

HealthGrades Hospital Quality and Clinical Excellence Study

January 2012

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Every year HealthGrades independently assesses the quality of care at the nation's 5,000 hospitals and publishes the results of its annual research on the web to help consumers in choosing a hospital. In this study, HealthGrades objectively identifies hospitals among the best in the nation based on overall clinical outcomes. Using these 263 elite hospitals, HealthGrades also identifies the top cities for hospital care. For a list of best-performing hospitals and for individual hospital quality results, see www.healthgrades.com.

Executive Summary

Hospitals have a significant impact on the communities they serve. Hospitals provide 24/7 access to emergency care, medical and surgical services, community outreach, disaster readiness and response, disease and population health management, research and clinical trials and, in many communities, serve as the safety net for underserved populations. Hospitals also have significant impact on the economic health of a community as large employers and consumers of products and services.

Recently, hospitals have been under significant pressures from the Federal Government and patient groups to improve quality. The variation in quality between providers and potentially preventable hospital complications has a significant impact on morbidity and mortality as well as overall healthcare expenditures. For this reason, starting in the fall of 2012, the first efforts to improve care under the Affordable Care Act go into effect. These efforts by the Federal Government are the first steps towards aligning hospital payment with the quality of services provided by hospitals.

HealthGrades has been studying the quality of hospitals since 1998. Since that time, HealthGrades has found that American hospitals have made progress in the quality of care, but it is not consistent progress and there continues to be significant differences in quality from hospital to hospital. This HealthGrades report highlights the top-performing hospitals in the country using Medicare data from 2008 through 2010. Our report evaluates the nation's 5,000 hospitals on their clinical outcomes (risk-adjusted mortality and inhospital complications) across 26 of the most common diagnoses and procedures in the Medicare population.

Two hundred and sixty-three hospitals, representing the top 5% of the nation's hospitals, have the lowest risk-adjusted mortality and inhospital complications and are designated as a HealthGrades Distinguished Hospital for Clinical Excellence™ (DH-CE). What differentiates these hospitals from the rest is that while many hospitals have specific areas of expertise and high-quality outcomes in those areas, these hospitals exhibit comprehensive and consistent quality across medical specialties.

Since these 263 hospitals have achieved levels of hospital-wide quality compared to their peer hospitals, they have even greater impact to the communities in which they are situated. Therefore, HealthGrades has named the communities with the highest percentage of these full-service hospitals as Top Cities for Hospital Care.



Summary of Findings

U.S. hospitals have experienced improvements in quality. In a previous study released in October of 2011, HealthGrades found that from 2008 to 2010, inpatient unadjusted mortality rates improved 13% across 18 diagnoses and procedures. Yet, there continues to be significant differences in quality between hospitals.

To quantify these differences, HealthGrades identified the top 263 hospitals, those with the lowest risk-adjusted mortality and complication rates, and designated them as HealthGrades Distinguished Hospitals for Clinical Excellence. The outcomes from these 263 facilities were then compared to all other hospitals to demonstrate the significant impact of the variation in quality.

During 2008 through 2010, HealthGrades Distinguished Hospitals for Clinical Excellence had:

- Overall 30.07% lower risk-adjusted mortality across 17 procedures and diagnoses.
 Risk-adjusted mortality was lower at Distinguished Hospitals for Clinical Excellence for all 17 procedures and diagnoses. In fact, risk-adjusted mortality at Distinguished Hospitals for Clinical Excellence was 20.48% to 42.04% lower than all other hospitals (*Appendix B*).
- Overall 1.86% lower risk-adjusted complications across nine procedures.

 Risk-adjusted complications were lower at Distinguished Hospitals for Clinical Excellence for six complication-based procedures studied. For these six complication-based procedures, risk-adjusted complications at Distinguished Hospitals for Clinical Excellence were 1.01% to 4.93% lower than all other hospitals (*Appendix C*).

From 2008 through 2010, if all hospitals performed at the level of Distinguished Hospitals for Clinical Excellence:

- 165,704 Medicare deaths may have been prevented.
- 6,800 Medicare inhospital complications may have been avoided.

Distinguished Hospitals can be found in 38 states. The top cities for hospital quality, determined by having the most Distinguished Hospitals in a Designated Market Area (DMA), are found in 26 states. (*Appendix A*).

 The top 10 cities for hospital quality can be found in Maryland (Baltimore, MD), Arizona (Phoenix - Prescott, AZ), Iowa (Cedar Rapids, IA), Virginia (Richmond, VA), Ohio (Cincinnati, OH), Florida (West Palm Beach, FL), Tennessee (Chattanooga, TN), Missouri (St. Louis, MO), Connecticut (Hartford-New Haven, CT), and Michigan (Grand Rapids-Kalamazoo, MI).

Patients have on average a 30.07% lower chance of dying at the nation's Distinguished Hospitals compared to all other hospitals across 17 procedures and conditions.

If all hospitals performed at the level of Distinguished Hospitals, 165,704 Medicare lives could potentially have been saved and 6,800 Medicare inhospital complications may have been avoided.



Introduction

Hospitals have a significant impact on the U.S. economy and in the communities that they serve. According to the American Hospital Association, the overall economic contribution of American Hospitals to the economy is \$2.2 trillion. Hospitals are the second largest employment sector, employing 5.4 million people in 2009 and supplying \$811 billion in wages. In the communities that they serve, hospitals provide valuable services that not only save lives but contribute to the overall well-being of the community. Hospitals provide 24/7 emergency health services, community outreach, disease prevention and management services, research and clinical trials, disaster readiness and response and in some communities, a safety net for underserved populations.

Recently enacted legislation has put tremendous pressure on hospitals to improve the quality of care that they provide to patients. Hospital care is the largest component of the health sector. Government healthcare expenses represent 17.6% of the gross domestic product (GDP) and hospital care represents 30.5% of that expenditure. Hospital payments represent the largest share of Medicare spending and Medicare is the largest single payer for hospital services. A significant factor in the costs of hospital care is hospital-acquired conditions. In fact, Medicare estimates that one in seven Medicare beneficiaries is harmed in the hospital every year and this costs the Federal Government \$4.4 billion each year.

To address these quality issues, starting in October 2012, Medicare will reward hospitals that provide high-quality care for their patients through the new Hospital Value-Based Purchasing Program. This is a significant change in the way hospitals are paid. For the first time, hospitals will be paid for inpatient services based on care quality rather than on just a fee-for-service basis. Additionally, in March of 2011, the government launched Partnership for Patients, a public-private initiative aimed at preventing 60,000 healthcare-related deaths and avoiding \$50 billion in Medicare costs over 10 years.

In addition to initiatives from the Federal Government and other payers, patients themselves are increasingly worried about the care provided in hospitals. In 2004, a report prepared for the American Hospital Association warned that the most pressing priorities for American hospitals is reaffirming their rightful place as valued and vital community resources that merit broad public support. A recent poll conducted by Consumer Reports National Research Center found that 60% of adults believe that medical errors are common in hospitals, 80% feared contracting an infection in a hospital, 71% were worried about medication errors, and 65% were scared of surgical mistakes.

Since 1998, HealthGrades has been working to empower healthcare consumers with objective quality information to make informed decisions about choosing a provider and to take steps to ensure the best hospital stay, prepare for, and avoid any potential problems. Annually, HealthGrades evaluates the most common Medicare diagnoses and procedures and provides consumers comparative quality information for each in the form of a 5-star (best), 3-star (as expected) or 1-star (poor) designation.

In October of 2011, HealthGrades released the *Healthcare Consumerism and Hospital Quality in America Report*. This current study, *HealthGrades Hospital Quality and Clinical Excellence Report*, builds upon the 2011 study results by evaluating hospitals on their performance across 26 diagnoses and procedures from 2008 through 2010. The best-performing hospitals nationwide are designated as Distinguished Hospitals for Clinical Excellence and are ranked in the top 5% nationally. These 263 hospitals, as a group, have the lowest risk-adjusted mortality and fewest inhospital complications out of the approximately 5,000 hospitals studied. These Distinguished Hospitals for Clinical Excellence for 2012 are listed in *Appendix A* and online at www.healthgrades.com.

The hospitals in the top 5% nationally have the best comprehensive outcomes in the country across medical specialties and serve as a benchmark for all other hospitals. Since these 263 hospitals have achieved the highest levels of overall quality compared to their peer hospitals, they have an even greater



impact on the communities in which they are situated. As such, the communities that have the highest percentage of these full-service hospitals have been named by HealthGrades as a Top City for Hospital Care (*Table 5 and Appendix A*).

Study Methodology

In order to evaluate overall hospital performance and to identify the best-performing hospitals in clinical excellence across the United States, HealthGrades uses a four-step methodology:

- Assign star ratings for 26 procedures and diagnoses using the HealthGrades Hospital Report Cards™ Mortality and Complication Outcomes Methodology. These star ratings are published in October of each year. They can be found at www.healthgrades.com.
- Identify the overall best-performing hospitals, top 5% in the nation, through additional analysis
 using the *Distinguished Hospital Award for Clinical Excellence™ Methodology* (See *Appendix D*).
 A hospital had to have star ratings in 19 of the 26 procedures and diagnoses studied.
- 3. Compare Distinguished Hospitals for Clinical Excellence to all other hospitals to identify differences in performance.
- 4. Identify top 50 cities for highest quality hospital care. The Top 50 Cities for Hospital Care is based on the percent of hospitals that are eligible for a HealthGrades Distinguished Hospital for Clinical Excellence award. Eligible hospitals are full-service hospitals. A city, or specifically a Designated Market Area (DMA), must have at least four eligible hospitals to be considered for the list. Cities are ranked by percent of eligible hospitals and ties were broken by the lowest risk-adjusted mortality and complications rates of all eligible and award recipient hospitals in that DMA.

The 26 procedures and diagnoses in this study are as follows.

Mortality Cohorts	
Bowel Obstruction	Pancreatitis
Chronic Obstructive Pulmonary Disease (COPD)	Pneumonia
Coronary Interventional Procedures (Angioplasty)	Pulmonary Embolism
Diabetic Acidosis and Coma	Resection/Replacement Abdominal Aorta
Gastrointestinal Bleed	Respiratory Failure
Gastrointestinal Surgeries and Procedures	Sepsis
Heart Attack	Stroke
Heart Bypass Surgery	Valve Surgery
Heart Failure	

Inhospital Complication Cohorts	
Back and Neck Surgery (with Spinal Fusion)	Peripheral Vascular Bypass
Back and Neck Surgery (without Spinal Fusion)	Prostatectomy
Carotid Surgery	Total Hip Replacement
Cholecystectomy (Gallbladder Surgery)	Total Knee Replacement
Hip Fracture Treatment	



Results

In the study released in October of 2011, of the nation's 4,783 short-term, nonfederal, non-children's, acute-care hospitals, HealthGrades found that, overall, hospitals showed improvement from 2008 to 2010. In fact, HealthGrades found a 13% lower unadjusted mortality rate across 18 procedures and diagnoses where the outcome of study was mortality.⁶

However, improvement is inconsistent and variation exists from hospital to hospital. Therefore, HealthGrades set out to identify the hospitals ranked in the top 5% for risk-adjusted mortality and complication rates across three years of data, from 2008 to 2010. These 263 hospitals have been recognized as HealthGrades Distinguished Hospitals for Clinical Excellence. These hospitals consistently outperform all other organizations across the 26 diagnoses and procedures studied.

Overall, Distinguished Hospitals for Clinical Excellence consistently outperformed all other hospitals during the years 2008, 2009 and 2010. Distinguished Hospitals had:

- Lower risk-adjusted inhospital mortality across all 17 mortality-based procedures and diagnoses
- Lower risk-adjusted inhospital complications across six of nine complication-based procedures studied.

On Average, Distinguished Hospitals Had 30.07% Lower Risk-Adjusted Inhospital Mortality

Overall, when compared to all other hospitals, Distinguished Hospitals for Clinical Excellence had lower risk-adjusted inhospital mortality across all 17 procedures and diagnoses studied. The differences ranged from 20.48% in resection/replacement of abdominal aorta to 42.24% in the treatment of pneumonia (*Appendix B*).

Table 1 lists the top five procedures and diagnoses with the greatest differences in risk-adjusted mortality between Distinguished Hospitals and all others.

Table 1. Relative Reduction in Risk-Adjusted Mortality Associated With Distinguished Hospitals Compared to All Other Hospitals

Procedure / Diagnosis	Relative Reduction in Risk- Adjusted Mortality Associated With Distinguished Hospitals Compared to All Other Hospitals
Pneumonia	42.24%
Chronic Obstructive Pulmonary Disease	39.60%
GI Bleed	38.96%
Heart Failure	37.01%
Bowel Obstruction	36.56%

Distinguished Hospitals for Clinical Excellence Save Lives

If all hospitals performed at the level of Distinguished Hospitals for Clinical Excellence, 165,704 Medicare lives could have been saved between 2008 and 2010 (*Appendix B*). Approximately 65.69% (108,847) potentially preventable deaths were associated with just four diagnoses (*Table 2*).



Table 2. Top Procedures/Diagnoses With Greatest Potentially Preventable Deaths

Procedure / Diagnosis	Number of Lives That Could Have Been Saved If All Patients were Treated at DH-CE Hospitals (2008-2010)
Sepsis	44,347
Pneumonia	25,483
Heart Failure	19,865
Respiratory Failure	19,152

On Average, Distinguished Hospitals Had 1.86% Fewer Inhospital Complications

Among the nine procedures studied, 13.73% of patients experienced one or more inhospital complications. The most common inhospital complications across all procedures are listed in *Table 3*.

Table 3. Most Common Inhospital Complications

Complication Type	е	Cases	Description	
Urinary and Digestive Complications	System			
		58,260	ACUTE KIDNEY FAILURE	
		47,494	URINARY TRACT INFECTION	
		28,674	DIGESTIVE SYSTEM COMPLICATION	
		34,530	RETENTION OF URINE	
	Total	168,958		
Pulmonary Complication	ons			
		31,816	PNEUMONIA	
		30,590	PULMONARY INSUFFICIENCY FOLLOWING SURGERY	
		25,451	ACUTE RESPIRATORY FAILURE	
	Total	87,857		
Cardiac Complications	6			
		35,691	CARDIAC COMPLICATIONS	
		25,072	ATRIAL FIBRILLATION	
	Total	60,763		
Surgical Complications				
		23,836	HEMORRHAGE COMPLICATING A PROCEDURE	
	Total	23,836		

Distinguished
Hospitals have
lower riskadjusted
inhospital
complications in
six complicationbased
procedures
studied.

During the three years studied, Distinguished Hospitals for Clinical Excellence performed, on average, 1.86% better than all other hospitals for avoiding complications across nine procedures. Distinguished Hospitals demonstrated lower risk-adjusted inhospital complications across six common Medicare procedures studied: Hip replacement, hip fracture repair, knee replacement, prostate surgery, cholecystectomy, and carotid surgery. The differences ranged from 1.01% in carotid surgery to 4.93% in total hip replacement (*Table 4* and *Appendix C*).



Distinguished Hospitals for Clinical Excellence had slightly higher risk-adjusted inhospital complications for back and neck surgeries and peripheral vascular bypass. Closing the performance gap for just four procedures and diagnoses could potentially prevent the greatest number of complications: cholecystectomy (1,121), hip fracture treatment (2,849), total knee replacement (1,551), and total hip replacement (1,141).

Table 4. Relative Reduction in Risk-Adjusted Complications Associated With Distinguished Hospitals Compared to All Other Hospitals

Procedure / Diagnosis	Relative Reduction in Risk- Adjusted Complications Associated with Distinguished Hospitals Compared to All Other Hospitals
Total Hip Replacement - 1st Surgery	4.93%
Prostatectomy	4.00%
Hip Fracture Treatment	3.47%
Total Knee Replacement - 1st Surgery	3.08%
Cholecystectomy	2.93%
Carotid Surgery	1.01%

Top Cities for Hospital Care

The Top Cities for Hospital Care list is based on the percent of recipient hospitals compared to the number that are eligible for a HealthGrades Distinguished Hospital for Clinical Excellence award in that particular city. Eligible hospitals are full-service hospitals treating a minimum of 19 diagnoses or procedures studied by HealthGrades. A city, or specifically a Designated Market Area (DMA), must have at least four eligible hospitals to be considered for the list. Cities are ranked by percent of recipient hospitals and ties were broken by the lowest risk-adjusted mortality and complications rates of all eligible and award recipient hospitals.

Table 5. Top 50 Cities for Hospital Care

Rank	City by Designated Market Area*	Eligible Hospitals	DH-CE Award Hospitals	Percent of Eligible
1	Baltimore, MD	19	9	47.37%
2	Phoenix - Prescott, AZ	25	11	44.00%
3	Cedar Rapids, IA	7	3	42.86%
4	Richmond, VA	7	3	42.86%
5	Cincinnati, OH	12	5	41.67%
6	West Palm Beach, FL	15	6	40.00%
7	Chattanooga, TN	5	2	40.00%
8	St. Louis, MO	18	7	38.89%
9	Hartford-New Haven, CT	13	5	38.46%
10	Grand Rapids-Kalamazoo, MI	8	3	37.50%

Continued....



Rank	City by Designated Market Area*	Eligible Hospitals	DH-CE Award Hospitals	Percent of Eligible
11	Ft. Meyers, FL	8	3	37.50%
12	Cleveland, OH	25	9	36.00%
13	Minneapolis-St. Paul, MN	14	5	35.71%
14	Indianapolis, IN	16	5	31.25%
15	Chicago, IL	61	19	31.15%
16	Miami-Ft. Lauderdale, FL	20	6	30.00%
17	Brownsville, TX	7	2	28.57%
18	Greenville, SC	7	2	28.57%
19	Toledo, OH	7	2	28.57%
20	Knoxville, TN	7	2	28.57%
21	Detroit, MI	25	7	28.00%
22	Los Angeles, CA	59	15	25.42%
23	Santa Barbara, CA	4	1	25.00%
24	La Crosse - Eau Claire, WI	4	1	25.00%
25	Columbia - Jefferson City, MO	4	1	25.00%
26	Dayton, OH	8	2	25.00%
27	Evansville, IN	4	1	25.00%
28	Colorado Springs - Pueblo, CO	4	1	25.00%
29	San Diego, CA	12	3	25.00%
30	Johnstown-Altoona, PA	4	1	25.00%
31	Lincoln, NE	4	1	25.00%
32	Rochester, NY	4	1	25.00%
33	Honolulu, HI	4	1	25.00%
34	Tri-Cities, TN-VA	4	1	25.00%
35	Seattle - Tacoma, WA	21	5	23.81%
36	Milwaukee, WI	13	3	23.08%
37	Houston, TX	22	5	22.73%
38	Albany, NY	9	2	22.22%
39	Denver, CO	18	4	22.22%
40	Jacksonville, FL	9	2	22.22%
41	Sacramento, CA	15	3	20.00%
42	South Bend, IN	5	1	20.00%
43	Springfield, MO	5	1	20.00%
44	Eugene, OR	5	1	20.00%
45	Austin, TX	5	1	20.00%
46	Green Bay - Appleton, WI	10	2	20.00%
47	Tucson, AZ	5	1	20.00%
48	Wichita, KS	5	1	20.00%
49	San Francisco-Oakland, CA	31	6	19.35%
50	Atlanta, GA	21	4	19.05%

^{*} Designated Market Areas are geographic areas defined by The Nielsen Company as a group of counties that make up a particular television market.



Conclusion

As U.S. hospitals move into the era of pay-for-performance and value-based reimbursement, the 263 Distinguished Hospitals for Clinical Excellence are well positioned for this challenge. These hospitals are an example of what can happen when hospital care is done well. Closing the gap and raising the performance of all hospitals to the level of the Distinguished Hospitals could result in potentially saving 165,704 Medicare lives and avoiding 6,800 Medicare inhospital complications. The magnitude of these numbers is in line with the Federal Government's goal of preventing 60,000 healthcare-related deaths and avoiding \$50 billion in Medicare costs over ten years.⁷

For patients in the communities with these hospitals, they have the benefit of knowing that they have access to high quality care. In an environment where one in seven Medicare beneficiaries are harmed as a result of their hospitalization and patients are fearful of the very institutions that save their lives, it is important to identify and acknowledge those hospitals that are leading the way and provide consumers access to this information.

For the communities themselves, these hospitals have a significant impact. In some instances, the top cities named in this report can make the claim that almost half of their hospitals provide this level of care – Baltimore (47%), Phoenix-Prescott (44%), Cedar Rapids (43%), and Richmond, Virginia (43%). Strong local healthcare, with nationally recognized hospitals as the anchor, has numerous benefits from improving the overall health of the community to economic impacts including attracting new business and new residents. These top cities for hospital care should leverage this status.

References

- 1 American Hospital Association. http://www.aha.org/content/11/11econcontrib.pdf).
- Healthcare.gov. Value Based Purchasing Fact Sheet. Available at: http://www.healthcare.gov/news/factsheets/2011/04/valuebasedpurchasing04292011a.html. Accessed December 7th, 2011.
- Healthcare.gov. Partnership for Patients. Available at: http://www.healthcare.gov/compare/partnership-for-patients/. Accessed December 7, 2011.
- 4 King JG, Moran E. Trust Counts Now. A Report to the American Hospital Association. Available at: http://www.caringforcommunities.org/caringforcommunities/content/trustcounts.pdf. Accessed December 7th, 2011.
- Consumer Reports National Research Center Safe Patients Project. Consumer Reports Poll Finds High Levels of Concern About Medical Harm & Support For Public Ratings on Hospital Safety. Available at: http://www.safepatientproject.org/2011/03/consumer_reports_poll_finds_hi.html. Accessed December 7th, 2011).
- 6 HealthGrades. HealthGrades Consumerism and Hospital Quality in America Study. October 2011. Available at: http://www.healthgrades.com/business/img/HealthcareConsumerismHospitalQualityReport2011. pdf. Accessed December 9, 2011.
- 7 Healthcare.gov. Partnership for Patients. Available at: http://www.healthcare.gov/compare/partnership-for-patients/. Accessed December 7, 2011



Appendix A: Distinguished Hospitals for Clinical Excellence™ 2012 List by State and City

op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
2	Phoenix - Prescott, AZ	Banner Boswell Medical Center	Sun City	AZ
		Banner Del E. Webb Medical Center	Sun City West	ΑZ
		Banner Desert Medical Center	Mesa	ΑZ
		Banner Estrella Medical Center	Phoenix	AZ
		Banner Good Samaritan Medical Center	Phoenix	AZ
		Chandler Regional Medical Center	Chandler	AZ
		John C. Lincoln Deer Valley Hospital	Phoenix	AZ
		Mayo Clinic Hospital	Phoenix	AZ
		Mercy Gilbert Medical Center	Gilbert	AZ
		Mountain Vista Medical Center	Mesa	AZ
		Scottsdale Healthcare - Shea Medical Center	Scottsdale	AZ
47	Tucson, AZ	Carondelet Saint Mary's Hospital	Tucson	AZ
	Chico - Redding, CA	Mercy Medical Center Redding	Redding	CA
22	Los Angeles, CA	Cedars - Sinai Medical Center	Los Angeles	CA
		Centinela Hospital Medical Center	Inglewood	CA
		Garfield Medical Center	Monterey Park	CA
		Hoag Memorial Hospital Presbyterian	Newport Beach	CA
		Huntington Memorial Hospital	Pasadena	CA
		Kaiser Permanente Downey Medical Center	Downey	CA
		Kaiser Permanente Los Angeles Medical Center	Los Angeles	CA
		Kaiser Permanente Woodland Hills Medical Center	Woodland Hills	CA
		Northridge Hospital Medical Center	Northridge	CA
		Presbyterian Intercommunity Hospital	Whittier	CA
		Saddleback Memorial Medical Center - Laguna Hills	Laguna Hills	CA
		including. Saddleback Memorial Medical Center San Clemente	San Clemente	CA
		Saint John's Health Center	Santa Monica	CA
		Saint John's Regional Medical Center	Oxnard	CA
		Saint Vincent Medical Center	Los Angeles	CA
		West Hills Hospital and Medical Center	West Hills	CA
41	Sacramento, CA	Mercy General Hospital	Sacramento	CA
		Sutter General Hospital	Sacramento	CA
		including. Sutter Memorial Hospital	Sacramento	CA
		Sutter Roseville Medical Center	Roseville	CA
29	San Diego, CA	Scripps Green Hospital	La Jolla	CA
		Scripps Memorial Hospital Encinitas	Encinitas	CA
		Scripps Mercy Hospital	San Diego	CA
		including. Scripps Mercy Hospital Chula Vista	Chula Vista	CA



op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
49	San Francisco-Oakland, CA	Alta Bates Summit Medical Center - Alta Bates Camp	Berkeley	CA
		Alta Bates Summit Medical Center - Summit	Oakland	CA
		Eden Medical Center	Castro Valley	CA
		John Muir Medical Center - Walnut Creek	Walnut Creek	CA
		Peninsula Medical Center	Burlingame	CA
		including. Mills Health Center	San Mateo	CA
		Sequoia Hospital	Redwood City	CA
23	Santa Barbara, CA	French Hospital Medical Center	San Luis Obispo	CA
28	Colorado Springs - Pueblo, CO	Centura Health - Penrose St. Francis Health Services	Colorado Springs	СО
		including: Saint Francis Medical Center	Colorado Springs	CO
39	Denver, CO	Exempla Lutheran Medical Center	Wheat Ridge	СО
		Exempla Saint Joseph Hospital	Denver	CO
		McKee Medical Center	Loveland	СО
		North Colorado Medical Center	Greeley	СО
9	Hartford-New Haven, CT	Griffin Hospital	Derby	СТ
		Hartford Hospital	Hartford	СТ
		Hospital of Saint Raphael	New Haven	СТ
		Middlesex Hospital	Middletown	СТ
		Saint Mary's Hospital	Waterbury	СТ
11	Ft. Meyers, FL	Fawcett Memorial Hospital	Port Charlotte	FL
		Lee Memorial Hospital	Fort Myers	FL
		including. HealthPark MC / Lee Memorial	Fort Myers	FL
		Peace River Regional Medical Center	Port Charlotte	FL
40	Jacksonville, FL	Baptist Medical Center	Jacksonville	FL
		including. Baptist Medical Center - South	Jacksonville	FL
		Flagler Hospital	Saint Augustine	FL
16	Miami-Ft. Lauderdale, FL	Cleveland Clinic Florida	Weston	FL
		Kendall Regional Medical Center	Miami	FL
		Memorial Hospital Pembroke	Pembroke Pines	FL
		Memorial Hospital West	Pembroke Pines	FL
		Mercy Hospital - A Campus of Plantation General	Miami	FL
		Mount Sinai Medical Center	Miami Beach	FL
		including: Mount Sinai Medical Center and Miami Heart Institute	Miami Beach	FL
	Mobile, AL-Pensacola, FL	Sacred Heart Hospital	Pensacola	FL
	Orlando, FL	Florida Hospital Fish Memorial	Orange City	FL
		Munroe Regional Medical Center	Ocala	FL
		Parrish Medical Center	Titusville	FL



op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
	Panama City, FL	Bay Medical Center	Panama City	FL
	Tampa-St. Petersburg, FL	Doctors Hospital of Sarasota	Sarasota	FL
		Sarasota Memorial Hospital	Sarasota	FL
6	West Palm Beach, FL	Bethesda Memorial Hospital	Boynton Beach	FL
		Boca Raton Regional Hospital	Boca Raton	FL
		Delray Medical Center	Delray Beach	FL
		Jupiter Medical Center	Jupiter	FL
		Martin Memorial Medical Center	Stuart	FL
		including. Martin Memorial Hospital South	Stuart	FL
		Sebastian River Medical Center	Sebastian	FL
50	Atlanta, GA	Gwinnett Medical Center - Lawrenceville	Lawrenceville	GA
		including: Gwinnett Medical Center - Duluth	Duluth	GA
		Northeast Georgia Medical Center	Gainesville	GA
		Piedmont Fayette Hospital	Fayetteville	GA
		Piedmont Hospital	Atlanta	GA
	Macon, GA	Houston Medical Center	Warner Robins	GA
33	Honolulu, HI	Straub Clinic & Hospital	Honolulu	HI
3	Cedar Rapids, IA	Mercy Hospital - Iowa City	Iowa City	IA
		Mercy Medical Center - Cedar Rapids	Cedar Rapids	IA
		Saint Luke's Hospital	Cedar Rapids	IA
	Boise, ID	Saint Alphonsus Regional Medical Center	Boise	ID
		St. Luke's Boise Medical Center	Boise	ID
	Champaign-Springfield, IL	Carle Foundation Hospital	Urbana	IL
15	Chicago, IL	Advocate Christ Hospital and Medical Center	Oak Lawn	IL
		Advocate Good Samaritan Hospital	Downers Grove	IL
		Advocate Good Shepherd Hospital	Barrington	IL
		Advocate Lutheran General Hospital	Park Ridge	IL
		Advocate South Suburban Hospital	Hazel Crest	IL
		Advocate Trinity Hospital	Chicago	IL
		Alexian Brothers Medical Center	Elk Grove Village	IL
		Evanston Hospital	Evanston	IL
		including. Glenbrook Hospital	Glenview	IL
		Highland Park Hospital	Highland Park	IL
		Ingalls Memorial Hospital	Harvey	IL
		Metrosouth Medical Center	Blue Island	IL
		Palos Community Hospital	Palos Heights	IL
		Provena Saint Joseph Medical Center	Joliet	IL



op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
15	Chicago, IL (continued)	Resurrection Medical Center	Chicago	IL
		Riverside Medical Center	Kankakee	IL
		Saint Alexius Medical Center	Hoffman Estates	IL
		Saint Joseph Hospital	Chicago	IL
		Saints Mary and Elizabeth Medical Center - Division	Chicago	IL
		including. Saints Mary and Elizabeth Medical Center - Claremont	Chicago	IL
		Skokie Hospital	Skokie	IL
15	Chicago, IL: Indiana Hospitals	Community Hospital	Munster	IN
	Ft. Wayne, IN	Parkview Hospital	Fort Wayne	IN
		including. Parkview North Hospital	Fort Wayne	IN
14	Indianapolis, IN	Franciscan St. Francis Health- Indianapolis	Indianapolis	IN
		Indiana University Health Methodist Hospital	Indianapolis	IN
		including. Indiana University Health University Hospital	Indianapolis	IN
		Indiana University Health West Hospital	Avon	IN
		Saint John's Health System	Anderson	IN
		St. Vincent Indianapolis Hospital	Indianapolis	IN
		including. St. Vincent Women's Hospital	Indianapolis	IN
	Lafayette, IN	Indiana University Health Arnett Hospital	Lafayette	IN
27	Evansville, IN: Kentucky Hospitals	Owensboro Medical Health System	Owensboro	KY
48	Wichita, KS	Via Christi Hospital	Wichita	KS
	New Orleans, LA	Ochsner Clinic Foundation	New Orleans	LA
		including. Ochsner Medical Center - West Bank Campus	Terrytown	LA
	Boston, MA	Beth Israel Deaconess Medical Center	Boston	MA
		Holy Family Hospital and Medical Center	Methuen	MA
	Boston, MA: New Hampshire Hospitals	Exeter Hospital	Exeter	NH
	Springfield, MA	Baystate Medical Center	Springfield	MA
1	Baltimore, MD	Carroll Hospital Center	Westminster	MD
		Franklin Square Hospital Center	Baltimore	MD
		Good Samaritan Hospital	Baltimore	MD
		Greater Baltimore Medical Center	Baltimore	MD
		Harbor Hospital	Baltimore	MD
		Northwest Hospital Center	Randallstown	MD
		Saint Joseph Medical Center	Towson	MD
		Sinai Hospital of Baltimore	Baltimore	MD
		Union Memorial Hospital	Baltimore	MD
	Salisbury, MD	Peninsula Regional Medical Center	Salisbury	MD



op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
	Washington, DC: Maryland Hospitals	Doctors Community Hospital	Lanham	MD
		Shady Grove Adventist Hospital	Rockville	MD
	Salisbury, MD: Delaware Hospitals	including. Bayhealth - Milford Memorial Hospital	Milford	DE
		Beebe Medical Center	Lewes	DE
21	Detroit, MI	Beaumont Hospital - Grosse Pointe	Grosse Pointe	MI
		Beaumont Hospital - Troy	Troy	MI
		Henry Ford Wyandotte Hospital	Wyandotte	MI
		Mount Clemens Regional Medical Center	Mount Clemens	MI
		Providence Hospital	Southfield	MI
		Saint Mary Mercy Hospital	Livonia	MI
		St. Joseph Mercy Oakland	Pontiac	MI
	Flint, MI	Genesys Regional Medical Center	Grand Blanc	MI
10	Grand Rapids- Kalamazoo, MI	Bronson Methodist Hospital	Kalamazoo	MI
		Holland Hospital	Holland	MI
		Spectrum Health Butterworth Hospital	Grand Rapids	MI
		including: Spectrum Health Blodgett Hospital	Grand Rapids	MI
	Lansing, MI	Allegiance Health	Jackson	MI
42	South Bend, IN: Michigan Hospitals	Lakeland Hospital Saint Joseph	Saint Joseph	MI
		including. Lakeland Medical Center Niles	Niles	MI
	Traverse City, MI	Munson Medical Center	Traverse City	MI
	Duluth, MN	Saint Luke's Hospital	Duluth	MN
13	Minneapolis-St. Paul, MN	Abbott Northwestern Hospital	Minneapolis	MN
		Fairview Southdale Hospital	Edina	MN
		North Memorial	Robbinsdale	MN
		Regions Hospital	Saint Paul	MN
		Unity Hospital	Fridley	MN
	Rochester, MN	Mayo Clinic Saint Mary's Hospital	Rochester	MN
25	Columbia - Jefferson City, MO	Boone Hospital Center	Columbia	МО
	Kansas City, MO: Kansas Hospitals	Providence Medical Center	Kansas City	KS
		University of Kansas Hospital	Kansas City	KS
43	Springfield, MO	Skaggs Regional Medical Center	Branson	MO
	St. Joseph, MO	Heartland Regional Medical Center	Saint Joseph	MO



Top 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
8	St. Louis, MO	Barnes - Jewish Saint Peters Hospital	Saint Peters	MO
		Christian Hospital	Saint Louis	MO
		Missouri Baptist Medical Center	Saint Louis	MO
		SSM Saint Joseph Hospital West	Lake Saint Louis	MO
		SSM Saint Mary's Health Center	Richmond Heights	MO
		St. Luke's Hospital	Chesterfield	MO
8	St. Louis, MO: Illinois Hospitals	Memorial Hospital	Belleville	IL
	Great Falls, MT	Benefis Health System	Great Falls	MT
	Missoula, MT	Kalispell Regional Medical Center	Kalispell	MT
	Charlotte, NC	Gaston Memorial Hospital	Gastonia	NC
	Myrtle Beach, SC: North Carolina Hospitals	Southeastern Regional Medical Center	Lumberton	NC
	Raleigh-Durham, NC	Rex Hospital	Raleigh	NC
		Wakemed Cary Hospital	Cary	NC
	Fargo, ND	Altru Hospital	Grand Forks	ND
		Sanford Medical Center Fargo	Fargo	ND
31	Lincoln, NE	BryanLGH Medical Center East	Lincoln	NE
		including. BryanLGH Medical Center West	Lincoln	NE
38	Albany, NY	Albany Medical Center Hospital	Albany	NY
		Saint Peter's Hospital	Albany	NY
	New York, NY	Maimonides Medical Center	Brooklyn	NY
		New York - Presbyterian Hospital / Weill Cornell	New York	NY
		including. New York - Presbyterian Hospital / Allen Pavilion	New York	NY
		New York - Presbyterian Hospital / Columbia University Medical Center	New York	NY
		North Shore University Hospital	Manhasset	NY
		including. North Shore University Hospital Syosset	Syosset	NY
		NYU Langone Medical Center	New York	NY
		Stony Brook University Medical Center	Stony Brook	NY
		Vassar Brothers Medical Center	Poughkeepsie	NY
		Winthrop - University Hospital	Mineola	NY
	New York, NY: Connecticut Hospitals	Danbury Hospital	Danbury	СТ
		Norwalk Hospital	Norwalk	СТ
	New York, NY: New Jersey Hospitals	Community Medical Center	Toms River	NJ
		Hackensack University Medical Center	Hackensack	NJ
		Morristown Medical Center	Morristown	NJ
32	Rochester, NY	Strong Memorial Hospital	Rochester	NY



Top 50 Rank Designated Market Area*		Distinguished Hospital for Clinical Excellence 2012**	City	State	
5	Cincinnati, OH	Bethesda North Hospital	Cincinnati	ОН	
		Christ Hospital	Cincinnati	ОН	
		Good Samaritan Hospital	Cincinnati	ОН	
		Mercy Franciscan Hospital - Mount Airy	Cincinnati	ОН	
5	Cincinnati, OH: Kentucky Hospitals	St. Elizabeth Edgewood	Edgewood	KY	
12	Cleveland, OH	Akron General Medical Center	Akron	ОН	
		Aultman Hospital	Canton	ОН	
		EMH Regional Medical Center	Elyria	ОН	
		Hillcrest Hospital	Mayfield Heights	ОН	
		Marymount Hospital	Garfield Heights	ОН	
		Mercy Medical Center	Canton	ОН	
		Mercy Regional Medical Center	Lorain	ОН	
		Parma Community General Hospital	Parma	ОН	
		South Pointe Hospital	Warrensville Heights	ОН	
	Columbus, OH	The Ohio State University Medical Center	Columbus	ОН	
		including. The Ohio State University Hospital East	Columbus	ОН	
26	Dayton, OH	Grandview Medical Center	Dayton	ОН	
		Miami Valley Hospital	Dayton	ОН	
19	Toledo, OH	Mercy Saint Anne Hospital	Toledo	ОН	
		ProMedica Toledo Hospital	Toledo	ОН	
	Tulsa, OK	Saint Francis Hospital	Tulsa	OK	
	Bend, OR	Saint Charles Medical Center - Bend	Bend	OR	
44	Eugene, OR	Sacred Heart Medical Center at Riverbend	Springfield	OR	
		including. Sacred Heart Medical Center - University District	Eugene	OR	
	Medford, OR	Rogue Valley Medical Center	Medford	OR	
	Erie, PA	Hamot Medical Center	Erie	PA	
		Saint Vincent Health Center	Erie	PA	
30	Johnstown-Altoona, PA	Conemaugh Memorial Medical Center	Johnstown	PA	
		including. Memorial Medical Center - Lee	Johnstown	PA	
	Lancaster, PA	Lancaster General Hospital	Lancaster	PA	
	Philadelphia, PA	Lehigh Valley Hospital	Allentown	PA	
		Lehigh Valley Hospital - Muhlenberg	Bethlehem	PA	
		including. Lehigh Valley Hospital - 17th Street	Allentown	PA	
		Penn Presbyterian Medical Center	Philadelphia	PA	
	Philadelphia, PA: Delaware Hospitals	Bayhealth Medical Center - Kent General Hospital	Dover	DE	



op 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State	
	Philadelphia, PA: New Jersey Hospitals	Our Lady of Lourdes Medical Center	Camden	NJ	
	Pittsburgh, PA	Alle Kiski Medical Center	Natrona Heights	PA	
	· ·	Saint Clair Hospital	Pittsburgh	PA	
		The Western Pennsylvania Hospital - Forbes Regional Campus	Monroeville	PA	
		UPMC McKeesport	McKeesport	PA	
	Wilkes Barre - Scranton, PA	Evangelical Community Hospital	Lewisburg	PA	
		Regional Hospital of Scranton	Scranton	PA	
18	Greenville, SC	Anmed Health	Anderson	SC	
18	Greenville, SC: North Carolina Hospitals	Mission Hospitals	Asheville	NC	
7	Chattanooga, TN	Memorial Healthcare System	Chattanooga	TN	
7	Chattanooga, TN: Georgia Hospitals	Hamilton Medical Center	Dalton	GA	
20	Knoxville, TN	Blount Memorial Hospital	Maryville	TN	
		Methodist Medical Center of Oak Ridge	Oak Ridge	TN	
	Nashville, TN	Saint Thomas Hospital	Nashville	TN	
34	Tri-Cities, TN-VA	Indian Path Medical Center	Kingsport	TN	
4 5	Austin, TX	St. David's Medical Center	Austin	TX	
		including: St. David's Georgetown Hospital	Georgetown	TX	
17	Brownsville, TX	Mission Regional Medical Center	Mission	TX	
		Valley Baptist Medical Center	Harlingen	TX	
37	Houston, TX	Memorial Hermann Healthcare System - Southwest	Houston	TX	
		including: Memorial Hermann Northwest Hospital	Houston	TX	
		Memorial Hermann Southeast Hospital	Houston	TX	
		Memorial Hermann The Woodlands Hospital	Shenandoah	TX	
		Memorial Hermann Memorial City Medical Center	Houston	TX	
		Saint Luke's Episcopal Hospital	Houston	TX	
		San Jacinto Methodist Hospital	Baytown	TX	
		The Methodist Hospital	Houston	TX	
		including: Diagnostic Center Hospital	Houston	TX	
	Tyler, TX	Mother Frances Hospital - Tyler	Tyler	TX	
	Salt Lake City, UT	Intermountain Medical Center	Murray	UT	
	Charlottesville, VA	Martha Jefferson Hospital	Charlottesville	VA	
	Harrisonburg, VA	Augusta Health	Fishersville	VA	
4	Richmond, VA	Bon Secours Memorial Regional Medical Center	Mechanicsville	VA	
		Bon Secours St. Mary's Hospital	Richmond	VA	
		Henrico Doctors' Hospital	Richmond	VA	
		including: Parham Doctors' Hospital	Richmond	VA	
		Retreat Doctors' Hospital	Richmond	VA	



Top 50 Rank	Designated Market Area*	Distinguished Hospital for Clinical Excellence 2012**	City	State
35	Seattle - Tacoma, WA	Evergreen Hospital Medical Center	Kirkland	WA
		Northwest Hospital & Medical Center	Seattle	WA
		PeaceHealth St. Joseph Medical Center	Bellingham	WA
		Swedish Medical Center/Edmonds	Edmonds	WA
		Virginia Mason Medical Center	Seattle	WA
46	Green Bay - Appleton, WI	Aurora BayCare Medical Center	Green Bay	WI
		Aurora Medical Center - Oshkosh	Oshkosh	WI
24	La Crosse - Eau Claire, WI	Gundersen Lutheran Medical Center	La Crosse	WI
36	Milwaukee, WI	Aurora Saint Luke's Medical Center	Milwaukee	WI
		including. Aurora Sinai Medical Center	Milwaukee	WI
		Saint Luke's Medical Center	Cudahy	WI
		West Allis Memorial Hospital	West Allis	WI
		Wheaton Franciscan - Saint Joseph	Milwaukee	WI
		including. Lakeview Hospital	Milwaukee	WI
		The Wisconsin Heart Hospital	Milwaukee	WI
	Wausau, WI	Aspirus Wausau Hospital	Wausau	WI

^{*} Designated Market Areas are geographic areas defined by The Nielsen Company as a group of counties that make up a particular television market.



^{**} Distinction cannot be used without a Licensing Agreement from Health Grades, Inc.

Appendix B: Inhospital Mortality Performance: Distinguished Hospitals for Clinical Excellence (DH-CE) Compared to All Other U.S. Hospitals

(3-Year Aggregate Relative Risk-Adjusted Inhospital Mortality Performance: 2008-2010)

Procedure or Diagnosis	Total Number of U.S. Medicare Hospitalizations	DH-CE Hospitals Average Observed-to- Expected Inhospital Mortality Ratio	All Other U.S. Hospitals Average Observed-to- Expected Inhospital Mortality Ratio	Relative Risk Reduction Associated With DH-CE Hospitals Compared to All Other U.S. Hospitals ¹	Number of Lives That Could Have Been Saved If All Patients Were Treated at DH-CE Hospitals (2008-2010) ²	P-Value (DH-CE Hospital Mortality Compared to National Mortality Average)
Bowel Obstruction	524,563	.68	1.07	36.56%	4,683	<.001
Chronic Obstructive Pulmonary Disease	1,242,461	.64	1.06	39.60%	6,996	<.001
Coronary Bypass Surgery	256,206	.79	1.06	25.31%	1,228	<.001
Coronary Interventional Procedures (Angioplasty/Stent)	837,239	.83	1.05	20.50%	2,834	<.001
Diabetic Acidosis and Coma	187,521	.72	1.05	31.15%	713	<.001
Gastrointestinal Bleed	819,893	.66	1.07	38.96%	5,148	<.001
Gastrointestinal Surgeries and Procedures	245,328	.81	1.04	22.50%	4,899	<.001
Heart Attack (Acute Myocardial Infarction)	781,233	.82	1.04	21.60%	12,180	<.001
Heart Failure	1,786,989	.67	1.07	37.01%	19,865	<.001
Pancreatitis	159,877	.71	1.06	32.91%	1,086	<.001
Pneumonia	1,425,671	.62	1.07	42.24%	25,483	<.001
Pulmonary Embolism	177,522	.69	1.07	35.34%	2,270	<.001
Resection/Replacement of Abdominal Aorta	86,195	.83	1.05	20.48%	599	<.001
Respiratory Failure	443,162	.76	1.05	27.17%	19,152	<.001
Sepsis	1,075,967	.79	1.05	25.07%	44,347	<.001
Stroke	705,289	.71	1.06	33.31%	12,707	<.001
Valve Replacement Surgery	159,999	.83	1.06	21.42%	1,514	<.001
3-Year Performance Average		0.74	1.06	30.07%		
Totals	10,915,115				165,704	

¹ Relative Risk Reduction determines the difference in performance between DH-CE and All Other hospitals. Calculated as follows: (Non-DH-CE O/E – DH-CE O/E) / Non-DH-CE O/E.



² Lives saved were calculated: All Other hospitals' 3-year actual number of mortalities – (All Other hospitals' 3-year expected number of mortalities x DH-CE O/E ratio).

Appendix C: Inhospital Complications Performance: Distinguished Hospitals for Clinical Excellence (DH-CE) Compared to All Other U.S. Hospitals

(3-Year Aggregate Relative Risk-Adjusted Inhospital Complications Performance: 2008-2010)

Procedure or Diagnosis	Total Number of U.S. Medicare Hospitalizations	DH-CE Hospitals Average Observed-to- Expected Inhospital Complications Ratio	All Other U.S. Hospitals Average Observed-to- Expected Inhospital Complications Ratio	Relative Risk Reduction Associated With DH-CE Hospitals Compared to All Other U.S. Hospitals ¹	Number of Patients That Could Have Avoided Developing One or More Post-Op Complications If All Patients Were Treated at DH-CE Hospitals (2008-2010) ²	P-Value (DH-CE Hospital Complications Compared to National Complication Average)
Back and Neck Surgery (except Spinal Fusion)	184.391	1.02	1.00	-1.44%	-263	.927
Back and Neck Surgery (Spinal Fusion)	218,902	1.02	1.01	55%	-170	.973
Carotid Surgery	221,352	.99	1.00	1.01%	181	.356
Cholecystectomy	226,192	.99	1.02	2.93%	1,121	.248
Hip Fracture Treatment	505,340	.98	1.02	3.47%	2,849	.010
Peripheral Vascular Bypass	58,763	1.02	1.01	69%	-48	.770
Prostatectomy	177,781	.97	1.01	4.00%	438	.063
Total Hip Replacement-1st Surgery	281,783	.98	1.03	4.93%	1,141	.038
Total Knee Replacement-1st Surgery	677,928	.99	1.02	3.08%	1,551	.085
3-Year Performance Average		1.00	1.02	1.86%		
Total	2,552,432				6,800	

¹ Relative Risk Reduction determines the difference in performance between DH-CE and All Other hospitals. Calculated as follows: (Non-DH-CE O/E – DH-CE O/E) / Non-DH-CE O/E.



² Complications avoided were calculated: All Other hospitals' 3-year actual number of complications – (All Other hospitals' 3-year expected number of complications x DH-CE O/E ratio).

Appendix D: Distinguished Hospital Award Clinical Excellence 2012 Methodology

To help consumers evaluate and compare hospital performance, HealthGrades analyzed patient outcome data for virtually every hospital in the country. In order to evaluate overall hospital performance and to identify the best-performing hospitals in clinical excellence across the United States, HealthGrades uses a two-step methodology:

- Assign star ratings for 26 procedures and diagnoses using HealthGrades Hospital Report Card™ Mortality and Complication Outcomes Methodology. These star ratings are published in October of each year and can be found at www.healthgrades.com along with the methodology.
- 2. Identify the overall best-performing hospitals using the *Distinguished Hospital Award Clinical Excellence™ Methodology*.

Using a logistic-regression based risk-adjusted model to compare performance among hospitals, hospitals are assigned one of three star ratings: 1-star (poor), 3-star (as expected), or 5-star (best) for each of 26 procedures and diagnoses. (Neurosurgery, rated for the first time this year, was not included.) To be eligible to receive a star rating, a hospital must have a minimum of 30 cases over the three years of study and at least five cases in the most recent year of analysis (2010).

HealthGrades' risk-adjustment methodology considers important differences in patient demographic (e.g., age, gender) and clinical characteristics (e.g., underlying medical conditions) that could increase the patient's risk of mortality or complications. Risk adjustment of the data is needed to make accurate and valid comparisons of clinical outcomes at different hospitals. For more information regarding the risk-adjustment methodology, read the complete methodology, *HealthGrades Hospital Report CardTM Mortality and Complication Outcomes Methodology*, at www.healthgrades.com.

Designating Distinguished Hospitals for Clinical Excellence

The Distinguished Hospital Award for Clinical Excellence recognizes the best 5% of hospitals in the country for clinical excellence. These hospitals had lower risk-adjusted mortality and lower risk-adjusted inhospital complications than all other hospitals.

To be considered for HealthGrades' Distinguished Hospital Award for Clinical Excellence, a hospital had to have star ratings in at least 19 of the 26 procedures and diagnoses using MedPAR data. After creating a list of hospitals that met these criteria, HealthGrades took the following steps to determine the Distinguished Hospital Award for Clinical Excellence recipients:

- Calculated the average star rating and average z-score for each hospital by averaging all of their MedPAR-based star ratings and the corresponding z-scores (30-day and 180-day mortality ratings are included in the averages).
- Ranked hospitals in descending order by their average star rating, with ties broken by average zscore.
- 3. Selected the top 263 hospitals on the list (which represents the top 5% of all hospitals).
- Designated these hospitals as 2012 Distinguished Hospital Award for Clinical Excellence recipients.



Comparing Distinguished Hospitals for Clinical Excellence to All Other Hospitals

To identify differences in performance between Distinguished Hospitals for Clinical Excellence hospitals and all other hospitals, HealthGrades calculated the actual (observed) and predicted (expected) mortality rates for each of the 17 mortality-based procedures and diagnoses and the actual (observed) and predicted (expected) complication rates for the nine complication-based procedures for each hospital. Hospitals are divided into two groups, Distinguished Hospitals for Clinical Excellence and all other hospitals (non-DH-CE), and then overall observed and expected rates are calculated for both groups in each of the 26 procedures and diagnoses.

The purpose of comparing the predicted to actual is to make a fair comparison between hospitals with different populations. Sicker patients have higher associated observed mortality/complications, so using the observed (O) to expected (E) ratio takes into consideration how sick the patient population is at a given hospital. Observed-to-expected ratios were calculated by procedure or diagnosis for the three years combined, for both groups of hospitals. The ratios were then evaluated for differences.

- An O/E ratio of less than 1 means that the procedure or diagnosis measured had fewer deaths/inhospital complications than expected given the patient population.
- An O/E ratio of greater than 1 means that the procedure or diagnosis measured had more deaths/inhospital complications than expected given the patient population.

