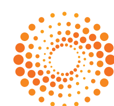
100 TOP HOSPITALS: NATIONAL BENCHMARKS 2008 STUDY

16TH EDITION

HEALTHCARE



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A NEW ERA

Introducing the 2008 Thomson Reuters 100 Top Hospitals: National Benchmarks – An integrated approach to improving balanced, high value organizational performance

The 2008 100 Top Hospitals®: National Benchmarks award winners have raised the bar for hospital performance to new heights once again. These 100 hospitals have been identified by objective statistical data as the highest performers in the nation on the 100 Top Hospitals: National Benchmarks Balanced Scorecard. The winners are organizations with superior leadership in governance, management, and clinical care.

The 100 Top Hospitals demonstrate balanced excellence throughout the organization and reliably deliver high value to the patients and community they serve. These hospitals set the national benchmarks for providing the highest quality of care in the most efficient manner, while maintaining top financial stability and, for the first time, eliciting the highest patient perception of care. And, while we have added new measures, 54 percent of these hospitals were 100 Top Hospitals winners last year and 79 percent have been winners at least once in the past 16 years.

This year, we are entering a new era in hospital performance improvement. In addition to announcing the winners of the **100 Top Hospitals: National Benchmarks** award, the study raises the standard for objective national comparison of hospital performance by introducing innovative methods to **integrate national benchmarks for highest achievement with national benchmarks for fastest long-term improvement**.

Because we believe these new standards for performance are important, we are honoring hospitals with a new national award – the **100 Top Hospitals: Everest Award for National Benchmarks**.

The Everest award recognizes the boards, executives, and medical staff leaders who have developed and executed strategies that drove the highest rate of long-term improvement, resulting in the highest performance in the country at the end of five years. This unique group of hospitals and their leaders will be the focus of our governance and organizational management research in the years to come.

This new standard enables CEOs and boards to have insight into where the hospital is on the complex journey to hospital-wide performance excellence. This information also provides a clearer basis for CEOs and boards to set strategies to continue the journey toward highest levels of consistent and balanced hospital performance and higher value to the community every year.

THE 100 TOP HOSPITALS – SETTING STANDARDS FOR THE INDUSTRY

The 100 Top Hospitals award winners are true leaders in the industry. Year after year, the objective data the 100 Top Hospitals studies yield provide numerous examples of excellence in clinical care, patient perception of care, operational efficiency, and financial stability. For their competitors and peers, they offer a valuable example to follow. The findings presented in this document give hospital leaders benchmarks for targeting top performance – by showing what the top performers have achieved, we offer concrete goals for the entire industry.

This year, our estimates found that if all Medicare inpatients received the same level of care as that provided by the 100 Top Hospitals® winners across all categories:

- **More than 107,500 additional patients would survive each year.**
- **Nearly 132,000 patient complications would be avoided annually.**
- **Expenses would decline by an aggregate $5.9 billion a year.**
- **The average patient stay would decrease by nearly half a day.**

If the same standards were applied to all inpatients, the impact would be even greater. You can find more details about how the 100 Top Hospitals are outperforming their peers in the Findings section of this document.

THE 100 TOP HOSPITALS PROGRAM

Since 1993, the 100 Top Hospitals program has been dedicated to raising the bar for the visibility and use of statistically valid, actionable national benchmarks for hospital performance improvement. The basis of our studies is the 100 Top Hospitals: National Benchmarks balanced scorecard, designed to enable leaders of hospitals or service lines to compare the hospital's performance to national benchmarks and target higher performance. All benchmarks are a result of objective statistical analysis of public data. The measurement and integration of rates of improvement and the resultant level of achievement are designed to shed light on the challenges and complexity of changing organizational performance. This new standard for national benchmarks will be applied to all 100 Top Hospitals studies over the next year.

The 100 Top Hospitals program is currently comprised of the 100 Top Hospitals: National Benchmarks study described here, and the 100 Top Hospitals: Cardiovascular Benchmarks study, which identifies hospitals that demonstrate the highest performance in hospital cardiovascular services. In the fall of 2009, we will introduce innovation to the cardiovascular study by integrating national benchmarks for highest current level of cardiovascular service performance with national benchmarks for long-term rates of cardiovascular service improvement with the 100 Top Hospitals: Everest Award for Cardiovascular Benchmarks.

ABOUT THOMSON REUTERS

The Healthcare business of Thomson Reuters produces insights, information, benchmarks, and analysis that enable organizations to manage costs, improve performance, and enhance the quality of healthcare. Thomson Reuters is the world's leading source of intelligent information for businesses and professionals. We combine industry expertise with innovative technology to deliver critical information to leading decision makers in the financial, legal, tax and accounting, scientific, healthcare, and media markets, powered by the world's most trusted news organization. With headquarters in New York and major operations in London and Eagan, Minn., Thomson Reuters employs more than 50,000 people in 93 countries. Thomson Reuters shares are listed on the New York Stock Exchange (NYSE: TRI); Toronto Stock Exchange (TSX: TRI); London Stock Exchange (LSE: TRIL); and Nasdaq (NASDAQ: TRIN). For more information, go to *thomsonreuters.com.*

INTRODUCING THE THOMSON REUTERS 100 TOP HOSPITALS: EVEREST AWARD FOR NATIONAL BENCHMARKS

After 16 years of producing hospital industry benchmarks, Thomson Reuters is introducing a major innovation in driving organizational performance improvement – the 100 Top Hospitals: Everest Award for National Benchmarks. This award introduces a new methodology that integrates national benchmarks for highest achievement with national benchmarks for fastest long-term improvement.

The Everest award recognizes the boards, executives, and medical staff leaders who have developed and executed strategies that drove the highest rate of improvement, resulting in the highest performance in the country at the end of five years. Hospitals that win this award are setting national benchmarks for both long-term improvement and top one-year performance.

The Everest award winners are a special group of the 2008 100 Top Hospitals: National Benchmarks award winners that, in addition to achieving benchmark status for one year, have simultaneously set national benchmarks for the fastest long-term improvement on our national balanced scorecard.

VALUE TO THE HEALTHCARE INDUSTRY

Leaders making critical decisions in an economic downturn and an increasingly transparent environment must have more sophisticated intelligence that provides clearer insight into the complexity of changing organizational performance. They must also balance short- and long-term goals to drive continuous gains in performance and value. By comparing individual hospital and health system performance with integrated national benchmarks for highest achievement and improvement, we provide unique new insights for making smarter decisions that will achieve their mission and consistently increase value to the community.

VALUE TO HOSPITALS AND HEALTH SYSTEMS

Transparency presents hospital boards and CEOs with a very public challenge to increase the value of core services to their communities. Providing real value is not a one-time event – it is a continuous process of increasing worth over time. Leaders of hospitals and health systems must develop strategies to *continuously* strengthen both the organization and the value of their services to the community.

Integrating national benchmarks for highest achievement with national benchmarks for fastest long-term improvement radically increases the value of objective business information available for strategy development and decision-making. Comparing hospital or health system performance to these integrated benchmarks allows leaders to review the effectiveness of long-term strategies that led to current performance. This integrated information enables boards and CEOs to better answer multi-dimensional questions such as:

- Did our long-term strategies result in a stronger hospital across all performance areas?
- Did our strategies drive improvement in some areas but inadvertently cause deteriorating performance in others?

- What strategies will help us increase the rate of improvement in the right areas to come closer to national performance levels?
- What incentives do we set for management to achieve the desired improvement more quickly?
- Will the investments we're considering help us achieve improvement goals for the hospital or health system?
- Can we quantify the long- and short-term increases in value our hospital has provided to our community?

In this special Everest Award section, you will find the list of 100 Top Hospitals®: Everest Award for National Benchmarks winners and a description of the methodology we used to select the winners. Other sections of this study abstract include a list of the annual 100 Top Hospitals: National Benchmarks award winners, the methodology we used to select those winners, and a Findings section that details the benchmarks the winning hospitals have set for performance in the industry.

THE 2008 EVEREST AWARD FOR NATIONAL BENCHMARKS WINNERS

Thomson Reuters is proud to present the winners of the first annual Thomson Reuters 100 Top Hospitals: Everest Award for National Benchmarks.

2008 EVEREST AWARD FOR NATIONAL BENCHMARKS WINNERS

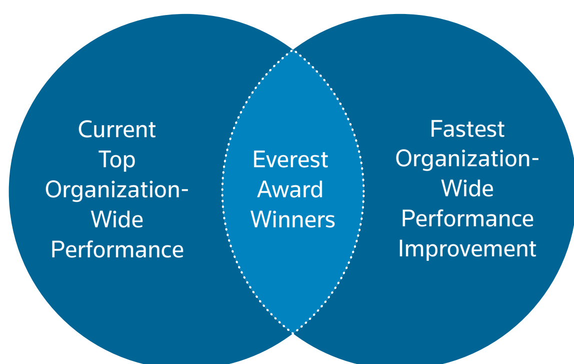
HOSPITAL	LOCATION
Aurora Sheboygan Memorial Medical Center	Sheboygan, WI
Aurora West Allis Medical Center	West Allis, WI
Citizens Medical Center	Victoria, TX
Duke University Hospital	Durham, NC
Memorial Regional Medical Center	Mechanicsville, VA
Munson Medical Center	Traverse City, MI
North Mississippi Medical Center	Tupelo, MS
Providence St. Vincent Medical Center	Portland, OR
Robert Packer Hospital	Sayre, PA
Rutherford Hospital, Inc.	Rutherfordton, NC
Sacred Heart Hospital on the Emerald Coast	Miramar Beach, FL
Saint Joseph Regional Medical Center–South Bend	South Bend, IN
Saint Thomas Hospital	Nashville, TN
San Antonio Community Hospital	Upland, CA
Silver Cross Hospital	Joliet, IL
St. Cloud Hospital	St. Cloud, MN
St. Mary's Jefferson Memorial Hospital	Jefferson City, TN
St. Mary's Medical Center of Campbell County	Lafollette, TN
St. Vincent Indianapolis Hospital	Indianapolis, IN
The Western Pennsylvania Hospital	Pittsburgh, PA
University Medical Center	Tucson, AZ
Vanderbilt University Medical Center	Nashville, TN
Wheaton Franciscan Healthcare–St. Joseph	Milwaukee, WI

HOW WE SELECT THE EVEREST AWARD WINNERS

Winners of the 100 Top Hospitals®: Everest Award for National Benchmarks are setting national benchmarks for both long-term (five-year) improvement and highest one-year performance on the study's balanced scorecard. Everest award winners are selected from among the new 100 Top Hospitals: National Benchmarks award winners. The National Benchmarks award and the Everest award are based on a set of measures that reflect highly effective performance across the whole organization.

Our methodology for selecting the Everest award winners can be summarized in three main steps:

1. We select the annual 100 Top Hospitals: National Benchmarks award winners using our time-tested objective methodology* based on publicly available data and a balanced scorecard of performance measures.
2. We use our multi-year trending methodology to select the 100 hospitals that have shown the fastest, most consistent five-year improvement rates on the same balanced scorecard of performance measures.†
3. We align these two lists of hospitals and look for overlap; those that ranked in the top 100 of *both* lists are the Everest award winners.



Combining these two methodologies yields a very select group of Everest award winners; the number of Everest award winners will vary every year, based solely on performance. In this inaugural year, only 23 hospitals achieved this status.

Data Sources

As with all of the 100 Top Hospitals awards, our methodology is objective and all data come from trusted public sources. We build a database of short-term, acute-care, non-federal U.S. hospitals that treat a broad spectrum of patients. The primary data sources are the Medicare Provider Analysis and Review (MedPAR) data set and the Medicare Cost Report. We use the five most recent years of data available – for this year's studies, federal fiscal years 2003-2007.

Several other data sets are also used. Core measures and patient satisfaction (Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey) data are from the Centers for Medicare and Medicaid Services (CMS) Hospital Compare data set. Residency program information, used in classifying teaching hospitals, is from the American Medical Association (ACGME-accredited programs) and the American Osteopathic Association (AOA).

After excluding hospitals with data that would skew study results (e.g., specialty hospitals), we have a database study group of approximately 3,000 hospitals. Because bed size and teaching status have a profound effect on the types of patients a hospital treats and the scope of services it provides, we assigned each hospital in our study database to one of five comparison groups, or classes, according to its size and teaching status (for definitions of each group, see the Methodology section):

- Major Teaching Hospitals
- Teaching Hospitals
- Large Community Hospitals
- Medium Community Hospitals
- Small Community Hospitals

To judge hospitals fairly and compare them to like hospitals, we use these classes for all scoring and ranking of hospitals to determine winners. For more information on how we build the database, please see the Methodology section of this document.

* For full details on how the National Benchmarks winners are selected, please see the Methodology section of this document.
† This methodology is based on our previous 100 Top Hospitals: Performance Improvement Leaders study and award.

Performance Measures

Both the 100 Top Hospitals®: National Benchmarks award and the Everest award are based on a set of measures that reflect highly effective performance across the whole organization, including board members, medical staff, management, and nursing. These measures include patient outcomes and safety, national treatment standards (core measures), patient satisfaction, operational efficiency, and financial stability. The nine measures used to select the 2008 winners are:

1. Risk-adjusted mortality index
2. Risk-adjusted complications index
3. Risk-adjusted patient safety index
4. Core measures score
5. Severity-adjusted average length of stay
6. Expense per adjusted discharge, case mix- and wage-adjusted
7. Profitability (operating profit margin)
8. Cash-to-total-debt ratio
9. HCAHPS score (Patient rating of overall hospital performance)[§]

For full details, including calculation and scoring methods, please see the Methodology section.

Final Selection: Ranking and Five-Year Trending

To select the 100 Top Hospitals: National Benchmarks award winners, we rank hospitals on the basis of their current-year performance on each of the nine measures relative to other hospitals in their comparison group. We then sum each hospital's performance-measure rankings and re-rank them, overall, to arrive at a final rank for the hospital. The hospitals with the best final rank in each comparison group are selected as the 100 Top Hospitals: National Benchmarks award winners.

Separately, for every hospital in the study, we calculate a t-statistic that measures five-year performance improvement on each of the eight performance measures[§]. This statistic measures both the direction and magnitude of change in performance and the statistical significance of that change. Within the five comparison groups, we rank hospitals on the basis of their performance improvement t-statistic on each of the eight measures relative to other hospitals in their group. We then sum each hospital's performance-measure rankings and re-rank them, overall, to arrive at a final rank for the hospital. The hospitals with the best final rank in each comparison group are selected as the performance improvement benchmark hospitals.

As our final step, we align the two groups of benchmark hospitals and look for overlap. Those that are identified as benchmarks on *both* lists are the Everest award winners. The Everest award winners are a very select group – this year, only 23 hospitals were selected to win the award.

§ Because the HCAHPS score measure is new to the study this year and we do not have five years of data for it, it is not included in the five-year trending step of the Everest award winners selection process.

2008 THOMSON REUTERS 100 TOP HOSPITALS: NATIONAL BENCHMARKS AWARD WINNERS

Thomson Reuters is proud to present the 2008 100 Top Hospitals®: National Benchmarks award winners, listed on the following pages. We stratify winners by five separate peer groups: major teaching, teaching, large community, medium community, and small community hospitals. For full details on these peer groups and the process we use to select the benchmark hospitals, please see the Methodology section of this document.

MAJOR TEACHING HOSPITALS*

MEDICARE ID	NAME	CITY	ST
030024	St. Joseph's Hospital and Medical Center	Phoenix	AZ
030064	*University Medical Center*	Tucson	AZ
140010	NorthShore University HealthSystem	Evanston	IL
140223	Advocate Lutheran General Hospital	Park Ridge	IL
140281	Northwestern Memorial Hospital	Chicago	IL
220086	Beth Israel Deaconess Medical Center	Boston	MA
230019	Providence Hospital and Medical Center	Southfield	MI
230046	University of Michigan Hospitals & Health Centers	Ann Arbor	MI
240010	Mayo Clinic–Saint Marys Hospital	Rochester	MN
340030	*Duke University Hospital*	Durham	NC
360137	University Hospitals Case Medical Center	Cleveland	OH
390090	*The Western Pennsylvania Hospital*	Pittsburgh	PA
440039	*Vanderbilt University Medical Center*	Nashville	TN
450054	Scott and White Memorial Hospital	Temple	TX
490009	University of Virginia Medical Center	Charlottesville	VA

*Order of hospitals does not reflect performance ranking. Hospitals are ordered by Medicare ID. Everest award winners are italicized.

TEACHING HOSPITALS*

MEDICARE ID	NAME	CITY	ST
060032	Rose Medical Center	Denver	CO
100289	Cleveland Clinic Florida	Weston	FL
130006	St. Luke's Boise Medical Center	Boise	ID
150012	*Saint Joseph Regional Medical Center–South Bend*	South Bend	IN
150084	*St. Vincent Indianapolis Hospital*	Indianapolis	IN
160064	Mercy Medical Center–North Iowa	Mason City	IA
180035	St. Elizabeth Medical Center	Edgewood	KY
210024	Union Memorial Hospital	Baltimore	MD
230097	*Munson Medical Center*	Traverse City	MI
230222	MidMichigan Medical Center–Midland	Midland	MI
230236	Metro Health Hospital	Wyoming	MI
240036	*St. Cloud Hospital*	St. Cloud	MN
250004	*North Mississippi Medical Center*	Tupelo	MS
360006	Riverside Methodist Hospital	Columbus	OH
360134	Good Samaritan Hospital	Cincinnati	OH
360230	Hillcrest Hospital	Mayfield Heights	OH
380004	*Providence St. Vincent Medical Center*	Portland	OR
390063	Hamot Medical Center	Erie	PA
390079	*Robert Packer Hospital*	Sayre	PA
390100	Lancaster General Hospital	Lancaster	PA
390139	Bryn Mawr Hospital	Bryn Mawr	PA
430016	Avera McKennan Hospital & University Health Center	Sioux Falls	SD
520008	Waukesha Memorial Hospital	Waukesha	WI
520087	Gundersen Lutheran Health System	La Crosse	WI
520136	*Wheaton Franciscan Healthcare–St. Joseph*	Milwaukee	WI

*Order of hospitals does not reflect performance ranking. Hospitals are ordered by Medicare ID. Everest award winners are italicized.

LARGE COMMUNITY HOSPITALS*			
MEDICARE ID	NAME	CITY	ST
050099	*San Antonio Community Hospital*	Upland	CA
100281	Memorial Hospital West	Pembroke Pines	FL
140213	*Silver Cross Hospital*	Joliet	IL
140242	Central DuPage Hospital	Winfield	IL
140288	Advocate Good Samaritan Hospital	Downers Grove	IL
160069	Mercy Medical Center–Dubuque	Dubuque	IA
180009	King's Daughters Medical Center	Ashland	KY
180130	Baptist Hospital East	Louisville	KY
230002	St. Mary Mercy Livonia Hospital	Livonia	MI
260001	St. John's Regional Medical Center	Joplin	MO
260108	Missouri Baptist Medical Center	St. Louis	MO
280020	Saint Elizabeth Regional Medical Center	Lincoln	NE
280060	Alegent Health Bergan Mercy Medical Center	Omaha	NE
360155	Southwest General Health Center	Middleburg Heights	OH
440082	*Saint Thomas Hospital*	Nashville	TN
440091	Memorial Health Care System	Chattanooga	TN
440161	Centennial Medical Center	Nashville	TN
450023	*Citizens Medical Center*	Victoria	TX
450869	Doctors Hospital at Renaissance	Edinburg	TX
500014	Providence Regional Medical Center Everett	Everett	WA

*Order of hospitals does not reflect performance ranking. Hospitals are ordered by Medicare ID. Everest award winners are italicized.

MEDIUM COMMUNITY HOSPITALS*

MEDICARE ID	NAME	CITY	ST
050426	West Anaheim Medical Center	Anaheim	CA
070020	Middlesex Hospital	Middletown	CT
140186	Riverside Medical Center	Kankakee	IL
150011	Marion General Hospital	Marion	IN
150112	Columbus Regional Hospital	Columbus	IN
150115	Memorial Hospital and Health Care Center	Jasper	IN
150162	St. Francis Hospital–Indianapolis	Indianapolis	IN
180143	Saint Joseph East	Lexington	KY
230030	Gratiot Medical Center	Alma	MI
230072	Holland Hospital	Holland	MI
340013	*Rutherford Hospital, Inc.*	Rutherfordton	NC
360010	Union Hospital	Dover	OH
360036	Wooster Community Hospital	Wooster	OH
360218	Licking Memorial Hospital	Newark	OH
360236	Mercy Hospital Clermont	Batavia	OH
360239	Sycamore Medical Center	Miamisburg	OH
490069	*Memorial Regional Medical Center*	Mechanicsville	VA
520028	The Monroe Clinic	Monroe	WI
520035	*Aurora Sheboygan Memorial Medical Center*	Sheboygan	WI
520139	*Aurora West Allis Medical Center*	West Allis	WI

*Order of hospitals does not reflect performance ranking. Hospitals are ordered by Medicare ID. Everest award winners are italicized.

SMALL COMMUNITY HOSPITALS*

MEDICARE ID	NAME	CITY	ST
040011	Chambers Memorial Hospital	Danville	AR
050042	St. Elizabeth Community Hospital	Red Bluff	CA
050709	Desert Valley Hospital	Victorville	CA
100292	*Sacred Heart Hospital on the Emerald Coast*	Miramar Beach	FL
110128	Meadows Regional Medical Center	Vidalia	GA
150069	The King's Daughters' Hospital & Health Services	Madison	IN
150097	Major Hospital	Shelbyville	IN
180011	Saint Joseph–London	London	KY
230080	Central Michigan Community Hospital	Mount Pleasant	MI
230081	Mercy Hospital Cadillac	Cadillac	MI
230212	Saint Joseph Mercy Saline Hospital	Saline	MI
240030	Douglas County Hospital	Alexandria	MN
240066	Lakeview Hospital	Stillwater	MN
260163	Parkland Health Center–Farmington	Farmington	MO
350009	Jamestown Hospital	Jamestown	ND
370023	Duncan Regional Hospital	Duncan	OK
440033	*St. Mary's Medical Center of Campbell County*	LaFollette	TN
440056	*St. Mary's Jefferson Memorial Hospital*	Jefferson City	TN
450270	Lake Whitney Medical Center	Whitney	TX
460011	Castleview Hospital	Price	UT

*Order of hospitals does not reflect performance ranking. Hospitals are ordered by Medicare ID. Everest award winners are italicized.

NATIONAL BENCHMARKS STUDY METHODOLOGY

OVERVIEW

The 100 Top Hospitals®: National Benchmarks is a quantitative study that identifies 100 hospitals with the highest level of achievement on the 100 Top Hospitals: National Benchmarks Balanced Scorecard. The scorecard, based on Norton and Kaplan's[1] balanced scorecard concept, consists of nine equally weighted measures, distributed across four domains – quality, efficiency, the customer, and finance – and uses only publicly available data. The hospitals with the highest level of achievement are those with the highest ranking on a composite score of the nine measures. This study includes only short-term, acute care, non-federal U.S. hospitals that treat a broad spectrum of patients.

The main steps we take in selecting the 100 Top Hospitals are:

- Building the database of hospitals, including special selection and exclusion criteria
- Classifying hospitals into comparison groups
- Scoring hospitals on a set of weighted performance measures
- Determining 100 Top Hospitals by ranking hospitals relative to their comparison group

The following document is intended to be an overview of these steps. To request more detailed information on any of the study concepts outlined here, please e-mail us at *healthcare.pubs@thomsonreuters.com* or call +1 800 568 3282.

***Note**: This section details the methods used to produce the 100 Top Hospitals: National Benchmarks award winners. For details on the methods used to find the Everest Award for National Benchmarks winners, please see the special Everest Awards section of this document.*

BUILDING THE DATABASE OF HOSPITALS

The 100 Top Hospitals: National Benchmarks study uses two primary sources of data: the publicly available Medicare Provider Analysis and Review (MedPAR) data set and the Medicare Cost Report. Several other data sets are also used. Core measures and patient satisfaction (Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey) data are from the Centers for Medicare and Medicaid Services (CMS) Hospital Compare data set. Residency program information, used in classifying teaching hospitals, is from the American Medical Association (ACGME-accredited programs) and the American Osteopathic Association (AOA).

The MedPAR data set is used to obtain patient-level medical record information for the calculation of mortality, complications, patient safety, and length of stay. This data set contains information on the approximately 12 million Medicare patients who are discharged from the nation's acute care hospitals annually. We used the most recent two federal fiscal years of MedPAR data available, 2006 and 2007 for this study.[2] To be included in the study, a hospital must have had both years of data available. To choose the Everest award winners, we also reviewed the most recent *five* years of data, 2003 through 2007, to study the rate of change in performance through the years. To read more about the Everest award methodology, please see the special Everest Award section of this document.

We use Medicare cost reports to create our proprietary database, which contains hospital-specific demographic information, hospital-specific all-payer revenue and expense data, and asset and liability data used to calculate the financial measures. The Medicare Cost Report is filed annually by every U.S. hospital that participates in the Medicare program. Hospitals are required to submit cost reports in order to receive reimbursement from Medicare. Cost report data include services for all patients, not just Medicare beneficiaries; however, Medicare managed care (HMO) beneficiary information is not currently available.

The Medicare Cost Report promotes comparability and consistency among hospitals in reporting, and its accuracy is certified under penalty of law. For this study, the 2007 cost report was used. If we did not have a 2007 cost report, we excluded the hospital from the study. Hospitals that file cost reports jointly with other hospitals under one provider number are analyzed as one organization.

We and many others in the healthcare industry have used the MedPAR and Medicare Cost Report databases for several years. We believe them to be accurate and reliable sources for the types of analyses performed in this study. Performance based on Medicare data has been found to be highly representative of that of all-payer information. Medicare patients usually represent 30 to 40 percent of a hospital's revenue, and many previous academic and economic studies of healthcare in the United States have been based on the assumption that Medicare data are representative of the all-payer activity at hospitals.

After building the database, we excluded a number of hospitals that would have skewed the study results. Excluded from the study were:

- Hospitals for which a current Medicare cost report was not available
- Specialty hospitals (e.g., critical access, children's, women's, psychiatric, substance abuse, rehabilitation, cardiac, orthopedic, heart, cancer, and long-term acute-care hospitals)
- Federally owned hospitals
- Non-U.S. hospitals (such as those in Puerto Rico, Guam, and the U.S. Virgin Islands)
- Hospitals with fewer than 25 acute-care beds
- Hospitals with fewer than 100 Medicare patient discharges in federal fiscal year 2006
- Hospitals with Medicare average lengths of stay longer than 30 days
- Hospitals with mortality rates (number of deaths divided by total discharges) of less than one percent
- Patients who were discharged to another short-term facility (This is done to avoid double-counting.)
- Patients who were not at least 65 years old
- Rehabilitation and psychiatric/substance-abuse patient records
- Hospitals missing data required to calculate performance measures

The final study group, after exclusions, included 3,000 hospitals as follows:

- 174 major teaching hospitals
- 426 teaching hospitals
- 333 large community hospitals
- 1,103 medium community hospitals
- 964 small community hospitals

CLASSIFYING HOSPITALS INTO COMPARISON GROUPS

Bed size, teaching status, and residency-program involvement have a profound effect on the types of patients a hospital treats and the scope of services it provides. When analyzing the performance of an individual hospital, it is crucial to evaluate it against other similar hospitals. To address this, we assigned each hospital to one of five comparison groups, or classes, according to its size and teaching status.

Our classification methodology draws a significant distinction between the peer groups major teaching hospitals and teaching hospitals by measuring the magnitude and type of teaching programs, and by accounting for their level of involvement in physician education and research. This methodology de-emphasizes the role of bed size and focuses more on teaching-program involvement. Through it, we seek to measure both the depth and breadth of teaching involvement and recognize teaching hospitals' tendencies to reduce beds and concentrate on true tertiary care.

Our formula for defining the teaching comparison groups includes each hospital's bed size, residents-to-beds ratio, and involvement in graduate medical education programs accredited by either the Accreditation Council for Graduate Medical Education (ACGME)[3] or the AOA.[4] The definition includes both the magnitude (number of programs) and type (sponsorship or participation) of GME program involvement. In this study, AOA residency-program involvement was treated as being equivalent to ACGME program sponsorship.
The five comparison groups, and their parameters, are as follows:

Major Teaching Hospitals

There are three ways to qualify:

1. 400 or more acute-care beds in service plus an intern and resident-per-bed ratio of at least 0.25, plus
   - sponsorship of at least 10 GME programs or
   - involvement in at least 20 programs overall
2. Involvement in at least 30 GME programs overall (regardless of bed size or intern and resident-per-bed ratio)
3. An intern and resident-per-bed ratio of at least 0.60 (regardless of bed size or GME program involvement)

Teaching Hospitals

- 200 or more acute-care beds in service, and
- either an intern and resident-per-bed ratio of at least 0.03 or involvement in at least 3 GME programs overall

Large Community Hospitals

- 250 or more acute-care beds in service, and
- not classified as a teaching hospital per definitions above

Medium Community Hospitals

- 100 – 249 acute-care beds in service, and
- not classified as a teaching hospital per definitions above

Small Community Hospitals

- 25 – 99 acute-care beds in service, and
- not classified as a teaching hospital per definitions above

SCORING HOSPITALS ON WEIGHTED PERFORMANCE MEASURES

Evolution of Performance Measures

We use a balanced scorecard approach, based on public data, to select the measures most useful for boards and CEOs in the current operating environment. Throughout the life of the study, we have worked hard to meet this vision. We gather feedback from industry leaders, hospital executives, academemians, and internal experts; review trends in the healthcare market; and survey hospitals in demanding marketplaces to learn what measures are valid and reflective of top performance. As the market has changed, our methods have evolved.

This evolution has led us to make a number of changes to this year's study. As always, our measures are centered on three main components of hospital performance: clinical excellence, efficiency, and financial health.

The measures for the 2008 study are:

1. Risk-adjusted mortality index
2. Risk-adjusted complications index
3. Risk-adjusted patient safety index
4. Core measures score
5. Severity-adjusted average length of stay
6. Expense per adjusted discharge, case mix- and wage-adjusted
7. Profitability (operating profit margin)
8. Cash-to-total-debt ratio
9. HCAHPS score (Patient rating of overall hospital performance)

In the 2008 100 Top Hospitals®: National Benchmarks study, each measure received a weight of one in the final 100 Top Hospitals ranking process. Below we provide a rationale for the selection of these categories and the measures used for each.

Clinical Excellence

Our measures of clinical excellence are the risk-adjusted mortality index, risk-adjusted complications index, risk-adjusted patient safety index, and the core measures score. The mortality and complications measures represent the most basic and essential care standards: survival and quality of life.

Patient safety has become an increasingly important measure of hospital quality. The risk-adjusted patient safety index is based on the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators (PSIs).[5] Patient safety measures are reflective of both clinical quality and the effectiveness of systems within the hospital. Because they use hospital administrative data and focus on surgical complications and other iatrogenic events, we feel that AHRQ's PSIs provide an unbiased look at many aspects of patient safety inside hospitals. Such objective analysis is central to the 100 Top Hospitals mission. The risk-adjusted patient safety index facilitates comparison of national and individual hospital performance using a group of eight patient safety indicators, which allows us to gauge the results of hospital-wide patient safety performance.

To be truly balanced, a scorecard must include various measures of quality. To this end, we also include an aggregate core measures score. Core Measures were developed by the National Quality Forum as minimum basic care standards. They are a widely accepted method for measuring patient care quality that includes specific guidelines for

heart attack, heart failure, pneumonia, pregnancy and related conditions, and surgical infection prevention. Our core measures score is based on the heart attack, heart failure, pneumonia, and surgical-infection prevention areas of this program, using Hospital Compare data reported on the CMS Web site.[6]

Efficiency and Financial Health

For the life of the study, severity-adjusted average length of stay has served as a proxy for clinical efficiency and expense per adjusted discharge has served as a measure of operating efficiency. We adjust total operating expenses for related organization expense and for provider-based physician salaries related to direct patient care. These adjustments allow us to more accurately reflect a hospital's real operating expenses.

The operating profit margin is a measure of management's ability to operate within its current financial constraints. We adjust operating profit to reflect related organization expense to provide a more accurate measure of a hospital's profitability.

To measure financial health, we must also assess the likelihood of *continued* financial strength. To do so, we use the cash-to-total-debt ratio. This measure, also used by credit-rating agencies, measures the hospital's ability to support its debt by comparing its liquid assets (cash plus short- and long-term investments) to the total debt assumed. Measuring liquidity has become problematic. Increasingly, hospitals belong to systems that hold assets and liabilities on their behalf. In some instances, this can make their cost report values an inaccurate reflection of their true financial health. We have collaborated with industry experts on alternatives for measuring liquidity and have determined that there are no publicly available data sources that would allow us to adjust assets or liabilities for all short-term acute-care hospitals included in our study, regardless of ownership type. Until more data are consistently reported, we will use the current measure.

Patient Perception of Care

We believe that a true measure of patient perception of care is crucial to the balanced scorecard concept. Understanding how patients perceive the care it provides, and how that perception compares and contrasts with that of its peers, is an important step a hospital must take in pursuing performance improvement. In this year's study, we've added a new performance measure – the HCAHPS score – based on patient perception of care data from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient survey. In the 2008 study, the HCAHPS score is based on the HCAHPS overall hospital rating question only.

Through the combined measures described above, we hope to provide a balanced picture of overall financial health and reflect high probability of sustained financial performance. Full details about each of the nine performance measures are included on the following pages.

PERFORMANCE MEASURES USED IN THE 2008 100 TOP HOSPITALS: NATIONAL BENCHMARKS STUDY

RISK-ADJUSTED MORTALITY INDEX

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
Patient survival is a universally accepted measure of hospital quality. The lower the mortality index, the greater the survival of the patients in the hospital, considering what would be expected based on patient characteristics. While all hospitals have patient deaths, this measure can show where deaths did not occur but were expected, given the patient's condition.	We calculate an index value based on the number of actual deaths in 2006 and 2007, combined, divided by the number expected, given the risk of death for each patient. We normalize the index based on the observed and expected deaths for each comparison group. This measure is based on our proprietary risk-adjusted mortality index model, which is designed to predict the likelihood of a patient's death based on patient-level characteristics (age, sex, presence of complicating diagnoses, and other characteristics) and factors associated with the hospital (size, teaching status, geographic location, and community setting). Post-discharge deaths are not considered. For more details on the model, see Appendix C. The reference value for this index is 1.00; a value of 1.15 indicates 15 percent more deaths occurred than were predicted, and a value of 0.85 indicates 15 percent fewer deaths than predicted.	We based the scoring on the difference between observed and expected deaths, expressed in normalized standard deviation units (z-score).[7,8] Hospitals with the fewest deaths, relative to the number expected, after accounting for standard binomial variability, received the most favorable scores. We used two years of MedPAR data (2006 and 2007) to reduce the influence of chance fluctuation. Normalization was done by comparison group. Hospitals with values that were high statistical outliers, based on a normalized z-score greater than or equal to 1.64 (90 percent confidence), were not eligible to be named as benchmarks.	Below the median

RISK-ADJUSTED COMPLICATIONS INDEX			
WHY WE INCLUDE THIS ELEMENT	**CALCULATION**	**COMMENT**	**FAVORABLE VALUES ARE**
Keeping patients free from potentially avoidable complications is an important goal for all healthcare providers. A lower complications index indicates fewer patients with complications, considering what would be expected based on patient characteristics. Like the mortality index, this measure can show where complications did not occur but were expected, given the patient's condition.	We calculate an index value based on the number of cases with complications in 2006 and 2007, combined, divided by the number expected, given the risk of complication for each patient. We normalize the index based on the observed and expected complications for each comparison group. This measure uses our proprietary expected complications rate index models. These models account for patient-level characteristics (age, sex, principal diagnosis, comorbid conditions, and other characteristics), as well as differences in hospital characteristics (size, teaching status, geographic location, and community setting). Complications rates are calculated from normative data for two patient risk groups: medical and surgical. For more details on the model, see Appendix C. The reference value for this index is 1.00; a value of 1.15 indicates 15 percent more complications occurred than were predicted, and a value of 0.85 indicates 15 percent fewer complications than predicted.	We based the scoring on the difference between the observed and expected number of patients with complications, expressed in normalized standard deviation units (z-score).[7,8] Normalization was done by comparison group. Hospitals with the fewest observed complications, relative to the number expected, after accounting for standard binomial variability, received the most favorable scores. We used two years of MedPAR data (2006 and 2007) to reduce the influence of chance fluctuation. Hospitals with values that were high statistical outliers, based on a normalized z-score greater than or equal to 1.64 (90 percent confidence), were not eligible to be benchmark hospitals.	Below the median

RISK-ADJUSTED PATIENT SAFETY INDEX

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
Patient safety has become an increasingly important measure of hospital quality. Patient safety measures are reflective of both clinical quality and the effectiveness of systems within the hospital. The Agency for Healthcare Research and Quality (AHRQ), a public health service agency within the federal government's Department of Health and Human Services, has developed a set of Patient Safety Indicators (PSIs). These indicators are widely used as a means of measuring hospital safety. Because they use hospital administrative data and include surgical complications and other iatrogenic events, we feel that AHRQ's PSIs provide an unbiased look at the quality of care inside hospitals. Such objective analysis is central to the 100 Top Hospitals® mission.	For each of the eight PSIs (see Appendix C for a list), we calculated an index value based on the number of actual PSI occurrences for 2006 and 2007, combined, divided by the number of normalized expected occurrences, given the risk of the PSI event for each patient. Values were normalized by comparison group. The hospital-level PSI methodology from AHRQ was applied to the 2006 and 2007 MedPAR acute care data, using program code provided by AHRQ to adjust for risk.[5] The reference value for this index is 1.00; a value of 1.15 indicates 15 percent more events than predicted, and a value of 0.85 indicates 15 percent fewer.	We based the scoring on the difference between the observed and expected number of patients with PSI events, for each of the eight selected PSIs, expressed in standard deviation units (z-score).[7,8] A mean z-score was developed as an aggregate PSI score. Z-scores were normalized by hospital comparison group. Hospitals with the fewest observed PSIs, relative to the number expected, accounting for binomial variability, received the most favorable scores. We used two years of MedPAR data (2006 and 2007) to reduce the influence of chance fluctuation. Hospitals with extreme outlier values in this measure were not eligible to be named benchmarks (see "Eliminating Outliers" below).	Below the median

CORE MEASURES SCORE

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
To be truly balanced, a scorecard must include various measures of quality. Core Measures were developed by the National Quality Forum as minimum basic standards. They are a widely accepted method for measuring patient care quality that includes specific guidelines for heart attack, heart failure, pneumonia care, and surgical-infection prevention.	For each core measure, we sort the hospital-reported percent values and rank the hospitals by comparison group, from best to worst performance. We consider reported core measures percents with patient counts less than or equal to 25 or with relative standard error values greater than or equal to 0.30 statistically unreliable. In these cases, we substitute the comparison group-specific median percent value for the affected core measure. To calculate an aggregate core measure percentile score for each hospital (the mean of which is shown in the Findings section of this document), we sum the ranks across all the core measures and re-rank hospitals overall, by comparison group.	Core measure values are from the CMS Hospital Compare Web site, for calendar year 2007. We included all reported heart attack (acute myocardial infarction), congestive heart failure, pneumonia, and surgical-infection prevention core measures – a total of 24. For a list of the measures used, please see Appendix C.	Higher

SEVERITY-ADJUSTED AVERAGE LENGTH OF STAY

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
A lower severity-adjusted length of stay generally indicates more efficient consumption of hospital resources and reduced risk to patients.	We calculate the average patient length of stay, adjusted for differences in severity of illness. Adjustments are made using the refined diagnosis-related group (RDRG) methodology, based on MedPAR records only. Patients are assigned a weight corresponding to the relative severity of their condition. These weights are then used to compute an expected length of stay for each patient, given the characteristics of that patient. A severity-adjusted average length of stay (ALOS) is then computed for each hospital. Values are normalized based on the observed and expected LOS of the hospital's comparison group.	This measure uses MedPAR data for 2007. It allows the average inpatient length of stay at a hospital to be compared with that of other hospitals in a market. This measure eliminates differences due to the varying severity of illness of patients at each hospital, allowing for a more valid comparison. We score this measure by ranking the ALOS.	Below the median

EXPENSE PER ADJUSTED DISCHARGE, CASE MIX- AND WAGE-ADJUSTED

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
This measure helps to determine how efficiently a hospital cares for its patients. Low values indicate lower costs and thus better efficiency.	Total adjusted operating expenses divided by the number of adjusted discharges, case mix- and wage-adjusted. See Appendix C for detailed calculations and the Medicare Cost Report locations (worksheet, line, and column) for each calculation element.	Expense per adjusted discharge measures the hospital's average cost of delivering care on a per-unit basis, and relies on data from the Medicare Cost Report. Operating expense includes adjustments for related organizational expenses and provider-based physician salaries related to direct patient care. Discharges are adjusted by multiplying the number of acute care discharges by a factor that inflates it to include inpatient acute care, inpatient non-acute care, and outpatient discharges. Case-mix adjustments account for differences in complexity, according to the CMS-assigned Medicare case mix. Wage adjustments account for geographic differences in cost of living, according to the CMS wage index. Hospitals with extreme outlier values in this measure were not eligible to be named benchmarks (see "Eliminating Outliers" below).	Below the median

PROFITABILITY (OPERATING PROFIT MARGIN)

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
Profitability is one of the purest measures of a hospital's financial health. It is a clear measure of the amount of income a hospital is taking in versus its expenses.	The difference between a hospital's total operating revenue and total operating expense, expressed as a percentage of its total operating revenue. Total operating revenue is the sum of net patient revenue plus other operating revenue. See Appendix C for detailed calculations and the Medicare Cost Report locations (worksheet, line, and column) for each calculation element.	Adjusted operating profit margin is a measure of a hospital's profitability with respect to its patient care services and operations, expressed as a percentage. The data source is the Medicare Cost Report. Operating expense includes adjustment for related organizational expenses. Extreme outlier values in this measure were not eligible to be named benchmarks (see "Eliminating Outliers" below). We score hospitals by ranking the adjusted operating profit margin.	Above the median

CASH-TO-TOTAL-DEBT RATIO

WHY WE INCLUDE THIS ELEMENT	CALCULATION	COMMENT	FAVORABLE VALUES ARE
Cash-to-debt measures the proportion of a hospital's total debt obligations that could be met with available cash if demanded by creditors immediately. Credit-rating agencies cite the cash-to-total-debt ratio as an important indicator of the hospital's solvency and financial strength. Hospitals with relative large amounts of cash have a financial cushion, as well as financial flexibility to pursue promising opportunities. Hospitals with substantial amounts of debt can support that debt if they have not only good operating performance but also a cash reserve in case of operating difficulties.	The sum of all liquid assets, divided by total liabilities. See Appendix C for detailed calculations and the Medicare Cost Report locations (worksheet, line, and column) for each calculation element.	The data source for this measure is the Medicare Cost Report. Hospitals with extreme outlier values in this measure were not eligible to be named benchmarks (see "Eliminating Outliers" below). In recent years, hospitals that are members of systems have begun using accepted accounting practices that hold assets and liabilities at the corporate level. This has resulted in the reporting of negative debt values on cost reports at the hospital level, in some cases causing these hospitals to be excluded from the study. We neutralize the negative impact this anomaly causes by substituting the comparison group-specific median value for this measure during the scoring process. Hospitals are scored by ranking their cash-to-debt ratio.	Above the median

HCAHPS SCORE (PATIENT RATING OF OVERALL HOSPITAL PERFORMANCE)			
WHY WE INCLUDE THIS ELEMENT	**CALCULATION**	**COMMENT**	**FAVORABLE VALUES ARE**
We believe that including a measure of patient perception of care is crucial to the balanced scorecard concept. How patients perceive the care a hospital provides has a direct effect on its ability to remain competitive in the marketplace.	We used the HCAHPS survey instrument question #100, "How do patients rate the hospital, overall?" to score hospitals. Patient responses could fall into three categories, and the number of patients in each category was reported as a percent: • Patients who gave a rating of 6 or lower (low) • Patients who gave a rating of 7 or 8 (medium) • Patients who gave a rating of 9 or 10 (high) For each answer category, we assigned a scale as follows: 3 equals high or good performance, 2 equals medium or average performance, and 1 equals low or poor performance. We then calculated a weighted score for each hospital by multiplying the HCAHPS answer percent by the scale value. For each hospital, we summed the weighted percent values for the three answer categories. Hospitals were then ranked by this weighted percent sum.	Data are from CMS Hospital Compare, third quarter 2008, database. This database contains the HCAHPS results for data period January 1, 2007, through December 31, 2007.	Above the median

DETERMINING THE 100 TOP HOSPITALS

Eliminating Outliers

Within each of the five hospital comparison groups, we scored hospitals based on their performance on each of the measures relative to other hospitals in their group. We used the interquartile range methodology (IQR) to identify hospitals with extreme outlier values for the following measures:

- Risk-adjusted patient safety index
- Expense per adjusted discharge, case mix- and wage-adjusted
- Profitability (adjusted operating profit margin)
- Cash to total debt ratio

To reduce the impact of unsustainable performance anomalies and reporting anomalies or errors, hospitals identified as having extreme outlier values in any of these measures, and hospitals with one or more mortality or complications normalized z-scores that were high statistical outliers (90-percent confidence) were not eligible to be named benchmarks.

The IQR methodology is a straightforward, tested method for identifying outliers in a data set like the ones used in 100 Top Hospitals® studies. In addition, hospitals with a negative operating profit margin were not eligible to be named benchmarks. This was done because we do not want hospitals that fail to meet this very basic financial responsibility to be declared winners.

Ranking

Within the comparison groups, we ranked hospitals on the basis of their performance on each of the nine measures relative to other hospitals in their group. We then summed each hospital's performance-measure rankings and re-ranked, overall, to arrive at a final rank for the hospital. The hospitals with the best final rank in each comparison group were selected as the benchmarks.

The national list of top-performing hospitals includes:

COMPARISON GROUP	NUMBER OF WINNERS
Major Teaching Hospitals	15
Teaching Hospitals	25
Large Community Hospitals	20
Medium Community Hospitals	20
Small Community Hospitals	20
All Hospitals	**100**

FINDINGS

THE 2008 NATIONAL BENCHMARKS AWARD WINNERS: SETTING NEW STANDARDS

The 100 Top Hospitals® national award winners are true leaders in the industry. Year after year, the objective data the 100 Top Hospitals studies provide numerous examples of the benchmark hospitals' financial and operational excellence. These hospitals are providing tangible value to their communities and the patients they treat. For their competitors and peers, they offer a valuable example to follow. The findings presented in this document give hospital leaders benchmarks of top performance – by showing what the top performers have achieved, we offer concrete goals for the entire industry.

This year, we have estimated that if all Medicare inpatients received the same level of care as those in the 100 Top Hospitals winners across all categories:

- More than 107,500 additional patients would survive each year.
- Nearly 132,000 patient complications would be avoided annually.
- Expenses would decline by an aggregate $5.9 billion a year.
- The average patient stay would decrease by nearly half a day.

If the same standards were applied to all inpatients, the impact would be even greater.

MIDWEST STATES LEAD IN HOSPITAL PERFORMANCE

Hospital performance varies widely throughout the country. Regional differences in the population's age and health, as well as differences in payment protocols, greatly affect hospitals' abilities to improve patient outcomes and build healthy business structures. The methodology of the 100 Top Hospitals studies helps to level the playing field for some of the factors beyond a hospital's control by adjusting for patient severity, urban/rural geography, wage differences, and other factors. But in the end, regional variations in hospital performance are clear.

To demonstrate these differences, we prepared analysis that demonstrates state performance over the last two years of the 100 Top Hospitals: National Benchmarks study. To show performance by state, we ranked states and aggregated them into five equal groups (quintiles) based on their performance in this year's 100 Top Hospitals: National Benchmarks study versus other states. By assigning a color to each quintile, the map below (Figure 1) provides a visual representation of the variability in performance across the country for the current study year (2008). Table 1 shows each state's rank for the current and previous study years (2008 and 2007). This analysis allows us to observe geographic patterns in performance. Among our observations:

- In both the 2008 and 2007 studies, the Midwest was the clear front runner. Nearly 92 percent of all states in this region were in the top-performing two quintiles both study years. No states in this region fell into the bottom two quintiles.
- Overall, 80 percent of all top-performing states (best quintile) were located in the Midwest in 2008.
- The South showed the weakest performance overall, with nearly two-thirds of the region's states in the lowest-performing two quintiles in the 2008 study year and about half in 2007.
- Regionally, 25 percent of the Midwest states and 22 percent of the Northeast states improved year over year. In contrast, 35 percent of the southern states declined in performance from 2007 to 2008 study.

FIGURE 1. 100 TOP HOSPITALS: NATIONAL BENCHMARKS, 2008 STATE-LEVEL PERFORMANCE COMPARISONS

100 Top Hospital Performance
2008 State Level Rankings

Qunitile 1-Best (10)
Qunitile 2 (10)
Qunitile 3 (10)
Qunitile 4 (10)
Qunitile 5-worst (11)

TABLE 1. 100 TOP HOSPITALS: NATIONAL BENCHMARKS, 2007 AND 2008 STATE-LEVEL PERFORMANCE COMPARISONS

NORTHEAST		MIDWEST		SOUTH		WEST	
2008	2007	2008	2007	2008	2007	2008	2007
Connecticut	Connecticut	Illinois	Illinois	Alabama	Alabama	Alaska	Alaska
Maine	Maine	Indiana	Indiana	Arkansas	Arkansas	Arizona	Arizona
Massachusetts	Massachusetts	Iowa	Iowa	Delaware	Delaware	California	California
New Hampshire	New Hampshire	Kansas	Kansas	District of Columbia	District of Columbia	Colorado	Colorado
New Jersey	New Jersey	Michigan	Michigan	Florida	Florida	Hawaii	Hawaii
New York	New York	Minnesota	Minnesota	Georgia	Georgia	Idaho	Idaho
Pennsylvania	Pennsylvania	Missouri	Missouri	Kentucky	Kentucky	Montana	Montana
Rhode Island	Rhode Island	Nebraska	Nebraska	Louisiana	Louisiana	Nevada	Nevada
Vermont	Vermont	North Dakota	North Dakota	Maryland	Maryland	New Mexico	New Mexico
		Ohio	Ohio	Mississippi	Mississippi	Oregon	Oregon
		South Dakota	South Dakota	North Carolina	North Carolina	Utah	Utah
		Wisconsin	Wisconsin	Oklahoma	Oklahoma	Washington	Washington
				South Carolina	South Carolina	Wyoming	Wyoming
				Tennessee	Tennessee		
				Texas	Texas		
				Virginia	Virginia		
				West Virginia	West Virginia		

A CLOSER LOOK AT THE 2008 NATIONAL BENCHMARKS AWARD WINNERS

In this section, we will show how the 100 Top Hospitals® performed within their comparison groups, or classes (major teaching and teaching hospitals; and large, medium, and small community hospitals), compared with non-winning peers. For performance measure details and definitions of each class, please see the Methodology section.

Below, data for the 100 Top Hospitals award winners are labeled Benchmark; data for all hospitals, excluding award winners, are labeled Peer Group. In columns labeled Benchmark Compared with Peer Group, we calculate the actual and percentage difference between the benchmark hospital scores and the peer group scores.

National Performance

Although they face the same pressures as their peers – rising patient care costs, labor shortages, constrained Medicare and Medicaid reimbursements, and a growing demand for public reporting, to name a few – the data outlined in Table 2 illustrate how the benchmark hospitals continue to outperform other hospitals.

Nationally, the 100 Top Hospitals show us that high quality patient outcomes can be achieved while keeping finances in line. For example, these hospitals had far better patient safety scores. The winners' patient safety index of 0.86 means that they had 14 percent fewer adverse patient safety events than expected. With an index of 1.00, their peers, on the other hand, had as many adverse events as expected. In addition, the award winners had six percent fewer deaths than expected, while their peers performed as expected. Finally, the winning hospitals' higher core measures mean percent (over three percentage points higher) tells us that they had better adherence to recommended core measures of care than their peers.

The winning hospitals are more cost effective. The median expense per discharge at the winning hospitals was 12 percent lower than at peer hospitals. Combined with healthy cash to debt ratios and shorter patient stays, this translated into high profitability – winning hospitals had operating profit margins more than three times the median for peer group hospitals.

The winning hospitals' hard work has not gone unnoticed: their median HCAHPS scores show that patients in these hospitals are reporting a better overall hospital experience then those treated in peer hospitals. (Table 2)

TABLE 2: NATIONAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.94	1.00	0.06	6.06%	lower mortality
Complications Index[2]	0.97	0.99	0.02	2.29%	lower complications
Patient Safety Index[2]	0.86	1.00	0.14	14.06%	better patient safety
Core Measures Average Score (%)	91.08	87.81	3.27	n/a[3]	better core measure performance
Average Length of Stay (days)	4.71	5.15	0.44	8.59%	shorter ALOS
Expense per Adjusted Discharge ($)	5,057	5,770	713	12.35%	lower expenses
Operating Profit Margin (%)	10.82	3.22	7.60	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	1.03	0.29	0.74	256.54%	higher cash to debt
HCAHPS Score	261.00	252.00	9.00	3.57%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

Major Teaching Hospital Performance

All teaching hospitals face unique challenges – the largest and most specialized, even more so. Major teaching hospitals treat more complex cases, offer a wider array of services, and expend more resources to do so. In addition, the complex case load makes it much more challenging to manage lengths of stay. For these reasons, the differences between the major teaching hospital benchmark and peer medians are generally more modest than those in the other classes of hospitals.

Still, the gains the benchmark major teaching hospitals have been able to make in the face of their myriad challenges tell a compelling story. Their patient safety rates were substantially lower than their peers – they had 7 percent *fewer* adverse patient safety events than expected, while their peers had as many as expected (Table 3). Their core measures average score was higher, indicating superior patient safety and publicly reported process of care measures. The median average length of stay was more than three-quarters of a day shorter than their peers'. Finally, the benchmark major teaching hospitals are clearly financially healthier than their peers, with 20 percent lower expenses, profit margins more than three times higher, and substantially better cash to debt ratios.

TABLE 3: MAJOR TEACHING HOSPITAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.97	1.00	0.04	3.71%	lower mortality
Complications Index[2]	0.98	0.99	0.01	1.05%	lower complications
Patient Safety Index[2]	0.93	1.00	0.07	7.12%	better patient safety
Core Measures Average Score (%)	89.33	85.96	3.38	n/a[3]	better core measure performance
Average Length of Stay (days)	4.48	5.30	0.82	15.43%	shorter ALOS
Expense per Adjusted Discharge ($)	6,749	8,430	1681	19.94%	lower expenses
Operating Profit Margin (%)	10.89	2.84	8.05	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	0.88	0.35	0.53	153.32%	higher cash to debt
HCAHPS Score	257.00	251.00	6.00	2.39%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

TABLE 4: TEACHING HOSPITAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.96	1.00	0.05	4.58%	lower mortality
Complications Index[2]	0.98	1.00	0.02	1.91%	lower complications
Patient Safety Index[2]	0.91	1.00	0.09	8.88%	better patient safety
Core Measures Average Score (%)	92.50	90.17	2.33	n/a[3]	better core measure performance
Average Length of Stay (days)	4.70	5.33	0.63	11.77%	shorter ALOS
Expense per Adjusted Discharge ($)	5,646	6,198	552	8.91%	lower expenses
Operating Profit Margin (%)	11.11	4.45	6.66	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	1.10	0.30	0.80	265.21%	higher cash to debt
HCAHPS Score	264.00	251.00	13.00	5.18%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

Teaching Hospital Performance

Despite the challenges they face, the teaching 100 Top Hospitals® (Table 4) are setting impressive benchmarks in a number of areas. These hospitals had nine percent fewer adverse patient safety events than expected, while their peers had as many as expected. Their average patient stay was nearly two-thirds of a day shorter. Lower expenses were another hallmark of this year's group of benchmark teaching hospitals. The ability of management to control expenses contributed greatly to the teaching 100 Top Hospitals' profit margins, which were nearly three times higher than that of their peers. Finally, of all the comparison groups we studied, the teaching hospital winners achieved the best performance on patients' overall rating of the hospital (HCAHPS score) compared to all other classes of hospitals. In addition, they showed the widest gap in HCAPHS scores versus their peers.

Large Community Hospital Performance

Large community hospitals face their own set of unique difficulties. They are often located in urban areas and treat a wider array of patient conditions than do medium and smaller hospitals. Despite these challenges, large community hospitals outperformed their peers by nearly 13 percent on patient safety, had 16 percent lower expenses, and had a median patient stay that was more than half a day shorter than their peers. Their cash to debt ratio was substantially higher than that of their peers, indicating a better cash position and less reliance on debt. (Table 5)

Medium Community Hospital Performance

Again this year, both the small and medium community benchmark hospitals posted impressive results – both in the margins by which they outperformed their peers and in their scores on several measures when compared with the other hospital classes. Clearly these hospitals are setting admirable standards for their peers and are showing an ability to adapt to the demands of a changing healthcare market, in some cases more quickly than the large and teaching hospitals.

With regard to patient outcomes, the medium 100 Top Hospitals had 20 percent fewer adverse patient safety events than expected given their patient mix, while their peers had as many as expected. They had eight percent fewer mortalities and five percent

TABLE 5: LARGE COMMUNITY HOSPITAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.96	1.00	0.04	4.27%	lower mortality
Complications Index[2]	0.96	1.00	0.04	4.32%	lower complications
Patient Safety Index[2]	0.88	1.00	0.12	12.46%	better patient safety
Core Measures Average Score (%)	92.13	89.75	2.38	n/a[3]	better core measure performance
Average Length of Stay (days)	4.84	5.42	0.58	10.62%	shorter ALOS
Expense per Adjusted Discharge ($)	4,969	5,914	945	15.98%	lower expenses
Operating Profit Margin (%)	8.89	4.97	3.93	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	1.41	0.26	1.16	452.53%	higher cash to debt
HCAHPS Score	259.50	250.00	9.50	3.80%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

fewer complications than expected, whereas their peers had about as
many mortalities and complications as expected (Table 6).

Benchmark hospitals in the medium and small community hospital classes outperformed their peers in core measures by wider margins than any other comparison group. This means that these hospitals bettered their peers in terms of adherence to the publicly reported clinical process measures for patients with heart attacks, heart failure, pneumonia, and for surgical infection prevention.

Nineteen percent lower expenses and 17 percent shorter patient stays were standout aspects of the winners in the medium community hospitals. Their length of stay median and their expenses were the lowest of all the peer groups.

TABLE 6: MEDIUM COMMUNITY HOSPITAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.92	1.00	0.08	7.59%	lower mortality
Complications Index[2]	0.95	0.99	0.04	4.37%	lower complications
Patient Safety Index[2]	0.80	1.00	0.20	19.71%	better patient safety
Core Measures Average Score (%)	92.50	88.96	3.54	n/a[3]	better core measure performance
Average Length of Stay (days)	4.40	5.31	0.91	17.11%	shorter ALOS
Expense per Adjusted Discharge ($)	4,516	5,567	1051	18.87%	lower expenses
Operating Profit Margin (%)	10.83	3.54	7.29	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	0.95	0.26	0.68	257.63%	higher cash to debt
HCAHPS Score	258.50	250.00	8.50	3.40%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

Small Community Hospital Performance

The small community award winners showed wide differences in performance compared with their peers. In the patient outcomes measures, this variance was the widest of any comparison group (Table 7). The small benchmark hospitals' patient safety index score – which shows they are having 26 percent fewer adverse safety events than expected – was the lowest of any hospital comparison group. Their median mortality and complications indices were also impressive, at eight and ten percent lower, respectively, than those of their peers. The small community benchmark hospitals are managing their finances well and running efficient operations. Their median expense per discharge was 16 percent lower than their peers', and the typical winning hospital's operating profit margin was nearly five times that of their peers. (Table 7)

TABLE 7: SMALL COMMUNITY HOSPITAL PERFORMANCE COMPARISONS

PERFORMANCE MEASURE	MEDIANS[1]		BENCHMARK COMPARED WITH PEER GROUP		
	Current Benchmark	Peer Group of U.S. Hospitals	Difference		
Mortality Index[2]	0.91	1.00	0.08	8.41%	lower mortality
Complications Index[2]	0.89	0.98	0.09	9.61%	lower complications
Patient Safety Index[2]	0.74	0.98	0.24	24.69%	better patient safety
Core Measures Average Score (%)	89.88	85.85	4.02	n/a[3]	better core measure performance
Average Length of Stay (days)	4.44	5.25	0.81	15.47%	shorter ALOS
Expense per Adjusted Discharge ($)	4,600	5,446	846	15.54%	lower expenses
Operating Profit Margin (%)	11.59	2.33	9.26	n/a[3]	higher profitability
Cash-to-Total-Debt Ratio	0.88	0.33	0.56	171.31%	higher cash to debt
HCAHPS Score	262.00	255.00	7.00	2.75%	higher hospital rating

1. Data are as of 2007 unless otherwise noted. Median values reflect rounding. Performance measure definitions can be found in the Methodology section.
2. Ratings greater than 1.0 exceed national norms; ratings less than 1.0 fall below national norms. See Appendix C for more details.
3. We do not calculate percentage difference for this measure. See Appendix C for an explanation.

100 TOP HOSPITALS AND PERFORMANCE IMPROVEMENT

To date, the healthcare industry, as a whole, has not been able to significantly improve performance across the balanced scorecard of measures. The single outstanding achievement in performance improvement by hospitals is the improvement in mortality rates over the years we studied (2003 through 2007). More than half of the hospitals studied had improved survival rates (lower mortality indices), which is outstanding. The second clear accomplishment is in average length of stay, where more than a quarter of hospitals studied decreased their average patient stay despite industry-wide increases in patient acuity. (Table 8)

For the remainder of the measures, except the complications index, the majority of hospitals in the study had no statistically significant change in performance (see yellow column of Table 8). For patient complications, more than a quarter of the hospitals had significantly *declining* performance – meaning the number of complications that would be expected, given patient condition, has increased.

Financially, most hospitals were just treading water – 84 percent showed no marked change in profitability, and 76 percent showed no change in cash position. Two-thirds of the hospitals have not significantly decreased their expense per adjusted discharge; the other third have seen an increase in expense per discharge. Given these statistics, it is clear that healthcare executives are facing great challenges in aligning their organizations for continuous performance improvement. The hospitals that accomplish this feat while achieving top current performance – the Everest Award winners – are truly setting high benchmarks for the industry.

For more details, the line graphs on the following pages provide a clear view of how the hospitals in our study that had the fastest, most consistent five-year performance compared with their peers on each study performance measure. Although we do not name the hospitals with the best five-year performance improvement, we do use this group to help select the Everest award winners.

The peer and benchmark lines represent the best-fit straight line through the data over the five years studied, showing the direction of performance over time. Figures 2–6 show how the benchmark hospitals have made consistent improvement on clinical measures – lowering patient mortality and complications, reducing adverse safety events, performing well on core measures, and shortening patient stays. Peer group hospitals, on the other hand, did not show consistent improvement across all clinical measures.

TABLE 8: DIRECTION OF PERFORMANCE CHANGE FOR ALL HOSPITALS IN STUDY, 2003–2007

PERFORMANCE MEASURE	SIGNIFICANTLY IMPROVING PERFORMANCE		NO STATISTICALLY SIGNIFICANT CHANGE IN PERFORMANCE		SIGNIFICANTLY DECLINING PERFORMANCE	
	Count of Hospitals[1]	Percent of Hospitals[2]	Count of Hospitals[1]	Percent of Hospitals[2]	Count of Hospitals[1]	Percent of Hospitals[2]
Risk-Adjusted Mortality Index	1,494	52.3	1,323	46.3	41	1.4
Risk-Adjusted Complications Index	180	6.3	1,912	66.9	766	26.8
Patient Safety Index	515	18.2	2,214	78.3	100	3.5
Core Measures Percentile Score	123	4.3	2,565	89.7	170	5.9
Severity-Adjusted Average Length of Stay	822	28.8	1,948	68.2	88	3.1
Expense per Adjusted Discharge	28	1.0	1,851	65.3	959	33.8
Profitability (Operating Profit Margin)	265	9.3	2,381	83.9	192	6.8
Cash-to-Debt Ratio	440	15.8	2,113	76.0	229	8.2

1. *Count* refers to the number of hospitals in the study whose performance fell into the highlighted category on the measure.
2. *Percent* is of total in-study hospitals across all peer groups.
Note: All calculations exclude outlier values. Differences may occur due to rounding.

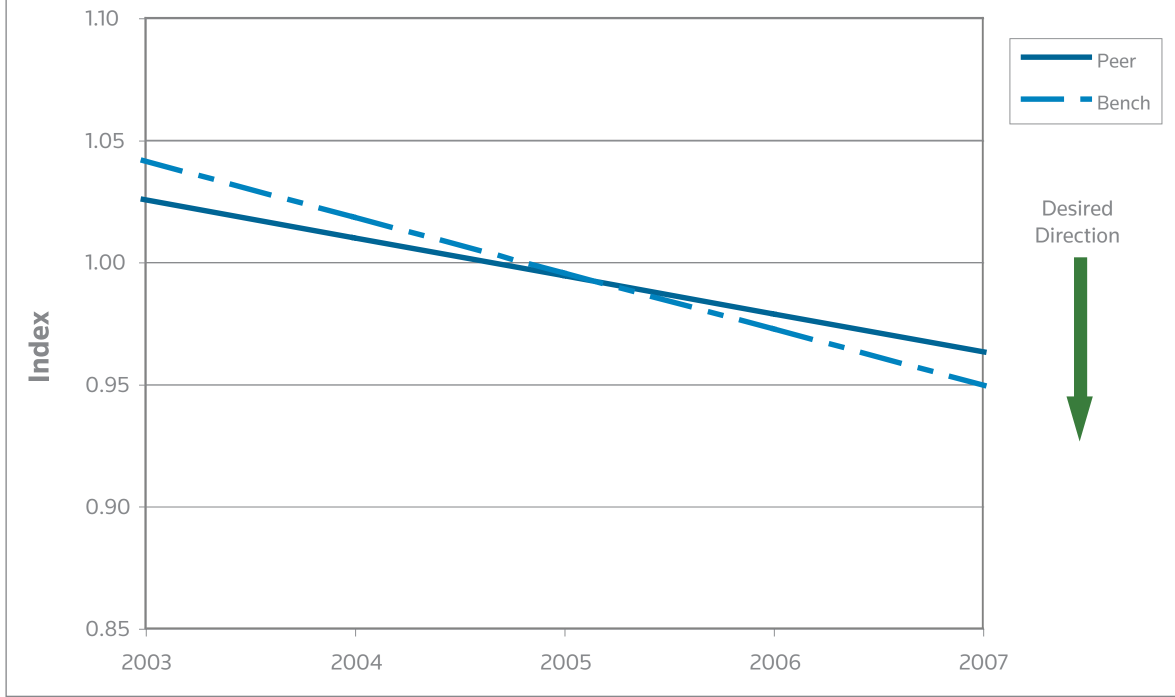


Figure 2: Risk-Adjusted Mortality Index
Index
1.10
1.05
1.00
0.95
0.90
0.85
2003
2004
2005
2006
2007
Peer
Bench
Desired Direction

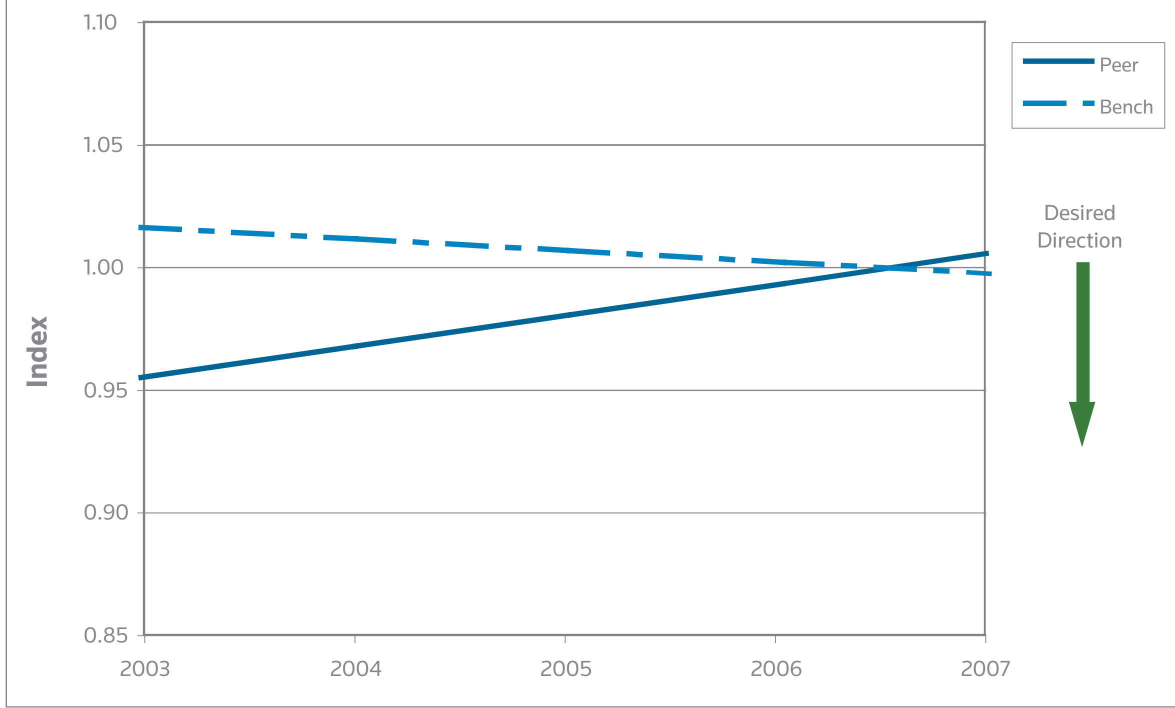


Figure 3: Risk-Adjusted Complications Index
Index
1.10
1.05
1.00
0.95
0.90
0.85
2003
2004
2005
2006
2007
Peer
Bench
Desired Direction

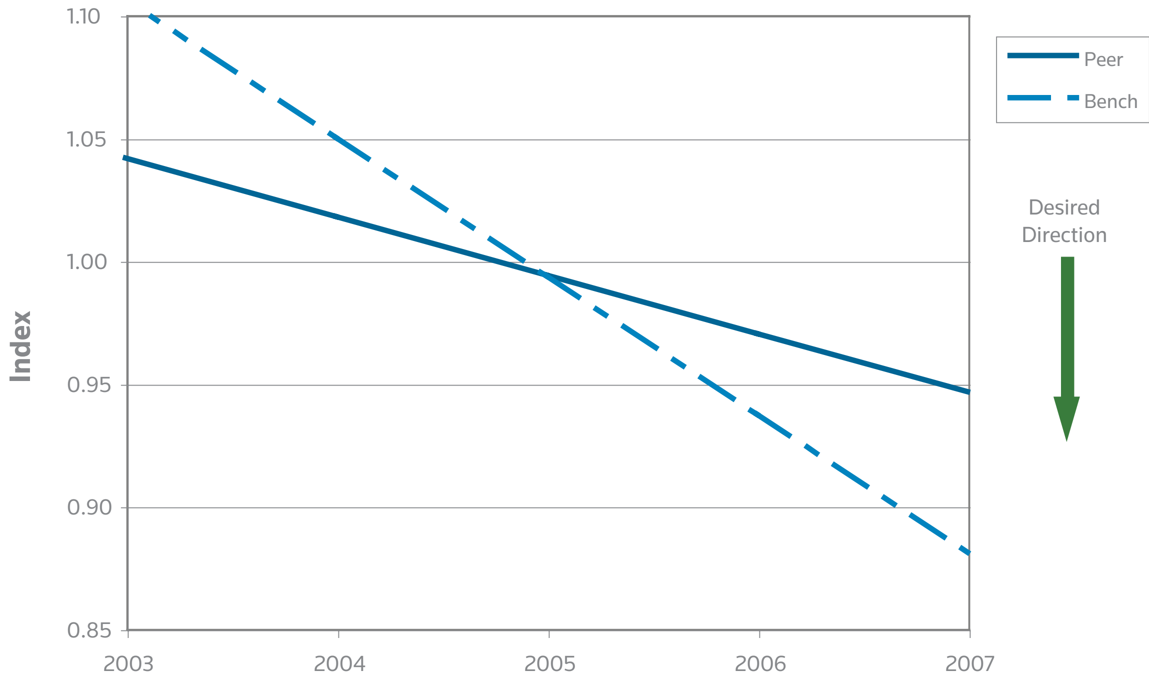


Figure 4: Risk-Adjusted Patient Safety Index
Index
1.10
1.05
1.00
0.95
0.90
0.85
2003
2004
2005
2006
2007
Peer
Bench
Desired
Direction

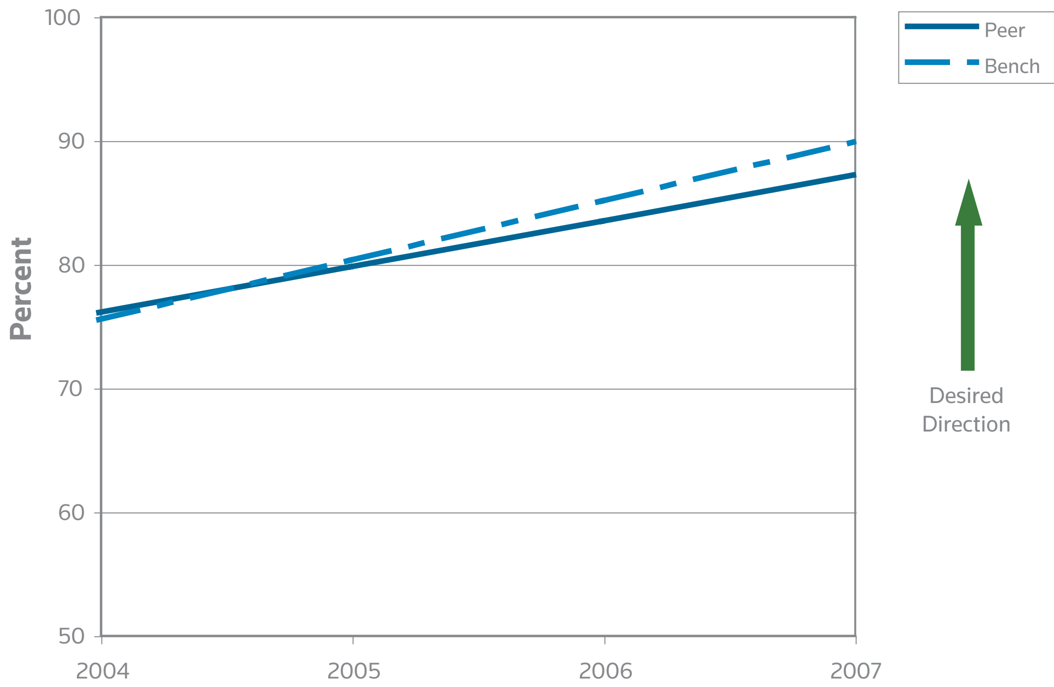
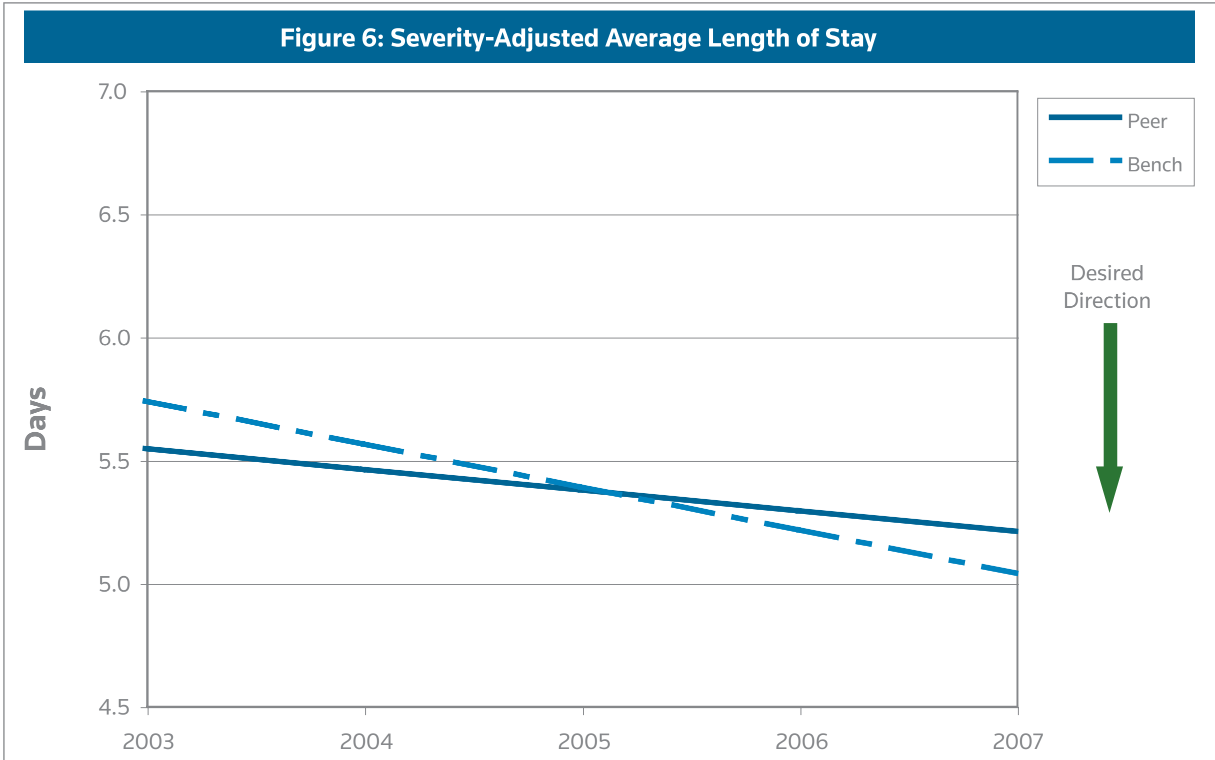
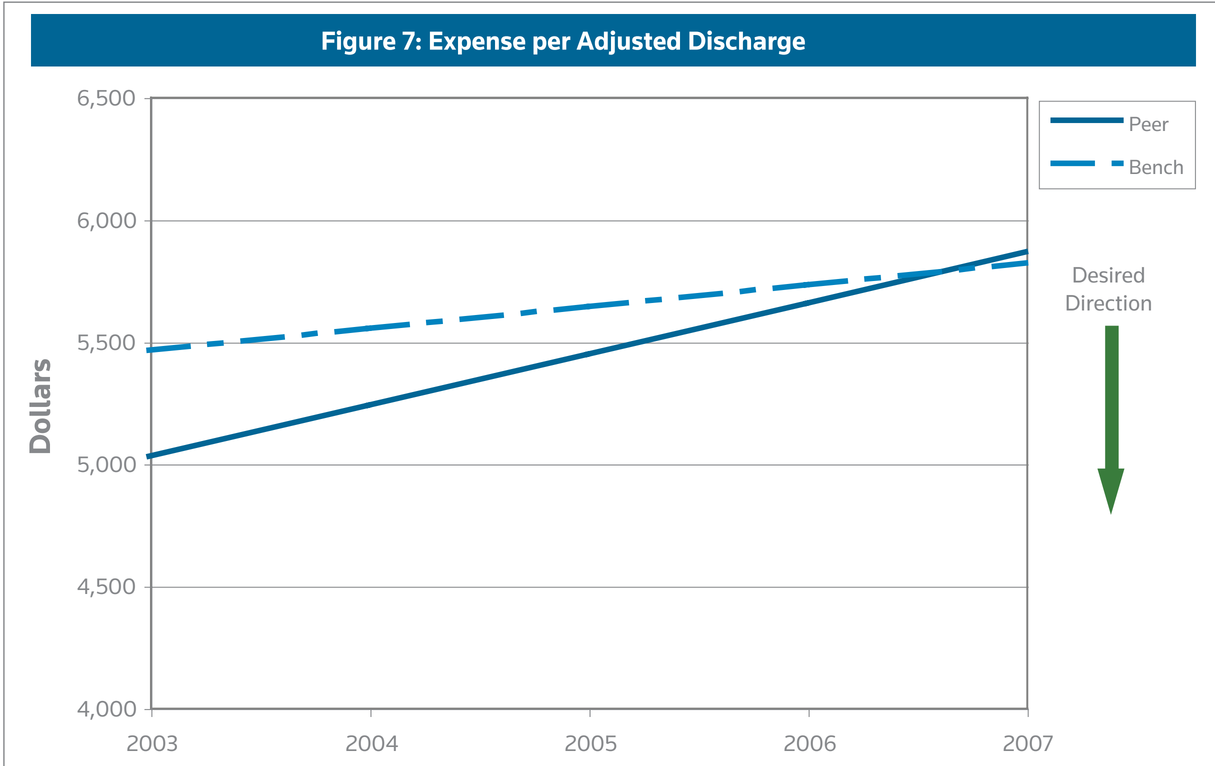


Figure 5: Core Measures Mean Percent
Percent
100
90
80
70
60
50
2004
2005
2006
2007
Peer
Bench
Desired
Direction



Figures 7-9 demonstrate how the hospitals in our study with the fastest, most consistent five-year improvement rates have improved their financial position – by keeping expense increases dramatically below those of their peers, increasing profitability, and improving their cash position. Peer group hospitals did not show such consistent improvement across the financial measures.



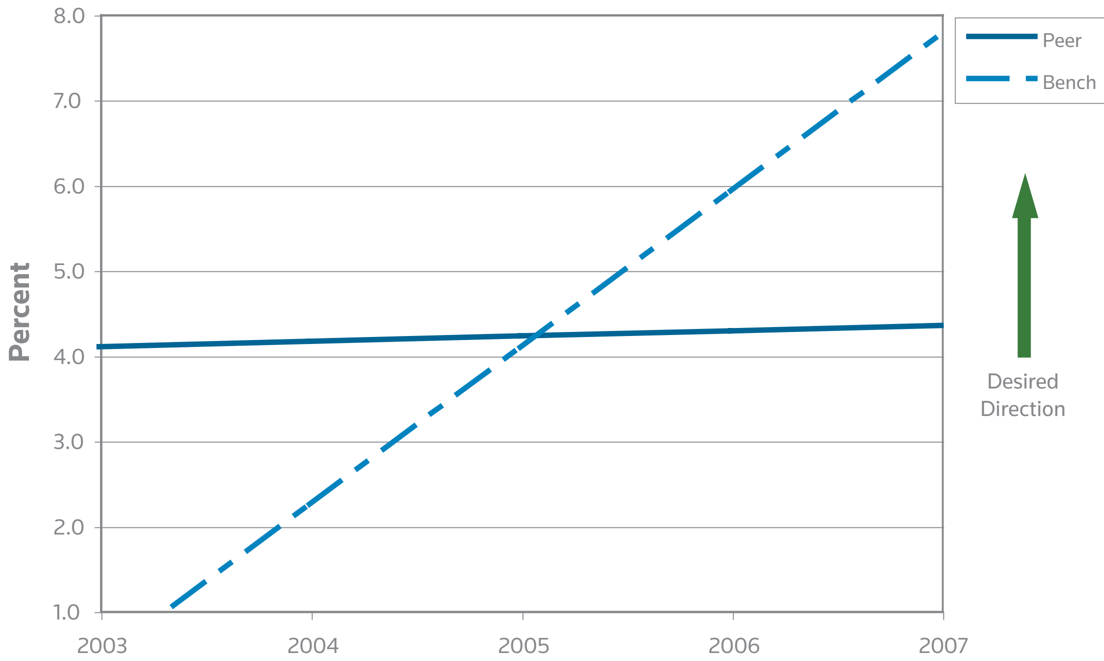


Figure 8: Operating Profit Margin
Percent
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
2003
2004
2005
2006
2007
Peer
Bench
Desired Direction

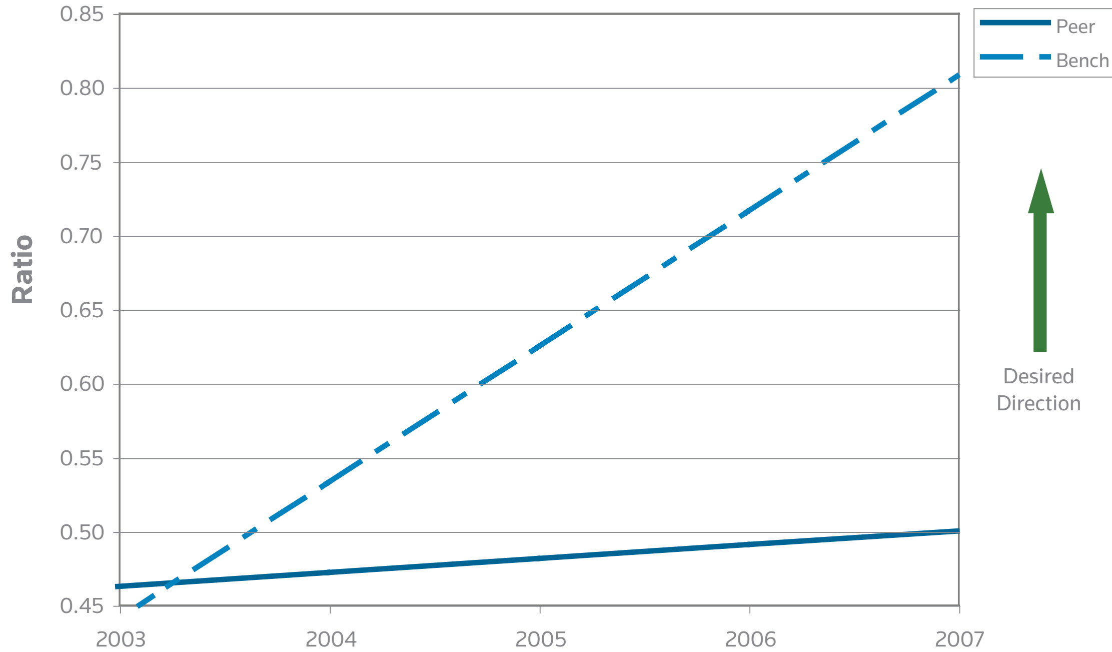


Figure 9: Cash-to-Total-Debt Ratio
Ratio
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
2003
2004
2005
2006
2007
Peer
Bench
Desired Direction

100 TOP HOSPITALS: NATIONAL BENCHMARKS, 1993-2008

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
NorthShore University HealthSystem	Evanston, IL	1994–2002, 2004–2005, 2007–2008	13
Advocate Lutheran General Hospital	Park Ridge, IL	1995–1996, 1998–2005, 2008	11
Brigham and Women's Hospital	Boston, MA	1993–2001, 2004, 2006	11
Munson Medical Center	Traverse City, MI	1993, 1997–2001, 2004–2008	11
EMH Regional Medical Center	Elyria, OH	1993–1994, 1998, 2000–2007	11
Hillcrest Hospital	Mayfield Heights, OH	1995–1996, 1998–2003, 2006–2008	11
Licking Memorial Hospital	Newark, OH	1998–2003, 2005–2008	10
Providence St. Vincent Medical Center	Portland, OR	1993–1994, 1998–2003, 2005, 2008	10
Lancaster General Hospital	Lancaster, PA	1997–2001, 2003, 2005–2008	10
Vanderbilt University Medical Center	Nashville, TN	1999–2008	10
Blake Medical Center	Bradenton, FL	1995, 1997–2003, 2005	9
North Florida Regional Medical Center	Gainesville, FL	1994–1995, 1997–2002	8
Beth Israel Deaconess Medical Center	Boston, MA	1994–1997, 2005–2008	8
Mayo Clinic–Rochester Methodist Hospital	Rochester, MN	1994–1997, 1999, 2001–2002, 2005	8
Saint Thomas Hospital	Nashville, TN	1993–1995, 1998–1999, 2001, 2006, 2008	8
University of Virginia Medical Center	Charlottesville, VA	1998–2002, 2004–2005, 2008	8
Inova Fairfax Hospital	Falls Church, VA	1993, 1995, 1997–2001, 2003	8
Exempla Lutheran Medical Center	Wheat Ridge, CO	1993–1994, 1996, 1998, 2001–2002, 2005	7
Saint Francis Hospital and Medical Center	Hartford, CT	1997–1998, 2000–2004	7
Regional Medical Center Bayonet Point	Hudson, FL	1995, 1998–2003	7
Mease Countryside Hospital	Safety Harbor, FL	1997, 1999–2001, 2003–2004, 2007	7
Mercy Medical Center–North Iowa	Mason City, IA	2001–2004, 2006–2008	7
University of Michigan Hospitals & Health Centers	Ann Arbor, MI	1993–1994, 2004–2008	7
William Beaumont Hospital–Troy	Troy, MI	1998–1999, 2002–2006	7
St. Cloud Hospital	St. Cloud, MN	1993–1994, 1999, 2005–2008	7
Mercy Hospital Anderson	Cincinnati, OH	1999–2000, 2002–2003, 2005–2007	7
Riverside Methodist Hospital	Columbus, OH	2001–2006, 2008	7
Cleveland Clinic Foundation	Cleveland, OH	1994–1998, 2000–2001	7
York Hospital	York, PA	1997–2001, 2004–2005	7
Sanford USD Medical Center	Sioux Falls, SD	1993–1994, 2003–2007	7
Castleview Hospital	Price, UT	1994–1996, 1998–2000, 2008	7
St. Joseph Medical Center	Tacoma, WA	1994–1999, 2001	7
Chambers Memorial Hospital	Danville, AR	2003–2008	6
Poudre Valley Hospital	Fort Collins, CO	1994, 2003–2007	6
Leesburg Regional Medical Center	Leesburg, FL	1996–2001	6
Palmetto General Hospital	Hialeah, FL	1997–2001, 2003	6

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Community Hospital	New Port Richey, FL	1995–1998, 2000–2001	6
Kendall Regional Medical Center	Miami, FL	1995–1998, 2001, 2007	6
St. Luke's Boise Medical Center	Boise, ID	1993–1995, 2004, 2007–2008	6
Newton–Wellesley Hospital	Newton, MA	1994, 2001, 2003–2006	6
Spectrum Health Hospitals	Grand Rapids, MI	1994–1995, 1998–2000, 2007	6
William Beaumont Hospital–Royal Oak	Royal Oak, MI	1997–2001, 2003	6
St. Luke's Hospital	Chesterfield, MO	1996, 2000–2002, 2004–2005	6
Kettering Medical Center	Kettering, OH	2000–2001, 2004–2007	6
Medical Center of Southeastern Oklahoma	Durant, OK	1995–2000	6
Memorial Health Care System	Chattanooga, TN	1998, 2004–2008	6
DeKalb Community Hospital	Smithville, TN	1995–1996, 1998–2001	6
Scott and White Memorial Hospital	Temple, TX	2003–2008	6
Harris Methodist Fort Worth	Fort Worth, TX	1994–1999	6
Southwest Washington Medical Center	Vancouver, WA	1994, 1999–2000, 2002, 2005–2006	6
Appleton Medical Center	Appleton, WI	1994, 1999–2003	6
St. Joseph's Hospital and Medical Center	Phoenix, AZ	2001–2002, 2004, 2007–2008	5
Exempla Saint Joseph Hospital	Denver, CO	1993–1994, 1997, 1999, 2002	5
Morton Plant Hospital	Clearwater, FL	1999–2001, 2003–2004	5
Aventura Hospital and Medical Center	Aventura, FL	1995–1997, 1999–2000	5
Southwest Florida Regional Medical Center	Fort Myers, FL	1996–1997, 2001, 2003, 2005	5
Brandon Regional Hospital	Brandon, FL	1995–1997, 1999–2000	5
Largo Medical Center	Largo, FL	1994–1995, 1997, 2000, 2005	5
WellStar Kennestone Hospital	Marietta, GA	1993, 1998–2001	5
Silver Cross Hospital	Joliet, IL	2004–2008	5
King's Daughters Medical Center	Ashland, KY	2004–2008	5
Meadowview Regional Medical Center	Maysville, KY	1995, 1998–1999, 2001–2002	5
University of Kentucky Albert B. Chandler Hospital	Lexington, KY	1993–1995, 2006–2007	5
Baptist Hospital East	Louisville, KY	2004–2008	5
Cape Cod Hospital	Hyannis, MA	1997–1999, 2001, 2005	5
Beverly Hospital	Beverly, MA	2000–2002, 2005–2006	5
Spectrum Health Hospitals (Blodgett Hospital)	Grand Rapids, MI	1994–1997, 2001	5
Mayo Clinic–Saint Marys Hospital	Rochester, MN	1994, 2002–2004, 2008	5
St. John's Mercy Hospital	Washington, MO	1995, 1998–2000, 2002	5
Saint Elizabeth Regional Medical Center	Lincoln, NE	1993, 2003–2004, 2006, 2008	5
Ohio State University Medical Center	Columbus, OH	1993–1995, 2000, 2002	5
Southwest General Health Center	Middleburg Heights, OH	1993, 2005–2008	5
The Christ Hospital	Cincinnati, OH	1993, 1995, 1998, 2000–2001	5
Geisinger Medical Center	Danville, PA	1997–1998, 2001, 2005–2006	5
DuBois Regional Medical Center	DuBois, PA	1993, 2001, 2003–2004, 2006	5
Jamestown Regional Medical Center	Jamestown, TN	1995–1998, 2002	5
Valley View Medical Center	Cedar City, UT	1998–2002	5
St. Mark's Hospital	Salt Lake City, UT	1994, 2001–2003, 2005	5
Providence Regional Medical Center Everett	Everett, WA	1993–1994, 2005, 2007–2008	5

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
St. Francis Hospital	Federal Way, WA	1999–2003	5
Theda Clark Medical Center	Neenah, WI	1993, 1999–2001, 2003	5
University Medical Center	Tucson, AZ	2005–2008	4
Northwest Medical Center	Tucson, AZ	2002–2004, 2007	4
Pomona Valley Hospital Medical Center	Pomona, CA	1996, 1998–2000	4
Torrance Memorial Medical Center	Torrance, CA	1993–1995, 2004	4
UCSF Medical Center	San Francisco, CA	1994–1997	4
Desert Valley Hospital	Victorville, CA	2003, 2005–2006, 2008	4
Rose Medical Center	Denver, CO	2001–2002, 2007–2008	4
Hartford Hospital	Hartford, CT	1996–1998, 2000	4
Lee Memorial Health System	Fort Myers, FL	1994, 2002–2004	4
Martin Memorial Medical Center	Stuart, FL	1998–1999, 2001–2002	4
JFK Medical Center	Atlantis, FL	1995, 2000–2001, 2003	4
Memorial Hospital of Jacksonville	Jacksonville, FL	1997–2000	4
Delray Medical Center	Delray Beach, FL	2001–2004	4
Palms West Hospital	Loxahatchee, FL	1995, 2000–2002	4
Wellington Regional Medical Center	Wellington, FL	2002–2005	4
Piedmont Fayette Hospital	Fayetteville, GA	2003–2006	4
Shelby Memorial Hospital	Shelbyville, IL	1998–2000, 2005	4
Northwestern Memorial Hospital	Chicago, IL	1997–1998, 2001, 2008	4
Flaget Memorial Hospital	Bardstown, KY	2004–2007	4
St. Elizabeth Medical Center	Edgewood, KY	1997, 2006–2008	4
Washington County Health System	Hagerstown, MD	1997–1998, 2000, 2002	4
Milford Regional Medical Center	Milford, MA	1999–2002	4
Holland Hospital	Holland, MI	2005–2008	4
Gerber Memorial Health Services	Fremont, MI	1993, 1999, 2004–2005	4
St. Mary's Medical Center	Duluth, MN	1994–1995, 1997, 1999	4
Lakeview Hospital	Stillwater, MN	2003, 2006–2008	4
Albany Medical Center	Albany, NY	1994, 1997–1999	4
Carolinas Medical Center–NorthEast	Concord, NC	2001–2004	4
University Hospital	Cincinnati, OH	1993, 1995, 2001, 2003	4
Summa Health System	Akron, OH	2001–2002, 2004–2005	4
University Hospitals Case Medical Center	Cleveland, OH	2005–2008	4
Bethesda North Hospital	Cincinnati, OH	2004–2007	4
St. Charles Medical Center–Bend	Bend, OR	1993–1994, 2001, 2005	4
Providence Portland Medical Center	Portland, OR	1993–1994, 1999–2000	4
The Western Pennsylvania Hospital	Pittsburgh, PA	2001–2003, 2008	4
UPMC Northwest	Seneca, PA	2001–2004	4
Baptist Hospital of East Tennessee	Knoxville, TN	1997–2000	4
Hendersonville Medical Center	Hendersonville, TN	1995–1996, 2000–2001	4
East Texas Medical Center Tyler	Tyler, TX	1997–1998, 2003, 2005	4
Brackenridge Hospital	Austin, TX	1996, 2001–2003	4
Clear Lake Regional Medical Center	Webster, TX	1996–1999	4

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
American Fork Hospital	American Fork, UT	1994, 1997–1999	4
St. Clare Hospital	Lakewood, WA	1999, 2001–2003	4
Bellin Hospital	Green Bay, WI	1993, 1999, 2001–2002	4
University of Wisconsin Hospital and Clinics	Madison, WI	1993, 2002, 2004, 2006	4
Mt. Graham Regional Medical Center	Safford, AZ	1995–1997	3
Paradise Valley Hospital	Phoenix, AZ	1997, 2000, 2006	3
Wickenburg Regional Health Center	Wickenburg, AZ	1994–1996	3
St. Elizabeth Community Hospital	Red Bluff, CA	2006–2008	3
Tri–City Medical Center	Oceanside, CA	1994–1996	3
St. Anthony North Hospital	Westminister, CO	1997–1998, 2001	3
Middlesex Hospital	Middletown, CT	2004, 2007–2008	3
Yale–New Haven Hospital	New Haven, CT	2003–2004, 2006	3
Danbury Hospital	Danbury, CT	2004–2006	3
Orlando Regional Medical Center	Orlando, FL	1995–1996, 1998	3
Baptist Hospital of Miami	Miami, FL	1999, 2001–2002	3
St. Vincent's Medical Center	Jacksonville, FL	1994–1996	3
Orange Park Medical Center	Orange Park, FL	1996, 2001–2002	3
Fairview Park Hospital	Dublin, GA	2000–2002	3
Meadows Regional Medical Center	Vidalia, GA	2005–2006, 2008	3
WellStar Douglas Hospital	Douglasville, GA	1999–2001	3
Centegra Northern Illinois Medical Center	McHenry, IL	2005–2007	3
Memorial Hospital of Carbondale	Carbondale, IL	2004–2006	3
Advocate Christ Medical Center	Oak Lawn, IL	1998–2000	3
Central DuPage Hospital	Winfield, IL	2006–2008	3
Crossroads Community Hospital	Mount Vernon, IL	1996–1998	3
Marion General Hospital	Marion, IN	1993, 2007–2008	3
Wishard Health Services	Indianapolis, IN	1993–1995	3
St. Vincent Indianapolis Hospital	Indianapolis, IN	1998–1999, 2008	3
St. Mary's Medical Center	Evansville, IN	1994–1996	3
Shawnee Mission Medical Center	Shawnee Mission, KS	2002, 2004–2005	3
Whitesburg ARH	Whitesburg, KY	1993, 2001–2002	3
Georgetown Community Hospital	Georgetown, KY	1997–1998, 2002	3
Kentucky River Medical Center	Jackson, KY	2001–2002, 2005	3
Saint Joseph East	Lexington, KY	2005, 2007–2008	3
Baystate Medical Center	Springfield, MA	1999, 2001, 2006	3
St. Mary Mercy Livonia Hospital	Livonia, MI	2006–2008	3
Providence Hospital and Medical Center	Southfield, MI	1996, 2007–2008	3
Spectrum Health United Memorial	Greenville, MI	1997–1998, 2000	3
Allegiance Health	Jackson, MI	1995–1996, 2007	3
Otsego Memorial Hospital	Gaylord, MI	1999–2000, 2002	3
St. John Hospital & Medical Center	Detroit, MI	2005–2007	3
Saint Joseph Mercy Saline Hospital	Saline, MI	2006–2008	3
MidMichigan Medical Center–Midland	Midland, MI	2006–2008	3

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Metro Health Hospital	Wyoming, MI	2006–2008	3
Fairview Ridges Hospital	Burnsville, MN	1993, 1998, 2001	3
St. John's Hospital	Maplewood, MN	1994, 2003–2004	3
St. John's Mercy Medical Center	St. Louis, MO	1998–2000	3
St. John's Hospital	Springfield, MO	1993–1994, 2004	3
Speare Memorial Hospital	Plymouth, NH	2002–2004	3
Staten Island University Hospital	Staten Island, NY	1996–1998	3
Mission Hospitals	Asheville, NC	1994, 2003–2004	3
Heritage Hospital	Tarboro, NC	1995–1997	3
FirstHealth Moore Regional Hospital	Pinehurst, NC	1995, 2003–2004	3
Grant Medical Center	Columbus, OH	1996–1997, 2004	3
Akron General Medical Center	Akron, OH	1996, 2001–2002	3
Fairview Hospital	Cleveland, OH	2005–2007	3
Aultman Hospital	Canton, OH	1998–2000	3
Mercy Medical Center	Springfield, OH	1996, 2002, 2004	3
Grandview Medical Center	Dayton, OH	2001, 2005, 2007	3
Mercy Hospital Clermont	Batavia, OH	2002, 2006, 2008	3
Sycamore Medical Center	Miamisburg, OH	2006–2008	3
Duncan Regional Hospital	Duncan, OK	2005, 2007–2008	3
Willamette Valley Medical Center	McMinnville, OR	1995–1997	3
Providence Milwaukie Hospital	Milwaukie, OR	1994, 2001, 2003	3
Hamot Medical Center	Erie, PA	2000, 2005, 2008	3
Robert Packer Hospital	Sayre, PA	2006–2008	3
UPMC Bedford Memorial	Everett, PA	1994, 2001–2002	3
Thomas Jefferson University Hospital	Philadelphia, PA	1997, 2000–2001	3
Avera McKennan Hospital & University Health Center	Sioux Falls, SD	2006–2008	3
Baptist Hospital	Nashville, TN	1995, 1998, 2001	3
Centennial Medical Center	Nashville, TN	1997, 2007–2008	3
Riverview Regional Medical Center–South Campus	Carthage, TN	1996–1997, 2003	3
Trinity Hospital	Erin, TN	1997, 2002, 2005	3
Copper Basin Medical Center	Copperhill, TN	1995, 1997, 2001	3
Parkland Health & Hospital System	Dallas, TX	2000, 2002, 2007	3
Citizens Medical Center	Victoria, TX	2006–2008	3
Thomason Hospital	El Paso, TX	1995–1996, 2007	3
Harris Methodist Walls Regional Hospital	Cleburne, TX	1994–1995, 1998	3
University Health System	San Antonio, TX	1997, 2003–2004	3
Houston Northwest Medical Center	Houston, TX	2000–2002	3
Lake Pointe Medical Center	Rowlett, TX	1996, 2001, 2003	3
McAllen Medical Center	McAllen, TX	1997–1999	3
Cottonwood Hospital	Murray, UT	1993, 1999–2000	3
Brigham City Community Hospital	Brigham City, UT	1995–1996, 2007	3
Alta View Hospital	Sandy, UT	1993, 1996, 1998	3
Winchester Medical Center	Winchester, VA	1994, 2005–2006	3

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Gundersen Lutheran Health System	La Crosse, WI	1997, 2007–2008	3
Sauk Prairie Memorial Hospital & Clinics	Prairie du Sac, WI	2000, 2003–2004	3
New London Family Medical Center	New London, WI	1995–1996, 2000	3
Andalusia Regional Hospital	Andalusia, AL	2005, 2007	2
Tucson Medical Center	Tucson, AZ	1995, 2004	2
Carondelet St. Mary's Hospital	Tucson, AZ	2002, 2004	2
Carondelet St. Joseph's Hospital	Tucson, AZ	2001–2002	2
Banner Mesa Medical Center	Mesa, AZ	1995–1996	2
Mills–Peninsula Health Services	Burlingame, CA	1998–1999	2
Mercy General Hospital	Sacramento, CA	1997, 2006	2
Scripps Mercy Hospital	San Diego, CA	2000–2001	2
Community & Mission Hospitals of Huntington Park	Huntington Park, CA	1996–1997	2
Sutter Medical Center, Sacramento	Sacramento, CA	2001–2002	2
Hoag Memorial Hospital Presbyterian	Newport Beach, CA	1993–1994	2
Barstow Community Hospital	Barstow, CA	1996–1997	2
El Camino Hospital	Mountain View, CA	1993–1994	2
UCI Medical Center	Orange, CA	2003–2004	2
Scripps Green Hospital	La Jolla, CA	2004–2005	2
Mercy San Juan Medical Center	Carmichael, CA	2006–2007	2
Inland Valley Medical Center	Wildomar, CA	1994, 2001	2
Garfield Medical Center	Monterey Park, CA	1997–1998	2
St. Anthony Central Hospital	Denver, CO	1998, 2001	2
Penrose–St. Francis Health Services	Colorado Springs, CO	1998, 2003	2
Swedish Medical Center	Englewood, CO	2002–2003	2
Porter Adventist Hospital	Denver, CO	2001, 2003	2
Hospital of St. Raphael	New Haven, CT	1998–1999	2
University of Miami Hospital	Miami, FL	1997–1998	2
Citrus Memorial Hospital	Inverness, FL	1993, 1998	2
Bayfront Medical Center	St. Petersburg, FL	1998, 2001	2
Munroe Regional Medical Center	Ocala, FL	1999, 2003	2
Baptist Medical Center	Jacksonville, FL	1996–1997	2
Jackson North Medical Center	North Miami Beach, FL	1994, 1998	2
Florida Hospital–Flagler	Palm Coast, FL	2004–2005	2
South Miami Hospital	South Miami, FL	1999, 2002	2
Pasco Regional Medical Center	Dade City, FL	1997, 2003	2
University Hospital and Medical Center	Tamarac, FL	1995–1996	2
Gulf Coast Medical Center	Panama City, FL	1995, 1999	2
Cape Coral Hospital	Cape Coral, FL	2000, 2002	2
Seven Rivers Regional Medical Center	Crystal River, FL	1999, 2001	2
Gulf Coast Hospital	Fort Myers, FL	1996–1997	2
Cleveland Clinic Florida	Weston, FL	2005, 2008	2
Hamilton Medical Center	Dalton, GA	1995–1996	2
Tanner Medical Center–Villa Rica	Villa Rica, GA	1996, 2001	2

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
MCG Health System	Augusta, GA	2002, 2007	2
Union General Hospital	Blairsville, GA	1994, 2007	2
Saint Joseph's Hospital of Atlanta	Atlanta, GA	1993, 2005	2
Piedmont Hospital	Atlanta, GA	2001, 2004	2
Donalsonville Hospital	Donalsonville, GA	1999, 2001	2
St. Benedict's Family Medical Center	Jerome, ID	1998–1999	2
St. Mary's Hospital & Clinics	Cottonwood, ID	1995, 2000	2
MacNeal Hospital	Berwyn, IL	1993, 1996	2
University of Chicago Medical Center	Chicago, IL	1995, 2005	2
Morris Hospital and Healthcare Centers	Morris, IL	1993, 2006	2
Greenville Regional Hospital	Greenville, IL	2002, 2004	2
Riverside Medical Center	Kankakee, IL	2007–2008	2
Northwest Community Hospital	Arlington Heights, IL	2001, 2006	2
The King's Daughters' Hospital & Health Services	Madison, IN	2007–2008	2
Deaconess Hospital & Health System	Evansville, IN	1995–1996	2
Memorial Hospital and Health Care Center	Jasper, IN	2004, 2008	2
St. Luke's Hospital	Cedar Rapids, IA	2004–2005	2
Fort Madison Community Hospital	Fort Madison, IA	2001, 2004	2
St. Francis Health Center	Topeka, KS	1994, 1996	2
Hardin Memorial Hospital	Elizabethtown, KY	2006–2007	2
Manchester Memorial Hospital	Manchester, KY	2000–2001	2
Bourbon Community Hospital	Paris, KY	1997–1998	2
Harlan ARH Hospital	Harlan, KY	1998, 2007	2
Wayne County Hospital	Monticello, KY	1995–1996	2
The Johns Hopkins Hospital	Baltimore, MD	1993–1994	2
Union Memorial Hospital	Baltimore, MD	2003, 2008	2
Union Hospital	Elkton, MD	2001, 2004	2
Northwest Hospital Center	Randallstown, MD	2001–2002	2
St. Luke's Hospital	New Bedford, MA	1995–1996	2
MetroWest Medical Center	Natick, MA	1995–1996	2
Gratiot Medical Center	Alma, MI	2006, 2008	2
Hackley Hospital	Muskegon, MI	2006–2007	2
Central Michigan Community Hospital	Mount Pleasant, MI	1993, 2008	2
Mecosta County Medical Center	Big Rapids, MI	2005–2006	2
McLaren Regional Medical Center	Flint, MI	2000, 2006	2
St. Joseph Mercy Hospital	Ann Arbor, MI	1996, 1999	2
Douglas County Hospital	Alexandria, MN	2001, 2008	2
United Hospital	St. Paul, MN	1994–1995	2
Park Nicollet Methodist Hospital	St. Louis Park, MN	2000, 2004	2
Buffalo Hospital	Buffalo, MN	1996, 1999	2
Fairview Southdale Hospital	Edina, MN	1993, 1997	2
St. John's Regional Medical Center	Joplin, MO	2006, 2008	2
Cox Health	Springfield, MO	1996–1997	2

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Parkland Health Center–Farmington	Farmington, MO	2007–2008	2
SSM St. Joseph Hospital West	Lake Saint Louis, MO	2000, 2003	2
Alegent Health Bergan Mercy Medical Center	Omaha, NE	2001, 2008	2
Parkland Medical Center	Derry, NH	1995, 2001	2
St. Peter's Hospital	Albany, NY	1998, 2001	2
Franklin Regional Medical Center	Louisburg, NC	1995–1996	2
Jamestown Hospital	Jamestown, ND	1993, 2008	2
Wooster Community Hospital	Wooster, OH	2007–2008	2
Good Samaritan Hospital	Dayton, OH	2000–2001	2
St. Rita's Medical Center	Lima, OH	1996, 1999	2
Mercy Medical Center	Canton, OH	2001–2002	2
Atrium Medical Center	Franklin, OH	1998–1999	2
Lake Hospital System	Painesville, OH	2002, 2005	2
Brown County General Hospital	Georgetown, OH	2001–2002	2
Good Samaritan Hospital	Cincinnati, OH	2007–2008	2
Adena Regional Medical Center	Chillicothe, OH	2003, 2005	2
University Hospitals Geauga Regional Hospital	Chardon, OH	1998, 2001	2
Dunlap Memorial Hospital	Orrville, OH	2002–2003	2
Mercy Health Center	Oklahoma City, OK	1993–1994	2
Sacred Heart Medical Center	Eugene, OR	1993–1994	2
Grande Ronde Hospital	La Grande, OR	1993–1994	2
Samaritan Lebanon Community Hospital	Lebanon, OR	1993–1994	2
The Reading Hospital and Medical Center	West Reading, PA	1998, 2001	2
St. Luke's Hospital and Health Network	Bethlehem, PA	1997, 2001	2
St. Joseph Medical Center	Reading, PA	2001–2002	2
UPMC St. Margaret	Pittsburgh, PA	2003–2004	2
UPMC Passavant	Pittsburgh, PA	2000–2001	2
Excela Health Westmoreland	Greensburg, PA	2000–2001	2
Paoli Hospital	Paoli, PA	2003–2004	2
Butler Memorial Hospital	Butler, PA	2003–2004	2
Punxsutawney Area Hospital	Punxsutawney, PA	1998–1999	2
Excela Health Latrobe Area Hospital	Latrobe, PA	1997, 2002	2
St. Mary Medical Center	Langhorne, PA	2002–2003	2
Medical University of South Carolina	Charleston, SC	1996–1997	2
Trident Health System	Charleston, SC	1998–1999	2
Prairie Lakes Healthcare System	Watertown, SD	2004–2005	2
St. Mary's Medical Center of Campbell County	LaFollette, TN	2007–2008	2
Cookeville Regional Medical Center	Cookeville, TN	2006–2007	2
Maury Regional Hospital	Columbia, TN	1993, 2007	2
Parkridge Medical Center	Chattanooga, TN	2001, 2003	2
Seton Medical Center Austin	Austin, TX	1994, 2003	2
Memorial Hermann–Texas Medical Center	Houston, TX	1995–1996	2
East Houston Regional Medical Center	Houston, TX	1995, 2003	2

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Memorial Hermann Hospital System	Houston, TX	1996, 1999	2
Llano Memorial Healthcare System	Llano, TX	1994–1995	2
Lake Whitney Medical Center	Whitney, TX	2007–2008	2
Harris County Hospital District	Houston, TX	1994–1995	2
Central Texas Hospital	Cameron, TX	2005–2006	2
Doctors Hospital at Renaissance	Edinburg, TX	2007–2008	2
Mountain View Hospital	Payson, UT	1995, 1997	2
Logan Regional Hospital	Logan, UT	2000–2001	2
San Juan Hospital	Monticello, UT	2003–2004	2
Lakeview Hospital	Bountiful, UT	1996, 2001	2
Augusta Medical Center	Fishersville, VA	1997–1998	2
VCU Medical Center	Richmond, VA	1997, 2002	2
Sentara Leigh Hospital	Norfolk, VA	2001–2002	2
Sentara Virginia Beach General Hospital	Virginia Beach, VA	2000–2001	2
St. Mary Medical Center	Walla Walla, WA	1993, 2006	2
Valley Medical Center	Renton, WA	2003–2004	2
Whitman Hospital & Medical Center	Colfax, WA	1994–1995	2
Sunnyside Community Hospital	Sunnyside, WA	1994, 1998	2
Waukesha Memorial Hospital	Waukesha, WI	1995, 2008	2
St. Elizabeth Hospital	Appleton, WI	2001, 2004	2
The Monroe Clinic	Monroe, WI	2006, 2008	2
Aurora Sheboygan Memorial Medical Center	Sheboygan, WI	2007–2008	2
St. Mary's Hospital	Madison, WI	1994, 2006	2
Bay Area Medical Center	Marinette, WI	2004, 2006	2
Aurora West Allis Medical Center	West Allis, WI	2007–2008	2
Baldwin Area Medical Center	Baldwin, WI	1995–1996	2
Powell Valley Healthcare	Powell, WY	1997, 1999	2
Southwest Alabama Medical Center	Thomasville, AL	2000	1
Lanier Health Services	Valley, AL	1998	1
Wedowee Hospital	Wedowee, AL	1999	1
UAB Hospital	Birmingham, AL	1996	1
Riverview Regional Medical Center	Gadsden, AL	1997	1
Medical Center Enterprise	Enterprise, AL	2000	1
Lake Martin Community Hospital	Dadeville, AL	2001	1
Lakeview Community Hospital	Eufaula, AL	1993	1
J. Paul Jones Hospital	Camden, AL	2003	1
Hill Hospital of Sumter County	York, AL	2001	1
Russellville Hospital	Russellville, AL	1998	1
Yavapai Regional Medical Center	Prescott, AZ	2005	1
John C. Lincoln–North Mountain	Phoenix, AZ	2003	1
Mesa General Hospital	Mesa, AZ	1997	1
Tempe St Luke's Hospital	Tempe, AZ	2000	1
Payson Regional Medical Center	Payson, AZ	2006	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Community Hospital Medical Center	Phoenix, AZ	1995	1
Sun Health Boswell Hospital	Sun City, AZ	2003	1
La Paz Regional Hospital	Parker, AZ	2007	1
Scottsdale Healthcare Shea	Scottsdale, AZ	2004	1
Arrowhead Hospital	Glendale, AZ	2006	1
Mayo Clinic Hospital	Phoenix, AZ	2003	1
Booneville Community Hospital	Booneville, AR	2001	1
Pacific Alliance Medical Center	Los Angeles, CA	2007	1
CHA Hollywood Presbyterian Medical Center	Los Angeles, CA	1996	1
Saint Agnes Medical Center	Fresno, CA	1996	1
San Antonio Community Hospital	Upland, CA	2008	1
Parkview Community Hospital Medical Center	Riverside, CA	1993	1
Sierra Nevada Memorial Hospital	Grass Valley, CA	2004	1
O'Connor Hospital	San Jose, CA	1994	1
Sierra Kings District Hospital	Reedley, CA	1994	1
Lancaster Community Hospital	Lancaster, CA	1996	1
Providence Saint Joseph Medical Center	Burbank, CA	1998	1
Methodist Hospital of Southern California	Arcadia, CA	1993	1
Sonora Regional Medical Center	Sonora, CA	1998	1
Little Company of Mary Hospital	Torrance, CA	1993	1
Citrus Valley Medical Center– Queen of the Valley Campus	West Covina, CA	1993	1
Good Samaritan Medical Center	San Jose, CA	1995	1
Hemet Valley Medical Center	Hemet, CA	1999	1
Mercy Hospital of Folsom	Folsom, CA	2003	1
West Anaheim Medical Center	Anaheim, CA	2008	1
Stanford Hospital & Clinics	Stanford, CA	1994	1
Santa Ana Hospital Medical Center	Santa Ana, CA	2001	1
Sutter Davis Hospital	Davis, CA	2007	1
Fountain Valley Regional Hospital and Medical Center	Fountain Valley, CA	1996	1
Eisenhower Medical Center	Rancho Mirage, CA	2004	1
Lakewood Regional Medical Center	Lakewood, CA	1993	1
UC Davis Medical Center	Sacramento, CA	1994	1
Fairchild Medical Center	Yreka, CA	2004	1
Plumas District Hospital	Quincy, CA	1997	1
North Colorado Medical Center	Greeley, CO	2001	1
Montrose Memorial Hospital	Montrose, CO	1993	1
San Luis Valley Regional Medical Center	Alamosa, CO	1994	1
Denver Health Medical Center	Denver, CO	2005	1
Presbyterian/St Luke's Medical Center	Denver, CO	2001	1
University of Colorado Hospital	Aurora, CO	1996	1
Community Hospital	Grand Junction, CO	2001	1
Valley View Hospital	Glenwood Springs, CO	2004	1
The Medical Center of Aurora	Aurora, CO	2003	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Avista Adventist Hospital	Louisville, CO	2001	1
University of Connecticut Health Center	Farmington, CT	2006	1
Christiana Care Health System	Wilmington, DE	2000	1
Washington Hospital Center	Washington, DC	1999	1
Bethesda Memorial Hospital	Boynton Beach, FL	1994	1
Halifax Health Medical Center	Daytona Beach, FL	2002	1
Bay Medical Center	Panama City, FL	2004	1
Manatee Memorial Hospital	Bradenton, FL	2003	1
Florida Hospital–Ormond Memorial	Ormond Beach, FL	2003	1
St. Joseph's Hospital	Tampa, FL	2007	1
Sarasota Memorial Hospital	Sarasota, FL	2003	1
Doctor's Memorial Hospital	Perry, FL	1997	1
North Okaloosa Medical Center	Crestview, FL	2001	1
Palms of Pasadena Hospital	Saint Petersburg, FL	2000	1
Baptist Medical Center Nassau	Fernandina Beach, FL	2001	1
St. Luke's Hospital	Jacksonville, FL	2007	1
Boca Raton Community Hospital	Boca Raton, FL	1998	1
Northwest Medical Center	Margate, FL	1996	1
Columbia Pompano Beach Medical Center	Pompano Beach, FL	1995	1
Florida Medical Center	Fort Lauderdale, FL	2000	1
Ocala Regional Medical Center	Ocala, FL	2001	1
Sebastian River Medical Center	Sebastian, FL	2005	1
Memorial Regional Hospital South	Tampa, FL	1995	1
West Florida Hospital	Pensacola, FL	1995	1
Putnam Community Medical Center	Palatka, FL	1998	1
Oak Hill Hospital	Brooksville, FL	2001	1
Englewood Community Hospital	Englewood, FL	2001	1
Memorial Hospital West	Pembroke Pines, FL	2008	1
The Villages Regional Hospital	The Villages, FL	2006	1
Sacred Heart Hospital on the Emerald Coast	Miramar Beach, FL	2008	1
Emory University Hospital	Atlanta, GA	1994	1
St. Joseph's/Candler Hospital	Savannah, GA	1996	1
East Georgia Regional Medical Center	Statesboro, GA	1999	1
Medical Center of Central Georgia	Macon, GA	1993	1
Grady General Hospital	Cairo, GA	2001	1
Wellstar Cobb Hospital	Austell, GA	1994	1
Coliseum Medical Centers	Macon, GA	1995	1
Doctors Hospital	Augusta, GA	2000	1
Fannin Regional Hospital	Blue Ridge, GA	2002	1
Flint River Community Hospital	Montezuma, GA	1996	1
South Fulton Medical Center	East Point, GA	1993	1
Wilcox Memorial Hospital	Lihue, HI	1999	1
Eastern Idaho Regional Medical Center	Idaho Falls, ID	2001	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Madison Memorial Hospital	Rexburg, ID	1993	1
Twin Falls Clinic & Hospital	Twin Falls, ID	1997	1
Gritman Medical Center	Moscow, ID	1994	1
Rush–Copley Medical Center	Aurora, IL	2006	1
Michael Reese Hospital and Medical Center	Chicago, IL	1995	1
Vista Medical Center East	Waukegan, IL	1993	1
Ottawa Regional Hospital & Healthcare Center	Ottawa, IL	1994	1
MetroSouth Medical Center	Blue Island, IL	2001	1
FHN Memorial Hospital	Freeport, IL	2007	1
Iroquois Memorial Hospital	Watseka, IL	2004	1
Heartland Regional Medical Center	Marion, IL	2001	1
Sarah Bush Lincoln Health Center	Mattoon, IL	2005	1
SwedishAmerican Hospital	Rockford, IL	1999	1
Trinity Regional Health System–West Campus	Rock Island, IL	2006	1
Advocate Good Samaritan Hospital	Downers Grove, IL	2008	1
St. Alexius Medical Center	Hoffman Estates, IL	1999	1
Hillsboro Area Hospital	Hillsboro, IL	1998	1
Saint Joseph Regional Medical Center–South Bend	South Bend, IN	2008	1
Lutheran Hospital of Indiana	Fort Wayne, IN	2001	1
Parkview Hospital	Fort Wayne, IN	1996	1
St. Francis Hospital–Beech Grove	Beech Grove, IN	2004	1
Floyd Memorial Hospital and Health Services	New Albany, IN	1993	1
DeKalb Memorial Hospital	Auburn, IN	2006	1
Terre Haute Regional Hospital	Terre Haute, IN	2000	1
Clarian Health/Indiana University Medical Center	Indianapolis, IN	1993	1
Memorial Hospital of South Bend	South Bend, IN	2005	1
Community Hospital East/North	Indianapolis, IN	2001	1
Ball Memorial Hospital	Muncie, IN	2000	1
Major Hospital	Shelbyville, IN	2008	1
Columbus Regional Hospital	Columbus, IN	2008	1
Community Hospital Anderson	Anderson, IN	1993	1
Westview Hospital	Indianapolis, IN	1996	1
St. Francis Hospital–Indianapolis	Indianapolis, IN	2008	1
Margaret Mary Community Hospital	Batesville, IN	2004	1
Scott Memorial Hospital	Scottsburg, IN	2002	1
Sartori Memorial Hospital	Cedar Falls, IA	2003	1
Mercy Medical Center–Dubuque	Dubuque, IA	2008	1
Allen Hospital	Waterloo, IA	2004	1
The Finley Hospital	Dubuque, IA	1993	1
Henry County Health Center	Mount Pleasant, IA	1994	1
Burgess Health Center	Onawa, IA	1995	1
Greater Regional Medical Center	Creston, IA	1993	1
Floyd Valley Hospital	Le Mars, IA	2004	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Winneshiek Medical Center	Decorah, IA	2004	1
St. John's Hospital	Salina, KS	1993	1
Osborne County Memorial Hospital	Osborne, KS	1995	1
Goodland Regional Medical Center	Goodland, KS	1996	1
Scott County Hospital	Scott City, KS	1997	1
Saint Joseph–London	London, KY	2008	1
Clark Regional Medical Center	Winchester, KY	2001	1
Regional Medical Center	Madisonville, KY	2002	1
Frankfort Regional Medical Center	Frankfort, KY	2001	1
Lake Cumberland Regional Hospital	Somerset, KY	1997	1
Saint Joseph–Martin	Martin, KY	1999	1
Breckinridge Memorial Hospital	Hardinsburg, KY	1996	1
McDowell ARH Hospital	McDowell, KY	2003	1
Rapides Regional Medical Center	Alexandria, LA	1997	1
West Jefferson Medical Center	Marrero, LA	1996	1
Baton Rouge General	Baton Rouge, LA	1994	1
Oakdale Community Hospital	Oakdale, LA	1998	1
Willis–Knighton Medical Center	Shreveport, LA	2005	1
Minden Medical Center	Minden, LA	2003	1
Willis–Knighton Medical Center South	Shreveport, LA	1994	1
Maine Medical Center	Portland, ME	2001	1
Mercy Medical Center	Baltimore, MD	1996	1
St. Agnes Hospital	Baltimore, MD	1995	1
Franklin Square Hospital Center	Baltimore, MD	2003	1
Anne Arundel Medical Center	Annapolis, MD	2004	1
Baltimore Washington Medical Center	Glen Burnie, MD	2006	1
Greater Baltimore Medical Center	Baltimore, MD	1993	1
NSMC Salem Hospital	Salem, MA	2001	1
Sturdy Memorial Hospital	Attleboro, MA	2001	1
Hubbard Regional Hospital	Webster, MA	2000	1
Boston Medical Center	Boston, MA	2003	1
Massachusetts General Hospital	Boston, MA	2001	1
South Shore Hospital	South Weymouth, MA	2005	1
Winchester Hospital	Winchester, MA	1997	1
Saint Vincent Hospital	Worcester, MA	2000	1
Zeeland Community Hospital	Zeeland, MI	1993	1
Mercy Health Partners	Muskegon, MI	2006	1
Bronson Methodist Hospital	Kalamazoo, MI	2005	1
St. Joseph Mercy Port Huron	Port Huron, MI	1993	1
Pennock Hospital	Hastings, MI	2006	1
Bay Regional Medical Center	Bay City, MI	2004	1
Mercy Hospital Cadillac	Cadillac, MI	2008	1
MidMichigan Medical Center–Clare	Clare, MI	2007	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Genesys Regional Medical Center	Grand Blanc, MI	2005	1
Port Huron Hospital	Port Huron, MI	2006	1
Oaklawn Hospital	Marshall, MI	1994	1
Sparrow Health System	Lansing, MI	1999	1
Garden City Hospital	Garden City, MI	2007	1
Chelsea Community Hospital	Chelsea, MI	1993	1
Grand View Hospital	Ironwood, MI	2005	1
Olmsted Medical Center	Rochester, MN	2001	1
Northfield Hospital	Northfield, MN	1999	1
Cambridge Medical Center	Cambridge, MN	1993	1
University of Minnesota Medical Center–Fairview	Minneapolis, MN	1993	1
Fairview Lakes Medical Center	Wyoming, MN	1995	1
Abbott Northwestern Hospital	Minneapolis, MN	1993	1
St. Joseph's Hospital	St. Paul, MN	2004	1
Grand Itasca Clinic & Hospital	Grand Rapids, MN	2000	1
District One Hospital	Faribault, MN	1993	1
St. Francis Regional Medical Center	Shakopee, MN	2004	1
Mercy Hospital	Coon Rapids, MN	1994	1
Austin Medical Center	Austin, MN	2000	1
Clearwater County Memorial Hospital	Bagley, MN	1998	1
Swift County–Benson Hospital	Benson, MN	2002	1
Perham Memorial Hospital and Home	Perham, MN	2003	1
The University of Mississippi Medical Center	Jackson, MS	2007	1
North Mississippi Medical Center	Tupelo, MS	2008	1
Northeast Regional Medical Center	Kirksville, MO	2007	1
Boone Hospital Center	Columbia, MO	2004	1
SSM St. Mary's Health Center	St. Louis, MO	2006	1
Missouri Baptist Medical Center	St. Louis, MO	2008	1
Freeman Health System	Joplin, MO	2002	1
Missouri Southern Healthcare	Dexter, MO	2005	1
Ray County Memorial Hospital	Richmond, MO	2005	1
St. John's St. Francis Hospital	Mountain View, MO	2001	1
Billings Clinic	Billings, MT	2002	1
Community Hospital of Anaconda	Anaconda, MT	1997	1
Marcus Daly Memorial Hospital	Hamilton, MT	1994	1
BryanLGH Medical Center	Lincoln, NE	2003	1
Creighton University Medical Center	Omaha, NE	2001	1
Niobrara Valley Hospital	Lynch, NE	1995	1
University Medical Center	Las Vegas, NV	1997	1
Dartmouth–Hitchcock Medical Center	Lebanon, NH	2001	1
Catholic Medical Center	Manchester, NH	1993	1
Robert Wood Johnson University Hospital	New Brunswick, NJ	2006	1
Kennedy Memorial Hospital	Cherry Hill, NJ	2000	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
University of New Mexico Hospital	Albuquerque, NM	1993	1
Presbyterian Hospital	Albuquerque, NM	1993	1
Lea Regional Medical Center	Hobbs, NM	2001	1
Nor–Lea Hospital District	Lovington, NM	2002	1
Lincoln County Medical Center	Ruidoso, NM	1994	1
North Shore University Hospital	Manhasset, NY	2001	1
St. Joseph's Hospital Health Center	Syracuse, NY	2001	1
Stony Brook University Hospital	Stony Brook, NY	1996	1
Rutherford Hospital, Inc.	Rutherfordton, NC	2008	1
Duke University Hospital	Durham, NC	2008	1
Gaston Memorial Hospital	Gastonia, NC	2001	1
Pitt County Memorial Hospital	Greenville, NC	2002	1
Wake Forest University Baptist Medical Center	Winston–Salem, NC	2003	1
Morehead Memorial Hospital	Eden, NC	1993	1
Rex Healthcare	Raleigh, NC	2007	1
MeritCare Hospital	Fargo, ND	2003	1
Union Hospital	Mayville, ND	1996	1
Lima Memorial Hospital	Lima, OH	2006	1
Union Hospital	Dover, OH	2008	1
Jewish Hospital	Cincinnati, OH	2005	1
Mount Carmel West	Columbus, OH	2002	1
Knox Community Hospital	Mount Vernon, OH	1996	1
Parma Community General Hospital	Parma, OH	2002	1
Miami Valley Hospital	Dayton, OH	1997	1
Forum Health Trumbull Memorial Hospital	Warren, OH	2004	1
Mercy Hospital Fairfield	Fairfield, OH	2005	1
MetroHealth Medical Center	Cleveland, OH	2007	1
Van Wert County Hospital	Van Wert, OH	2001	1
Memorial Hospital of Union County	Marysville, OH	2002	1
Blanchard Valley Regional Health Center–Findlay Campus	Findlay, OH	2005	1
Community Hospitals and Wellness Centers	Bryan, OH	2006	1
St. Joseph Health Center	Warren, OH	2000	1
Community Memorial Hospital	Hicksville, OH	1994	1
Henry County Hospital	Napoleon, OH	2001	1
Saint Francis Hospital	Tulsa, OK	1993	1
OU Medical Center	Oklahoma City, OK	1997	1
Sequoyah Memorial Hospital	Sallisaw, OK	2002	1
Perry Memorial Hospital	Perry, OK	1994	1
Memorial Hospital	Stilwell, OK	2007	1
INTEGRIS Canadian Valley Regional Hospital	Yukon, OK	2005	1
Three Rivers Hospital–Dimmick	Grants Pass, OR	1993	1
Oregon Health & Science University	Portland, OR	2001	1
Good Samaritan Regional Medical Center	Corvallis, OR	1993	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Legacy Good Samaritan Hospital and Medical Center	Portland, OR	1993	1
Rogue Valley Medical Center	Medford, OR	1994	1
Silverton Hospital	Silverton, OR	2005	1
Providence Newberg Medical Center	Newberg, OR	2003	1
Willamette Falls Hospital	Oregon City, OR	1993	1
Salem Hospital	Salem, OR	1994	1
Adventist Medical Center	Portland, OR	1993	1
Legacy Meridian Park Hospital	Tualatin, OR	1994	1
Lewistown Hospital	Lewistown, PA	2001	1
Hospital of the University of Pennsylvania	Philadelphia, PA	1995	1
Titusville Area Hospital	Titusville, PA	2000	1
Bryn Mawr Hospital	Bryn Mawr, PA	2008	1
Southwest Regional Medical Center	Waynesburg, PA	2002	1
UPMC Presbyterian	Pittsburgh, PA	2003	1
UPMC Horizon	Greenville, PA	1993	1
St. Clair Hospital	Pittsburgh, PA	2001	1
Geisinger Wyoming Valley Medical Center	Wilkes–Barre, PA	2004	1
Tyrone Hospital	Tyrone, PA	2001	1
Roger Williams Medical Center	Providence, RI	1998	1
Rhode Island Hospital	Providence, RI	1997	1
Kent Hospital	Warwick, RI	2001	1
Colleton Medical Center	Walterboro, SC	1997	1
Spearfish Regional Hospital	Spearfish, SD	1996	1
Avera St. Benedict Health Center	Parkston, SD	1995	1
Cumberland Medical Center	Crossville, TN	1998	1
The University of Tennessee Medical Center	Knoxville, TN	1999	1
Wellmont Holston Valley Medical Center	Kingsport, TN	1999	1
SkyRidge Medical Center	Cleveland, TN	1993	1
Horizon Medical Center	Dickson, TN	1995	1
Methodist University Hospital	Memphis, TN	1997	1
Woods Memorial Hospital District	Etowah, TN	1996	1
St. Mary's Jefferson Memorial Hospital	Jefferson City, TN	2008	1
Grandview Medical Center	Jasper, TN	1997	1
Fort Sanders Sevier Medical Center	Sevierville, TN	2007	1
St. Mary's Medical Center	Knoxville, TN	2006	1
Cumberland River Hospital	Celina, TN	1997	1
Summit Medical Center	Hermitage, TN	1997	1
River Park Hospital	McMinnville, TN	1995	1
Crockett Hospital	Lawrenceburg, TN	2002	1
Indian Path Medical Center	Kingsport, TN	1999	1
Jellico Community Hospital	Jellico, TN	2004	1
White County Community Hospital	Sparta, TN	2006	1
Erlanger Bledsoe Hospital	Pikeville, TN	2001	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Marshall Medical Center	Lewisburg, TN	2002	1
Rhea Medical Center	Dayton, TN	2002	1
Laredo Medical Center	Laredo, TX	1997	1
Good Shepherd Medical Center	Longview, TX	1999	1
Providence Health Center	Waco, TX	2005	1
Baptist Health System	San Antonio, TX	2005	1
Brazosport Regional Health System	Lake Jackson, TX	2007	1
Baylor Medical Center at Irving	Irving, TX	1993	1
Bayshore Medical Center	Pasadena, TX	1997	1
Mother Frances Hospital–Tyler	Tyler, TX	2006	1
South Texas Regional Medical Center	Jourdanton, TX	1999	1
The Methodist Hospital	Houston, TX	2003	1
Childress Regional Medical Center	Childress, TX	2005	1
Methodist Hospital	San Antonio, TX	2003	1
Parkview Regional Hospital	Mexia, TX	1996	1
Presbyterian Hospital of Dallas	Dallas, TX	1996	1
East Texas Medical Center Quitman	Quitman, TX	1996	1
Christus Jasper Memorial Hospital	Jasper, TX	1997	1
Hill Country Memorial Hospital	Fredericksburg, TX	2003	1
Spring Branch Medical Center	Houston, TX	1999	1
Medical City Dallas Hospital	Dallas, TX	1995	1
Medical Center of Plano	Plano, TX	1998	1
Mesquite Community Hospital	Mesquite, TX	1995	1
Tri–City Health Centre	Dallas, TX	1995	1
St. David's South Austin Hospital	Austin, TX	2001	1
Corpus Christi Medical Center	Corpus Christi, TX	2001	1
Ennis Regional Medical Center	Ennis, TX	2006	1
Ogden Regional Medical Center	Ogden, UT	2001	1
LDS Hospital	Salt Lake City, UT	1993	1
Ashley Valley Medical Center	Vernal, UT	2002	1
Lee Regional Medical Center	Pennington Gap, VA	1996	1
Culpeper Regional Hospital	Culpeper, VA	1995	1
INOVA Loudoun Hospital	Leesburg, VA	1993	1
Memorial Regional Medical Center	Mechanicsville, VA	2008	1
Martha Jefferson Hospital	Charlottesville, VA	2000	1
INOVA Fair Oaks Hospital	Fairfax, VA	1999	1
CJW Medical Center	Richmond, VA	1999	1
Potomac Hospital	Woodbridge, VA	1994	1
Henrico Doctors' Hospital	Richmond, VA	2003	1
Northwest Hospital & Medical Center	Seattle, WA	1994	1
Virginia Mason Medical Center	Seattle, WA	2002	1
University of Washington Medical Center	Seattle, WA	1993	1
St. Joseph Hospital	Bellingham, WA	2005	1

HOSPITAL	LOCATION	YEAR(S) WON	TOTAL YEAR(S) WON
Samaritan Hospital	Moses Lake, WA	1994	1
Toppenish Community Hospital	Toppenish, WA	2006	1
Harrison Medical Center	Bremerton, WA	1996	1
St. John Medical Center	Longview, WA	1993	1
Deaconess Medical Center	Spokane, WA	1993	1
Sacred Heart Medical Center	Spokane, WA	1994	1
Cascade Valley Hospital and Clincs	Arlington, WA	1994	1
Allenmore Hospital	Tacoma, WA	1998	1
Othello Community Hospital	Othello, WA	1995	1
Mount Carmel Hospital	Colville, WA	1994	1
Enumclaw Regional Hospital	Enumclaw, WA	2000	1
Greenbrier Valley Medical Center	Ronceverte, WV	2007	1
United Hospital Center	Clarksburg, WV	2007	1
St. Joseph's Hospital	Parkersburg, WV	2000	1
Williamson Memorial Hospital	Williamson, WV	2001	1
St. Joseph's Hospital	Chippewa Falls, WI	2007	1
Aspirus Wausau Hospital	Wausau, WI	1994	1
Mercy Medical Center	Oshkosh, WI	2004	1
Columbia St. Mary's Hospital Milwaukee	Milwaukee, WI	2006	1
Mercy Hospital Janesville	Janesville, WI	1993	1
St. Vincent Hospital	Green Bay, WI	1994	1
Beaver Dam Community Hospitals, Inc.	Beaver Dam, WI	1997	1
Howard Young Medical Center	Woodruff, WI	1993	1
St. Mary's Hospital Medical Center	Green Bay, WI	2003	1
Community Memorial Hospital	Menomonee Falls, WI	1993	1
Wheaton Franciscan Healthcare–St. Joseph	Milwaukee, WI	2008	1
Aurora St. Luke's Medical Center	Milwaukee, WI	1993	1
Columbia St. Mary's Hospital Columbia	Milwaukee, WI	2005	1
Memorial Medical Center	Ashland, WI	1993	1
Memorial Hospital of Lafayette County	Darlington, WI	1995	1
Grant Regional Health Center	Lancaster, WI	1994	1
Waupun Memorial Hospital	Waupun, WI	1996	1
Riverside Medical Center	Waupaca, WI	2004	1
Red Cedar Medical Center	Menomonie, WI	1994	1
Riverton Memorial Hospital	Riverton, WY	1995	1
Ivinson Memorial Hospital	Laramie, WY	1993	1

APPENDIX A

Distribution of 100 Top Hospitals®: National Benchmark Winners by State and Region*

STATE	NUMBER OF CURRENT BENCHMARK HOSPITALS	NUMBER OF PREVIOUS BENCHMARK HOSPITALS
Alabama	0	1
Alaska	0	0
Arizona	2	4
Arkansas	1	1
California	4	4
Colorado	1	2
Connecticut	1	1
Delaware	0	0
District of Columbia	0	0
Florida	3	4
Georgia	1	2
Hawaii	0	0
Idaho	1	1
Illinois	7	6
Indiana	8	2
Iowa	2	1
Kansas	0	0
Kentucky	5	8
Louisiana	0	0
Maine	0	0
Maryland	1	0
Massachusetts	1	1
Michigan	11	14
Minnesota	4	2
Mississippi	1	1
Missouri	3	2

STATE	NUMBER OF CURRENT BENCHMARK HOSPITALS	NUMBER OF PREVIOUS BENCHMARK HOSPITALS
Montana	0	0
Nebraska	2	0
Nevada	0	0
New Hampshire	0	0
New Jersey	0	0
New Mexico	0	0
New York	0	0
North Carolina	2	1
North Dakota	1	0
Ohio	10	14
Oklahoma	1	2
Oregon	1	0
Pennsylvania	5	2
Rhode Island	0	0
South Carolina	0	0
South Dakota	1	2
Tennessee	6	7
Texas	4	7
Utah	1	1
Vermont	0	0
Virginia	2	0
Washington	1	1
West Virginia	0	2
Wisconsin	6	4
Wyoming	0	0

REGION*	NUMBER OF CURRENT BENCHMARK HOSPITALS	NUMBER OF PREVIOUS BENCHMARK HOSPITALS
Northeast	7	4
Midwest	55	47
South	27	36
West	11	13

* For a listing of states within each census region, see Appendix B.

APPENDIX B

States Included in Each Census Region

NORTHEAST	MIDWEST	SOUTH	WEST
Connecticut	Illinois	Alabama	Alaska
Maine	Indiana	Arkansas	Arizona
Massachusetts	Iowa	Delaware	California
New Hampshire	Kansas	District of Columbia	Colorado
New Jersey	Michigan	Florida	Hawaii
New York	Minnesota	Georgia	Idaho
Pennsylvania	Missouri	Kentucky	Montana
Rhode Island	Nebraska	Louisiana	Nevada
Vermont	North Dakota	Maryland	New Mexico
	Ohio	Mississippi	Oregon
	South Dakota	North Carolina	Utah
	Wisconsin	Oklahoma	Washington
		South Carolina	Wyoming
		Tennessee	
		Texas	
		Virginia	
		West Virginia	

APPENDIX C

Methodology Details

METHODS FOR IDENTIFYING COMPLICATIONS OF CARE

Risk-Adjusted Mortality Index Models

Without adjusting for differences, comparing outcomes among hospitals is like comparing the proverbial apples to oranges: hard, if not impossible, to do. In order to make valid normative comparisons of hospital outcomes, it is necessary to adjust raw data to accommodate for differences that result from the variety and severity of admitted cases. It is necessary also to account for individual facility characteristics that affect quality of care measures, such as the hospital's geographic location, size, teaching status, and community setting (urban versus rural).

We are able to make valid normative comparisons of mortality and complications rates by using patient-level data to control effectively for case mix and severity differences. We do this by evaluating ICD-9-CM diagnosis and procedure codes in order to adjust for severity within clinical case mix groupings. Conceptually, we group patients with similar characteristics (i.e., age, sex, principal diagnosis, procedures performed, admission type, and comorbid conditions) to produce expected, or normative, comparisons. In the same way, we group facilities with similar characteristics. Through extensive testing, we have found that this methodology produces valid normative comparisons using readily available administrative data, eliminating the need for additional data collection.

We construct a normative database of case-level data from our Projected Inpatient Data Base (PIDB) national all-payer database containing over 20 million all-payer discharges annually, obtained from approximately 2,500 hospitals, representing more than 50 percent of all discharges from short-term, general, nonfederal hospitals in the United States. The data include age, sex, length of stay, clinical groupings: diagnosis related groups (DRG) or refined diagnosis related groups (RDRG), ICD-9-CM principal and secondary diagnoses, ICD-9-CM principal and secondary procedures, hospital identification, admission source and type, and discharge status. Hospital characteristics are obtained by linking each hospital's identification number with American Hospital Association and Medicare Cost Report data.

From the model, we exclude long-term care facilities; psychiatric, rehabilitation, or other specialty facilities; and federally-owned or -controlled facilities. Excluded patient groups are newborns, cases coded as palliative care (ICD-9-CM code V66.7), cases transferred to other short-term hospitals, and cases with stays shorter than one day.

***Note**: This section details the methods used to produce the 100 Top Hospitals®: National Benchmarks award winners. For details on the methods used to find the Everest Award winners, please see the special Everest Awards section of this document.*

A standard logistic regression model is used to estimate the risk of mortality or complications for each patient. This is done by weighting the patient records of the client hospital by the logistic regression coefficients associated with the corresponding terms in the model and the intercept term. This produces the expected probability of an outcome for each eligible patient (numerator) based on the experience of the norm for patients with similar characteristics (age, clinical grouping, severity of illness, and so forth) at similar institutions (hospital bed size, census division, teaching status, urban or rural community setting).[9-13] This methodology also ensures that facilities are compared to other facilities with similar characteristics.

Thomson Reuters staff physicians have suggested important clinical patient characteristics that

were also incorporated into the models. After assigning the predicted probability of the outcome for each patient, the patient-level data can then be aggregated across a variety of groupings including hospital, service, or the DRGs and RDRGs classification systems, which were developed at Yale University in the 1980s.

Expected Complications Rate Index Models

Risk-adjusted complications refer to outcomes that may be of concern when they occur at a greater than expected rate among groups of patients, possibly reflecting systemic quality of care issues. The Thomson Reuters complications model uses clinical qualifiers to identify complications that have probably occurred in the inpatient setting. Examples of expected complications include wound infections, post-procedural hemorrhage, and post-operative pneumonia.

A normative database of case-level data including age, sex, length of stay, clinical grouping (DRG or RDRG), comorbid conditions, and hospital identification is constructed using our national all-payer database. Hospital characteristics are obtained by linking each hospital's identification number with American Hospital Association and Medicare Cost Report data. The method includes patients from approximately 2,000 short-term, general, nonfederal hospitals that are generally representative of short-term, general, nonfederal hospitals in the United States. Excluded groups are neonates, cases transferred to other short-term hospitals, and cases with stays shorter than one day. Also, clinical groupings such as psychiatry/mental illness, substance abuse, rehabilitation, obstetrics, and pediatrics (under 17 years of age) require special consideration with regard to complications outcomes, and so are excluded from the general risk-adjusted complications measure.

Complications rates are calculated from normative data for two patient risk groups: medical and surgical. A standard regression model is used to estimate the risk of experiencing a complication for each patient. This is done by weighting the patient records of the client hospital by the regression coefficients associated with the corresponding terms in the prediction models and intercept term. This method produces the expected probability of a complication for each patient based on the experience of the norm for patients with similar characteristics at similar institutions. After assigning the predicted probability of a complication for each patient in each risk group, it is then possible to aggregate the patient-level data across a variety of groupings.[14-17]

Patient Safety Indicators

The Agency for Healthcare Research and Quality (AHRQ) is a public health service agency within the federal government's Department of Health and Human Services. The agency's mission includes both translating research findings into better patient care and providing policymakers and other healthcare leaders with information needed to make critical healthcare decisions. We use AHRQ's Patient Safety Indicators (PSIs) in calculating our risk-adjusted patient safety index performance measure. This information on PSIs is from the AHRQ Web site (www.ahrq.gov):

> The AHRQ Quality Indicators measure health care quality by using readily available hospital inpatient administrative data. Patient Safety Indicators are a set of indicators providing information on potential in-hospital complications and adverse events following surgeries, procedures, and childbirth. The PSIs were developed after a comprehensive literature review, analysis of ICD-9-CM codes, review by a clinician panel, implementation of risk adjustment, and empirical analyses. The Patient Safety Indicators provide a perspective on patient safety events using hospital administrative data. Patient Safety Indicators also reflect quality of care inside hospitals, but focus on surgical complications and other iatrogenic events.[18]

For the risk-adjusted patient safety index performance measure, we began our research with all PSIs that occurred with sufficient frequency to generate provider-specific output. Of these 20 PSIs, only 15 produced non-zero PSI rates on the Medicare data. Four measures are for birth or other obstetrical-related conditions, which do not occur in the age group under study here. Transfusion reactions generated rates that were too low for the AHRQ PSI software to generate provider-specific output. Due to the unreliability of E coding, we also excluded complications of anesthesia (PSI 1), foreign body left in during procedure (PSI 5), postoperative hip fracture (PSI 8), and accidental puncture and laceration (PSI 15), which rely on E codes. Since the original analysis was done, PSI 2 (death in low mortality DRGs) no longer has risk values in the model. This year, we also have excluded decubitis ulcer (PSI 3) and postoperative pulmonary embolism or deep vein thrombosis (PSI

12) because our research shows they are primarily present on admission.

The final set of eight PSIs included in the 2008 study was:

- Failure to rescue (PSI 4)
- Iatrogenic pneumothorax (PSI 6)
- Selected infections due to medical care (PSI 7)
- Postoperative hemorrhage or hematoma (PSI 9)
- Postoperative physiologic and metabolic derangement (PSI 10)
- Postoperative respiratory failure (PSI 11)
- Postoperative sepsis (PSI 13)
- Postoperative wound dehiscence in abdominopelvic surgical patients (PSI 14)

For each of the eight PSIs, we calculated an index value based on the number of actual PSI occurrences for 2006 and 2007, combined, divided by the number of normalized expected occurrences, given the risk of the PSI event for each patient. Values were normalized by comparison group. The hospital-level PSI methodology from AHRQ was applied to the 2006 and 2007 MedPAR acute care data, using program codes provided by AHRQ to adjust for risk.

We based the scoring on the difference between the observed and expected number of patients with PSI events, for each of the eight selected PSIs, expressed in standard deviation units (z-score).[5,6] A mean z-score was developed as an aggregate PSI score. Z-scores were normalized by hospital comparison group. Hospitals with the fewest observed PSIs, relative to the number expected, accounting for binomial variability, received the most favorable scores. We used two years of MedPAR data (2006 and 2007) to reduce the influence of chance fluctuation.

ECRI and PSI: Complementary Methodologies
Given its high level of importance, we chose to increase our emphasis on patient safety by using both the PSI and expected complications rate index (ECRI) methodologies. Both PSI *and* ECRI are methodologies for identifying complications of care. Although the definitions have some similarities, there are enough differences that the two are useful complements to each other. ECRI is an overall complication methodology in which the outcome is the occurrence of one or more of 48 complications of care. Whereas the AHRQ PSIs used in our study are based on 8 separate models that evaluate the occurrence of 8 distinct complications of care, one of which is mortality related – an adverse outcome that is not included in ECRI.

Index Interpretation
An outcome index is a ratio of an observed number of outcomes to an expected number of outcomes in a particular population. This index is used to make normative comparisons and is standardized in that the expected number of events is based on the occurrence of the event in a normative population. The normative population used to calculate expected numbers of events is selected to be similar to the comparison population with respect to relevant characteristics including age, sex, region, and case mix.

The index is simply the number of observed events divided by the number of expected events and can be calculated for outcomes which involve counts of occurrences (e.g., deaths or complications). Interpretation of the index relates the experience of the comparison population relative to a specified event to the expected experience based on the normative population.

Examples:
10 events observed ÷ 10 events expected = 1.0:
The observed number of events is equal to the expected number of events based on the normative experience.

10 events observed ÷ 5 events expected = 2.0:
The observed number of events is twice the expected number of events based on the normative experience.

10 events observed ÷ 25 events expected = 0.4:
The observed number of events is 60 percent lower than the expected number of events based on the normative experience.

Therefore, an index value of 1.0 indicates no difference between observed and expected outcome occurrence. An index value greater than 1.0 indicates an excess in the observed number of events relative to the expected based on the normative experience. An index value less than 1.0 indicates fewer events observed than would be expected based on the normative experience. An additional interpretation is that the difference between 1.0 and the index is the percentage difference in the number of events relative to the norm. In other words, an index of 1.05 indicates 5 percent more outcomes, and an index of 0.90

indicates 10 percent fewer outcomes than expected based on the experience of the norm. The index can be calculated across a variety of groupings (e.g., hospital, service, and DRG).

CORE MEASURES

Core Measures were developed by the National Quality Forum as minimum basic care standards. They are a widely accepted method for measuring patient care quality that includes specific guidelines for heart attack (acute myocardial infarction (AMI)), congestive heart failure (CHF), pneumonia, pregnancy and related conditions, and surgical infection prevention. Our core measures score is based on the AMI, CHF, pneumonia, and surgical infection prevention areas of this program, using Hospital Compare data reported on the Centers for Medicare and Medicaid Services (CMS) Web site.

In the 2008 study, we have included all 24 available core measures. The comparison group median core measure value was substituted for a missing core measure. In addition, the comparison group median core measure value was substituted when the hospital reported core measures with patient counts less than or equal to 25 or with Relative Standard Error values greater than or equal to 0.30. This was done because the original reported values were considered statistically unreliable.

AMI Core Measures

1. Patients given ACE inhibitor or angiotensin II receptor blocker (ARB) for left ventricular systolic dysfunction
2. Patients given aspirin at arrival
3. Patients given aspirin at discharge
4. Patients given beta blocker at arrival
5. Patients given beta blocker at discharge
6. Patients given PCI within 90 minutes of arrival
7. Patients given smoking cessation counseling
8. Patients given fibrinolytic medication within 30 minutes of arrival

CHF Core Measures

9. Patients given ACE inhibitor or ARB for left ventricular systolic dysfunction
10. Patients given discharge instructions
11. Patients given assessment of left ventricular function
12. Patients given smoking cessation counseling

Pneumonia Core Measures

13. Patients given oxygenation assessment
14. Patients whose initial emergency room blood culture was performed prior to the administration of the first hospital dose of antibiotics
15. Patients given the most appropriate initial antibiotic(s)
16. Patients assessed and given pneumococcal vaccination
17. Patients given initial antibiotic(s) within six hours of arrival
18. Patients given smoking cessation advice/ counseling
19. Patients assessed and given influenza vaccination

Surgical Infection Prevention Core Measures

20. Patients who received preventative antibiotic(s) one hour before incision
21. Patients whose preventative antibiotic(s) are stopped within 24 hours after surgery
22. Patients who received the appropriate preventative antibiotic(s) for their surgery
23. Patients who received treatment to prevent blood clots within 24 hours before or after selected surgeries to prevent blood clots
24. Patients whose doctors ordered treatments to prevent blood clots (venous thromboembolism) for certain types of surgeries

HCAHPS OVERALL HOSPITAL RATING

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient survey question rating overall hospital performance was added as the patient perception of care measure in the 2008 study. Although we are reporting hospital performance on all HCAHPS questions, only performance on the Overall Hospital Rating question is used to rank hospital performance in the study.

HCAHPS is a standardized survey instrument and data collection methodology for measuring patients' perspectives of hospital care. HCAHPS is a core set of questions that can be combined with customized, hospital-specific items to produce information that complements the data hospitals currently collect to support internal customer service and quality-related activities.

HCAHPS was developed through a partnership between CMS and AHRQ that had three broad goals:

- Produce comparable data on patients' perspectives of care that allow objective and meaningful comparisons among hospitals on topics that are important to consumers.
- Encourage public reporting of the survey results to create incentives for hospitals to improve quality of care.
- Enhance public accountability in healthcare by increasing the transparency of the quality of hospital care provided in return for the public investment.

The HCAHPS survey has been endorsed by the National Quality Forum and the Hospital Quality Alliance. The federal government's Office of Management and Budget has approved the national implementation of HCAHPS for public reporting purposes.

Voluntary collection of HCAHPS data for public reporting began in October 2006. The first public reporting of HCAHPS results, which encompassed eligible discharges from October 2006 through June 2007, occurred in March 2008. HCAHPS results were posted on the Hospital Compare Web site, found at *www.hospitalcompare.hhs.gov,* or through a link on *www.medicare.gov.* A downloadable version of HCAHPS results is available.[19]

The HCAHPS data used in the study are from CMS Hospital Compare (CMSHC) 2008, third quarter data set. This data set contains the HCAHPS results for data period January 1, 2007 through December 31, 2007.

LENGTH OF STAY WEIGHT METHODOLOGIES

Grouper-based methodologies allow us to produce risk-adjusted performance comparisons on length of stay (LOS) between or across virtually any arbitrary subgroup of inpatients. These patient groupings can be based on DRGs, hospitals, product lines, geographic regions, physicians, etc. The grouper adjusts for differences in diagnosis type and illness severity. A grouper and its associated LOS weights allow group comparisons on a national level, and in a specific market area. Grouper-based weights are calculated for LOS from the largest and most representative inpatient database in existence.

Normalized LOS Weights

LOS weights are calculated for RDRGs using our nationally representative PIDB, which contains more than 20 million inpatient discharges annually. RDRG weights for Medicare patients are calculated by dividing the average LOS for each RDRG by the average LOS of all Medicare patients in the universe of short-term, general, non-federal hospitals in the U.S.

WHY WE HAVE NOT CALCULATED PERCENT CHANGE IN SPECIFIC INSTANCES

Percent change is a meaningless statistic when the underlying quantity can be positive, negative, or zero. The actual change may mean something, but dividing it by a number that may be zero or of the opposite sign does not convey any meaningful information because the amount of change is not proportional to its previous value.[20]

MEDICARE COST REPORT LINE ITEMS USED IN THE 2008 PERFORMANCE MEASURES CALCULATIONS

A number of our calculations include data from the Medicare Cost Report. Below you will find our calculations and the cost report locations (worksheet, line, and column) for all of these items. The following apply to the 2008 100 Top Hospitals®: National Benchmarks study and the Medicare Cost Report for federal fiscal year 2007. Please note that the locations of the elements will sometimes vary between cost reports. The line and column references are the standard based on CMS (Centers for Medicare and Medicaid Services) Form 2552-96. Any deviations from this standard are checked by system and manual data analysis to ensure that the coding has been done properly.

Expense per Adjusted Discharge, Case Mix- and Wage-Adjusted

[[((Total Adjusted Operating Expense × 0.62) ÷ CMS Wage Index) + (Adjusted Operating Expense × 0.38)] ÷ Adjusted Discharges, Acute] ÷ Medicare Case Mix Index

Total Adjusted Operating Expense = Total Operating Expense + Related Organization Expense + Provider-Based Physician Expense Adjustment

Adjusted Discharges, Acute = [Discharges, Total Hospital, All Patients × Adjustment Factor]

Adjustment Factor = [Total Patient Revenue ÷ (Total Inpatient Revenue - (Total Revenue, Sub I + Total Revenue, Sub II + Total Revenue, Sub III + Total Revenue, SNF + Total Revenue, ICF + Total Revenue Other LTC))]

Individual Element Locations in the Medicare Cost Report:

- Total Operating Expense–Worksheet G-3, Line 4, Column 1
- Related Organization Expense–Worksheet A-8, Line 14, Column 2
- Provider-Based Physician Expense (related to direct patient care)–Worksheet A-8, Line 12, Column 2
- Discharges, Total Hospital, All Patients–Worksheet S-3, Line 12, Column 15
- Total Patient Revenue–Worksheet G-3, Line 1 or G-2, Line 25, Column 3
- Total Inpatient Revenue–Worksheet G-2, Line 25, Column 1
- Total Revenue, Sub I–Worksheet G-2, Line 2, Column 3
- Total Revenue, Sub II–Worksheet G-2, Line 2.01, Column 3
- Total Revenue, Sub III–Worksheet G-2, Line 2.02, Column 3
- Total Revenue, SNF–Worksheet G-2, Line 6, Column 3
- Total Revenue, ICF–Worksheet G-2, Line 7, Column 3
- Total Revenue, Other LTC–Worksheet G-2, Line 8, Column 3
- Medicare Case Mix Index–Federal Register: CMS Inpatient Prospective Payment System (IPPS) Fiscal Year 2009 Final Rule
- CMS Wage Index–CMS Federal Register: CMS IPPS Fiscal Year 2009 Final Rule

Operating Profit Margin (Profitability)

[(Net Patient Revenue + Other Operating Revenue - (Total Operating Expense + Related Organization Expense)) ÷ (Net Patient Revenue + Other Operating Revenue)] ×100

Other Operating Revenue = [Total Other Income - Other Income: Contributions, Donations, etc. - Other Income from Investments]

Individual Element Locations in the Medicare Cost Report:

- Net Patient Revenue–Worksheet G-3, Line 3, Column 1
- Total Other Income–Worksheet G-3, Line 25, Column 1
- Other Income: Contributions, Donations, Etc.–Worksheet G-3, Line 6, Column 1
- Other Income from Investments–Worksheet G-3, Line 7, Column 1
- Total Operating Expense–Worksheet G-3, Line 4, Column 1
- Related Organization Expense–Worksheet A-8, Line 14, Column 2

Cash-to-Total-Debt Ratio

[(Cash + Temporary Investments + Investments) ÷ Total Liabilities]

Individual Element Locations in the Medicare Cost Report:

- Cash–Worksheet G, Line 1, Columns 1 and 4
- Temporary Investments–Worksheet G, Line 2, Columns 1 and 4
- Investments–Worksheet G, Line 22, Columns 1 and 4
- Total Liabilities–Worksheet G, Line 43 Columns 1 and 4

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3. We obtain ACGME program involvement data annually from the American Medical Association (AMA). This year's study is based on the ACGME file received from the AMA on April 30, 2007.

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