a result of hospital mergers in 1997, 1998, and 2000, financial data for certain hospitals was reported for fewer than 12 months.²¹ Information for Crossroads Regional Hospital (as the former Doctors Hospital—Wentzville) was not available for 1998. Crossroads was acquired by SSM Health Care in November 2005 and is currently named St. Joseph Health Center-Wentzville.

² The following non-operating expenses are included in Operating Expenses for fiscal years 1999 = \$57,896,271, 2000 = \$10,677,065, 2001 = \$54,564,859, 2002 = \$67,005,588, 2003 = \$10,843,167, 2004 = \$14,119,291, 2005 = \$10,411,932, and 2006 = \$21,891,105. In 2002, Barnes-Jewish Hospital's (\$21,240,477) non-operating loss was included in non-operating revenue. Normandy Community Hospital has been excluded from fiscal year 1999 and Bethesda General Hospital, Compton Heights Hospital, and Woodriver Township Hospital have been excluded from fiscal year 2000 in this table since extraordinary charges associated with their closure in those years caused results to be unreliable. St. Alexius and Forest Park hospitals were sold to Doctors Community Healthcare Corporation in 2004, and due to the transfer in ownership, 2002, 2003, and 2004 data could not be verified.

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 across hospital systems 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 income proportionately to individual subsidiary hospitals while others retain some or all of these dollars 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.



St. Louis Area Hospital Industry 1997–2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Missouri Hospitals										
Barnes-Jewish Hospital	4.05%	3.03%	-0.13%	-0.47%	2.79%	3.73%	4.34%	3.58%	3.75%	3.59%
Barnes-Jewish Hospital—St. Peters	4.35	1.55	3.87	10.79	11.25	18.18	19.08	13.04	14.13	14.19
Barnes-Jewish Hospital—West County	3.99	1.25	4.21	11.04	24.67	26.86	26.82	23.29	16.05	18.33
Cardinal Glennon Hospital	9.07	4.58	5.17	12.72	7.60	12.35	9.93	14.16	11.43	13.93
Christian Hospitals	2.62	-7.50	-9.52	-8.83	-7.87	6.92	6.84	4.78	0.88	-4.38
DePaul Health Center	-4.17	0.00	-5.90	1.40	-0.47	2.47	4.43	4.88	7.55	0.11
Des Peres Hospital ¹	-11.35	-8.87	11.15	9.66	11.61	13.36	11.95	8.06	7.33	12.13
Forest Park Hospital ¹	-25.42	-2.96	7.54	-14.47	-1.45	2.76	2.64	-24.69	-6.03	-2.68
Jefferson Memorial Hospital	6.90	3.99	1.80	1.89	1.25	-0.50	-0.80	-0.66	0.73	1.49
Kindred Hospital	22.91	19.33	1.06	-2.57	-7.24	7.71	8.11	19.60	7.63	7.14
Lincoln County Memorial Hospital	-1.91	-7.50	-3.46	-2.63	4.97	3.05	-8.53	-0.05	-5.19	-2.74
Missouri Baptist Hospital—Sullivan	-3.13	0.37	-6.49	-5.54	-1.85	2.17	9.16	13.10	10.18	0.44
Missouri Baptist Medical Center	8.67	6.18	3.36	4.02	9.36	15.96	15.61	15.36	12.38	8.05
St. Alexius Hospital ²	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-8.23	0.49	1.05
St. Alexius Hospital—Broadway Campus ^{1,2}	-16.64	-4.84	-2.51	-10.95	-9.63	-8.85	0.37	N/A	N/A	N/A
St. Alexius Hospital—Jefferson Campus ^{1,2}	-7.34	7.05	9.46	-0.40	6.55	-8.84	-16.73	N/A	N/A	N/A
St. Anthony's Medical Center ³	5.59	6.52	0.72	-7.73	-4.37	-8.47	0.00	2.06	1.51	1.82
St. John's Mercy Hospital—Washington	9.70	10.78	9.72	3.48	4.88	4.84	3.04	3.88	3.25	5.15
St. John's Mercy Medical Center	5.43	7.33	5.69	2.73	0.62	2.13	3.44	3.67	1.73	5.94
St. Joseph Health Center—St. Charles	4.38	-0.26	-0.39	-0.43	2.63	2.74	4.12	1.27	1.29	0.07
St. Joseph Hospital—Kirkwood	3.09	4.13	2.99	0.97	0.88	4.22	1.23	-0.99	-13.87	-7.91
St. Joseph Health Center—Wentzville ⁴	2.61	N/A	27.00	-45.50	-25.25	-19.77	-13.93	-24.26	-47.21	N/A
St. Joseph Hospital West—Lake St. Louis	3.65	5.75	8.91	3.66	10.62	10.70	4.84	3.15	5.82	2.97
St. Louis Children's Hospital	2.87	4.25	5.17	3.57	3.68	5.01	4.85	8.23	10.08	10.02
St. Louis University Hospital ¹	6.13	-4.37	11.25	1.65	12.55	18.36	7.95	-5.82	-7.86	-0.44
St. Luke's Hospital	3.47	4.94	4.12	4.21	4.83	4.51	3.58	3.37	3.13	3.14
St. Mary's Health Center	9.02	8.50	5.02	3.15	2.11	4.93	5.23	5.57	7.00	2.66
Aggregate for Missouri Hospitals	3.40%	2.44%	2.55%	0.40%	3.08%	5.60%	5.58%	4.06%	3.58%	4.09%
Illinois Hospitals										
Alton Memorial Hospital	6.97%	-0.97%	1.93%	2.07%	11.15%	14.19%	15.44%	15.56%	13.11%	6.31%
Anderson Hospital	11.35	11.30	4.56	1.03	1.61	-0.15	-0.90	-5.48	2.01	5.98
Gateway Regional Medical Center	-4.13	-2.15	-2.17	-8.35	-11.21	7.75	7.60	12.43	15.13	11.79
Kenneth Hall Regional Hospital (E. St. Louis)	3.14	0.00	-1.88	-9.53	-13.67	-25.10	-16.97	4.76	-12.04	1.25
Memorial Hospital of Belleville	6.67	2.76	2.30	0.77	-0.82	-0.56	-1.52	-2.01	-4.01	4.83
St. Anthony's Health Center (Alton) ⁵	3.81	2.00	-6.30	-0.46	5.46	4.32	0.36	-3.30	-3.21	4.00
St. Elizabeth's Hospital (Belleville)	1.64	2.20	0.79	-1.41	-4.07	-1.36	2.21	-4.22	-4.24	0.16
St. Joseph Hospital (Breese, IL)	13.10	9.53	9.87	9.89	12.14	10.72	12.30	11.82	11.72	10.56
Touchette Regional Hospital	-9.24	-8.52	-6.15	-7.73	-15.76	0.36	1.22	3.37	-1.12	20.33
Aggregate for Illinois Hospitals	2.76%	1.79%	0.03%	-1.28%	-0.86%	1.79%	2.36%	2.11%	1.82%	5.75%
Aggregate for St. Louis Area Hospitals	3.30%	2.34%	2.19%	0.16%	2.55%	5.09%	5.15%	3.80%	3.34%	4.32%

1 As a result of hospital mergers in 1996, 1997, 1998, and 2000, financial data for certain hospitals were reported for fewer than 12 months.²¹ St. Alexius and Forest Park hospitals were sold to Doctors Community Healthcare Corporation in 2004, and due to the transfer in ownership, 2002, 2003 and 2004 data could not be verified.

2 Beginning in 2004, St. Alexius-Broadway Campus and St. Alexius-Jefferson Campus reported on a combined basis under St. Alexius Hospital.

3 From 1997 to 1999, statistics for St. Anthony's Medical Center and St. Clement's Hospital are combined under St. Anthony's Medical Center.

4 St. Joseph Health Center-Wentzville (as the former Doctors Hospital-Wentzville) fiscal year 1998 information was unavailable. They filed an 8.5 month Medicare Cost Report for fiscal year 2000 just prior to acquisition by Essent Healthcare of Missouri June 28, 2000 and were renamed Crossroads Regional Hospital. They were acquired by SSM Health Care in November 2005 and in 2006 began reporting on a combined basis with St. Joseph Health Center.

5 Beginning in 1992, statistics for St. Anthony's Hospital and St. Clare's Hospital are combined under St. Anthony's Health Center.

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 2006 are not individually listed, but their results for 1997–2006 are included in aggregate figures. Normandy Community Hosp. has been excluded from fiscal year 1999 and Bethesda General, Compton Heights, and Woodriver Township Hospitals have been excluded from fiscal year 2000 in this table since extraordinary charges associated with their closure in those years caused financial results to be unreliable.



St. Louis Area Hospital Industry 1997–2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Missouri Hospitals										
Barnes-Jewish Hospital	8.40%	7.08%	1.73%	0.78%	3.20%	1.41%	16.80%	11.58%	7.11%	12.50%
Barnes-Jewish Hospital—St. Peters	9.71	5.60	8.25	10.05	8.22	14.96	21.19	14.35	13.63	14.46
Barnes-Jewish Hospital—West County	1.52	-2.08	-2.37	-0.47	15.12	19.73	20.00	16.02	15.42	11.01
Cardinal Glennon Hospital	16.63	18.03	11.66	19.38	8.29	11.91	10.22	16.04	13.77	16.38
Christian Hospitals	5.05	-5.17	-7.93	-10.80	-10.36	3.86	13.19	8.73	2.23	1.52
DePaul Health Center	-4.05	0.15	-5.90	1.55	-0.43	2.58	4.51	4.87	7.81	-0.16
Des Peres Hospital ¹	-14.12	-8.87	9.65	7.17	6.15	7.91	7.78	4.18	3.29	6.29
Forest Park Hospital ¹	-19.46	-2.99	2.95	-18.91	-4.07	-0.86	2.64	-24.69	-6.03	-2.67
Jefferson Memorial Hospital	6.89	4.02	1.56	2.40	1.62	0.86	0.71	0.45	2.01	3.14
Kindred Hospital	22.90	19.33	1.06	-2.57	-7.24	7.76	8.13	19.64	7.66	7.17
Lincoln County Memorial Hospital	-0.45	-5.87	-2.53	-2.15	5.90	3.42	-8.34	0.05	3.20	7.07
Missouri Baptist Hospital—Sullivan	-3.07	-11.56	-6.28	-5.95	-2.95	1.35	8.52	11.11	10.05	-0.38
Missouri Baptist Medical Center	14.55	11.79	4.75	4.14	7.41	14.69	17.33	17.08	13.77	12.06
St. Alexius Hospital ³	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-8.23	0.49	1.05
St. Alexius Hospital—Broadway Campus ^{1,2}	-8.54	-4.07	-10.13	-11.53	-9.39	-8.86	0.37	N/A	N/A	N/A
St. Alexius Hospital—Jefferson Campus ^{1,2}	-7.15	7.00	8.02	-2.86	2.34	-7.94	-16.71	N/A	N/A	N/A
St. Anthony's Medical Center ³	19.73	20.80	0.92	-3.87	-3.98	-7.31	1.88	7.79	6.40	5.08
St. John's Mercy Hospital—Washington	22.36	10.98	6.13	2.23	4.74	4.06	2.95	3.82	3.48	5.68
St. John's Mercy Medical Center	13.89	8.03	3.93	2.73	-0.79	1.52	3.42	3.37	1.79	5.89
St. Joseph Health Center—St. Charles ⁴	5.57	1.64	2.97	0.26	2.89	2.91	4.24	1.21	1.32	-0.35
St. Joseph Hospital—Kirkwood	2.53	4.33	3.07	0.72	0.91	4.51	1.60	-0.74	-13.78	-8.79
St. Joseph Health Center—Wentzville ⁴	7.19	N/A	27.00	-45.45	-25.58	-19.77	-13.93	-24.26	-47.21	N/A
St. Joseph Hospital West—Lake St. Louis	8.49	10.33	13.79	6.22	10.99	11.23	5.20	2.92	5.76	2.32
St. Louis Children's Hospital	10.58	14.08	10.67	5.81	5.30	3.39	16.10	15.19	14.65	14.94
St. Louis University Hospital ¹	8.36	-2.48	-2.57	-0.86	3.45	8.04	7.73	-5.82	-7.86	-0.44
St. Luke's Hospital	5.28	6.48	5.60	5.60	5.90	4.91	4.16	4.06	4.20	6.36
St. Mary's Health Center	12.09	10.56	8.27	5.99	3.58	5.47	5.74	6.86	8.15	4.23
Aggregate for Missouri Hospitals	8.29%	6.37%	2.50%	0.95%	2.04%	3.75%	9.55%	6.89%	5.24%	7.22%
Illinois Hospitals										
Alton Memorial Hospital	8.87%	1.22%	0.57%	3.48%	12.98%	13.96%	21.63%	19.91%	16.89%	16.10%
Anderson Hospital	13.92	13.40	6.59	3.19	4.13	1.12	0.11	-4.28	3.13	7.41
Gateway Regional Medical Center	-2.91	-2.37	-1.43	-6.37	-9.99	7.75	7.60	12.43	15.13	11.78
Kenneth Hall Regional Hospital (E. St. Louis)	7.14	1.03	-0.08	-8.37	-12.49	-25.10	-16.94	4.91	-11.82	1.39
Memorial Hospital of Belleville	10.92	8.68	5.37	7.10	1.69	-1.53	0.12	-0.31	-0.51	8.96
St. Anthony's Health Center (Alton) ⁵	5.55	5.48	-4.42	1.74	5.42	4.63	2.18	-2.63	-2.08	5.06
St. Elizabeth's Hospital (Belleville)	4.66	8.88	4.94	1.08	-0.60	-1.04	5.01	-1.04	-1.84	1.00
St. Joseph Hospital (Breese, IL)	16.46	17.35	14.41	14.60	18.49	11.33	19.10	18.94	18.40	13.28
Touchette Regional Hospital	-7.28	-6.83	-4.72	-7.28	-14.77	0.76	1.69	3.96	-0.57	21.25
Aggregate for Illinois Hospitals	5.56%	5.68%	2.29%	1.80%	1.39%	1.82%	5.02%	4.23%	4.11%	8.57%
Aggregate for St. Louis Area Hospitals	7.89%	6.27%	2.47%	1.08%	1.95%	3.50%	8.96%	6.54%	5.08%	7.41%

1 As a result of hospital mergers in 1997, 1998, and 2000, financial data for certain hospitals was reported for fewer than 12 months.²¹ St. Alexius and Forest Park hospitals were sold to Doctors Community Healthcare Corporation in 2004, and due to the transfer in ownership, 2002, 2003, and 2004 data could not be verified.

2 Beginning in 2004, St. Alexius—Broadway Campus and St. Alexius—Jefferson Campus reported on a combined basis under St. Alexius Hospital.

3 From 1997 to 1999, statistics for St. Anthony's Medical Center and St. Clement's Hospital are combined under St. Anthony's Medical Center.

4 St. Joseph Health Center—Wentzville (as the former Doctors Hospital—Wentzville) fiscal year 1998 information was unavailable. They filed an 8.5 month Medicare Cost Report for fiscal year 2000 just prior to acquisition by Essent Healthcare of Missouri June 28, 2000 and were renamed Crossroads Regional Hospital. They were acquired by SSM Health Care in November 2005 and in 2006 began reporting on a combined basis with St. Joseph Health Center.

5 Beginning in 1992, statistics for St. Anthony's Hospital and St. Clare's Hospital are combined under St. Anthony's Health Center.

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 2006 are not individually listed, but their results for 1997–2006 are included in aggregate figures. Normandy Community Hospital has been excluded from fiscal year 1999 and Bethesda General Hospital, Compton Heights Hospital, and Woodriver Township Hospital have been excluded from fiscal year 2000 in this table since extraordinary charges associated with their closure in those years caused financial results to be unreliable.



Fiscal Year 2007 Financial Data (000)								
St. Louis Area Hospitals	Fiscal Year End	2007 Total Revenue	2007 Total Operating Revenue	2007 Total Expenses*	2007 Gain from Operations	2007 Net Profit	2007 Operating Margin	2007 Profit Margin
St. John's Mercy Health Care								
St. John's Mercy Medical Center	6/30	\$714,180	\$712,974	\$653,325	\$59,649	\$60,854	8.37%	8.52%
St. John's Mercy Hospital, Washington	6/30	92,512	92,508	90,025	2,483	2,487	2.68	2.69
Total		\$806,692	\$805,482	\$743,350	\$62,132	\$63,341	7.71%	7.85%
Other								
St. Anthony's Medical Center	6/30	\$391,409	\$382,887	\$379,444	\$3,443	\$11,965	0.90%	3.06%
St. Elizabeth's Hospital (Belleville)	6/30	185,275	180,085	185,346	(5,261)	(71)	-2.92	-0.04
St. Joseph Hospital (Breese, IL)	6/30	41,382	36,478	33,524	2,954	7,857	8.10	18.99
St. Luke's Hospital	6/30	349,823	344,738	330,820	13,918	19,003	4.04	5.43
Jefferson Memorial Hospital	9/30	101,746	100,279	99,429	850	2,318	0.85	2.28
TOTAL		\$1,069,735	\$1,044,468	\$1,028,563	\$15,905	\$41,072	1.52%	3.84%

* 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.

Technical Notes

Hospital Financial Data

The St. Louis Area Business Health Coalition (BHC) has analyzed hospital financial data for the last 25 fiscal 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 St. Louis-area Missouri hospitals and St. Louis-area Illinois hospitals.

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

$$\frac{\text{(Total Operating Revenue - Operating Expenses)}}{\text{Total Operating Revenue}}$$

PROFIT MARGIN

$$\frac{\text{Excess of Revenue Over Expenses}}{\text{(Total Operating Revenue + Non-operating Revenue)}}$$

RETURN ON EQUITY

$$\frac{\text{Excess of Revenue Over Expenses}}{\text{Fund Balance}}$$

MARK-UP PERCENT

$$\left(\frac{\text{Total Gross Charges}}{\text{Total Operating Expenses}} \right) - 1$$

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

$$\frac{\text{Patient Days}}{\text{Number of Beds} \times 365}$$

Technical Notes

Herfindahl–Hirschman Index

The Herfindahl–Hirschman Index (HHI) has been used by the Department of Justice (DOJ) in the antitrust area as one aid in determining the degree of market concentration when evaluating the potential harm to consumers of proposed mergers in a market. Market concentration is a function of the number of firms in a market and their respective market shares. The HHI was calculated for the St. Louis region by summing the squares of the hospital and health network market shares using hospital admissions as the proxy for market share. Within the St. Louis region, the squared market shares of the individual hospitals and the combined squared market share for each hospital system are summed producing the regional HHI. This technique gives proportionately greater weight to the market shares of larger systems, in accord with their increased potential for exercising market power resulting in anticompetitive behavior such as increased prices (see example below). The geographic market is an important factor in merger analysis and in calculating the HHI as well. For the aggregate statistics produced in this study, the metropolitan statistical area (MSA) has been used to define the geographic market. It is important to note that the Federal Trade Commission (FTC) and the Department of Justice (DOJ) have used different definitions of the geographic market when analyzing mergers in a region that have at times been either larger or smaller than the MSA definition depending on the circumstances surrounding the merger. Therefore, the HHI values shown in this study may not be comparable to those values used in specific antitrust investigations conducted by the FTC and the DOJ.

The meaning of the HHI values in evaluating an industry in a given market are broadly defined as 1) Unconcentrated, HHI < 1,000; 2) Moderately Concentrated, HHI >1,000 and <1,800 and; 3) Highly Concentrated, HHI >1,800.

In the year 2000, St. Louis changed from a highly concentrated to a moderately concentrated hospital market with an HHI resting in the upper end of the range of 1,000 to 1,800. Market concentration in the St. Louis region grew to 1,593 in 2006, a 2.5% increase over the previous year. The boost in hospital market concentration has resulted mainly from facility acquisition and hospitals' gains in market share. The St. Louis HHI is based on hospital admissions which were relatively flat in 2006, therefore gains in market share by some facilities came at the expense of others. This report updates information through 2006 and does not reflect the anticipated effect of BJC HealthCare's new facility in O'Fallon, Missouri that opened in 2007 or SSM Health Care's new facility in Fenton, Missouri that is slated to open in 2009. The estimated increase in the HHI for the St. Louis region as a result of these two new facilities is projected to be 4% and could boost the HHI to its highest level in 10 years. The increase in hospital concentration will be tempered somewhat by the promised closure of SSM St. Joseph Hospital in Kirkwood, Missouri.

St. Louis hospitals earned higher profits than the national average for 11 of the 14 years between 1993, when market consolidation occurred, and 2006. One must ask if the hospital mergers that occurred in 1993 resulted in faster growth in hospital profits rather than economies of scale for the community and have resulted in more harm than benefit for the consumer. ■

Network	Discharges*	Market Share	Market Share Squared	HHI Index
BJC HealthCare	120,072	29.8%	0.088581	886
SSM Health Care	83,375	20.7	0.042710	427
St. John's Mercy Health Care	45,525	11.3	0.012734	127
Tenet HealthSystem	23,411	5.8	0.003367	34
Non-Merged Hospitals				
Anderson Hospital	8,101	2.0	0.000403	4
Gateway Regional Medical Center	8,678	2.2	0.000463	5
Forest Park Hospital	5,331	1.3	0.000175	2
Jefferson Memorial Hospital	9,542	2.4	0.000559	6
Kenneth Hall Regional Hospital (East St. Louis, IL)	3,012	0.7	0.000056	1
Kindred Hospital	752	0.2	0.000003	0
Lincoln County Memorial Hospital	1,034	0.3	0.000007	0
Memorial Hospital of Belleville	14,847	3.7	0.001354	14
St. Alexius Hospital	8,483	2.1	0.000442	4
St. Anthony's Health Center (Alton, IL)	6,120	1.5	0.000230	2
St. Anthony's Medical Center	28,438	7.0	0.004969	50
St. Elizabeth's Hospital (Belleville)	13,865	3.4	0.001181	12
St. Joseph Hospital (Breese)	2,119	0.5	0.000028	0
St. Luke's Hospital	18,259	4.5	0.002048	20
Touchette Regional Hospital	2,469	0.6	0.000037	0
Sub-total Non-Merged Hospitals+	131,050	32.5%	+	120
Total	403,433	100.0%	1.000000	1,593

+ Market shares of each hospital were individually squared and added together for the HHI Index.

* Source: Centers for Medicare and Medicaid Services 2006 Medicare Cost Reports and internal utilization statements. Market share is based on the number of discharges. Hospital network configurations shown on this page are current as of 2008.

Missouri Disproportionate Share (DSH) Hospital Payments 2004–2006



The State of Missouri through the State/Federal Medicaid program makes hospital payments over and above other provider reimbursement for Medicaid services to certain hospitals. Hospitals qualify for these additional payments based on a number of factors outlined in Missouri Medicaid Regulations 13 CSR 70-15.010. Hospitals can receive the additional funds through enhancements to their Medicaid per diem rate, a Medicaid add-on payment, and/or an uninsured reimbursement payment. The regulations define at least three categories of hospitals eligible for additional payments. In general, hospitals providing the largest amounts of Medicaid services, charity care, and incur the most bad debt receive the highest levels of additional payment. Certain other mental health and state hospitals also qualify for these payments.

Federal Law limits total Disproportionate Share add-on payments to less than 100% of the unreimbursed cost for Medicaid and the cost of the uninsured (13 CSR 70-15.010 17).

Disproportionate Share add-on payments to Missouri hospitals in St. Louis City and St. Louis County for fiscal years 2004, 2005,

and 2006 are listed in the table below. The State/Federal shares for 2004, 2005, and 2006 were 38.59%/61.41%, 38.77%/61.23%, and 38.26%/61.74% respectively. Future funding for this program is subject to state and federal appropriations.

In the interest of evaluating Disproportionate Share (DSH) add-on payments in relation to the amount of charity care provided, the amount of each hospital's DSH add-on payment is expressed as a percent of operating revenue, and an aggregate figure is shown at the bottom. On pages 16 and 17, charity care cost is expressed as a percent of operating revenue as well. While DSH add-on payments are intended to offset contractual allowances related to Medicaid and losses due to bad debt, they also cover charity care. DSH add-on payments in 2006 represent nearly 6.6% of the operating revenue of St. Louis hospitals in Missouri, an increase of 26% over 2005. On the other hand, charity care represents only 1.4% of operating revenue. DSH add-on payments have grown to be more than four times higher than charity care as a percent of operating revenue. ■

Provider	2004			2005			2006		
	DSH	Operating Revenue	% of O.R.	DSH	Operating Revenue	% of O.R.	DSH	Operating Revenue	% of O.R.
Barnes-Jewish Hospital	\$53,548,521	\$996,684,525	5.37%	\$66,826,803	\$1,075,362,035	6.21%	\$84,941,402	1,158,919,842	7.33%
Barnes-Jewish Hospital—St. Peters	1,554,292	86,349,397	1.80	2,253,047	99,063,776	2.27	3,021,794	108,655,438	2.78
Barnes Jewish Hospital—West County	676,206	78,024,315	0.87	791,783	76,926,555	1.03	666,230	84,293,546	0.79
Cardinal Glennon/ St. Mary's Health Center	20,805,482	405,592,339	5.13	26,969,855	426,150,811	6.33	42,126,624	461,687,268	9.12
Christian Hospitals	13,642,190	248,509,158	5.49	17,137,420	244,192,451	7.02	19,188,184	229,163,376	8.37
DePaul Health Center	5,707,514	224,876,899	2.54	10,446,128	248,624,442	4.20	16,642,771	260,780,898	6.38
Des Peres Hospital	2,149,006	98,414,763	2.18	2,602,377	106,091,411	2.45	3,462,294	119,111,186	2.91
Forest Park Hospital ¹	13,611,517	104,361,647	13.04	14,403,089	109,477,656	13.16	18,216,413	85,158,550	21.39
Jefferson Memorial Hospital	4,104,422	91,395,954	4.49	4,727,733	101,001,564	4.68	5,816,092	92,616,379	6.28
Kindred Hospital	289,590	18,189,883	1.59	556,415	25,801,060	2.16	494,881	31,892,283	1.55
Lincoln County Memorial Hospital	884,541	22,517,906	3.93	1,431,492	24,899,929	5.75	962,948	25,888,837	3.72
Missouri Baptist Medical Center	6,417,763	333,256,106	1.93	7,375,753	345,962,582	2.13	8,279,060	340,320,357	2.43
Missouri Baptist Hospital—Sullivan	1,179,073	31,292,194	3.77	1,103,494	31,564,770	3.50	1,737,881	33,152,839	5.24
St. Alexius Hospital ¹	12,648,633	86,794,253	14.57	13,999,801	96,874,984	14.45	17,822,555	86,740,747	20.55
St. Anthony's Medical Center	12,752,262	314,980,000	4.05	9,930,702	335,731,000	2.96	15,322,466	352,813,000	4.34
St. John's Mercy Hospital—Washington	3,260,298	72,706,996	4.48	3,414,340	75,910,181	4.50	4,906,440	86,326,656	5.68
St. John's Mercy Medical Center	12,240,612	534,089,839	2.29	17,345,989	590,246,406	2.94	26,092,805	637,890,033	4.09
St. Joseph Health Center—Wentzville ²	1,405,441	22,956,438	6.12	1,509,769	24,218,902	6.23	N/A	N/A	N/A
St. Joseph Health Center—St. Charles ²	5,686,695	142,922,207	3.98	4,877,460	153,910,396	3.17	10,779,410	178,308,733	6.05
St. Joseph Hospital—Kirkwood	2,053,177	92,836,791	2.21	2,332,956	98,733,152	2.36	3,204,168	97,990,722	3.27
St. Joseph Hospital West—Lake St. Louis	1,603,348	62,463,822	2.57	2,255,706	73,399,939	3.07	4,313,802	92,841,124	4.65
St. Louis Children's Hospital	26,809,962	278,842,298	9.61	34,967,142	300,123,547	11.65	43,000,359	330,521,249	13.01
St. Louis University Hospital	21,292,206	305,981,000	6.96	23,583,497	308,619,020	7.64	27,983,718	333,636,564	8.39
St. Luke's Hospital	3,194,653	274,105,000	1.17	3,482,988	307,192,000	1.13	5,390,693	320,783,000	1.68
Total	\$227,517,404	\$4,928,143,730	4.62%	\$274,325,739	\$5,280,078,569	5.20%	\$364,372,990	\$5,549,492,627	6.57%

¹ SouthPointe Hosp. merged with St. Alexius Hospital in 2003 and reported on a combined basis in 2004 as St. Alexius Hospital. Forest Park Hosp., St. Alexius Hospital—Broadway and Jefferson Campus were sold to Doctors Community Healthcare Corporation (DCHC) in November 2004 by Tenet Healthcare Corporation. Due to the transfer in ownership in 2004 data for these hospitals could not be verified by Tenet or DCHC.

² Beginning in 2006, St. Joseph Health Center—St. Charles and St. Joseph Health Center—Wentzville reported on a combined basis.

Sources: DSH add-on payment information obtained from the Missouri Department of Social Services. Operating revenue obtained from hospital Medicare Cost Reports and audited financial statements. These data were abstracted by the BHC and verified by individual hospitals.

Note: Changes in previously reported data are based on most current information. Data in this table are not adjusted for inflation. DSH payments made for 12 month periods beginning July 1 and ending June 30. Hospital fiscal years, on which operating revenue is based, may differ.



Glossary

ACE Inhibitor (angiotensin converting enzyme): A type of medicine used to treat heart attacks, heart failure, or a decreased function of the left side of the heart (left ventricular systolic dysfunction). ACE inhibitors can help reduce the risk of death from a heart attack if taken within 24 hours of the first symptoms of a heart attack. Continued use may help prevent heart failure. ACE inhibitors work by blocking an enzyme in the body that is necessary to produce a substance (angiotensin II) that causes blood vessels to constrict. As a result, blood vessels relax and blood pressure is lowered increasing the supply of blood and oxygen to the heart.

Allowances: This element consists principally of Contractual Adjustments, which are differences between gross revenues at established rates and amounts realizable from third party payers under contractual agreements.

Available Acute Bed: A hospital bed in a specific location in a health care institution for which the hospital is prepared to provide needed services when a patient is admitted as reported in Medicare Cost Report, Worksheet S-3. This was used to calculate available occupancy percentage and excess available acute beds.

- **Licensed Acute Bed:** A State authorized bed capacity of a health care institution as reported in Missouri Hospital Profiles, Illinois Department of Health Statistics or other State agency. The numeric counts of licensed beds are typically greater than for available acute beds (see above).
- **Staffed Bed:** A term used within the hospital industry to denote a bed which is fully staffed and ready to receive a patient. A staffed bed is similar to an available bed, but the numeric count is typically less than for available beds.

Average Length of Stay: The number of patient days used divided by the number of discharges.

Average Mark-up: The percentage by which costs are increased to yield gross charges that is typically referred to as charges over costs.

Beta blocker: A type of medicine that is used to lower blood pressure, treat chest pain (angina) and heart failure, and to help prevent a heart attack. Beta blockers relieve the stress on the heart by slowing the heart rate and reducing the force with which the heart muscle contracts (to pump blood). Most heart attack patients should be given a beta blocker within 24 hours of arriving at the hospital.

Central Line-Associated Bloodstream Infection (CLAB): A central line is a flexible tube that is inserted near the patient's heart or into one of the large veins or arteries to give fluids, measure the amount of fluid in the body, or to give medication. CLAB is an infection in a patient who has a central line that was used within the 48-hour period before the onset of the infection. If the interval is longer than 48 hours, there must be compelling evidence that the infection is related to the central line.

Charity Care: Health services that were never expected to result in cash inflows. Charity care results from a provider's policy to provide health care services free of charge to

individuals who meet certain financial criteria. (American Institute of Certified Public Accountants, 1990)

Contractual Allowance Percent: The percentage of contractual adjustments by which gross charges are discounted from third party payers under contractual agreements.

Fund Balance / Unrestricted Net Assets: The difference between assets and liabilities.

Left Ventricular Systolic Dysfunction (LVSD): A condition characterized by decreased function of the left side of the heart.

Left Ventricular Function Assessment (LVF): A test that checks how the heart is pumping.

Occupancy Rate: This figure is determined by dividing the number of patient days used by the number of available acute beds multiplied by the number of days in the year. Excluded are nursery, skilled nursing facility, and other long term non-acute days and beds.

Operating Margin: The portion of a firm's operating revenue retained as income. See Technical Notes for formula.

Oxygenation Assessment: Tests that check the level of oxygen in the bloodstream. They may include an ABG (arterial blood gas) or pulse oximetry (electrodes attached to a part of the body such as a finger, earlobe, or skin fold).

Patient Days: A unit of utilization calculated by multiplying the number of discharges (or admissions) by the hospital average length of stay. This term is also referred to as "Total Bed Days Used."

Profit (Loss): Excess (deficit) of revenue over expenses.

Profit Margin: Excess of revenue over expenses divided by the sum of total operating revenue and non-operating revenue.

Return on Equity: A ratio that defines the amount of net income earned per dollar of unrestricted net assets or fund balance. It is calculated by dividing the excess of revenue over expenses by the fund balance.

Surgical Site Infection Risk Scores: The performance of each facility relative to Surgical Site Infections (SSIs) has been adjusted to reflect the risk associated with the reported procedure. If a facility has a high rate after the adjustment, one can have more confidence that the facility has SSI problems that are caused by factors other than the presence of many high risk patients.

The **risk factors** that are used in adjusting a facility's performance are the degree of contamination of the wound at the time of the operation, the duration of the procedure, and the American Society of Anesthesiologists (ASA) score. The latter is an estimate of the patient's physical condition.

A **risk score of 0** indicates that the patient has a relatively **low risk** of developing a surgical site infection, while a **risk score of 3** indicates that a patient has a relatively **high risk** of developing an infection for a particular surgical procedure. Occasionally they are combined, as in risk level 2,3. For these surgical procedures, the **Centers for Disease Control** found that **SSI rates were similar whether the risk was a 2 or a 3.**



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