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Methodology

U.S. News & World Report 2017-18 Best Hospitals: Specialty Rankings

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To Whom It May Concern:

Executive Summary

U.S. News & World Report began publishing hospital rankings in 1990, as "America's Best Hospitals," to identify the medical centers in various specialties best suited to patients whose illnesses pose unusual challenges because of underlying conditions, procedure difficulty, advanced age or other medical issues that add risk.

The specialty rankings have appeared annually since 1990 and their focus on identifying hospitals that excel in treating particularly difficult patients has not changed. To address patients in relatively low-acuity procedures and conditions, a new complementary set of ratings, "Best Hospitals for Common Care," was introduced in 2015. Hospital performance was evaluated in coronary artery bypass surgery, hip replacement, knee replacement, treatment of congestive heart failure and treatment of chronic obstructive pulmonary disease. The ratings were renamed "Best Hospitals: Procedures and Conditions" in 2016, and abdominal aortic aneurysm repair, aortic valve surgery, colon cancer surgery and lung cancer surgery were added. (Details of these ratings are available at http://health.usnews.com/health-care/best-hospitals/articles/faq-how-and-why-we-rank-and-rate-hospitals.)

The Best Hospitals specialty rankings assess hospital performance in 16 specialties or specialty areas, from Cancer to Urology. In 12 of these, whether and how high a hospital is ranked is determined by an extensive data-driven analysis combining performance measures in three primary dimensions of healthcare: structure, process/expert opinion, and outcomes. In the four other specialties, ranking relies on hospital reputation, determined by U.S. News surveys of physicians.

The structural measures include hospital volume, nurse staffing and other resources that define the hospital environment. The data source for most structural measures is the American Hospital Association (AHA) Annual Survey. Additional resources include the National Cancer Institute's list of NIH-designated cancer centers and the American Nurses Credentialing Center's roster of Nurse Magnet hospitals.

Process is represented by two factors. One is a hospital's reputation for developing and sustaining a system that delivers high-quality care, as determined by the surveys of board-certified physicians cited above (i.e., expert opinion). The other, shared with the outcomes dimension, is an indicator of patient safety. The basis for this is that the extent to which patients are protected from preventable death and harm is largely a function of the processes in place. When a patient needlessly dies or suffers injury, this reflects not only an evident outcomes result but also a failure of appropriate hospital processes.

Assessment of outcomes performance relies mostly on survival (i.e., risk-adjusted mortality). The Standard Analytical Files (SAF), maintained by the Centers for Medicare & Medicaid Services (CMS) and also referred to as the Medicare claims files, provide detailed claims data, including mortality, for beneficiaries in fee-for-service Medicare.

The SAF databases are also the source of patient safety data other than for hospitals in Maryland. For Maryland hospitals, patient safety data were taken from the state Health Services Cost Review Commission (HSCRC) all-payer database; analysis was limited to fee-for-service Medicare beneficiaries to be equivalent to the patient population in the SAF.

No application, data submission or other action is required for Best Hospitals consideration. All facilities in the AHA universe of community hospitals are automatically considered but must meet a series of eligibility requirements.

Initial eligibility requires that a hospital must meet at least one of the following four conditions:

- It is a teaching hospital, or
- It is affiliated with a medical school, or
- It has at least 200 beds, or
- It has at least 100 beds *and* offers at least four medical technologies from a list of eight that U.S. News deems significant for a Best Hospitals patient population.

Ranking in a particular specialty imposes a second eligibility requirement. Hospitals must meet a volume/discharge threshold that varies by specialty. Setting discharge minimums ensures that ranking-eligible hospitals have demonstrable experience in treating a set number of complex cases in a given specialty. A hospital that does not meet the minimum requirement in a specialty is still eligible, however, if it was nominated by at least 1% of those who responded to the most recent three years of national physician surveys.

Rankings in Ophthalmology, Psychiatry, Rehabilitation, and Rheumatology do not depend on hard data. In these four specialties, hospitals are ranked solely on reputation as determined by the physician survey cited above.

For the 2017-18 rankings, 152 of over 4,500 evaluated U.S. hospitals were ranked in at least one specialty.

Since 1990, the Best Hospitals Honor Roll has recognized a small group of hospitals with high rankings in multiple Best Hospitals specialties. It was extensively revised in 2016-17 to reduce the effect of reputation and to unify the rankings and ratings by incorporating Best Hospitals Procedures and Conditions ratings. No further changes were added for 2017-18. See section *V. Honor Roll* for more details.

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I. Introduction

For families facing a serious or complex medical problem, finding the right hospital is daunting but critical. Decision tools beyond a doctor's recommendation, however, were nonexistent until 1990, when U.S. News & World Report introduced "America's Best Hospitals." That initial assessment was modest, only short alphabetical lists of hospitals that were rated—not ranked—in 12 specialties. In 1991 and thereafter, hospitals were ordinally ranked.

The 2017-18 Best Hospitals rankings have been drawn from a universe of 4,658 facilities.* The defined universe was the American Hospital Association's (AHA's) Annual Survey of Hospitals, which also provided some data for the rankings analysis. In a small number of cases, two or more AHA hospitals were combined for ranking purposes because they function as a single hospital in one or more specialties but report to AHA as separate facilities.

In 12 of the 16 adult specialty rankings, hospitals receive a composite score based on data from multiple sources. Unranked as well as ranked hospitals, accompanied by substantive data, are published online at www.usnews.com/besthospitals/rankings. A print edition publishes ranked hospitals, with somewhat less data displayed than online.

It is essential to use the Best Hospital rankings for their intended purpose—to help consumers determine which hospitals provide the best care for the *most serious or complicated* medical conditions and procedures, such as pancreatic cancer, or replacement of a heart valve in an elderly patient with multiple comorbidities. Relatively commonplace conditions and procedures, such as uncomplicated heart bypass surgery, knee replacement, and heart failure are the purview of a different analysis, Best Hospitals: Procedures and Conditions.†

The underlying methodology for the Best Hospitals rankings was created by the National Opinion Research Center (NORC) at the University of Chicago in the early 1990s. NORC collected the data and compiled the rankings from 1993 to 2004. RTI International,‡ Research Triangle Park, N.C., has produced the rankings from 2005 to the present. Over time, the methodology has been refined and extended—by incorporating patient safety data in 2009, for example, and a measure for

* Military installations, federal institutions, rehabilitation, and acute long-term care facilities and institutional hospital units (e.g., prison hospitals, college infirmaries) are excluded from the data-driven specialties.

† Best Hospitals: Procedures and Conditions was launched in May 2015 and rates hospital performance in nine frequently encountered procedures and conditions.

‡ RTI International is a trade name of Research Triangle Institute.

voluntary data transparency in one specialty in 2016-17. Large-scale enhancements are always under consideration.

The roster of specialties has been revised over the years as well. AIDS care, for example, was included in 1990 but was dropped in 1998 because most AIDS care had shifted to the outpatient setting. Pediatrics was moved out of the Best Hospitals universe in 2007 when separate Best Children's Hospitals rankings were created. Best Hospitals specialties were neither added nor removed for 2017-18.[§]

The current 16 specialty rankings are:

- Cancer
- Cardiology & Heart Surgery
- Diabetes & Endocrinology
- Ear, Nose & Throat
- Gastroenterology & GI Surgery
- Geriatrics
- Gynecology
- Nephrology
- Neurology & Neurosurgery
- Ophthalmology
- Orthopedics
- Pulmonology
- Psychiatry
- Rehabilitation
- Rheumatology
- Urology

A. Data-Driven Rankings

As in previous years, rankings in 12 of the 16 specialties are based largely on hard data. An overall score is assigned to hospitals in all data-driven specialties; i.e., all specialties other than Ophthalmology, Psychiatry, Rehabilitation, and Rheumatology, whose rankings are determined solely through expert opinion.

A hospital's overall score reflects performance in three interlocked dimensions of healthcare: structure, process, and outcomes. The relationship was described by Avedis Donabedian in 1966; his model's fundamental soundness has been widely accepted.[1-5]

[§] Because the rankings are released in the middle of the year, U.S. News labels them with the current and following years when referring to them. This applies to Best Children's Hospitals as well.

Structure refers to hospital resources related directly to patient care. Examples in the Best Hospitals rankings methodology include intensity of nurse staffing, availability of desirable technologies and patient services, and special status conferred by a recognized external body, such as designation as a Nurse Magnet hospital by the American Nurses Credentialing Center (ANCC) or as a National Cancer Institute (NCI) comprehensive or clinical cancer center by the National Institutes of Health (NIH).

Healthcare also is shaped by the *process* of delivering care, encompassing diagnosis, treatment, prevention, and patient education. Because direct measures of process have limited relevance to the types of highly complex specialty care that is the focus of this project, a measure of expert opinion is used as a proxy for process quality. Specifically, process is represented by a hospital's reputation for developing and sustaining a system that delivers high-quality care.

The most evident *outcomes* measure is death, typically measured by *risk-adjusted mortality* (the likelihood of death when the patient's condition and the complexity of the case are taken into account). To address the role of socioeconomic factors in outcomes, the rankings now include an adjustment to risk-adjusted mortality to take into account patients who are both Medicare- and Medicaid-eligible.

Available metrics do not always neatly conform to a single dimension. Complications of care that compromise patient safety, for example, are outcomes that also reflect a flaw in the process of delivering care and may be affected by structural elements. Although patient safety overlaps with both process and outcomes, we consider it a fourth component in the Best Hospitals methodology, evaluated separately from structure, process/expert opinion, and outcomes.

A fifth component, public transparency, was added to Cardiology & Heart Surgery for the 2016-17 rankings. Hospitals received credit for participating in American College of Cardiology (ACC) or the Society of Thoracic Surgeons (STS) data-reporting initiatives if they also agreed to allow their ACC- and/or STS-calculated results to be publicly reported on the organizations' websites.

Many of the individual measures in the data-driven rankings come from secondary data sources such as the AHA Annual Survey Database, which provides information about various structural hospital characteristics.

The five major components of the data-driven rankings are briefly described below and in more detail later.

Structure

These elements represent volume (i.e., discharges), technology, and other features that characterize the hospital environment. Some elements such as nurse staffing, intensivists, and Nurse Magnet status are included in all specialties, while other elements are specialty-specific. The source for many of these data elements in the 2017-18 rankings was the 2015 AHA Annual Survey, the most recent available.

The source of volume data was the Standard Analytical Files (SAF), maintained by the Centers for Medicare & Medicaid Services (CMS) and also referred to as the Medicare claims files, which provide detailed claims data, for all traditional (fee-for-service) Medicare beneficiaries who use hospital inpatient services. The project previously used data from the Medicare Provider Analysis and Review (MedPAR) database, which includes some inpatients covered by Medicare Advantage managed care.

The change reduced the calculated volumes for most hospitals, since managed-care patients were no longer part of the analysis. Volumes therefore were assigned to hospitals in each specialty using an adjustment to account for the loss of Medicare Advantage patients from the analysis (see, Number of Patients on page 15). As a result, the volumes reported represent estimates rather than observed volumes of care at each hospital.

The SAF databases were also the source of inpatient safety data other than for hospitals in Maryland. For hospitals in that state, patient safety data were taken from the state Health Services Cost Review Commission (HSCRC) all-payer database; analysis was limited to fee-for-service Medicare beneficiaries to be equivalent to the patient population in the SAF.

Process/expert opinion

The process/expert opinion component of the overall score is represented by a hospital's reputation. For these rankings, the concept of reputation speaks to an institutional ability to develop and sustain a system that delivers high-quality care to especially challenging patients.

A hospital's reputational score is based on the average number of nominations from the three most recent annual surveys of board-certified physicians conducted for the Best Hospitals rankings which, for the 2017-18 rankings, were conducted in 2015, 2016, and 2017.

The 2017 sample was drawn from the Doximity Masterfile. Similar to the AMA Physician Masterfile, which was used as the sampling frame prior to 2016, Doximity's comprehensive

Physician Database includes nearly every practicing U.S. physician. More information on the sampling approach for the physician survey can be found in section ***II.D. .***

The physician sample was stratified by census region—West, Northeast, South and Midwest (https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf)—and by specialty to ensure appropriate representation. The final aggregated sample included both federal and nonfederal medical and osteopathic physicians in all 50 states and the District of Columbia.

The surveyed physicians were asked to nominate the hospitals in their specific field of care, leaving aside issues of expense or location, that they consider best for patients with serious or difficult conditions. They could list as many as five hospitals. (The 2017-18 questionnaire and associated contact materials are shown in ***Appendix A***.)

Outcomes

The primary outcomes measure in the 12 data-driven rankings is 30-day mortality; i.e., death within 30 days after admission. Like the volume indicator, the mortality measure is derived from SAF data, so only patients receiving care under traditional Medicare and 65 years of age or older were included. For each hospital and specialty, IBM Watson Health (formerly Truven Health Analytics) computed an adjusted mortality rate based on observed and expected mortality rates using the All Patient Refined Diagnosis Related Group (APR-DRG) and Medicare Severity (MS) Grouper software created by 3M Health Information Systems.[6] APR-DRGs and MS-DRGs use the patient's principal and secondary diagnoses to adjust the value for expected deaths by severity of illness. The method was applied to the three most recent fiscal years (FY2013, FY2014, and FY2015) of Medicare claims submitted for reimbursement to CMS data.

Patient Safety

Patient safety is used to quantify instances when patients may be avoidably harmed or put at risk. For all states except Maryland, data for this component come from the Standard Analytical Files (SAF) maintained by CMS, as explained in Section E; for Maryland hospitals, data for this component were taken from the Health Services Cost Review Commission (HSCRC) all-payer database.

For both datasets used, only Medicare patients receiving fee-for-service care were included in the analyses. The timeframe for these data was the same 3-year period used for volume and mortality analyses in the Best Hospitals rankings. For the 2017-18 rankings, the CMS and HSCRC files used were for federal FY 2013, 2014, and 2015 files. The patient safety score was developed by RTI using the framework described in the *Patient Safety Quality Indicators Composite Measure Workshop*

Final Report,[7] with project-specific modifications. Data were analyzed using the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator (PSI) QI software version 5.01.

Public Transparency (Cardiology and Heart Surgery Only)

As described in Section A, a component worth 3% of the overall score was added for the Cardiology & Heart Surgery specialty in 2016-17. Hospitals received credit for participating in transparency initiatives by publicly reporting quality metrics through websites maintained by the American College of Cardiology (www.cardiosmart.org) and the Society of Thoracic Surgeons (www.sts.org). Support for the use of this measure consists of a demonstrated association between public reporting of evidence-based hospital performance metrics with better quality of care and improved hospital performance.[8-13] Given the relationship between public reporting and outcomes, the rankings are likely to include additional measures of transparency in future years.

Weighting

For the 2017-18 rankings, the weight for each component remains the same as in 2016-17. Weights are shown in ***Table 1.***

Table 1. 2017-18 Overall Weight by Component

Component	Cardiology & Heart Surgery Weight (%)	Weight, All Other Specialties (%)
Outcomes	37.5	37.5
Structure	30.0	30.0
Process/expert opinion	24.5	27.5
Patient safety	5.0	5.0
Public transparency	3.0	0.0

B. Reputation-Only Rankings

In the four specialties—Ophthalmology, Psychiatry, Rehabilitation and Rheumatology—in which ranking reflects the results of the reputational survey alone, that is because many structural and outcomes measures are not applicable since care is largely delivered on an outpatient basis and poses a very small risk of death. For this report, these specialties are referred to as *reputation-only specialties* and the associated rankings as *reputation-only rankings*.

C. Report Outline

The remainder of this report is structured as follows:

- ***Section II*** describes the data-driven components in detail. (For a more detailed review of the foundation, development and use of the individual measures and the composite index, see "Best Hospitals: A Description of the Methodology for the Index of Hospital Quality."[14])
- ***Section III*** describes the process used to develop the rankings for the four reputation-only specialties.
- ***Section IV*** describes the number of hospitals ranked in at least one specialty.
- ***Section V*** presents the Honor Roll, an additional classification that denotes excellence across a broad range of specialties, procedures and conditions.
- ***Section VI*** summarizes changes in the methodology from 2005 to the present.
- ***Section VII*** describes improvements under consideration.

II. Data-Driven Rankings

This section describes hospital eligibility criteria and the procedures used to derive the overall score for the 12 data-driven specialties. Hospitals ranked in 2017-18 as a result of new or merged corporate entities in the AHA database are treated as single units and are listed as such in this report.

A. Eligibility

All 4,658 community hospitals included in the FY2015 AHA universe were automatically considered for ranking;[**] no request, application or other action was required. For the data-driven specialties, the methodology involved two stages of eligibility criteria; hospitals had to satisfy the requirements of each stage to be eligible in a given specialty.

Stage 1. A hospital that met *any* of the following criteria was initially eligible:

- Member, Council of Teaching Hospitals (COTH)

[**] Military installations, federal institutions, rehabilitation, and acute long-term care facilities, and also institutional hospital units (e.g., prison hospitals, college infirmaries) were excluded.

- Medical school affiliation (AMA or American Osteopathic Association [AOA])
- At least 200 hospital beds set up and staffed (from FY2014 AHA Annual Survey of Hospitals, variable BDTOT)
- At least 100 hospital beds set up and staffed *and* availability of at least four of eight important key technologies (see ***Advanced Technologies***).

Hospitals that met Stage 1 and responded to the AHA Annual Survey of Hospitals in 2013 and 2014 but not in 2015 remained eligible. For such hospitals, we used survey data from 2014. Nonresponders lacking data from the current survey and one of the previous two surveys were evaluated without AHA data. A total of 2,255 hospitals successfully passed the first stage of the eligibility process.

Stage 2. To be eligible for ranking in a specialty, a hospital had to have a specified number of discharges in a defined list of specialty-specific diagnoses submitted for CMS reimbursement in FY2013, FY2014, and FY2015 combined. Setting discharge minimums involving complex care ensures that ranking-eligible hospitals can demonstrate that they have treated adequate numbers of challenging cases in a given specialty. As in past years, the discharge minimums this year included only cases that met the minimum severity of illness thresholds set by the project, using APR-DRGs. Minimums for all specialties will be reviewed for future rankings and adjusted as needed.

Minimum thresholds for total discharges were set in all data driven specialties. In most specialties, these thresholds were based on discharge counts adjusted for the loss of Medicare Advantage patients: (i.e. MA-adjusted, see Number of Patients on page 15). Three specialties included MA-unadjusted volume measures to determine eligibility: Diabetes & Endocrinology, Ear, Nose & Throat, and Gynecology.

In Cancer and in Diabetes & Endocrinology, total discharge minimum thresholds are equal to the median MA-adjusted volume for hospitals passing Stage 1 eligibility. In all other specialties except Cardiology & Heart Surgery††, the threshold is equal to the 25th percentile of MA-adjusted volume. In Ear, Nose & Throat, a hospital must also have an MA-unadjusted volume of 45 cases or greater. In Diabetes & Endocrinology and Gynecology, a hospital must also have an MA-unadjusted volume of 50 cases or greater. In all other specialties, a hospital must also have an MA-adjusted volume of 25 cases or greater.

†† Prior to RTI's involvement in the rankings in 2005, the minimum number of surgical discharges in Cardiology & Heart Surgery was set to 500. For hospitals meeting the minimum, a ratio of total-to-surgical discharges was calculated. The median of this ratio was then multiplied by 500 to determine a minimum number for all discharges.

In addition to total discharge thresholds, specific proportions of MA-adjusted medical and surgical discharges were specified for Cancer; Gastroenterology & GI Surgery; Ear, Nose & Throat; Gynecology; Neurology & Neurosurgery; Orthopedics, and Urology. For these specialties, we calculated the median ratio of surgical-to-total discharges for hospitals meeting the total discharge threshold. In each of these specialties except Neurology & Neurosurgery, the median ratio was multiplied by the calculated minimum total discharge threshold to determine the minimum number of surgical discharges for eligibility. In Neurology & Neurosurgery, the 25th percentile of the median ratio itself was used as the surgical discharge threshold. This exception was made to address excessive bias in mortality rates for hospitals with a very low ratio of surgical-to-total discharges.

A hospital with below-minimum volume was considered eligible in a specialty if its reputation score was 1% or greater.

Table 2 presents the minimum MA-adjusted discharge volumes (unless otherwise specified) required for eligibility and numbers of hospitals meeting the MA-adjusted volume criteria for the data-driven specialties. ***Table 2*** also shows the total number of hospitals in each specialty that did not meet the MA-adjusted volume eligibility but became eligible because they had a reputation score of 1% or higher.

A total of 1,895 hospitals met the volume criteria in at least one specialty, and one other hospital became eligible because they had a 1% or higher reputation score in at least one specialty. In all, 1,896 unique hospitals were deemed eligible for at least 1 of the 12 data-driven specialties under the full criteria.

In Geriatrics, an additional step excluded hospitals classified in the AHA survey data as surgical hospitals or as specializing in heart or orthopedics. The basis for the exclusions was that Geriatrics as defined in Best Hospitals represents a broad swath of patients across all service lines. A surgical or specialty hospital treats subsets of those patients whose clinical needs may not be comparable. This change is reflected in the count of eligible Geriatric hospitals provided in ***Table 2***.

We then conducted separate analyses for each specialty to rank the top 50 hospitals in each data-driven specialty and provide overall scores for all evaluated hospitals. *Error! Reference source not found.* illustrates the eligibility and analysis process for the data-driven specialties, as described in the steps above.

Table 2. Discharge Thresholds by Specialty

Specialty	Discharge Thresholds, Total (Surgical)	Number of Eligible Hospitals Based on Minimum Discharges	Additional Hospitals with ≥ 1% Reputation Score	Final Eligible Total
Cancer	202 (34)	895	0	895
Cardiology & Heart Surgery[a]	1382 (500)	610	0	610
Diabetes & Endocrinology[b]	115 (0)	1,084	0	1,084
Ear, Nose & Throat[b]	45 (4)	190	1	191
Gastroenterology & GI Surgery	438 (111)	1,566	0	1,566
Geriatrics[c]	2348 (0)	1,529	0	1,529
Gynecology[b]	50 (5)	325	7	332
Nephrology	192 (0)	1,640	0	1,640
Neurology & Neurosurgery	236 (19)	1,239	0	1,239
Orthopedics	289 (264)	1,640	0	1,640
Pulmonology	1029 (0)	1,662	0	1,662
Urology	38 (15)	1,493	0	1,493
Total (unique hospitals)[d]	Not Applicable	1,895	8	1,896

[a] In addition to discharge- or reputation-based eligibility, a hospital must offer cardiac intensive care, adult interventional cardiac catheterization and adult cardiac surgery.

[b] Total discharge minimums for this specialty are based on the unadjusted volume.

[c] In addition to discharge- or reputation-based eligibility, a hospital must offer at least one of the following services: arthritis treatment center, adult day care program, patient representative services, geriatric services, meals on wheels, assisted living, transportation to health facility, or Alzheimer's center service.

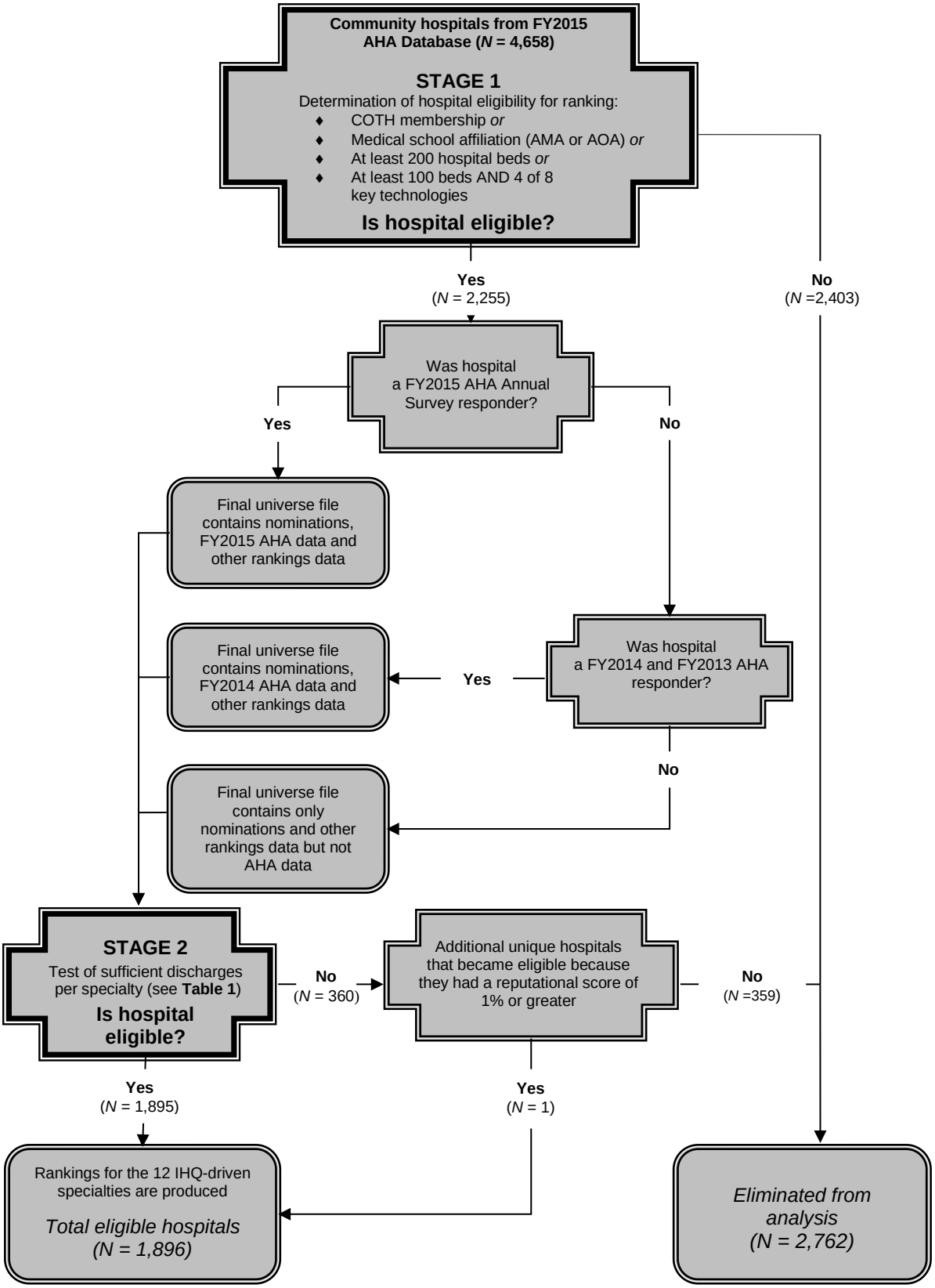
[d] The totals are not sums. The same hospitals may be eligible in multiple specialties. This line represents the total unique hospitals in each category across all specialties.

B. Structure

The structural dimension defines the tools, human and otherwise, available at hospitals for treating patients. Healthcare research overwhelmingly supports the use of a structural measure to assess quality of care. No prior research, however, has identified a structural indicator that summarizes all others or that adequately represents the structural dimension construct on its own. Therefore, the structural component is represented by a composite variable consisting of different specialty-specific measures with different weights.

For the 2017-18 rankings, the source of most structural elements was the FY2015 AHA Annual Survey Database. Additional components came from external organizations including the National Cancer Institute (NCI), American Nurses Credentialing Center (ANCC), Foundation for the Accreditation of Cellular Therapy (FACT), National Institute on Aging (NIA), National Association of Epilepsy Centers (NAEC), CMS and HSCRC.

Figure 1. Eligibility and Analysis Process, Data-Driven Specialties



AHA Annual Survey

AHA has surveyed hospitals annually since 1946. The AHA Annual Survey of Hospitals is the most comprehensive and dependable database of information on institutional healthcare,[15] with an average annual response rate of 85%. The database contains hospital-specific data items for more than 6,500 hospitals and healthcare systems. More than 700 data fields cover organizational structure, personnel, hospital facilities and services, and financial performance. (The specific mapping of Best Hospitals variables to AHA data elements is shown in ***Appendix B***.)

Hospitals that did not respond to the 2015 AHA Annual Survey but responded to the 2014 survey were evaluated using their 2014 responses. Hospitals that did not respond to the AHA survey in either year were evaluated without AHA data, receiving no points for measures in the AHA annual survey.

The following items from the AHA Annual Survey Database provided most of the structural score for the data-driven specialties.

Advanced Technologies

The elements in this measure are reviewed every year in each specialty to remain consistent with the key technologies and advanced care expected from a "best hospital." In the 2017-18 rankings, credit was awarded to hospitals that either (1) own or provide a specified service at the hospital or its subsidiaries, (2) provide the service through their health system (in their local community), or (3) provide the service through formal arrangements with local institutions not in their health system.

Of the 15 technologies that are relevant in one or more specialties, 8 comprise the Technology index that is one of the eligibility doorways: Hospitals that provide at least 4 of the 8 relevant technologies and have 100 beds or more are eligible for ranking (see Section ***II.A. Eligibility***).

Brief descriptions of the technologies in the 2017-18 index follow. The definitions are taken largely from the 2015 AHA Annual Survey, expanded as necessary:

- **Ablation of Barrett's esophagus.** A premalignant condition that can lead to adenocarcinoma of the esophagus. The nonsurgical ablation of premalignant tissue in Barrett's esophagus is done by the application of thermal energy or light through an endoscope passed from the mouth into the esophagus.

- **Computer-assisted orthopedic surgery.** A group of orthopedic devices that produce three-dimensional images to assist in surgical procedures.

- **Diagnostic radioisotope services.** A procedure that uses radioactive isotopes (radiopharmaceuticals) as tracers to detect abnormal conditions or diseases.

- **Endoscopic retrograde cholangiopancreatography.** A procedure in which a catheter is introduced through an endoscope into the bile and pancreatic ducts. Injection of contrast material permits detailed x-ray of these structures. The procedure is used diagnostically as well as therapeutically to relieve obstruction or remove stones.

- **Endoscopic ultrasound.** A specially designed endoscope that incorporates an ultrasound transducer to obtain detailed images of organs in the chest and abdomen. The endoscope can be passed through the mouth or anus. Combined with needle biopsy, the procedure can assist in diagnosis of disease and staging of cancer.

- **Full-field digital mammography.** A procedure that combines x-ray generators and tubes used in analog screen-film mammography with a detector plate that converts the x-rays into a digital signal to help diagnose breast cancer.

- **Image-guided radiation therapy.** An automated system that provides high-resolution x-ray images to pinpoint tumor sites, adjusts patient positioning as necessary and completes treatment within the standard treatment time slot, allowing for more effective cancer treatments.

- **Intensity-modulated radiation therapy (IMRT)**. A type of radiation therapy used to treat tumors. IMRT manipulates beams of radiation to the shape of the tumor. Beams of varying intensity can be used to radiate the tumor with precision. By using IMRT, physicians can focus on the tumor and avoid exposing healthy tissue to radiation, which causes a variety of negative treatment side effects.

- **Multislice spiral computed tomography (CT).** A procedure that uses x-rays and data processing to produce multiple narrow slices that can be recombined into detailed three-dimensional pictures of the internal anatomy.[#]

- **PET/CT scanner.** A machine that combines positron emission tomography (PET) and CT capabilities in one device to provide metabolic functional information and images of physical structures in the body for diagnostics and monitoring chemotherapy, radiotherapy, and surgical planning.

- **Robotic surgery.** The use of computer-guided imaging and manipulative devices to perform surgery without the surgeon's direct intervention.

[#] The indicator for multislice spiral CT includes both standard (less than 64 slices) and advanced (64 or more slices) versions of the technology. Hospitals can receive credit for either version.

- **Shaped-beam radiation.** A noninvasive procedure that delivers a therapeutic dose of radiation to a defined area of a tumor to shrink or destroy cancerous cells.

- **Single-photon-emission CT.** A nuclear medicine imaging technology that combines radioactive material with CT imaging to highlight blood flow to tissues and organs.

- **Stereotactic radiosurgery.** A radiotherapy modality that delivers a high dosage of radiation to a discrete treatment area in as few as one treatment session. Variants include Gamma knife and Cyberknife.

- **Transplant services.** Includes Medicare-approved organ transplant programs in heart, liver, lung, or kidney transplant recognized by CMS. In addition, hospitals listed as bone marrow and tissue transplant centers by AHA are recognized. Transplant services are specific to the specialty. In the Cancer specialty, transplant services include bone marrow and other tissue transplants; Gastroenterology & GI Surgery includes liver transplant; Cardiology & Heart Surgery includes heart transplant and tissue transplant; Nephrology includes kidney transplant; Pulmonology includes lung transplant; Orthopedics includes tissue transplant.

Specialty-specific mixes of key technologies are used in computing the U.S. News scores (see Section ***II.G. Calculation of the Overall Score for the Data-Driven Specialties***). ***Table 3*** presents the complete list of key technologies considered for each specialty in 2017-18.

Number of Patients

This measure reflects the volume of medical and surgical discharges in indicated specialty-specific MS-DRG groupings submitted for CMS reimbursement in FY2013, FY2014, and FY2015 combined. The list of MS-DRGs in each specialty is displayed in ***Appendix C***. Volume is part of the structural score in all 12 data-driven specialties. Volumes include all cases, including transfers, that appeared in SAF databases for the specified MS-DRGs that met the minimum severity thresholds (i.e., equal to or greater than the "severity" listed in ***Appendix C***).

Table 3. Technologies by Specialty

Technology	Technology Index	Cancer	Cardiology & Heart Surgery[§§]	Diabetes & Endocrinology	Ear, Nose & Throat	Gastroenterology & GI Surgery	Geriatrics	Gynecology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology	Urology
Ablation of Barrett's esophagus						●							
Computer-assisted orthopedic surgery											●		
Diagnostic radioisotope services	●			●		●			●	●		●	●
Endoscopic retrograde cholangiopancreatography						●							
Endoscopic ultrasound						●							
Full-field digital mammography	●	●						●					
Image-guided radiation therapy	●	●		●		●		●	●	●		●	●
Intensity-modulated radiation therapy		●											●
Multislice spiral CT	●		●						●			●	
PET/CT scanner	●	●	●	●				●	●	●		●	●
Robotic surgery	●	●	●					●	●				●
Shaped-beam radiation		●											
Single-photon-emission CT	●		●							●			
Stereotactic radiosurgery	●	●		●	●	●		●	●	●		●	●
Transplant services		●	●			●			●		●	●	
Total Elements	**8**	**8**	**6**	**4**	**1**	**7**	**0**	**5**	**7**	**5**	**2**	**6**	**6**

● Included in the measure for the specialty.

[§§] Five measures are listed, but hospitals can receive up to six points in Cardiology & Heart Surgery because two points are possible for transplant services—one point for heart transplant services and one point for tissue transplant services.

Volume data, as described on Page 4, include Medicare fee-for-service patients who were 65 years of age or older; Medicare Advantage managed-care patients are not included in SAF datasets. Patient selection for outcomes analysis is the same, as described on Page 5. To address the decline in volumes caused by moving to the SAF datasets, reported volumes received an adjustment to account for the loss of Medicare Advantage patients from the analysis. The numerator for the volume calculation was the number of fee-for-service discharges meeting the criteria for inclusion in the specialty. The denominator was the proportion of Medicare beneficiaries enrolled in fee-for-service (as opposed to Medicare Advantage) in the county in which the hospital is located. The denominator was calculated by subtracting from 1.0 the CMS Medicare Advantage penetration estimates, expressed as a decimal less than 1.0, for June 2013. As a result, the volumes reported represent estimates rather than observed volumes of care at each hospital.

To reduce the effect of outliers, we adjusted raw specialty volumes with values above the 75th percentile. Hospitals with volumes at or above the 75th percentile in each specialty were assigned an *outlier-adjusted volume,* created from a weighted average of the hospital's observed volume and the volume for all hospitals at or under the 75th percentile. This adjustment factor was equal to the average volume for all hospitals at or below the 75th percentile. For each percentile above the 75th, the weight applied to the adjustment factor was increased by a value of .01. Therefore if:

a = amount over the 75th percentile (.01, .02, … .25),
b = average volume for hospitals at or under the 75th percentile, and
c = an individual hospital's raw volume,

then the volume for hospitals in the top quartile in the rankings = a*b + (1-a)*c.

The value displayed in print is the MA-adjusted, outlier-unadjusted raw volume. ***Table 4*** provides the minimum MA-adjusted, outlier-unadjusted volume, the MA-adjusted, outlier-unadjusted 75th-percentile volume, and the maximum MA-adjusted, outlier-unadjusted volume in each specialty along with the average volume for hospitals below the 75th percentile.

Nurse Staffing

The nurse staffing index is a ratio that reflects the combined intensity of inpatient and outpatient nursing. The numerator is the total number of on-staff registered nurses (RNs), expressed as full-time equivalents (FTEs); for example, two half-time nurses are the equivalent of one FTE. Only nurses with an RN degree from an approved nursing school and current state registration are considered. The denominator is the adjusted average daily census of patients, a variable created by AHA for U.S. News.

Table 4. Discharge Distribution by Specialty

Specialty	Minimum Volume	75th Percentile Volume	Maximum Volume	Average Volume, 1st-75th percentile
Cancer	202	726	7,488	411
Cardiology & Heart Surgery	1,394	4,535	17,411	2,869
Diabetes & Endocrinology	116	266	1,365	175
Ear, Nose & Throat	10	168	602	98
Gastroenterology & GI Surgery	440	1,782	11,505	1,032
Geriatrics	2,348	9,285	55,228	5,293
Gynecology	27	182	624	115
Nephrology	192	754	5,281	431
Neurology & Neurosurgery	237	1,641	7,676	846
Orthopedics	289	1,520	14,152	781
Pulmonology	1,030	3,364	15,672	2,041
Urology	38	216	1,829	112

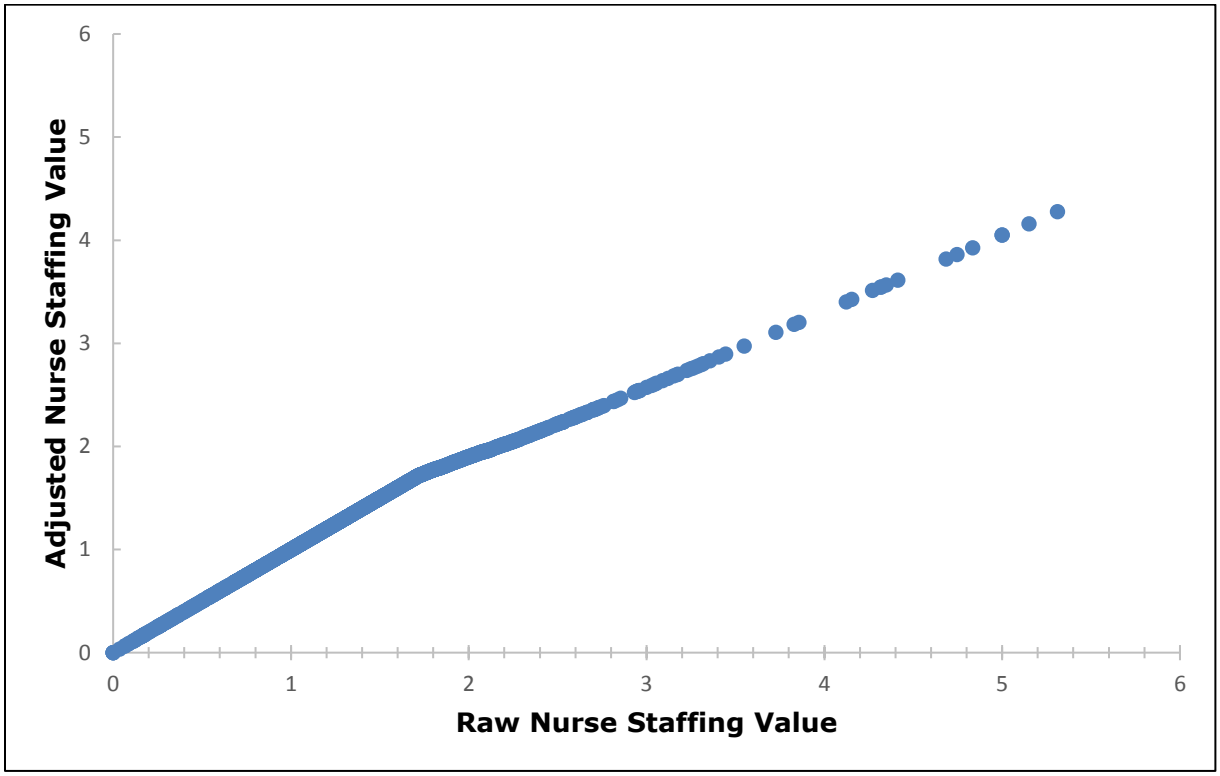
The measure estimates the total amount of care devoted to both inpatients and outpatients by reflecting days of inpatient care plus the estimated volume of outpatients. This index gives more weight to inpatient care while recognizing that outpatient care represents most hospital visits. The components of this index are derived from the AHA database. As with volume, extreme values were similarly adjusted to reduce the influence of wide variation. Therefore, the nurse staffing value for hospitals in the top quartile, which was at or above a nurse staffing value of 1.72 for 2017-18, is equal to a*b + (1-a)*c, where:

a = difference in the ratio over the 75th percentile (.01, .02… .25),
b = 1.17, the average nurse staffing volume for hospitals in the bottom 75th percentile, and
c = an individual hospital's raw nurse staffing value.

Error! Reference source not found. shows the nurse staffing values before and after adjustment.

For the 2017-18 rankings, three changes to the Nurse Staffing Score were implemented. First, the calculation now includes a correction for hospitals that provide skilled nursing onsite and report a total that combines both inpatient and skilled nursing. The nursing FTEs associated with the skilled nursing were removed from the numerator and a corrected adjusted average daily census was used for the denominator. The corrected adjusted average daily census values for hospitals affected by this change were calculated by the AHA and provided directly to the project.

Figure 2. Nurse Staffing Values Before and After Adjustment



Second, to address problems with missing values in the AHA dataset for several hospitals for the FTEN variable, which is the principal nursing FTE variable, the rankings now impute missing FTEN values. The project selects hospitals that do not have extreme nurse staffing ratios (i.e., are not outliers) and imputes the value of FTEN using the current values of the following variables in the reference population: FTEN (Full time equivalent registered nurses reported), FTERN (Full time equivalent registered nurses estimated), ADJADC (Adjusted Average Daily Census) and BDTOT (total hospital beds set up and staffed).

Third, to address volatility in the nurse staffing measure for hospitals with relatively low patient volumes, we now adjust the nurse staffing values for hospitals in the lowest quartile of adjusted average daily patient census. The nurse staffing ratio is adjusted using the formula 2a*b + (1-2a)*c, where

a = difference in the ratio under the 25th percentile on ADJADC (.01, .02, … .25),
b = average adjusted nurse staffing
c = an individual hospital's nurse staffing.

The formula creates a blended rate that incorporates both the observed rate and the average adjusted nurse staffing rate for eligible hospitals.

Trauma Center

In a U.S. News survey of board-certified physicians, respondents ranked the presence of an emergency room and status as a Level 1 or Level 2 trauma care provider high on a list of hospital quality indicators. Physicians in nine specialties ranked trauma center status as one of the top five indicators of quality. Their recommendations and the resulting high factor loadings supported inclusion of a trauma measure in Ear, Nose & Throat, Gastroenterology & GI Surgery, Cardiology & Heart Surgery, Nephrology; Neurology & Neurosurgery, Orthopedics, Pulmonology, and Urology.

Two variables in the AHA Annual Survey Database provide the required data. Both must be answered. One variable indicates the presence of a state-certified trauma center in the hospital (as opposed to trauma services provided only as part of a health system or joint venture). The second variable indicates trauma center level. The trauma center indicator is dichotomous. To receive credit of 1 point, a hospital must be a Level 1 or Level 2 trauma center[***]. The AHA defines Level 1 as "a regional resource trauma center, which is capable of providing total care for every aspect of injury and plays a leadership role in trauma research and education."[15] Level 2 is "a community trauma center, which is capable of providing trauma care to all but the most severely injured patients who require highly specialized care."[15]

Patient Services

Patient services encompass major conveniences for patients. Among others, they include translators, advanced or especially sophisticated care, and services either considered clinically essential in a comprehensive, high-quality hospital, such as cardiac rehabilitation, or reflective of forward thinking and sensitivity to community needs, such as genetic testing or counseling. All items are taken from the AHA Annual Survey.

Brief descriptions of patient services included in the 2017-18 index follow. The definitions are taken from the AHA Annual Survey of Hospitals (and expanded as necessary).

- **Alzheimer's center.** A facility that cares for individuals with Alzheimer's disease and the patients' families through an integrated program of clinical services, research and education. As with all items in this survey, each hospital determines whether the service is offered, based on the AHA description. This index differs from designation as an NIA Alzheimer's center, which is a higher-order designation and is

[***] The highest two levels of this designation are equivalent to the top two levels of the American College of Surgeons trauma center certification and can be used by hospitals in states that do not certify trauma centers.

treated as a separate structural measure in Geriatrics and in Neurology & Neurosurgery.

- **Arthritis treatment center.** A center specifically equipped and staffed for diagnosing and treating arthritis and other joint disorders.

- **Cardiac rehabilitation.** A medically supervised program to help heart patients recover quickly and improve their overall physical and mental functioning in order to reduce risk of another cardiac event or to keep a current heart condition from worsening.

- **Fertility clinic.** A specialized program set in an infertility center that provides counseling and education, as well as advanced reproductive techniques.

- **Genetic testing/counseling.** A service equipped with adequate laboratory facilities and directed by a qualified physician to advise parents and prospective parents on potential problems in cases of genetic defects.

- **Hospice.** A program that provides care (including pain relief) and supportive services for the terminally ill and their families.

- **Infection isolation room.** A single-occupancy room designed to minimize the possibility of infectious transmission, typically through the use of controlled ventilation, air pressure, and filtration.

- **Pain-management program.** A program that provides specialized care, medications or therapies for the management of acute or chronic pain.

- **Palliative care.** A program that provides specially trained physicians and other clinicians to relieve acute or chronic pain or to control symptoms of illness.

- **Patient-controlled analgesia.** A system that allows the patient to control intravenously administered pain medicine.

- **Psychiatry–geriatric service.** A psychiatric service that specializes in the diagnosis and treatment of geriatric medical patients.

- **Translators.** A service provided by the hospital to assist patients who do not speak English.

- **Wound-management services.** Services for patients with chronic and non-healing wounds that often result from diabetes, poor circulation, sitting or reclining improperly, and immunocompromising conditions. The goals are to progress chronic wounds through stages of healing, reduce and eliminate infections, increase physical function to minimize complications from current wounds, and prevent future

chronic wounds. Services are provided on an inpatient or outpatient basis depending on the intensity of service needed.

From seven to nine services are included in each specialty. Hospitals receive 1 point for each specified service provided on- or off-site either (1) by the hospital or its subsidiaries, (2) by the hospital's health system in the local community, or (3) by another institution in the local community through formal arrangement or joint venture. ***Table 5*** displays patient services by specialty.

Table 5. Patient Services by Specialty

Service	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Ear, Nose & Throat	Gastroenterology & GI Surgery	Geriatrics	Gynecology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology	Urology
1. Alzheimer's center						●			●			
2. Arthritis treatment center						●				●		
3. Cardiac rehabilitation		●										
4. Fertility clinic							●					●
5. Genetic testing/counseling	●		●	●	●		●	●	●		●	●
6. Hospice	●	●	●	●	●	●	●	●	●	●	●	●
7. Infection isolation room	●		●	●	●		●	●	●		●	●
8. Pain-management program	●	●	●	●	●	●	●	●	●	●	●	●
9. Palliative care	●	●	●	●	●	●	●	●	●	●	●	●
10. Patient-controlled analgesia	●	●	●	●	●	●	●	●	●	●	●	●
11. Psychiatry/geriatric service						●						
12. Translators	●	●	●	●	●	●	●	●	●	●	●	●
13. Wound-management services	●	●	●	●	●	●	●	●	●	●	●	●
Total Elements	**8**	**7**	**8**	**8**	**8**	**9**	**9**	**8**	**9**	**7**	**8**	**9**

● Included in the index for the specialty.

Intensivists

Intensivists are board-certified physicians with subspecialty or fellowship training in critical-care medicine. They specialize in managing critically ill patients in hospital intensive care units (ICUs). Recent research indicates that better outcomes are associated with the presence of intensivists.[16,17] The intensivist measure was added in 2009. The 2017-18 rankings award 1 point to hospitals with at least one intensivist FTE, whether on staff or through another arrangement as long as at least one intensivist serves in an adult-focused intensive care unit setting within the hospital. Previously hospitals had to have at least one FTE on staff intensivist. Credit was determined from the FY2015 AHA Annual Survey.

External Organizations

The following describes sources and organizations other than AHA, CMS and HSCRC that provided data for additional structural measures.

NCI-Designated Cancer Center

This indicator was added in 2002. The National Cancer Institute (NCI), an arm of the National Institutes of Health, is the principal federal agency tasked with conducting and sponsoring cancer research and training and promoting research and standards of care by various means, including certification as an NCI-designated cancer center. Such a center is committed to advancing cancer research and, ultimately, reducing cancer incidence and increasing the effectiveness of treatment.[14]

NCI-designated centers have three classification levels. The lowest is *cancer center*, denoting a facility that conducts a high volume of advanced federally funded laboratory research. Credit is not awarded for this designation. A *clinical cancer center*, the second level, adds clinical ("bench-to-bedside") research. *Comprehensive cancer center*, the highest level, adds prevention research, community outreach, and service activities.[18]

Hospitals designated as NCI clinical or comprehensive cancer centers as of March 1, 2017, were awarded 1 point. Hospitals designated "cancer centers" did not receive credit. NCI updates the list throughout the year. The current list is at http://cancercenters.cancer.gov/Center/CCList.

Nurse Magnet Status

The Nurse Magnet measure, added in all specialties in 2004, is a formal designation by the Magnet Recognition Program®. The Magnet Recognition Program was developed by the ANCC to

recognize health care organizations that meet certain quality indicators on specific standards of nursing excellence. The ANCC updates the list of Magnet-recognized facilities throughout the year as organizations apply for designation and redesignation status. U.S. News bases credit for this measure on Magnet Recognition as of March 17, 2017. The current list of Magnet-recognized organizations is shown at http://www.nursecredentialing.org/Magnet/FindaMagnetFacility.

Hospitals received 1 point for being recognized as a Nurse Magnet hospital. For hospitals that are part of a special merger[†††] or a multiplex healthcare system, the primary hospital is required to have Magnet Recognition status for the combination hospital to receive 1 point. If there is no defined primary hospital, then if either hospital in the special merger has Magnet Recognition status, both receive credit. Partial credit is no longer offered in the 2017-2018 rankings.

NAEC-Designated Epilepsy Center

This index was added to Neurology & Neurosurgery in 2004. One point was awarded to hospitals designated by NAEC as Level 4 epilepsy centers as of March 1, 2017. A Level 4 epilepsy center serves as a regional or national referral facility. These centers provide more complex forms of intensive neurodiagnostic monitoring, as well as more extensive medical, neuropsychological, and psychosocial treatment. Level 4 centers also offer a complete evaluation for epilepsy; surgery, including intracranial electrodes; and a broad range of surgical procedures for epilepsy.[19] NAEC updates its list of hospitals throughout the year. The current list is shown at http://www.naec-epilepsy.org/find.htm.

NIA-Designated Alzheimer's Center

NIA Alzheimer's center certification was added to Geriatrics in 2007 and to Neurology & Neurosurgery in 2008. Evaluation and certification are conducted by NIA, an arm of NIH that translates research advances into improved diagnosis and care of Alzheimer's disease and conducts research on prevention and cures. Recognition means that a hospital provides a high level of care for Alzheimer's patients. Hospitals designated as an NIA Alzheimer's center as of March 1, 2017, received 1 point. Hospitals listed as affiliated centers did not receive credit. The current list of NIA Alzheimer's centers can be accessed at www.nia.nih.gov/Alzheimers/ResearchInformation/ResearchCenters/.

[†††] In a special merger, two separate hospitals operate as one and their data are combined for analysis. Brigham and Women's Hospital and Dana-Farber Cancer Center are an example in Cancer. Specialty or secondary hospitals that are combined with the primary hospital are noted on the US News website for that hospital.

FACT Accreditation

Foundation for the Accreditation of Cellular Therapy (FACT) accreditation was added to Cancer in 2007. This designation indicates that as of March 1, 2017, a hospital met standards set by FACT for transplanting bone marrow or other cellular tissue to treat cancer. One point was given if accreditation was only for *autologous transplants*, in which a patient's own cells are removed and then returned following radiation therapy. Two points were given if accreditation was for *allogeneic transplants,* involving cells donated by another person (allowing for a greater number and more kinds of cell transplants), or for both autologous and allogeneic transplants. The current list of FACT-accredited hospitals can be accessed at www.factwebsite.org.

Normalization

Starting with the 2012-13 rankings, all structural measure values were normalized prior to weighting. Normalization transforms index values into a distribution between 0 and 1 based on the range of possible values for a given measure. Normalizations were done separately for each specialty. Equation (1) is the formula for normalization:

$$Normalized\ Value = (X_i - Minimum_i) / (Maximum_i - Minimum_i), \quad (1)$$

where

X_i = *the value for measure i,*
$Maximum_i$ = *the highest possible value for measure i and*
$Minimum_i$ = *the lowest possible value for measure i.*

For example, the Advanced Technologies index for Cancer is worth a maximum of 8 points. If a given hospital received 5 out of 8 points, the normalized value for the Advanced Technologies index in Cancer would be (5-0)/(8-0) = 0.63. For all structural measures other than Nurse Staffing, the lowest *possible* value is 0 even when the lowest *observed* value is greater than 0. For Nurse Staffing, the lowest possible value was made equal to the lowest observed value.

Weighting

In 2012, we convened an expert panel to determine appropriate weights for each of the measures. The evaluation was done both across specialties for consistency in weighting and within specialties to identify key measures of quality in a particular specialty. Overall, weights were determined based on the importance of each measure in defining the overall structural attributes of care within hospitals. ***Table 6*** shows the relative weight for each of the measures that make up the

structural component of the rankings, by specialty. For all specialties, the sum of the weights is 30%, the overall weight for the structural component of the overall score.

Table 6. Structural Elements and Percentages (%) of Total Score by Specialty

Item	Cancer	Cardiology & Heart Surgery	Diabetes & Endocrinology	Ear, Nose & Throat	Gastroenterology & GI Surgery	Geriatrics	Gynecology	Nephrology	Neurology & Neurosurgery	Orthopedics	Pulmonology	Urology
Advanced technologies	4.29	5.00	5.29	5.00	5.00		5.29	5.00	4.09	5.00	5.00	5.00
FACT accreditation	2.86											
Intensivists	2.86	3.33	3.53	3.33	3.33	3.53	3.53	3.33	2.73	3.33	3.33	3.33
NAEC-designated epilepsy center									2.73			
NCI-designated cancer center	2.86											
NIA-designated Alzheimer's center						5.29			2.73			
Number of patients	5.71	6.67	7.06	6.67	6.67	7.06	7.06	6.67	5.45	6.67	6.67	6.67
Nurse Magnet status	2.86	3.33	3.53	3.33	3.33	3.53	3.53	3.33	2.73	3.33	3.33	3.33
Nurse staffing	5.71	6.67	7.06	6.67	6.67	7.06	7.06	6.67	5.45	6.67	6.67	6.67
Patient services	2.86	3.33	3.53	3.33	3.33	3.53	3.53	3.33	2.73	3.33	3.33	3.33
Trauma center		1.67		1.67	1.67			1.67	1.36	1.67	1.67	1.67

NOTE: Percentages may not sum to 30 due to rounding.

C. Outcomes

The correlation between quality of care and risk-adjusted mortality is self-evident and supported by the literature.[20-29] We calculated specialty-specific, risk-adjusted mortality rates for each hospital as an outcomes measure, taking volume of cases and severity of illness into account. Mortality is worth 37.5% of the overall score.

A patient's medical condition (the principal condition for which the patient is being treated as well as other comorbidities) strongly affects the chance of death while in the hospital. For a given condition, therefore, using raw mortality rates would unfairly penalize hospitals that treat high-risk patients. Ideally, we would compare the mortality rates of a standardized set of patients across all hospitals in the Best Hospitals universe. This is unfeasible because hospitals vary in the mix of conditions, both principal and comorbid, for which they treat their patients. Instead, we construct an "expected" mortality rate. It is what the hospital's mortality rate would be if all patients with the same diagnoses had the mortality risk of the Best Hospitals universe instead of their hospital's mortality risk for those patients. Hospitals with observed mortality rates below the expected, case-mix-adjusted rate would, on this metric, be judged to have quality higher than average, and those hospitals with observed mortality rates above the expected rate would be judged to have quality lower than average.

Observed and expected mortality rates were provided by IBM Watson using a pooled FY2013, FY2014, and FY2015 SAF data set, the latest available for analysis. SAF data are derived from reimbursement claims submitted by hospitals to Medicare. The SAF file contains information on all fee-for-service (and a small proportion of managed care) Medicare patients' diagnoses, procedures, length of stay in the hospital and discharge status. For the 2017-18 Best Hospitals rankings, only patients 65 years of age or older at the time of care were included in the analyses. The data were "grouped" using the 3M Health Information Systems APR-DRGs and MS Grouper software version 32.0, which aggregates tens of thousands of possible diagnosis and procedure combinations into roughly 1,000 clinically coherent groupings. Defined by APR-DRGs, severity-of-illness level, and mortality risk, the groups take into account the severity of the patient's illness, risk of death, and hospital resources used.[6,30,31]

The SAF records include the CMS DRG assigned to each case for Medicare payment. Each SAF record is based on the patient's diagnosis, surgery (or other medical procedure), age, sex, and discharge destination.[32] DRGs classify the more than 10,000 *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) diagnosis codes into more meaningful patient groups based on clinical and cost similarity. The ICD-9-CM is the official system used by the National Center for Health Statistics and CMS to assign codes to diagnoses and procedures associated with U.S. hospital utilization.[33]

Because MS-DRGs are generally relatively homogeneous groups of diagnoses and procedures, we use MS-DRGs as the basic unit for defining cases to be included in each specialty's mortality and volume measures. The MS-DRG groupings developed are based on the DRG groupings used in previous years of the study. We reviewed the CMS DRG to CMS MS-DRG crosswalk available from the CMS website to identify all of the different mappings of DRGs to MS-

DRGs. On reviewing the APR-DRG threshold assignments for CMS DRGs in the 2010-11 Best Hospitals Rankings and examining how this mapped to the MS-DRGs, we assigned thresholds to the MS-DRGs based on the assumption that the MS-DRG system is a more refined measure of severity (see ***Appendix C*** for the MS-DRGs used for 2017-18).[###] The MS-DRG groupings are applied to each year of data included in the analysis.

For the Best Hospitals analysis, only MS-DRGs that represent challenging and/or critical procedures are included. For example, most inguinal hernia repairs pose relatively low risk and demand modest expertise, so all but the most serious cases are excluded. The process used to identify MS-DRGs is outlined below.[§§§]

1. MS-DRGs for very-low-intensity cases were excluded.
2. MS-DRGs that generally do not apply to a Medicare or elderly population were excluded.
3. Excluded and included MS-DRGs were evaluated on their embedded diagnoses.
4. Excluded and included categorizations were refined based on within-MS-DRG variation in diagnostic complexity.
5. MS-DRGs not assigned to a specific specialty were evaluated to determine whether they should be categorized more specifically.
6. A final evaluation for clinical consistency was performed.
7. MS-DRGs were attributed to multiple specialties if patients assigned to the DRGs are commonly treated by physicians in multiple specialties, or specific diagnoses or procedures were assigned to specific specialties based on principal diagnosis or procedures.
8. For the risk adjustment, the APR-DRG severity measure was included to refine cases further by taking severity of illness, as measured by comorbidities and interaction with the principal diagnosis, into account. A lower number would mean lower severity.

Mortality Methodology

Changes over the years have addressed specific issues in calculating mortality. These changes have addressed either specialty-specific issues (such as defining a specific population to use in Geriatrics as opposed to using all cases) or more general issues that can affect mortality outcomes

[###] The 2010-11 Best Hospitals Ranking Methodology Report is available at www.rti.org/besthospitals.

[§§§] For a more detailed review of these procedures, see the 2005 Best Hospitals Ranking Methodology Report at www.rti.org/besthospitals.

(such as excluding transfers and switching from inpatient to 30-day mortality). Brief descriptions of these special considerations are provided below.

1. Redefining the Geriatrics patient population. Rankings in Geriatrics were dropped in 2006 but reintroduced in 2007, using a new approach to identify the target population and account for their mortality rates. Rather than using a small subset of MS-DRGs typical of geriatric patients, we elected to focus on how well hospitals treat older patients across a wide range of MS-DRGs. The Geriatrics specialty rankings now include all MS-DRGs generally appropriate to a Medicare or elderly population, but for the mortality analysis only patients who are at least 75 years of age are included. The basic mortality analyses of the data for this group followed the same procedures as for the other data-driven specialties.

2. Excluding transfers from mortality calculations. Since 2007, all patient transfers into the hospital have been excluded from mortality calculations. This was done to help avoid mortality rates that might be inflated by transfers of severely ill patients (relative to their MS-DRG and APR-DRG severity level) to tertiary care hospitals. Research has shown that because of their location, some tertiary care hospitals are particularly vulnerable to "dumping."[34] This change means that patients legitimately transferred for appropriate care are lost to analysis, but it is more important to ensure that each hospital's mortality numbers are not affected by transfers of very sick patients from hospitals unable to properly care for them. Transfers were identified using the claim source of inpatient admission variable on the SAF files. Variable values of "4" (transfer from a hospital) or "A" (transfer from a critical access hospital) were used to identify transfers from acute hospitals or critical access hospitals. In 2017, the rankings also include a new rule for excluding implicit transfers. That is, patients who are discharged and then admitted within the same day are excluded from analyses along with those who have explicit transfer indicators in the datasets.

3. Adjusting for hospitals in the top or bottom quartile of transfer-in rates. Based on reviews of hospital-level transfer data, we identified several "outlier" hospitals with respect to the proportion of cases labeled as transfers in to the facility. These cases might have been due to misclassification or coding error, but the presence of potentially misclassified transfers reduced confidence in the observed "transfer-free" mortality measure. Consistent with the adjustments made for mortality rates for low-volume hospitals, we now define the top and bottom quartiles of transfer-in rates as being extreme and appropriate for adjustment.

For hospitals with transfer-in rates in the top quartile (75^{th}-100^{th} percentile) of transfer-in rates, we adjusted the observed transfer-free mortality rate by averaging that hospital's all-case (including transfers) mortality rate with a weight adjusting the observed transfer-in rate (see ***Table 7***) to offset the unequal impact of high transfers on the mortality rate. The weight placed on the all-case mortality rate varies from 0 to 0.5, with each increase of 1 percentage point in the transfer-in

rate percentile increasing the weight by 2 percentage points. The maximum weight of all-case mortality is 0.5 so that, for most hospitals, the adjusted mortality rate has the observed transfer-free mortality rate as a majority component. Therefore, if:

a = difference in the rate over the 75th percentile (.01, .02, … .25),
b = all-case mortality rate, and
c = an individual hospital's mortality rate,

then the mortality for hospitals with transfer rates in the top quartile = 2a*b + (1-2a)*c.

For hospitals in the bottom quartile (0–25th percentile) of transfer-in rates (see ***Table 7)***, we used the specialty average transfer-free mortality rate for hospitals between the 25th and 75th percentile on transfer-in rate as the blending rate. We applied the same algorithm as for the top quartile transfer-in hospitals. However, to avoid unduly penalizing hospitals with below-average mortality rates (or unduly helping those with above-average mortality rates), the maximum weight of the specialty average is 0.25. Therefore, if:

a = amount below the 25th percentile (.01, .02, … .25),
b = average mortality rate for hospitals between the 25th and 75th percentiles on transfer-in rate, and
c = an individual hospital's mortality rate,

then the mortality for hospitals with transfer rates in the bottom quartile = a*b + (1-a)*c.

Table 7. Transfer Rate Distribution by Specialty

Specialty	Minimum	25th Percentile	75th Percentile	Maximum
Cancer	0.00	2.54	12.04	44.75
Cardiology & Heart Surgery	0.47	5.16	17.52	71.38
Diabetes & Endocrinology	0.00	1.09	5.66	31.03
Ear, Nose & Throat	0.00	3.13	10.99	50.00
Gastroenterology & GI Surgery	0.00	1.38	8.32	47.04
Geriatrics	0.07	1.58	8.57	46.33
Gynecology	0.00	1.82	6.84	19.44
Nephrology	0.00	1.05	6.20	51.21
Neurology & Neurosurgery	0.00	2.51	14.23	67.22
Orthopedics	0.00	0.77	4.44	37.67
Pulmonology	0.00	1.54	7.99	48.89
Urology	0.00	0.99	5.96	40.00

4. Standardizing on 30-day mortality. Prior to 2007, mortality in the Best Hospitals methodology was defined as the rate of inpatient deaths (i.e., those occurring from admission to discharge). As inpatient hospital length of stay has decreased, inpatient mortality has generally decreased as well. Mortality over longer periods post-discharge, however, has not declined markedly.[35] Quality of care in the inpatient setting can affect patients' health and functional status for many weeks following discharge. AHRQ states in *Refinements of the HCUP Quality Indicators Technical Summary* (2001) that "without 30-day mortality data (ascertained from death certificates), hospitals that have short lengths of stay may appear to have better patient outcomes than other hospitals with equivalent 30-day mortality."[36]

Thirty-day mortality may reflect factors unrelated to care provided in the hospital (e.g., quality of postacute care and lack of patient compliance with treatment regimen). Inpatient mortality, on the other hand, omits factors that tend to manifest in full after patients have been discharged. Inpatient mortality also does not account for hospital-to-hospital differences in length of stay for comparable patients and conditions.

To address these concerns, the 2007 rankings introduced 30-day mortality (i.e., 30 days postadmission) for all specialties except Cancer. This exception was made because of concern that 30-day mortality might penalize hospitals that see large numbers of cancer patients at the end of life—thus artificially inflating their mortality numbers. After further review of available data and research, however, we concluded that 30-day mortality should be consistent. Starting in 2008, 30-day mortality has been used for all data-driven specialties.[****]

5. Adjusting mortality values for low-volume hospitals. To address instances in which a low-volume hospital with relatively few discharges had an inordinately low or high mortality score because of the low frequency of applicable cases associated with that hospital, we adjust mortality. For instance, a hospital treating only 75 Medicare patients in the last 3 years in a particular specialty might have an observed-versus-expected mortality ratio of zero or close to zero. With so few cases to examine, we are not confident that the mortality numbers for this hospital reflect a real measure of outcomes rather than an extreme value based on too few cases.

For a hospital with discharge volume below the 25th percentile (see ***Table 8***), we adjusted the observed transfer-free mortality rate based on our confidence in the hospital's observed mortality weight. First, we calculated a high-volume mortality rate, defined as the observed-to-expected mortality ratio for all hospitals at or above the 25th percentile. We then combined the hospital's

[****] Note that the mortality methodology does not exclude palliative care (V66.5) or hospice cases due to significant inconsistencies in the way in which palliative and hospice care services are documented, defined, and coded across providers. The analyses rely on the APR-DRG and MS-DRG grouper systems to account for patient severity and risk of mortality in the SAF dataset rather than removing these cases from analyses.

actual mortality rate with the average high-volume mortality rate. The weight of the high-volume mortality rate will vary from 0 to 0.25 based on the hospital's volume percentile. Each 1 percentage point decrease in the volume percentile will increase the high-volume mortality weight by 1 percentage point. For example, a hospital with volume in the 24th percentile has a high-volume mortality weight of 0.01. A hospital with a volume in the 20th percentile has an all-hospital weight of 0.05. The maximum weight on the all-hospital mortality is 0.25. Therefore, if:

a = amount below the 25th percentile (.01, .02, … .25),
b = average, high-volume mortality rate for hospitals at or above 25th percentile (see ***Table 8***), and
c = an individual hospital's mortality rate,

then the mortality for hospitals with discharges volume in the bottom quartile is = a*b + (1-a)*c.

Table 8. Discharges Excluding Transfers and Distribution by Specialty

Specialty	Minimum Volume	25th-Percentile Volume	Maximum Volume	Average High-Volume Mortality Rate (Observed to Expected)
Cancer	3	208	4,586	0.95
Cardiology & Heart Surgery	131	1,449	10,106	0.93
Diabetes & Endocrinology	51	100	908	0.83
Ear, Nose & Throat	7	52	383	0.79
Gastroenterology & GI Surgery	24	537	6,707	0.95
Geriatrics	183	2,688	32,442	1.00
Gynecology	3	62	397	0.55
Nephrology	8	223	3,148	0.98
Neurology & Neurosurgery	18	392	4,388	0.99
Orthopedics	19	383	9,616	0.92
Pulmonology	109	1,074	9,247	0.98
Urology	2	54	1,079	0.95

6. Adjusting SAF data to improve representativeness. SAF data represent frequencies of diagnoses in Medicare beneficiaries, and these data are the source of mortality and volume calculations. However, the distribution of conditions and procedures among Medicare patients differs somewhat from the distribution among all patients treated at U.S. hospitals. By relying on the distribution of diagnoses observed in the SAF data alone, the rankings would be somewhat biased toward providing readers with information on outcomes for Medicare patients, not for all patients needing care in the particular specialty.

To address this discrepancy, weights were applied starting in 2007 to the Medicare claims data based on the relative over- or underrepresentation of the MS-DRGs among all patients. Ideally, we would use data on all patients to estimate case–mix–adjusted mortality outcomes. Unfortunately, no comprehensive national database of all-payer claims data exists. As a substitute, we instead used data from the AHRQ HCUP data set to produce adjustment factors (i.e., weights) for each diagnosis. The HCUP data set comes from a variety of sources and is the largest collection of U.S. all-payer hospital care data.[37]

For the 2017-18 rankings, weights were calculated based on the most recently available HCUP National Inpatient Sample data sets. The MS-DRG-specific weights are equal to the relative frequency of the MS-DRG among all patients nationally versus relative frequency among Medicare patients, applying the case restrictions described above. The weighted observed-versus-expected mortality rate was then calculated for each hospital in all specialties.

7. Adjustment for socioeconomic status and risk. The 2017-18 rankings incorporate a new adjustment at the patient level for Medicare and Medicaid dual eligibility. The dual-eligible flag is set to either 0 (not present) or 1 (present) for each case entering the risk-adjusted mortality equation. This was done to address known differences in morbidity and mortality with hospital patients associated with lower socioeconomic status (SES); dual-eligibility, or more specifically eligibility for Medicaid, is being used in this case to represent lower SES. The impact of the change is small but will result in scores that better represent patient survival in the hospitals evaluated.

Risk-adjusted mortality ratios were computed by dividing the observed transfer-free mortality rate, adjusting for hospitals in the top or bottom quartile of transfer-in rates as outlined above, by the expected transfer-free mortality rate, adjusted for case complexity using APR-DRG severity of illness and risk of mortality. The expected transfer-free mortality was an estimate of the hospital's mortality rate if its death rate for patients in each APR-DRG and severity level was equal to the national average for each specialty. Mortality ratios greater than 1 mean that more patients died than expected; mortality ratios less than 1 mean that fewer died than expected.

Survival Score

The survival score provides an alternative format for presenting information about hospital performance with regard to patient mortality. Survival scores are based on the percentile distribution of the mortality ratios in each specialty. The mortality ratio used here is the value prior to the transformations for transfer rate and volume outliers discussed above. Survival scores are integer values ranging from 1-10. The closer the mortality ratio to 0, the higher the survival score. The mortality ratio cut-offs are based on the value of the 10^{th} percentile of mortality ratio in each specialty. The 10^{th} percentile value is iteratively subtracted from 1 to create the ranges for survival

scores 1-5 and iteratively added from 1 to create the ranges for survival scores 6-10. In this way, the mortality ratio of 1 is always set to the cut-off between survival scores of 5 and 6 and the distribution of survival scores approximately reflects deciles of the mortality ratio distribution. The mortality ratio cut-offs used to determine survival scores are shown in ***Table 9.*** Hospitals were assigned points based on the lowest cut-off value below which the mortality ratio fell. For example, a mortality ratio of 0.78 in Cancer would have been assigned a survival score of 8 because 0.78 is lower than the 0.79 cut-off value.

Table 9. Survival Scores Based on Mortality Ratios

	Survival Score									
Specialty	**1 if ratio ≥**	**2 if ratio <**	**3 if ratio <**	**4 if ratio <**	**5 if ratio <**	**6 if ratio <**	**7 if ratio <**	**8 if ratio <**	**9 if ratio <**	**10 if ratio <**
Cancer	1.41	1.41	1.31	1.21	1.10	1.00	0.90	0.79	0.69	0.59
Cardiology & Heart Surgery	1.34	1.34	1.26	1.17	1.09	1.00	0.91	0.83	0.74	0.66
Diabetes & Endocrinology	1.59	1.59	1.44	1.29	1.15	1.00	0.85	0.71	0.56	0.41
Ear, Nose & Throat	1.59	1.59	1.44	1.30	1.15	1.00	0.85	0.70	0.56	0.41
Gastroenterology & GI Surgery	1.43	1.43	1.32	1.21	1.11	1.00	0.89	0.79	0.68	0.57
Geriatrics	1.34	1.34	1.26	1.17	1.09	1.00	0.91	0.83	0.74	0.66
Gynecology	1.68	1.68	1.51	1.34	1.17	1.00	0.83	0.66	0.49	0.32
Nephrology	1.49	1.49	1.36	1.24	1.12	1.00	0.88	0.76	0.64	0.51
Neurology & Neurosurgery	1.54	1.54	1.41	1.27	1.14	1.00	0.86	0.73	0.59	0.46
Orthopedics	1.57	1.57	1.43	1.29	1.14	1.00	0.86	0.71	0.57	0.43
Pulmonology	1.33	1.33	1.24	1.16	1.08	1.00	0.92	0.84	0.76	0.67
Urology	1.61	1.61	1.46	1.31	1.15	1.00	0.85	0.69	0.54	0.39

D. Process/expert opinion

For the 2017-18 rankings, the process/expert opinion component was worth 27.5% of the overall score in all specialties except for Cardiology & Heart Surgery, in which the process/expert opinion component was worth 24.5% of the total score.

The process/expert opinion dimension of the Donabedian paradigm reflects care decisions in the hospital setting such as making choices about admission, diagnostic tests, course of treatment, choice of medication, and length of stay. It is extremely difficult to obtain national measurements of process. We contend that an appropriately qualified physician who identifies a hospital as among the

"best" is, in essence, endorsing the process choices made at that hospital, and we regard the nomination of hospitals by board-certified specialists as a reasonable proxy measure.

To collect these nominations, a survey of board-certified physicians across the country is conducted each year. As with past years, the 2017-18 rankings use nominations from the most recent 3 years of physician surveys (2015, 2016, and 2017). Scores were calculated separately in each year, and averaged such that each year's scores are given equal weighting in the final reputation score as shown in ***Table 10.***

Table 10. 2015, 2016, and 2017 Reputation Weights by Survey Year

Sample Source	Reputation Weight (%)
2015 Physician Survey	33.3
2016 Physician Survey	33.3
2017 Physician Survey	33.3

The sections below describe the 2017 survey. The approaches used for the 2015 and 2016 surveys are described in the corresponding methodology reports for those years, available at www.rti.org/besthospitals.

Reputation scores were calculated in the same manner for both data-driven and reputation-only specialties. The following description therefore applies to both.

2017 Survey Approach

Sample Selection

The sample for the 2017 physician survey was selected from a database of all practicing U.S. physicians compiled by Doximity, the largest online professional network of U.S. physicians. Similar to the AMA Physician Masterfile, which was used as the sampling frame in previous years, Doximity's comprehensive Physician Database includes every practicing U.S. physician, identified by National Provider Identifier (NPI) number. Sources include the U.S. Department of Health and Human Services NPI Registry, state medical boards, and specialty boards (e.g., the American Board of Medical Specialties and the American Board of Surgery). Doximity's proprietary database is augmented by more than 400,000 registered and verified physician members who review and update their profiles to provide another set of primary data. RTI also used address information from the AMA Masterfile, under license from MMS, Inc., to verify addresses. ***Table 11*** provides the

population counts of specialists in the Doximity database by those who are Doximity members and nonmembers as of December 2016, when the sample of Doximity nonmembers was selected.

Data Collection Procedures

In each of the 16 Best Hospitals specialties, we selected a stratified sample of Doximity members and nonmembers. Doximity members were surveyed separately from nonmembers as described below.

Member survey. The Doximity member survey utilized a sample of 126,127 physicians across the 16 specialties and was conducted from January to March 2017. Physicians received an initial email invitation with a link to the survey. The survey asked physicians to supply the names of up to five hospitals in their specialty that provide the best care to patients with serious conditions, without considering location or expense. Nonresponding physicians received one follow-up email reminder with a link to the survey. In addition, eligible Doximity members – i.e., those who were board certified in a relevant specialty – received alerts upon login to Doximity.com or use of the Doximity app inviting them to participate.

Nonmember survey. The nonmember survey was conducted by randomly sampling 3,200 Doximity nonmembers—200 specialists in each of the 16 specialty areas. Stratifying by census region (https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf), we selected physicians in each region proportional to the size of the population. For example, if 40% of all Doximity nonmembers in a specialty had been from the South, then 40% of our sample would have included physicians in that region. Sampling physicians proportional to population size allowed us to minimize the weights needed to produce reputation scores that are nationally representative.

Sampled physicians were asked to complete a brief survey containing a single nomination element. The survey of nonmembers was identical to the survey of Doximity members but was conducted via mail instead of web. It asked physicians to supply the names of up to five hospitals in their specialty that provide the best care to patients with serious conditions, without considering location or expense. A copy of the mailed survey is available in ***Appendix A***.

Up to four mailings were sent to sampled Doximity nonmembers. Each mailing included a cover letter, questionnaire, and business reply envelope. The first survey mailing also included a combination token incentive—a $2 bill and a ballpoint pen. The survey was conducted from January 3 through April 15, 2017.

Table 11. Population Counts by Best Hospitals Specialty, Doximity Members and Nonmembers

Specialty	Subspecialties Included	Doximity Members	Doximity Nonmembers
Cancer	Hematology, hematology/oncology, medical oncology, surgical oncology, gynecologic oncology, radiation oncology	10,370	7,126
Cardiology & Heart Surgery	Cardiovascular diseases, thoracic surgery	15,695	9,912
Diabetes & Endocrinology	Endocrinology, diabetes & metabolism	2,622	2,536
Ear, Nose & Throat	Otolaryngology	5,657	3,886
Gastroenterology & GI Surgery	Gastroenterology, colon and rectal surgery	7,333	6,563
Geriatrics	Geriatrics	2,820	3,053
Gynecology	Gynecology, obstetrics & gynecology	17,348	15,708
Nephrology	Nephrology	4,086	3,672
Neurology & Neurosurgery	Neurology, neurological surgery	9,667	7,132
Ophthalmology	Ophthalmology	9,002	7,920
Orthopedics	Orthopedic surgery	11,059	9,230
Psychiatry	Psychiatry	14,735	19,524
Pulmonology	Pulmonary diseases	4,868	4,119
Rehabilitation	Physical medicine & rehabilitation	4,257	4,014
Rheumatology	Rheumatology	2,034	2,327
Urology	Urology	4,574	4,183

Response Rates

The overall response rate for the 2015, 2016, and 2017 surveys was 11.8% using American Association of Public Opinion Research (AAPOR) standard response rate 6,[††††] which treats undeliverables as ineligibles. The 2017 combined response rate for the Doximity member and nonmember surveys was 12.5% using AAPOR standard response rate 6. Further details are provided below.

[††††] Definitions are available online at http://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf

Member survey. Of the 126,127 Doximity members, 15,242 completed the web survey by March 18, 2017. The final response rate was 12.1% using AAPOR standard response rate 2. ***Table 12*** shows response rates by region and specialty.

Table 12. Member Survey Response Rates by Region and Specialty, 2017

Specialty	Midwest (%)	Northeast (%)	South (%)	West (%)	Total (%)
Cancer	22.6	18.5	11.0	8.6	15.3
Cardiology & Heart Surgery	17.4	15.6	9.9	9.3	13.0
Diabetes & Endocrinology	22.3	14.8	9.4	10.8	14.1
Ear, Nose & Throat	23.6	20.7	14.2	13.6	17.7
Gastroenterology & GI Surgery	19.7	14.0	8.4	8.4	12.4
Geriatrics	10.1	12.0	7.3	5.7	9.0
Gynecology	7.2	7.8	3.9	4.1	5.6
Nephrology	17.3	18.6	10.3	8.1	13.7
Neurology & Neurosurgery	23.8	22.2	12.6	12.6	17.8
Ophthalmology	18.7	16.4	11.8	15.8	15.4
Orthopedics	12.8	15.5	7.1	6.7	10.3
Psychiatry	6.6	10.1	3.6	4.3	6.6
Pulmonology	19.1	13.6	8.0	12.3	12.8
Rehabilitation	18.1	25.0	11.7	11.4	17.1
Rheumatology	17.6	17.8	8.9	10.0	13.9
Urology	19.9	19.5	11.2	11.3	15.2
Overall Response Rate	16.1%	15.2%	8.7%	8.7%	12.1%

Nonmember survey. Of the 3,200 physicians sampled in 2017, 426 were deemed ineligible after determining they were no longer actively practicing or because we were unable to verify their eligibility. Of the remaining 2,774 physicians, 832 returned the completed questionnaire. That represents a final response rate of 30.0% using AAPOR standard response rate 6. ***Table 13*** shows response rates by region and specialty.

Table 13. Nonmember Survey Response Rates by Region and Specialty, 2017

Specialty	Midwest (%)	Northeast (%)	South (%)	West (%)	Total (%)
Cancer	13.9	36.8	24.2	16.7	23.0
Diabetes & Endocrinology	29.0	37.2	17.2	28.9	27.1
Ear, Nose & Throat	38.2	46.7	29.9	58.5	41.3
Gastroenterology & GI Surgery	30.6	32.6	33.3	37.8	33.5
Geriatrics	33.3	25.9	33.3	35.5	31.4
Gynecology	22.6	20.5	31.1	5.6	21.6
Heart & Heart Surgery	29.0	17.8	22.7	27.0	23.5
Nephrology	43.6	45.2	21.1	31.7	32.4
Neurology & Neurosurgery	26.5	27.8	41.3	27.0	32.4
Ophthalmology	46.9	50.0	28.3	39.0	39.2
Orthopedics	34.3	42.4	19.7	21.3	27.1
Psychiatry	17.9	20.5	31.9	15.8	22.3
Pulmonology	20.6	31.9	33.8	43.3	32.4
Rehabilitation	45.5	38.6	19.2	32.5	32.5
Rheumatology	14.7	26.3	29.8	43.6	29.2
Urology	28.9	46.9	25.4	27.5	30.5
Overall Response Rate	**29.9%**	**33.2%**	**27.6%**	**30.6%**	**30.0%**

Survey Response Weighting

The weighting approach for the 2017 survey is described below. The approaches used for previous surveys are provided in the corresponding methodology reports for those years, which are available at www.rti.org/besthospitals.

For the 2017 Doximity member survey, we used post-stratification weights for age by gender (55+ male, <55 male, and female[‡‡‡‡]) as well as census region. Weights were constructed and applied to each physician's survey response to make nominations representative of all Doximity members nationally. Since all Doximity members were surveyed, weights were used to adjust for differences in nonresponse only by region and demographics.

[‡‡‡‡] Age categories were collapsed for females because there were too few female physicians over 55 in the sample.

We additionally investigated whether physicians' hospital affiliations affected their survey responses. Although we did observe that physicians at certain hospitals had higher response rates than physicians at other hospitals, we did not find systematic bias in the reputation scores. This is because a given hospital is affiliated with a very small percentage of all sampled physicians.

In each specialty, the sample for the 2017 nonmember physician survey was stratified only by census region (Midwest, Northeast, South, and West). The sample size in each specialty was too small to stratify by the demographic characteristics used in the Doximity sample. Weights were constructed and applied to each physician's survey responses to make nominations representative of Doximity nonmembers nationally. Weights were based on probability of selection within each unique specialty-region combination and on adjustments to account for nonresponders.

Reputation scores were tabulated separately for Doximity members and nonmembers and then combined to create 2017 reputation scores. ***Table 14*** shows the reputation weight for Doximity members and nonmembers in each specialty for 2017. The weight is based on the proportion of Doximity members and nonmembers in the population, so the reputation score is representative of all physicians in the nation. Reputation scores for each of the past 3 years were then averaged to create the final weighted reputation values that appear in the methodology report.

Log Transformation

The online and print rankings display weighted 3-year reputation values. Before incorporating the values into the scoring for the 12 data-driven specialties, however, we implemented a log transformation to adjust for the skewed distribution. The log transformation was not applied in the four reputation-only specialties.

By its nature, a survey that solicits recommendations for "bests" will generate data that do not follow a normal distribution. Relatively few hospitals will receive even one "best" recommendation. Of those that do, even fewer will receive a significant number. The distribution of responses will inevitably be highly skewed. Because outcome and structural data are not similarly skewed, reputation would have a disproportionate impact if the extreme skewness was not addressed.

Log transformation in the data-driven rankings reshapes the distribution to match reputation data more closely to those of the other components. Transformation is applied to the weighted reputation data using the formula $log(R_X + 10) - 1$, where R_X is the weighted reputation score for hospital X. Adding a constant of 10 moderates the effect of the transformation.

Table 14. 2017 Reputation Weights for Doximity Members and Nonmembers by Specialty

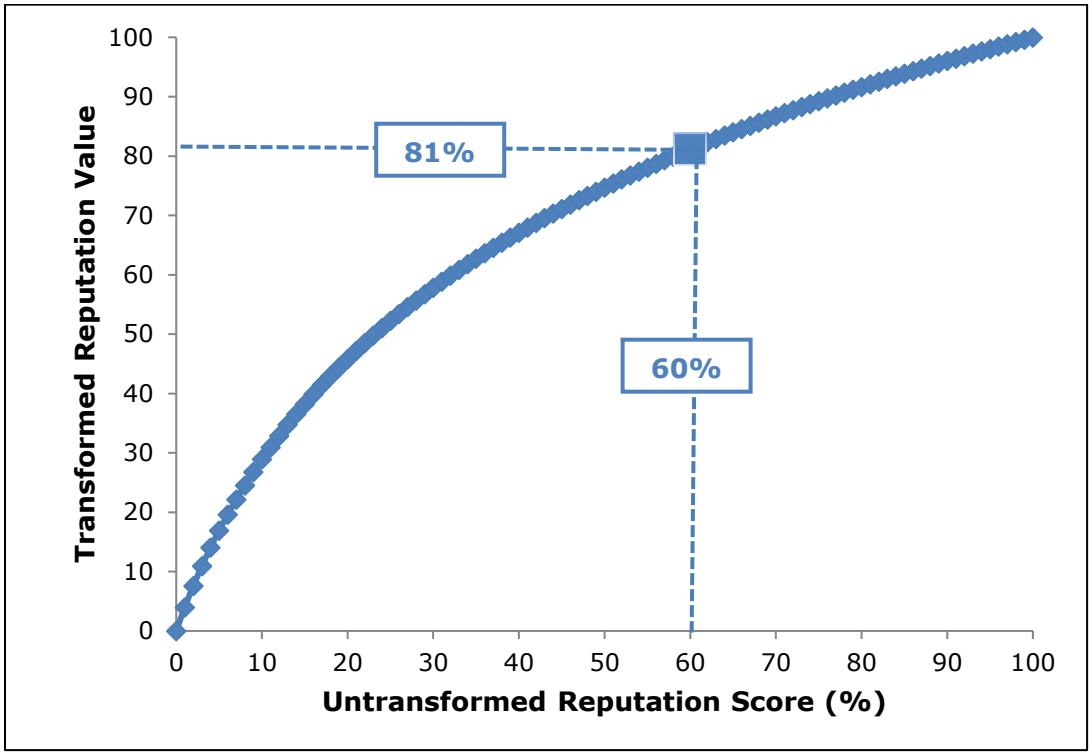
Best Hospitals Specialty	Reputation Weight	
	Doximity Member (%)	Doximity Nonmember (%)
Cancer	59.3	40.7
Cardiology & Heart Surgery	61.3	38.7
Diabetes & Endocrinology	50.8	49.2
Ear, Nose & Throat	59.3	40.7
Gastroenterology & GI Surgery	52.8	47.2
Geriatrics	48.0	52.0
Gynecology	52.5	47.5
Nephrology	52.7	47.3
Neurology & Neurosurgery	57.5	42.5
Ophthalmology	53.2	46.8
Orthopedics	54.5	45.5
Psychiatry	43.0	57.0
Pulmonology	54.2	45.8
Rehabilitation	51.5	48.5
Rheumatology	46.6	53.4
Urology	52.2	47.8

The transformed data are then scaled to a minimum of 0 and maximum of 100. ***Figure 3*** demonstrates the impact of the log transformation. Transformed reputation scores are higher than untransformed scores, but the impact is greater on low scores than on high scores, as illustrated by these examples:

- An untransformed score of 1% has a transformed value of 4 (4 times greater),
- an untransformed score of 10% has a transformed value of 29 (2.9 times greater), and
- an untransformed score of 60% has a transformed value of 81 (1.35 times greater).

Skewness is reduced, and the overall effect of the reputation score on hospitals' final standing in the rankings is diminished.

Figure 3. Reputation Data Before and After Log Transformation



Normalization and Weighting

Starting with the 2014-15 rankings, the weight of reputation in the overall score in the data-driven specialties was reduced from 32.5% in 2013-14 to 27.5%. In the 2017-18 rankings, the weight in Cardiology & Heart Surgery has been further reduced to 24.5%. It remains 27.5% in the 11 other data-driven specialties.

As with structural measures, reputation data were normalized before being combined with other metrics. Normalization transforms index values into a distribution between 0 and 1 based on a measure's range of *possible* (as opposed to generated) values. The possible values for a hospital's reputation score range from 0% (no nominations in the latest three years) to 100% (every surveyed physician nominated the hospital). A hospital's normalized reputation score, after log transformation, determined the number of points the hospital received for reputation. If its normalized reputation score in Cancer was 80, for example, it received 0.80 x 27.5, or 22 points, for reputation.

E. Patient Safety Score

Care that harms patients is an important aspect of both outcomes and process. A patient safety score is therefore a critical component in evaluating and determining the best-performing hospitals.

For the 2016-17 rankings, the weight of the patient safety score in the total score was reduced from 10% to 5% and one of its constituent measures was removed. This was done to address concerns about the patient safety indicators (PSIs) in general and PSI 03, the removed measure, in particular.[38]

For the 2017-18 rankings, two more constituent measures have been removed and the scoring has been revised. PSI 06 (Iatrogenic Pneumothorax) and PSI 14 (Postoperative Wound Dehiscence) were dropped due to concerns that low base rates could lead to unreliable measurement of patient safety.

Scoring for each PSI was also revised to a three-point scale, with the middle category defined as the mean +/- 2 standard deviations. Individual PSI scores were then added together to form a Patient Safety Score of 1 to 9 points, with higher numbers indicating better performance (i.e., lower rates of patient safety events).

In previous years, the data source for the patient safety score was the same 3-year sample from the MedPAR data set used for the volume and mortality analyses. Starting in 2016-17, the rankings used two new sources of data in lieu of MedPAR for calculating patient safety scores. For hospitals in all states except for Maryland, the rankings used data from the CMS Standard Analytical Files (SAF). This change was motivated by the need to have information on the date each procedure was performed, to improve a number of the PSI calculations.

Data from the HSCRC all-payer database were used in lieu of MedPAR for hospitals in Maryland. This change was made to address incomplete coding of Present on Admission (POA) indicators in the CMS datasets for the years of rankings analyses. The timeframe used in these analyses is the same that is used for the volume and mortality analyses in the Best Hospitals rankings (i.e., FY2013, FY2014, and FY2015). For both datasets used, only patients receiving fee-for-service care under Medicare and who were 65 years of age or older were included in the analyses.

Data from SAF and HSCRC were analyzed using AHRQ PSI QI software version 5.01. The project had planned to move to a newer version of the PSI QI software for the 2017-18 rankings, but AHRQ withdrew the software from distribution in early 2017, citing problems with the accuracy

of calculations in the software. The project plans to adopt the new software for future rankings after it is re-released by AHRQ for public use.

Background

Prior to the 2009 rankings, the sole outcome measure in the analysis was mortality. While death rates are key, hospitalized patients are subject to many adverse outcomes that may not result in death. In its 2000 report *To Err Is Human*,[39] the Institute of Medicine (IOM) identified three domains of quality: (1) safety, (2) practice consistent with current medical knowledge, and (3) care customized to patients' values and expectations.

The IOM defined patient safety, the first domain, as "freedom from accidental injury." The IOM identified preventable adverse events as a leading cause of death and injury and the principal challenge to patients' safety. Hospitals with high rates of adverse events are unlikely to provide patients with high-quality care.

In 2003, AHRQ released the first version of its PSIs, a set of 20 provider-level and 7 area-level indicators of potentially adverse events.[40] As described below, we use a subset of these indicators to identify adverse outcomes likely associated with less-than-desirable quality of care.

Research indicates that PSIs are not strongly associated with other outcome and structural quality measures.[41-43] However, we believe that PSIs incorporate important information separate from other measures used in the rankings. Including PSIs allows us to measure aspects of care that involve harm to patients and increased service utilization (to correct such harm, for example) but do not cause patient deaths. Hospital stays with patient safety events have been found to be more costly and longer in length than stays without patient safety events.[44-48] Patient safety events have also been associated with higher 90-day readmission rates, compared with rates for patients without safety events.[44]

Development of the Patient Safety Index

The patient safety score was developed by RTI using the framework described in the *Patient Safety Quality Indicators Composite Measure Workshop Final Report*,[7] with project-specific modifications. Below, we summarize the steps taken by AHRQ to construct an overall performance index that was reported in the annual *National Healthcare Quality Report* and *National Healthcare Disparities Report.*[49,50] We followed a similar process to develop the Patient Safety Index for the Best Hospitals Project. The three basic steps included:

1. choosing index components,

2. weighting the index components, and
3. controlling for the influence of hospital case mix on measured PSIs.

1. Choosing Index Components

AHRQ's PSI composite index includes the 11 PSIs checked in the second column of ***Table 15.*** These PSIs were chosen based on codes likely to be reported, not already part of existing composites, and not related to obstetric care.

The Best Hospitals patient safety score in the 2017-18 rankings includes three of the 11 indicators in the AHRQ's PSI composite index and one additional indicator, PSI 04, that is not in the measure. This latter indicator identifies surgical deaths generally deemed to be avoidable. Additional indicators may be added to the patient safety score as the measures become more refined.

Table 15. Comparison of AHRQ Patient Safety Indicators and Best Hospitals Patient Safety Score

All Patient Safety Indicators	Included in the AHRQ PSI Composite Index	Included in the Best Hospitals Patient Safety Score
PSI 03: Pressure ulcer	✓	
PSI 04: Death among surgical inpatients with serious treatable complications		✓
PSI 06: Iatrogenic pneumothorax	✓	
PSI 07: Central venous catheter-related blood stream infections rate	✓	
PSI 08: Postoperative hip fracture	✓	
PSI 09: Postoperative hemorrhage or hematoma	✓	✓
PSI 10: Postoperative physiological and metabolic derangement	✓	
PSI 11: Postoperative respiratory failure	✓	✓
PSI 12: Postoperative pulmonary embolism or deep vein thrombosis	✓	
PSI 13: Postoperative sepsis	✓	
PSI 14: Postoperative wound dehiscence	✓	
PSI 15: Accidental puncture or laceration	✓	✓

Several PSIs that previously were included in the patient safety score have been eliminated. PSI 02 (death in low-mortality DRGs) was dropped in 2012 after additional analyses revealed large fluctuations in the observance of this PSI from year to year. PSI 03 and PSI 08 were added in 2014-15, but PSI 08 was dropped in the 2015-16 rankings due to low incidence. For the 2016-17 rankings, PSI 03 was dropped due to concerns that the measure was overly sensitive to missing POA data in the record, which could confound comparisons. For the 2017-18 rankings, PSI 06 and PSI 14 were dropped due to concerns that low base rates could lead to unreliable measurement.

2. Weighting the Index Components

An index (or score) is generally a weighted sum or mean of its components. In the Best Hospitals methodology, the patient safety score is an aggregation of four individual PSIs. Until the 2011-12 rankings, each PSI was weighted according to each hospital's patient volume in the analysis, as is done for mortality. This produced significant year-to-year variability in the weights assigned to individual PSIs. Starting in 2011-12, each PSI included in the score therefore received equal weighting. This has reduced volatility and maintained consistency in the PSI calculation.

3. Controlling for the Influence of Hospital Case Mix on Measured PSIs

The more complex the medical condition or procedure, the more complex the care. Assuming each "touch" by a hospital staff person has identical quality, the more complex the care, the greater the likelihood of error. It follows that patient safety score values for a hospital with a complex case mix cannot be compared fairly to those for a hospital with a simple case mix. The hospital with a simple case mix might have a better patient safety score but worse underlying quality. The Best Hospitals methodology controls for case mix by performing a simple linear regression of the individual patient safety measures on the Medicare case-mix index—the average MS-DRG weight of the Medicare patients treated in each hospital.

Switch to Risk-Adjusted Rates

From the 2009-10 rankings, when the Patient Safety Index was introduced, through the 2015-16 rankings, we used smoothed rather than risk-adjusted rates in the PSI calculations. Risk-adjusted rates take age, sex, DRG, and comorbidity distribution of data in the reference population into account (AHRQ, September 2010). Smoothed rates are a weighted average of risk-adjusted and observed rates in the reference population. Selecting smoothed rates was designed to bring the PSI rates toward the mean, which can be useful when data are noisy (AHRQ, November 2013).

Starting with the 2016-17 rankings, however, we moved to a risk-adjusted rate out of concern that the smoothed rates overadjust and obscure differences between hospitals. We now

pool all observations in our calculations. By pooling 3 years of data, some of the potential year-to-year fluctuation that smoothed rates are designed to adjust for is taken into account.

Construction of the Patient Safety Score

The patient safety score is calculated by regressing each patient safety measure on the Medicare case-mix index to control for the influence of hospital case mix. Each year, patient safety scores cannot be calculated for a small number of hospitals (< 1%) that lack sufficient data. For these cases, we substituted the median PSI value for all hospitals. This process essentially ranks these hospitals as if the patient safety score is not factored into their rankings. This allows more direct comparisons with other hospitals than if they received no points for this measure.

The patient safety score used in the rankings reflects the average of the residual values. Lower values of adjusted patient safety scores indicate fewer adverse events than expected (higher quality); higher values indicate more adverse events than expected (lower quality).

Both for scoring and display purposes, individual PSI scores are recoded into three groups based on standard deviations from the mean. Hospitals with score values within +/-2 standard deviations are considered to be in the average range and received 2 points; hospitals with patient safety values exceeding this range are considered below average and received 1 point, while those with exceptionally low rates of patient safety events are considered above average and received 3 points. The patient safety scores in ***Table 16*** indicate the cutoffs that determine an individual hospital's level of patient safety.

Table 16. Patient Safety Scores Based on PSI Value

Indicator	3 if <	2 if between	1 if >
PSI 04: Death among surgical inpatients with serious treatable complications	-4.8562	-4.8562 to 4.9191	4.9191
PSI 09: Postoperative hemorrhage or hematoma	-0.2289	-0.2289 to 0.2357	0.2357
PSI 11: Postoperative respiratory failure	-0.5046	-0.5046 to 0.5108	0.5108
PSI 15: Accidental puncture or laceration	-0.0969	-0.0969 to 0.0941	0.0941

A hospital's scores of 1 to 3 on each of the four individual PSIs are added together, and 3 is subtracted from that sum, to determine its 1-9-point Patient Safety Score. Higher numbers indicating better performance. For example, a hospital with a score of 2 for each of the four PSIs

would receive a Patient Safety Score of 5. A hospital with two scores of 2 and two scores of 3 for individual PSIs would receive a Patient Safety Score of 7.

F. Public Transparency (Cardiology & Heart Surgery Only)

A public transparency component was added to the analysis for Cardiology & Heart Surgery in the 2016-17 rankings. The measure rewards hospitals for voluntarily reporting cardiac-care performance data to the public through one or both of two important clinical registries: the National Cardiovascular Disease Registry (NCDR), which is maintained by the American College of Cardiology (ACC), and the Adult Cardiac Surgery Database (ACSD), maintained by the Society of Thoracic Surgeons (STS). Clinicians initially created these and other clinical registries to foster quality improvement.

More recently, public transparency has been identified as an important additional application for registry-based quality measurement. The STS initiated voluntary public reporting for ACSD-participating hospitals in 2010. In late 2015, the ACC began a similar program for two of the 10 registries that comprise the NCDR, the CathPCI Registry and the ICD Registry.

Transparency via clinical registries can facilitate informed decision making by patients, which in turn may boost patient engagement in their healthcare. Transparency also creates opportunities for researchers to externally validate the results of hospital rankings such as Best Hospitals. Moreover, it demonstrates a public commitment on the part of the partcipating hospitals to the process of pursuing quality improvement.

Hospitals received up to 3 points for participating in public reporting with ACC and STS regardless of the specific ratings each registry reported. Hospitals that voluntarily publicly reported through one group but not the other received 2 points for this measure. Hospitals that publicly reported through both received 3 points. Hospitals that supplied data to the ACC or the STS but did not allow the results to be made public received 0 points.

Details of Participation Requirements (ACC)

To receive credit for ACC public reporting, hospitals must have participated in either the ICD Registry and/or the CathPCI Registry and voluntarily agreed to allow data from these registries to be posted on an ACC website, www.CardioSmart.org. To receive credit, the hospital had to have a public reporting status of "Participating with ACC" for at least one of those registries as of April 15, 2017. The publicly reported data include the following measures from each registry:

ICD Registry

- Angiotensin Converting Enzyme Inhibitor/Angiotensin Receptor Blocker (ACE/ARB) Therapy at Discharge for ICD Implant Patients With Left Ventricular Systolic Dysfunction (LVSD)
- Beta Blocker at Discharge for ICD Implant Patients With a Previous Myocardial Infarction
- Beta Blocker at Discharge for ICD Implant Patients With LVSD
- Composite: Discharge Medications (ACE/ARB and beta blockers) in Eligible ICD Implant Patients

CathPCI Registry

- Proportion of Patients With Aspirin Prescribed at Discharge
- Proportion of Patients With a P2Y12 Inhibitor Prescribed at Discharge (Patients With Stents)
- Proportion of Patients With a Statin Prescribed at Discharge
- Composite: Discharge Medications (Aspirin, P2Y 12 Inhibitor, and Statin) in Eligible PCI Patients

Details of Participation Requirements (STS)

To receive credit for STS public reporting, STS Adult Cardiac Surgery Database participants had to have their scores and data publicly displayed on the STS website (http://www.sts.org) as of February 2017. STS ACSD public reporting currently includes outcomes for the following surgeries:

- Coronary artery bypass graft (CABG)
- Isolated aortic valve replacement (AVR)
- AVR plus CABG surgeries

G. Calculation of the Overall Score for the Data-Driven Specialties

All Specialties (Excluding Cardiology & Heart Surgery)

For 2017-18, The U.S. News ranking score reflects the followings weights for each of the major components:

- Structure = 30%
- Process/expert opinion = 27.5%
- Outcomes = 37.5%
- Patient safety = 5%

Relative structural measure weights can be found in ***Table 6.***

Rankings by U.S. News score for the top 50 hospitals in each specialty are shown in ***Appendix D***. Hospitals were recognized as High Performing in a specialty, for the Best Regional Hospitals lists, if they were not ranked in the top 50 but they received a score in the top 10 percent of all hospitals receiving a score in that specialty.

Equation (2) shows the formula for calculating the raw overall score for each specialty except Cardiology & Heart Surgery. A hospital's raw score in a specialty can be thought of as a simple weighted sum of the four ranking components, as shown below:

$$Raw\ score = \{.3\left(\sum_{i=1}^{n_s} S_i\right) + .275\sum_{i=1}^{n_p} P_i + .375\left(\sum_{i=1}^{n_o} O_i\right) + .05PS_i\}, \quad (2)$$

where

S_i = normalized value for structural measure *i,*

P_i = normalized value for process/expert opinion measure (reputation) *i*,

O_i = normalized value for outcomes measure (survival) *i,*

PS_i = normalized hospital-wide patient safety score.

This formula is illustrative only. It *cannot* be used to calculate the U.S. News score for an individual hospital or replicate a published score.

For presentation purposes, raw scores were transformed to a scale that assigns a U.S. News score of 100 to the top hospital. The formula for the transformation is shown in Equation (3):

$$U.S.\ News\ Score = (raw\ score - minimum)/range. \quad (3)$$

Cardiology & Heart Surgery

For Cardiology & Heart Surgery, the U.S. News score included a fifth component—public transparency. This fifth component accounts for 3% of the overall score in the 2017-18 rankings. To accommodate this component, process/expert opinion weight was reduced to 24.5%. The U.S. News score for Cardiology & Heart Surgery reflects the following weights for each major component:

- Structure = 30%
- Process/expert opinion = 24.5%
- Outcomes = 37.5%
- Patient safety = 5%

- Public transparency = 3%

The formula for calculating the raw score for Cardiology & Heart Surgery is shown in Equation (4), as shown below:

$$Raw\ score = \{.3\left(\sum_{i=1}^{n_s} S_i\right) + .245\sum_{i=1}^{n_p} P_i + .375\left(\sum_{i=1}^{n_o} O_i\right) + .05PS_i + .03PT_i\}, \quad (4)$$

where

S_i = normalized value for Cardiology & Heart Surgery structural measure *i,*

P_i = normalized value for Cardiology & Heart Surgery process/expert opinion measure (reputation) *i*,

O_i = normalized value for Cardiology & Heart Surgery outcomes measure (survival) *i*,

PS_i = normalized hospital-wide patient safety score,

PT_i = normalized public transparency score.

As with the other specialties, raw scores were transformed to a scale that assigned a score of 100 to the top hospital.

III. Reputation-Only Specialties

Available data for the four reputation-only specialties are significantly limited. Life-threatening conditions and procedures are rare in Ophthalmology, Psychiatry, and Rehabilitation, rendering mortality irrelevant. Inpatient volume in Rheumatology is extremely low, making calculation of mortality unreliable. Reliable structural measures also are unavailable in these four specialties. Therefore, reputation alone—the process/expert opinion component—determines ranking. This section describes the eligibility and procedures used to develop the rankings for these four specialties.

A. Eligibility

In specialties driven solely by reputation, hospitals have never had to meet the same eligibility standards as in the data-driven specialties. Starting with the 2015-16 rankings, a hospital has had to have a reputation score of 1% or greater to be eligible for ranking.

Ranked hospitals are those nominated by at least 5% of responding physicians within the last 3 years. Hospitals that are nominated by at least 3% and less than 5% of responding physicians are recognized as High Performing in the Best Regional Hospitals lists.

B. Process/expert opinion

The data-driven specialties and reputation-only specialties share the same process/expert opinion component (see section ***II.D.*** for more information).

C. Calculation of the Rankings

As described above, scores for the reputation-only specialties of Ophthalmology, Psychiatry, Rehabilitation, and Rheumatology must be calculated differently from scores for the data-driven specialties because of the unavailability of structural and outcomes measures. Thus, we rank hospitals in these specialties solely by reputation (see ***Appendix E***).

IV. Number of Ranked Hospitals

This year, 152 different hospitals were ranked in at least one data-driven or reputation-only Best Hospitals specialty. Another 36 specialty hospitals that closely coordinate care with a partner hospital shared one or two specialty-specific rankings with that partner.

V. Honor Roll

The Honor Roll, which since 1990 has recognized excellence across a broad range of Best Hospitals specialties, was revamped in 2016-17. The updated methodology factors in the Procedures and Conditions ratings and reduces the role of reputation in the Honor Roll rankings. The 2017-18 Honor Roll utilizes the same method established in 2016-17 and was determined as follows.

1. In each of the 12 data-driven specialty rankings, the No. 1-ranked hospital received 25 Honor Roll points and lower-ranked hospitals progressively received one less point down to six points for No. 21. All hospitals ranked 21–50 received 5 points. A hospital ranked No. 1 in all 12 data-driven specialties would have received 25 x 12 = 300 points.

2. In each of the four reputation-only specialties, the No. 1-ranked hospital received 10 Honor Roll points, the No. 2 hospital received 9 points and lower-ranked hospitals progressively received one less point down to No. 10. All hospitals from No. 10 to the last ranked hospital received 1 point. A hospital ranked No. 1 in all four reputation-only specialties would have received 40 points.

3. In the nine procedures and conditions for which U.S. News published 2017-18 ratings,[§§§§] hospitals received 12 Honor Roll points for each rating of High Performing. Hospitals that were rated High Performing in all nine procedures and conditions received 108 points.

4. The 2017-18 Honor Roll recognizes the 20 hospitals that earned the most points out of the possible total of 448 across the 16 specialties and nine procedures and conditions. The Honor Roll is ranked from No. 1 to No. 20, based on points.

The 2017-18 Honor Roll appears in ***Appendix F***.

VI. Year-by Year History of Methodology Changes by RTI

RTI began working with *U.S. News* on the Best Hospitals rankings in 2005. Methodology changes introduced to the rankings for each project year are described below. For complete information on changes made in previous years, we recommend reviewing the project methodology reports for those years, which are available online at www.rti.org/besthospitals.

Summary of 2017-18 Changes

- **Move to SAF dataset**. The project implemented a change from the MedPAR to the SAF datasets for all volume, mortality, and patient safety calculations; the exception is that the HSCRC all-payer database continues to be used for the Patient Safety Score calculations for hospitals located in Maryland. Only patients receiving care under traditional Medicare (fee-for-service) are included in the SAF datasets used for analyses; as a result, all hospital volumes will be reduced due to the lack of CMS managed care patients in the SAF datasets.

- **Volume adjustment for loss of Medicare Advantage**. Volumes were estimated for hospitals in each specialty using an adjustment to account for the loss of Medicare Advantage patients from the analyses. The numerator for the volume calculation was the number of fee-for-service discharges meeting the criteria for inclusion in the specialty. The denominator was the proportion of Medicare beneficiaries enrolled in fee-for-service (as opposed to Medicare Advantage) in the county in which the hospital is located. The denominator was calculated by subtracting from 1.0 the CMS Medicare Advantage penetration estimates, expressed as a decimal less than 1.0, for June 2013. As a result, the volumes reported represent estimates rather than observed volumes of care at each hospital.

- **Socioeconomic status (SES) adjustment to the survival score.** The rankings now incorporate a new adjustment at the patient level for dual-eligibility for Medicare and Medicaid. The dual eligible flag is set to either 0 (not present) or 1 (present) for each

[§§§§] Chronic obstructive pulmonary disease (COPD); congestive heart failure (CHF); coronary artery bypass surgery (CABG); hip replacement; knee replacement; abdominal aortic aneurysm repair; aortic valve repair or replacement (AVR); colon cancer surgery, and lung cancer surgery.

case entering the risk-adjusted mortality equation. This was done to address known differences in morbidity and mortality with hospital patients associated with lower SES; dual-eligibility, or more specifically eligibility for Medicaid, is being used in this case to represent lower SES. The overall impact of the change is very small, but will result in scores that better represent patient survival in hospitals evaluated.

- **Intensivists**. Hospitals now receive 1 point for having at least one intensivist FTE reported as being available in any adult-focused intensive care unit within the hospital. This change now provides somewhat broader credit to hospitals for having intensivists available than in previous years.

- **Nurse Magnet**. The Nurse Magnet measure was updated to better reflect program coverage for hospitals that are part of a multi-campus system or an arrangement with another hospital outside the system. Hospitals received 1 point for being recognized as a Nurse Magnet hospital. For hospitals that are part of a special merger or a multiplex healthcare system, the primary hospital is required to have Magnet Recognition status for the combination hospital to receive 1 point. If there is no defined primary hospital, then if either hospital in the special merger has Magnet Recognition status then both receive credit. Partial credit was not offered in the 2017-2018 rankings.

- **Patient safety score.** Two of the PSIs used in the patient safety score—PSI 06 (Iatrogenic Pneumothorax) and PSI 14 (Postoperative Wound Dehiscence)—were dropped due to concerns that low base rates could lead to unreliable measurement. The scoring for the remaining individual PSIs was also revised to a three-point scale with the middle category defined as the mean +/- 2 standard deviations. The individual PSI scores were combined to form a 1-9-point Patient Safety Score with higher numbers indicating better performance (i.e., lower rates of patient safety events).

- **Nurse staffing score adjustments.** The project implemented three changes to the nurse staffing score for the 2017-18 rankings. First, the calculation now includes a correction for hospitals that provide onsite skilled nursing and report their nursing inclusive of both the inpatient and skilled nursing. The nursing FTEs associated with the skilled nursing are removed from the numerator and a corrected adjusted average daily census is used for the denominator. The corrected adjusted average daily census values for hospitals affected by this change are calculated and provided directly to the project by the AHA. Second, to address problems with missing data—in particular the primary nursing FTEs variable (FTEN)—the rankings impute missing FTEN values. For the imputation, hospitals that do not have extreme nurse staffing ratios are selected and the calculation incorporates data from current values for FTEN (Full time equivalent registered nurses reported), FTERN (Full time equivalent registered nurses estimated), ADJADC (Adjusted Average Daily Census) and BDTOT (total hospital beds set up and staffed). Third, to address volatility in the nurse staffing measure for hospitals with relatively low numbers of patients, we adjust the nurse staffing values for hospitals in the lowest quartile of adjusted average daily census by blending their rate with that of the average adjusted nurse staffing rate for hospitals eligible for the rankings.

- **Surgical Minimums for Eligibility in Neurology and Neurosurgery.** To be eligible for evaluation in the neurology and neurosurgery specialty hospitals are now required to be at the 25th percentile or higher in terms of the ratio of surgical to total discharges within the DRGs evaluated for the specialty. This change was made to address excessive bias in mortality rates for hospitals with a very low ratio of surgical-to-total discharges.

Summary of 2016-17 Changes

- **MedPAR data**. Only patients receiving care under Medicare (fee-for-service and, if available, managed-care) and who were 65 years of age or older were included in the MedPAR file used for analyses. In previous years, all ages were used which resulted in somewhat inflated volume rates.

- **Component weight**. The overall weight for the patient safety index was lowered from 10% in 2015-16 to 5% in 2016-17. The overall weight for outcomes was correspondingly increased from 32.5% last year to 37.5%.

- **Intensivists**. Hospitals now receive 1 point for having at least one intensivist whether on staff or through another privileged arrangement. Previously, intensivists were required to be on staff.

- **Nurse Magnet**. The Nurse Magnet measure was updated to better reflect program coverage for hospitals that are part of a multicampus system or an arrangement with another hospital outside the system. These combined entities only received full credit in 2016-17 (1 point) if all hospitals in the combination had Nurse Magnet recognition as of April 1, 2016. If the primary hospital had Nurse Magnet recognition but the specialty or secondary hospital(s) did not, the combined entity received half credit (0.5 point).

- **Public transparency**. In Cardiology & Heart Surgery only, a new measure was added rewarding hospitals for participation in transparency in public reporting of heart outcomes with the ACC and STS.

- **Use of SAF file for patient safety**. In previous years, the data source for the patient safety score was the same 3-year sample from the MedPAR data set that was used for the volume and mortality analyses. For 2016-17, the rankings used data from the CMS SAF instead of MedPAR. This change was motivated by the need to have more accurate procedure data for a number of the PSI calculations.

- **Patient safety score.** PSI 03, decubitus ulcer, was dropped due to concerns that the measure was overly sensitive to missing POA data in the record, which could confound comparisons.

- **Data for Maryland hospitals**. For Maryland hospitals, data from the state's HSCRC all-payer database was used for patient safety. This change was made to address

incomplete coding of POA indicators in the CMS datasets for some of the years of analyses under consideration for the rankings.

- **Honor Roll.** Moved to a new format that incorporated results from the 12 data-driven specialty rankings, the 4 reputation-only specialty rankings, and the 9 procedures and conditions ratings (see page 55-56). Hospitals received points for being ranked in each of the Best Hospitals data-driven and reputation only specialties if they appeared in the top 50, and additional points if they achieved a rating of high performing in the procedures and conditions ratings. The Honor Roll now recognizes the 20 hospitals that earned the most points out of the possible total.

Summary of 2015-16 Changes

- **Technology and Patient Services**. Due to changes to the AHA annual survey, there are now three categories instead of four categories for receiving credit for providing technology and patient services to patients. These services can be provided (1) by the hospital or its subsidiaries, (2) by the hospital's health system (in local network), or (3) by another institution outside of the health system, but in the local network, through a formal contractual arrangement or joint venture.

- **Patient Safety Score.** PSI08 was removed from the patient safety score due to low prevalence. A risk-adjusted rather than a smoothed rate is used, to address concerns that the smoothed rate might over-adjust for differences between hospitals.

Summary of 2014-15 Changes

- **Component weighting.** The weight for the process component was reduced from 32.5% to 27.5% and the weight for the patient safety score was increased from 5% to 10%. This was done in recognition of the increased importance of patient safety to the quality of care provided by hospitals.

- **Technology**. Cardiac ICU was removed in Cardiology & Heart Surgery, as it already served as a requirement for hospitals to be eligible for ranking in this specialty. IMRT was added as a new technology to the Cancer and Urology specialties, recognizing the importance of this treatment modality to care in both specialties.

- **Patient Safety Score.** Two patient safety indicators were added to the patient safety score due to the availability of the POA indicator in the MedPAR dataset. Additionally, for display purposes, PSIs were converted from a 3-point scale to a 5-point scale to provide more nuanced information to consumers on the differences in patient safety performance between hospitals. For scoring, we now use a continuous value for PSI rather than a discrete value shown in the ranking tables.

- **MS-DRG deletions.** MS-DRG 689 (Kidney and Urinary Tract Infections with MCC) was removed from the Urology specialty because it does not reflect the quality of care of a urology service. A review of hospital data showed that the code is frequently used by other specialties within the institution to identify significant

medical comorbidities rather than for identifying performance by the institution's urology service.

- **Eligibility for reputation-only specialties**. In previous years, a hospital was eligible if it received one or more physician nominations in the past 3 years. In 2014-15, a hospital was eligible for a reputation-only specialty only if it had a reputation score of 1% or greater, which equates to about three nominations in the past 3 years. This change was made to restrict eligibility to hospitals that are more consistently nominated.

Summary of 2013-14 Changes

- **"Present on admission" data included in patient safety calculations.** Starting with the 2013-14 rankings, patient safety data were analyzed using the AHRQ PSI grouper software version 4.3. This version of the software incorporates POA data found in Medicare claims. This allows the software to remove cases where POA is indicated so that they do not count against a hospital in the assessment of patient safety events.

- **Neurology & Neurosurgery MS-DRG deletions.** Several procedures involving spinal fusion (MS-DRGs 028, 029, 030, 453, 453, 455, 456, 457, 458, 459, 460, 471, 472, 473, 490, and 491) were removed from the Neurology & Neurosurgery but retained in the Orthopedic specialty. The change was made to reflect the specialty that patients typically turn to when seeking spinal fusion procedures. This change also eliminated a redundancy in the coverage of these procedures in the rankings. As a result, these procedures are covered in the orthopedic specialty regardless of whether the surgery was performed by an orthopedic surgeon or neurosurgeon.

Summary of 2012-13 Changes

- **Surgical volume discharge minimums.** If the minimum total discharge value for a specialty was lower than 25, then 25 was set as the minimum for that specialty to ensure a sufficient number of discharges.

- **Normalization.** Normalization is the process of transforming index values into a distribution between 0 and 1 based on the range of possible values for a given measure. Individual measures were normalized before incorporating into the overall score. In previous years, standardization was used instead of normalization.

- **New weighting procedures for structural measures.** In previous years, factor analysis determined the relative weights of the structural measures. Starting in 2012-13, weights are based on the relative significance of each measure.

- **Reputation.** In previous years, the hospital with the highest reputation score received the full point total (i.e., 32.5 points) for the reputation component. Starting in 2012-13, hospitals received a normalized reputation score. For example, if the highest reputation score in a given specialty is 80%, the hospital receives a

normalized score of 0.80. Since reputation is worth 32.5% of the overall score, the hospital receives 0.80 x 32.5, or 26 points, for reputation instead of the full 32.5 points possible.

- **Survey response weighting.** Beginning in 2012-13, we calculated reputation values for each year of the survey independently and averaged the 3 years rather than pooling nominations across years. This was done to reduce the year-to-year fluctuation of reputation scores within specialties.

- **Honor Roll.** The methodology for assigning Honor Roll points was revised. For data-driven specialties, hospitals now receive 2 points for ranking among the top 10 hospitals and 1 point for ranking in the next 10 (i.e., 11–20). For reputation-only specialties, hospitals receive 2 points for ranking in among the top 5 and 1 point for ranking in the next 5 (i.e., 6–10).

Summary of 2011-12 Changes

- **Ties allowed.** For 2011-12, we instituted a new rule that allows for ranking ties for hospitals with the same score. Previously, ties were not allowed and were broken by examining the scores out to 3 decimal points.

- **Cut-offs for reputation-only specialties.** In previous years, hospitals representing 3% or more of the total nominations in a specialty were published in print for the reputation-only specialties. For the 2011-12 rankings, this was revised to 5% to be more discerning.

- **Mortality displayed as survival scores.** The values displayed in the rankings tables for mortality were changed from mortality ratios to decile-based survival scores. The top 10% of hospitals—with the lowest relative mortality and highest 30-day survival—received a survival score value of 10; the next 10% of hospitals received a value of 9, and so on. The method for using the mortality scores to calculate the score did not change from that used in 2010.

- **Updated scoring for the Patient Safety Index**. The Patient Safety Index was revised to include 6 rather than 7 indicators (PSI 02: Death in low-mortality DRGs is no longer included). The approach to weighting individual PSIs also changed from the population at risk to equal weighting. The index scoring was also updated from the quintile scoring used in 2009-10 to a new 3-point scale that represents $\geq 75^{th}$ percentile, 25^{th}–74^{th} percentile and $< 25^{th}$ percentile.

Summary of 2010-11 Changes

- **Reputation scores transformed.** Implemented a new log transformation of the reputation survey data prior to standardization. This change will allow reputation scores to cluster more, reducing the overall impact of this component on the final hospital ranking.

- **MS-DRGs incorporated.** The 3M Health Information Systems MS Grouper software was run on all 3 years of data included in the analyses, and we revised the assignment of cases to specialties using the MS-DRGs.

- **Change in structural volume measure.** The criteria used to determine volume for the structural variable have now changed to include only those cases meeting the minimum severity of illness thresholds set by the project using APR-DRGs and includes transfers; previously, this measure focused on all discharges for DRGs used by the project and excluded transfers. This change will allow the volume measure to more accurately reflect the actual volume of cases according to the specialty definitions.

- **Codes identifying transfers for mortality calculation revised.** As in previous years, transfers were identified using the claim source of inpatient admission variable on the MedPAR files. In past years, transfers were identified based on the value "4" for transfer from an acute hospital. This year the variable value "A" for transfer from critical access hospital was also used.

- **Low-discharge hospitals adjustment changed.** We revised the method for adjusting the scores for hospitals with low discharges on both volume and mortality. In previous years, we used an inverse-logit transformation. Starting in 2010, for hospitals with a discharge volume below the 25th percentile, we adjusted the observed volume score and transfer-free mortality rate by creating an average weight based on the hospital's observed score and the score for all hospitals at or above the 25th percentile in volume.

- **"Outlier" transfer data adjusted.** We adjusted the observed transfer-free mortality rate for hospitals in the top and bottom quartiles of transfer-in rates to account for the fact that some hospitals may have had too many or too few cases included in the mortality calculations due to poor or inaccurate coding of administrative data.

Summary of 2009 Changes

- **Eligibility criteria updated.** Hospitals with a minimum number of hospital beds may now be eligible for the rankings.

- **Key technologies updated.** The elements in this index were updated for a few specialties to remain consistent with the key technologies expected from a best hospital.

- **Intensivist on staff added.** Hospitals now receive credit in all data-driven specialties for having intensivists on staff.

- **Patient Safety Index added.** A Best Hospitals Patient Safety Index was created and applied to all data-driven specialties.

- **DRG groupings updated.** DRG groupings were updated for all data-driven specialties, consistent with typical year-to-year changes.

- **Physician survey.** The following instruction was removed from the physician survey: "Please do not list any hospital where you currently practice." Physicians likely choose to work at a certain hospital because it is a best hospital. Therefore, it was deemed acceptable for them to vote for the hospital where they work.

Summary of 2008 Changes

- **Advanced technologies updated.** The elements in this index were updated for a few specialties to remain consistent with the advanced technologies expected from a best hospital.

- **Patient services updated.** The elements in these services were updated for a few specialties to remain consistent with the patient services expected from a best hospital.

- **Trauma center certification dropped.** Trauma center certification was dropped from the Gynecology specialty.

- **Alzheimer's disease center added.** This element was added to the Neurology & Neurosurgery specialty.

- **30-day mortality rates added for Cancer.** Thirty-days-from-admission mortality rates were introduced in all data-driven specialties except Cancer in 2007. For 2010-11, 30-day mortality was used in Cancer as well.

Summary of 2007 Changes

Changes for 2007 were more substantial but still in keeping with the goal of maintaining consistency and continuity. Many of the changes were discussed at length at a day-long meeting convened by U.S. News in fall 2006 to solicit the views of a Best Hospitals advisory panel of approximately 40 invitees. The panelists represented top hospitals and brought expertise in areas such as clinical care, healthcare data analyses and quality research. Several representatives from key trade/industry organizations also participated.

- **External organizations added.** Hospitals in the Cancer specialty now receive points for accreditation by FACT as a Cellular Therapy Facility. Hospitals in Geriatrics now receive points if they are recognized by NIA for having an Alzheimer's center.

- **DRG groupings updated.** DRG groupings were updated for all specialties, consistent with typical year-to-year changes.

- **Transfers excluded.** Patients transferred into a hospital from another hospital are excluded from mortality and volume calculations to reduce the likelihood of either benefiting or suffering from "dumping" of patients.

- **30-day mortality introduced.** Thirty-days-from-admission mortality rates were introduced in all data-driven specialties (except Cancer) instead of death-at-discharge mortality rates.

- **Mortality data weighted.** Weights were applied to the MedPAR data based on the relative over- or underrepresentation of the cases' DRGs among all patients, as identified in the HCUP data.

- **Neonatologists moved.** Neonatologists were removed from the Gynecology sample and included in the Pediatrics sample instead.

- **Physician survey.** An additional instruction was added to the physician survey: "Please do not list any hospital where you currently practice."

Summary of 2005 and 2006 Changes

To maintain consistency in the previous ranking process, RTI replicated the preexisting methodology in the 2005 rankings and implemented only minor operational improvements in 2006.

VII. Future Improvements

The Best Hospitals methodology is reexamined and refined each year. As always, RTI will closely monitor the potential of new data sources and measures. Below, we describe several methodological improvements that are being considered.

- **Evaluate transparency measures for other specialties**. We will continue to evaluate new measures for transparency of outcomes, similar to the ACC and STS public transparency measure added in Cardiology & Heart Surgery.

- **Reevaluate process/expert opinion component.** We will continue to evaluate potential new process measures that might enhance the physician survey proxy measure. For example, the Hospital Consumer Assessment of Health Care Providers and Systems (HCAHPS) survey of hospital inpatients, implemented by CMS in 2008, obtains patient feedback on the quality of care received during a recent hospital stay. The Hospital Compare website has also introduced process measures that might offer useful data.

- **Add structural data to reputation-only specialties.** We are examining resources and measures that would add structural data to the current reputation-only specialties to strengthen and improve the rankings for these specialties.

- **Review external data sources.** We will investigate additional and new sources of data that offer quality measures for all hospitals. Data sources under consideration include quality indicators from AHRQ, AHA, CMS and the Joint Commission.

VIII. Contact Information

We welcome suggestions and questions. Readers and users are encouraged to contact the Best Hospitals research team at the address listed below. This report, as well as all others from 2005 forward, can be viewed or downloaded from the RTI International website at www.rti.org/BestHospitals. Specific questions or comments about this report can be sent to BestHospitals@rti.org.

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Appendix A

2017-18 Physician Survey Materials

Survey Cover Letter

January 3, 2017 «id»

«name_first» «name_last»
«addr1»
«addr2»
«city», «state» «zip»

Dear Dr. «name_last»,

We are asking you, as part of a select group of specialists, to name the best hospitals for the sickest patients in «print_specialty» for the annual U.S. News & World Report Best Hospitals rankings. With your help, we will identify the hospitals that provide the highest quality of care for adult patients with the most challenging «adult_fill» associated with «print_specialty». The survey is being conducted by RTI International on behalf of U.S. News.

Survey results will be combined with quality indicators from the Centers for Medicare & Medicaid Services, the American Hospital Association, and other data sources to produce the 2017-18 Best Hospitals rankings. The rankings will be published at www.usnews.com in early August, 2017.

Your responses will be kept confidential and will be released only as part of a summary of the overall responses from our national sample.

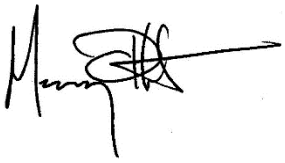
If you have any questions, please feel free to contact us at (866) 309-4561 or at BestHospitals@rti.org.

Please submit your responses «Experiment_Text». You can return the survey in the postage-paid envelope provided. If you prefer, you can fax the survey to (800) 476-9721.

The enclosed two-dollar bill and pen are a small token of our appreciation for your help.

Thank you for your time and expertise.

Sincerely,



Dr. Murrey Olmsted
Project Director, Best Hospitals
RTI International

«ID»

Best Hospitals

Your nominations will be reflected in the 2017-18 U.S. News & World Report <<print_specialty>> rankings.

Please name up to 5 U.S. hospitals that in your opinion provide the best care in <<print specialty>> for patients who have the most challenging <<adult fill>>. Do not consider location or cost. For a hospital that is part of a health system or medical school, please name the individual hospital.

	Hospital	City	State
a.			
b.			
c.			
d.			
e.			

Fax response to (800) 476-9721

or return in postpaid envelope.

Conducted by:

RTI International
3040 Cornwallis Rd, PO Box 12194,
Research Triangle Park, NC 27709-2194

Appendix B

Structural Variable Map

The following variables, used to construct structural elements of the 2017-18 data-driven rankings, were taken from the 2015 Annual Survey of Hospitals Database published by the American Hospital Association, unless otherwise specified. Hospitals did not receive more than one point for any one service.

Key Technologies (8 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
FFDMHOS, FFDMSYS or FFDMVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
MSCTHOS MSCTSYS, MSCTVEN, MSCTGHOS, MSCTGSYS or MSCTGVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
SPECTHOS, SPECTSYS or SPECTVEN=1
SRADHOS, SRADSYS or SRADVEN=1

Cancer Advanced Technologies (8 points possible)

1 point awarded if…
FFDMHOS, FFDMSYS or FFDMVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
IMRTHOS, IMRTSYS or IMRTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
BEAMHOS, BEAMSYS or BEAMVEN=1
SRADHOS, SRADSYS or SRADVEN=1
OTBONHOS, OTBONSYS or OTBONVEN=1

Cardiology & Heart Surgery Advanced Technologies (6 points possible)

1 point awarded if…
MSCTHOS MSCTSYS, MSCTVEN, MSCTGHOS, MSCTGSYS or MSCTGVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
SPECTHOS, SPECTSYS, SPECTVEN=1
TISUHOS, TISUSYS or TISUVEN=1
CMS Heart Transplant Center=1

Diabetes & Endocrinology Advanced Technologies (4 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
SRADHOS, SRADSYS or SRADVEN=1

Ear, Nose & Throat Advanced Technologies (1 point possible)

1 point awarded if…
SRADHOS, SRADSYS or SRADVEN=1

Gastroenterology & GI Surgery Advanced Technologies (7 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
ENDOAHOS, ENDOASYS or ENDOAVEN=1
ENDORHOS, ENDORSYS or ENDORVEN=1
ENDOUHOS, ENDOUSYS or ENDOUVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
SRADHOS, SRADSYS or SRADVEN=1
CMS Liver Transplant Center=1

Gynecology Advanced Technologies (5 points possible)

1 point awarded if…
FFDMHOS, FFDMSYS or FFDMVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
SRADHOS, SRADSYS or SRADVEN=1

Nephrology Advanced Technologies (7 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
MSCTHOS, MSCTSYS, MSCTVEN, MSCTGHOS, MSCTGSYS or MSCTGVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
SRADHOS, SRADSYS or SRADVEN=1
CMS Kidney Transplant Center=1

Neurology & Neurosurgery Advanced Technologies (5 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
SPECTHOS, SPECTSYS or SPECTVEN=1
SRADHOS, SRADSYS or SRADVEN=1

Orthopedics Advanced Technologies (2 points possible)

1 point awarded if…
CAOSHOS, CAOSSYSor CAOSVEN=1
TISUHOS, TISUSYS or TISUVEN=1

Pulmonology Advanced Technologies (6 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
MSCTHOS, MSCTSYS, MSCTVEN, MSCTGHOS, MSCTGSYS or MSCTGVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
SRADHOS, SRADSYS or SRADVEN=1
CMS Lung Transplant Center=1

Urology Advanced Technologies (6 points possible)

1 point awarded if…
DRADFHOS, DRADFSYS or DRADFVEN=1
IGRTHOS, IGRTSYS or IGRTVEN=1
IMRTHOS, IMRTSYS or IMRTVEN=1
PETCTHOS, PETCTSYS or PETCTVEN=1
ROBOHOS, ROBOSYS or ROBOVEN=1
SRADHOS, SRADSYS or SRADVEN=1

Nurse Staffing

Index equals:
Calculation for hospitals with no onsite skilled nursing: Full-time Equivalent Registered Nurses (FTEN) divided by Adjusted Average Daily Census (ADJADC). In cases where FTEN is missing the value is imputed using a sample of hospitals with non-extreme ratios with the following data: FTEN (Full time equivalent registered nurses reported), FTERN (Full time equivalent registered nurses estimated), ADJADC (Adjusted Average Daily Census) BDTOT (total hospital beds set up and staffed). **Calculation for hospitals with onsite skilled nursing:** If a hospital has a nursing home type of long-term care unit (SUNITS=1) and reports registered nurse FTEs for this facility (FTERNLT>0), then calculate the ratio by dividing the Registered Nurses FTEs (FTEN) – the Registered Nurses FTEs assigned to the nursing facility (FTERNLT) by the modified Adjusted Average Daily Census (ADJ_DLY_CENS_HOSP). Note that the ADJ_DLY_CENS_HOSP is provided by the AHA directly to the project.

Trauma Center

"Yes" if…
TRAUML90=1 or 2 and TRAUMHOS=1

Cancer Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Cardiology & Heart Surgery Patient Services (7 points possible)

1 point awarded if…
CHABHOS, CHABSYS or CHABVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Diabetes & Endocrinology Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Ear, Nose & Throat Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYSor AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Gastroenterology & GI Surgery Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Geriatric Care Patient Services (9 points possible)

1 point awarded if…
ALZHOS, ALZSYS or ALZVEN=1
ARTHCHOS, ARTHCSYS or ARTHCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYSor PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
PSYGRHOS, PSYGRSYS or PSYGRVEN=1
LINGHOS, LINGSYS or LINGVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Gynecology Patient Services (9 points possible)

1 point awarded if…
FRTCHOS, FRTCSYS or FRTCVEN=1
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Nephrology Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Neurology & Neurosurgery Patient Services (9 points possible)

1 point awarded if…
ALZHOS, ALZSYS or ALZVEN=1
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Orthopedics Patient Services (7 points possible)

1 point awarded if…
ARTHCHOS, ARTHCSYS or ARTHCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Pulmonology Patient Services (8 points possible)

1 point awarded if…
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Urology Patient Services (9 points possible)

1 point awarded if…
FRTCHOS, FRTCSYS or FRTCVEN=1
GNTCHOS, GNTCSYS or GNTCVEN=1
HOSPCHOS, HOSPCSYS or HOSPCVEN=1
PAINHOS, PAINSYS or PAINVEN=1
PALHOS, PALSYS or PALVEN=1
PCAHOS, PCASYS or PCAVEN=1
LINGHOS, LINGSYS or LINGVEN=1
AIRBHOS, AIRBSYS or AIRBVEN=1
WMGTHOS, WMGTSYS or WMGTVEN=1

Intensivists

1 point awarded if…
if (FTEINT>0 or TPINT>0 or INTCAR>0 or FTEMSI>0 or FTECIC>0 or FTEOIC>0) then intens=1; if FTEINT>0 and FTEINT=sum(of FTENIC FTEPIC) then intens=0;

Appendix C

2017-18 Diagnosis Related Group (DRG)

Groupings by Specialty

Cancer

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
014	S	Allogeneic bone marrow transplant	Include all	1	2.0746
016	S	Autologous bone marrow transplant w CC/MCC	Include all	1	1.7852
017	S	Autologous bone marrow transplant w/o CC/MCC	Include all	1	2.0746
023	S	Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant	Include procedures: 0010	1	1.3083
054	M	Nervous system neoplasms w MCC	Include all	1	0.9265
055	M	Nervous system neoplasms w/o MCC	Include all	2	1.0362
146	M	Ear, nose, mouth & throat malignancy w MCC	Include all	1	1.0568
147	M	Ear, nose, mouth & throat malignancy w CC	Include all	2	1.1767
148	M	Ear, nose, mouth & throat malignancy w/o CC/MCC	Include all	2	1.1969
180	M	Respiratory neoplasms w MCC	Include all	1	0.7650
181	M	Respiratory neoplasms w CC	Include all	2	0.8074
182	M	Respiratory neoplasms w/o CC/MCC	Include all	2	0.8760
374	M	Digestive malignancy w MCC	Include all	1	0.8628
375	M	Digestive malignancy w CC	Include all	2	0.8892
376	M	Digestive malignancy w/o CC/MCC	Include all	2	0.8522
435	M	Malignancy of hepatobiliary system or pancreas w MCC	Include all	1	0.8535
436	M	Malignancy of hepatobiliary system or pancreas w CC	Include all	2	0.9022
437	M	Malignancy of hepatobiliary system or pancreas w/o CC/MCC	Include all	2	0.9178
456	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC	Include diagnoses: 1702, 1985, 20973	1	1.0496
457	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC	See MS-DRG 456	2	1.2300
458	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC	See MS-DRG 456	2	1.3806
542	M	Pathological fractures & musculoskelet & conn tiss malig w MCC	Exclude diagnoses: 4463-4, 7331, 73310-6, 73319, 73393-8	1	0.8648
543	M	Pathological fractures & musculoskelet & conn tiss malig w CC	See MS-DRG 542	2	0.9357
544	M	Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC	See MS-DRG 542	2	1.0401
582	S	Mastectomy for malignancy w CC/MCC	Include all	2	1.1950
583	S	Mastectomy for malignancy w/o CC/MCC	Include all	2	1.9798
595	M	Major skin disorders w MCC	Include diagnoses: 1720, 1722-9, 20931-6	1	1.1121
596	M	Major skin disorders w/o MCC	See MS-DRG 595	2	1.0942
597	M	Malignant breast disorders w MCC	Include all	1	1.0657
598	M	Malignant breast disorders w CC	Include all	2	1.0222
599	M	Malignant breast disorders w/o CC/MCC	Include all	2	1.2349
656	S	Kidney & ureter procedures for neoplasm w MCC	Include all	1	0.7639
657	S	Kidney & ureter procedures for neoplasm w CC	Include all	2	0.9255
658	S	Kidney & ureter procedures for neoplasm w/o CC/MCC	Include all	2	1.0050
686	M	Kidney & urinary tract neoplasms w MCC	Include all	2	0.7872
687	M	Kidney & urinary tract neoplasms w CC	Include all	2	0.8099
688	M	Kidney & urinary tract neoplasms w/o CC/MCC	Include all	3	0.7684
715	S	Other male reproductive system O.R. proc for malignancy w CC/MCC	Include all	2	0.9728
716	S	Other male reproductive system O.R. proc for malignancy w/o CC/MCC	Include all	2	1.5315
722	M	Malignancy, male reproductive system w MCC	Include all	1	0.7652
723	M	Malignancy, male reproductive system w CC	Include all	2	0.7983

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
724	M	Malignancy, male reproductive system w/o CC/MCC	Include all	2	0.8764
736	S	Uterine & adnexa proc for ovarian or adnexal malignancy w MCC	Include all	1	0.9090
737	S	Uterine & adnexa proc for ovarian or adnexal malignancy w CC	Include all	2	1.1983
738	S	Uterine & adnexa proc for ovarian or adnexal malignancy w/o CC/MCC	Include all	2	1.5375
739	S	Uterine,adnexa proc for non-ovarian/adnexal malig w MCC	Include all	1	0.8908
740	S	Uterine,adnexa proc for non-ovarian/adnexal malig w CC	Include all	2	1.1239
741	S	Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC	Include all	2	1.1067
754	M	Malignancy, female reproductive system w MCC	Include all	1	0.9120
755	M	Malignancy, female reproductive system w CC	Include all	2	0.9587
756	M	Malignancy, female reproductive system w/o CC/MCC	Include all	2	1.0543
808	M	Major hematol/immun diag exc sickle cell crisis & coagul w MCC	Include diagnoses: 99685	1	1.5747
809	M	Major hematol/immun diag exc sickle cell crisis & coagul w CC	See MS-DRG 809	2	2.0746
810	M	Major hematol/immun diag exc sickle cell crisis & coagul w/o CC/MCC	See MS-DRG 809	2	2.0746
820	S	Lymphoma & leukemia w major O.R. procedure w MCC	Include all	1	0.9965
821	S	Lymphoma & leukemia w major O.R. procedure w CC	Include all	2	1.0771
822	S	Lymphoma & leukemia w major O.R. procedure w/o CC/MCC	Include all	2	1.0176
823	S	Lymphoma & non-acute leukemia w other O.R. proc w MCC	Include all	1	0.8466
824	S	Lymphoma & non-acute leukemia w other O.R. proc w CC	Include all	2	0.9947
825	S	Lymphoma & non-acute leukemia w other O.R. proc w/o CC/MCC	Include all	2	0.9891
826	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w MCC	Exclude diagnoses: v100-9, v1000-9, v1011-2, v1020-2, v1029, v1040-9, v1050-3, v1059, v1060-3, v1069, v1071-2, v1079, v1081-8, v1090-1,v1322	1	1.0511
827	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w CC	See MS-DRG 826	2	1.1806
828	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w/o CC/MCC	See MS-DRG 826	2	1.0646
829	S	Myeloprolif disord or poorly diff neopl w other O.R. proc w CC/MCC	See MS-DRG 826	2	1.1179
830	S	Myeloprolif disord or poorly diff neopl w other O.R. proc w/o CC/MCC	See MS-DRG 826	2	1.0551
834	M	Acute leukemia w/o major O.R. procedure w MCC	Include all	1	1.1775
835	M	Acute leukemia w/o major O.R. procedure w CC	Include all	2	1.1853
836	M	Acute leukemia w/o major O.R. procedure w/o CC/MCC	Include all	2	1.4437
837	M	Chemo w acute leukemia as sdx or w high dose chemo agent w MCC	Include all	1	1.8360
838	M	Chemo w acute leukemia as sdx w CC or high dose chemo agent	Include all	2	2.0746
839	M	Chemo w acute leukemia as sdx w/o CC/MCC	Include all	2	2.0746
840	M	Lymphoma & non-acute leukemia w MCC	Include all	1	0.7938
841	M	Lymphoma & non-acute leukemia w CC	Include all	2	0.8579
842	M	Lymphoma & non-acute leukemia w/o CC/MCC	Include all	2	0.9757
843	M	Other myeloprolif dis or poorly diff neopl diag w MCC	Exclude diagnosis: v10, v711	3	0.8578
844	M	Other myeloprolif dis or poorly diff neopl diag w CC	See MS-DRG 844	3	0.8725
845	M	Other myeloprolif dis or poorly diff neopl diag w/o CC/MCC	See MS-DRG 844	3	1.0648
846	M	Chemotherapy w/o acute leukemia as secondary diagnosis w MCC	Include all	3	1.4514
847	M	Chemotherapy w/o acute leukemia as secondary diagnosis w CC	Include all	3	1.8859
848	M	Chemotherapy w/o acute leukemia as secondary diagnosis w/o CC/MCC	Include all	3	1.7608

Cardiology & Heart Surgery

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
001	S	Heart transplant or implant of heart assist system w MCC	Include all	1	1.5299
002	S	Heart transplant or implant of heart assist system w/o MCC	Include all	1	1.8380
163	S	Major chest procedures w MCC	Include procedures: 3712, 3724, 3731, 3791, 3805, 3815, 3835, 3845, 3855, 3865, 3885, 3954	1	1.7103
164	S	Major chest procedures w CC	See MS-DRG: 163	2	1.7798
165	S	Major chest procedures w/o CC/MCC	See MS-DRG: 164	2	2.0973
215	S	Other heart assist system implant	Include all	1	1.3356
216	S	Cardiac valve & oth maj cardiothoracic proc w card cath w MCC	Include all	1	1.1303
217	S	Cardiac valve & oth maj cardiothoracic proc w card cath w CC	Include all	2	1.1330
218	S	Cardiac valve & oth maj cardiothoracic proc w card cath w/o CC/MCC	Include all	2	1.2156
219	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w MCC	Include all	1	1.2052
220	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w CC	Include all	2	1.1911
221	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w/o CC/MCC	Include all	2	1.2555
222	S	Cardiac defib implant w cardiac cath w AMI/HF/shock w MCC	Include all	1	1.1897
223	S	Cardiac defib implant w cardiac cath w AMI/HF/shock w/o MCC	Include all	1	1.1780
224	S	Cardiac defib implant w cardiac cath w/o AMI/HF/shock w MCC	Include all	3	1.5804
225	S	Cardiac defib implant w cardiac cath w/o AMI/HF/shock w/o MCC	Include all	3	1.3002
226	S	Cardiac defibrillator implant w/o cardiac cath w MCC	Include all	1	1.0512
227	S	Cardiac defibrillator implant w/o cardiac cath w/o MCC	Include all	1	1.1217
228	S	Other cardiothoracic procedures w MCC	Include all	1	2.0973
229	S	Other cardiothoracic procedures w CC	Include all	2	2.0973
230	S	Other cardiothoracic procedures w/o CC/MCC	Include all	2	2.0973
231	S	Coronary bypass w PTCA w MCC	Include all	1	1.4505
232	S	Coronary bypass w PTCA w/o MCC	Include all	2	1.6432
233	S	Coronary bypass w cardiac cath w MCC	Include all	2	1.1976
234	S	Coronary bypass w cardiac cath w/o MCC	Include all	3	1.3192
235	S	Coronary bypass w/o cardiac cath w MCC	Include all	2	1.1871
236	S	Coronary bypass w/o cardiac cath w/o MCC	Include all	3	1.2410
237	S	Major cardiovasc procedures w MCC	Include all	1	1.1974
238	S	Major cardiovascular procedures w/o MCC	Include all	2	1.1319
242	S	Permanent cardiac pacemaker implant w MCC	Include all	2	0.8298
243	S	Permanent cardiac pacemaker implant w CC	Include all	2	0.8496
244	S	Permanent cardiac pacemaker implant w/o CC/MCC	Include all	3	0.9031
245	S	AICD Generator Procedures	Include all	2	0.9756
246	S	Perc cardiovasc proc w drug-eluting stent w MCC or 4+ vessels/stents	Include all	2	1.1308
247	S	Perc cardiovasc proc w drug-eluting stent w/o MCC	Include all	3	1.1158
248	S	Perc cardiovasc proc w non-drug-eluting stent w MCC or 4+ ves/stents	Include all	2	1.1085
249	S	Perc cardiovasc proc w non-drug-eluting stent w/o MCC	Include all	3	1.0978
250	S	Perc cardiovasc proc w/o coronary artery stent w MCC	Include all	3	1.0386
251	S	Perc cardiovasc proc w/o coronary artery stent or AMI w/o MCC	Include all	3	1.1030
252	S	Other vascular procedures w MCC	Include all	2	0.9432
253	S	Other vascular procedures w CC	Include all	2	1.0484
254	S	Other vascular procedures w/o CC/MCC	Include all	3	1.0646
260	S	Cardiac pacemaker revision except device replacement w MCC	Include all	1	0.9910

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
261	S	Cardiac pacemaker revision except device replacement w CC	Include all	2	1.0494
262	S	Cardiac pacemaker revision except device replacement w/o CC/MCC	Include all	2	0.9762
265	S	ACID lead procedures	Include all	2	1.0411
266	S	Endovascular Cardiac Valve Replacement with MCC	Include all	1	0.7779
267	S	Endovascular Cardiac Valve Replacement without MCC	Include all	2	0.7955
280	M	Acute myocardial infarction, discharged alive w MCC	Include all	1	0.8903
281	M	Acute myocardial infarction, discharged alive w CC	Include all	2	0.9959
282	M	Acute myocardial infarction, discharged alive w/o CC/MCC	Include all	2	1.1125
283	M	Acute myocardial infarction, expired w MCC	Include all	1	0.8820
284	M	Acute myocardial infarction, expired w CC	Include all	2	0.8477
285	M	Acute myocardial infarction, expired w/o CC/MCC	Include all	2	0.8940
286	M	Circulatory disorders except AMI, w card cath w MCC	Include all	2	1.1206
287	M	Circulatory disorders except AMI, w card cath w/o MCC	Include all	3	1.2668
288	M	Acute & subacute endocarditis w MCC	Include all	1	1.5613
289	M	Acute & subacute endocarditis w CC	Include all	2	1.7347
290	M	Acute & subacute endocarditis w/o CC/MCC	Include all	2	2.0973
291	M	Heart failure & shock w MCC	Include all	1	0.8864
292	M	Heart failure & shock w CC	Include all	2	0.9447
293	M	Heart failure & shock w/o CC/MCC	Include all	2	0.8990
306	M	Cardiac congenital & valvular disorders w MCC	Include all	1	0.9649
308	M	Cardiac arrhythmia & conduction disorders w MCC	Include all	1	0.9141
309	M	Cardiac arrhythmia & conduction disorders w CC	Include all	2	1.0022
314	M	Other circulatory system diagnoses w MCC	Include all	2	1.1187
315	M	Other circulatory system diagnoses w CC	Include all	2	1.3650
316	M	Other circulatory system diagnoses w/o CC/MCC	Include all	3	1.4179

Diabetes & Endocrinology

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
614	S	Adrenal & pituitary procedures w CC/MCC	Include all	2	1.6109
615	S	Adrenal & pituitary procedures w/o CC/MCC	Include all	2	1.3975
619	S	O.R. procedures for obesity w MCC	Include all	1	1.1934
620	S	O.R. procedures for obesity w CC	Include all	2	1.9395
621	S	O.R. procedures for obesity w/o CC/MCC	Include all	2	1.9951
622	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w MCC	Include all	1	0.7665
623	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w CC	Include all	2	1.0815
624	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w/o CC/MCC	Include all	2	1.3058
625	S	Thyroid, parathyroid & thyroglossal procedures w MCC	Include all	1	0.8430
626	S	Thyroid, parathyroid & thyroglossal procedures w CC	Include all	2	1.6207
627	S	Thyroid, parathyroid & thyroglossal procedures w/o CC/MCC	Include all	2	1.4776
628	S	Other endocrine, nutrit & metab O.R. proc w MCC	Include all	1	0.7642
629	S	Other endocrine, nutrit & metab O.R. proc w CC	Include all	2	0.9841
630	S	Other endocrine, nutrit & metab O.R. proc w/o CC/MCC	Include all	2	1.3054
637	M	Diabetes w MCC	Include all	3	0.9353
638	M	Diabetes w CC	Include all	3	1.0651
639	M	Diabetes w/o CC/MCC	Include all	3	1.0457
640	M	Misc disorders of nutrition, metabolism, fluids/electrolyes w MCC	Exclude diagnosis: 77934	3	0.7355
643	M	Endocrine disorders w MCC	Include all	3	0.7401
644	M	Endocrine disorders w CC	Include all	3	0.8302

Ear, Nose & Throat

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
011	S	Tracheostomy for face,mouth & neck diagnoses w MCC	Include all	1	0.9836
012	S	Tracheostomy for face,mouth & neck diagnoses w CC	Include all	1	1.0387
013	S	Tracheostomy for face,mouth & neck diagnoses w/o CC/MCC	Include all	1	1.1548
129	S	Major head & neck procedures w CC/MCC or major device	Include all	2	0.9842
130	S	Major head & neck procedures w/o CC/MCC	Include all	2	1.0453
131	S	Cranial/Facial Procedures w CC/MCC	Include all	3	1.8776
132	S	Cranial/Facial Procedures w/o CC/MCC	Include all	3	1.9415
133	S	Other ear, nose, mouth & throat O.R. procedures w CC/MCC	Include all	3	1.7298
134	S	Other ear, nose, mouth & throat O.R. procedures w/o CC/MCC	Include all	3	1.7643
139	S	Salivary gland procedures	Include all	3	0.6850
146	M	Ear, nose, mouth & throat malignancy w MCC	Include all	1	0.9566
147	M	Ear, nose, mouth & throat malignancy w CC	Include all	2	1.0651
148	M	Ear, nose, mouth & throat malignancy w/o CC/MCC	Include all	2	1.0834
152	M	Otitis media & URI w MCC	Include all	3	0.8597
154	M	Other ear, nose, mouth and throat diagnosis w MCC	Include all	3	0.7455
155	M	Other ear, nose, mouth and throat diagnosis w CC	Include all	3	0.7243
156	M	Other ear, nose, mouth and throat diagnosis w/o CC/MCC	Include all	3	0.8404

Gastroenterology & GI Surgery

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
326	S	Stomach, esophageal & duodenal proc w MCC	Include all	2	1.0515
327	S	Stomach, esophageal & duodenal proc w CC	Include all	2	1.2638
328	S	Stomach, esophageal & duodenal proc w/o CC/MCC	Include all	3	1.3017
329	S	Major small & large bowel procedures w MCC	Include all	1	0.9377
330	S	Major small & large bowel procedures w CC	Include all	2	1.1289
331	S	Major small & large bowel procedures w/o CC/MCC	Include all	2	1.2352
332	S	Rectal resection w MCC	Include all	1	0.9545
333	S	Rectal resection w CC	Include all	1	1.1987
334	S	Rectal resection w/o CC/MCC	Include all	2	1.2131
335	S	Peritoneal adhesiolysis w MCC	Include all	1	0.8573
336	S	Peritoneal adhesiolysis w CC	Include all	2	1.1199
337	S	Peritoneal adhesiolysis w/o CC/MCC	Include all	2	1.2575
344	S	Minor small & large bowel procedures w MCC	Include procedures: 4500, 4502-3, 4515, 4526, 4534, 4549, 465, 4650-2, 466, 4660-4, 4791, 480, 4825, 5783	2	0.9385
345	S	Minor small & large bowel procedures w CC	Include procedures: 4502-3, 4515, 4526, 4534, 4549, 465, 4650-2, 466, 4660-4, 4791, 480, 4825, 5783	2	1.3262
346	S	Minor small & large bowel procedures w/o CC/MCC	See MS-DRG 345	3	0.8066
356	S	Other digestive system O.R. procedures w MCC	Include all	2	0.8695
357	S	Other digestive system O.R. procedures w CC	Include all	2	1.0475

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
358	S	Other digestive system O.R. procedures w/o CC/MCC	Include all	3	1.3443
368	M	Major esophageal disorders w MCC	Include all	1	1.0083
369	M	Major esophageal disorders w CC	Include all	2	1.2003
370	M	Major esophageal disorders w/o CC/MCC	Include all	2	1.4929
371	M	Major gastrointestinal disorders & peritoneal infections w MCC	Include all	1	0.8034
372	M	Major gastrointestinal disorders & peritoneal infections w CC	Include all	2	0.9198
373	M	Major gastrointestinal disorders & peritoneal infections w/o CC/MCC	Include all	2	1.2159
374	M	Digestive malignancy w MCC	Include all	1	0.9661
375	M	Digestive malignancy w CC	Include all	2	0.9957
376	M	Digestive malignancy w/o CC/MCC	Include all	2	0.9542
377	M	G.I. hemorrhage w MCC	Include all	1	0.7243
378	M	G.I. hemorrhage w CC	Include all	2	0.7668
379	M	G.I. hemorrhage w/o CC/MCC	Include all	2	0.8210
380	M	Complicated peptic ulcer w MCC	Include all	1	0.8646
381	M	Complicated peptic ulcer w CC	Include all	2	0.9310
382	M	Complicated peptic ulcer w/o CC/MCC	Include all	2	1.1825
383	M	Uncomplicated peptic ulcer w MCC	Include all	3	0.8720
385	M	Inflammatory bowel disease w MCC	Include all	1	1.6234
386	M	Inflammatory bowel disease w CC	Include all	2	1.8641
387	M	Inflammatory bowel disease w/o CC/MCC	Include all	2	1.8641
388	M	G.I. obstruction w MCC	Include all	3	0.7362
389	M	G.I. obstruction w CC	Include all	3	0.7438
391	M	Esophagitis, gastroent & misc digest disorders w MCC	Include all	3	0.8840
393	M	Other digestive system diagnoses w MCC	Include all	1	0.8539
394	M	Other digestive system diagnoses w CC	Include all	2	0.9310
405	S	Pancreas, liver & shunt procedures w MCC	Include all	1	1.1922
406	S	Pancreas, liver & shunt procedures w CC	Include all	1	1.2697
407	S	Pancreas, liver & shunt procedures w/o CC/MCC	Include all	2	1.4481
408	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w MCC	Include all	2	1.0048
409	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w CC	Include all	2	1.1053
410	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w/o CC/MCC	Include all	3	1.8641
411	S	Cholecystectomy w c.d.e. w MCC	Include all	1	0.9268
412	S	Cholecystectomy w c.d.e. w CC	Include all	2	1.0836
413	S	Cholecystectomy w c.d.e. w/o CC/MCC	Include all	2	1.1753
414	S	Cholecystectomy except by laparoscope w/o c.d.e. w MCC	Include all	1	0.8932
415	S	Cholecystectomy except by laparoscope w/o c.d.e. w CC	Include all	2	1.0961
417	S	Laparoscopic cholecystectomy w/o c.d.e. w MCC	Include all	3	0.9461
418	S	Laparoscopic cholecystectomy w/o c.d.e. w CC	Include all	3	1.1707
420	S	Hepatobiliary diagnostic procedures w MCC	Include all	1	1.1852
421	S	Hepatobiliary diagnostic procedures w CC	Include all	2	1.0571
422	S	Hepatobiliary diagnostic procedures w/o CC/MCC	Include all	2	1.3551
423	S	Other hepatobiliary or pancreas O.R. procedures w MCC	Include all	3	1.0629
424	S	Other hepatobiliary or pancreas O.R. procedures w CC	Include all	3	1.0646
425	S	Other hepatobiliary or pancreas O.R. procedures w/o CC/MCC	Include all	3	0.8066
432	M	Cirrhosis & alcoholic hepatitis w MCC	Include all	1	1.6143
433	M	Cirrhosis & alcoholic hepatitis w CC	Include all	2	1.7686
434	M	Cirrhosis & alcoholic hepatitis w/o CC/MCC	Include all	2	1.8641
435	M	Malignancy of hepatobiliary system or pancreas w MCC	Include all	1	0.9557
436	M	Malignancy of hepatobiliary system or pancreas w CC	Include all	2	1.0102
437	M	Malignancy of hepatobiliary system or pancreas w/o CC/MCC	Include all	2	1.0276
438	M	Disorders of pancreas except malignancy w MCC	Include all	1	1.2287
439	M	Disorders of pancreas except malignancy w CC	Include all	2	1.5824

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
440	M	Disorders of pancreas except malignancy w/o CC/MCC	Include all	2	1.6352
441	M	Disorders of liver except malig,cirr,alc hepa w MCC	Exclude diagnosis: 7948	1	1.1566
442	M	Disorders of liver except malig,cirr,alc hepa w CC	See MS-DRG 442	2	1.2620

Geriatrics

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
001	S	Heart transplant or implant of heart assist system w MCC	Include all	1	1.0328
002	S	Heart transplant or implant of heart assist system w/o MCC	Include all	1	0.9295
003	S	ECMO or trach w MV 96+ hrs or PDX exc face, mouth & neck w maj O.R.	Include all	1	1.0347
004	S	Trach w MV 96+ hrs or PDX exc face, mouth & neck w/o maj O.R.	Include all	1	1.0275
005	S	Liver transplant w MCC or intestinal transplant	Include all	1	0.9295
006	S	Liver transplant w/o MCC	Include all	1	1.0000
007	S	Lung transplant	Include all	1	0.9295
008	S	Simultaneous pancreas/kidney transplant	Include all	1	1.0000
010	S	Pancreas transplant	Include all	1	1.0000
011	S	Tracheostomy for face,mouth & neck diagnoses w MCC	Include all	1	1.0580
012	S	Tracheostomy for face,mouth & neck diagnoses w CC	Include all	1	0.9780
013	S	Tracheostomy for face,mouth & neck diagnoses w/o CC/MCC	Include all	1	1.0393
014	S	Allogeneic bone marrow transplant	Include all	1	1.1127
016	S	Autologous bone marrow transplant w CC/MCC	Include all	1	1.1127
017	S	Autologous bone marrow transplant w/o CC/MCC	Include all	1	1.0985
020	S	Intracranial vascular procedures w PDX hemorrhage w MCC	Include all	1	1.0147
021	S	Intracranial vascular procedures w PDX hemorrhage w CC	Include all	1	0.9959
022	S	Intracranial vascular procedures w PDX hemorrhage w/o CC/MCC	Include all	1	1.0623
023	S	Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant	Include all	1	1.0192
024	S	Cranio w major dev impl/acute complex CNS PDX w/o MCC	Include all	1	1.0229
025	S	Craniotomy & endovascular intracranial procedures w MCC	Include all	1	1.0098
026	S	Craniotomy & endovascular intracranial procedures w CC	Include all	1	1.0282
027	S	Craniotomy & endovascular intracranial procedures w/o CC/MCC	Include all	1	1.0176
028	S	Spinal procedures w MCC	Include all	1	1.0470
029	S	Spinal procedures w CC or spinal neurostimulators	Include all	2	1.0229
030	S	Spinal procedures w/o CC/MCC	Include all	2	0.9927
031	S	Ventricular shunt procedures w MCC	Include all	1	1.0001
032	S	Ventricular shunt procedures w CC	Include all	2	0.9816
033	S	Ventricular shunt procedures w/o CC/MCC	Include all	2	0.9799
034	S	Carotid artery stent procedure w MCC	Include all	1	1.0126
035	S	Carotid artery stent procedure w CC	Include all	2	0.9810
036	S	Carotid artery stent procedure w/o CC/MCC	Include all	2	0.9928
037	S	Extracranial procedures w MCC	Include all	2	1.0009
038	S	Extracranial procedures w CC	Include all	2	0.9887
039	S	Extracranial procedures w/o CC/MCC	Include all	3	1.0192
040	S	Periph & cranial nerve & other nerv syst proc w MCC	Include all	2	1.0050
041	S	Periph/cranial nerve & other nerv syst proc w CC or periph neurostim	Include all	2	0.9939
042	S	Periph & cranial nerve & other nerv syst proc w/o CC/MCC	Include all	3	0.9804
052	M	Spinal disorders & injuries w CC/MCC	Include all	2	1.0694
053	M	Spinal disorders & injuries w/o CC/MCC	Include all	2	1.0328

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
054	M	Nervous system neoplasms w MCC	Include all	1	1.0114
055	M	Nervous system neoplasms w/o MCC	Include all	2	1.0024
056	M	Degenerative nervous system disorders w MCC	Include all	1	1.0260
057	M	Degenerative nervous system disorders w/o MCC	Include all	2	1.0100
058	M	Multiple sclerosis & cerebellar ataxia w MCC	Include all	1	0.9718
059	M	Multiple sclerosis & cerebellar ataxia w CC	Include all	2	1.0070
060	M	Multiple sclerosis & cerebellar ataxia w/o CC/MCC	Include all	2	0.9798
061	M	Acute ischemic stroke w use of thrombolytic agent w MCC	Include all	1	1.0083
062	M	Acute ischemic stroke w use of thrombolytic agent w CC	Include all	2	1.0087
063	M	Acute ischemic stroke w use of thrombolytic agent w/o CC/MCC	Include all	2	0.9932
064	M	Intracranial hemorrhage or cerebral infarction w MCC	Include all	1	1.0131
065	M	Intracranial hemorrhage or cerebral infarction w CC	Include all	2	1.0049
066	M	Intracranial hemorrhage or cerebral infarction w/o CC/MCC	Include all	2	1.0120
067	M	Nonspecific cva & precerebral occlusion w/o infarct w MCC	Include all	1	0.9899
068	M	Nonspecific cva & precerebral occlusion w/o infarct w/o MCC	Include all	2	1.0007
069	M	Transient ischemia	Include all	3	0.9846
070	M	Nonspecific cerebrovascular disorders w MCC	Include all	2	1.0030
071	M	Nonspecific cerebrovascular disorders w CC	Include all	2	0.9974
072	M	Nonspecific cerebrovascular disorders w/o CC/MCC	Include all	3	0.9956
073	M	Cranial & peripheral nerve disorders w MCC	Include all	1	0.9906
074	M	Cranial & peripheral nerve disorders w/o MCC	Include all	2	0.9999
075	M	Viral meningitis w CC/MCC	Include all	2	0.9809
076	M	Viral meningitis w/o CC/MCC	Include all	2	1.0376
077	M	Hypertensive encephalopathy w MCC	Include all	1	0.9857
078	M	Hypertensive encephalopathy w CC	Include all	2	0.9930
079	M	Hypertensive encephalopathy w/o CC/MCC	Include all	2	1.0218
080	M	Nontraumatic stupor & coma w MCC	Include all	1	1.0230
081	M	Nontraumatic stupor & coma w/o MCC	Include all	2	1.0040
082	M	Traumatic stupor & coma, coma >1 hr w MCC	Include all	1	1.0441
083	M	Traumatic stupor & coma, coma >1 hr w CC	Include all	1	1.0765
084	M	Traumatic stupor & coma, coma >1 hr w/o CC/MCC	Include all	1	1.0492
085	M	Traumatic stupor & coma, coma <1 hr w MCC	Include all	1	1.0134
086	M	Traumatic stupor & coma, coma <1 hr w CC	Include all	2	1.0115
087	M	Traumatic stupor & coma, coma <1 hr w/o CC/MCC	Include all	2	1.0193
088	M	Concussion w MCC	Include all	3	1.0665
089	M	Concussion w CC	Include all	3	1.0188
090	M	Concussion w/o CC/MCC	Include all	3	1.1127
091	M	Other disorders of nervous system w MCC	Include all	3	1.0121
092	M	Other disorders of nervous system w CC	Include all	3	0.9915
093	M	Other disorders of nervous system w/o CC/MCC	Include all	3	1.0249
094	M	Bacterial & tuberculous infections of nervous system w MCC	Include all	1	1.0132
095	M	Bacterial & tuberculous infections of nervous system w CC	Include all	2	1.0311
096	M	Bacterial & tuberculous infections of nervous system w/o CC/MCC	Include all	2	0.9850
097	M	Non-bacterial infect of nervous sys exc viral meningitis w MCC	Include all	1	1.0081
098	M	Non-bacterial infect of nervous sys exc viral meningitis w CC	Include all	2	1.0334
099	M	Non-bacterial infect of nervous sys exc viral meningitis w/o CC/MCC	Include all	2	1.0328
100	M	Seizures w MCC	Include all	2	1.0065
101	M	Seizures w/o MCC	Include all	3	1.0038
102	M	Headaches w MCC	Include all	3	0.9688
103	M	Headaches w/o MCC	Include all	3	1.0546
113	S	Orbital procedures w CC/MCC	Include all	2	1.0010
114	S	Orbital procedures w/o CC/MCC	Include all	2	1.0844

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
115	S	Extraocular procedures except orbit	Include all	3	0.9876
116	S	Intraocular procedures w CC/MCC	Include all	3	0.9959
117	S	Intraocular procedures w/o CC/MCC	Include all	3	1.0000
121	M	Acute major eye infections w CC/MCC	Include all	2	1.0254
122	M	Acute major eye infections w/o CC/MCC	Include all	2	1.0167
123	M	Neurological eye disorders	Include all	3	1.0195
124	M	Other disorders of the eye w MCC	Include all	2	0.9850
125	M	Other disorders of the eye w/o MCC	Include all	3	1.0271
129	S	Major head & neck procedures w CC/MCC or major device	Include all	2	1.0058
130	S	Major head & neck procedures w/o CC/MCC	Include all	2	1.0402
131	S	Cranial/facial procedures w CC/MCC	Include all	3	1.0660
132	S	Cranial/facial procedures w/o CC/MCC	Include all	3	0.9295
133	S	Other ear, nose, mouth & throat O.R. procedures w CC/MCC	Include all	3	1.0096
134	S	Other ear, nose, mouth & throat O.R. procedures w/o CC/MCC	Include all	3	0.9295
135	S	Sinus & mastoid procedures w CC/MCC	Include all	2	0.9461
136	S	Sinus & mastoid procedures w/o CC/MCC	Include all	2	1.0010
137	S	Mouth procedures w CC/MCC	Include all	3	1.0296
138	S	Mouth procedures w/o CC/MCC	Include all	3	0.9295
139	S	Salivary gland procedures	Include all	3	1.0010
146	M	Ear, nose, mouth & throat malignancy w MCC	Include all	1	1.0832
147	M	Ear, nose, mouth & throat malignancy w CC	Include all	2	1.0616
148	M	Ear, nose, mouth & throat malignancy w/o CC/MCC	Include all	2	1.0679
149	M	Dysequilibrium	Include all	3	0.9875
150	M	Epistaxis w MCC	Include all	3	0.9918
151	M	Epistaxis w/o MCC	Include all	3	1.0023
152	M	Otitis media & URI w MCC	Include all	3	0.9856
153	M	Otitis media & URI w/o MCC	Include all	3	0.9856
154	M	Other Ear, Nose, Mouth, and Throat Diagnoses with MCC	Include all	3	1.0026
155	M	Other Ear, Nose, Mouth, and Throat Diagnoses with CC	Include all	3	0.9911
156	M	Other Ear, Nose, Mouth, and Throat Diagnoses without CC/MCC	Include all	3	0.9760
157	M	Dental & Oral Diseases w MCC	Include all	3	1.0066
158	M	Dental & Oral Diseases w CC	Include all	3	1.0309
159	M	Dental & Oral Diseases w/o CC/MCC	Include all	3	0.9295
163	S	Major chest procedures w MCC	Include all	1	1.0131
164	S	Major chest procedures w CC	Include all	2	0.9973
165	S	Major chest procedures w/o CC/MCC	Include all	2	1.0136
166	S	Other resp system O.R. procedures w MCC	Include all	2	0.9968
167	S	Other resp system O.R. procedures w CC	Include all	2	0.9977
168	S	Other resp system O.R. procedures w/o CC/MCC	Include all	3	1.0257
175	M	Pulmonary embolism w MCC	Include all	1	1.0017
176	M	Pulmonary embolism w/o MCC	Include all	1	1.0018
177	M	Respiratory infections & inflammations w MCC	Include all	1	0.9960
178	M	Respiratory infections & inflammations w CC	Include all	2	0.9906
179	M	Respiratory infections & inflammations w/o CC/MCC	Include all	2	1.0030
180	M	Respiratory neoplasms w MCC	Include all	1	1.0223
181	M	Respiratory neoplasms w CC	Include all	2	1.0359
182	M	Respiratory neoplasms w/o CC/MCC	Include all	2	1.1127
183	M	Major chest trauma w MCC	Include all	1	1.0692
184	M	Major chest trauma w CC	Include all	1	1.1127
185	M	Major chest trauma w/o CC/MCC	Include all	1	1.1127
186	M	Pleural effusion w MCC	Include all	3	0.9974
187	M	Pleural effusion w CC	Include all	3	0.9967

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
188	M	Pleural effusion w/o CC/MCC	Include all	3	1.0985
189	M	Pulmonary edema & respiratory failure	Include all	2	1.0265
190	M	Chronic obstructive pulmonary disease w MCC	Include all	3	0.9945
191	M	Chronic obstructive pulmonary disease w CC	Include all	3	0.9857
192	M	Chronic obstructive pulmonary disease w/o CC/MCC	Include all	3	0.9907
193	M	Simple pneumonia & pleurisy w MCC	Include all	3	0.9945
194	M	Simple pneumonia & pleurisy w CC	Include all	3	0.9936
195	M	Simple pneumonia & pleurisy w/o CC/MCC	Include all	3	1.0032
196	M	Interstitial lung disease w MCC	Include all	3	1.0133
197	M	Interstitial lung disease w CC	Include all	3	0.9973
198	M	Interstitial lung disease w/o CC/MCC	Include all	3	1.0563
199	M	Pneumothorax w MCC	Include all	1	1.0129
200	M	Pneumothorax w CC	Include all	2	1.0220
201	M	Pneumothorax w/o CC/MCC	Include all	2	1.0096
202	M	Bronchitis & asthma w CC/MCC	Include all	3	0.9898
203	M	Bronchitis & asthma w/o CC/MCC	Include all	3	0.9671
204	M	Respiratory signs & symptoms	Include all	3	1.0001
205	M	Other respiratory system diagnoses w MCC	Include all	3	1.0122
206	M	Other respiratory system diagnoses w/o MCC	Include all	3	1.0199
207	M	Respiratory system diagnosis w ventilator support 96+ hours	Include all	2	1.0039
208	M	Respiratory system diagnosis w ventilator support <96 hours	Include all	2	1.0115
215	S	Other heart assist system implant	Include all	1	0.9718
216	S	Cardiac valve & oth maj cardiothoracic proc w card cath w MCC	Include all	1	1.0109
217	S	Cardiac valve & oth maj cardiothoracic proc w card cath w CC	Include all	2	1.0072
218	S	Cardiac valve & oth maj cardiothoracic proc w card cath w/o CC/MCC	Include all	2	1.0374
219	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w MCC	Include all	1	1.0011
220	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w CC	Include all	2	0.9981
221	S	Cardiac valve & oth maj cardiothoracic proc w/o card cath w/o CC/MCC	Include all	2	0.9990
222	S	Cardiac defib implant w cardiac cath w AMI/HF/shock w MCC	Include all	1	1.0175
223	S	Cardiac defib implant w cardiac cath w AMI/HF/shock w/o MCC	Include all	1	0.9810
224	S	Cardiac defib implant w cardiac cath w/o AMI/HF/shock w MCC	Include all	3	1.0047
225	S	Cardiac defib implant w cardiac cath w/o AMI/HF/shock w/o MCC	Include all	3	0.9295
226	S	Cardiac defibrillator implant w/o cardiac cath w MCC	Include all	1	1.0168
227	S	Cardiac defibrillator implant w/o cardiac cath w/o MCC	Include all	1	1.0016
228	S	Other cardiothoracic procedures w MCC	Include all	1	0.9956
229	S	Other cardiothoracic procedures w CC	Include all	2	0.9820
230	S	Other cardiothoracic procedures w/o CC/MCC	Include all	2	1.0328
231	S	Coronary bypass w PTCA w MCC	Include all	1	1.0271
232	S	Coronary bypass w PTCA w/o MCC	Include all	2	1.0035
233	S	Coronary bypass w cardiac cath w MCC	Include all	2	1.0144
234	S	Coronary bypass w cardiac cath w/o MCC	Include all	3	1.0193
235	S	Coronary bypass w/o cardiac cath w MCC	Include all	2	1.0034
236	S	Coronary bypass w/o cardiac cath w/o MCC	Include all	3	1.0130
237	S	Major cardiovasc procedures w MCC	Include all	1	1.0053
238	S	Major cardiovascular procedures w/o MCC	Include all	2	0.9979
239	S	Amputation for circ sys disorders exc upper limb & toe w MCC	Include all	1	0.9942
240	S	Amputation for circ sys disorders exc upper limb & toe w CC	Include all	2	1.0026
241	S	Amputation for circ sys disorders exc upper limb & toe w/o CC/MCC	Include all	2	0.9992
242	S	Permanent cardiac pacemaker implant w MCC	Include all	2	0.9879
243	S	Permanent cardiac pacemaker implant w CC	Include all	2	0.9946

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
244	S	Permanent cardiac pacemaker implant w/o CC/MCC	Include all	3	0.9676
245	S	AICD generator procedures	Include all	2	1.0000
246	S	Perc cardiovasc proc w drug-eluting stent w MCC or 4+ vessels/stents	Include all	2	1.0020
247	S	Perc cardiovasc proc w drug-eluting stent w/o MCC	Include all	3	1.0059
248	S	Perc cardiovasc proc w non-drug-eluting stent w MCC or 4+ ves/stents	Include all	2	0.9998
249	S	Perc cardiovasc proc w non-drug-eluting stent w/o MCC	Include all	3	1.0071
250	S	Perc cardiovasc proc w/o coronary artery stent w MCC	Include all	3	0.9876
251	S	Perc cardiovasc proc w/o coronary artery stent w/o MCC	Include all	3	0.9909
252	S	Other vascular procedures w MCC	Include all	2	0.9916
253	S	Other vascular procedures w CC	Include all	2	0.9905
254	S	Other vascular procedures w/o CC/MCC	Include all	3	1.0140
255	S	Upper limb & toe amputation for circ system disorders w MCC	Include all	1	1.0328
256	S	Upper limb & toe amputation for circ system disorders w CC	Include all	2	0.9938
257	S	Upper limb & toe amputation for circ system disorders w/o CC/MCC	Include all	2	1.0029
258	S	Cardiac pacemaker device replacement w MCC	Include all	3	0.9876
259	S	Cardiac pacemaker device replacement w/o MCC	Include all	3	0.9824
260	S	Cardiac pacemaker revision except device replacement w MCC	Include all	1	1.0032
261	S	Cardiac pacemaker revision except device replacement w CC	Include all	2	0.9951
262	S	Cardiac pacemaker revision except device replacement w/o CC/MCC	Include all	2	0.9915
263	S	Vein ligation & stripping	Include all	3	1.0010
264	S	Other circulatory system O.R. procedures	Include all	2	0.9915
265	S	AICD lead procedures	Include all	2	1.0054
266	S	Endovascular Cardiac Valve Replacement with MCC	Include all	1	0.9796
267	S	Endovascular Cardiac Valve Replacement without MCC	Include all	2	0.9938
280	M	Acute myocardial infarction, discharged alive w MCC	Include all	1	0.9951
281	M	Acute myocardial infarction, discharged alive w CC	Include all	2	0.9944
282	M	Acute myocardial infarction, discharged alive w/o CC/MCC	Include all	2	1.0015
283	M	Acute myocardial infarction, expired w MCC	Include all	1	1.0210
284	M	Acute myocardial infarction, expired w CC	Include all	2	1.0265
285	M	Acute myocardial infarction, expired w/o CC/MCC	Include all	2	1.0534
286	M	Circulatory disorders except AMI, w card cath w MCC	Include all	2	0.9982
287	M	Circulatory disorders except AMI, w card cath w/o MCC	Include all	3	1.0034
288	M	Acute & subacute endocarditis w MCC	Include all	1	1.0233
289	M	Acute & subacute endocarditis w CC	Include all	2	0.9907
290	M	Acute & subacute endocarditis w/o CC/MCC	Include all	2	1.0140
291	M	Heart failure & shock w MCC	Include all	1	0.9958
292	M	Heart failure & shock w CC	Include all	2	0.9965
293	M	Heart failure & shock w/o CC/MCC	Include all	2	1.0008
294	M	Deep vein thrombophlebitis w CC/MCC	Include all	3	0.9888
295	M	Deep vein thrombophlebitis w/o CC/MCC	Include all	3	1.0000
296	M	Cardiac arrest, unexplained w MCC	Include all	1	1.0078
297	M	Cardiac arrest, unexplained w CC	Include all	2	1.0652
298	M	Cardiac arrest, unexplained w/o CC/MCC	Include all	2	0.9746
299	M	Peripheral vascular disorders w MCC	Include all	1	1.0010
300	M	Peripheral vascular disorders w CC	Include all	2	0.9946
301	M	Peripheral vascular disorders w/o CC/MCC	Include all	2	1.0068
302	M	Atherosclerosis w MCC	Include all	3	1.0215
303	M	Atherosclerosis w/o MCC	Include all	3	0.9864
304	M	Hypertension w MCC	Include all	3	1.0151

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
305	M	Hypertension w/o MCC	Include all	3	0.9813
306	M	Cardiac congenital & valvular disorders w MCC	Include all	1	0.9960
307	M	Cardiac congenital & valvular disorders w/o MCC	Include all	2	1.0003
308	M	Cardiac arrhythmia & conduction disorders w MCC	Include all	1	0.9893
309	M	Cardiac arrhythmia & conduction disorders w CC	Include all	2	0.9916
310	M	Cardiac arrhythmia & conduction disorders w/o CC/MCC	Include all	2	0.9969
311	M	Angina pectoris	Include all	3	0.9952
312	M	Syncope & collapse	Include all	2	0.9985
313	M	Chest pain	Include all	3	1.0003
314	M	Other circulatory system diagnoses w MCC	Include all	2	0.9990
315	M	Other circulatory system diagnoses w CC	Include all	2	0.9938
316	M	Other circulatory system diagnoses w/o CC/MCC	Include all	3	0.9969
326	S	Stomach, esophageal & duodenal proc w MCC	Include all	2	1.0028
327	S	Stomach, esophageal & duodenal proc w CC	Include all	2	1.0011
328	S	Stomach, esophageal & duodenal proc w/o CC/MCC	Include all	3	1.0263
329	S	Major small & large bowel procedures w MCC	Include all	1	0.9952
330	S	Major small & large bowel procedures w CC	Include all	2	0.9949
331	S	Major small & large bowel procedures w/o CC/MCC	Include all	2	0.9983
332	S	Rectal resection w MCC	Include all	1	1.0010
333	S	Rectal resection w CC	Include all	1	1.0048
334	S	Rectal resection w/o CC/MCC	Include all	2	1.0135
335	S	Peritoneal adhesiolysis w MCC	Include all	1	1.0082
336	S	Peritoneal adhesiolysis w CC	Include all	2	0.9999
337	S	Peritoneal adhesiolysis w/o CC/MCC	Include all	2	0.9810
338	S	Appendectomy w complicated principal diag w MCC	Include all	3	1.0470
339	S	Appendectomy w complicated principal diag w CC	Include all	3	0.9998
340	S	Appendectomy w complicated principal diag w/o CC/MCC	Include all	3	0.9295
341	S	Appendectomy w/o complicated principal diag w MCC	Include all	3	1.0269
342	S	Appendectomy w/o complicated principal diag w CC	Include all	3	1.0035
343	S	Appendectomy w/o complicated principal diag w/o CC/MCC	Include all	3	1.0000
344	S	Minor small & large bowel procedures w MCC	Include all	2	0.9735
345	S	Minor small & large bowel procedures w CC	Include all	2	1.0105
346	S	Minor small & large bowel procedures w/o CC/MCC	Include all	3	0.9295
347	S	Anal & stomal procedures w MCC	Include all	1	0.9781
348	S	Anal & stomal procedures w CC	Include all	2	1.0024
349	S	Anal & stomal procedures w/o CC/MCC	Include all	2	0.9692
350	S	Inguinal & femoral hernia procedures w MCC	Include all	3	0.9965
351	S	Inguinal & femoral hernia procedures w CC	Include all	3	1.0116
352	S	Inguinal & femoral hernia procedures w/o CC/MCC	Include all	3	1.1127
353	S	Hernia procedures except inguinal & femoral w MCC	Include all	1	0.9863
354	S	Hernia procedures except inguinal & femoral w CC	Include all	2	0.9931
355	S	Hernia procedures except inguinal & femoral w/o CC/MCC	Include all	2	0.9962
356	S	Other digestive system O.R. procedures w MCC	Include all	2	0.9939
357	S	Other digestive system O.R. procedures w CC	Include all	2	0.9832
358	S	Other digestive system O.R. procedures w/o CC/MCC	Include all	3	1.1127
368	M	Major esophageal disorders w MCC	Include all	1	0.9980
369	M	Major esophageal disorders w CC	Include all	2	0.9858
370	M	Major esophageal disorders w/o CC/MCC	Include all	2	0.9858
371	M	Major gastrointestinal disorders & peritoneal infections w MCC	Include all	1	0.9884
372	M	Major gastrointestinal disorders & peritoneal infections w CC	Include all	2	0.9877
373	M	Major gastrointestinal disorders & peritoneal infections w/o CC/MCC	Include all	2	0.9930
374	M	Digestive malignancy w MCC	Include all	1	1.0469

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
375	M	Digestive malignancy w CC	Include all	2	1.0319
376	M	Digestive malignancy w/o CC/MCC	Include all	2	1.0612
377	M	G.I. hemorrhage w MCC	Include all	1	0.9914
378	M	G.I. hemorrhage w CC	Include all	2	0.9923
379	M	G.I. hemorrhage w/o CC/MCC	Include all	2	0.9962
380	M	Complicated peptic ulcer w MCC	Include all	1	1.0008
381	M	Complicated peptic ulcer w CC	Include all	2	0.9954
382	M	Complicated peptic ulcer w/o CC/MCC	Include all	2	1.0065
383	M	Uncomplicated peptic ulcer w MCC	Include all	3	1.0269
384	M	Uncomplicated peptic ulcer w/o MCC	Include all	3	0.9912
385	M	Inflammatory bowel disease w MCC	Include all	1	0.9926
386	M	Inflammatory bowel disease w CC	Include all	2	0.9973
387	M	Inflammatory bowel disease w/o CC/MCC	Include all	2	1.0017
388	M	G.I. obstruction w MCC	Include all	3	0.9938
389	M	G.I. obstruction w CC	Include all	3	0.9895
390	M	G.I. obstruction w/o CC/MCC	Include all	3	0.9757
391	M	Esophagitis, gastroent & misc digest disorders w MCC	Include all	3	0.9937
392	M	Esophagitis, gastroent & misc digest disorders w/o MCC	Include all	3	0.9892
393	M	Other digestive system diagnoses w MCC	Include all	1	0.9998
394	M	Other digestive system diagnoses w CC	Include all	2	0.9975
395	M	Other digestive system diagnoses w/o CC/MCC	Include all	2	1.0018
405	S	Pancreas, liver & shunt procedures w MCC	Include all	1	1.0079
406	S	Pancreas, liver & shunt procedures w CC	Include all	1	1.0168
407	S	Pancreas, liver & shunt procedures w/o CC/MCC	Include all	2	1.0066
408	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w MCC	Include all	2	1.0088
409	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w CC	Include all	2	0.9853
410	S	Biliary tract proc except only cholecyst w or w/o c.d.e. w/o CC/MCC	Include all	3	1.0000
411	S	Cholecystectomy w c.d.e. w MCC	Include all	1	1.0357
412	S	Cholecystectomy w c.d.e. w CC	Include all	2	0.9623
413	S	Cholecystectomy w c.d.e. w/o CC/MCC	Include all	2	0.9798
414	S	Cholecystectomy except by laparoscope w/o c.d.e. w MCC	Include all	1	0.9988
415	S	Cholecystectomy except by laparoscope w/o c.d.e. w CC	Include all	2	1.0100
416	S	Cholecystectomy except by laparoscope w/o c.d.e. w/o CC/MCC	Include all	2	0.9718
417	S	Laparoscopic cholecystectomy w/o c.d.e. w MCC	Include all	3	1.0152
418	S	Laparoscopic cholecystectomy w/o c.d.e. w CC	Include all	3	1.0201
419	S	Laparoscopic cholecystectomy w/o c.d.e. w/o CC/MCC	Include all	3	1.0132
420	S	Hepatobiliary diagnostic procedures w MCC	Include all	1	1.0288
421	S	Hepatobiliary diagnostic procedures w CC	Include all	2	0.9965
422	S	Hepatobiliary diagnostic procedures w/o CC/MCC	Include all	2	1.1127
423	S	Other hepatobiliary or pancreas O.R. procedures w MCC	Include all	3	1.0083
424	S	Other hepatobiliary or pancreas O.R. procedures w CC	Include all	3	1.0763
425	S	Other hepatobiliary or pancreas O.R. procedures w/o CC/MCC	Include all	3	0.9295
432	M	Cirrhosis & alcoholic hepatitis w MCC	Include all	1	1.0205
433	M	Cirrhosis & alcoholic hepatitis w CC	Include all	2	1.0266
434	M	Cirrhosis & alcoholic hepatitis w/o CC/MCC	Include all	2	1.1127
435	M	Malignancy of hepatobiliary system or pancreas w MCC	Include all	1	1.0315
436	M	Malignancy of hepatobiliary system or pancreas w CC	Include all	2	1.0368
437	M	Malignancy of hepatobiliary system or pancreas w/o CC/MCC	Include all	2	1.0633
438	M	Disorders of pancreas except malignancy w MCC	Include all	1	1.0049
439	M	Disorders of pancreas except malignancy w CC	Include all	2	0.9986
440	M	Disorders of pancreas except malignancy w/o CC/MCC	Include all	2	1.0030
441	M	Disorders of liver except malig,cirr,alc hepa w MCC	Include all	1	1.0103

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
442	M	Disorders of liver except malig,cirr,alc hepa w CC	Include all	2	1.0228
443	M	Disorders of liver except malig,cirr,alc hepa w/o CC/MCC	Include all	2	1.0274
444	M	Disorders of the biliary tract w MCC	Include all	3	1.0023
445	M	Disorders of the biliary tract w CC	Include all	3	0.9949
446	M	Disorders of the biliary tract w/o CC/MCC	Include all	3	0.9474
453	S	Combined anterior/posterior spinal fusion w MCC	Include all	1	1.0303
454	S	Combined anterior/posterior spinal fusion w CC	Include all	2	0.9790
455	S	Combined anterior/posterior spinal fusion w/o CC/MCC	Include all	2	0.9947
456	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC	Include all	1	1.0078
457	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC	Include all	2	0.9894
458	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC	Include all	2	0.9901
459	S	Spinal fusion except cervical w MCC	Include all	1	0.9996
460	S	Spinal fusion except cervical w/o MCC	Include all	2	0.9971
461	S	Bilateral or multiple major joint procs of lower extremity w MCC	Include all	1	1.0070
462	S	Bilateral or multiple major joint procs of lower extremity w/o MCC	Include all	2	1.0022
463	S	Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w MCC	Include all	1	1.0095
464	S	Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w CC	Include all	2	1.0149
465	S	Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w/o CC/MCC	Include all	2	1.0025
466	S	Revision of hip or knee replacement w MCC	Include all	3	0.9770
467	S	Revision of hip or knee replacement w CC	Include all	3	0.9905
468	S	Revision of hip or knee replacement w/o CC/MCC	Include all	3	1.0132
469	S	Major joint replacement or reattachment of lower extremity w MCC	Include all	1	0.9888
470	S	Major joint replacement or reattachment of lower extremity w/o MCC	Include all	2	0.9962
471	S	Cervical spinal fusion w MCC	Include all	1	1.0340
472	S	Cervical spinal fusion w CC	Include all	2	1.0146
473	S	Cervical spinal fusion w/o CC/MCC	Include all	2	1.0228
474	S	Amputation for musculoskeletal sys & conn tissue dis w MCC	Include all	1	1.0028
475	S	Amputation for musculoskeletal sys & conn tissue dis w CC	Include all	2	1.0060
476	S	Amputation for musculoskeletal sys & conn tissue dis w/o CC/MCC	Include all	2	0.9932
477	S	Biopsies of musculoskeletal system & connective tissue w MCC	Include all	3	0.9881
478	S	Biopsies of musculoskeletal system & connective tissue w CC	Include all	3	0.9910
479	S	Biopsies of musculoskeletal system & connective tissue w/o CC/MCC	Include all	3	1.0318
480	S	Hip & femur procedures except major joint w MCC	Include all	2	0.9944
481	S	Hip & femur procedures except major joint w CC	Include all	2	0.9923
482	S	Hip & femur procedures except major joint w/o CC/MCC	Include all	3	0.9622
483	S	Major joint & limb reattachment proc of upper extremity w CC/MCC	Include all	1	0.9997
485	S	Knee procedures w pdx of infection w MCC	Include all	1	1.0294
486	S	Knee procedures w pdx of infection w CC	Include all	2	0.9978
487	S	Knee procedures w pdx of infection w/o CC/MCC	Include all	2	0.9964
488	S	Knee procedures w/o pdx of infection w CC/MCC	Include all	3	1.1127
489	S	Knee procedures w/o pdx of infection w/o CC/MCC	Include all	3	0.9295
492	S	Lower extrem & humer proc except hip,foot,femur w MCC	Include all	2	1.0190
493	S	Lower extrem & humer proc except hip,foot,femur w CC	Include all	2	1.0235
494	S	Lower extrem & humer proc except hip,foot,femur w/o CC/MCC	Include all	3	1.1127
495	S	Local excision & removal int fix devices exc hip & femur w MCC	Include all	2	0.9808
496	S	Local excision & removal int fix devices exc hip & femur w CC	Include all	2	0.9987
497	S	Local excision & removal int fix devices exc hip & femur w/o CC/MCC	Include all	3	0.9295
498	S	Local excision & removal int fix devices of hip & femur w CC/MCC	Include all	3	0.9975
499	S	Local excision & removal int fix devices of hip & femur w/o CC/MCC	Include all	3	0.9295

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
500	S	Soft tissue procedures w MCC	Include all	3	1.0179
501	S	Soft tissue procedures w CC	Include all	3	1.0209
502	S	Soft tissue procedures w/o CC/MCC	Include all	3	0.9295
503	S	Foot procedures w MCC	Include all	3	1.0045
504	S	Foot procedures w CC	Include all	3	0.9880
505	S	Foot procedures w/o CC/MCC	Include all	3	1.1127
506	S	Major thumb or joint procedures	Include all	3	1.0623
507	S	Major shoulder or elbow joint procedures w CC/MCC	Include all	2	0.9667
508	S	Major shoulder or elbow joint procedures w/o CC/MCC	Include all	2	0.9760
509	S	Arthroscopy	Include all	3	0.9295
510	S	Shoulder,elbow or forearm proc,exc major joint proc w MCC	Include all	1	1.0110
511	S	Shoulder,elbow or forearm proc,exc major joint proc w CC	Include all	2	1.0177
512	S	Shoulder,elbow or forearm proc,exc major joint proc w/o CC/MCC	Include all	2	1.0261
513	S	Hand or wrist proc, except major thumb or joint proc w CC/MCC	Include all	3	1.0115
514	S	Hand or wrist proc, except major thumb or joint proc w/o CC/MCC	Include all	3	1.0000
515	S	Other musculoskelet sys & conn tiss O.R. proc w MCC	Include all	3	1.0000
516	S	Other musculoskelet sys & conn tiss O.R. proc w CC	Include all	3	0.9875
517	S	Other musculoskelet sys & conn tiss O.R. proc w/o CC/MCC	Include all	3	0.9860
518	S	Back & Neck Procedures Except Spinal Fusion with MCC or Disc Device/Neurostimulator	Include all	1	0.9911
519	S	Back & Neck Procedures Except Spinal Fusion with CC	Include all	2	1.0067
520	S	Back & Neck Procedures Except Spinal Fusion without CC/MCC	Include all	3	0.9527
533	M	Fractures of femur w MCC	Include all	1	1.0159
534	M	Fractures of femur w/o MCC	Include all	2	0.9948
535	M	Fractures of hip & pelvis w MCC	Include all	1	1.0010
536	M	Fractures of hip & pelvis w/o MCC	Include all	2	0.9987
537	M	Sprains, strains, & dislocations of hip, pelvis & thigh w CC/MCC	Include all	3	0.9816
538	M	Sprains, strains, & dislocations of hip, pelvis & thigh w/o CC/MCC	Include all	3	0.9295
539	M	Osteomyelitis w MCC	Include all	3	1.0233
540	M	Osteomyelitis w CC	Include all	3	1.0182
541	M	Osteomyelitis w/o CC/MCC	Include all	3	0.9295
542	M	Pathological fractures & musculoskelet & conn tiss malig w MCC	Include all	1	1.0084
543	M	Pathological fractures & musculoskelet & conn tiss malig w CC	Include all	2	0.9965
544	M	Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC	Include all	2	0.9980
545	M	Connective tissue disorders w MCC	Include all	3	0.9883
546	M	Connective tissue disorders w CC	Include all	3	1.0056
547	M	Connective tissue disorders w/o CC/MCC	Include all	3	0.9959
548	M	Septic arthritis w MCC	Include all	1	1.0070
549	M	Septic arthritis w CC	Include all	2	1.0093
550	M	Septic arthritis w/o CC/MCC	Include all	2	1.0490
551	M	Medical back problems w MCC	Include all	3	1.0000
552	M	Medical back problems w/o MCC	Include all	3	1.0119
553	M	Bone diseases & arthropathies w MCC	Include all	2	0.9975
554	M	Bone diseases & arthropathies w/o MCC	Include all	3	0.9913
555	M	Signs & symptoms of musculoskeletal system & conn tissue w MCC	Include all	3	0.9860
556	M	Signs & symptoms of musculoskeletal system & conn tissue w/o MCC	Include all	3	0.9876
557	M	Tendonitis, myositis & bursitis w MCC	Include all	3	0.9809
558	M	Tendonitis, myositis & bursitis w/o MCC	Include all	3	0.9813
559	M	Aftercare, musculoskeletal system & connective tissue w MCC	Include all	3	0.9849
560	M	Aftercare, musculoskeletal system & connective tissue w CC	Include all	3	0.9837

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
561	M	Aftercare, musculoskeletal system & connective tissue w/o CC/MCC	Include all	3	1.0140
562	M	Fx, sprn, strn & disl except femur, hip, pelvis & thigh w MCC	Include all	3	0.9912
563	M	Fx, sprn, strn & disl except femur, hip, pelvis & thigh w/o MCC	Include all	3	0.9971
564	M	Other musculoskeletal sys & connective tissue diagnoses w MCC	Include all	3	1.0018
565	M	Other musculoskeletal sys & connective tissue diagnoses w CC	Include all	3	0.9928
566	M	Other musculoskeletal sys & connective tissue diagnoses w/o CC/MCC	Include all	3	1.1127
570	S	Skin debridement with MCC	Include all	1	0.9866
571	S	Skin debridement with CC	Include all	2	1.0000
572	S	Skin debridement without CC/MCC	Include all	2	1.0030
573	S	Skin graft for skin ulcer or cellulitis w MCC	Include all	1	0.9878
574	S	Skin graft for skin ulcer or cellulitis w CC	Include all	2	0.9906
575	S	Skin graft for skin ulcer or cellulitis w/o CC/MCC	Include all	2	0.9586
576	S	Skin graft except for skin ulcer or cellulitis w MCC	Include all	1	1.0347
577	S	Skin graft except for skin ulcer or cellulitis w CC	Include all	2	0.9883
578	S	Skin graft except for skin ulcer or cellulitis w/o CC/MCC	Include all	2	1.0799
579	S	Other skin, subcut tiss & breast proc w MCC	Include all	2	1.0059
580	S	Other skin, subcut tiss & breast proc w CC	Include all	2	0.9877
581	S	Other skin, subcut tiss & breast proc w/o CC/MCC	Include all	3	0.9295
582	S	Mastectomy for malignancy w CC/MCC	Include all	2	1.0032
583	S	Mastectomy for malignancy w/o CC/MCC	Include all	2	0.9781
584	S	Breast biopsy, local excision & other breast procedures w CC/MCC	Include all	2	0.9445
585	S	Breast biopsy, local excision & other breast procedures w/o CC/MCC	Include all	3	0.9295
592	M	Skin ulcers w MCC	Include all	1	1.0174
593	M	Skin ulcers w CC	Include all	2	1.0196
594	M	Skin ulcers w/o CC/MCC	Include all	2	1.0254
595	M	Major skin disorders w MCC	Include all	1	0.9931
596	M	Major skin disorders w/o MCC	Include all	2	1.0051
597	M	Malignant breast disorders w MCC	Include all	1	1.0789
598	M	Malignant breast disorders w CC	Include all	2	1.0484
599	M	Malignant breast disorders w/o CC/MCC	Include all	2	1.1127
600	M	Non-malignant breast disorders w CC/MCC	Include all	3	0.9738
601	M	Non-malignant breast disorders w/o CC/MCC	Include all	3	0.9295
602	M	Cellulitis w MCC	Include all	1	0.9851
603	M	Cellulitis w/o MCC	Include all	2	0.9894
604	M	Trauma to the skin, subcut tiss & breast w MCC	Include all	1	0.9951
605	M	Trauma to the skin, subcut tiss & breast w/o MCC	Include all	2	1.0203
606	M	Minor skin disorders w MCC	Include all	3	0.9970
607	M	Minor skin disorders w/o MCC	Include all	3	0.9908
614	S	Adrenal & pituitary procedures w CC/MCC	Include all	2	0.9923
615	S	Adrenal & pituitary procedures w/o CC/MCC	Include all	2	1.0534
616	S	Amputat of lower limb for endocrine,nutrit,& metabol dis w MCC	Include all	1	0.9944
617	S	Amputat of lower limb for endocrine,nutrit,& metabol dis w CC	Include all	2	1.0135
618	S	Amputat of lower limb for endocrine,nutrit,& metabol dis w/o CC/MCC	Include all	2	1.0985
619	S	O.R. procedures for obesity w MCC	Include all	1	0.9653
620	S	O.R. procedures for obesity w CC	Include all	2	0.9950
621	S	O.R. procedures for obesity w/o CC/MCC	Include all	2	1.0167
622	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w MCC	Include all	1	0.9657
623	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w CC	Include all	2	1.0170
624	S	Skin grafts & wound debrid for endoc, nutrit & metab dis w/o CC/MCC	Include all	2	0.9842

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
625	S	Thyroid, parathyroid & thyroglossal procedures w MCC	Include all	1	1.0516
626	S	Thyroid, parathyroid & thyroglossal procedures w CC	Include all	2	1.0453
627	S	Thyroid, parathyroid & thyroglossal procedures w/o CC/MCC	Include all	2	0.9917
628	S	Other endocrine, nutrit & metab O.R. proc w MCC	Include all	1	1.0144
629	S	Other endocrine, nutrit & metab O.R. proc w CC	Include all	2	0.9819
630	S	Other endocrine, nutrit & metab O.R. proc w/o CC/MCC	Include all	2	0.9876
637	M	Diabetes w MCC	Include all	3	1.0119
638	M	Diabetes w CC	Include all	3	1.0058
639	M	Diabetes w/o CC/MCC	Include all	3	1.0077
640	M	Misc disorders of nutrition, metabolism, fluids/electrolyes w MCC	Include all	3	1.0047
641	M	Misc disorders of nutrition, metabolism, fluids/electrolyes w/o MCC	Include all	3	0.9994
642	M	Inborn and other disorders of metabolism	Include all	3	0.9842
643	M	Endocrine disorders w MCC	Include all	3	0.9986
644	M	Endocrine disorders w CC	Include all	3	0.9976
645	M	Endocrine disorders w/o CC/MCC	Include all	3	0.9727
652	S	Kidney transplant	Include all	1	1.0904
653	S	Major bladder procedures w MCC	Include all	1	0.9851
654	S	Major bladder procedures w CC	Include all	2	0.9865
655	S	Major bladder procedures w/o CC/MCC	Include all	2	1.0260
656	S	Kidney & ureter procedures for neoplasm w MCC	Include all	1	0.9985
657	S	Kidney & ureter procedures for neoplasm w CC	Include all	2	0.9978
658	S	Kidney & ureter procedures for neoplasm w/o CC/MCC	Include all	2	1.0061
659	S	Kidney & ureter procedures for non-neoplasm w MCC	Include all	2	0.9949
660	S	Kidney & ureter procedures for non-neoplasm w CC	Include all	2	1.0089
661	S	Kidney & ureter procedures for non-neoplasm w/o CC/MCC	Include all	3	1.1127
662	S	Minor bladder procedures w MCC	Include all	3	0.9945
663	S	Minor bladder procedures w CC	Include all	3	0.9745
664	S	Minor bladder procedures w/o CC/MCC	Include all	3	0.9295
665	S	Prostatectomy w MCC	Include all	3	1.0531
666	S	Prostatectomy w CC	Include all	3	1.0115
667	S	Prostatectomy w/o CC/MCC	Include all	3	0.9295
668	S	Transurethral procedures w MCC	Include all	3	0.9824
669	S	Transurethral procedures w CC	Include all	3	0.9896
670	S	Transurethral procedures w/o CC/MCC	Include all	3	0.9295
671	S	Urethral procedures w CC/MCC	Include all	3	0.9662
672	S	Urethral procedures w/o CC/MCC	Include all	3	0.9295
673	S	Other kidney & urinary tract procedures w MCC	Include all	3	0.9947
674	S	Other kidney & urinary tract procedures w CC	Include all	3	0.9904
675	S	Other kidney & urinary tract procedures w/o CC/MCC	Include all	3	0.9295
682	M	Renal failure w MCC	Include all	1	0.9969
683	M	Renal failure w CC	Include all	2	0.9946
684	M	Renal failure w/o CC/MCC	Include all	2	1.0017
685	M	Admit for renal dialysis	Include all	3	1.0820
686	M	Kidney & urinary tract neoplasms w MCC	Include all	2	1.0813
687	M	Kidney & urinary tract neoplasms w CC	Include all	2	1.0512
688	M	Kidney & urinary tract neoplasms w/o CC/MCC	Include all	3	0.9295
689	M	Kidney & urinary tract infections w MCC	Include all	3	0.9823
690	M	Kidney & urinary tract infections w/o MCC	Include all	3	0.9883
691	M	Urinary stones w esw lithotripsy w CC/MCC	Include all	3	1.0623
692	M	Urinary stones w esw lithotripsy w/o CC/MCC	Include all	3	0.9295
693	M	Urinary stones w/o esw lithotripsy w MCC	Include all	3	0.9892
694	M	Urinary stones w/o esw lithotripsy w/o MCC	Include all	3	0.9902

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
695	M	Kidney & urinary tract signs & symptoms w MCC	Include all	3	0.9896
696	M	Kidney & urinary tract signs & symptoms w/o MCC	Include all	3	0.9951
697	M	Urethral stricture	Include all	3	1.0140
698	M	Other kidney & urinary tract diagnoses w MCC	Include all	3	0.9867
699	M	Other kidney & urinary tract diagnoses w CC	Include all	3	0.9922
700	M	Other kidney & urinary tract diagnoses w/o CC/MCC	Include all	3	0.9915
707	S	Major male pelvic procedures w CC/MCC	Include all	2	1.0469
708	S	Major male pelvic procedures w/o CC/MCC	Include all	2	1.0543
709	S	Penis procedures w CC/MCC	Include all	3	1.0328
710	S	Penis procedures w/o CC/MCC	Include all	3	0.9295
711	S	Testes procedures w CC/MCC	Include all	2	1.0826
712	S	Testes procedures w/o CC/MCC	Include all	3	1.0000
713	S	Transurethral prostatectomy w CC/MCC	Include all	2	1.0024
714	S	Transurethral prostatectomy w/o CC/MCC	Include all	3	1.0844
715	S	Other male reproductive system O.R. proc for malignancy w CC/MCC	Include all	2	1.0676
716	S	Other male reproductive system O.R. proc for malignancy w/o CC/MCC	Include all	2	1.0411
717	S	Other male reproductive system O.R. proc exc malignancy w CC/MCC	Include all	3	1.0435
718	S	Other male reproductive system O.R. proc exc malignancy w/o CC/MCC	Include all	3	0.9295
722	M	Malignancy, male reproductive system w MCC	Include all	1	1.1127
723	M	Malignancy, male reproductive system w CC	Include all	2	1.0942
724	M	Malignancy, male reproductive system w/o CC/MCC	Include all	2	1.1127
725	M	Benign prostatic hypertrophy w MCC	Include all	3	0.9933
726	M	Benign prostatic hypertrophy w/o MCC	Include all	3	1.0311
727	M	Inflammation of the male reproductive system w MCC	Include all	3	0.9786
728	M	Inflammation of the male reproductive system w/o MCC	Include all	3	1.0240
729	M	Other male reproductive system diagnoses w CC/MCC	Include all	3	0.9648
730	M	Other male reproductive system diagnoses w/o CC/MCC	Include all	3	0.9295
734	S	Pelvic evisceration, rad hysterectomy & rad vulvectomy w CC/MCC	Include all	1	1.0143
735	S	Pelvic evisceration, rad hysterectomy & rad vulvectomy w/o CC/MCC	Include all	1	0.9847
736	S	Uterine & adnexa proc for ovarian or adnexal malignancy w MCC	Include all	1	0.9876
737	S	Uterine & adnexa proc for ovarian or adnexal malignancy w CC	Include all	2	0.9956
738	S	Uterine & adnexa proc for ovarian or adnexal malignancy w/o CC/MCC	Include all	2	0.9727
739	S	Uterine,adnexa proc for non-ovarian/adnexal malig w MCC	Include all	1	0.9971
740	S	Uterine,adnexa proc for non-ovarian/adnexal malig w CC	Include all	2	0.9992
741	S	Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC	Include all	2	0.9965
742	S	Uterine & adnexa proc for non-malignancy w CC/MCC	Include all	2	1.0053
743	S	Uterine & adnexa proc for non-malignancy w/o CC/MCC	Include all	3	1.0844
744	S	D&C, conization, laparoscopy & tubal interruption w CC/MCC	Include all	2	0.9762
745	S	D&C, conization, laparoscopy & tubal interruption w/o CC/MCC	Include all	3	0.9295
746	S	Vagina, cervix & vulva procedures w CC/MCC	Include all	3	0.9977
747	S	Vagina, cervix & vulva procedures w/o CC/MCC	Include all	3	0.9295
748	S	Female reproductive system reconstructive procedures	Include all	3	0.9506
749	S	Other female reproductive system O.R. procedures w CC/MCC	Include all	2	1.0010
750	S	Other female reproductive system O.R. procedures w/o CC/MCC	Include all	2	0.9295
754	M	Malignancy, female reproductive system w MCC	Include all	1	1.0666
755	M	Malignancy, female reproductive system w CC	Include all	2	1.0696
756	M	Malignancy, female reproductive system w/o CC/MCC	Include all	2	1.0457

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
757	M	Infections, female reproductive system w MCC	Include all	3	0.9649
758	M	Infections, female reproductive system w CC	Include all	3	0.9811
759	M	Infections, female reproductive system w/o CC/MCC	Include all	3	1.0010
760	M	Menstrual & other female reproductive system disorders w CC/MCC	Include all	3	0.9801
761	M	Menstrual & other female reproductive system disorders w/o CC/MCC	Include all	3	0.9295
799	S	Splenectomy w MCC	Include all	1	1.0429
800	S	Splenectomy w CC	Include all	2	1.0281
801	S	Splenectomy w/o CC/MCC	Include all	2	0.9295
802	S	Other O.R. proc of the blood & blood forming organs w MCC	Include all	3	1.0031
803	S	Other O.R. proc of the blood & blood forming organs w CC	Include all	3	1.0034
804	S	Other O.R. proc of the blood & blood forming organs w/o CC/MCC	Include all	3	1.0000
808	M	Major hematol/immun diag exc sickle cell crisis & coagul w MCC	Include all	1	0.9875
809	M	Major hematol/immun diag exc sickle cell crisis & coagul w CC	Include all	2	1.0045
810	M	Major hematol/immun diag exc sickle cell crisis & coagul w/o CC/MCC	Include all	2	1.0082
811	M	Red blood cell disorders w MCC	Include all	3	0.9978
812	M	Red blood cell disorders w/o MCC	Include all	3	1.0011
813	M	Coagulation disorders	Include all	2	0.9988
814	M	Reticuloendothelial & immunity disorders w MCC	Include all	1	1.0019
815	M	Reticuloendothelial & immunity disorders w CC	Include all	2	1.0273
816	M	Reticuloendothelial & immunity disorders w/o CC/MCC	Include all	2	1.0168
820	S	Lymphoma & leukemia w major O.R. procedure w MCC	Include all	1	1.0262
821	S	Lymphoma & leukemia w major O.R. procedure w CC	Include all	2	0.9893
822	S	Lymphoma & leukemia w major O.R. procedure w/o CC/MCC	Include all	2	0.9639
823	S	Lymphoma & non-acute leukemia w other O.R. proc w MCC	Include all	1	1.0167
824	S	Lymphoma & non-acute leukemia w other O.R. proc w CC	Include all	2	1.0190
825	S	Lymphoma & non-acute leukemia w other O.R. proc w/o CC/MCC	Include all	2	1.0078
826	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w MCC	Include all	1	1.0180
827	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w CC	Include all	2	1.0201
828	S	Myeloprolif disord or poorly diff neopl w maj O.R. proc w/o CC/MCC	Include all	2	0.9616
829	S	Myeloprolif disord or poorly diff neopl w other O.R. proc w CC/MCC	Include all	2	0.9976
830	S	Myeloprolif disord or poorly diff neopl w other O.R. proc w/o CC/MCC	Include all	2	0.9936
834	M	Acute leukemia w/o major O.R. procedure w MCC	Include all	1	1.0349
835	M	Acute leukemia w/o major O.R. procedure w CC	Include all	2	1.0138
836	M	Acute leukemia w/o major O.R. procedure w/o CC/MCC	Include all	2	1.0615
837	M	Chemo w acute leukemia as sdx or w high dose chemo agent w MCC	Include all	1	1.0568
838	M	Chemo w acute leukemia as sdx w CC or high dose chemo agent	Include all	2	1.0029
839	M	Chemo w acute leukemia as sdx w/o CC/MCC	Include all	2	1.0063
840	M	Lymphoma & non-acute leukemia w MCC	Include all	1	1.0262
841	M	Lymphoma & non-acute leukemia w CC	Include all	2	1.0266
842	M	Lymphoma & non-acute leukemia w/o CC/MCC	Include all	2	1.0574
843	M	Other myeloprolif dis or poorly diff neopl diag w MCC	Include all	3	1.0090
844	M	Other myeloprolif dis or poorly diff neopl diag w CC	Include all	3	1.0311
845	M	Other myeloprolif dis or poorly diff neopl diag w/o CC/MCC	Include all	3	1.0070
846	M	Chemotherapy w/o acute leukemia as secondary diagnosis w MCC	Include all	3	0.9815
847	M	Chemotherapy w/o acute leukemia as secondary diagnosis w CC	Include all	3	1.0152
848	M	Chemotherapy w/o acute leukemia as secondary diagnosis w/o CC/MCC	Include all	3	0.9295
849	M	Radiotherapy	Include all	3	0.9959
853	S	Infectious & parasitic diseases w O.R. procedure w MCC	Include all	1	0.9989

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
854	S	Infectious & parasitic diseases w O.R. procedure w CC	Include all	2	1.0024
855	S	Infectious & parasitic diseases w O.R. procedure w/o CC/MCC	Include all	2	0.9718
856	S	Postoperative or post-traumatic infections w O.R. proc w MCC	Include all	1	0.9982
857	S	Postoperative or post-traumatic infections w O.R. proc w CC	Include all	2	0.9925
858	S	Postoperative or post-traumatic infections w O.R. proc w/o CC/MCC	Include all	2	0.9984
862	M	Postoperative & post-traumatic infections w MCC	Include all	1	1.0119
863	M	Postoperative & post-traumatic infections w/o MCC	Include all	2	0.9990
864	M	Fever of unknown origin	Include all	2	0.9869
865	M	Fever	Include all	1	0.9899
866	M	Viral illness w/o MCC	Include all	2	0.9945
867	M	Other infectious & parasitic diseases diagnoses w MCC	Include all	1	1.0035
868	M	Other infectious & parasitic diseases diagnoses w CC	Include all	2	1.0044
869	M	Other infectious & parasitic diseases diagnoses w/o CC/MCC	Include all	2	1.0457
870	M	Septicemia or severe sepsis w MV 96+ hours	Include all	1	1.0065
871	M	Septicemia or severe sepsis w/o MV 96+ hours w MCC	Include all	1	1.0014
872	M	Septicemia or severe sepsis w/o MV 96+ hours w/o MCC	Include all	1	1.0013
876	S	O.R. procedure w principal diagnoses of mental illness	Include all	3	0.9699
880	M	Acute adjustment reaction & psychosocial dysfunction	Include all	3	1.0180
881	M	Depressive neuroses	Include all	3	1.0315
882	M	Neuroses except depressive	Include all	3	0.9295
883	M	Disorders of personality & impulse control	Include all	3	0.9295
884	M	Organic disturbances & mental retardation	Include all	3	1.0165
885	M	Psychoses	Include all	3	1.0167
886	M	Behavioral & developmental disorders	Include all	3	1.0411
887	M	Other mental disorder diagnoses	Include all	3	1.1127
894	M	Alcohol/drug abuse or dependence, left ama	Include all	3	0.9295
895	M	Alcohol/drug abuse or dependence w rehabilitation therapy	Include all	3	0.9295
896	M	Alcohol/drug abuse or dependence w/o rehabilitation therapy w MCC	Include all	3	1.0172
897	M	Alcohol/drug abuse or dependence w/o rehabilitation therapy w/o MCC	Include all	3	0.9937
901	S	Wound debridements for injuries w MCC	Include all	1	1.1038
902	S	Wound debridements for injuries w CC	Include all	2	0.9996
903	S	Wound debridements for injuries w/o CC/MCC	Include all	2	0.9925
904	S	Skin grafts for injuries w CC/MCC	Include all	2	1.0315
905	S	Skin grafts for injuries w/o CC/MCC	Include all	2	1.0411
906	S	Hand procedures for injuries	Include all	3	1.0070
907	S	Other O.R. procedures for injuries w MCC	Include all	1	0.9938
908	S	Other O.R. procedures for injuries w CC	Include all	2	0.9964
909	S	Other O.R. procedures for injuries w/o CC/MCC	Include all	2	0.9889
913	M	Traumatic injury w MCC	Include all	1	0.9988
914	M	Traumatic injury w/o MCC	Include all	2	1.0003
915	M	Allergic reactions w MCC	Include all	3	1.0162
916	M	Allergic reactions w/o MCC	Include all	3	0.9991
917	M	Poisoning & toxic effects of drugs w MCC	Include all	2	0.9983
918	M	Poisoning & toxic effects of drugs w/o MCC	Include all	3	0.9907
919	M	Complications of treatment w MCC	Include all	3	1.0022
920	M	Complications of treatment w CC	Include all	3	0.9871
921	M	Complications of treatment w/o CC/MCC	Include all	3	0.9627
922	M	Other injury, poisoning & toxic effect diag w MCC	Include all	3	1.0040
923	M	Other injury, poisoning & toxic effect diag w/o MCC	Include all	3	0.9923
927	S	Extensive burns or full thickness burns w MV 96+ hrs w skin graft	Include all	1	1.0623

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
928	S	Full thickness burn w skin graft or inhal inj w CC/MCC	Include all	1	1.0010
929	S	Full thickness burn w skin graft or inhal inj w/o CC/MCC	Include all	2	1.0955
933	M	Extensive burns or full thickness burns w MV 96+ hrs w/o skin graft	Include all	1	1.1127
934	M	Full thickness burn w/o skin grft or inhal inj	Include all	2	0.9557
935	M	Non-extensive burns	Include all	2	1.0514
939	S	O.R. proc w diagnoses of other contact w health services w MCC	Include all	3	0.9766
940	S	O.R. proc w diagnoses of other contact w health services w CC	Include all	3	1.0130
941	S	O.R. proc w diagnoses of other contact w health services w/o CC/MCC	Include all	3	0.9295
945	M	Rehabilitation w CC/MCC	Include all	3	0.9821
946	M	Rehabilitation w/o CC/MCC	Include all	3	0.9787
947	M	Signs & symptoms w MCC	Include all	3	0.9993
948	M	Signs & symptoms w/o MCC	Include all	3	1.0033
949	M	Aftercare w CC/MCC	Include all	3	0.9880
950	M	Aftercare w/o CC/MCC	Include all	3	0.9295
951	M	Other factors influencing health status	Include all	3	1.1127
955	S	Craniotomy for multiple significant trauma	Include all	1	1.0700
956	S	Limb reattachment, hip & femur proc for multiple significant trauma	Include all	1	1.0217
957	S	Other O.R. procedures for multiple significant trauma w MCC	Include all	1	1.1127
958	S	Other O.R. procedures for multiple significant trauma w CC	Include all	2	1.1127
959	S	Other O.R. procedures for multiple significant trauma w/o CC/MCC	Include all	2	1.1127
963	M	Other multiple significant trauma w MCC	Include all	1	1.1127
964	M	Other multiple significant trauma w CC	Include all	2	1.1127
965	M	Other multiple significant trauma w/o CC/MCC	Include all	2	1.1127
969	S	HIV w extensive O.R. procedure w MCC	Include all	1	0.9295
970	S	HIV w extensive O.R. procedure w/o MCC	Include all	1	1.0000
974	M	HIV w major related condition w MCC	Include all	1	1.0266
975	M	HIV w major related condition w CC	Include all	1	1.0689
976	M	HIV w major related condition w/o CC/MCC	Include all	1	1.1127
977	M	HIV w or w/o other related condition	Include all	2	1.0782
981	S	Extensive O.R. procedure unrelated to principal diagnosis w MCC	Include all	1	1.0032
982	S	Extensive O.R. procedure unrelated to principal diagnosis w CC	Include all	2	0.9998
983	S	Extensive O.R. procedure unrelated to principal diagnosis w/o CC/MCC	Include all	2	1.0065
984	S	Prostatic O.R. procedure unrelated to principal diagnosis w MCC	Include all	3	1.0164
985	S	Prostatic O.R. procedure unrelated to principal diagnosis w CC	Include all	3	1.0240
986	S	Prostatic O.R. procedure unrelated to principal diagnosis w/o CC/MCC	Include all	3	0.9295
987	S	Non-extensive O.R. proc unrelated to principal diagnosis w MCC	Include all	3	1.0035
988	S	Non-extensive O.R. proc unrelated to principal diagnosis w CC	Include all	3	1.0021
989	S	Non-extensive O.R. proc unrelated to principal diagnosis w/o CC/MCC	Include all	3	0.9295

Gynecology

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
734	S	Pelvic evisceration, rad hysterectomy & rad vulvectomy w CC/MCC	Include all	1	0.8551
735	S	Pelvic evisceration, rad hysterectomy & rad vulvectomy w/o CC/MCC	Include all	1	1.1062
736	S	Uterine & adnexa proc for ovarian or adnexal malignancy w MCC	Include all	1	0.5779
737	S	Uterine & adnexa proc for ovarian or adnexal malignancy w CC	Include all	2	0.7618

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
738	S	Uterine & adnexa proc for ovarian or adnexal malignancy w/o CC/MCC	Include all	2	0.9775
739	S	Uterine,adnexa proc for non-ovarian/adnexal malig w MCC	Include all	1	0.5664
740	S	Uterine,adnexa proc for non-ovarian/adnexal malig w CC	Include all	2	0.7145
741	S	Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC	Include all	2	0.7036
742	S	Uterine & adnexa proc for non-malignancy w CC/MCC	Include all	2	1.3361
743	S	Uterine & adnexa proc for non-malignancy w/o CC/MCC	Include all	3	1.0516
746	S	Vagina, cervix & vulva procedures w CC/MCC	Include all	3	0.6358
747	S	Vagina, cervix & vulva procedures w/o CC/MCC	Include all	3	0.8396
749	S	Other female reproductive system O.R. procedures w CC/MCC	Include all	2	0.8888
750	S	Other female reproductive system O.R. procedures w/o CC/MCC	Include all	2	1.3361
754	M	Malignancy, female reproductive system w MCC	Include all	1	0.5798
755	M	Malignancy, female reproductive system w CC	Include all	2	0.6095
756	M	Malignancy, female reproductive system w/o CC/MCC	Include all	2	0.6703
757	M	Infections, female reproductive system w MCC	Include all	3	0.4604
758	M	Infections, female reproductive system w CC	Include all	3	0.5122
759	M	Infections, female reproductive system w/o CC/MCC	Include all	3	0.5343
760	M	Menstrual & other female reproductive system disorders w CC/MCC	Include all	3	0.7723
761	M	Menstrual & other female reproductive system disorders w/o CC/MCC	Include all	3	0.6106

Nephrology

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
008	S	Simultaneous pancreas/kidney transplant	Include all	1	1.1158
652	S	Kidney transplant	Include all	1	1.0575
653	S	Major bladder procedures w MCC	Include all	1	0.9841
654	S	Major bladder procedures w CC	Include all	2	1.1789
655	S	Major bladder procedures w/o CC/MCC	Include all	2	1.3364
656	S	Kidney & ureter procedures for neoplasm w MCC	Include procedures 3924, 550, 5501-4, 551, 5511-2, 5524, 5529, 553, 5531-5, 5539, 554, 555, 5551-4, 5561, 557, 558, 5581-7, 5589, 5591, 5597, 5598, 5599	1	1.0487
657	S	Kidney & ureter procedures for neoplasm w CC	See MS-DRG 656	2	1.2987
658	S	Kidney & ureter procedures for neoplasm w/o CC/MCC	See MS-DRG 656	2	1.3836
659	S	Kidney & ureter procedures for non-neoplasm w MCC	See MS-DRG 656	2	1.1179
660	S	Kidney & ureter procedures for non-neoplasm w CC	See MS-DRG 656	2	1.5211
661	S	Kidney & ureter procedures for non-neoplasm w/o CC/MCC	See MS-DRG 656	3	1.6772
673	S	Other kidney & urinary tract procedures w MCC	Include procedures 3806-7, 3816, 3836-7, 3846-7,3866-7, 387, 3886-7, 3927, 3942-3, 3949-50, 3952, 3956-9, 3971	3	1.0253
674	S	Other kidney & urinary tract procedures w CC	Include procedures 3807, 3816, 3836-	3	1.1380

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
			7, 3846-7,3866-7, 387, 3886-7, 3927, 3942-3, 3949-50, 3952, 3956-9, 3971		
675	S	Other kidney & urinary tract procedures w/o CC/MCC	See MS-DRG 674	3	0.9322
682	M	Renal failure w MCC	Include all	1	0.9224
683	M	Renal failure w CC	Include all	2	0.9733
684	M	Renal failure w/o CC/MCC	Include all	2	1.0450
686	M	Kidney & urinary tract neoplasms w MCC	Include diagnoses: 1890-1, 1980, 2230	2	1.2042
687	M	Kidney & urinary tract neoplasms w CC	See MS-DRG 686	2	1.3506
688	M	Kidney & urinary tract neoplasms w/o CC/MCC	See MS-DRG 686	3	1.6507
689	M	Kidney & urinary tract infections w MCC	Include diagnoses: 0160, 590, 0786, 0954, 5900-3, 5908-9, 59010-11, 59080-1	3	1.2296
695	M	Kidney & urinary tract signs & symptoms w MCC	Include all	3	0.8536
698	M	Other kidney & urinary tract diagnoses w MCC	Include diagnoses: 2504, 580-3, 587, 589, 866, 4401, 4421, 4473, 4533, 5800, 5804, 5808-13, 5818-22, 5824, 5828-32, 5834, 5836-9,5890-1, 5899, 5930-2, 5936, 8660, 86600-3, 8661, 86610-3, 27410, 27419, 44323, 44581, 58081, 58089, 58181, 58189, 58281, 58289, 58381, 58389, V420, V594	3	1.1300
699	M	Other kidney & urinary tract diagnoses w CC	See MS-DRG 698	3	1.3355
700	M	Other kidney & urinary tract diagnoses w/o CC/MCC	See MS-DRG 698	3	1.6772

Neurology & Neurosurgery

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
020	S	Intracranial vascular procedures w PDX hemorrhage w MCC	Include all	1	1.9930
021	S	Intracranial vascular procedures w PDX hemorrhage w CC	Include all	1	2.9573
022	S	Intracranial vascular procedures w PDX hemorrhage w/o CC/MCC	Include all	1	2.9573
023	S	Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant	Include all	1	1.3225
024	S	Cranio w major dev impl/acute complex CNS PDX w/o MCC	Include all	1	1.2817
025	S	Craniotomy & endovascular intracranial procedures w MCC	Include all	1	1.4058
026	S	Craniotomy & endovascular intracranial procedures w CC	Include all	1	1.7094
027	S	Craniotomy & endovascular intracranial procedures w/o CC/MCC	Include all	1	1.9825

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
031	S	Ventricular shunt procedures w MCC	Include all	1	1.7781
032	S	Ventricular shunt procedures w CC	Include all	2	1.8480
033	S	Ventricular shunt procedures w/o CC/MCC	Include all	2	1.3801
034	S	Carotid artery stent procedure w MCC	Include all	1	0.8480
035	S	Carotid artery stent procedure w CC	Include all	2	0.7916
036	S	Carotid artery stent procedure w/o CC/MCC	Include all	2	0.8108
037	S	Extracranial procedures w MCC	Include all	1	0.7805
038	S	Extracranial procedures w CC	Include all	2	0.8113
039	S	Extracranial procedures w/o CC/MCC	Include all	2	0.8048
040	S	Periph & cranial nerve & other nerv syst proc w MCC	Include all	1	1.0548
041	S	Periph/cranial nerve & other nerv syst proc w CC or periph neurostim	Include all	2	1.2174
042	S	Periph & cranial nerve & other nerv syst proc w/o CC/MCC	Include all	2	1.3540
052	M	Spinal disorders & injuries w CC/MCC	Include all	2	1.1587
053	M	Spinal disorders & injuries w/o CC/MCC	Include all	2	1.6814
054	M	Nervous system neoplasms w MCC	Include all	1	1.1527
055	M	Nervous system neoplasms w/o MCC	Include all	2	1.2892
056	M	Degenerative nervous system disorders w MCC	Include all	1	0.7791
057	M	Degenerative nervous system disorders w/o MCC	Include all	2	0.7624
058	M	Multiple sclerosis & cerebellar ataxia w MCC	Include all	1	1.2312
059	M	Multiple sclerosis & cerebellar ataxia w CC	Include all	2	1.3070
060	M	Multiple sclerosis & cerebellar ataxia w/o CC/MCC	Include all	2	1.7002
061	M	Acute ischemic stroke w use of thrombolytic agent w MCC	Include all	1	0.8204
062	M	Acute ischemic stroke w use of thrombolytic agent w CC	Include all	2	0.9608
063	M	Acute ischemic stroke w use of thrombolytic agent w/o CC/MCC	Include all	2	0.9880
064	M	Intracranial hemorrhage or cerebral infarction w MCC	Include all	1	0.8366
065	M	Intracranial hemorrhage or cerebral infarction w CC	Include all	2	0.8855
066	M	Intracranial hemorrhage or cerebral infarction w/o CC/MCC	Include all	2	0.9039
067	M	Nonspecific cva & precerebral occlusion w/o infarct w MCC	Include all	1	0.7752
068	M	Nonspecific cva & precerebral occlusion w/o infarct w/o MCC	Include all	2	0.7966
069	M	Transient ischemia	Include all	3	0.7400
070	M	Nonspecific cerebrovascular disorders w MCC	Include all	2	0.8069
071	M	Nonspecific cerebrovascular disorders w CC	Include all	2	0.8207
073	M	Cranial & peripheral nerve disorders w MCC	Include all	1	0.9476
074	M	Cranial & peripheral nerve disorders w/o MCC	Include all	2	1.2647
075	M	Viral meningitis w CC/MCC	Include all	2	2.6657
076	M	Viral meningitis w/o CC/MCC	Include all	2	2.9573
077	M	Hypertensive encephalopathy w MCC	Include all	1	0.8817
078	M	Hypertensive encephalopathy w CC	Include all	2	0.8783
079	M	Hypertensive encephalopathy w/o CC/MCC	Include all	2	0.9328
080	M	Nontraumatic stupor & coma w MCC	Include all	1	0.8946
081	M	Nontraumatic stupor & coma w/o MCC	Include all	2	0.9272
082	M	Traumatic stupor & coma, coma >1 hr w MCC	Include all	1	1.3910
083	M	Traumatic stupor & coma, coma >1 hr w CC	Include all	1	1.3523
084	M	Traumatic stupor & coma, coma >1 hr w/o CC/MCC	Include all	1	2.1275
085	M	Traumatic stupor & coma, coma <1 hr w MCC	Include all	1	0.9067
086	M	Traumatic stupor & coma, coma <1 hr w CC	Include all	2	0.8877
087	M	Traumatic stupor & coma, coma <1 hr w/o CC/MCC	Include all	2	1.0462
091	M	Other disorders of nervous system w MCC	Include all	3	0.9286
092	M	Other disorders of nervous system w CC	Include all	3	0.8786
093	M	Other disorders of nervous system w/o CC/MCC	Include all	3	0.8896
094	M	Bacterial & tuberculous infections of nervous system w MCC	Include all	1	1.5139

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
095	M	Bacterial & tuberculous infections of nervous system w CC	Include all	2	1.8364
096	M	Bacterial & tuberculous infections of nervous system w/o CC/MCC	Include all	2	2.8735
097	M	Non-bacterial infect of nervous sys exc viral meningitis w MCC	Include all	1	1.3755
098	M	Non-bacterial infect of nervous sys exc viral meningitis w CC	Include all	2	1.9097
099	M	Non-bacterial infect of nervous sys exc viral meningitis w/o CC/MCC	Include all	2	2.9573
100	M	Seizures w MCC	Include all	2	1.2509
955	S	Craniotomy for multiple significant trauma	Include all	1	2.9573

Orthopedics

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
028	S	Spinal procedures w MCC	Exclude procedures: 0301-2, 0309, 031, 0321, 0329, 0332, 0339, 034, 0351-3, 0359, 036, 0371-2, 0379, 0393, 0394, 0397-9	1	1.5009
029	S	Spinal procedures w CC or spinal neurostimulators	See MS-DRG 028	2	1.7625
030	S	Spinal procedures w/o CC/MCC	See MS-DRG 028	2	1.9805
453	S	Combined anterior/posterior spinal fusion w MCC	Include all	1	1.1481
454	S	Combined anterior/posterior spinal fusion w CC	Include all	2	1.3953
455	S	Combined anterior/posterior spinal fusion w/o CC/MCC	Include all	2	1.6727
456	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC	Include all	1	1.4480
457	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC	Include all	2	1.3936
458	S	Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC	Include all	2	1.7056
459	S	Spinal fusion except cervical w MCC	Include all	1	1.0055
460	S	Spinal fusion except cervical w/o MCC	Include all	2	1.1845
461	S	Bilateral or multiple major joint procs of lower extremity w MCC	Include all	1	1.0275
462	S	Bilateral or multiple major joint procs of lower extremity w/o MCC	Include all	2	1.3585
463	S	Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w MCC	Include procedures: 8005, 8006	1	0.8746
464	S	Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w CC	Include procedures: 8005, 8006	2	0.9789
465	S	Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w/o CC/MCC	Include procedures: 8005, 8006	2	1.1256
466	S	Revision of hip or knee replacement w MCC	Include all	3	0.7764
467	S	Revision of hip or knee replacement w CC	Include all	3	0.9089
468	S	Revision of hip or knee replacement w/o CC/MCC	Include all	3	1.1013
469	S	Major joint replacement or reattachment of lower extremity w MCC	Include all	1	0.7521
470	S	Major joint replacement or reattachment of lower extremity w/o MCC	Include all	2	1.0415
471	S	Cervical spinal fusion w MCC	Include all	1	1.1210
472	S	Cervical spinal fusion w CC	Include all	2	1.4151
473	S	Cervical spinal fusion w/o CC/MCC	Include all	2	1.4533
480	S	Hip & femur procedures except major joint w MCC	Include all	2	0.7548
481	S	Hip & femur procedures except major joint w CC	Include all	2	0.7679
482	S	Hip & femur procedures except major joint w/o CC/MCC	Include all	3	1.0814
483	S	Major joint & limb reattachment proc of upper extremity w CC/MCC	Include all	1	0.8818
485	S	Knee procedures w pdx of infection w MCC	Include all	1	0.8748
486	S	Knee procedures w pdx of infection w CC	Include all	2	1.1328
487	S	Knee procedures w pdx of infection w/o CC/MCC	Include all	2	1.2875

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
492	S	Lower extrem & humer proc except hip,foot,femur w MCC	Include all	2	1.0977
493	S	Lower extrem & humer proc except hip,foot,femur w CC	Include all	2	1.3314
494	S	Lower extrem & humer proc except hip,foot,femur w/o CC/MCC	Include all	3	1.9805
495	S	Local excision & removal int fix devices exc hip & femur w MCC	Include all	2	1.0792
496	S	Local excision & removal int fix devices exc hip & femur w CC	Include all	2	1.5294
497	S	Local excision & removal int fix devices exc hip & femur w/o CC/MCC	Include all	3	1.9805
498	S	Local excision & removal int fix devices of hip & femur w CC/MCC	Include all	3	1.0780
499	S	Local excision & removal int fix devices of hip & femur w/o CC/MCC	Include all	3	1.0853
500	S	Soft tissue procedures w MCC	Include all	3	1.1644
501	S	Soft tissue procedures w CC	Include all	3	1.2789
503	S	Foot procedures w MCC	Include all	3	0.9736
504	S	Foot procedures w CC	Include all	3	1.2378
505	S	Foot procedures w/o CC/MCC	Include all	3	1.6783
506	S	Major thumb or joint procedures	Include all	3	0.9818
507	S	Major shoulder or elbow joint procedures w CC/MCC	Include all	2	1.1963
508	S	Major shoulder or elbow joint procedures w/o CC/MCC	Include all	2	1.9805
515	S	Other musculoskelet sys & conn tiss O.R. proc w MCC	Include procedures: 7601, 7631, 7639, 764, 7641-6, 765-6, 7661-70, 7672, 7674, 7676-7, 7679, 7691-2, 7694, 7699, 7700-1, 7709, 7720-1, 7729-31, 7739, 7780-1, 7789-91, 7799-7801, 7809-7811, 7819-20, 7829-30, 7839-41, 7849-51, 7859, 7870-1, 7879, 7890-1, 7899, 7910, 7919-20, 7929-30, 7939-40, 7949-50, 7959-60, 7969, 7980, 7989-90, 7999, 8010, 8019, 8040, 8049, 8090, 8118, 8120, 8129, 8159, 8165-6, 8196-7, 8199, 8429, 8440, 8493, 8499	3	0.8694
516	S	Other musculoskelet sys & conn tiss O.R. proc w CC	See MS-DRG 515	3	0.8142
517	S	Other musculoskelet sys & conn tiss O.R. proc w/o CC/MCC	See MS-DRG 515	3	0.7595
518	S	Back & Neck Procedures Except Spinal Fusion with MCC or Disc Device/Neurostimulator	Include all	1	1.2429
519	S	Back & Neck Procedures Except Spinal Fusion with CC	Include all	2	1.1453
520	S	Back & Neck Procedures Except Spinal Fusion without CC/MCC	Include all	3	0.8141
533	M	Fractures of femur w MCC	Include all	1	0.7341
534	M	Fractures of femur w/o MCC	Include all	2	1.0767
535	M	Fractures of hip & pelvis w MCC	Include all	1	0.7046
536	M	Fractures of hip & pelvis w/o MCC	Include all	2	0.7311
539	M	Osteomyelitis w MCC	Include all	3	1.0198

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
540	M	Osteomyelitis w CC	Include all	3	1.1380
541	M	Osteomyelitis w/o CC/MCC	Include all	3	1.1322
542	M	Pathological fractures & musculoskelet & conn tiss malig w MCC	Include diagnoses: 7331, 73310-6, 73319, 73393-5	1	0.7404
543	M	Pathological fractures & musculoskelet & conn tiss malig w CC	See MS-DRG 542	2	0.7484
544	M	Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC	See MS-DRG 542	2	0.6822
956	S	Limb reattachment, hip & femur proc for multiple significant trauma	Include all	1	1.5173

Pulmonology

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
003	S	ECMO or trach w MV 96+ hrs or PDX exc face, mouth & neck w maj O.R.	Include all	1	1.4981
004	S	Trach w MV 96+ hrs or PDX exc face, mouth & neck w/o maj O.R.	Include all	1	1.1730
007	S	Lung transplant	Include all	1	1.5762
163	S	Major chest procedures w MCC	Include procedures: 3173, 3175, 3179, 3209, 321, 3221-2, 3229, 323-6, 329-31, 3325, 3328, 3334, 3339, 334, 3341-3, 3348-9, 3392, 3398-9, 3402, 3427, 345, 3451, 3459, 346, 3473-4, 348, 3481-5, 3489, 3493	2	1.2575
164	S	Major chest procedures w CC	See MS-DRG 163	2	1.1911
165	S	Major chest procedures w/o CC/MCC	See MS-DRG 163	2	1.2996
166	S	Other resp system O.R. procedures w MCC	Include all	2	1.0366
167	S	Other resp system O.R. procedures w CC	Include all	2	1.1709
168	S	Other resp system O.R. procedures w/o CC/MCC	Include all	3	1.1622
175	M	Pulmonary embolism w MCC	Include all	1	1.0982
176	M	Pulmonary embolism w/o MCC	Include all	1	1.4129
177	M	Respiratory infections & inflammations w MCC	Exclude diagnoses: 7955, V712, 79551, 75952	1	0.8553
178	M	Respiratory infections & inflammations w CC	See MS-DRG 177	2	0.8975
179	M	Respiratory infections & inflammations w/o CC/MCC	See MS-DRG 177	2	1.0626
180	M	Respiratory neoplasms w MCC	Exclude diagnoses: 2122-5, 2128-9, 2133	1	1.0392
181	M	Respiratory neoplasms w CC	See MS-DRG 181	2	1.0964
182	M	Respiratory neoplasms w/o CC/MCC	See MS-DRG 181	2	1.1885
183	M	Major chest trauma w MCC	Include all	1	1.1544
184	M	Major chest trauma w CC	Include all	1	1.4252
185	M	Major chest trauma w/o CC/MCC	Include all	1	1.3925
186	M	Pleural effusion w MCC	Include all	3	0.9411

MS-DRG	Medical/ Surgical	DRG Title	ICD-9-CM	Severity	Weight
187	M	Pleural effusion w CC	Include all	3	1.0017
189	M	Pulmonary edema & respiratory failure	Include all	2	0.9651
190	M	Chronic obstructive pulmonary disease w MCC	Include all	3	0.8850
191	M	Chronic obstructive pulmonary disease w CC	Include all	3	0.8506
192	M	Chronic obstructive pulmonary disease w/o CC/MCC	Include all	3	0.8865
193	M	Simple pneumonia & pleurisy w MCC	Include all	3	0.8896
194	M	Simple pneumonia & pleurisy w CC	Include all	3	0.9086
196	M	Interstitial lung disease w MCC	Include all	3	0.9318
197	M	Interstitial lung disease w CC	Include all	3	0.9971
198	M	Interstitial lung disease w/o CC/MCC	Include all	3	1.3216
199	M	Pneumothorax w MCC	Exclude diagnoses: 5121	1	1.2570
200	M	Pneumothorax w CC	See MS-DRG 199	2	1.5762
202	M	Bronchitis & asthma w CC/MCC	Include all	3	1.5515
207	M	Respiratory system diagnosis w ventilator support 96+ hours	Include all	2	1.1057
208	M	Respiratory system diagnosis w ventilator support <96 hours	Include all	2	1.0872
870	M	Septicemia or severe sepsis w MV 96+ hours	Include all	1	1.0297
871	M	Septicemia or severe sepsis w/o MV 96+ hours w MCC	Include all	1	0.9281
872	M	Septicemia or severe sepsis w/o MV 96+ hours w/o MCC	Include all	1	1.1733

Urology

MS-DRG	Medical/ Surgical	DRG Title	IC9-CM	Severity	Weight
653	S	Major bladder procedures w MCC	Include all	1	0.9743
654	S	Major bladder procedures w CC	Include all	2	1.1671
655	S	Major bladder procedures w/o CC/MCC	Include all	2	1.3230
656	S	Kidney & ureter procedures for neoplasm w MCC	Include procedures: 561-2, 5640-2, 5651-2, 5661-2, 5671-5, 5679, 5681-6, 5689, 5692-5, 5699, 5900, 5902-3, 5909	1	0.9079
657	S	Kidney & ureter procedures for neoplasm w CC	See MS-DRG 656	2	0.9859
658	S	Kidney & ureter procedures for neoplasm w/o CC/MCC	See MS-DRG 656	2	1.0038
659	S	Kidney & ureter procedures for non-neoplasm w MCC	See MS-DRG 656	2	1.1777
660	S	Kidney & ureter procedures for non-neoplasm w CC	See MS-DRG 656	2	1.9018
661	S	Kidney & ureter procedures for non-neoplasm w/o CC/MCC	See MS-DRG 656	3	1.2529
662	S	Minor bladder procedures w MCC	Include all	3	0.9330
663	S	Minor bladder procedures w CC	Include all	3	1.0023
664	S	Minor bladder procedures w/o CC/MCC	Include all	3	1.3073
665	S	Prostatectomy w MCC	Include all	3	0.8029
666	S	Prostatectomy w CC	Include all	3	0.7977
668	S	Transurethral procedures w MCC	Include all	3	0.9288
669	S	Transurethral procedures w CC	Include all	3	1.0302
671	S	Urethral procedures w CC/MCC	Include all	3	1.0443
673	S	Other kidney & urinary tract procedures w MCC	Include procedures: 1756, 3806-7, 3816, 3836-7,	3	0.8171

MS-DRG	Medical/ Surgical	DRG Title	IC9-CM	Severity	Weight
			3846-7, 3866-7, 387, 3886-7, 3927, 3942-3, 3949-50, 3952, 3956-9, 3971		
674	S	Other kidney & urinary tract procedures w CC	See MS-DRG 673	3	0.7626
675	S	Other kidney & urinary tract procedures w/o CC/MCC	See MS-DRG 673	3	0.6537
686	M	Kidney & urinary tract neoplasms w MCC	Exclude diagnoses: 1890-1, 1980-1, 2230-1	2	0.9406
687	M	Kidney & urinary tract neoplasms w CC	See MS-DRG 686	2	0.9251
688	M	Kidney & urinary tract neoplasms w/o CC/MCC	See MS-DRG 686	3	0.6537
691	M	Urinary stones w esw lithotripsy w CC/MCC	Include all	3	1.4054
692	M	Urinary stones w esw lithotripsy w/o CC/MCC	Include all	3	1.3073
697	M	Urethral stricture	Include all	3	0.9805
698	M	Other kidney & urinary tract diagnoses w MCC	Exclude diagnoses: 580-3, 587, 589, 866, 4401, 4421, 4473, 4533, 5800, 5804, 5808-13, 5818-22, 5824, 5828-32, 5834, 5836-9,5890-1, 5899, 5930-2, 5936, 8660, 86600-3, 8661, 86610-3, 27410, 27419, 44323, 44581, 58081, 58089, 58181, 58189, 58281, 58289, 58381, 58389, V420, V594	3	0.8475
699	M	Other kidney & urinary tract diagnoses w CC	See MS-DRG 698	3	0.9259
700	M	Other kidney & urinary tract diagnoses w/o CC/MCC	See MS-DRG 698	3	1.0092
707	S	Major male pelvic procedures w CC/MCC	Include all	2	1.5536
708	S	Major male pelvic procedures w/o CC/MCC	Include all	2	1.7573
709	S	Penis procedures w CC/MCC	Include all	3	1.1812
710	S	Penis procedures w/o CC/MCC	Include all	3	1.9018
711	S	Testes procedures w CC/MCC	Include all	2	1.9018
712	S	Testes procedures w/o CC/MCC	Include all	3	1.9018
713	S	Transurethral prostatectomy w CC/MCC	Include all	2	0.8424
715	S	Other male reproductive system O.R. proc for malignancy w CC/MCC	Include all	2	1.3241
716	S	Other male reproductive system O.R. proc for malignancy w/o CC/MCC	Include all	2	1.9018
717	S	Other male reproductive system O.R. proc exc malignancy w CC/MCC	Include all	3	1.0192
718	S	Other male reproductive system O.R. proc exc malignancy w/o CC/MCC	Include all	3	0.6537
722	M	Malignancy, male reproductive system w MCC	Include all	1	1.0416
723	M	Malignancy, male reproductive system w CC	Include all	2	1.0867
724	M	Malignancy, male reproductive system w/o CC/MCC	Include all	2	1.1929
727	M	Inflammation of the male reproductive system w MCC	Include all	3	1.0342

MS-DRG	Medical/ Surgical	DRG Title	IC9-CM	Severity	Weight
728	M	Inflammation of the male reproductive system w/o MCC	Include all	3	1.1394
729	M	Other male reproductive system diagnoses w CC/MCC	Exclude diagnoses: V252	3	1.1232
730	M	Other male reproductive system diagnoses w/o CC/MCC	See MS-DRG 729	3	0.6537
984	S	Prostatic O.R. procedure unrelated to principal diagnosis w MCC	Include all	3	0.7805
985	S	Prostatic O.R. procedure unrelated to principal diagnosis w CC	Include all	3	0.7913
986	S	Prostatic O.R. procedure unrelated to principal diagnosis w/o CC/MCC	Include all	3	0.6537

Appendix D

2017-18 Best Hospitals Rankings, Data-Driven Specialties

Best Hospitals 2017-18: Cancer

Rank	Hospital	U.S. News Specialty Score	30-day cancer survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Recognized as Nurse Magnet hospital	NCI-designated cancer center	Accredited by FACT	Reputation with physicians in specialty	Current AHA responder
1	University of Texas MD Anderson Cancer Center, Houston	100.0	10	5	2	2	2	2	7,488	1.9	Yes	8	8	1	Yes	2	56.9	Yes
2	Memorial Sloan Kettering Cancer Center, New York	97.4	9	6	3	1	3	2	5,603	2.1	Yes	8	8	1	Yes	2	53.6	Yes
3	Mayo Clinic, Rochester, Minn.	91.8	10	5	2	2	2	2	3,688	2.7	Yes	8	8	1	Yes	2	24.3	Yes
4	Dana-Farber/Brigham and Women's Cancer Center, Boston	84.4	9	5	2	2	2	2	2,983	2.4	Yes	8	8	A	Yes	2	30.8	Yes
5	Seattle Cancer Care Alliance/University of Washington Med. Center	76.5	10	5	2	2	2	2	1,382	2.1	Yes	8	8	A	Yes	2	8.9	Yes
6	Johns Hopkins Hospital, Baltimore	75.9	8	5	2	2	2	2	1,793	2.2	Yes	8	8	1	Yes	2	18.8	Yes
7	Cleveland Clinic	75.0	9	6	2	2	2	3	2,619	2.1	Yes	8	8	1	Yes	2	9.1	Yes
7	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	75.0	9	5	2	2	2	2	2,792	2.3	Yes	8	8	1	Yes	2	7.4	Yes
9	Moffitt Cancer Center and Research Institute, Tampa	74.9	10	4	2	1	2	2	3,156	1.2	Yes	8	8	1	Yes	2	5.4	Yes
10	UCSF Medical Center, San Francisco	73.3	9	6	3	2	2	2	1,944	2.4	Yes	8	8	1	Yes	2	6.9	Yes
11	Stanford Health Care-Stanford Hospital, Stanford, Calif.	73.2	9	6	2	3	2	2	1,986	2.5	Yes	8	8	1	Yes	2	6.7	Yes
12	Massachusetts General Hospital, Boston	71.4	8	5	2	2	2	2	2,617	2.4	Yes	8	8	1	Yes	2	10.4	Yes
12	UCLA Medical Center, Los Angeles	71.4	9	5	2	2	2	2	2,005	3.0	Yes	8	8	1	Yes	2	6.1	Yes
12	University of Michigan Hospitals and Health Centers, Ann Arbor	71.4	9	6	2	2	2	3	2,060	2.8	Yes	8	8	1	Yes	2	3.7	Yes
15	USC Norris Cancer Hospital-Keck Medical Center of USC, Los Angeles	70.5	10	6	2	3	2	2	1,283	3.0	Yes	8	8	0	Yes	2	1.5	Yes
16	Northwestern Memorial Hospital, Chicago	69.9	10	6	3	2	2	2	1,630	1.6	Yes	8	8	1	Yes	2	2.0	Yes
17	Mayo Clinic Phoenix	69.6	10	6	3	2	2	2	1,647	2.9	Yes	8	8	0	Yes	2	2.6	Yes
18	Mayo Clinic Jacksonville, Fla.	69.5	9	6	2	2	2	3	968	2.1	Yes	8	8	1	Yes	2	2.8	Yes
19	Barnes-Jewish Hospital/Washington University, St. Louis	69.3	9	5	2	2	2	2	3,362	2.4	Yes	8	8	1	Yes	2	3.9	Yes
20	Thomas Jefferson University Hospital, Philadelphia	69.1	9	6	2	2	3	2	2,131	2.2	Yes	8	8	1	Yes	2	2.0	Yes
21	City of Hope, Duarte, Calif.	68.8	10	5	2	2	2	2	1,758	2.2	Yes	8	8	0	Yes	2	5.1	Yes
22	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	68.1	9	4	2	1	2	2	4,335	2.8	Yes	8	8	0	Yes	2	3.1	Yes
23	Ohio State University James Cancer Hospital, Columbus	67.4	9	5	2	2	2	2	3,045	2.0	Yes	8	8	A	Yes	2	4.0	Yes
24	University of North Carolina Hospitals, Chapel Hill	67.3	9	5	2	2	2	2	1,259	2.0	Yes	8	8	1	Yes	2	2.5	Yes
25	University of Kansas Hospital, Kansas City	67.1	10	5	2	2	2	2	1,506	2.0	Yes	8	8	1	Yes	2	0.7	Yes
26	Oregon Health and Science University Hospital, Portland	66.1	9	5	2	2	2	2	1,659	2.0	Yes	8	8	1	Yes	2	1.2	Yes
27	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	65.8	9	5	2	2	2	2	2,463	1.6	Yes	8	8	1	Yes	2	1.8	Yes
28	Fox Chase Cancer Center, Philadelphia	65.7	9	5	2	2	2	2	1,542	1.8	Yes	8	8	1	Yes	2	3.0	Yes
29	University of Colorado Hospital, Aurora	65.6	9	5	2	2	2	2	1,611	2.3	Yes	8	8	1	Yes	2	1.1	Yes
30	University of Virginia Medical Center, Charlottesville	65.5	10	5	2	2	2	2	984	2.0	Yes	8	8	1	Yes	2	0.8	Yes
31	University of Chicago Medical Center	65.3	9	6	2	2	2	3	1,745	2.4	Yes	8	8	0	Yes	2	3.2	Yes
32	University of California, Davis Medical Center, Sacramento	64.6	9	5	2	2	2	2	1,381	2.7	Yes	8	8	1	Yes	2	0.8	Yes
33	Roswell Park Cancer Institute, Buffalo	64.4	9	5	2	2	2	2	1,310	2.1	Yes	8	8	0	Yes	2	2.8	Yes
34	Seidman Cancer Center at University Hospitals Cleveland	64.1	9	5	2	2	2	2	1,467	2.4	Yes	8	8	1	Yes	2	1.2	Yes
35	UPMC Presbyterian Shadyside, Pittsburgh	63.9	8	5	2	2	2	2	3,810	1.9	Yes	8	8	1	Yes	2	2.5	Yes
36	University of Wisconsin Hospital and Clinics, Madison	63.7	9	5	2	2	2	2	1,325	2.5	Yes	8	8	1	Yes	2	0.6	Yes
37	University of Minnesota Medical Center, Fairview	63.4	10	4	2	1	2	2	1,529	1.9	Yes	8	8	0	Yes	2	0.4	Yes
38	Duke University Hospital, Durham, N.C.	63.1	7	5	2	2	2	2	1,915	2.1	Yes	8	8	1	Yes	2	5.6	Yes
38	Huntsman Cancer Institute at the University of Utah, Salt Lake City	63.1	10	5	2	2	2	2	1,098	2.2	Yes	8	8	0	Yes	2	0.6	Yes
40	UC San Diego Health-Moores Cancer Center	62.9	8	5	2	2	2	2	1,270	2.1	Yes	8	8	1	Yes	2	1.4	Yes
40	University of Iowa Hospitals and Clinics, Iowa City	62.9	9	5	2	2	2	2	1,234	1.8	Yes	8	8	1	Yes	2	1.1	Yes
42	MUSC Health-University Medical Center, Charleston, S.C.	62.6	9	5	2	2	2	2	1,013	2.0	Yes	8	8	1	Yes	2	0.2	Yes
43	Rush University Medical Center, Chicago	62.5	9	5	2	2	2	2	1,473	2.3	Yes	8	8	1	No	2	1.8	Yes
44	Mount Sinai Hospital, New York	62.4	8	7	2	3	2	3	1,919	2.0	Yes	8	8	1	Yes	2	0.9	Yes
44	NYU Langone Medical Center, New York	62.4	9	5	2	2	2	2	1,592	2.6	Yes	8	8	1	Yes	1	1.2	Yes
44	Vanderbilt University Medical Center, Nashville, Tenn.	62.4	8	5	2	2	2	2	1,728	1.9	Yes	8	8	1	Yes	2	2.5	Yes
47	Cedars-Sinai Medical Center, Los Angeles	62.0	8	5	2	2	2	2	2,627	2.6	Yes	8	8	1	No	2	1.9	Yes
48	Banner University Medical Center Tucson, Ariz.	61.4	9	4	2	2	2	1	1,000	1.8	Yes	8	7	1	Yes	2	0.1	Yes
48	University of Maryland Medical Center, Baltimore	61.4	9	2	1	1	1	2	1,127	2.1	Yes	8	7	1	Yes	2	0.7	Yes
50	University of Kentucky Albert B. Chandler Hospital, Lexington	60.9	9	6	2	2	2	3	1,003	1.9	Yes	8	8	1	Yes	2	0.9	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Cardiology & Heart Surgery

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Public transparency	STS transparency	ACC transparency	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Cleveland Clinic	100.0	10	6	2	2	2	3	14,254	2.1	Yes	3	Yes	Yes	6	7	No	1	47.7	Yes
2	Mayo Clinic, Rochester, Minn.	99.5	10	5	2	2	2	2	11,730	2.7	Yes	3	Yes	Yes	6	7	Yes	1	43.0	Yes
3	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	85.2	10	4	2	1	2	2	17,411	2.8	Yes	3	Yes	Yes	6	7	Yes	0	15.9	Yes
4	Cedars-Sinai Medical Center, Los Angeles	81.8	10	5	2	2	2	2	11,154	2.6	Yes	3	Yes	Yes	6	7	Yes	1	8.2	Yes
5	Massachusetts General Hospital, Boston	79.0	9	5	2	2	2	2	8,201	2.4	Yes	3	Yes	Yes	6	7	Yes	1	17.6	Yes
6	Johns Hopkins Hospital, Baltimore	77.3	10	5	2	2	2	2	4,270	2.2	Yes	3	Yes	Yes	6	7	Yes	1	15.4	Yes
7	Northwestern Memorial Hospital, Chicago	76.7	10	6	3	2	2	2	4,493	1.6	Yes	3	Yes	Yes	6	7	Yes	1	4.9	Yes
8	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	75.4	10	5	2	2	2	2	10,867	2.3	Yes	2	No	Yes	6	7	Yes	1	8.4	Yes
9	Mount Sinai Hospital, New York	75.1	10	7	2	3	2	3	8,927	2.0	Yes	3	Yes	Yes	6	7	Yes	1	4.6	Yes
10	University of Michigan Hospitals and Health Centers, Ann Arbor	74.5	10	6	2	2	2	3	5,833	2.8	Yes	3	Yes	Yes	6	7	Yes	1	4.3	Yes
11	Duke University Hospital, Durham, N.C.	74.4	9	5	2	2	2	2	5,865	2.1	Yes	3	Yes	Yes	6	7	Yes	1	13.2	Yes
12	Brigham and Women's Hospital, Boston	73.5	10	5	2	2	2	2	6,247	2.4	Yes	3	Yes	Yes	6	7	Yes	0	17.9	Yes
13	Barnes-Jewish Hospital/Washington University, St. Louis	72.6	10	5	2	2	2	2	7,865	2.4	Yes	3	Yes	Yes	6	7	Yes	1	3.5	Yes
14	UCLA Medical Center, Los Angeles	72.3	10	5	2	2	2	2	5,145	3.0	Yes	3	Yes	Yes	6	7	Yes	1	3.7	Yes
15	Stanford Health Care-Stanford Hospital, Stanford, Calif.	70.0	9	6	2	3	2	2	4,230	2.5	Yes	3	Yes	Yes	6	7	Yes	1	6.3	Yes
16	Houston Methodist Hospital	67.7	10	6	2	2	2	3	7,862	2.0	Yes	2	No	Yes	6	7	No	1	3.5	Yes
16	The Heart Hospital Baylor Plano, Texas	67.7	10	6	2	3	2	2	4,495	2.4	Yes	3	Yes	Yes	5	7	No	1	2.5	Yes
18	Loyola University Medical Center, Maywood, Ill.	67.4	10	6	2	2	2	3	3,263	2.4	Yes	3	Yes	Yes	6	7	Yes	1	1.2	Yes
19	NYU Langone Medical Center, New York	67.3	9	5	2	2	2	2	6,968	2.6	Yes	3	Yes	Yes	5	7	Yes	1	2.7	Yes
20	UPMC Presbyterian Shadyside, Pittsburgh	67.0	10	5	2	2	2	2	10,416	1.9	Yes	3	Yes	Yes	6	7	Yes	1	1.6	Yes
21	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	66.7	9	6	2	3	2	2	4,984	3.1	Yes	3	Yes	Yes	5	7	Yes	A	2.1	Yes
22	Ohio State University Wexner Medical Center, Columbus	66.0	10	5	2	2	2	2	6,910	2.0	Yes	3	Yes	Yes	6	7	Yes	1	1.2	Yes
23	UCSF Medical Center, San Francisco	65.7	10	6	3	2	2	2	2,529	2.4	Yes	3	Yes	Yes	5	6	Yes	1	2.9	Yes
24	Sentara Norfolk General Hospital-Sentara Heart Hospital, Norfolk, Va.	65.4	10	5	2	2	2	2	5,780	1.6	Yes	3	Yes	Yes	6	7	Yes	1	0.4	Yes
24	Texas Heart Institute at Baylor St. Luke's Medical Center, Houston	65.4	9	5	2	2	2	2	6,708	1.5	Yes	3	Yes	Yes	5	6	No	1	8.9	Yes
26	Beaumont Hospital-Royal Oak, Mich.	65.3	9	6	2	2	3	2	9,692	1.9	Yes	3	Yes	Yes	5	7	Yes	1	1.2	Yes
27	Minneapolis Heart Institute at Abbott Northwestern Hospital	65.1	9	5	2	2	2	2	11,438	2.2	Yes	3	Yes	Yes	6	7	No	1	0.8	Yes
28	Vanderbilt University Medical Center, Nashville, Tenn.	64.7	9	5	2	2	2	2	6,243	1.9	Yes	3	Yes	Yes	6	7	Yes	1	3.1	Yes
29	Memorial Hermann-Texas Medical Center, Houston	64.4	10	5	2	2	2	2	3,874	2.1	Yes	3	Yes	Yes	6	7	Yes	1	1.2	Yes
30	University of Alabama Hospital at Birmingham	64.3	10	6	2	2	2	3	5,765	1.8	Yes	3	Yes	Yes	6	7	Yes	1	0.7	Yes
30	University of California, Davis Medical Center, Sacramento	64.3	10	5	2	2	2	2	3,730	2.7	Yes	3	Yes	Yes	5	7	Yes	1	0.2	Yes
32	University of Colorado Hospital, Aurora	64.1	9	5	2	2	2	2	4,201	2.3	Yes	3	Yes	Yes	6	7	Yes	1	1.0	Yes
33	St. Francis Hospital, Roslyn, N.Y.	64.0	9	5	2	2	2	2	9,028	1.7	Yes	3	Yes	Yes	5	7	Yes	1	1.0	Yes
34	St. Luke's Hospital, Kansas City, Mo.	63.9	10	5	2	2	2	2	5,236	1.5	Yes	3	Yes	Yes	6	7	Yes	1	1.7	Yes
35	Morristown Medical Center, Morristown, N.J.	63.8	9	4	2	1	2	2	7,862	2.1	Yes	3	Yes	Yes	5	7	Yes	1	0.5	Yes
36	University of Kansas Hospital, Kansas City	63.2	10	5	2	2	2	2	3,970	2.0	Yes	3	Yes	Yes	5	7	Yes	1	0.4	Yes
37	Aurora St. Luke's Medical Center, Milwaukee	63.1	10	3	2	1	1	2	9,399	2.0	Yes	3	Yes	Yes	6	7	No	1	0.9	Yes
38	Advocate Christ Medical Center, Oak Lawn, Ill.	62.4	9	5	2	2	2	2	5,777	2.4	Yes	3	Yes	Yes	5	7	Yes	1	1.2	Yes
39	Mayo Clinic Jacksonville, Fla.	61.9	10	6	2	2	2	3	2,583	2.1	Yes	2	No	Yes	6	7	No	1	1.2	Yes
40	UC San Diego Health-Sulpizio Cardiovascular Center	61.6	9	5	2	2	2	2	3,236	2.1	Yes	3	Yes	Yes	6	7	Yes	1	0.8	Yes
41	Thomas Jefferson University Hospital, Philadelphia	61.5	8	6	2	2	3	2	4,697	2.2	Yes	3	Yes	Yes	6	7	Yes	1	0.8	Yes
42	Oregon Health and Science University Hospital, Portland	60.9	10	5	2	2	2	2	3,760	2.0	Yes	3	Yes	Yes	6	7	Yes	1	0.5	Yes
43	Rush University Medical Center, Chicago	60.5	9	5	2	2	2	2	2,515	2.3	Yes	3	Yes	Yes	5	7	Yes	1	1.1	Yes
44	Fairview Hospital, Cleveland	60.4	10	6	3	2	2	2	3,606	1.9	Yes	2	Yes	No	5	7	Yes	1	0.0	Yes
45	Tampa General Hospital	60.1	9	4	2	1	2	2	5,162	2.2	Yes	3	Yes	Yes	6	6	Yes	1	0.2	Yes
45	University of Washington Medical Center, Seattle	60.1	10	5	2	2	2	2	2,632	2.1	Yes	2	Yes	No	6	7	No	1	1.4	Yes
47	Mayo Clinic Phoenix	59.7	10	6	3	2	2	2	3,824	2.9	Yes	2	No	Yes	6	7	No	0	1.3	Yes
47	MedStar Washington Hospital Center, Washington, D.C.	59.7	9	4	2	1	2	2	8,917	2.3	Yes	3	Yes	Yes	6	7	Yes	0	1.6	Yes
49	IU Health Academic Health Center, Indianapolis	59.6	9	5	2	2	2	2	4,600	2.0	Yes	3	Yes	Yes	6	7	Yes	1	0.3	Yes
50	University of Virginia Medical Center, Charlottesville	59.5	9	5	2	2	2	2	3,825	2.0	Yes	3	Yes	Yes	6	7	Yes	1	1.0	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Diabetes & Endocrinology

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	8	5	2	2	2	2	690	2.7	Yes	4	8	1	50.5	Yes
2	Massachusetts General Hospital, Boston	84.1	7	5	2	2	2	2	465	2.4	Yes	4	8	1	34.0	Yes
3	Cleveland Clinic	82.2	8	6	2	2	2	3	702	2.1	Yes	4	8	1	16.7	Yes
3	Johns Hopkins Hospital, Baltimore	82.2	8	5	2	2	2	2	356	2.2	Yes	4	8	1	21.7	Yes
5	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	78.6	8	4	2	1	2	2	1,365	2.8	Yes	4	8	0	10.2	Yes
6	University of Colorado Hospital, Aurora	77.0	9	5	2	2	2	2	516	2.3	Yes	4	8	1	4.4	Yes
7	UCSF Medical Center, San Francisco	74.8	8	6	3	2	2	2	348	2.4	Yes	4	8	1	9.1	Yes
8	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	74.4	8	5	2	2	2	2	578	2.3	Yes	4	8	1	8.9	Yes
8	UPMC Presbyterian Shadyside, Pittsburgh	74.4	9	5	2	2	2	2	736	1.9	Yes	4	8	1	3.7	Yes
10	Stanford Health Care-Stanford Hospital, Stanford, Calif.	73.7	9	6	2	3	2	2	396	2.5	Yes	4	8	1	1.5	Yes
11	Abbott Northwestern Hospital, Minneapolis	72.9	10	5	2	2	2	2	385	2.2	Yes	4	8	1	0.0	Yes
12	Harper University Hospital, Detroit	72.8	10	5	2	2	2	2	224	1.7	Yes	4	8	1	0.1	Yes
13	Tampa General Hospital	72.5	10	4	2	1	2	2	412	2.2	Yes	4	7	1	0.0	Yes
14	Beaumont Hospital-Royal Oak, Mich.	72.4	9	6	2	2	3	2	875	1.9	Yes	4	8	1	0.0	Yes
14	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	72.4	9	6	2	3	2	2	321	3.1	Yes	4	8	A	0.3	Yes
16	UCLA Medical Center, Los Angeles	71.7	7	5	2	2	2	2	478	3.0	Yes	4	8	1	6.2	Yes
17	University of Michigan Hospitals and Health Centers, Ann Arbor	71.6	7	6	2	2	2	3	382	2.8	Yes	4	8	1	6.0	Yes
18	Cedars-Sinai Medical Center, Los Angeles	71.5	8	5	2	2	2	2	846	2.6	Yes	4	8	1	2.7	Yes
19	Mount Sinai Hospital, New York	70.9	7	7	2	3	2	3	625	2.0	Yes	4	8	1	4.6	Yes
20	Oregon Health and Science University Hospital, Portland	70.8	10	5	2	2	2	2	237	2.0	Yes	4	8	1	2.4	Yes
21	University of Alabama Hospital at Birmingham	70.5	9	6	2	2	2	3	404	1.8	Yes	4	8	1	0.7	Yes
22	Brigham and Women's Hospital, Boston	70.3	8	5	2	2	2	2	389	2.4	Yes	4	8	0	9.5	Yes
23	Houston Methodist Hospital	69.9	8	6	2	2	2	3	570	2.0	Yes	4	8	1	1.2	Yes
24	MedStar Georgetown University Hospital, Washington, D.C.	69.7	10	5	2	2	2	2	138	1.1	Yes	4	8	1	1.1	Yes
25	UT Southwestern Medical Center, Dallas	69.6	8	5	2	2	2	2	311	2.1	Yes	4	8	1	3.3	Yes
26	Ohio State University Wexner Medical Center, Columbus	69.4	8	5	2	2	2	2	581	2.0	Yes	4	8	1	1.8	Yes
26	Thomas Jefferson University Hospital, Philadelphia	69.4	8	6	2	2	3	2	616	2.2	Yes	4	8	1	1.4	Yes
28	Montefiore Medical Center, Bronx, N.Y.	69.3	9	5	2	2	2	2	1,042	2.4	Yes	4	8	0	1.8	Yes
29	Yale-New Haven Hospital, New Haven, Conn.	69.0	7	4	2	1	2	2	799	2.0	Yes	4	8	1	6.8	Yes
30	Barnes-Jewish Hospital/Washington University, St. Louis	68.8	7	5	2	2	2	2	593	2.4	Yes	4	8	1	5.6	Yes
31	Northwestern Memorial Hospital, Chicago	67.5	8	6	3	2	2	2	365	1.6	Yes	4	8	1	3.8	Yes
31	UF Health Shands Hospital, Gainesville, Fla.	67.5	9	5	2	2	2	2	269	1.9	Yes	4	8	1	0.4	Yes
33	Providence Portland Medical Center, Portland, Ore.	67.4	10	4	2	1	2	2	228	1.5	Yes	3	7	1	0.0	Yes
34	Christiana Care-Christiana Hospital, Newark, Del.	67.3	8	5	2	2	2	2	811	2.0	Yes	4	8	1	0.1	Yes
35	Flagstaff Medical Center, Flagstaff, Ariz.	67.1	10	4	2	2	1	2	152	1.7	Yes	4	7	0	0.0	Yes
36	NYU Langone Medical Center, New York	66.9	7	5	2	2	2	2	584	2.6	Yes	4	8	1	2.1	Yes
37	University of Kentucky Albert B. Chandler Hospital, Lexington	66.6	9	6	2	2	2	3	208	1.9	Yes	4	8	1	0.1	Yes
38	Duke University Hospital, Durham, N.C.	66.2	8	5	2	2	2	2	268	2.1	Yes	4	8	1	4.2	Yes
39	Queen's Medical Center, Honolulu	65.7	9	5	2	2	2	2	325	1.8	Yes	4	8	1	0.0	Yes
40	St. Cloud Hospital, St. Cloud, Minn.	65.5	9	5	2	2	2	2	382	1.9	Yes	3	8	1	0.0	Yes
40	University of Washington Medical Center, Seattle	65.5	7	5	2	2	2	2	144	2.1	Yes	4	8	1	8.2	Yes
42	Hillcrest Hospital, Cleveland	65.3	9	6	3	2	2	2	285	1.7	Yes	4	8	1	0.0	Yes
43	Sentara Norfolk General Hospital, Norfolk, Va.	65.0	9	5	2	2	2	2	254	1.6	Yes	4	8	1	0.9	Yes
44	University of Virginia Medical Center, Charlottesville	64.9	7	5	2	2	2	2	239	2.0	Yes	4	8	1	4.1	Yes
45	Tufts Medical Center, Boston	64.8	10	5	2	2	2	2	146	1.6	Yes	4	8	0	0.9	Yes
46	St. Luke's Regional Medical Center, Boise, Idaho	64.3	8	6	2	2	3	2	345	2.2	Yes	4	6	1	0.0	Yes
47	University of Maryland Medical Center, Baltimore	64.2	9	2	1	1	1	2	150	2.1	Yes	4	7	1	0.2	Yes
47	Vanderbilt University Medical Center, Nashville, Tenn.	64.2	7	5	2	2	2	2	436	1.9	Yes	4	8	1	3.2	Yes
49	Advocate Christ Medical Center, Oak Lawn, Ill.	64.1	8	5	2	2	2	2	331	2.4	Yes	4	8	1	0.0	Yes
49	University of California, Davis Medical Center, Sacramento	64.1	8	5	2	2	2	2	277	2.7	Yes	4	8	1	0.5	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Ear, Nose & Throat

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Johns Hopkins Hospital, Baltimore	100.0	8	5	2	2	2	2	183	2.2	Yes	1	8	Yes	1	28.6	Yes
2	Massachusetts Eye and Ear Infirmary, Mass. General Hosp. Boston	98.7	8	5	2	2	2	2	380	2.4	Yes	1	8	Yes	A	22.6	Yes
2	UCLA Medical Center, Los Angeles	98.7	10	5	2	2	2	2	421	3.0	Yes	1	8	Yes	1	5.9	Yes
4	Mayo Clinic, Rochester, Minn.	96.5	9	5	2	2	2	2	312	2.7	Yes	1	8	Yes	1	12.7	Yes
5	University of Iowa Hospitals and Clinics, Iowa City	95.9	10	5	2	2	2	2	170	1.8	Yes	1	8	Yes	1	13.3	Yes
6	Ohio State University Wexner Medical Center, Columbus	93.4	10	5	2	2	2	2	410	2.0	Yes	1	8	Yes	1	5.9	Yes
6	University of Michigan Hospitals and Health Centers, Ann Arbor	93.4	8	6	2	2	2	3	310	2.8	Yes	1	8	Yes	1	12.8	Yes
8	Thomas Jefferson University Hospital, Philadelphia	92.1	10	6	2	2	3	2	384	2.2	Yes	1	8	Yes	1	2.8	Yes
9	Stanford Health Care-Stanford Hospital, Stanford, Calif.	91.2	9	6	2	3	2	2	292	2.5	Yes	1	8	Yes	1	9.3	Yes
10	UCSF Medical Center, San Francisco	88.4	9	6	3	2	2	2	204	2.4	Yes	1	8	Yes	1	7.1	Yes
11	MUSC Health-University Medical Center, Charleston, S.C.	87.6	10	5	2	2	2	2	196	2.0	Yes	1	8	Yes	1	6.5	Yes
12	University Hospitals Cleveland Medical Center	86.1	10	5	2	2	2	2	228	2.4	Yes	1	8	Yes	1	2.2	Yes
13	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	85.9	8	5	2	2	2	2	403	2.3	Yes	1	8	Yes	1	9.0	Yes
14	University of North Carolina Hospitals, Chapel Hill	85.3	10	5	2	2	2	2	203	2.0	Yes	1	8	Yes	1	3.3	Yes
15	University of Texas MD Anderson Cancer Center, Houston	83.1	7	5	2	2	2	2	602	1.9	Yes	1	8	No	1	9.3	Yes
16	Cleveland Clinic	81.5	8	6	2	2	2	3	252	2.1	Yes	1	8	No	1	10.6	Yes
17	University of Cincinnati Medical Center	81.1	10	5	2	2	2	2	235	1.7	Yes	1	8	Yes	0	5.6	Yes
18	Oregon Health and Science University Hospital, Portland	81.0	9	5	2	2	2	2	235	2.0	Yes	1	8	Yes	1	3.3	Yes
18	University of Utah Hospitals and Clinics, Salt Lake City	81.0	10	5	2	2	2	2	124	2.2	Yes	1	8	Yes	0	1.6	Yes
20	Memorial Sloan Kettering Cancer Center, New York	80.5	9	6	3	1	3	2	310	2.1	Yes	1	8	No	1	3.3	Yes
21	Reading Hospital and Medical Center, West Reading, Pa.	80.4	10	4	2	2	2	1	121	1.2	Yes	1	7	Yes	1	0.0	Yes
22	Yale-New Haven Hospital, New Haven, Conn.	80.0	9	4	2	1	2	2	358	2.0	Yes	1	8	Yes	1	1.0	Yes
23	Barnes-Jewish Hospital/Washington University, St. Louis	78.4	7	5	2	2	2	2	314	2.4	Yes	1	8	Yes	1	6.7	Yes
24	Porter Adventist Hospital, Denver	77.7	10	5	2	2	2	2	194	1.8	Yes	1	8	No	1	0.1	Yes
25	Henry Ford Hospital, Detroit	77.4	10	5	2	2	2	2	123	1.9	Yes	1	8	Yes	0	0.9	Yes
26	Cedars-Sinai Medical Center, Los Angeles	76.8	9	5	2	2	2	2	155	2.6	Yes	1	8	Yes	1	0.9	Yes
27	Ochsner Medical Center, New Orleans	76.7	10	5	2	2	2	2	155	2.1	Yes	1	8	Yes	1	0.9	Yes
28	Mayo Clinic Phoenix	76.2	10	6	3	2	2	2	271	2.9	Yes	1	8	No	0	1.6	Yes
29	UPMC Presbyterian Shadyside, Pittsburgh	76.0	5	5	2	2	2	2	448	1.9	Yes	1	8	Yes	1	11.9	Yes
30	Queen's Medical Center, Honolulu	75.5	10	5	2	2	2	2	100	1.8	Yes	1	8	Yes	1	0.0	Yes
31	University of Washington Medical Center, Seattle	75.2	8	5	2	2	2	2	172	2.1	Yes	1	8	No	1	6.5	Yes
32	University of Virginia Medical Center, Charlottesville	74.8	9	5	2	2	2	2	107	2.0	Yes	1	8	Yes	1	3.0	Yes
33	Rush University Medical Center, Chicago	74.6	9	5	2	2	2	2	114	2.3	Yes	1	8	Yes	1	1.1	Yes
34	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	74.1	8	5	2	2	2	2	367	1.6	Yes	1	8	Yes	1	1.3	Yes
35	University of Miami Hospital	73.4	10	4	2	2	2	1	522	1.5	Yes	1	8	Yes	0	0.8	Yes
36	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	73.2	8	4	2	1	2	2	301	2.8	Yes	1	8	Yes	0	4.0	Yes
37	Our Lady of the Lake Regional Medical Center, Baton Rouge, La.	72.5	10	4	2	2	2	1	150	1.3	Yes	1	7	Yes	1	0.6	Yes
37	UF Health Jacksonville, Fla.	72.5	10	5	2	2	2	2	116	1.3	Yes	1	8	Yes	1	0.0	Yes
39	Carolinas Medical Center, Charlotte, N.C.	71.5	9	6	2	2	2	3	146	1.9	Yes	1	8	Yes	1	0.0	Yes
40	Fox Chase Cancer Center, Philadelphia	71.3	10	5	2	2	2	2	106	1.8	Yes	1	8	No	1	0.1	Yes
41	Baylor University Medical Center, Dallas	71.0	9	5	2	2	2	2	190	1.8	Yes	1	8	Yes	1	0.4	Yes
41	Froedtert Hospital and the Medical College of Wisconsin, Milwaukee	71.0	9	5	2	2	2	2	116	1.8	Yes	1	8	Yes	1	1.5	Yes
41	University of California, Davis Medical Center, Sacramento	71.0	8	5	2	2	2	2	153	2.7	Yes	1	8	Yes	1	0.9	Yes
44	Scott and White Memorial Hospital, Temple, Texas	70.5	10	3	2	1	1	2	87	1.1	Yes	1	8	Yes	0	0.0	Yes
45	Mayo Clinic Jacksonville, Fla.	70.2	9	6	2	2	2	3	97	2.1	Yes	1	8	No	1	0.7	Yes
45	Providence Portland Medical Center, Portland, Ore.	70.2	10	4	2	1	2	2	119	1.5	Yes	1	7	No	1	0.0	Yes
47	Baylor All Saints Medical Center at Fort Worth	67.9	10	5	2	2	2	2	178	1.6	Yes	1	7	No	0	0.3	Yes
47	St. Joseph Mercy Ann Arbor Hospital, Ypsilanti, Mich.	67.9	10	5	2	2	2	2	79	1.8	Yes	1	8	Yes	0	0.2	Yes
49	Nebraska Medical Center, Omaha	67.3	8	5	2	2	2	2	119	2.6	Yes	1	8	Yes	1	0.1	Yes
50	New York Eye and Ear Infirmary of Mount Sinai, N.Y.	66.9	10	5	2	2	2	2	10	1.2	Yes	1	8	No	1	1.5	Yes
50	UT Southwestern Medical Center, Dallas	66.9	8	5	2	2	2	2	139	2.1	Yes	1	8	No	1	1.2	Yes
50	University of Alabama Hospital at Birmingham	66.9	6	6	2	2	2	3	432	1.8	Yes	1	8	Yes	1	1.6	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Gastroenterology & GI Surgery

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	10	5	2	2	2	2	6,881	2.7	Yes	7	8	Yes	1	46.5	Yes
2	Cleveland Clinic	88.4	9	6	2	2	2	3	5,744	2.1	Yes	7	8	No	1	30.3	Yes
3	Johns Hopkins Hospital, Baltimore	83.6	8	5	2	2	2	2	3,097	2.2	Yes	7	8	Yes	1	23.3	Yes
4	Cedars-Sinai Medical Center, Los Angeles	78.7	8	5	2	2	2	2	7,005	2.6	Yes	7	8	Yes	1	7.8	Yes
5	Massachusetts General Hospital, Boston	78.5	7	5	2	2	2	2	4,684	2.4	Yes	7	8	Yes	1	17.4	Yes
6	UPMC Presbyterian Shadyside, Pittsburgh	77.2	8	5	2	2	2	2	7,548	1.9	Yes	7	8	Yes	1	8.5	Yes
7	Mayo Clinic Jacksonville, Fla.	76.0	10	6	2	2	2	3	2,302	2.1	Yes	7	8	No	1	5.6	Yes
8	Mount Sinai Hospital, New York	75.3	7	7	2	3	2	3	4,782	2.0	Yes	7	8	Yes	1	11.1	Yes
9	University of Michigan Hospitals and Health Centers, Ann Arbor	74.7	8	6	2	2	2	3	3,657	2.8	Yes	7	8	Yes	1	6.7	Yes
10	Mayo Clinic Phoenix	74.4	10	6	3	2	2	2	3,372	2.9	Yes	7	8	No	0	4.6	Yes
11	UCLA Medical Center, Los Angeles	73.7	7	5	2	2	2	2	3,839	3.0	Yes	7	8	Yes	1	9.3	Yes
12	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	73.1	7	5	2	2	2	2	3,773	2.3	Yes	7	8	Yes	1	8.6	Yes
12	Houston Methodist Hospital	73.1	10	6	2	2	2	3	4,425	2.0	Yes	7	8	No	1	1.7	Yes
14	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	71.8	8	4	2	1	2	2	7,913	2.8	Yes	7	8	Yes	0	6.5	Yes
15	Beaumont Hospital-Royal Oak, Mich.	70.8	8	6	2	2	3	2	5,663	1.9	Yes	7	8	Yes	1	0.7	Yes
16	University of Colorado Hospital, Aurora	70.5	9	5	2	2	2	2	2,800	2.3	Yes	7	8	Yes	1	2.0	Yes
17	Thomas Jefferson University Hospital, Philadelphia	70.3	7	6	2	2	3	2	4,559	2.2	Yes	7	8	Yes	1	3.4	Yes
17	UCSF Medical Center, San Francisco	70.3	7	6	3	2	2	2	2,293	2.4	Yes	7	8	Yes	1	6.7	Yes
19	NYU Langone Medical Center, New York	70.2	8	5	2	2	2	2	3,713	2.6	Yes	7	8	Yes	1	3.0	Yes
20	Barnes-Jewish Hospital/Washington University, St. Louis	70.0	7	5	2	2	2	2	5,137	2.4	Yes	7	8	Yes	1	5.0	Yes
21	Stanford Health Care-Stanford Hospital, Stanford, Calif.	69.9	7	6	2	3	2	2	3,263	2.5	Yes	7	8	Yes	1	3.9	Yes
22	IU Health Academic Health Center, Indianapolis	69.7	8	5	2	2	2	2	4,085	2.0	Yes	7	8	Yes	1	2.5	Yes
22	Northwestern Memorial Hospital, Chicago	69.7	8	6	3	2	2	2	2,707	1.6	Yes	7	8	Yes	1	3.8	Yes
22	Ochsner Medical Center, New Orleans	69.7	9	5	2	2	2	2	3,810	2.1	Yes	7	8	Yes	1	1.4	Yes
25	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	69.2	8	6	2	3	2	2	2,588	3.1	Yes	7	8	Yes	A	0.6	Yes
26	University Hospitals Cleveland Medical Center	68.8	8	5	2	2	2	2	2,436	2.4	Yes	7	8	Yes	1	2.1	Yes
27	Hoag Memorial Hospital Presbyterian, Newport Beach, Calif.	68.7	9	7	3	3	2	2	4,284	2.3	Yes	6	8	No	1	0.0	Yes
27	Tampa General Hospital	68.7	9	4	2	1	2	2	2,919	2.2	Yes	7	7	Yes	1	0.7	Yes
29	Baylor University Medical Center, Dallas	67.7	7	5	2	2	2	2	4,007	1.8	Yes	7	8	Yes	1	2.9	Yes
30	University of North Carolina Hospitals, Chapel Hill	67.6	7	5	2	2	2	2	2,011	2.0	Yes	7	8	Yes	1	5.2	Yes
31	Fairview Hospital, Cleveland	67.0	9	6	3	2	2	2	1,871	1.9	Yes	6	8	Yes	1	0.1	Yes
32	Sanford USD Medical Center, Sioux Falls, S.D.	66.9	9	5	2	2	2	2	2,219	2.5	Yes	6	8	Yes	1	0.0	Yes
33	Yale-New Haven Hospital, New Haven, Conn.	66.7	6	4	2	1	2	2	5,495	2.0	Yes	7	8	Yes	1	3.3	Yes
34	University of Kansas Hospital, Kansas City	66.2	8	5	2	2	2	2	2,370	2.0	Yes	7	8	Yes	1	0.2	Yes
35	Penn State Milton S. Hershey Medical Center, Hershey	66.1	8	5	2	2	2	2	2,398	2.1	Yes	7	8	Yes	1	0.7	Yes
36	Loyola University Medical Center, Maywood, Ill.	66.0	8	6	2	2	2	3	1,918	2.4	Yes	7	8	Yes	1	0.1	Yes
37	Christiana Care-Christiana Hospital, Newark, Del.	65.5	7	5	2	2	2	2	5,104	2.0	Yes	6	8	Yes	1	0.3	Yes
37	University of Wisconsin Hospital and Clinics, Madison	65.5	8	5	2	2	2	2	2,439	2.5	Yes	7	8	Yes	1	0.5	Yes
39	Lehigh Valley Hospital, Allentown, Pa.	65.4	8	5	2	2	2	2	3,872	1.7	Yes	6	8	Yes	1	0.1	Yes
40	Duke University Hospital, Durham, N.C.	65.3	6	5	2	2	2	2	2,729	2.1	Yes	7	8	Yes	1	6.3	Yes
41	Harper University Hospital, Detroit	65.1	10	5	2	2	2	2	1,149	1.7	Yes	6	8	No	1	0.0	Yes
42	Advocate Lutheran General Hospital, Park Ridge, Ill.	65.0	8	6	2	2	2	3	2,451	1.7	Yes	6	8	Yes	1	0.0	Yes
42	Cleveland Clinic Florida, Weston	65.0	9	5	2	2	2	2	2,060	2.2	Yes	6	8	No	0	4.0	Yes
42	University of Chicago Medical Center	65.0	6	6	2	2	2	3	1,998	2.4	Yes	7	8	Yes	0	9.1	Yes
45	University of Washington Medical Center, Seattle	64.9	8	5	2	2	2	2	1,487	2.1	Yes	7	8	No	1	1.6	Yes
46	Aurora St. Luke's Medical Center, Milwaukee	64.8	9	3	2	1	1	2	3,970	2.0	Yes	7	8	No	1	0.3	Yes
46	St. Francis Hospital, Roslyn, N.Y.	64.8	8	5	2	2	2	2	2,381	1.7	Yes	6	8	Yes	1	0.1	Yes
46	UC San Diego Medical Center-UC San Diego Health, Calif.	64.8	7	5	2	2	2	2	2,067	2.1	Yes	7	8	Yes	1	1.5	Yes
49	Brigham and Women's Hospital, Boston	64.7	7	5	2	2	2	2	3,634	2.4	Yes	6	8	Yes	0	5.9	Yes
50	Emory University Hospital, Atlanta	64.5	8	5	2	2	2	2	2,374	1.9	Yes	7	8	No	1	2.5	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Geriatrics

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Patient services	Recognized as Nurse Magnet hospital	NIA-designated Alzheimer's center	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	10	5	2	2	2	2	28,071	2.7	Yes	9	1	Yes	15.6	Yes
2	Johns Hopkins Hospital, Baltimore	96.1	10	5	2	2	2	2	8,461	2.2	Yes	9	1	Yes	23.0	Yes
3	Mount Sinai Hospital, New York	94.3	8	7	2	3	2	3	21,517	2.0	Yes	9	1	Yes	23.4	Yes
4	UCLA Medical Center, Los Angeles	89.0	9	5	2	2	2	2	18,572	3.0	Yes	9	1	No	26.3	Yes
5	Cleveland Clinic	87.1	10	6	2	2	2	3	20,515	2.1	Yes	9	1	No	11.4	Yes
6	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	85.4	9	4	2	1	2	2	43,729	2.8	Yes	9	0	Yes	6.8	Yes
7	University of Michigan Hospitals and Health Centers, Ann Arbor	85.3	9	6	2	2	2	3	11,562	2.8	Yes	9	1	Yes	5.4	Yes
8	Massachusetts General Hospital, Boston	85.1	9	5	2	2	2	2	21,378	2.4	Yes	9	1	Yes	7.4	Yes
9	Northwestern Memorial Hospital, Chicago	84.0	10	6	3	2	2	2	11,395	1.6	Yes	9	1	Yes	2.2	Yes
10	UCSF Medical Center, San Francisco	83.8	8	6	3	2	2	2	9,184	2.4	Yes	9	1	Yes	8.7	Yes
11	UPMC Presbyterian Shadyside, Pittsburgh	82.4	8	5	2	2	2	2	28,907	1.9	Yes	9	1	Yes	7.9	Yes
12	NYU Langone Medical Center, New York	81.9	8	5	2	2	2	2	22,965	2.6	Yes	9	1	Yes	2.8	Yes
13	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	80.5	9	5	2	2	2	2	15,849	2.3	Yes	9	1	Yes	3.1	Yes
14	Rush University Medical Center, Chicago	79.5	9	5	2	2	2	2	7,724	2.3	Yes	9	1	Yes	2.2	Yes
15	Mayo Clinic Phoenix	79.3	10	6	3	2	2	2	13,354	2.9	Yes	9	0	Yes	1.0	Yes
15	Yale-New Haven Hospital, New Haven, Conn.	79.3	7	4	2	1	2	2	30,787	2.0	Yes	9	1	Yes	6.2	Yes
17	Barnes-Jewish Hospital/Washington University, St. Louis	78.7	9	5	2	2	2	2	17,654	2.4	Yes	9	1	Yes	1.6	Yes
18	University of Kansas Hospital, Kansas City	78.1	9	5	2	2	2	2	9,031	2.0	Yes	9	1	Yes	0.9	Yes
19	University of California, Davis Medical Center, Sacramento	77.8	9	5	2	2	2	2	9,938	2.7	Yes	9	1	Yes	0.6	Yes
20	University of Washington Medical Center, Seattle	77.5	9	5	2	2	2	2	4,419	2.1	Yes	9	1	Yes	1.6	Yes
21	Cedars-Sinai Medical Center, Los Angeles	77.1	9	5	2	2	2	2	34,389	2.6	Yes	8	1	No	2.4	Yes
22	Stanford Health Care-Stanford Hospital, Stanford, Calif.	76.4	8	6	2	3	2	2	13,481	2.5	Yes	9	1	Yes	1.1	Yes
23	Houston Methodist Hospital	76.3	10	6	2	2	2	3	20,619	2.0	Yes	9	1	No	2.2	Yes
24	UT Southwestern Medical Center, Dallas	75.7	9	5	2	2	2	2	6,206	2.1	Yes	9	1	Yes	0.8	Yes
25	IU Health Academic Health Center, Indianapolis	74.9	8	5	2	2	2	2	12,676	2.0	Yes	9	1	Yes	2.4	Yes
26	Mayo Clinic Jacksonville, Fla.	74.8	8	6	2	2	2	3	8,774	2.1	Yes	9	1	Yes	1.8	Yes
27	Keck Medical Center of USC, Los Angeles	74.7	10	6	2	3	2	2	5,116	3.0	Yes	9	0	Yes	0.9	Yes
28	Beaumont Hospital-Royal Oak, Mich.	74.3	9	6	2	2	3	2	32,637	1.9	Yes	9	1	No	1.4	Yes
29	Banner University Medical Center Phoenix	74.0	9	5	2	2	2	2	7,750	1.9	Yes	9	1	Yes	0.2	Yes
30	Oregon Health and Science University Hospital, Portland	72.6	9	5	2	2	2	2	7,848	2.0	Yes	9	1	Yes	0.2	Yes
31	University of Wisconsin Hospital and Clinics, Madison	72.4	7	5	2	2	2	2	8,856	2.5	Yes	9	1	Yes	1.9	Yes
32	University of Colorado Hospital, Aurora	72.2	10	5	2	2	2	2	10,255	2.3	Yes	9	1	No	1.7	Yes
33	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	72.0	7	5	2	2	2	2	15,773	1.6	Yes	9	1	Yes	3.2	Yes
34	UC San Diego Medical Center-UC San Diego Health, Calif.	71.7	7	5	2	2	2	2	8,503	2.1	Yes	9	1	Yes	1.5	Yes
35	Emory University Hospital at Wesley Woods, Atlanta	70.5	7	5	2	2	2	2	9,270	1.9	Yes	8	1	Yes	2.4	Yes
36	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	69.5	9	6	2	3	2	2	15,123	3.1	Yes	7	A	No	0.8	Yes
37	Abbott Northwestern Hospital, Minneapolis	69.2	9	5	2	2	2	2	23,544	2.2	Yes	9	1	No	0.0	Yes
38	Brigham and Women's Hospital, Boston	68.9	8	5	2	2	2	2	13,948	2.4	Yes	9	0	Yes	1.2	Yes
38	Thomas Jefferson University Hospital, Philadelphia	68.9	8	6	2	2	3	2	16,997	2.2	Yes	9	1	No	2.7	Yes
40	Duke University Hospital, Durham, N.C.	68.2	7	5	2	2	2	2	10,584	2.1	Yes	9	1	No	9.2	Yes
41	Aurora St. Luke's Medical Center, Milwaukee	67.8	9	3	2	1	1	2	23,393	2.0	Yes	9	1	No	0.6	Yes
42	UF Health Shands Hospital, Gainesville, Fla.	67.7	7	5	2	2	2	2	9,875	1.9	Yes	9	1	Yes	0.2	Yes
43	University of Kentucky Albert B. Chandler Hospital, Lexington	67.4	7	6	2	2	2	3	7,521	1.9	Yes	9	1	Yes	0.0	Yes
44	University Hospitals Cleveland Medical Center	67.2	9	5	2	2	2	2	10,755	2.4	Yes	9	1	No	1.6	Yes
45	St. Cloud Hospital, St. Cloud, Minn.	67.1	9	5	2	2	2	2	21,526	1.9	Yes	8	1	No	0.0	Yes
46	Banner University Medical Center Tucson, Ariz.	67.0	7	4	2	2	2	1	7,143	1.8	Yes	7	1	Yes	0.5	Yes
47	Hoag Memorial Hospital Presbyterian, Newport Beach, Calif.	66.6	8	7	3	3	2	2	22,196	2.3	Yes	9	1	No	0.0	Yes
47	University of Alabama Hospital at Birmingham	66.6	8	6	2	2	2	3	13,067	1.8	Yes	8	1	No	3.4	Yes
49	University of California, Irvine Medical Center, Orange	66.4	7	5	2	2	2	2	7,059	2.1	Yes	7	1	Yes	0.3	Yes
50	Boston Medical Center	66.2	9	5	2	2	2	2	4,547	1.3	Yes	7	0	Yes	1.9	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Gynecology

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	10	5	2	2	2	2	444	2.7	Yes	5	9	1	13.4	Yes
2	Memorial Sloan Kettering Cancer Center, New York	91.6	10	6	3	1	3	2	586	2.1	Yes	5	8	1	6.8	Yes
3	University of Michigan Hospitals and Health Centers, Ann Arbor	90.3	10	6	2	2	2	3	188	2.8	Yes	5	9	1	2.5	Yes
4	Brigham and Women's Hospital, Boston	90.2	10	5	2	2	2	2	302	2.4	Yes	5	9	0	12.2	Yes
5	Cleveland Clinic	89.4	10	6	2	2	2	3	257	2.1	Yes	5	9	1	11.2	Yes
6	Johns Hopkins Hospital, Baltimore	88.7	10	5	2	2	2	2	145	2.2	Yes	5	9	1	12.7	Yes
7	Stanford Health Care-Stanford Hospital, Stanford, Calif.	86.8	10	6	2	3	2	2	178	2.5	Yes	5	9	1	4.0	Yes
8	UCSF Medical Center, San Francisco	86.6	10	6	3	2	2	2	171	2.4	Yes	5	9	1	9.9	Yes
9	Huntington Memorial Hospital, Pasadena, Calif.	84.9	10	6	3	2	2	2	135	2.5	Yes	4	9	1	0.7	Yes
10	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	83.1	10	6	2	3	2	2	153	3.1	Yes	5	8	A	1.2	Yes
11	Massachusetts General Hospital, Boston	82.5	9	5	2	2	2	2	310	2.4	Yes	5	9	1	6.0	Yes
12	University of California, Davis Medical Center, Sacramento	82.4	10	5	2	2	2	2	263	2.7	Yes	5	9	1	1.4	Yes
13	University of Wisconsin Hospital and Clinics, Madison	81.4	10	5	2	2	2	2	352	2.5	Yes	5	9	1	0.4	Yes
14	UCLA Medical Center, Los Angeles	80.3	9	5	2	2	2	2	135	3.0	Yes	5	9	1	4.7	Yes
14	Vanderbilt University Medical Center, Nashville, Tenn.	80.3	10	5	2	2	2	2	138	1.9	Yes	5	9	1	2.1	Yes
16	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	79.6	9	4	2	1	2	2	286	2.8	Yes	5	9	0	7.8	Yes
17	University of Texas MD Anderson Cancer Center, Houston	78.6	8	5	2	2	2	2	465	1.9	Yes	5	9	1	10.4	Yes
18	Barnes-Jewish Hospital/Washington University, St. Louis	78.5	8	5	2	2	2	2	484	2.4	Yes	5	9	1	4.1	Yes
19	Medical City Dallas Hospital	78.2	10	5	2	2	2	2	154	2.0	Yes	4	8	1	0.4	Yes
19	University Hospitals Cleveland Medical Center	78.2	10	5	2	2	2	2	245	2.4	Yes	5	9	1	0.9	Yes
21	Duke University Hospital, Durham, N.C.	78.0	9	5	2	2	2	2	144	2.1	Yes	5	9	1	7.2	Yes
22	City of Hope, Duarte, Calif.	77.8	10	5	2	2	2	2	174	2.2	Yes	5	8	0	0.1	Yes
23	Mount Sinai Hospital, New York	77.1	9	7	2	3	2	3	288	2.0	Yes	5	9	1	2.5	Yes
23	Queen's Medical Center, Honolulu	77.1	10	5	2	2	2	2	123	1.8	Yes	5	8	1	0.0	Yes
25	Abbott Northwestern Hospital, Minneapolis	76.7	9	5	2	2	2	2	358	2.2	Yes	5	9	1	0.1	Yes
26	University of Alabama Hospital at Birmingham	76.4	9	6	2	2	2	3	471	1.8	Yes	5	9	1	2.9	Yes
27	Sharp Memorial Hospital, San Diego	76.3	10	5	2	2	2	2	132	2.3	Yes	5	7	1	0.5	Yes
28	Cedars-Sinai Medical Center, Los Angeles	76.0	8	5	2	2	2	2	313	2.6	Yes	5	9	1	3.4	Yes
28	University of North Carolina Hospitals, Chapel Hill	76.0	9	5	2	2	2	2	216	2.0	Yes	5	9	1	4.4	Yes
30	Aurora St. Luke's Medical Center, Milwaukee	75.9	10	3	2	1	1	2	198	2.0	Yes	5	9	1	0.3	Yes
30	MUSC Health-University Medical Center, Charleston, S.C.	75.9	10	5	2	2	2	2	200	2.0	Yes	5	9	1	0.8	Yes
32	St. Joseph's Hospital and Medical Center, Phoenix	75.5	10	6	3	2	2	2	127	1.8	Yes	5	8	0	0.1	Yes
33	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	75.4	10	5	2	2	2	2	276	1.6	Yes	5	9	1	1.4	Yes
34	Rush University Medical Center, Chicago	75.3	9	5	2	2	2	2	272	2.3	Yes	5	9	1	0.4	Yes
35	UF Health Shands Hospital, Gainesville, Fla.	75.1	10	5	2	2	2	2	147	1.9	Yes	5	9	1	1.0	Yes
36	Northwestern Memorial Hospital, Chicago	74.4	9	6	3	2	2	2	102	1.6	Yes	5	9	1	5.1	Yes
37	Memorial Medical Center, Modesto, Calif.	74.3	10	5	2	2	2	2	100	2.0	Yes	5	9	0	0.0	Yes
38	Banner University Medical Center Tucson, Ariz.	74.2	10	4	2	2	2	1	170	1.8	Yes	5	8	1	0.0	Yes
39	University Hospital, San Antonio	74.0	10	5	2	2	2	2	89	1.7	Yes	5	9	1	0.2	Yes
40	Rose Medical Center, Denver	73.8	10	5	2	2	2	2	117	1.9	Yes	5	8	1	0.0	Yes
41	Nebraska Medical Center, Omaha	73.6	10	5	2	2	2	2	76	2.6	Yes	5	9	1	1.1	Yes
42	UC San Diego Medical Center-UC San Diego Health, Calif.	73.5	10	5	2	2	2	2	79	2.1	Yes	5	9	1	1.2	Yes
43	Northwestern Medicine Central DuPage Hospital, Winfield, Ill.	73.3	10	5	2	2	2	2	91	1.8	Yes	5	9	1	0.1	Yes
43	University of Colorado Hospital, Aurora	73.3	9	5	2	2	2	2	280	2.3	Yes	5	9	1	0.7	Yes
45	Christ Hospital, Cincinnati	73.2	10	5	2	2	2	2	85	1.9	Yes	5	8	1	0.9	Yes
46	University of Chicago Medical Center	73.1	10	6	2	2	2	3	124	2.4	Yes	5	9	0	1.4	Yes
47	OSF St. Francis Medical Center, Peoria, Ill.	73.0	9	5	2	2	2	2	196	2.1	Yes	5	9	1	0.0	Yes
48	St. Luke's Hospital, Kansas City, Mo.	72.7	10	5	2	2	2	2	207	1.5	Yes	5	8	1	0.1	Yes
49	Froedtert Hospital and the Medical College of Wisconsin, Milwaukee	72.6	10	5	2	2	2	2	98	1.8	Yes	5	9	1	0.2	Yes
50	John Muir Medical Center, Walnut Creek, Calif.	71.9	9	4	2	2	2	1	228	2.3	Yes	5	8	1	0.9	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Nephrology

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	10	5	2	2	2	2	1,930	2.7	Yes	7	8	Yes	1	23.7	Yes
2	Cleveland Clinic	94.7	10	6	2	2	2	3	2,019	2.1	Yes	7	8	No	1	21.2	Yes
3	Johns Hopkins Hospital, Baltimore	89.3	9	5	2	2	2	2	1,087	2.2	Yes	7	8	Yes	1	14.8	Yes
4	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	88.7	8	4	2	1	2	2	3,298	2.8	Yes	7	8	Yes	0	19.5	Yes
5	UCSF Medical Center, San Francisco	87.3	10	6	3	2	2	2	1,033	2.4	Yes	7	8	Yes	1	8.2	Yes
6	UCLA Medical Center, Los Angeles	86.2	9	5	2	2	2	2	1,392	3.0	Yes	7	8	Yes	1	7.2	Yes
7	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	83.5	9	5	2	2	2	2	1,180	2.3	Yes	7	8	Yes	1	8.7	Yes
8	Massachusetts General Hospital, Boston	82.8	7	5	2	2	2	2	1,453	2.4	Yes	7	8	Yes	1	12.5	Yes
9	Barnes-Jewish Hospital/Washington University, St. Louis	82.2	8	5	2	2	2	2	1,882	2.4	Yes	7	8	Yes	1	6.2	Yes
10	Mount Sinai Hospital, New York	82.0	8	7	2	3	2	3	1,394	2.0	Yes	7	8	Yes	1	7.8	Yes
11	University of Colorado Hospital, Aurora	81.7	10	5	2	2	2	2	1,035	2.3	Yes	7	8	Yes	1	3.0	Yes
12	Vanderbilt University Medical Center, Nashville, Tenn.	81.3	8	5	2	2	2	2	1,502	1.9	Yes	7	8	Yes	1	9.1	Yes
13	University of Michigan Hospitals and Health Centers, Ann Arbor	80.7	9	6	2	2	2	3	1,312	2.8	Yes	7	8	Yes	1	3.2	Yes
14	University of Alabama Hospital at Birmingham	80.4	9	6	2	2	2	3	1,183	1.8	Yes	7	8	Yes	1	6.1	Yes
15	Cedars-Sinai Medical Center, Los Angeles	79.8	9	5	2	2	2	2	2,233	2.6	Yes	7	8	Yes	1	2.5	Yes
16	Stanford Health Care-Stanford Hospital, Stanford, Calif.	79.4	8	6	2	3	2	2	1,004	2.5	Yes	7	8	Yes	1	5.5	Yes
17	Ohio State University Wexner Medical Center, Columbus	79.1	9	5	2	2	2	2	1,628	2.0	Yes	7	8	Yes	1	3.6	Yes
18	Tampa General Hospital	79.0	10	4	2	1	2	2	1,493	2.2	Yes	7	7	Yes	1	1.3	Yes
19	IU Health Academic Health Center, Indianapolis	78.9	9	5	2	2	2	2	1,670	2.0	Yes	7	8	Yes	1	2.4	Yes
20	University of North Carolina Hospitals, Chapel Hill	78.2	9	5	2	2	2	2	785	2.0	Yes	7	8	Yes	1	5.6	Yes
21	Duke University Hospital, Durham, N.C.	77.9	8	5	2	2	2	2	935	2.1	Yes	7	8	Yes	1	7.1	Yes
22	Oregon Health and Science University Hospital, Portland	76.8	10	5	2	2	2	2	647	2.0	Yes	7	8	Yes	1	0.4	Yes
23	Northwestern Memorial Hospital, Chicago	76.4	9	6	3	2	2	2	1,235	1.6	Yes	7	8	Yes	1	2.7	Yes
24	Brigham and Women's Hospital, Boston	76.2	7	5	2	2	2	2	1,021	2.4	Yes	7	8	Yes	0	15.5	Yes
25	UF Health Shands Hospital, Gainesville, Fla.	75.2	9	5	2	2	2	2	1,132	1.9	Yes	7	8	Yes	1	2.0	Yes
26	University of California, Davis Medical Center, Sacramento	75.0	9	5	2	2	2	2	1,069	2.7	Yes	7	8	Yes	1	1.1	Yes
27	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	74.9	8	5	2	2	2	2	1,860	1.6	Yes	7	8	Yes	1	3.3	Yes
28	Beaumont Hospital-Royal Oak, Mich.	74.5	8	6	2	2	3	2	2,172	1.9	Yes	7	8	Yes	1	0.4	Yes
28	Ochsner Medical Center, New Orleans	74.5	9	5	2	2	2	2	1,584	2.1	Yes	7	8	Yes	1	0.7	Yes
28	University of Wisconsin Hospital and Clinics, Madison	74.5	9	5	2	2	2	2	815	2.5	Yes	7	8	Yes	1	0.5	Yes
31	Yale-New Haven Hospital, New Haven, Conn.	74.1	7	4	2	1	2	2	2,387	2.0	Yes	7	8	Yes	1	3.3	Yes
32	Mayo Clinic Phoenix	74.0	10	6	3	2	2	2	1,293	2.9	Yes	7	8	No	0	2.6	Yes
32	University Hospitals Cleveland Medical Center	74.0	9	5	2	2	2	2	914	2.4	Yes	7	8	Yes	1	0.9	Yes
34	Miami Valley Hospital, Dayton, Ohio	73.7	9	5	2	2	2	2	1,429	2.6	Yes	6	8	Yes	1	0.0	Yes
35	UPMC Presbyterian Shadyside, Pittsburgh	73.5	6	5	2	2	2	2	2,481	1.9	Yes	7	8	Yes	1	4.3	Yes
36	Banner University Medical Center Phoenix	72.5	9	5	2	2	2	2	599	1.9	Yes	7	8	Yes	1	0.8	Yes
36	Christiana Care-Christiana Hospital, Newark, Del.	72.5	8	5	2	2	2	2	1,990	2.0	Yes	7	8	Yes	1	0.2	Yes
36	Loyola University Medical Center, Maywood, Ill.	72.5	8	6	2	2	2	3	881	2.4	Yes	7	8	Yes	1	0.4	Yes
39	Houston Methodist Hospital	72.3	9	6	2	2	2	3	1,607	2.0	Yes	7	8	No	1	1.0	Yes
39	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	72.3	8	6	2	3	2	2	534	3.1	Yes	7	8	Yes	A	0.3	Yes
39	UT Southwestern Medical Center, Dallas	72.3	9	5	2	2	2	2	1,036	2.1	Yes	7	8	No	1	1.1	Yes
42	Froedtert Hospital and the Medical College of Wisconsin, Milwaukee	72.1	9	5	2	2	2	2	790	1.8	Yes	7	8	Yes	1	1.4	Yes
43	Queen's Medical Center, Honolulu	71.7	9	5	2	2	2	2	868	1.8	Yes	7	8	Yes	1	0.0	Yes
44	Rush University Medical Center, Chicago	71.5	8	5	2	2	2	2	733	2.3	Yes	7	8	Yes	1	2.1	Yes
44	University of Washington Medical Center, Seattle	71.5	8	5	2	2	2	2	579	2.1	Yes	7	8	No	1	4.2	Yes
46	University of Kansas Hospital, Kansas City	71.4	8	5	2	2	2	2	1,172	2.0	Yes	7	8	Yes	1	0.4	Yes
47	NYU Langone Medical Center, New York	71.3	7	5	2	2	2	2	1,582	2.6	Yes	7	8	Yes	1	0.9	Yes
48	Thomas Jefferson University Hospital, Philadelphia	71.1	8	6	2	2	3	2	1,296	2.2	Yes	7	8	Yes	1	0.8	Yes
49	Harper University Hospital, Detroit	70.8	10	5	2	2	2	2	799	1.7	Yes	7	8	No	1	0.1	Yes
49	Virginia Commonwealth University Medical Center, Richmond	70.8	9	5	2	2	2	2	555	2.1	Yes	7	8	Yes	1	0.3	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Neurology & Neurosurgery

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	NAEC-designated epilepsy center	NIA-designated Alzheimer's center	Reputation with physicians in specialty	Current AHA responder
1	Mayo Clinic, Rochester, Minn.	100.0	8	5	2	2	2	2	4,598	2.7	Yes	5	9	Yes	1	Yes	Yes	37.8	Yes
2	Johns Hopkins Hospital, Baltimore	92.0	8	5	2	2	2	2	2,307	2.2	Yes	5	9	Yes	1	Yes	Yes	28.6	Yes
3	Massachusetts General Hospital, Boston	85.8	6	5	2	2	2	2	4,529	2.4	Yes	5	9	Yes	1	Yes	Yes	27.5	Yes
4	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	85.3	8	4	2	1	2	2	6,627	2.8	Yes	5	9	Yes	0	Yes	Yes	17.4	Yes
5	UCSF Medical Center, San Francisco	84.7	7	6	3	2	2	2	2,618	2.4	Yes	4	9	Yes	1	Yes	Yes	21.1	Yes
6	Cleveland Clinic	83.7	9	6	2	2	2	3	3,879	2.1	Yes	5	9	No	1	Yes	No	21.0	Yes
7	Barnes-Jewish Hospital/Washington University, St. Louis	77.6	7	5	2	2	2	2	4,534	2.4	Yes	5	9	Yes	1	Yes	Yes	8.1	Yes
8	University of Michigan Hospitals and Health Centers, Ann Arbor	76.7	8	6	2	2	2	3	2,118	2.8	Yes	5	9	Yes	1	Yes	Yes	5.5	Yes
9	Northwestern Memorial Hospital, Chicago	76.6	9	6	3	2	2	2	2,117	1.6	Yes	5	9	Yes	1	Yes	Yes	2.7	Yes
10	NYU Langone Medical Center, New York	75.8	8	5	2	2	2	2	3,277	2.6	Yes	5	9	Yes	1	Yes	Yes	4.2	Yes
11	UCLA Medical Center, Los Angeles	75.7	7	5	2	2	2	2	3,145	3.0	Yes	5	9	Yes	1	Yes	No	9.5	Yes
12	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	73.4	6	5	2	2	2	2	2,808	2.3	Yes	5	9	Yes	1	Yes	Yes	8.4	Yes
13	Stanford Health Care-Stanford Hospital, Stanford, Calif.	72.3	7	6	2	3	2	2	2,458	2.5	Yes	5	9	Yes	1	Yes	Yes	5.8	Yes
14	Cedars-Sinai Medical Center, Los Angeles	72.0	9	5	2	2	2	2	4,485	2.6	Yes	5	9	Yes	1	Yes	No	2.1	Yes
15	St. Joseph's Hospital and Medical Center, Phoenix	71.4	8	6	3	2	2	2	4,449	1.8	Yes	5	9	Yes	0	Yes	Yes	6.7	Yes
16	Mount Sinai Hospital, New York	71.3	8	7	2	3	2	3	2,554	2.0	Yes	5	9	Yes	1	Yes	Yes	2.4	Yes
17	Rush University Medical Center, Chicago	70.6	9	5	2	2	2	2	2,086	2.3	Yes	5	9	Yes	1	Yes	Yes	2.9	Yes
18	Houston Methodist Hospital	70.1	9	6	2	2	2	3	3,959	2.0	Yes	5	9	No	1	Yes	No	2.6	Yes
19	Brigham and Women's Hospital, Boston	69.4	7	5	2	2	2	2	3,101	2.4	Yes	5	9	Yes	0	Yes	Yes	8.2	Yes
20	UPMC Presbyterian Shadyside, Pittsburgh	67.5	6	5	2	2	2	2	7,454	1.9	Yes	5	9	Yes	1	Yes	Yes	3.1	Yes
21	Thomas Jefferson University Hospital, Philadelphia	66.9	7	6	2	2	3	2	5,097	2.2	Yes	5	9	Yes	1	Yes	No	2.8	Yes
22	Ohio State University Wexner Medical Center, Columbus	66.7	8	5	2	2	2	2	3,490	2.0	Yes	5	9	Yes	1	Yes	No	1.7	Yes
23	Harper University Hospital, Detroit	66.0	10	5	2	2	2	2	676	1.7	Yes	5	8	No	1	Yes	No	0.1	Yes
24	Ochsner Medical Center, New Orleans	65.2	8	5	2	2	2	2	2,899	2.1	Yes	5	9	Yes	1	Yes	No	0.4	Yes
25	Beaumont Hospital-Royal Oak, Mich.	65.1	8	6	2	2	3	2	4,473	1.9	Yes	5	9	Yes	1	Yes	No	0.1	Yes
26	University of California, Davis Medical Center, Sacramento	64.0	7	5	2	2	2	2	1,911	2.7	Yes	5	9	Yes	1	Yes	Yes	0.3	Yes
26	University of Kansas Hospital, Kansas City	64.0	7	5	2	2	2	2	2,136	2.0	Yes	5	9	Yes	1	Yes	Yes	1.3	Yes
28	University of Colorado Hospital, Aurora	63.6	8	5	2	2	2	2	2,055	2.3	Yes	5	9	Yes	1	Yes	No	1.6	Yes
28	Yale-New Haven Hospital, New Haven, Conn.	63.6	6	4	2	1	2	2	4,162	2.0	Yes	5	9	Yes	1	Yes	Yes	2.5	Yes
30	IU Health Academic Health Center, Indianapolis	63.5	7	5	2	2	2	2	3,133	2.0	Yes	5	9	Yes	1	Yes	Yes	1.1	Yes
31	Mayo Clinic Jacksonville, Fla.	63.4	6	6	2	2	2	3	1,707	2.1	Yes	5	9	No	1	Yes	Yes	3.7	Yes
32	University Hospitals Cleveland Medical Center	63.0	8	5	2	2	2	2	2,861	2.4	Yes	5	9	Yes	1	Yes	No	1.1	Yes
33	Mayo Clinic Phoenix	62.9	7	6	3	2	2	2	2,070	2.9	Yes	5	9	No	0	Yes	Yes	3.6	Yes
34	Emory University Hospital, Atlanta	62.8	6	5	2	2	2	2	2,209	1.9	Yes	5	9	No	1	Yes	Yes	3.6	Yes
34	University of Alabama Hospital at Birmingham	62.8	7	6	2	2	2	3	3,966	1.8	Yes	5	8	Yes	1	Yes	No	1.6	Yes
36	UF Health Shands Hospital, Gainesville, Fla.	62.7	6	5	2	2	2	2	2,847	1.9	Yes	5	9	Yes	1	Yes	Yes	3.1	Yes
37	Wake Forest Baptist Medical Center, Winston-Salem, N.C.	62.0	6	5	2	2	2	2	3,703	1.6	Yes	5	9	Yes	1	Yes	Yes	1.5	Yes
38	UT Southwestern Medical Center, Dallas	61.4	8	5	2	2	2	2	1,636	2.1	Yes	5	9	No	1	No	Yes	2.4	Yes
39	UR Medicine Strong Memorial Hospital, Rochester, N.Y.	60.7	6	5	2	2	2	2	3,299	1.8	Yes	5	9	Yes	1	Yes	No	2.5	Yes
40	Baylor St. Luke's Medical Center, Houston	60.6	8	5	2	2	2	2	2,126	1.5	Yes	5	8	No	1	Yes	No	2.2	Yes
40	UC San Diego Medical Center-UC San Diego Health, Calif.	60.6	6	5	2	2	2	2	1,617	2.1	Yes	5	9	Yes	1	Yes	Yes	1.1	Yes
42	Abbott Northwestern Hospital, Minneapolis	60.0	8	5	2	2	2	2	3,928	2.2	Yes	5	9	No	1	Yes	No	0.1	Yes
43	University of Wisconsin Hospital and Clinics, Madison	59.7	6	5	2	2	2	2	2,215	2.5	Yes	5	9	Yes	1	Yes	Yes	1.3	Yes
44	University of Kentucky Albert B. Chandler Hospital, Lexington	59.6	6	6	2	2	2	3	2,716	1.9	Yes	5	9	Yes	1	Yes	Yes	0.4	Yes
45	Oregon Health and Science University Hospital, Portland	59.4	5	5	2	2	2	2	2,483	2.0	Yes	5	9	Yes	1	Yes	Yes	1.8	Yes
46	Duke University Hospital, Durham, N.C.	59.0	5	5	2	2	2	2	2,236	2.1	Yes	5	9	Yes	1	Yes	No	5.2	Yes
46	St. Luke's Hospital, Kansas City, Mo.	59.0	7	5	2	2	2	2	3,256	1.5	Yes	5	9	Yes	1	Yes	No	0.1	Yes
48	Memorial Hermann-Texas Medical Center, Houston	58.9	6	5	2	2	2	2	4,148	2.1	Yes	5	9	Yes	1	Yes	No	2.0	Yes
49	OhioHealth Riverside Hospital, Columbus	58.8	6	5	2	2	2	2	6,159	2.0	Yes	5	9	Yes	1	Yes	No	0.2	Yes
50	Hackensack University Medical Center, Hackensack, N.J.	58.7	7	5	2	2	2	2	2,462	2.4	Yes	5	9	Yes	1	Yes	No	0.4	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Orthopedics

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Hospital for Special Surgery, New York	100.0	10	9	3	3	3	3	14,152	3.3	Yes	2	7	Yes	1	36.0	Yes
2	Mayo Clinic, Rochester, Minn.	82.4	9	5	2	2	2	2	7,791	2.7	Yes	2	7	Yes	1	30.7	Yes
3	Cleveland Clinic	73.6	10	6	2	2	2	3	3,230	2.1	Yes	2	7	No	1	18.7	Yes
4	Rothman Institute at Thomas Jefferson Univ. Hospital, Philadelphia	72.2	10	6	2	2	3	2	5,438	2.2	Yes	2	7	Yes	1	8.6	Yes
5	Rush University Medical Center, Chicago	71.0	10	5	2	2	2	2	2,623	2.3	Yes	2	7	Yes	1	9.6	Yes
6	UCSF Medical Center, San Francisco	69.5	10	6	3	2	2	2	2,798	2.4	Yes	2	7	Yes	1	4.0	Yes
7	Massachusetts General Hospital, Boston	68.6	9	5	2	2	2	2	3,318	2.4	Yes	2	7	Yes	1	11.7	Yes
8	Hospital for Joint Diseases, NYU Langone Medical Center, New York	66.8	9	5	2	2	2	2	5,435	2.6	Yes	2	7	Yes	1	6.6	Yes
9	Northwestern Memorial Hospital, Chicago	66.7	10	6	3	2	2	2	2,917	1.6	Yes	2	7	Yes	1	2.7	Yes
10	Cedars-Sinai Medical Center, Los Angeles	66.5	10	5	2	2	2	2	5,948	2.6	Yes	2	7	Yes	1	2.3	Yes
11	Johns Hopkins Hospital, Baltimore	65.8	10	5	2	2	2	2	1,128	2.2	Yes	2	7	Yes	1	6.5	Yes
12	Stanford Health Care-Stanford Hospital, Stanford, Calif.	64.8	9	6	2	3	2	2	4,194	2.5	Yes	2	7	Yes	1	2.1	Yes
13	Barnes-Jewish Hospital/Washington University, St. Louis	64.1	9	5	2	2	2	2	4,114	2.4	Yes	2	7	Yes	1	6.0	Yes
14	UCLA Medical Center, Los Angeles	62.8	9	5	2	2	2	2	2,344	3.0	Yes	2	7	Yes	1	2.2	Yes
15	New England Baptist Hospital, Boston	62.4	10	6	3	2	2	2	4,494	2.3	Yes	2	7	No	0	1.2	Yes
16	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	62.1	9	5	2	2	2	2	2,242	2.3	Yes	2	7	Yes	1	2.9	Yes
17	University of Iowa Hospitals and Clinics, Iowa City	62.0	10	5	2	2	2	2	1,899	1.8	Yes	2	7	Yes	1	5.6	Yes
18	University of Colorado Hospital, Aurora	61.9	10	5	2	2	2	2	2,236	2.3	Yes	2	7	Yes	1	1.1	Yes
19	Abbott Northwestern Hospital, Minneapolis	61.8	10	5	2	2	2	2	6,545	2.2	Yes	2	7	No	1	0.5	Yes
20	UC San Diego Medical Center-UC San Diego Health, Calif.	61.7	10	5	2	2	2	2	1,791	2.1	Yes	2	7	Yes	1	0.9	Yes
21	Houston Methodist Hospital	61.2	9	6	2	2	2	3	4,549	2.0	Yes	2	7	No	1	2.6	Yes
22	Duke University Hospital, Durham, N.C.	60.7	8	5	2	2	2	2	2,360	2.1	Yes	2	7	Yes	1	6.1	Yes
22	UPMC Presbyterian Shadyside, Pittsburgh	60.7	7	5	2	2	2	2	5,124	1.9	Yes	2	7	Yes	1	6.9	Yes
24	Keck Medical Center of USC, Los Angeles	60.3	10	6	2	3	2	2	2,116	3.0	Yes	2	7	No	0	2.5	Yes
25	Hoag Memorial Hospital Presbyterian, Newport Beach, Calif.	59.8	9	7	3	3	2	2	6,768	2.3	Yes	2	7	No	1	0.0	Yes
26	Magee-Womens Hospital of UPMC, Pittsburgh	59.7	10	5	2	2	2	2	1,090	0.8	Yes	2	7	Yes	0	0.0	Yes
27	Pennsylvania Hospital, Philadelphia	59.3	10	5	2	2	2	2	1,578	1.6	Yes	2	7	No	1	0.6	Yes
28	Beaumont Hospital-Royal Oak, Mich.	59.2	8	6	2	2	3	2	5,754	1.9	Yes	2	7	Yes	1	1.1	Yes
28	University of Michigan Hospitals and Health Centers, Ann Arbor	59.2	8	6	2	2	2	3	1,619	2.8	Yes	2	7	Yes	1	2.1	Yes
30	Northwestern Medicine Central DuPage Hospital, Winfield, Ill.	59.1	9	5	2	2	2	2	2,503	1.8	Yes	2	7	Yes	1	0.1	Yes
31	Cleveland Clinic Florida, Weston	59.0	10	5	2	2	2	2	1,183	2.2	Yes	2	7	No	0	0.4	Yes
31	University of California, Davis Medical Center, Sacramento	59.0	9	5	2	2	2	2	2,037	2.7	Yes	2	7	Yes	1	0.9	Yes
33	University of Virginia Medical Center, Charlottesville	58.5	9	5	2	2	2	2	1,862	2.0	Yes	2	7	Yes	1	1.6	Yes
34	Carolinas Medical Center, Charlotte, N.C.	58.1	8	6	2	2	2	3	3,718	1.9	Yes	2	7	Yes	1	2.8	Yes
34	Emory University Hospital, Atlanta	58.1	9	5	2	2	2	2	2,225	1.9	Yes	2	6	No	1	1.1	Yes
34	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	58.1	8	6	2	3	2	2	3,824	3.1	Yes	2	6	Yes	A	1.2	Yes
37	Porter Adventist Hospital, Denver	57.9	10	5	2	2	2	2	3,560	1.8	Yes	2	6	No	1	0.3	Yes
38	Mercy Medical Center, Baltimore	57.8	10	5	2	2	2	2	2,429	1.3	Yes	2	6	No	1	0.0	Yes
39	Loyola University Medical Center, Maywood, Ill.	57.7	9	6	2	2	2	3	1,147	2.4	Yes	2	7	Yes	1	0.6	Yes
39	Mayo Clinic Phoenix	57.7	10	6	3	2	2	2	3,487	2.9	Yes	2	7	No	0	1.2	Yes
41	Harborview Medical Center, Seattle	57.4	10	6	2	3	2	2	1,565	1.9	Yes	2	6	Yes	0	3.3	Yes
42	Virginia Commonwealth University Medical Center, Richmond	57.2	9	5	2	2	2	2	1,414	2.1	Yes	2	7	Yes	1	0.8	Yes
43	University Hospitals Cleveland Medical Center	57.1	8	5	2	2	2	2	1,480	2.4	Yes	2	7	Yes	1	2.5	Yes
44	Mount Sinai Hospital, New York	57.0	8	7	2	3	2	3	2,493	2.0	Yes	2	7	Yes	1	0.5	Yes
45	University of Washington Medical Center, Seattle	56.9	10	5	2	2	2	2	793	2.1	Yes	1	7	No	1	2.3	Yes
45	University of Wisconsin Hospital and Clinics, Madison	56.9	8	5	2	2	2	2	1,691	2.5	Yes	2	7	Yes	1	0.9	Yes
47	Hackensack University Medical Center, Hackensack, N.J.	56.8	8	5	2	2	2	2	2,296	2.4	Yes	2	7	Yes	1	0.4	Yes
48	Penn State Milton S. Hershey Medical Center, Hershey	56.5	8	5	2	2	2	2	1,870	2.1	Yes	2	7	Yes	1	0.3	Yes
49	Morristown Medical Center, Morristown, N.J.	56.4	8	4	2	1	2	2	3,936	2.1	Yes	2	7	Yes	1	0.3	Yes
50	Brigham and Women's Hospital, Boston	56.3	8	5	2	2	2	2	2,380	2.4	Yes	2	7	Yes	0	5.8	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Pulmonology

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	National Jewish Health, Denver-Univ. of Colorado Hospital, Aurora	100.0	9	5	2	2	2	2	4,102	2.3	Yes	6	8	Yes	A	46.7	Yes
2	Mayo Clinic, Rochester, Minn.	97.6	9	5	2	2	2	2	7,609	2.7	Yes	6	8	Yes	1	31.6	Yes
3	Cleveland Clinic	87.2	8	6	2	2	2	3	5,313	2.1	Yes	6	8	No	1	26.1	Yes
4	Massachusetts General Hospital, Boston	82.9	8	5	2	2	2	2	6,099	2.4	Yes	6	8	Yes	1	12.6	Yes
5	UPMC Presbyterian Shadyside, Pittsburgh	79.5	7	5	2	2	2	2	8,373	1.9	Yes	6	8	Yes	1	11.3	Yes
6	UCSF Medical Center, San Francisco	78.8	7	6	3	2	2	2	3,389	2.4	Yes	6	8	Yes	1	12.7	Yes
6	University of Michigan Hospitals and Health Centers, Ann Arbor	78.8	8	6	2	2	2	3	3,930	2.8	Yes	6	8	Yes	1	6.3	Yes
8	Barnes-Jewish Hospital/Washington University, St. Louis	77.9	7	5	2	2	2	2	5,471	2.4	Yes	6	8	Yes	1	9.7	Yes
9	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	77.3	7	5	2	2	2	2	5,612	2.3	Yes	6	8	Yes	1	10.4	Yes
10	UCLA Medical Center, Los Angeles	77.1	7	5	2	2	2	2	6,755	3.0	Yes	6	8	Yes	1	4.7	Yes
11	Johns Hopkins Hospital, Baltimore	76.6	6	5	2	2	2	2	2,501	2.2	Yes	6	8	Yes	1	17.2	Yes
12	Duke University Hospital, Durham, N.C.	75.9	6	5	2	2	2	2	4,173	2.1	Yes	6	8	Yes	1	12.4	Yes
13	UC San Diego Medical Center-UC San Diego Health, Calif.	74.9	7	5	2	2	2	2	3,332	2.1	Yes	6	8	Yes	1	7.3	Yes
14	Mayo Clinic Phoenix	74.7	10	6	3	2	2	2	5,105	2.9	Yes	5	8	No	0	2.6	Yes
15	Houston Methodist Hospital	74.6	9	6	2	2	2	3	6,195	2.0	Yes	6	8	No	1	1.5	Yes
15	Scripps La Jolla Hospitals and Clinics, La Jolla, Calif.	74.6	9	6	2	3	2	2	4,439	3.1	Yes	5	8	Yes	A	0.1	Yes
17	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	74.2	7	4	2	1	2	2	11,686	2.8	Yes	6	8	Yes	0	7.6	Yes
17	University of Alabama Hospital at Birmingham	74.2	8	6	2	2	2	3	5,531	1.8	Yes	6	8	Yes	1	2.3	Yes
19	Yale-New Haven Hospital, New Haven, Conn.	74.0	7	4	2	1	2	2	10,812	2.0	Yes	5	8	Yes	1	3.8	Yes
20	Cedars-Sinai Medical Center, Los Angeles	73.4	7	5	2	2	2	2	10,294	2.6	Yes	6	8	Yes	1	1.5	Yes
21	Northwestern Memorial Hospital, Chicago	73.3	8	6	3	2	2	2	3,552	1.6	Yes	6	8	Yes	1	2.8	Yes
22	Beaumont Hospital-Royal Oak, Mich.	73.2	8	6	2	2	3	2	9,278	1.9	Yes	5	8	Yes	1	0.1	Yes
23	St. Luke's Regional Medical Center, Boise, Idaho	72.8	10	6	2	2	3	2	5,028	2.2	Yes	5	6	No	1	0.0	Yes
24	University of California, Davis Medical Center, Sacramento	72.1	9	5	2	2	2	2	4,348	2.7	Yes	5	8	Yes	1	0.5	Yes
25	Ohio State University Wexner Medical Center, Columbus	71.9	8	5	2	2	2	2	5,943	2.0	Yes	6	8	Yes	1	1.0	Yes
26	Fairview Hospital, Cleveland	71.7	9	6	3	2	2	2	3,307	1.9	Yes	5	8	Yes	1	0.1	Yes
26	NYU Langone Medical Center, New York	71.7	7	5	2	2	2	2	6,950	2.6	Yes	5	8	Yes	1	2.2	Yes
28	Miami Valley Hospital, Dayton, Ohio	71.1	8	5	2	2	2	2	6,233	2.6	Yes	5	8	Yes	1	0.5	Yes
28	Tampa General Hospital	71.1	8	4	2	1	2	2	3,853	2.2	Yes	6	7	Yes	1	1.1	Yes
28	University of Wisconsin Hospital and Clinics, Madison	71.1	8	5	2	2	2	2	2,957	2.5	Yes	6	8	Yes	1	1.2	Yes
31	Cleveland Clinic Akron General Medical Center, Ohio	71.0	9	4	2	2	1	2	5,218	1.3	Yes	5	8	Yes	1	0.1	Yes
32	Loyola University Medical Center, Maywood, Ill.	70.9	8	6	2	2	2	3	2,346	2.4	Yes	6	8	Yes	1	1.5	Yes
32	University of Kansas Hospital, Kansas City	70.9	9	5	2	2	2	2	3,452	2.0	Yes	5	8	Yes	1	1.3	Yes
34	Mayo Clinic Jacksonville, Fla.	70.6	8	6	2	2	2	3	3,174	2.1	Yes	6	8	No	1	2.4	Yes
34	UF Health Shands Hospital, Gainesville, Fla.	70.6	8	5	2	2	2	2	3,627	1.9	Yes	6	8	Yes	1	2.0	Yes
34	Vanderbilt University Medical Center, Nashville, Tenn.	70.6	7	5	2	2	2	2	4,426	1.9	Yes	6	8	Yes	1	5.6	Yes
37	Stanford Health Care-Stanford Hospital, Stanford, Calif.	70.5	7	6	2	3	2	2	4,414	2.5	Yes	6	8	Yes	1	2.8	Yes
38	Froedtert Hospital and the Medical College of Wisconsin, Milwaukee	70.2	8	5	2	2	2	2	3,622	1.8	Yes	6	8	Yes	1	0.9	Yes
39	Brigham and Women's Hospital, Boston	69.8	7	5	2	2	2	2	4,842	2.4	Yes	6	8	Yes	0	8.4	Yes
39	IU Health Academic Health Center, Indianapolis	69.8	8	5	2	2	2	2	5,183	2.0	Yes	6	8	Yes	1	0.5	Yes
39	St. Cloud Hospital, St. Cloud, Minn.	69.8	9	5	2	2	2	2	6,514	1.9	Yes	4	8	Yes	1	0.0	Yes
42	Banner University Medical Center Tucson, Ariz.	69.3	9	4	2	2	2	1	2,809	1.8	Yes	6	7	Yes	1	0.2	Yes
43	Spectrum Health Hosps. Butterworth-Blodgett Campuses, Grand Rapids, Mich.	69.1	7	4	2	2	2	1	9,044	1.6	Yes	6	8	Yes	1	0.2	Yes
44	Banner Estrella Medical Center, Phoenix	69.0	10	5	2	2	2	2	2,141	1.8	Yes	5	8	No	1	0.0	Yes
44	Rochester General Hospital, Rochester, N.Y.	69.0	9	4	2	1	2	2	5,186	1.9	Yes	5	8	No	1	0.0	Yes
46	Hoag Memorial Hospital Presbyterian, Newport Beach, Calif.	68.9	7	7	3	3	2	2	8,681	2.3	Yes	5	8	No	1	0.0	Yes
47	St. Luke's Hospital, Kansas City, Mo.	68.7	9	5	2	2	2	2	3,043	1.5	Yes	5	8	Yes	1	0.1	Yes
48	Intermountain Medical Center, Murray, Utah	68.6	9	5	2	2	2	2	4,387	2.4	Yes	5	8	Yes	0	0.6	Yes
48	University of Washington Medical Center, Seattle	68.6	7	5	2	2	2	2	1,751	2.1	Yes	6	8	No	1	6.5	Yes
50	Aurora St. Luke's Medical Center, Milwaukee	68.5	9	3	2	1	1	2	7,122	2.0	Yes	5	8	No	1	0.1	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Best Hospitals 2017-18: Urology

Rank	Hospital	U.S. News Specialty Score	30-day survival	Patient safety	Success in preventing deaths from treatable complications after surgery	Success in preventing major bleeding and bruising after surgery	Success in preventing respiratory failure after surgery	Success in preventing harm to patients during surgery	Number of patients	Nurse staffing	Intensivists	Advanced technologies	Patient services	Trauma center	Recognized as Nurse Magnet hospital	Reputation with physicians in specialty	Current AHA responder
1	Cleveland Clinic	100.0	9	6	2	2	2	3	888	2.1	Yes	6	9	No	1	45.1	Yes
2	Mayo Clinic, Rochester, Minn.	99.5	10	5	2	2	2	2	1,094	2.7	Yes	6	9	Yes	1	25.4	Yes
3	Johns Hopkins Hospital, Baltimore	95.9	9	5	2	2	2	2	569	2.2	Yes	6	9	Yes	1	35.4	Yes
4	UCLA Medical Center, Los Angeles	86.6	8	5	2	2	2	2	580	3.0	Yes	6	9	Yes	1	17.5	Yes
5	Memorial Sloan Kettering Cancer Center, New York	86.3	9	6	3	1	3	2	999	2.1	Yes	6	8	No	1	12.7	Yes
6	UCSF Medical Center, San Francisco	85.1	8	6	3	2	2	2	671	2.4	Yes	6	9	Yes	1	12.2	Yes
7	University of Michigan Hospitals and Health Centers, Ann Arbor	83.7	9	6	2	2	2	3	743	2.8	Yes	6	9	Yes	1	6.3	Yes
8	New York-Presbyterian Univ. Hospital of Columbia and Cornell, N.Y.	80.4	8	4	2	1	2	2	1,348	2.8	Yes	6	9	Yes	0	8.6	Yes
9	Vanderbilt University Medical Center, Nashville, Tenn.	80.2	7	5	2	2	2	2	828	1.9	Yes	6	9	Yes	1	12.3	Yes
10	Duke University Hospital, Durham, N.C.	80.1	8	5	2	2	2	2	448	2.1	Yes	6	9	Yes	1	10.5	Yes
11	Northwestern Memorial Hospital, Chicago	79.0	10	6	3	2	2	2	381	1.6	Yes	6	9	Yes	1	4.7	Yes
12	Cedars-Sinai Medical Center, Los Angeles	78.0	9	5	2	2	2	2	1,016	2.6	Yes	6	9	Yes	1	1.4	Yes
13	UPMC Presbyterian Shadyside, Pittsburgh	77.7	8	5	2	2	2	2	838	1.9	Yes	6	9	Yes	1	3.6	Yes
14	Stanford Health Care-Stanford Hospital, Stanford, Calif.	77.3	8	6	2	3	2	2	537	2.5	Yes	6	9	Yes	1	4.5	Yes
15	NYU Langone Medical Center, New York	76.5	8	5	2	2	2	2	511	2.6	Yes	6	9	Yes	1	5.9	Yes
16	University of Wisconsin Hospital and Clinics, Madison	76.0	9	5	2	2	2	2	390	2.5	Yes	6	9	Yes	1	1.8	Yes
17	University of Kansas Hospital, Kansas City	75.6	9	5	2	2	2	2	472	2.0	Yes	6	9	Yes	1	2.0	Yes
18	Barnes-Jewish Hospital/Washington University, St. Louis	74.4	8	5	2	2	2	2	745	2.4	Yes	6	9	Yes	1	3.6	Yes
19	UT Southwestern Medical Center, Dallas	74.2	9	5	2	2	2	2	566	2.1	Yes	6	9	No	1	4.2	Yes
20	University of Alabama Hospital at Birmingham	73.8	9	6	2	2	2	3	411	1.8	Yes	6	9	Yes	1	1.2	Yes
21	Beaumont Hospital-Royal Oak, Mich.	73.7	8	6	2	2	3	2	749	1.9	Yes	6	9	Yes	1	1.1	Yes
22	Massachusetts General Hospital, Boston	73.4	7	5	2	2	2	2	583	2.4	Yes	6	9	Yes	1	5.9	Yes
22	University of California, Davis Medical Center, Sacramento	73.4	9	5	2	2	2	2	488	2.7	Yes	6	9	Yes	1	0.8	Yes
24	Tampa General Hospital	73.1	9	4	2	1	2	2	617	2.2	Yes	6	8	Yes	1	0.8	Yes
25	Queen's Medical Center, Honolulu	72.7	10	5	2	2	2	2	393	1.8	Yes	6	8	Yes	1	0.0	Yes
26	West Virginia University Hospitals, Morgantown, W.Va.	72.6	10	4	1	2	2	2	139	2.0	Yes	6	9	Yes	1	0.2	Yes
27	Thomas Jefferson University Hospital, Philadelphia	72.5	7	6	2	2	3	2	640	2.2	Yes	6	9	Yes	1	2.1	Yes
28	University of Maryland Medical Center, Baltimore	72.4	10	2	1	1	1	2	307	2.1	Yes	6	8	Yes	1	0.2	Yes
29	Keck Medical Center of USC, Los Angeles	72.0	7	6	2	3	2	2	924	3.0	Yes	6	9	No	0	8.1	Yes
29	Yale-New Haven Hospital, New Haven, Conn.	72.0	8	4	2	1	2	2	887	2.0	Yes	6	9	Yes	1	0.9	Yes
31	University of Iowa Hospitals and Clinics, Iowa City	71.6	9	5	2	2	2	2	318	1.8	Yes	6	9	Yes	1	1.3	Yes
32	University of North Carolina Hospitals, Chapel Hill	71.5	8	5	2	2	2	2	461	2.0	Yes	6	9	Yes	1	2.8	Yes
33	Christ Hospital, Cincinnati	71.2	10	5	2	2	2	2	252	1.9	Yes	6	8	No	1	0.8	Yes
33	University of Cincinnati Medical Center	71.2	10	5	2	2	2	2	127	1.7	Yes	6	9	Yes	0	1.5	Yes
35	University of Virginia Medical Center, Charlottesville	70.9	8	5	2	2	2	2	250	2.0	Yes	6	9	Yes	1	2.2	Yes
36	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	70.7	7	5	2	2	2	2	635	2.3	Yes	6	9	Yes	1	3.1	Yes
36	IU Health Academic Health Center, Indianapolis	70.7	6	5	2	2	2	2	699	2.0	Yes	6	9	Yes	1	4.1	Yes
38	University of Colorado Hospital, Aurora	70.6	8	5	2	2	2	2	529	2.3	Yes	6	9	Yes	1	0.6	Yes
39	Loyola University Medical Center, Maywood, Ill.	70.5	8	6	2	2	2	3	402	2.4	Yes	6	8	Yes	1	2.1	Yes
39	Nebraska Medical Center, Omaha	70.5	9	5	2	2	2	2	276	2.6	Yes	6	9	Yes	1	0.1	Yes
41	Huntington Memorial Hospital, Pasadena, Calif.	70.3	8	6	3	2	2	2	264	2.5	Yes	6	9	Yes	1	0.2	Yes
42	Hahnemann University Hospital, Philadelphia	69.8	10	5	2	2	2	2	114	1.7	No	6	9	Yes	1	0.0	Yes
42	Moffitt Cancer Center and Research Institute, Tampa	69.8	10	4	2	1	2	2	578	1.2	Yes	6	9	No	1	1.7	Yes
44	Banner University Medical Center Phoenix	69.7	9	5	2	2	2	2	232	1.9	Yes	6	9	Yes	1	0.1	Yes
44	St. Patrick Hospital, Missoula, Mont.	69.7	10	5	2	2	2	2	108	1.6	Yes	6	8	Yes	1	0.0	Yes
46	MUSC Health-University Medical Center, Charleston, S.C.	69.6	9	5	2	2	2	2	264	2.0	Yes	6	9	Yes	1	0.6	Yes
47	Mayo Clinic Phoenix	69.5	9	6	3	2	2	2	827	2.9	Yes	6	8	No	0	2.7	Yes
48	Mount Sinai Hospital, New York	69.4	6	7	2	3	2	3	620	2.0	Yes	6	9	Yes	1	2.3	Yes
49	Hackensack University Medical Center, Hackensack, N.J.	69.3	8	5	2	2	2	2	433	2.4	Yes	6	9	Yes	1	0.7	Yes
50	Advocate Illinois Masonic Medical Center, Chicago	69.0	10	4	1	2	2	2	81	1.8	Yes	5	8	Yes	1	0.1	Yes
50	St. Cloud Hospital, St. Cloud, Minn.	69.0	9	5	2	2	2	2	513	1.9	Yes	5	9	Yes	1	0.0	Yes

Rankings are based on all of the above measures. A: At least one campus has Magnet status.

Appendix E

2017-18 Best Hospitals Rankings, Reputation-Only Specialties

Best Hospitals 2017-18: Ophthalmology

Rank	Hospital	Reputation (%)
1	Bascom Palmer Eye Institute-Anne Bates Leach Eye Hospital, Miami	59.6%
2	Wills Eye Hospital, Thomas Jefferson University Hospital, Philadelphia	53.0%
3	Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore	43.1%
4	Massachusetts Eye and Ear Infirmary, Mass. General Hosp., Boston	29.1%
5	Stein and Doheny Eye Institutes, UCLA Medical Center, Los Angeles	23.7%
6	Duke University Hospital, Durham, N.C.	12.6%
6	University of Iowa Hospitals and Clinics, Iowa City	12.6%
8	W.K. Kellogg Eye Center, University of Michigan, Ann Arbor	9.4%
9	Cole Eye Institute, Cleveland Clinic	9.0%
10	UCSF Medical Center, San Francisco	7.0%
11	USC Roski Eye Institute, Los Angeles	5.7%
12	New York Eye and Ear Infirmary of Mount Sinai, N.Y.	5.6%
13	Emory University Hospital, Atlanta	5.1%

Best Hospitals 2017-18: Psychiatry

Rank	Hospital	Reputation (%)
1	McLean Hospital, Belmont, Mass.	23.0%
2	Massachusetts General Hospital, Boston	20.0%
3	Menninger Clinic, Houston	17.7%
4	New York-Presbyterian Hospital	16.8%
5	Johns Hopkins Hospital, Baltimore	16.4%
6	Sheppard and Enoch Pratt Hospital, Baltimore	15.2%
7	Mayo Clinic, Rochester, Minn.	12.0%
8	Resnick Neuropsychiatric Hospital at UCLA, Los Angeles	11.7%
9	Austen Riggs Center, Stockbridge, Mass.	6.9%
10	UCSF Medical Center, San Francisco	6.4%
11	Yale-New Haven Hospital, New Haven, Conn.	5.7%
12	UPMC Presbyterian Shadyside, Pittsburgh	5.2%

Best Hospitals 2017-18: Rehabilitation

Rank	Hospital	Reputation (%)
1	Shirley Ryan AbilityLab, Chicago	39.4%
2	TIRR Memorial Hermann, Houston	22.2%
3	Kessler Institute for Rehabilitation, West Orange, N.J.	20.4%
4	Spaulding Rehabilitation Hosp., Massachusetts General Hosp., Boston	18.9%
5	University of Washington Medical Center, Seattle	17.9%
6	Mayo Clinic, Rochester, Minn.	15.7%
7	Craig Hospital, Englewood, Colo.	12.6%
8	Rusk Rehabilitation at NYU Langone Medical Center, New York	10.4%
9	Shepherd Center, Atlanta	9.6%
10	MossRehab, Elkins Park, Pa.	7.9%
11	UPMC Presbyterian Shadyside, Pittsburgh	6.0%
12	New York-Presbyterian Hospital	5.6%
13	Magee Rehabilitation Hospital, Philadelphia	5.2%
14	University of Michigan Hospitals and Health Centers, Ann Arbor	5.0%

Best Hospitals 2017-18: Rheumatology

Rank	Hospital	Reputation (%)
1	Johns Hopkins Hospital, Baltimore	43.8%
2	Cleveland Clinic	39.3%
3	Hospital for Special Surgery, New York-Presbyterian Hospital, N.Y.	39.1%
4	Mayo Clinic, Rochester, Minn.	35.8%
5	Brigham and Women's Hospital, Boston	23.1%
6	Ronald Reagan UCLA Medical Center, Los Angeles	18.8%
7	UCSF Medical Center, San Francisco	14.7%
8	Massachusetts General Hospital, Boston	14.1%
9	Hospital for Joint Diseases, NYU Langone Medical Center, New York	12.6%
10	University of Alabama at Birmingham Hospital, Birmingham	9.7%
11	UPMC Presbyterian Shadyside, Pittsburgh	7.6%
12	University of Michigan Hospitals and Health Centers, Ann Arbor	7.4%
13	Duke University Hospital, Durham, N.C.	6.9%
14	Stanford Health Care-Stanford Hospital, Stanford, Calif.	5.9%

Appendix F

2017-18 Best Hospitals Honor Roll

2017-18 Best Hospitals Honor Roll

Rank	Hospital	Points
1	Mayo Clinic, Rochester, Minn.	415
2	Cleveland Clinic	365
3	Johns Hopkins Hospital, Baltimore	363
4	Massachusetts General Hospital, Boston	358
5	UCSF Medical Center, San Francisco	303
6	University of Michigan Hospitals and Health Centers, Ann Arbor	294
7	UCLA Medical Center, Los Angeles	292
8	New York-Presbyterian University Hospital of Columbia and Cornell, N.Y.	267
9	Stanford Health Care-Stanford Hospital, Stanford, Calif.	251
10	Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia	244
11	Cedars-Sinai Medical Center, Los Angeles	239
12	Barnes-Jewish Hospital/Washington University, St. Louis	236
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