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Methodology
U.S. News & World Report
2018-19 Best Hospitals:
Specialty Rankings

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To Whom It May Concern:

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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 as an evident outcome but also as 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 2018-19 rankings, 158 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. See section *V. Honor Roll* for more details.

Table of Contents

| | |
|---|-----------|
| Executive Summary | i |
| I. Introduction | 1 |
| A. Data-Driven Rankings..... | 2 |
| Structure | 4 |
| Process/expert opinion..... | 4 |
| Outcomes..... | 5 |
| Patient Safety | 5 |
| Public Transparency (Cardiology and Heart Surgery Only) | 6 |
| Weighting | 6 |
| B. Reputation-Only Rankings..... | 6 |
| C. Report Outline..... | 7 |
| II. Data-Driven Rankings | 7 |
| A. Eligibility..... | 7 |
| B. Structure..... | 10 |
| AHA Annual Survey..... | 12 |
| External Organizations | 22 |
| Normalization..... | 24 |
| Weighting | 24 |
| C. Outcomes | 25 |
| Mortality Methodology | 28 |
| Survival Score | 31 |
| D. Process/expert opinion | 32 |
| 2018 Survey Approach..... | 33 |
| Log Transformation | 38 |
| Normalization and Weighting..... | 40 |
| E. Patient Safety Score..... | 41 |
| Background..... | 42 |
| Development of the Patient Safety Index | 42 |
| Switch to Risk-Adjusted Rates | 44 |
| Construction of the Patient Safety Score | 45 |
| F. Public Transparency (Cardiology & Heart Surgery Only)..... | 46 |
| Details of Participation Requirements (ACC) | 46 |
| Details of Participation Requirements (STS) | 47 |
| G. Calculation of the Overall Score for the Data-Driven Specialties | 47 |
| All Specialties (Excluding Cardiology & Heart Surgery) | 47 |
| Cardiology & Heart Surgery | 48 |
| III. Reputation-Only Specialties | 49 |
| A. Eligibility..... | 49 |
| B. Process/expert opinion..... | 50 |
| C. Calculation of the Rankings | 50 |

| | | |
|--------------|--|-----------|
| IV. | Number of Ranked Hospitals..... | 50 |
| V. | Honor Roll | 50 |
| VI. | Year-by Year History of Methodology Changes by RTI..... | 51 |
| | Summary of 2018-19 Changes..... | 51 |
| | Summary of 2017-18 Changes..... | 52 |
| | Summary of 2016-17 Changes..... | 53 |
| | Summary of 2015-16 Changes..... | 54 |
| | Summary of 2014-15 Changes..... | 55 |
| | Summary of 2013-14 Changes..... | 55 |
| | Summary of 2012-13 Changes..... | 56 |
| | Summary of 2011-12 Changes..... | 57 |
| | Summary of 2010-11 Changes..... | 57 |
| | Summary of 2009 Changes | 58 |
| | Summary of 2008 Changes | 58 |
| | Summary of 2007 Changes | 59 |
| | Summary of 2005 and 2006 Changes | 60 |
| VII. | Future Improvements | 60 |
| VIII. | Contact Information..... | 60 |
| | References | 61 |

List of Tables

| | |
|--|----|
| Table 1. 2018-19 Overall Weight by Component | 6 |
| Table 2. Discharge Thresholds by Specialty | 10 |
| Table 3. Technologies by Specialty..... | 15 |
| Table 4. Discharge Distribution by Specialty..... | 17 |
| Table 5. Patient Services by Specialty | 21 |
| Table 6. Structural Elements and Percentages (%) of Total Score by Specialty..... | 25 |
| Table 7. Discharges Excluding Transfers and Distribution by Specialty | 30 |
| Table 8. Survival Scores Based on Mortality Ratios | 32 |
| Table 9. 2016, 2017, and 2018 Reputation Weights by Survey Year..... | 33 |
| Table 10. Population Counts by Best Hospitals Specialty, Doximity Members and Nonmembers | 35 |
| Table 11. Member Survey Response Rates by Region and Specialty, 2018 | 36 |
| Table 12. Nonmember Survey Response Rates by Region and Specialty..... | 37 |
| Table 13. 2018 Reputation Weights for Doximity Members and Nonmembers by Specialty | 39 |
| Table 14. Comparison of AHRQ Patient Safety Indicators and Best Hospitals Patient Safety Score..... | 43 |
| Table 15. Patient Safety Scores Based on PSI Value | 45 |

List of Figures

| | |
|---|----|
| Figure 1. Eligibility and Analysis Process, Data-Driven Specialties | 11 |
| Figure 2. Nurse Staffing Values Before and After Adjustment | 18 |
| Figure 3. Reputation Data Before and After Log Transformation | 40 |

List of Appendices

| | |
|---|-----|
| Appendix A 2018-19 Physician Survey Materials | A-1 |
| Appendix B Structural Variable Map | B-1 |
| Appendix C 2018-19 Diagnosis Related Group (DRG) Groupings by Specialty..... | C-1 |
| Appendix D 2018-19 Best Hospitals Rankings, Data-Driven Specialties..... | D-1 |
| Appendix E 2018-19 Best Hospitals Rankings, Reputation-Only Specialties | E-1 |
| Appendix F 2018-19 Best Hospitals Honor Roll | F-1 |

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 2018-19 Best Hospitals rankings have been drawn from a universe of 4,656 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 2018-19.[§]

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 2018-19 rankings was the 2016 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 14). 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 2018-19 rankings, were conducted in 2016, 2017, and 2018.

The 2018 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 2018-19 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 (FY2014, FY2015, and FY2016) 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 2018-19 rankings, the CMS and HSCRC files used were for federal FY 2014, 2015, and 2016 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 2018-19 rankings, the weight for each component remains the same as in 2016-17. Weights are shown in *Table 1*.

Table 1. 2018-19 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 2018-19 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 4,656 community hospitals included in the FY2016 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 FY2016 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 2014 and 2015 but not in 2016 remained eligible. For such hospitals, we used survey data from 2015. Nonresponders lacking data from the current survey and one of the previous two surveys were evaluated without AHA data. A total of 2,264 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 FY2014, FY2015, and FY2016 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 14). 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 two other hospitals became eligible because they had a 1% or higher reputation score in at least one specialty. In all, 1,897 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. **Figure 1** 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 $\geq 1\%$ Reputation Score | Final Eligible Total |
|---|--|--|---|----------------------|
| Cancer | 195 (33) | 889 | 0 | 889 |
| Cardiology & Heart Surgery ^a | 1391 (500) | 613 | 0 | 613 |
| Diabetes & Endocrinology ^b | 120 (0) | 1,089 | 1 | 1,090 |
| Ear, Nose & Throat ^b | 45 (4) | 184 | 3 | 187 |
| Gastroenterology & GI Surgery | 430 (112) | 1,575 | 0 | 1,575 |
| Geriatrics ^c | 2367 (0) | 1,516 | 0 | 1,516 |
| Gynecology ^b | 50 (5) | 313 | 6 | 319 |
| Nephrology | 192 (0) | 1,639 | 0 | 1,639 |
| Neurology & Neurosurgery | 237 (18) | 1,236 | 0 | 1,236 |
| Orthopedics | 302 (275) | 1,643 | 0 | 1,643 |
| Pulmonology | 1075 (0) | 1,668 | 0 | 1,668 |
| Urology | 42 (17) | 1,476 | 0 | 1,476 |
| Total (unique hospitals) ^d | Not Applicable | 1,895 | 10 | 1,897 |

^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.

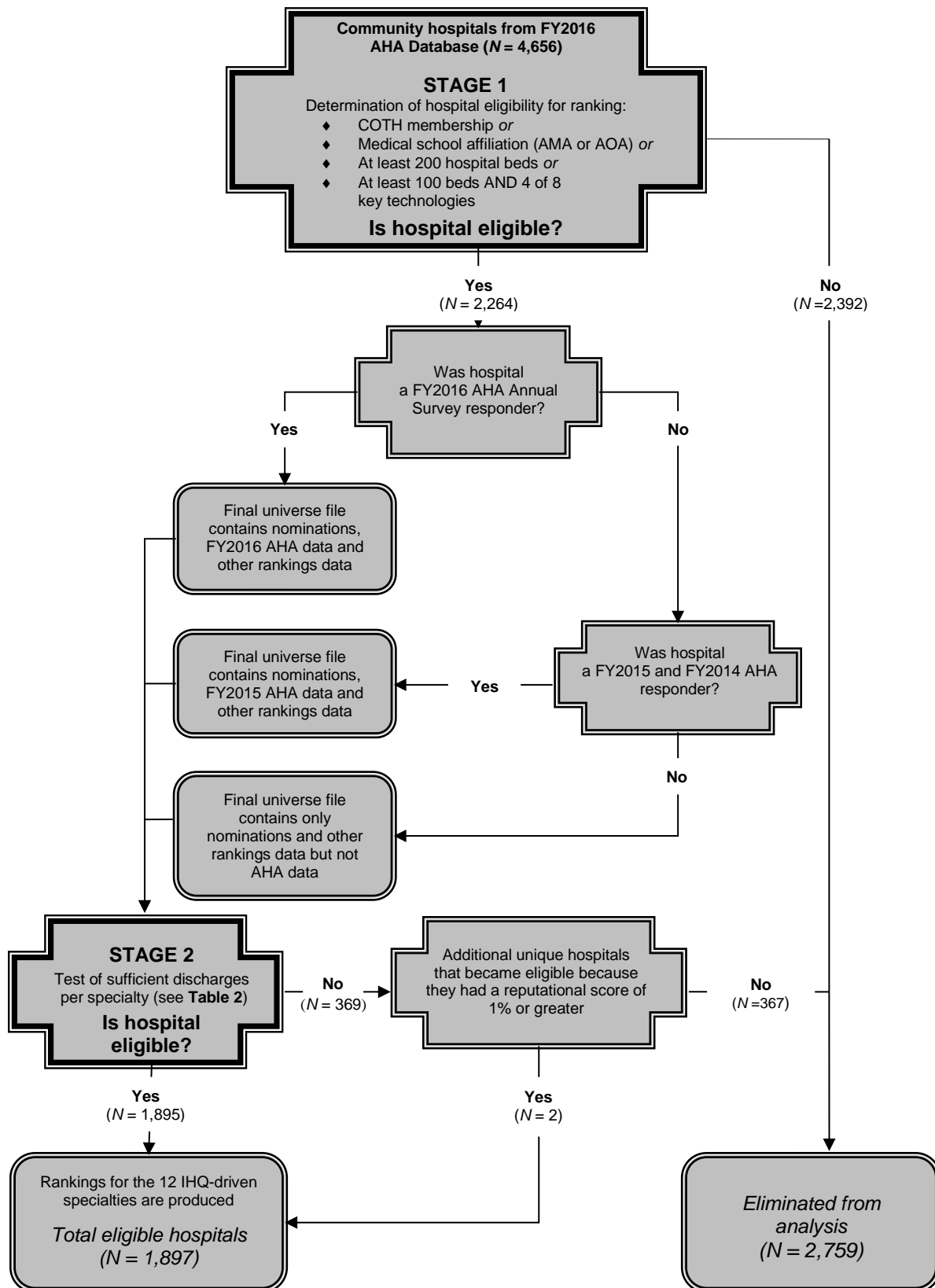
^d The totals are not sums. The same hospitals may be eligible in multiple specialties. This line represents the total unique hospitals in each category across all specialties.

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 2018-19 rankings, the source of most structural elements was the FY2016 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 6,200 hospitals and healthcare systems. More than 900 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 2016 AHA Annual Survey but responded to the 2015 survey were evaluated using their 2015 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 2018-19 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 2018-19 index follow. The definitions are taken largely from the 2016 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 2018-19.

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 FY2014, FY2015, and FY2016 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 2014. 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, 1 st -75 th percentile |
|-------------------------------|----------------|------------------------|----------------|--|
| Cancer | 198 | 727 | 7,855 | 412 |
| Cardiology & Heart Surgery | 1,391 | 4,665 | 18,420 | 2,948 |
| Diabetes & Endocrinology | 109 | 285 | 1,369 | 184 |
| Ear, Nose & Throat | < 11 | 183 | 670 | 105 |
| Gastroenterology & GI Surgery | 430 | 1,823 | 11,701 | 1,035 |
| Geriatrics | 2,367 | 9,449 | 59,853 | 5,352 |
| Gynecology | 28 | 185 | 642 | 115 |
| Nephrology | 192 | 760 | 5,689 | 436 |
| Neurology & Neurosurgery | 238 | 1,728 | 8,233 | 875 |
| Orthopedics | 305 | 1,606 | 14,987 | 821 |
| Pulmonology | 1,075 | 3,492 | 18,289 | 2,120 |
| Urology | 42 | 240 | 2,404 | 128 |

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 1.76 for 2018-19, is equal to $a*b + (1-a)*c$, where:

a = amount over the 75th percentile (.01, .02... .25),

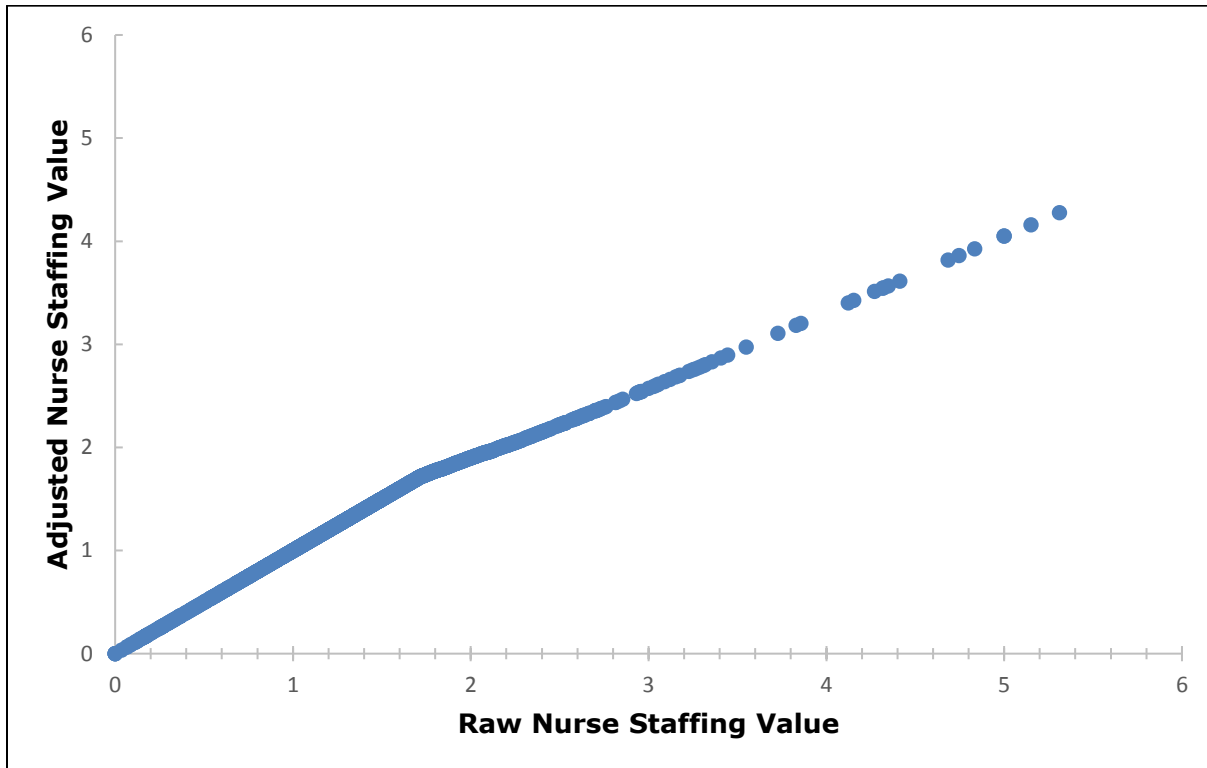
b = 1.24, the average nurse staffing volume for hospitals in the bottom 75th percentile, and

c = an individual hospital's raw nurse staffing value.

Figure 2 shows an example of nurse staffing values before and after adjustment.

Starting with 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 = amount 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 2018-19 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 2018-19 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 FY2016 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, 2018, 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 January 2, 2018. The current list of Magnet-recognized organizations is shown at <https://www.nursingworld.org/organizational-programs/magnet/find-a-magnet-facility/>.

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 (the larger of two general acute-care hospitals) 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.

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, 2018. 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 7, 2018, 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, 2018, 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:

$$\text{Normalized Value} = (X_i - \text{Minimum}_i) / (\text{Maximum}_i - \text{Minimum}_i), \quad (1)$$

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 Number of Patients and Nurse Staffing, the lowest *possible* value is 0 even when the lowest *observed* value is greater than 0. For Number of Patients and Nurse Staffing, the lowest possible value was made equal to the lowest observed value and the highest possible value was made equal to the highest 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 Health using a pooled FY2014, FY2015, and FY2016 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 Medicare patients’ diagnoses, procedures, length of stay in the hospital and discharge status. For the 2018-19 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 While DRG codes appear in the SAF record, our analyses does not use the assigned code and instead utilizes the grouper software to assess records and assign the most appropriate DRG, which may differ from what was assigned by CMS. 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. Prior to 2016, the ICD-9-CM was 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 In 2016 the National Center for Health Statistics and CMS introduced the *International Classification of Diseases, Tenth Revision*, which reflects more specificity than is present in the ICD-9 coding.³⁴ For the 2018 rankings, SAF data from FY2014 and FY2015 had ICD-9-CM codes, while SAF data from FY2016 was presented in ICD-10 code format. Due to the increased granularity of the ICD-10 codes, it is possible to backwards map ICD-10 codes to ICD-9 codes. The project team utilized the IBM

Watson Health mapping of ICD-10 to ICD-9 codes to backwards map, so that the same DRGs could be used for all three years.

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 began to assign 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 2018-19).^{##} 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 these cases would be excluded in our analyses in favor of focusing on diagnoses and procedures that represent a higher level of severity. 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.

^{##} 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.

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 (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.”³⁵ 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 added 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. 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.³⁶ 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.”³⁷

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. ****

4. 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 7**), 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 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

**** 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.

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 7*), 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 7. Discharges Excluding Transfers and Distribution by Specialty

| Specialty | Minimum Volume | 25 th -Percentile Volume | Maximum Volume | Average High-Volume Mortality Rate (Observed to Expected) |
|-------------------------------|----------------|-------------------------------------|----------------|---|
| Cancer | 11 | 200 | 4,675 | 0.95 |
| Cardiology & Heart Surgery | 133 | 1,454 | 9,937 | 0.93 |
| Diabetes & Endocrinology | 50 | 102 | 886 | 0.83 |
| Ear, Nose & Throat | < 11 | 52 | 413 | 0.77 |
| Gastroenterology & GI Surgery | 16 | 527 | 6,422 | 0.95 |
| Geriatrics | 194 | 2,654 | 33,309 | 1.00 |
| Gynecology | < 11 | 59 | 426 | 0.56 |
| Nephrology | < 11 | 221 | 3,217 | 0.98 |
| Neurology & Neurosurgery | 22 | 393 | 4,496 | 0.98 |
| Orthopedics | 21 | 388 | 9,856 | 0.92 |
| Pulmonology | 101 | 1,087 | 10,270 | 0.97 |
| Urology | < 11 | 60 | 1,349 | 0.95 |

5. 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 under-representation 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.³⁸

For the 2018-19 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.

6. Adjustment for socioeconomic status and risk. Starting in the 2017-18 rankings, a new adjustment was included 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 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 distribution of the mortality ratios in each specialty. The adjusted mortality ratio used here is the value after the transformation for volume outliers discussed above. Survival scores are integer values ranging from 1 to 10. The adjusted mortality ratio cut-offs are calculated as quintiles above and below mortality scores of 1.0. Scores above 1.0 indicate worse-than-expected outcomes and are assigned values of 1 to 5 based on quintiles of the distribution; scores below 1.0 indicate better than expected outcomes and are assigned values of 6 to 10 based on quintiles. The closer the adjusted mortality ratio to 0, the higher the survival score. The quintiles described above are used to determine survival scores with the ranges in scores shown in *Table 8*. Hospitals were assigned a score of 1-10 based on the lowest cut-off value below which the adjusted mortality ratio fell. For example, an adjusted mortality ratio

of 0.88 in Cancer would have been assigned a survival score of 8 because 0.88 is lower than the 0.89 cut-off value.

Table 8. Survival Scores Based on Mortality Ratios

| Specialty | Survival Score | | | | | | | | | |
|-------------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| | 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 | 1.24 | 1.24 | 1.15 | 1.09 | 1.04 | 1.00 | 0.95 | 0.89 | 0.82 | 0.74 |
| Cardiology & Heart Surgery | 1.24 | 1.24 | 1.14 | 1.08 | 1.03 | 1.00 | 0.94 | 0.88 | 0.82 | 0.73 |
| Diabetes & Endocrinology | 1.28 | 1.28 | 1.15 | 1.09 | 1.04 | 1.00 | 0.89 | 0.81 | 0.72 | 0.61 |
| Ear, Nose & Throat | 1.50 | 1.50 | 1.29 | 1.20 | 1.10 | 0.98 | 0.78 | 0.65 | 0.51 | 0.39 |
| Gastroenterology & GI Surgery | 1.24 | 1.24 | 1.15 | 1.08 | 1.04 | 1.00 | 0.94 | 0.89 | 0.84 | 0.77 |
| Geriatrics | 1.22 | 1.22 | 1.14 | 1.09 | 1.04 | 1.00 | 0.96 | 0.92 | 0.87 | 0.81 |
| Gynecology | 1.21 | 1.21 | 1.16 | 1.12 | 1.04 | 0.99 | 0.72 | 0.57 | 0.43 | 0.28 |
| Nephrology | 1.36 | 1.36 | 1.20 | 1.12 | 1.06 | 1.00 | 0.94 | 0.87 | 0.79 | 0.68 |
| Neurology & Neurosurgery | 1.26 | 1.26 | 1.16 | 1.09 | 1.05 | 1.00 | 0.95 | 0.90 | 0.84 | 0.74 |
| Orthopedics | 1.42 | 1.42 | 1.24 | 1.14 | 1.06 | 1.00 | 0.92 | 0.83 | 0.74 | 0.61 |
| Pulmonology | 1.21 | 1.21 | 1.13 | 1.08 | 1.04 | 1.00 | 0.96 | 0.91 | 0.86 | 0.80 |
| Urology | 1.55 | 1.55 | 1.33 | 1.19 | 1.09 | 1.00 | 0.89 | 0.79 | 0.68 | 0.54 |

D. Process/expert opinion

For the 2018-19 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 2018-19 rankings use nominations from the most

recent 3 years of physician surveys (2016, 2017, and 2018). 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 9*.

Table 9. 2016, 2017, and 2018 Reputation Weights by Survey Year

| Sample Source | Reputation Weight (%) |
|-----------------------|-----------------------|
| 2016 Physician Survey | 33.3 |
| 2017 Physician Survey | 33.3 |
| 2018 Physician Survey | 33.3 |

The sections below describe the 2018 survey. The approaches used for the 2016 and 2017 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.

2018 Survey Approach

Sample Selection

The sample for the 2018 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. 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. *Table 10* provides the population counts of specialists in the Doximity database by those who are Doximity members and nonmembers as of December 1, 2017, 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 was sent to 157,455 physicians across the 16 specialties and was conducted from February to March 2018. 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 16 through April 20, 2018.

Table 10. Population Counts by Best Hospitals Specialty, Doximity Members and Nonmembers

| Specialty | Subspecialties Included (based on board certification) | Doximity Members | Doximity Nonmembers |
|--------------------------------|---|-------------------------|----------------------------|
| Cancer | Hematology, medical oncology, complex general surgical oncology, surgical oncology, gynecologic oncology, musculoskeletal oncology, radiation oncology | 12,449 | 6,569 |
| Cardiology & Heart Surgery | Cardiovascular diseases, thoracic surgery, adult congenital heart disease, advanced heart failure and transplant, interventional cardiology, vascular surgery | 20,454 | 10,373 |
| Diabetes & Endocrinology | Endocrinology, diabetes & metabolism | 3,376 | 2,539 |
| Ear, Nose & Throat | Otolaryngology, plastic surgery within head & neck | 6,844 | 3,474 |
| Gastroenterology & GI Surgery* | Gastroenterology, colon and rectal surgery, transplant hepatology | 10,065 | 6,409 |
| Geriatrics | Geriatric medicine | 3,285 | 2,551 |
| Gynecology | Obstetrics & gynecology | 20,675 | 13,797 |
| Nephrology | Nephrology | 5,351 | 3,755 |
| Neurology & Neurosurgery | Neurology, neurological surgery, neuroradiology | 13,006 | 7,673 |
| Ophthalmology | Ophthalmology | 10,378 | 6,940 |
| Orthopedics | Orthopedic surgery | 12,600 | 8,262 |
| Psychiatry | Psychiatry | 18,337 | 18,460 |
| Pulmonology | Pulmonary diseases | 5,286 | 4,910 |
| Rehabilitation | Physical medicine & rehabilitation, sports medicine | 7,402 | 3,723 |
| Rheumatology | Rheumatology | 2,651 | 2,303 |
| Urology | Urology | 5,296 | 3,620 |

* General surgeons certified by the American Board of Surgery were also eligible if they were members of the American Society for Metabolic and Bariatric Surgery, the American Society of Colon and Rectal Surgeons, or the American Hepato-Pancreato-Biliary Association.

Response Rates

The overall response rate for the 2016, 2017, and 2018 surveys was 11.9% using American Association of Public Opinion Research (AAPOR) standard response rate 6,^{†††} which treats undeliverables as ineligible. The 2018 combined response rate for the Doximity member and

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

nonmember surveys was 13.6% using AAPOR standard response rate 6. Further details are provided below.

Member survey. Of the 157,455 Doximity members, 21,105 completed the web survey by March 22, 2018. The final response rate was 13.4% using AAPOR standard response rate 2.

Table 11 shows response rates by region and specialty.

Table 11. Member Survey Response Rates by Region and Specialty, 2018

| Specialty | Midwest (%) | Northeast (%) | South (%) | West (%) | Total (%) |
|-------------------------------|-------------|---------------|-----------|----------|-----------|
| Cancer | 20.1 | 22.2 | 13.2 | 9.5 | 16.6 |
| Cardiology & Heart Surgery | 17.5 | 18.6 | 12.2 | 9.4 | 14.7 |
| Diabetes & Endocrinology | 18.3 | 18.4 | 11.9 | 10.8 | 15.2 |
| Ear, Nose & Throat | 23.5 | 25.5 | 15.8 | 16.4 | 19.8 |
| Gastroenterology & GI Surgery | 17.6 | 16.3 | 8.6 | 9.2 | 12.7 |
| Geriatrics | 7.9 | 13.7 | 6.5 | 6.4 | 9.0 |
| Gynecology | 7.0 | 11.6 | 4.9 | 4.5 | 6.9 |
| Nephrology | 15.6 | 22.6 | 10.7 | 9.8 | 14.9 |
| Neurology & Neurosurgery | 21.8 | 24.1 | 14.4 | 14.4 | 18.7 |
| Ophthalmology | 19.5 | 17.2 | 12.1 | 16.9 | 16.1 |
| Orthopedics | 15.7 | 18.7 | 9.4 | 7.4 | 12.6 |
| Psychiatry | 6.1 | 12 | 4.5 | 5.6 | 7.7 |
| Pulmonology | 19.9 | 25 | 13.5 | 14.3 | 18.6 |
| Rehabilitation | 16.7 | 16.8 | 9.9 | 10.5 | 13.4 |
| Rheumatology | 14.8 | 19.5 | 8.8 | 8.5 | 13.5 |
| Urology | 20.7 | 22.6 | 13.7 | 14.5 | 17.6 |
| Overall Response Rate | 15.6% | 17.9% | 10.2% | 9.7% | 13.4% |

Nonmember survey. Of the 3,200 physicians sampled in 2018, 570 were deemed ineligible after determining they were no longer actively practicing or because we were unable to verify their eligibility. Of the remaining 2,630 physicians, 630 returned the completed questionnaire. That represents a final response rate of 24.0% using AAPOR standard response rate 6. *Table 12* shows response rates by region and specialty.

Table 12. Nonmember Survey Response Rates by Region and Specialty, 2018

| Specialty | Midwest (%) | Northeast (%) | South (%) | West (%) | Total (%) |
|-------------------------------|--------------------|----------------------|------------------|-----------------|------------------|
| Cancer | 30.2 | 39.4 | 40.3 | 29.7 | 35.4 |
| Diabetes & Endocrinology | 34.5 | 20.5 | 28.3 | 13.9 | 24.4 |
| Ear, Nose & Throat | 16.7 | 33.3 | 29.0 | 39.0 | 29.9 |
| Gastroenterology & GI Surgery | 24.3 | 37.8 | 24.6 | 12.8 | 24.7 |
| Geriatrics | 15.2 | 15.6 | 13.3 | 13.8 | 14.5 |
| Gynecology | 25.8 | 21.2 | 28.3 | 13.5 | 23.0 |
| Heart & Heart Surgery | 36.1 | 43.6 | 18.8 | 32.4 | 30.6 |
| Nephrology | 25.7 | 21.2 | 17.9 | 17.1 | 19.9 |
| Neurology & Neurosurgery | 20.6 | 28.1 | 17.5 | 25.7 | 22.2 |
| Ophthalmology | 28.1 | 23.7 | 21.7 | 24.4 | 24.0 |
| Orthopedics | 25.7 | 25.0 | 19.7 | 21.3 | 22.2 |
| Psychiatry | 29.2 | 15.4 | 17.1 | 16.7 | 18.6 |
| Pulmonology | 13.8 | 16.2 | 32.7 | 31.6 | 25.2 |
| Rehabilitation | 21.2 | 28.2 | 32.7 | 12.5 | 24.2 |
| Rheumatology | 13.3 | 18.9 | 26.9 | 7.7 | 17.7 |
| Urology | 23.5 | 38.7 | 25.4 | 10.5 | 24.1 |
| Overall Response Rate | 24.2% | 26.3% | 24.8% | 20.3% | 24.0% |

Survey Response Weighting

The weighting approach for the 2018 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 2018 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 2018 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 2018 reputation scores. *Table 13* shows the reputation weight for Doximity members and nonmembers in each specialty for 2018. 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 13. 2018 Reputation Weights for Doximity Members and Nonmembers by Specialty

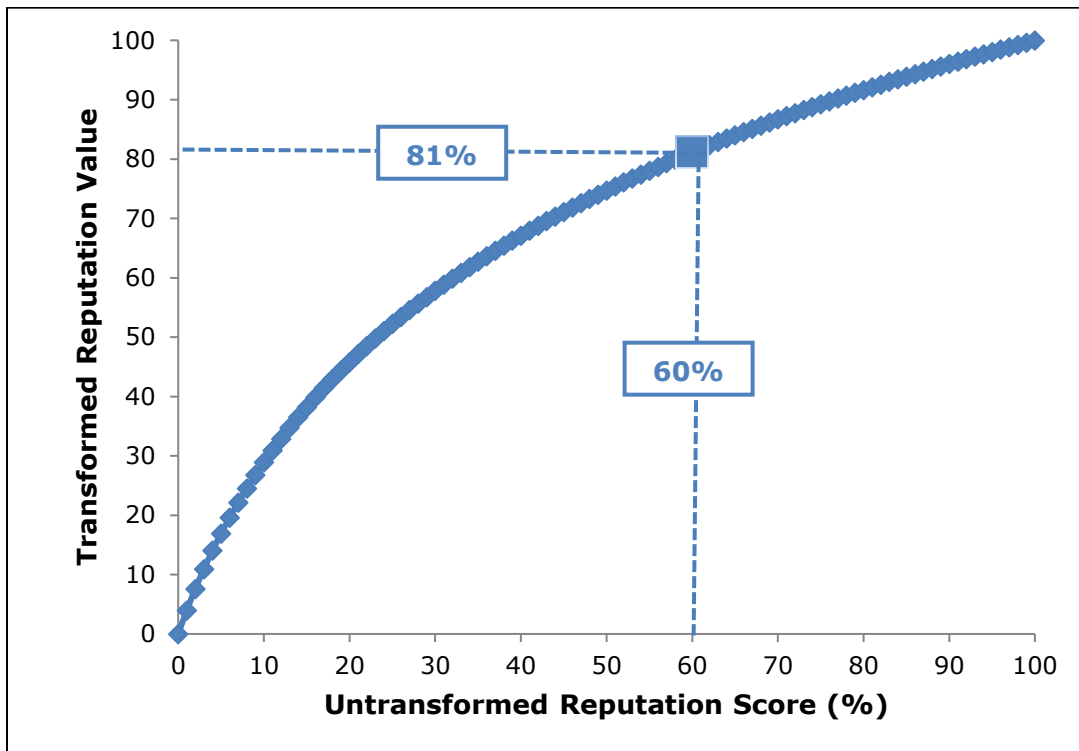
| Best Hospitals Specialty | Reputation Weight | |
|-------------------------------|---------------------|------------------------|
| | Doximity Member (%) | Doximity Nonmember (%) |
| Cancer | 65.5 | 34.5 |
| Cardiology & Heart Surgery | 66.4 | 33.6 |
| Diabetes & Endocrinology | 57.1 | 42.9 |
| Ear, Nose & Throat | 66.3 | 33.7 |
| Gastroenterology & GI Surgery | 61.1 | 38.9 |
| Geriatrics | 56.3 | 43.7 |
| Gynecology | 60.0 | 40.0 |
| Nephrology | 58.8 | 41.2 |
| Neurology & Neurosurgery | 62.9 | 37.1 |
| Ophthalmology | 59.9 | 40.1 |
| Orthopedics | 60.4 | 39.6 |
| Psychiatry | 49.8 | 50.2 |
| Pulmonology | 60.1 | 39.9 |
| Rehabilitation | 58.7 | 41.3 |
| Rheumatology | 53.5 | 46.5 |
| Urology | 59.4 | 40.6 |

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 was 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 0.80×27.5 , 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.³⁹

For the 2017-18 rankings, two more constituent measures were removed and the scoring was 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., FY2014, FY2015, and FY2016). 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*,⁴⁰ 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.⁴¹ 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.⁴²⁻⁴⁴ 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.⁴⁵⁻⁴⁹ Patient safety events have also been associated with higher 90-day readmission rates, compared with rates for patients without safety events.⁴⁵

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*.^{50,51} 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, known as PSI 90, includes the 11 PSIs checked in the second column of **Table 14**. 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 2018-19 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 14. Comparison of AHRQ Patient Safety Indicators and Best Hospitals Patient Safety Score

| All Patient Safety Indicators | Included in the AHRQ PSI 90 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 15* indicate the cutoffs that determine an individual hospital's level of patient safety.

Table 15. 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 | -4.5972 | -4.5972 to 4.6834 | 4.6834 |
| PSI 09: Postoperative hemorrhage or hematoma | -0.2207 | -0.2207 to 0.2213 | 0.2213 |
| PSI 11: Postoperative respiratory failure | -0.4567 | -0.4567 to 0.4340 | 0.434 |
| PSI 15: Accidental puncture or laceration | -0.0847 | -0.0847 to 0.0799 | 0.0799 |

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 participating 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 January 15, 2018. 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 1, 2018. 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 2018-19, 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:

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

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 2018-19 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:

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

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, 158 different hospitals were ranked in at least one data-driven or reputation-only Best Hospitals specialty. Another 40 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 2018-19 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. 20. All hospitals ranked 21–50 received 5 points. A hospital ranked No. 1 in all 12 data-driven specialties would have received $25 \times 12 = 300$ 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, which receives 1 point. All hospitals from No. 11 to the last ranked hospital also 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 2018-19 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 2018-19 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 2018-19 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 2018-19 Changes

- **Removal of the transfer adjustment for mortality.** Since 2010, the rankings have adjusted mortality ratios for the influence of particularly high or low transfer rates to control for potential bias in the evaluation of hospital outcomes. This was done to address issues with coding of transfers in the datasets used which had been shown to be problematic at times. With the move to the SAF datasets, the project is now able to use both identified transfers on the record along with calculated implicit transfers which effectively overcomes the previous issues, removing the need for the adjustment.
- **Backwards mapping of ICD-10 to ICD-9.** Since two of the three years of SAF data used in the rankings for 2018-19 appear in ICD-9 format, the project chose to recode the ICD-10 data from FY2016 into ICD-9 format for the volume and mortality analyses. Due to the increased granularity of the ICD-10 codes, it is possible to backwards map ICD-10 codes to ICD-9 codes. The project team utilized the IBM Watson Health mapping of ICD-10 to ICD-9 codes to recode data, so that the same DRGs could be used for all three years. The project anticipates using the same approach for the 2019-20 rankings before moving completely to ICD-10 in 2020. (See page 26-27.)
- **Updated Survival Score Calculation.** To improve the clarity of the survival scores used in the data-driven specialties, the project team updated the method of calculating these display-only scores (this change does not affect points assigned in

^{§§§§} 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.

the rankings). The scores are now calculated based on the adjusted mortality ratio (rather than the unadjusted ratio) and are based on quintiles above and below a mortality ratio of 1.0; ratios above 1.0 will receive a score of 1-5, while those below a ratio of 1.0 will receive a score of 6-10. (See pages 31-32.)

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 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 52-53). 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 0.80×32.5 , 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 $\geq 75^{\text{th}}$ percentile, $25^{\text{th}}-74^{\text{th}}$ percentile and $< 25^{\text{th}}$ 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

2018-19 Physician Survey Materials



Best Hospitals

Your nominations will be reflected in the
2018-19 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.**



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Appendix B
Structural Variable Map

The following variables, used to construct structural elements of the 2018-19 data-driven rankings, were taken from the 2016 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, CAOSSYS or 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 (ADJADCH). Note that the ADJADCH 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, AIRBSYS or 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, PALSYS or 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
2018-19 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 | 2.3397 |
| 016 | S | Autologous bone marrow transplant w CC/MCC | Include all | 1 | 1.7384 |
| 017 | S | Autologous bone marrow transplant w/o CC/MCC | Include all | 1 | 2.3134 |
| 023 | S | Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant | Include procedures: 0010 | 1 | 2.3397 |
| 054 | M | Nervous system neoplasms w MCC | Include all | 1 | 0.9235 |
| 055 | M | Nervous system neoplasms w/o MCC | Include all | 2 | 1.0290 |
| 146 | M | Ear, nose, mouth & throat malignancy w MCC | Include all | 1 | 1.0490 |
| 147 | M | Ear, nose, mouth & throat malignancy w CC | Include all | 2 | 1.1970 |
| 148 | M | Ear, nose, mouth & throat malignancy w/o CC/MCC | Include all | 2 | 1.1415 |
| 180 | M | Respiratory neoplasms w MCC | Include all | 1 | 0.7616 |
| 181 | M | Respiratory neoplasms w CC | Include all | 2 | 0.8062 |
| 182 | M | Respiratory neoplasms w/o CC/MCC | Include all | 2 | 0.8454 |
| 374 | M | Digestive malignancy w MCC | Include all | 1 | 0.8565 |
| 375 | M | Digestive malignancy w CC | Include all | 2 | 0.8879 |
| 376 | M | Digestive malignancy w/o CC/MCC | Include all | 2 | 0.8864 |
| 435 | M | Malignancy of hepatobiliary system or pancreas w MCC | Include all | 1 | 0.8532 |
| 436 | M | Malignancy of hepatobiliary system or pancreas w CC | Include all | 2 | 0.8889 |
| 437 | M | Malignancy of hepatobiliary system or pancreas w/o CC/MCC | Include all | 2 | 0.9645 |
| 456 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC | Include diagnoses: 1702, 1985, 20973 | 1 | 1.0926 |
| 457 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC | See MS-DRG 456 | 2 | 1.2149 |
| 458 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC | See MS-DRG 456 | 2 | 2.3397 |
| 542 | M | Pathological fractures & musculoskelet & conn tiss malig w MCC | Exclude diagnoses: 4463-4, 7331, 73310-6, 73319, 73393-8 | 1 | 0.8765 |
| 543 | M | Pathological fractures & musculoskelet & conn tiss malig w CC | See MS-DRG 542 | 2 | 0.9119 |
| 544 | M | Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC | See MS-DRG 542 | 2 | 1.0339 |
| 582 | S | Mastectomy for malignancy w CC/MCC | Include all | 2 | 1.2437 |
| 583 | S | Mastectomy for malignancy w/o CC/MCC | Include all | 2 | 2.0884 |
| 595 | M | Major skin disorders w MCC | Include diagnoses: 1720, 1722-9, 20931-6 | 1 | 0.9484 |
| 596 | M | Major skin disorders w/o MCC | See MS-DRG 595 | 2 | 1.0719 |
| 597 | M | Malignant breast disorders w MCC | Include all | 1 | 1.0466 |
| 598 | M | Malignant breast disorders w CC | Include all | 2 | 1.0256 |
| 599 | M | Malignant breast disorders w/o CC/MCC | Include all | 2 | 1.2826 |
| 656 | S | Kidney & ureter procedures for neoplasm w MCC | Include all | 1 | 0.7450 |
| 657 | S | Kidney & ureter procedures for neoplasm w CC | Include all | 2 | 0.9284 |
| 658 | S | Kidney & ureter procedures for neoplasm w/o CC/MCC | Include all | 2 | 1.0187 |
| 686 | M | Kidney & urinary tract neoplasms w MCC | Include all | 2 | 0.7893 |
| 687 | M | Kidney & urinary tract neoplasms w CC | Include all | 2 | 0.7918 |
| 688 | M | Kidney & urinary tract neoplasms w/o CC/MCC | Include all | 3 | 0.8785 |
| 715 | S | Other male reproductive system O.R. proc for malignancy w CC/MCC | Include all | 2 | 0.9822 |
| 716 | S | Other male reproductive system O.R. proc for malignancy w/o CC/MCC | Include all | 2 | 1.3558 |
| 722 | M | Malignancy, male reproductive system w MCC | Include all | 1 | 0.7969 |
| 723 | M | Malignancy, male reproductive system w CC | Include all | 2 | 0.7901 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|---|----------|--------|
| 724 | M | Malignancy, male reproductive system w/o CC/MCC | Include all | 2 | 0.9294 |
| 736 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w MCC | Include all | 1 | 0.9199 |
| 737 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w CC | Include all | 2 | 1.1885 |
| 738 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w/o CC/MCC | Include all | 2 | 1.3565 |
| 739 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w MCC | Include all | 1 | 0.8376 |
| 740 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w CC | Include all | 2 | 1.1412 |
| 741 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC | Include all | 2 | 1.1463 |
| 754 | M | Malignancy, female reproductive system w MCC | Include all | 1 | 0.9159 |
| 755 | M | Malignancy, female reproductive system w CC | Include all | 2 | 0.9632 |
| 756 | M | Malignancy, female reproductive system w/o CC/MCC | Include all | 2 | 1.0811 |
| 808 | M | Major hematol/immun diag exc sickle cell crisis & coagul w MCC | Include diagnoses: 99685 | 1 | 1.5901 |
| 809 | M | Major hematol/immun diag exc sickle cell crisis & coagul w CC | See MS-DRG 809 | 2 | 2.1764 |
| 810 | M | Major hematol/immun diag exc sickle cell crisis & coagul w/o CC/MCC | See MS-DRG 809 | 2 | 2.3397 |
| 820 | S | Lymphoma & leukemia w major O.R. procedure w MCC | Include all | 1 | 0.9834 |
| 821 | S | Lymphoma & leukemia w major O.R. procedure w CC | Include all | 2 | 1.0699 |
| 822 | S | Lymphoma & leukemia w major O.R. procedure w/o CC/MCC | Include all | 2 | 1.0023 |
| 823 | S | Lymphoma & non-acute leukemia w other O.R. proc w MCC | Include all | 1 | 0.8915 |
| 824 | S | Lymphoma & non-acute leukemia w other O.R. proc w CC | Include all | 2 | 1.0059 |
| 825 | S | Lymphoma & non-acute leukemia w other O.R. proc w/o CC/MCC | Include all | 2 | 0.9945 |
| 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 | 1.0073 |
| 827 | S | Myeloprolif disord or poorly diff neopl w maj O.R. proc w CC | See MS-DRG 826 | 2 | 1.1576 |
| 828 | S | Myeloprolif disord or poorly diff neopl w maj O.R. proc w/o CC/MCC | See MS-DRG 826 | 2 | 0.9193 |
| 829 | S | Myeloprolif disord or poorly diff neopl w other O.R. proc w CC/MCC | See MS-DRG 826 | 2 | 1.1229 |
| 830 | S | Myeloprolif disord or poorly diff neopl w other O.R. proc w/o CC/MCC | See MS-DRG 826 | 2 | 1.0037 |
| 834 | M | Acute leukemia w/o major O.R. procedure w MCC | Include all | 1 | 1.1880 |
| 835 | M | Acute leukemia w/o major O.R. procedure w CC | Include all | 2 | 1.1691 |
| 836 | M | Acute leukemia w/o major O.R. procedure w/o CC/MCC | Include all | 2 | 1.5228 |
| 837 | M | Chemo w acute leukemia as sdX or w high dose chemo agent w MCC | Include all | 1 | 1.9555 |
| 838 | M | Chemo w acute leukemia as sdX w CC or high dose chemo agent | Include all | 2 | 2.3397 |
| 839 | M | Chemo w acute leukemia as sdX w/o CC/MCC | Include all | 2 | 2.3397 |
| 840 | M | Lymphoma & non-acute leukemia w MCC | Include all | 1 | 0.8052 |
| 841 | M | Lymphoma & non-acute leukemia w CC | Include all | 2 | 0.8694 |
| 842 | M | Lymphoma & non-acute leukemia w/o CC/MCC | Include all | 2 | 1.0030 |
| 843 | M | Other myeloprolif dis or poorly diff neopl diag w MCC | Exclude diagnosis: v10, v711 | 3 | 0.8634 |
| 844 | M | Other myeloprolif dis or poorly diff neopl diag w CC | See MS-DRG 844 | 3 | 0.8607 |
| 845 | M | Other myeloprolif dis or poorly diff neopl diag w/o CC/MCC | See MS-DRG 844 | 3 | 1.4376 |
| 846 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w MCC | Include all | 3 | 1.5199 |
| 847 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w CC | Include all | 3 | 1.8704 |
| 848 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w/o CC/MCC | Include all | 3 | 1.5973 |

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 | 1.5394 |
| 002 | S | Heart transplant or implant of heart assist system w/o MCC | Include all | 1 | 1.7997 |
| 163 | S | Major chest procedures w MCC | Include procedures: 3712, 3724, 3731, 3791, 3805, 3815, 3835, 3845, 3855, 3865, 3885, 3954 | 1 | 1.6482 |
| 164 | S | Major chest procedures w CC | See MS-DRG: 163 | 2 | 1.5705 |
| 165 | S | Major chest procedures w/o CC/MCC | See MS-DRG: 164 | 2 | 1.9853 |
| 215 | S | Other heart assist system implant | Include all | 1 | 1.2200 |
| 216 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w MCC | Include all | 1 | 1.1160 |
| 217 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w CC | Include all | 2 | 1.1409 |
| 218 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w/o CC/MCC | Include all | 2 | 1.1710 |
| 219 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w MCC | Include all | 1 | 1.2124 |
| 220 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w CC | Include all | 2 | 1.2043 |
| 221 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w/o CC/MCC | Include all | 2 | 1.2455 |
| 222 | S | Cardiac defib implant w cardiac cath w AMI/HF/shock w MCC | Include all | 1 | 1.1827 |
| 223 | S | Cardiac defib implant w cardiac cath w AMI/HF/shock w/o MCC | Include all | 1 | 1.2347 |
| 224 | S | Cardiac defib implant w cardiac cath w/o AMI/HF/shock w MCC | Include all | 3 | 1.6120 |
| 225 | S | Cardiac defib implant w cardiac cath w/o AMI/HF/shock w/o MCC | Include all | 3 | 0.8756 |
| 226 | S | Cardiac defibrillator implant w/o cardiac cath w MCC | Include all | 1 | 1.0619 |
| 227 | S | Cardiac defibrillator implant w/o cardiac cath w/o MCC | Include all | 1 | 1.1528 |
| 228 | S | Other cardiothoracic procedures w MCC | Include all | 1 | 1.9853 |
| 229 | S | Other cardiothoracic procedures w CC | Include all | 2 | 1.9853 |
| 230 | S | Other cardiothoracic procedures w/o CC/MCC | Include all | 2 | 1.9853 |
| 231 | S | Coronary bypass w PTCA w MCC | Include all | 1 | 1.4067 |
| 232 | S | Coronary bypass w PTCA w/o MCC | Include all | 2 | 1.5504 |
| 233 | S | Coronary bypass w cardiac cath w MCC | Include all | 2 | 1.2165 |
| 234 | S | Coronary bypass w cardiac cath w/o MCC | Include all | 3 | 1.3114 |
| 235 | S | Coronary bypass w/o cardiac cath w MCC | Include all | 2 | 1.2028 |
| 236 | S | Coronary bypass w/o cardiac cath w/o MCC | Include all | 3 | 1.2658 |
| 237 | S | Major cardiovasc procedures w MCC | Include all | 1 | 1.1770 |
| 238 | S | Major cardiovascular procedures w/o MCC | Include all | 2 | 1.1253 |
| 242 | S | Permanent cardiac pacemaker implant w MCC | Include all | 2 | 0.8299 |
| 243 | S | Permanent cardiac pacemaker implant w CC | Include all | 2 | 0.8482 |
| 244 | S | Permanent cardiac pacemaker implant w/o CC/MCC | Include all | 3 | 0.9191 |
| 245 | S | AICD Generator Procedures | Include all | 2 | 0.9820 |
| 246 | S | Perc cardiovasc proc w drug-eluting stent w MCC or 4+ vessels/stents | Include all | 2 | 1.1286 |
| 247 | S | Perc cardiovasc proc w drug-eluting stent w/o MCC | Include all | 3 | 1.1264 |
| 248 | S | Perc cardiovasc proc w non-drug-eluting stent w MCC or 4+ ves/stents | Include all | 2 | 1.1063 |
| 249 | S | Perc cardiovasc proc w non-drug-eluting stent w/o MCC | Include all | 3 | 1.1199 |
| 250 | S | Perc cardiovasc proc w/o coronary artery stent w MCC | Include all | 3 | 1.0337 |
| 251 | S | Perc cardiovasc proc w/o coronary artery stent or AMI w/o MCC | Include all | 3 | 1.0763 |
| 252 | S | Other vascular procedures w MCC | Include all | 2 | 0.9369 |
| 253 | S | Other vascular procedures w CC | Include all | 2 | 1.0572 |
| 254 | S | Other vascular procedures w/o CC/MCC | Include all | 3 | 1.0911 |
| 260 | S | Cardiac pacemaker revision except device replacement w MCC | Include all | 1 | 0.9790 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 261 | S | Cardiac pacemaker revision except device replacement w CC | Include all | 2 | 1.0476 |
| 262 | S | Cardiac pacemaker revision except device replacement w/o CC/MCC | Include all | 2 | 0.9819 |
| 265 | S | ACID lead procedures | Include all | 2 | 1.1371 |
| 266 | S | Endovascular Cardiac Valve Replacement with MCC | Include all | 1 | 0.7750 |
| 267 | S | Endovascular Cardiac Valve Replacement without MCC | Include all | 2 | 0.7886 |
| 280 | M | Acute myocardial infarction, discharged alive w MCC | Include all | 1 | 0.8963 |
| 281 | M | Acute myocardial infarction, discharged alive w CC | Include all | 2 | 1.0086 |
| 282 | M | Acute myocardial infarction, discharged alive w/o CC/MCC | Include all | 2 | 1.1147 |
| 283 | M | Acute myocardial infarction, expired w MCC | Include all | 1 | 0.8850 |
| 284 | M | Acute myocardial infarction, expired w CC | Include all | 2 | 0.8576 |
| 285 | M | Acute myocardial infarction, expired w/o CC/MCC | Include all | 2 | 0.8513 |
| 286 | M | Circulatory disorders except AMI, w card cath w MCC | Include all | 2 | 1.1181 |
| 287 | M | Circulatory disorders except AMI, w card cath w/o MCC | Include all | 3 | 1.2656 |
| 288 | M | Acute & subacute endocarditis w MCC | Include all | 1 | 1.5745 |
| 289 | M | Acute & subacute endocarditis w CC | Include all | 2 | 1.7098 |
| 290 | M | Acute & subacute endocarditis w/o CC/MCC | Include all | 2 | 1.9853 |
| 291 | M | Heart failure & shock w MCC | Include all | 1 | 0.8864 |
| 292 | M | Heart failure & shock w CC | Include all | 2 | 0.9482 |
| 293 | M | Heart failure & shock w/o CC/MCC | Include all | 2 | 0.8948 |
| 306 | M | Cardiac congenital & valvular disorders w MCC | Include all | 1 | 0.9673 |
| 308 | M | Cardiac arrhythmia & conduction disorders w MCC | Include all | 1 | 0.9159 |
| 309 | M | Cardiac arrhythmia & conduction disorders w CC | Include all | 2 | 1.0055 |
| 314 | M | Other circulatory system diagnoses w MCC | Include all | 2 | 1.1230 |
| 315 | M | Other circulatory system diagnoses w CC | Include all | 2 | 1.3611 |
| 316 | M | Other circulatory system diagnoses w/o CC/MCC | Include all | 3 | 1.4346 |

Diabetes & Endocrinology

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-----------------------------|----------|--------|
| 614 | S | Adrenal & pituitary procedures w CC/MCC | Include all | 2 | 1.6769 |
| 615 | S | Adrenal & pituitary procedures w/o CC/MCC | Include all | 2 | 1.5354 |
| 619 | S | O.R. procedures for obesity w MCC | Include all | 1 | 1.1577 |
| 620 | S | O.R. procedures for obesity w CC | Include all | 2 | 1.9570 |
| 621 | S | O.R. procedures for obesity w/o CC/MCC | Include all | 2 | 2.1677 |
| 622 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w MCC | Include all | 1 | 0.7843 |
| 623 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w CC | Include all | 2 | 1.0656 |
| 624 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w/o CC/MCC | Include all | 2 | 1.4868 |
| 625 | S | Thyroid, parathyroid & thyroglossal procedures w MCC | Include all | 1 | 0.8667 |
| 626 | S | Thyroid, parathyroid & thyroglossal procedures w CC | Include all | 2 | 1.6079 |
| 627 | S | Thyroid, parathyroid & thyroglossal procedures w/o CC/MCC | Include all | 2 | 1.5174 |
| 628 | S | Other endocrine, nutrit & metab O.R. proc w MCC | Include all | 1 | 0.7726 |
| 629 | S | Other endocrine, nutrit & metab O.R. proc w CC | Include all | 2 | 0.9849 |
| 630 | S | Other endocrine, nutrit & metab O.R. proc w/o CC/MCC | Include all | 2 | 1.7048 |
| 637 | M | Diabetes w MCC | Include all | 3 | 0.9315 |
| 638 | M | Diabetes w CC | Include all | 3 | 1.0830 |
| 639 | M | Diabetes w/o CC/MCC | Include all | 3 | 1.0233 |
| 640 | M | Misc disorders of nutrition, metabolism, fluids/electrolytes w MCC | Exclude diagnosis: 77934 | 3 | 0.7379 |
| 643 | M | Endocrine disorders w MCC | Include all | 3 | 0.7271 |
| 644 | M | Endocrine disorders w CC | Include all | 3 | 0.8183 |

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 | 1.0148 |
| 012 | S | Tracheostomy for face,mouth & neck diagnoses w CC | Include all | 1 | 1.0746 |
| 013 | S | Tracheostomy for face,mouth & neck diagnoses w/o CC/MCC | Include all | 1 | 1.1956 |
| 129 | S | Major head & neck procedures w CC/MCC or major device | Include all | 2 | 0.9894 |
| 130 | S | Major head & neck procedures w/o CC/MCC | Include all | 2 | 1.1360 |
| 131 | S | Cranial/Facial Procedures w CC/MCC | Include all | 3 | 1.9444 |
| 132 | S | Cranial/Facial Procedures w/o CC/MCC | Include all | 3 | 2.3676 |
| 133 | S | Other ear, nose, mouth & throat O.R. procedures w CC/MCC | Include all | 3 | 1.7458 |
| 134 | S | Other ear, nose, mouth & throat O.R. procedures w/o CC/MCC | Include all | 3 | 2.3676 |
| 139 | S | Salivary gland procedures | Include all | 3 | 0.7548 |
| 146 | M | Ear, nose, mouth & throat malignancy w MCC | Include all | 1 | 0.9976 |
| 147 | M | Ear, nose, mouth & throat malignancy w CC | Include all | 2 | 1.1384 |
| 148 | M | Ear, nose, mouth & throat malignancy w/o CC/MCC | Include all | 2 | 1.0856 |
| 152 | M | Otitis media & URI w MCC | Include all | 3 | 0.8052 |
| 154 | M | Other ear, nose, mouth and throat diagnosis w MCC | Include all | 3 | 0.7902 |
| 155 | M | Other ear, nose, mouth and throat diagnosis w CC | Include all | 3 | 0.7538 |
| 156 | M | Other ear, nose, mouth and throat diagnosis w/o CC/MCC | Include all | 3 | 0.9958 |

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 | 1.0549 |
| 327 | S | Stomach, esophageal & duodenal proc w CC | Include all | 2 | 1.2733 |
| 328 | S | Stomach, esophageal & duodenal proc w/o CC/MCC | Include all | 3 | 1.3079 |
| 329 | S | Major small & large bowel procedures w MCC | Include all | 1 | 0.9445 |
| 330 | S | Major small & large bowel procedures w CC | Include all | 2 | 1.1412 |
| 331 | S | Major small & large bowel procedures w/o CC/MCC | Include all | 2 | 1.2236 |
| 332 | S | Rectal resection w MCC | Include all | 1 | 0.9738 |
| 333 | S | Rectal resection w CC | Include all | 1 | 1.2086 |
| 334 | S | Rectal resection w/o CC/MCC | Include all | 2 | 1.2859 |
| 335 | S | Peritoneal adhesiolysis w MCC | Include all | 1 | 0.8540 |
| 336 | S | Peritoneal adhesiolysis w CC | Include all | 2 | 1.1026 |
| 337 | S | Peritoneal adhesiolysis w/o CC/MCC | Include all | 2 | 1.2104 |
| 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 | 0.9359 |
| 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 | 1.3181 |
| 346 | S | Minor small & large bowel procedures w/o CC/MCC | See MS-DRG 345 | 3 | 1.3348 |
| 356 | S | Other digestive system O.R. procedures w MCC | Include all | 2 | 0.8613 |
| 357 | S | Other digestive system O.R. procedures w CC | Include all | 2 | 1.0257 |

| 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 | 1.5047 |
| 368 | M | Major esophageal disorders w MCC | Include all | 1 | 1.0266 |
| 369 | M | Major esophageal disorders w CC | Include all | 2 | 1.1934 |
| 370 | M | Major esophageal disorders w/o CC/MCC | Include all | 2 | 1.4809 |
| 371 | M | Major gastrointestinal disorders & peritoneal infections w MCC | Include all | 1 | 0.8054 |
| 372 | M | Major gastrointestinal disorders & peritoneal infections w CC | Include all | 2 | 0.9248 |
| 373 | M | Major gastrointestinal disorders & peritoneal infections w/o CC/MCC | Include all | 2 | 1.2263 |
| 374 | M | Digestive malignancy w MCC | Include all | 1 | 0.9543 |
| 375 | M | Digestive malignancy w CC | Include all | 2 | 0.9892 |
| 376 | M | Digestive malignancy w/o CC/MCC | Include all | 2 | 0.9876 |
| 377 | M | G.I. hemorrhage w MCC | Include all | 1 | 0.7244 |
| 378 | M | G.I. hemorrhage w CC | Include all | 2 | 0.7662 |
| 379 | M | G.I. hemorrhage w/o CC/MCC | Include all | 2 | 0.8108 |
| 380 | M | Complicated peptic ulcer w MCC | Include all | 1 | 0.8952 |
| 381 | M | Complicated peptic ulcer w CC | Include all | 2 | 0.9606 |
| 382 | M | Complicated peptic ulcer w/o CC/MCC | Include all | 2 | 1.1716 |
| 383 | M | Uncomplicated peptic ulcer w MCC | Include all | 3 | 0.8503 |
| 385 | M | Inflammatory bowel disease w MCC | Include all | 1 | 1.6380 |
| 386 | M | Inflammatory bowel disease w CC | Include all | 2 | 1.8681 |
| 387 | M | Inflammatory bowel disease w/o CC/MCC | Include all | 2 | 1.8681 |
| 388 | M | G.I. obstruction w MCC | Include all | 3 | 0.7419 |
| 389 | M | G.I. obstruction w CC | Include all | 3 | 0.7470 |
| 391 | M | Esophagitis, gastroent & misc digest disorders w MCC | Include all | 3 | 0.8862 |
| 393 | M | Other digestive system diagnoses w MCC | Include all | 1 | 0.8619 |
| 394 | M | Other digestive system diagnoses w CC | Include all | 2 | 0.9271 |
| 405 | S | Pancreas, liver & shunt procedures w MCC | Include all | 1 | 1.1759 |
| 406 | S | Pancreas, liver & shunt procedures w CC | Include all | 1 | 1.2587 |
| 407 | S | Pancreas, liver & shunt procedures w/o CC/MCC | Include all | 2 | 1.3931 |
| 408 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w MCC | Include all | 2 | 0.9804 |
| 409 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w CC | Include all | 2 | 1.1517 |
| 410 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w/o CC/MCC | Include all | 3 | 1.8681 |
| 411 | S | Cholecystectomy w c.d.e. w MCC | Include all | 1 | 0.9604 |
| 412 | S | Cholecystectomy w c.d.e. w CC | Include all | 2 | 1.1475 |
| 413 | S | Cholecystectomy w c.d.e. w/o CC/MCC | Include all | 2 | 1.4508 |
| 414 | S | Cholecystectomy except by laparoscope w/o c.d.e. w MCC | Include all | 1 | 0.9158 |
| 415 | S | Cholecystectomy except by laparoscope w/o c.d.e. w CC | Include all | 2 | 1.1295 |
| 417 | S | Laparoscopic cholecystectomy w/o c.d.e. w MCC | Include all | 3 | 0.9426 |
| 418 | S | Laparoscopic cholecystectomy w/o c.d.e. w CC | Include all | 3 | 1.1402 |
| 420 | S | Hepatobiliary diagnostic procedures w MCC | Include all | 1 | 1.1822 |
| 421 | S | Hepatobiliary diagnostic procedures w CC | Include all | 2 | 1.0966 |
| 422 | S | Hepatobiliary diagnostic procedures w/o CC/MCC | Include all | 2 | 1.1667 |
| 423 | S | Other hepatobiliary or pancreas O.R. procedures w MCC | Include all | 3 | 1.0974 |
| 424 | S | Other hepatobiliary or pancreas O.R. procedures w CC | Include all | 3 | 1.1450 |
| 425 | S | Other hepatobiliary or pancreas O.R. procedures w/o CC/MCC | Include all | 3 | 0.6785 |
| 432 | M | Cirrhosis & alcoholic hepatitis w MCC | Include all | 1 | 1.5705 |
| 433 | M | Cirrhosis & alcoholic hepatitis w CC | Include all | 2 | 1.7711 |
| 434 | M | Cirrhosis & alcoholic hepatitis w/o CC/MCC | Include all | 2 | 1.8681 |
| 435 | M | Malignancy of hepatobiliary system or pancreas w MCC | Include all | 1 | 0.9506 |
| 436 | M | Malignancy of hepatobiliary system or pancreas w CC | Include all | 2 | 0.9904 |
| 437 | M | Malignancy of hepatobiliary system or pancreas w/o CC/MCC | Include all | 2 | 1.0747 |
| 438 | M | Disorders of pancreas except malignancy w MCC | Include all | 1 | 1.2403 |
| 439 | M | Disorders of pancreas except malignancy w CC | Include all | 2 | 1.5916 |

| 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 | 1.6413 |
| 441 | M | Disorders of liver except malig,cirr,alc hepa w MCC | Exclude diagnosis: 7948 | 1 | 1.1502 |
| 442 | M | Disorders of liver except malig,cirr,alc hepa w CC | See MS-DRG 442 | 2 | 1.2484 |

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 | 1.0093 |
| 002 | S | Heart transplant or implant of heart assist system w/o MCC | Include all | 1 | 1.0599 |
| 003 | S | ECMO or trach w MV 96+ hrs or PDX exc face, mouth & neck w maj O.R. | Include all | 1 | 1.0364 |
| 004 | S | Trach w MV 96+ hrs or PDX exc face, mouth & neck w/o maj O.R. | Include all | 1 | 1.0443 |
| 005 | S | Liver transplant w MCC or intestinal transplant | Include all | 1 | 0.9274 |
| 006 | S | Liver transplant w/o MCC | Include all | 1 | 0.9274 |
| 007 | S | Lung transplant | Include all | 1 | 0.9274 |
| 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 | 1.0455 |
| 012 | S | Tracheostomy for face,mouth & neck diagnoses w CC | Include all | 1 | 0.9796 |
| 013 | S | Tracheostomy for face,mouth & neck diagnoses w/o CC/MCC | Include all | 1 | 0.9789 |
| 014 | S | Allogeneic bone marrow transplant | Include all | 1 | 1.1270 |
| 016 | S | Autologous bone marrow transplant w CC/MCC | Include all | 1 | 1.1270 |
| 017 | S | Autologous bone marrow transplant w/o CC/MCC | Include all | 1 | 1.1270 |
| 020 | S | Intracranial vascular procedures w PDX hemorrhage w MCC | Include all | 1 | 1.0327 |
| 021 | S | Intracranial vascular procedures w PDX hemorrhage w CC | Include all | 1 | 1.0144 |
| 022 | S | Intracranial vascular procedures w PDX hemorrhage w/o CC/MCC | Include all | 1 | 0.9274 |
| 023 | S | Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant | Include all | 1 | 1.0169 |
| 024 | S | Cranio w major dev impl/acute complex CNS PDX w/o MCC | Include all | 1 | 1.0269 |
| 025 | S | Craniotomy & endovascular intracranial procedures w MCC | Include all | 1 | 1.0170 |
| 026 | S | Craniotomy & endovascular intracranial procedures w CC | Include all | 1 | 1.0260 |
| 027 | S | Craniotomy & endovascular intracranial procedures w/o CC/MCC | Include all | 1 | 1.0224 |
| 028 | S | Spinal procedures w MCC | Include all | 1 | 1.0924 |
| 029 | S | Spinal procedures w CC or spinal neurostimulators | Include all | 2 | 1.0227 |
| 030 | S | Spinal procedures w/o CC/MCC | Include all | 2 | 0.9973 |
| 031 | S | Ventricular shunt procedures w MCC | Include all | 1 | 1.0178 |
| 032 | S | Ventricular shunt procedures w CC | Include all | 2 | 0.9835 |
| 033 | S | Ventricular shunt procedures w/o CC/MCC | Include all | 2 | 0.9813 |
| 034 | S | Carotid artery stent procedure w MCC | Include all | 1 | 0.9893 |
| 035 | S | Carotid artery stent procedure w CC | Include all | 2 | 0.9877 |
| 036 | S | Carotid artery stent procedure w/o CC/MCC | Include all | 2 | 0.9728 |
| 037 | S | Extracranial procedures w MCC | Include all | 2 | 0.9869 |
| 038 | S | Extracranial procedures w CC | Include all | 2 | 0.9900 |
| 039 | S | Extracranial procedures w/o CC/MCC | Include all | 3 | 1.0231 |
| 040 | S | Periph & cranial nerve & other nerv syst proc w MCC | Include all | 2 | 1.0219 |
| 041 | S | Periph/cranial nerve & other nerv syst proc w CC or periph neurostim | Include all | 2 | 1.0050 |
| 042 | S | Periph & cranial nerve & other nerv syst proc w/o CC/MCC | Include all | 3 | 1.0211 |
| 052 | M | Spinal disorders & injuries w CC/MCC | Include all | 2 | 1.0441 |
| 053 | M | Spinal disorders & injuries w/o CC/MCC | Include all | 2 | 1.0331 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 054 | M | Nervous system neoplasms w MCC | Include all | 1 | 1.0102 |
| 055 | M | Nervous system neoplasms w/o MCC | Include all | 2 | 1.0224 |
| 056 | M | Degenerative nervous system disorders w MCC | Include all | 1 | 1.0196 |
| 057 | M | Degenerative nervous system disorders w/o MCC | Include all | 2 | 1.0105 |
| 058 | M | Multiple sclerosis & cerebellar ataxia w MCC | Include all | 1 | 0.9776 |
| 059 | M | Multiple sclerosis & cerebellar ataxia w CC | Include all | 2 | 0.9914 |
| 060 | M | Multiple sclerosis & cerebellar ataxia w/o CC/MCC | Include all | 2 | 0.9804 |
| 061 | M | Acute ischemic stroke w use of thrombolytic agent w MCC | Include all | 1 | 1.0073 |
| 062 | M | Acute ischemic stroke w use of thrombolytic agent w CC | Include all | 2 | 1.0094 |
| 063 | M | Acute ischemic stroke w use of thrombolytic agent w/o CC/MCC | Include all | 2 | 1.0141 |
| 064 | M | Intracranial hemorrhage or cerebral infarction w MCC | Include all | 1 | 1.0151 |
| 065 | M | Intracranial hemorrhage or cerebral infarction w CC | Include all | 2 | 1.0064 |
| 066 | M | Intracranial hemorrhage or cerebral infarction w/o CC/MCC | Include all | 2 | 1.0175 |
| 067 | M | Nonspecific cva & precerebral occlusion w/o infarct w MCC | Include all | 1 | 0.9985 |
| 068 | M | Nonspecific cva & precerebral occlusion w/o infarct w/o MCC | Include all | 2 | 0.9891 |
| 069 | M | Transient ischemia | Include all | 3 | 0.9910 |
| 070 | M | Nonspecific cerebrovascular disorders w MCC | Include all | 2 | 1.0061 |
| 071 | M | Nonspecific cerebrovascular disorders w CC | Include all | 2 | 0.9996 |
| 072 | M | Nonspecific cerebrovascular disorders w/o CC/MCC | Include all | 3 | 1.0053 |
| 073 | M | Cranial & peripheral nerve disorders w MCC | Include all | 1 | 0.9864 |
| 074 | M | Cranial & peripheral nerve disorders w/o MCC | Include all | 2 | 0.9984 |
| 075 | M | Viral meningitis w CC/MCC | Include all | 2 | 0.9874 |
| 076 | M | Viral meningitis w/o CC/MCC | Include all | 2 | 1.0770 |
| 077 | M | Hypertensive encephalopathy w MCC | Include all | 1 | 0.9986 |
| 078 | M | Hypertensive encephalopathy w CC | Include all | 2 | 0.9946 |
| 079 | M | Hypertensive encephalopathy w/o CC/MCC | Include all | 2 | 0.9831 |
| 080 | M | Nontraumatic stupor & coma w MCC | Include all | 1 | 1.0007 |
| 081 | M | Nontraumatic stupor & coma w/o MCC | Include all | 2 | 0.9933 |
| 082 | M | Traumatic stupor & coma, coma >1 hr w MCC | Include all | 1 | 1.0365 |
| 083 | M | Traumatic stupor & coma, coma >1 hr w CC | Include all | 1 | 1.0612 |
| 084 | M | Traumatic stupor & coma, coma >1 hr w/o CC/MCC | Include all | 1 | 1.0692 |
| 085 | M | Traumatic stupor & coma, coma <1 hr w MCC | Include all | 1 | 1.0104 |
| 086 | M | Traumatic stupor & coma, coma <1 hr w CC | Include all | 2 | 1.0217 |
| 087 | M | Traumatic stupor & coma, coma <1 hr w/o CC/MCC | Include all | 2 | 1.0232 |
| 088 | M | Concussion w MCC | Include all | 3 | 1.0454 |
| 089 | M | Concussion w CC | Include all | 3 | 1.0343 |
| 090 | M | Concussion w/o CC/MCC | Include all | 3 | 1.1270 |
| 091 | M | Other disorders of nervous system w MCC | Include all | 3 | 1.0096 |
| 092 | M | Other disorders of nervous system w CC | Include all | 3 | 0.9872 |
| 093 | M | Other disorders of nervous system w/o CC/MCC | Include all | 3 | 0.9989 |
| 094 | M | Bacterial & tuberculous infections of nervous system w MCC | Include all | 1 | 1.0215 |
| 095 | M | Bacterial & tuberculous infections of nervous system w CC | Include all | 2 | 1.0316 |
| 096 | M | Bacterial & tuberculous infections of nervous system w/o CC/MCC | Include all | 2 | 0.9828 |
| 097 | M | Non-bacterial infect of nervous sys exc viral meningitis w MCC | Include all | 1 | 0.9918 |
| 098 | M | Non-bacterial infect of nervous sys exc viral meningitis w CC | Include all | 2 | 1.0234 |
| 099 | M | Non-bacterial infect of nervous sys exc viral meningitis w/o CC/MCC | Include all | 2 | 1.0365 |
| 100 | M | Seizures w MCC | Include all | 2 | 1.0066 |
| 101 | M | Seizures w/o MCC | Include all | 3 | 1.0095 |
| 102 | M | Headaches w MCC | Include all | 3 | 0.9838 |
| 103 | M | Headaches w/o MCC | Include all | 3 | 1.0518 |
| 113 | S | Orbital procedures w CC/MCC | Include all | 2 | 1.0209 |
| 114 | S | Orbital procedures w/o CC/MCC | Include all | 2 | 0.9937 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 115 | S | Extraocular procedures except orbit | Include all | 3 | 0.9727 |
| 116 | S | Intraocular procedures w CC/MCC | Include all | 3 | 0.9820 |
| 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 | 0.9931 |
| 122 | M | Acute major eye infections w/o CC/MCC | Include all | 2 | 1.0599 |
| 123 | M | Neurological eye disorders | Include all | 3 | 0.9859 |
| 124 | M | Other disorders of the eye w MCC | Include all | 2 | 1.0093 |
| 125 | M | Other disorders of the eye w/o MCC | Include all | 3 | 1.0232 |
| 129 | S | Major head & neck procedures w CC/MCC or major device | Include all | 2 | 0.9990 |
| 130 | S | Major head & neck procedures w/o CC/MCC | Include all | 2 | 1.1081 |
| 131 | S | Cranial/facial procedures w CC/MCC | Include all | 3 | 1.0689 |
| 132 | S | Cranial/facial procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 133 | S | Other ear, nose, mouth & throat O.R. procedures w CC/MCC | Include all | 3 | 0.9963 |
| 134 | S | Other ear, nose, mouth & throat O.R. procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 135 | S | Sinus & mastoid procedures w CC/MCC | Include all | 2 | 0.9490 |
| 136 | S | Sinus & mastoid procedures w/o CC/MCC | Include all | 2 | 1.0047 |
| 137 | S | Mouth procedures w CC/MCC | Include all | 3 | 1.0365 |
| 138 | S | Mouth procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 139 | S | Salivary gland procedures | Include all | 3 | 0.9274 |
| 146 | M | Ear, nose, mouth & throat malignancy w MCC | Include all | 1 | 1.0273 |
| 147 | M | Ear, nose, mouth & throat malignancy w CC | Include all | 2 | 1.0343 |
| 148 | M | Ear, nose, mouth & throat malignancy w/o CC/MCC | Include all | 2 | 1.0879 |
| 149 | M | Dysequilibrium | Include all | 3 | 0.9870 |
| 150 | M | Epistaxis w MCC | Include all | 3 | 0.9867 |
| 151 | M | Epistaxis w/o MCC | Include all | 3 | 0.9993 |
| 152 | M | Otitis media & URI w MCC | Include all | 3 | 0.9863 |
| 153 | M | Otitis media & URI w/o MCC | Include all | 3 | 0.9871 |
| 154 | M | Other Ear, Nose, Mouth, and Throat Diagnoses with MCC | Include all | 3 | 0.9920 |
| 155 | M | Other Ear, Nose, Mouth, and Throat Diagnoses with CC | Include all | 3 | 0.9932 |
| 156 | M | Other Ear, Nose, Mouth, and Throat Diagnoses without CC/MCC | Include all | 3 | 0.9854 |
| 157 | M | Dental & Oral Diseases w MCC | Include all | 3 | 1.0018 |
| 158 | M | Dental & Oral Diseases w CC | Include all | 3 | 1.0309 |
| 159 | M | Dental & Oral Diseases w/o CC/MCC | Include all | 3 | 1.0599 |
| 163 | S | Major chest procedures w MCC | Include all | 1 | 1.0152 |
| 164 | S | Major chest procedures w CC | Include all | 2 | 0.9898 |
| 165 | S | Major chest procedures w/o CC/MCC | Include all | 2 | 0.9972 |
| 166 | S | Other resp system O.R. procedures w MCC | Include all | 2 | 1.0008 |
| 167 | S | Other resp system O.R. procedures w CC | Include all | 2 | 0.9923 |
| 168 | S | Other resp system O.R. procedures w/o CC/MCC | Include all | 3 | 1.0539 |
| 175 | M | Pulmonary embolism w MCC | Include all | 1 | 0.9981 |
| 176 | M | Pulmonary embolism w/o MCC | Include all | 1 | 0.9994 |
| 177 | M | Respiratory infections & inflammations w MCC | Include all | 1 | 0.9951 |
| 178 | M | Respiratory infections & inflammations w CC | Include all | 2 | 0.9898 |
| 179 | M | Respiratory infections & inflammations w/o CC/MCC | Include all | 2 | 0.9962 |
| 180 | M | Respiratory neoplasms w MCC | Include all | 1 | 1.0288 |
| 181 | M | Respiratory neoplasms w CC | Include all | 2 | 1.0406 |
| 182 | M | Respiratory neoplasms w/o CC/MCC | Include all | 2 | 1.1270 |
| 183 | M | Major chest trauma w MCC | Include all | 1 | 1.0624 |
| 184 | M | Major chest trauma w CC | Include all | 1 | 1.1270 |
| 185 | M | Major chest trauma w/o CC/MCC | Include all | 1 | 1.1270 |
| 186 | M | Pleural effusion w MCC | Include all | 3 | 0.9903 |
| 187 | M | Pleural effusion w CC | Include all | 3 | 0.9994 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|-------------|----------|--------|
| 188 | M | Pleural effusion w/o CC/MCC | Include all | 3 | 1.1270 |
| 189 | M | Pulmonary edema & respiratory failure | Include all | 2 | 1.0246 |
| 190 | M | Chronic obstructive pulmonary disease w MCC | Include all | 3 | 0.9953 |
| 191 | M | Chronic obstructive pulmonary disease w CC | Include all | 3 | 0.9890 |
| 192 | M | Chronic obstructive pulmonary disease w/o CC/MCC | Include all | 3 | 0.9826 |
| 193 | M | Simple pneumonia & pleurisy w MCC | Include all | 3 | 0.9964 |
| 194 | M | Simple pneumonia & pleurisy w CC | Include all | 3 | 0.9951 |
| 195 | M | Simple pneumonia & pleurisy w/o CC/MCC | Include all | 3 | 0.9952 |
| 196 | M | Interstitial lung disease w MCC | Include all | 3 | 0.9989 |
| 197 | M | Interstitial lung disease w CC | Include all | 3 | 0.9840 |
| 198 | M | Interstitial lung disease w/o CC/MCC | Include all | 3 | 1.0758 |
| 199 | M | Pneumothorax w MCC | Include all | 1 | 1.0076 |
| 200 | M | Pneumothorax w CC | Include all | 2 | 1.0273 |
| 201 | M | Pneumothorax w/o CC/MCC | Include all | 2 | 0.9884 |
| 202 | M | Bronchitis & asthma w CC/MCC | Include all | 3 | 0.9853 |
| 203 | M | Bronchitis & asthma w/o CC/MCC | Include all | 3 | 0.9720 |
| 204 | M | Respiratory signs & symptoms | Include all | 3 | 0.9922 |
| 205 | M | Other respiratory system diagnoses w MCC | Include all | 3 | 1.0140 |
| 206 | M | Other respiratory system diagnoses w/o MCC | Include all | 3 | 1.0121 |
| 207 | M | Respiratory system diagnosis w ventilator support 96+ hours | Include all | 2 | 1.0040 |
| 208 | M | Respiratory system diagnosis w ventilator support <96 hours | Include all | 2 | 1.0121 |
| 215 | S | Other heart assist system implant | Include all | 1 | 1.0202 |
| 216 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w MCC | Include all | 1 | 1.0072 |
| 217 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w CC | Include all | 2 | 1.0148 |
| 218 | S | Cardiac valve & oth maj cardiothoracic proc w card cath w/o CC/MCC | Include all | 2 | 1.0614 |
| 219 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w MCC | Include all | 1 | 0.9966 |
| 220 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w CC | Include all | 2 | 0.9983 |
| 221 | S | Cardiac valve & oth maj cardiothoracic proc w/o card cath w/o CC/MCC | Include all | 2 | 0.9947 |
| 222 | S | Cardiac defib implant w cardiac cath w AMI/HF/shock w MCC | Include all | 1 | 1.0075 |
| 223 | S | Cardiac defib implant w cardiac cath w AMI/HF/shock w/o MCC | Include all | 1 | 1.0121 |
| 224 | S | Cardiac defib implant w cardiac cath w/o AMI/HF/shock w MCC | Include all | 3 | 1.0117 |
| 225 | S | Cardiac defib implant w cardiac cath w/o AMI/HF/shock w/o MCC | Include all | 3 | 0.9274 |
| 226 | S | Cardiac defibrillator implant w/o cardiac cath w MCC | Include all | 1 | 1.0062 |
| 227 | S | Cardiac defibrillator implant w/o cardiac cath w/o MCC | Include all | 1 | 1.0068 |
| 228 | S | Other cardiothoracic procedures w MCC | Include all | 1 | 1.0257 |
| 229 | S | Other cardiothoracic procedures w CC | Include all | 2 | 0.9895 |
| 230 | S | Other cardiothoracic procedures w/o CC/MCC | Include all | 2 | 1.0047 |
| 231 | S | Coronary bypass w PTCA w MCC | Include all | 1 | 1.0378 |
| 232 | S | Coronary bypass w PTCA w/o MCC | Include all | 2 | 0.9873 |
| 233 | S | Coronary bypass w cardiac cath w MCC | Include all | 2 | 1.0093 |
| 234 | S | Coronary bypass w cardiac cath w/o MCC | Include all | 3 | 1.0046 |
| 235 | S | Coronary bypass w/o cardiac cath w MCC | Include all | 2 | 1.0041 |
| 236 | S | Coronary bypass w/o cardiac cath w/o MCC | Include all | 3 | 1.0290 |
| 237 | S | Major cardiovasc procedures w MCC | Include all | 1 | 1.0037 |
| 238 | S | Major cardiovascular procedures w/o MCC | Include all | 2 | 0.9989 |
| 239 | S | Amputation for circ sys disorders exc upper limb & toe w MCC | Include all | 1 | 0.9905 |
| 240 | S | Amputation for circ sys disorders exc upper limb & toe w CC | Include all | 2 | 1.0016 |
| 241 | S | Amputation for circ sys disorders exc upper limb & toe w/o CC/MCC | Include all | 2 | 1.0011 |
| 242 | S | Permanent cardiac pacemaker implant w MCC | Include all | 2 | 0.9903 |
| 243 | S | Permanent cardiac pacemaker implant w CC | Include all | 2 | 0.9919 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|-------------|----------|--------|
| 244 | S | Permanent cardiac pacemaker implant w/o CC/MCC | Include all | 3 | 0.9811 |
| 245 | S | AICD generator procedures | Include all | 2 | 1.0117 |
| 246 | S | Perc cardiovasc proc w drug-eluting stent w MCC or 4+ vessels/stents | Include all | 2 | 1.0032 |
| 247 | S | Perc cardiovasc proc w drug-eluting stent w/o MCC | Include all | 3 | 1.0050 |
| 248 | S | Perc cardiovasc proc w non-drug-eluting stent w MCC or 4+ ves/stents | Include all | 2 | 1.0013 |
| 249 | S | Perc cardiovasc proc w non-drug-eluting stent w/o MCC | Include all | 3 | 1.0018 |
| 250 | S | Perc cardiovasc proc w/o coronary artery stent w MCC | Include all | 3 | 0.9853 |
| 251 | S | Perc cardiovasc proc w/o coronary artery stent w/o MCC | Include all | 3 | 1.0005 |
| 252 | S | Other vascular procedures w MCC | Include all | 2 | 0.9918 |
| 253 | S | Other vascular procedures w CC | Include all | 2 | 0.9931 |
| 254 | S | Other vascular procedures w/o CC/MCC | Include all | 3 | 0.9999 |
| 255 | S | Upper limb & toe amputation for circ system disorders w MCC | Include all | 1 | 1.0111 |
| 256 | S | Upper limb & toe amputation for circ system disorders w CC | Include all | 2 | 0.9996 |
| 257 | S | Upper limb & toe amputation for circ system disorders w/o CC/MCC | Include all | 2 | 0.9738 |
| 258 | S | Cardiac pacemaker device replacement w MCC | Include all | 3 | 0.9572 |
| 259 | S | Cardiac pacemaker device replacement w/o MCC | Include all | 3 | 0.9820 |
| 260 | S | Cardiac pacemaker revision except device replacement w MCC | Include all | 1 | 0.9988 |
| 261 | S | Cardiac pacemaker revision except device replacement w CC | Include all | 2 | 0.9925 |
| 262 | S | Cardiac pacemaker revision except device replacement w/o CC/MCC | Include all | 2 | 0.9742 |
| 263 | S | Vein ligation & stripping | Include all | 3 | 0.9988 |
| 264 | S | Other circulatory system O.R. procedures | Include all | 2 | 0.9867 |
| 265 | S | AICD lead procedures | Include all | 2 | 1.0422 |
| 266 | S | Endovascular Cardiac Valve Replacement with MCC | Include all | 1 | 0.9751 |
| 267 | S | Endovascular Cardiac Valve Replacement without MCC | Include all | 2 | 0.9906 |
| 280 | M | Acute myocardial infarction, discharged alive w MCC | Include all | 1 | 0.9967 |
| 281 | M | Acute myocardial infarction, discharged alive w CC | Include all | 2 | 0.9917 |
| 282 | M | Acute myocardial infarction, discharged alive w/o CC/MCC | Include all | 2 | 0.9962 |
| 283 | M | Acute myocardial infarction, expired w MCC | Include all | 1 | 1.0240 |
| 284 | M | Acute myocardial infarction, expired w CC | Include all | 2 | 1.0365 |
| 285 | M | Acute myocardial infarction, expired w/o CC/MCC | Include all | 2 | 1.0180 |
| 286 | M | Circulatory disorders except AMI, w card cath w MCC | Include all | 2 | 0.9959 |
| 287 | M | Circulatory disorders except AMI, w card cath w/o MCC | Include all | 3 | 1.0033 |
| 288 | M | Acute & subacute endocarditis w MCC | Include all | 1 | 1.0421 |
| 289 | M | Acute & subacute endocarditis w CC | Include all | 2 | 0.9778 |
| 290 | M | Acute & subacute endocarditis w/o CC/MCC | Include all | 2 | 1.0365 |
| 291 | M | Heart failure & shock w MCC | Include all | 1 | 0.9945 |
| 292 | M | Heart failure & shock w CC | Include all | 2 | 0.9957 |
| 293 | M | Heart failure & shock w/o CC/MCC | Include all | 2 | 1.0028 |
| 294 | M | Deep vein thrombophlebitis w CC/MCC | Include all | 3 | 0.9472 |
| 295 | M | Deep vein thrombophlebitis w/o CC/MCC | Include all | 3 | 1.0000 |
| 296 | M | Cardiac arrest, unexplained w MCC | Include all | 1 | 1.0264 |
| 297 | M | Cardiac arrest, unexplained w CC | Include all | 2 | 1.0578 |
| 298 | M | Cardiac arrest, unexplained w/o CC/MCC | Include all | 2 | 0.9996 |
| 299 | M | Peripheral vascular disorders w MCC | Include all | 1 | 0.9970 |
| 300 | M | Peripheral vascular disorders w CC | Include all | 2 | 0.9917 |
| 301 | M | Peripheral vascular disorders w/o CC/MCC | Include all | 2 | 1.0159 |
| 302 | M | Atherosclerosis w MCC | Include all | 3 | 1.0242 |
| 303 | M | Atherosclerosis w/o MCC | Include all | 3 | 1.0049 |
| 304 | M | Hypertension w MCC | Include all | 3 | 1.0114 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 305 | M | Hypertension w/o MCC | Include all | 3 | 0.9944 |
| 306 | M | Cardiac congenital & valvular disorders w MCC | Include all | 1 | 0.9962 |
| 307 | M | Cardiac congenital & valvular disorders w/o MCC | Include all | 2 | 0.9979 |
| 308 | M | Cardiac arrhythmia & conduction disorders w MCC | Include all | 1 | 0.9895 |
| 309 | M | Cardiac arrhythmia & conduction disorders w CC | Include all | 2 | 0.9933 |
| 310 | M | Cardiac arrhythmia & conduction disorders w/o CC/MCC | Include all | 2 | 0.9950 |
| 311 | M | Angina pectoris | Include all | 3 | 0.9960 |
| 312 | M | Syncope & collapse | Include all | 2 | 0.9952 |
| 313 | M | Chest pain | Include all | 3 | 0.9928 |
| 314 | M | Other circulatory system diagnoses w MCC | Include all | 2 | 0.9985 |
| 315 | M | Other circulatory system diagnoses w CC | Include all | 2 | 0.9985 |
| 316 | M | Other circulatory system diagnoses w/o CC/MCC | Include all | 3 | 0.9769 |
| 326 | S | Stomach, esophageal & duodenal proc w MCC | Include all | 2 | 0.9989 |
| 327 | S | Stomach, esophageal & duodenal proc w CC | Include all | 2 | 1.0066 |
| 328 | S | Stomach, esophageal & duodenal proc w/o CC/MCC | Include all | 3 | 0.9907 |
| 329 | S | Major small & large bowel procedures w MCC | Include all | 1 | 0.9951 |
| 330 | S | Major small & large bowel procedures w CC | Include all | 2 | 0.9968 |
| 331 | S | Major small & large bowel procedures w/o CC/MCC | Include all | 2 | 1.0041 |
| 332 | S | Rectal resection w MCC | Include all | 1 | 1.0005 |
| 333 | S | Rectal resection w CC | Include all | 1 | 1.0018 |
| 334 | S | Rectal resection w/o CC/MCC | Include all | 2 | 1.0627 |
| 335 | S | Peritoneal adhesiolysis w MCC | Include all | 1 | 0.9942 |
| 336 | S | Peritoneal adhesiolysis w CC | Include all | 2 | 1.0050 |
| 337 | S | Peritoneal adhesiolysis w/o CC/MCC | Include all | 2 | 0.9803 |
| 338 | S | Appendectomy w complicated principal diag w MCC | Include all | 3 | 1.0539 |
| 339 | S | Appendectomy w complicated principal diag w CC | Include all | 3 | 1.0392 |
| 340 | S | Appendectomy w complicated principal diag w/o CC/MCC | Include all | 3 | 0.9274 |
| 341 | S | Appendectomy w/o complicated principal diag w MCC | Include all | 3 | 1.0334 |
| 342 | S | Appendectomy w/o complicated principal diag w CC | Include all | 3 | 0.9919 |
| 343 | S | Appendectomy w/o complicated principal diag w/o CC/MCC | Include all | 3 | 0.9274 |
| 344 | S | Minor small & large bowel procedures w MCC | Include all | 2 | 0.9838 |
| 345 | S | Minor small & large bowel procedures w CC | Include all | 2 | 1.0021 |
| 346 | S | Minor small & large bowel procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 347 | S | Anal & stomal procedures w MCC | Include all | 1 | 0.9742 |
| 348 | S | Anal & stomal procedures w CC | Include all | 2 | 1.0042 |
| 349 | S | Anal & stomal procedures w/o CC/MCC | Include all | 2 | 0.9700 |
| 350 | S | Inguinal & femoral hernia procedures w MCC | Include all | 3 | 0.9994 |
| 351 | S | Inguinal & femoral hernia procedures w CC | Include all | 3 | 1.0013 |
| 352 | S | Inguinal & femoral hernia procedures w/o CC/MCC | Include all | 3 | 1.1270 |
| 353 | S | Hernia procedures except inguinal & femoral w MCC | Include all | 1 | 0.9726 |
| 354 | S | Hernia procedures except inguinal & femoral w CC | Include all | 2 | 0.9845 |
| 355 | S | Hernia procedures except inguinal & femoral w/o CC/MCC | Include all | 2 | 0.9904 |
| 356 | S | Other digestive system O.R. procedures w MCC | Include all | 2 | 0.9960 |
| 357 | S | Other digestive system O.R. procedures w CC | Include all | 2 | 0.9799 |
| 358 | S | Other digestive system O.R. procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 368 | M | Major esophageal disorders w MCC | Include all | 1 | 1.0174 |
| 369 | M | Major esophageal disorders w CC | Include all | 2 | 0.9894 |
| 370 | M | Major esophageal disorders w/o CC/MCC | Include all | 2 | 1.0085 |
| 371 | M | Major gastrointestinal disorders & peritoneal infections w MCC | Include all | 1 | 0.9933 |
| 372 | M | Major gastrointestinal disorders & peritoneal infections w CC | Include all | 2 | 0.9855 |
| 373 | M | Major gastrointestinal disorders & peritoneal infections w/o CC/MCC | Include all | 2 | 0.9860 |
| 374 | M | Digestive malignancy w MCC | Include all | 1 | 1.0467 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 375 | M | Digestive malignancy w CC | Include all | 2 | 1.0327 |
| 376 | M | Digestive malignancy w/o CC/MCC | Include all | 2 | 1.0607 |
| 377 | M | G.I. hemorrhage w MCC | Include all | 1 | 0.9929 |
| 378 | M | G.I. hemorrhage w CC | Include all | 2 | 0.9905 |
| 379 | M | G.I. hemorrhage w/o CC/MCC | Include all | 2 | 0.9927 |
| 380 | M | Complicated peptic ulcer w MCC | Include all | 1 | 1.0183 |
| 381 | M | Complicated peptic ulcer w CC | Include all | 2 | 1.0041 |
| 382 | M | Complicated peptic ulcer w/o CC/MCC | Include all | 2 | 1.0006 |
| 383 | M | Uncomplicated peptic ulcer w MCC | Include all | 3 | 1.0210 |
| 384 | M | Uncomplicated peptic ulcer w/o MCC | Include all | 3 | 1.0073 |
| 385 | M | Inflammatory bowel disease w MCC | Include all | 1 | 0.9971 |
| 386 | M | Inflammatory bowel disease w CC | Include all | 2 | 0.9897 |
| 387 | M | Inflammatory bowel disease w/o CC/MCC | Include all | 2 | 0.9873 |
| 388 | M | G.I. obstruction w MCC | Include all | 3 | 0.9978 |
| 389 | M | G.I. obstruction w CC | Include all | 3 | 0.9859 |
| 390 | M | G.I. obstruction w/o CC/MCC | Include all | 3 | 0.9527 |
| 391 | M | Esophagitis, gastroent & misc digest disorders w MCC | Include all | 3 | 0.9901 |
| 392 | M | Esophagitis, gastroent & misc digest disorders w/o MCC | Include all | 3 | 0.9857 |
| 393 | M | Other digestive system diagnoses w MCC | Include all | 1 | 0.9994 |
| 394 | M | Other digestive system diagnoses w CC | Include all | 2 | 0.9947 |
| 395 | M | Other digestive system diagnoses w/o CC/MCC | Include all | 2 | 1.0068 |
| 405 | S | Pancreas, liver & shunt procedures w MCC | Include all | 1 | 1.0169 |
| 406 | S | Pancreas, liver & shunt procedures w CC | Include all | 1 | 0.9934 |
| 407 | S | Pancreas, liver & shunt procedures w/o CC/MCC | Include all | 2 | 0.9871 |
| 408 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w MCC | Include all | 2 | 0.9898 |
| 409 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w CC | Include all | 2 | 0.9829 |
| 410 | S | Biliary tract proc except only cholecyst w or w/o c.d.e. w/o CC/MCC | Include all | 3 | 0.9274 |
| 411 | S | Cholecystectomy w c.d.e. w MCC | Include all | 1 | 1.0463 |
| 412 | S | Cholecystectomy w c.d.e. w CC | Include all | 2 | 0.9884 |
| 413 | S | Cholecystectomy w c.d.e. w/o CC/MCC | Include all | 2 | 0.9716 |
| 414 | S | Cholecystectomy except by laparoscope w/o c.d.e. w MCC | Include all | 1 | 1.0131 |
| 415 | S | Cholecystectomy except by laparoscope w/o c.d.e. w CC | Include all | 2 | 0.9946 |
| 416 | S | Cholecystectomy except by laparoscope w/o c.d.e. w/o CC/MCC | Include all | 2 | 0.9809 |
| 417 | S | Laparoscopic cholecystectomy w/o c.d.e. w MCC | Include all | 3 | 1.0214 |
| 418 | S | Laparoscopic cholecystectomy w/o c.d.e. w CC | Include all | 3 | 1.0165 |
| 419 | S | Laparoscopic cholecystectomy w/o c.d.e. w/o CC/MCC | Include all | 3 | 1.0670 |
| 420 | S | Hepatobiliary diagnostic procedures w MCC | Include all | 1 | 1.0040 |
| 421 | S | Hepatobiliary diagnostic procedures w CC | Include all | 2 | 0.9905 |
| 422 | S | Hepatobiliary diagnostic procedures w/o CC/MCC | Include all | 2 | 1.0434 |
| 423 | S | Other hepatobiliary or pancreas O.R. procedures w MCC | Include all | 3 | 1.0042 |
| 424 | S | Other hepatobiliary or pancreas O.R. procedures w CC | Include all | 3 | 1.1163 |
| 425 | S | Other hepatobiliary or pancreas O.R. procedures w/o CC/MCC | Include all | 3 | 1.0000 |
| 432 | M | Cirrhosis & alcoholic hepatitis w MCC | Include all | 1 | 1.0307 |
| 433 | M | Cirrhosis & alcoholic hepatitis w CC | Include all | 2 | 1.0479 |
| 434 | M | Cirrhosis & alcoholic hepatitis w/o CC/MCC | Include all | 2 | 1.1270 |
| 435 | M | Malignancy of hepatobiliary system or pancreas w MCC | Include all | 1 | 1.0396 |
| 436 | M | Malignancy of hepatobiliary system or pancreas w CC | Include all | 2 | 1.0308 |
| 437 | M | Malignancy of hepatobiliary system or pancreas w/o CC/MCC | Include all | 2 | 1.0856 |
| 438 | M | Disorders of pancreas except malignancy w MCC | Include all | 1 | 0.9922 |
| 439 | M | Disorders of pancreas except malignancy w CC | Include all | 2 | 1.0052 |
| 440 | M | Disorders of pancreas except malignancy w/o CC/MCC | Include all | 2 | 1.0033 |
| 441 | M | Disorders of liver except malig,cirr,alc hepa w MCC | Include all | 1 | 1.0076 |

| 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 | 1.0227 |
| 443 | M | Disorders of liver except malig,cirr,alc hepa w/o CC/MCC | Include all | 2 | 1.0122 |
| 444 | M | Disorders of the biliary tract w MCC | Include all | 3 | 1.0084 |
| 445 | M | Disorders of the biliary tract w CC | Include all | 3 | 0.9981 |
| 446 | M | Disorders of the biliary tract w/o CC/MCC | Include all | 3 | 0.9638 |
| 453 | S | Combined anterior/posterior spinal fusion w MCC | Include all | 1 | 1.0322 |
| 454 | S | Combined anterior/posterior spinal fusion w CC | Include all | 2 | 0.9991 |
| 455 | S | Combined anterior/posterior spinal fusion w/o CC/MCC | Include all | 2 | 0.9692 |
| 456 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC | Include all | 1 | 1.0326 |
| 457 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC | Include all | 2 | 0.9996 |
| 458 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC | Include all | 2 | 0.9762 |
| 459 | S | Spinal fusion except cervical w MCC | Include all | 1 | 1.0027 |
| 460 | S | Spinal fusion except cervical w/o MCC | Include all | 2 | 0.9991 |
| 461 | S | Bilateral or multiple major joint procs of lower extremity w MCC | Include all | 1 | 0.9949 |
| 462 | S | Bilateral or multiple major joint procs of lower extremity w/o MCC | Include all | 2 | 0.9993 |
| 463 | S | Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w MCC | Include all | 1 | 1.0147 |
| 464 | S | Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w CC | Include all | 2 | 1.0119 |
| 465 | S | Wnd debrid & skn grft exc hand, for musculo-conn tiss dis w/o CC/MCC | Include all | 2 | 1.0117 |
| 466 | S | Revision of hip or knee replacement w MCC | Include all | 3 | 0.9845 |
| 467 | S | Revision of hip or knee replacement w CC | Include all | 3 | 0.9917 |
| 468 | S | Revision of hip or knee replacement w/o CC/MCC | Include all | 3 | 0.9963 |
| 469 | S | Major joint replacement or reattachment of lower extremity w MCC | Include all | 1 | 0.9921 |
| 470 | S | Major joint replacement or reattachment of lower extremity w/o MCC | Include all | 2 | 0.9980 |
| 471 | S | Cervical spinal fusion w MCC | Include all | 1 | 1.0136 |
| 472 | S | Cervical spinal fusion w CC | Include all | 2 | 1.0109 |
| 473 | S | Cervical spinal fusion w/o CC/MCC | Include all | 2 | 1.0227 |
| 474 | S | Amputation for musculoskeletal sys & conn tissue dis w MCC | Include all | 1 | 0.9931 |
| 475 | S | Amputation for musculoskeletal sys & conn tissue dis w CC | Include all | 2 | 1.0263 |
| 476 | S | Amputation for musculoskeletal sys & conn tissue dis w/o CC/MCC | Include all | 2 | 0.9988 |
| 477 | S | Biopsies of musculoskeletal system & connective tissue w MCC | Include all | 3 | 0.9937 |
| 478 | S | Biopsies of musculoskeletal system & connective tissue w CC | Include all | 3 | 0.9872 |
| 479 | S | Biopsies of musculoskeletal system & connective tissue w/o CC/MCC | Include all | 3 | 1.0300 |
| 480 | S | Hip & femur procedures except major joint w MCC | Include all | 2 | 0.9941 |
| 481 | S | Hip & femur procedures except major joint w CC | Include all | 2 | 0.9919 |
| 482 | S | Hip & femur procedures except major joint w/o CC/MCC | Include all | 3 | 0.9667 |
| 483 | S | Major joint & limb reattachment proc of upper extremity w CC/MCC | Include all | 1 | 1.0003 |
| 485 | S | Knee procedures w pdx of infection w MCC | Include all | 1 | 1.0096 |
| 486 | S | Knee procedures w pdx of infection w CC | Include all | 2 | 0.9782 |
| 487 | S | Knee procedures w pdx of infection w/o CC/MCC | Include all | 2 | 0.9999 |
| 488 | S | Knee procedures w/o pdx of infection w CC/MCC | Include all | 3 | 1.1099 |
| 489 | S | Knee procedures w/o pdx of infection w/o CC/MCC | Include all | 3 | 0.9274 |
| 492 | S | Lower extrem & humer proc except hip,foot,femur w MCC | Include all | 2 | 1.0205 |
| 493 | S | Lower extrem & humer proc except hip,foot,femur w CC | Include all | 2 | 1.0163 |
| 494 | S | Lower extrem & humer proc except hip,foot,femur w/o CC/MCC | Include all | 3 | 1.0701 |
| 495 | S | Local excision & removal int fix devices exc hip & femur w MCC | Include all | 2 | 1.0004 |
| 496 | S | Local excision & removal int fix devices exc hip & femur w CC | Include all | 2 | 0.9947 |
| 497 | S | Local excision & removal int fix devices exc hip & femur w/o CC/MCC | Include all | 3 | 0.9274 |
| 498 | S | Local excision & removal int fix devices of hip & femur w CC/MCC | Include all | 3 | 0.9626 |
| 499 | S | Local excision & removal int fix devices of hip & femur w/o CC/MCC | Include all | 3 | 0.9274 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 500 | S | Soft tissue procedures w MCC | Include all | 3 | 0.9877 |
| 501 | S | Soft tissue procedures w CC | Include all | 3 | 1.0044 |
| 502 | S | Soft tissue procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 503 | S | Foot procedures w MCC | Include all | 3 | 1.0053 |
| 504 | S | Foot procedures w CC | Include all | 3 | 1.0132 |
| 505 | S | Foot procedures w/o CC/MCC | Include all | 3 | 1.1041 |
| 506 | S | Major thumb or joint procedures | Include all | 3 | 1.1270 |
| 507 | S | Major shoulder or elbow joint procedures w CC/MCC | Include all | 2 | 0.9724 |
| 508 | S | Major shoulder or elbow joint procedures w/o CC/MCC | Include all | 2 | 1.0599 |
| 509 | S | Arthroscopy | Include all | 3 | 0.9274 |
| 510 | S | Shoulder,elbow or forearm proc,exc major joint proc w MCC | Include all | 1 | 0.9836 |
| 511 | S | Shoulder,elbow or forearm proc,exc major joint proc w CC | Include all | 2 | 1.0342 |
| 512 | S | Shoulder,elbow or forearm proc,exc major joint proc w/o CC/MCC | Include all | 2 | 1.0280 |
| 513 | S | Hand or wrist proc, except major thumb or joint proc w CC/MCC | Include all | 3 | 1.0176 |
| 514 | S | Hand or wrist proc, except major thumb or joint proc w/o CC/MCC | Include all | 3 | 0.9274 |
| 515 | S | Other musculoskelet sys & conn tiss O.R. proc w MCC | Include all | 3 | 0.9861 |
| 516 | S | Other musculoskelet sys & conn tiss O.R. proc w CC | Include all | 3 | 0.9901 |
| 517 | S | Other musculoskelet sys & conn tiss O.R. proc w/o CC/MCC | Include all | 3 | 0.9904 |
| 518 | S | Back & Neck Procedures Except Spinal Fusion with MCC or Disc Device/Neurostimulator | Include all | 1 | 0.9930 |
| 519 | S | Back & Neck Procedures Except Spinal Fusion with CC | Include all | 2 | 1.0051 |
| 520 | S | Back & Neck Procedures Except Spinal Fusion without CC/MCC | Include all | 3 | 0.9274 |
| 533 | M | Fractures of femur w MCC | Include all | 1 | 1.0039 |
| 534 | M | Fractures of femur w/o MCC | Include all | 2 | 0.9855 |
| 535 | M | Fractures of hip & pelvis w MCC | Include all | 1 | 0.9906 |
| 536 | M | Fractures of hip & pelvis w/o MCC | Include all | 2 | 0.9963 |
| 537 | M | Sprains, strains, & dislocations of hip, pelvis & thigh w CC/MCC | Include all | 3 | 0.9864 |
| 538 | M | Sprains, strains, & dislocations of hip, pelvis & thigh w/o CC/MCC | Include all | 3 | 0.9274 |
| 539 | M | Osteomyelitis w MCC | Include all | 3 | 1.0434 |
| 540 | M | Osteomyelitis w CC | Include all | 3 | 0.9961 |
| 541 | M | Osteomyelitis w/o CC/MCC | Include all | 3 | 0.9274 |
| 542 | M | Pathological fractures & musculoskelet & conn tiss malig w MCC | Include all | 1 | 1.0118 |
| 543 | M | Pathological fractures & musculoskelet & conn tiss malig w CC | Include all | 2 | 0.9927 |
| 544 | M | Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC | Include all | 2 | 1.0093 |
| 545 | M | Connective tissue disorders w MCC | Include all | 3 | 0.9817 |
| 546 | M | Connective tissue disorders w CC | Include all | 3 | 0.9915 |
| 547 | M | Connective tissue disorders w/o CC/MCC | Include all | 3 | 1.0960 |
| 548 | M | Septic arthritis w MCC | Include all | 1 | 0.9873 |
| 549 | M | Septic arthritis w CC | Include all | 2 | 0.9922 |
| 550 | M | Septic arthritis w/o CC/MCC | Include all | 2 | 1.0006 |
| 551 | M | Medical back problems w MCC | Include all | 3 | 0.9972 |
| 552 | M | Medical back problems w/o MCC | Include all | 3 | 1.0067 |
| 553 | M | Bone diseases & arthropathies w MCC | Include all | 2 | 1.0072 |
| 554 | M | Bone diseases & arthropathies w/o MCC | Include all | 3 | 0.9751 |
| 555 | M | Signs & symptoms of musculoskeletal system & conn tissue w MCC | Include all | 3 | 0.9861 |
| 556 | M | Signs & symptoms of musculoskeletal system & conn tissue w/o MCC | Include all | 3 | 0.9799 |
| 557 | M | Tendonitis, myositis & bursitis w MCC | Include all | 3 | 0.9954 |
| 558 | M | Tendonitis, myositis & bursitis w/o MCC | Include all | 3 | 0.9988 |
| 559 | M | Aftercare, musculoskeletal system & connective tissue w MCC | Include all | 3 | 0.9847 |
| 560 | M | Aftercare, musculoskeletal system & connective tissue w CC | Include all | 3 | 0.9830 |

| 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 | 0.9274 |
| 562 | M | Fx, sprn, strn & disl except femur, hip, pelvis & thigh w MCC | Include all | 3 | 0.9956 |
| 563 | M | Fx, sprn, strn & disl except femur, hip, pelvis & thigh w/o MCC | Include all | 3 | 0.9932 |
| 564 | M | Other musculoskeletal sys & connective tissue diagnoses w MCC | Include all | 3 | 1.0000 |
| 565 | M | Other musculoskeletal sys & connective tissue diagnoses w CC | Include all | 3 | 1.0008 |
| 566 | M | Other musculoskeletal sys & connective tissue diagnoses w/o CC/MCC | Include all | 3 | 1.1270 |
| 570 | S | Skin debridement with MCC | Include all | 1 | 0.9852 |
| 571 | S | Skin debridement with CC | Include all | 2 | 0.9978 |
| 572 | S | Skin debridement without CC/MCC | Include all | 2 | 0.9840 |
| 573 | S | Skin graft for skin ulcer or cellulitis w MCC | Include all | 1 | 0.9979 |
| 574 | S | Skin graft for skin ulcer or cellulitis w CC | Include all | 2 | 1.0107 |
| 575 | S | Skin graft for skin ulcer or cellulitis w/o CC/MCC | Include all | 2 | 0.9500 |
| 576 | S | Skin graft except for skin ulcer or cellulitis w MCC | Include all | 1 | 0.9996 |
| 577 | S | Skin graft except for skin ulcer or cellulitis w CC | Include all | 2 | 0.9925 |
| 578 | S | Skin graft except for skin ulcer or cellulitis w/o CC/MCC | Include all | 2 | 1.0093 |
| 579 | S | Other skin, subcut tiss & breast proc w MCC | Include all | 2 | 1.0117 |
| 580 | S | Other skin, subcut tiss & breast proc w CC | Include all | 2 | 1.0056 |
| 581 | S | Other skin, subcut tiss & breast proc w/o CC/MCC | Include all | 3 | 0.9274 |
| 582 | S | Mastectomy for malignancy w CC/MCC | Include all | 2 | 0.9988 |
| 583 | S | Mastectomy for malignancy w/o CC/MCC | Include all | 2 | 0.9738 |
| 584 | S | Breast biopsy, local excision & other breast procedures w CC/MCC | Include all | 2 | 0.9842 |
| 585 | S | Breast biopsy, local excision & other breast procedures w/o CC/MCC | Include all | 3 | 1.0000 |
| 592 | M | Skin ulcers w MCC | Include all | 1 | 1.0021 |
| 593 | M | Skin ulcers w CC | Include all | 2 | 1.0257 |
| 594 | M | Skin ulcers w/o CC/MCC | Include all | 2 | 1.0129 |
| 595 | M | Major skin disorders w MCC | Include all | 1 | 1.0187 |
| 596 | M | Major skin disorders w/o MCC | Include all | 2 | 0.9915 |
| 597 | M | Malignant breast disorders w MCC | Include all | 1 | 1.0622 |
| 598 | M | Malignant breast disorders w CC | Include all | 2 | 1.0427 |
| 599 | M | Malignant breast disorders w/o CC/MCC | Include all | 2 | 1.1270 |
| 600 | M | Non-malignant breast disorders w CC/MCC | Include all | 3 | 0.9746 |
| 601 | M | Non-malignant breast disorders w/o CC/MCC | Include all | 3 | 0.9274 |
| 602 | M | Cellulitis w MCC | Include all | 1 | 0.9845 |
| 603 | M | Cellulitis w/o MCC | Include all | 2 | 0.9884 |
| 604 | M | Trauma to the skin, subcut tiss & breast w MCC | Include all | 1 | 1.0108 |
| 605 | M | Trauma to the skin, subcut tiss & breast w/o MCC | Include all | 2 | 1.0191 |
| 606 | M | Minor skin disorders w MCC | Include all | 3 | 0.9985 |
| 607 | M | Minor skin disorders w/o MCC | Include all | 3 | 1.0077 |
| 614 | S | Adrenal & pituitary procedures w CC/MCC | Include all | 2 | 1.0208 |
| 615 | S | Adrenal & pituitary procedures w/o CC/MCC | Include all | 2 | 1.0144 |
| 616 | S | Amputat of lower limb for endocrine,nutrit,& metabol dis w MCC | Include all | 1 | 1.0132 |
| 617 | S | Amputat of lower limb for endocrine,nutrit,& metabol dis w CC | Include all | 2 | 1.0065 |
| 618 | S | Amputat of lower limb for endocrine,nutrit,& metabol dis w/o CC/MCC | Include all | 2 | 1.1270 |
| 619 | S | O.R. procedures for obesity w MCC | Include all | 1 | 1.0047 |
| 620 | S | O.R. procedures for obesity w CC | Include all | 2 | 0.9776 |
| 621 | S | O.R. procedures for obesity w/o CC/MCC | Include all | 2 | 1.0820 |
| 622 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w MCC | Include all | 1 | 0.9882 |
| 623 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w CC | Include all | 2 | 1.0222 |
| 624 | S | Skin grafts & wound debrid for endoc, nutrit & metab dis w/o CC/MCC | Include all | 2 | 0.9738 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 625 | S | Thyroid, parathyroid & thyroglossal procedures w MCC | Include all | 1 | 1.0408 |
| 626 | S | Thyroid, parathyroid & thyroglossal procedures w CC | Include all | 2 | 1.0403 |
| 627 | S | Thyroid, parathyroid & thyroglossal procedures w/o CC/MCC | Include all | 2 | 1.0095 |
| 628 | S | Other endocrine, nutrit & metab O.R. proc w MCC | Include all | 1 | 1.0217 |
| 629 | S | Other endocrine, nutrit & metab O.R. proc w CC | Include all | 2 | 0.9952 |
| 630 | S | Other endocrine, nutrit & metab O.R. proc w/o CC/MCC | Include all | 2 | 1.1058 |
| 637 | M | Diabetes w MCC | Include all | 3 | 1.0106 |
| 638 | M | Diabetes w CC | Include all | 3 | 1.0096 |
| 639 | M | Diabetes w/o CC/MCC | Include all | 3 | 0.9915 |
| 640 | M | Misc disorders of nutrition, metabolism, fluids/electrolyes w MCC | Include all | 3 | 1.0041 |
| 641 | M | Misc disorders of nutrition, metabolism, fluids/electrolyes w/o MCC | Include all | 3 | 0.9990 |
| 642 | M | Inborn and other disorders of metabolism | Include all | 3 | 0.9974 |
| 643 | M | Endocrine disorders w MCC | Include all | 3 | 0.9933 |
| 644 | M | Endocrine disorders w CC | Include all | 3 | 1.0028 |
| 645 | M | Endocrine disorders w/o CC/MCC | Include all | 3 | 0.9624 |
| 652 | S | Kidney transplant | Include all | 1 | 1.1089 |
| 653 | S | Major bladder procedures w MCC | Include all | 1 | 1.0047 |
| 654 | S | Major bladder procedures w CC | Include all | 2 | 0.9912 |
| 655 | S | Major bladder procedures w/o CC/MCC | Include all | 2 | 1.0035 |
| 656 | S | Kidney & ureter procedures for neoplasm w MCC | Include all | 1 | 0.9988 |
| 657 | S | Kidney & ureter procedures for neoplasm w CC | Include all | 2 | 0.9947 |
| 658 | S | Kidney & ureter procedures for neoplasm w/o CC/MCC | Include all | 2 | 1.0074 |
| 659 | S | Kidney & ureter procedures for non-neoplasm w MCC | Include all | 2 | 0.9824 |
| 660 | S | Kidney & ureter procedures for non-neoplasm w CC | Include all | 2 | 1.0060 |
| 661 | S | Kidney & ureter procedures for non-neoplasm w/o CC/MCC | Include all | 3 | 1.0930 |
| 662 | S | Minor bladder procedures w MCC | Include all | 3 | 0.9817 |
| 663 | S | Minor bladder procedures w CC | Include all | 3 | 0.9903 |
| 664 | S | Minor bladder procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 665 | S | Prostatectomy w MCC | Include all | 3 | 1.0083 |
| 666 | S | Prostatectomy w CC | Include all | 3 | 1.0030 |
| 667 | S | Prostatectomy w/o CC/MCC | Include all | 3 | 1.0202 |
| 668 | S | Transurethral procedures w MCC | Include all | 3 | 0.9878 |
| 669 | S | Transurethral procedures w CC | Include all | 3 | 0.9830 |
| 670 | S | Transurethral procedures w/o CC/MCC | Include all | 3 | 0.9820 |
| 671 | S | Urethral procedures w CC/MCC | Include all | 3 | 0.9640 |
| 672 | S | Urethral procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 673 | S | Other kidney & urinary tract procedures w MCC | Include all | 3 | 0.9969 |
| 674 | S | Other kidney & urinary tract procedures w CC | Include all | 3 | 0.9876 |
| 675 | S | Other kidney & urinary tract procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 682 | M | Renal failure w MCC | Include all | 1 | 0.9977 |
| 683 | M | Renal failure w CC | Include all | 2 | 0.9937 |
| 684 | M | Renal failure w/o CC/MCC | Include all | 2 | 1.0066 |
| 685 | M | Admit for renal dialysis | Include all | 3 | 1.0820 |
| 686 | M | Kidney & urinary tract neoplasms w MCC | Include all | 2 | 1.1005 |
| 687 | M | Kidney & urinary tract neoplasms w CC | Include all | 2 | 1.0445 |
| 688 | M | Kidney & urinary tract neoplasms w/o CC/MCC | Include all | 3 | 1.1270 |
| 689 | M | Kidney & urinary tract infections w MCC | Include all | 3 | 0.9842 |
| 690 | M | Kidney & urinary tract infections w/o MCC | Include all | 3 | 0.9862 |
| 691 | M | Urinary stones w esw lithotripsy w CC/MCC | Include all | 3 | 0.9937 |
| 692 | M | Urinary stones w esw lithotripsy w/o CC/MCC | Include all | 3 | 1.0000 |
| 693 | M | Urinary stones w/o esw lithotripsy w MCC | Include all | 3 | 0.9725 |
| 694 | M | Urinary stones w/o esw lithotripsy w/o MCC | Include all | 3 | 0.9876 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|-------------|----------|--------|
| 695 | M | Kidney & urinary tract signs & symptoms w MCC | Include all | 3 | 1.0099 |
| 696 | M | Kidney & urinary tract signs & symptoms w/o MCC | Include all | 3 | 1.0055 |
| 697 | M | Urethral stricture | Include all | 3 | 0.9750 |
| 698 | M | Other kidney & urinary tract diagnoses w MCC | Include all | 3 | 0.9879 |
| 699 | M | Other kidney & urinary tract diagnoses w CC | Include all | 3 | 0.9886 |
| 700 | M | Other kidney & urinary tract diagnoses w/o CC/MCC | Include all | 3 | 0.9941 |
| 707 | S | Major male pelvic procedures w CC/MCC | Include all | 2 | 1.0332 |
| 708 | S | Major male pelvic procedures w/o CC/MCC | Include all | 2 | 1.0529 |
| 709 | S | Penis procedures w CC/MCC | Include all | 3 | 1.1184 |
| 710 | S | Penis procedures w/o CC/MCC | Include all | 3 | 1.0000 |
| 711 | S | Testes procedures w CC/MCC | Include all | 2 | 1.0877 |
| 712 | S | Testes procedures w/o CC/MCC | Include all | 3 | 1.0000 |
| 713 | S | Transurethral prostatectomy w CC/MCC | Include all | 2 | 1.0079 |
| 714 | S | Transurethral prostatectomy w/o CC/MCC | Include all | 3 | 1.0599 |
| 715 | S | Other male reproductive system O.R. proc for malignancy w CC/MCC | Include all | 2 | 1.0211 |
| 716 | S | Other male reproductive system O.R. proc for malignancy w/o CC/MCC | Include all | 2 | 1.0117 |
| 717 | S | Other male reproductive system O.R. proc exc malignancy w CC/MCC | Include all | 3 | 0.9970 |
| 718 | S | Other male reproductive system O.R. proc exc malignancy w/o CC/MCC | Include all | 3 | 1.0000 |
| 722 | M | Malignancy, male reproductive system w MCC | Include all | 1 | 1.0905 |
| 723 | M | Malignancy, male reproductive system w CC | Include all | 2 | 1.0916 |
| 724 | M | Malignancy, male reproductive system w/o CC/MCC | Include all | 2 | 1.1270 |
| 725 | M | Benign prostatic hypertrophy w MCC | Include all | 3 | 1.0101 |
| 726 | M | Benign prostatic hypertrophy w/o MCC | Include all | 3 | 1.0254 |
| 727 | M | Inflammation of the male reproductive system w MCC | Include all | 3 | 0.9754 |
| 728 | M | Inflammation of the male reproductive system w/o MCC | Include all | 3 | 1.0092 |
| 729 | M | Other male reproductive system diagnoses w CC/MCC | Include all | 3 | 1.0058 |
| 730 | M | Other male reproductive system diagnoses w/o CC/MCC | Include all | 3 | 0.9274 |
| 734 | S | Pelvic evisceration, rad hysterectomy & rad vulvectomy w CC/MCC | Include all | 1 | 0.9844 |
| 735 | S | Pelvic evisceration, rad hysterectomy & rad vulvectomy w/o CC/MCC | Include all | 1 | 0.9787 |
| 736 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w MCC | Include all | 1 | 0.9653 |
| 737 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w CC | Include all | 2 | 0.9776 |
| 738 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w/o CC/MCC | Include all | 2 | 0.9820 |
| 739 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w MCC | Include all | 1 | 0.9762 |
| 740 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w CC | Include all | 2 | 1.0090 |
| 741 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC | Include all | 2 | 1.0043 |
| 742 | S | Uterine & adnexa proc for non-malignancy w CC/MCC | Include all | 2 | 1.0043 |
| 743 | S | Uterine & adnexa proc for non-malignancy w/o CC/MCC | Include all | 3 | 1.1270 |
| 744 | S | D&C, conization, laparoscopy & tubal interruption w CC/MCC | Include all | 2 | 0.9904 |
| 745 | S | D&C, conization, laparoscopy & tubal interruption w/o CC/MCC | Include all | 3 | 0.9274 |
| 746 | S | Vagina, cervix & vulva procedures w CC/MCC | Include all | 3 | 0.9621 |
| 747 | S | Vagina, cervix & vulva procedures w/o CC/MCC | Include all | 3 | 0.9274 |
| 748 | S | Female reproductive system reconstructive procedures | Include all | 3 | 0.9820 |
| 749 | S | Other female reproductive system O.R. procedures w CC/MCC | Include all | 2 | 0.9896 |
| 750 | S | Other female reproductive system O.R. procedures w/o CC/MCC | Include all | 2 | 0.9274 |
| 754 | M | Malignancy, female reproductive system w MCC | Include all | 1 | 1.0733 |
| 755 | M | Malignancy, female reproductive system w CC | Include all | 2 | 1.0551 |
| 756 | M | Malignancy, female reproductive system w/o CC/MCC | Include all | 2 | 1.0365 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|-------------|----------|--------|
| 757 | M | Infections, female reproductive system w MCC | Include all | 3 | 0.9866 |
| 758 | M | Infections, female reproductive system w CC | Include all | 3 | 0.9681 |
| 759 | M | Infections, female reproductive system w/o CC/MCC | Include all | 3 | 0.9988 |
| 760 | M | Menstrual & other female reproductive system disorders w CC/MCC | Include all | 3 | 0.9876 |
| 761 | M | Menstrual & other female reproductive system disorders w/o CC/MCC | Include all | 3 | 0.9274 |
| 799 | S | Splenectomy w MCC | Include all | 1 | 0.9937 |
| 800 | S | Splenectomy w CC | Include all | 2 | 0.9873 |
| 801 | S | Splenectomy w/o CC/MCC | Include all | 2 | 0.9274 |
| 802 | S | Other O.R. proc of the blood & blood forming organs w MCC | Include all | 3 | 1.0053 |
| 803 | S | Other O.R. proc of the blood & blood forming organs w CC | Include all | 3 | 0.9950 |
| 804 | S | Other O.R. proc of the blood & blood forming organs w/o CC/MCC | Include all | 3 | 1.1270 |
| 808 | M | Major hematol/immun diag exc sickle cell crisis & coagul w MCC | Include all | 1 | 0.9856 |
| 809 | M | Major hematol/immun diag exc sickle cell crisis & coagul w CC | Include all | 2 | 1.0016 |
| 810 | M | Major hematol/immun diag exc sickle cell crisis & coagul w/o CC/MCC | Include all | 2 | 1.0035 |
| 811 | M | Red blood cell disorders w MCC | Include all | 3 | 1.0001 |
| 812 | M | Red blood cell disorders w/o MCC | Include all | 3 | 1.0026 |
| 813 | M | Coagulation disorders | Include all | 2 | 1.0040 |
| 814 | M | Reticuloendothelial & immunity disorders w MCC | Include all | 1 | 0.9859 |
| 815 | M | Reticuloendothelial & immunity disorders w CC | Include all | 2 | 1.0391 |
| 816 | M | Reticuloendothelial & immunity disorders w/o CC/MCC | Include all | 2 | 0.9741 |
| 820 | S | Lymphoma & leukemia w major O.R. procedure w MCC | Include all | 1 | 0.9789 |
| 821 | S | Lymphoma & leukemia w major O.R. procedure w CC | Include all | 2 | 0.9996 |
| 822 | S | Lymphoma & leukemia w major O.R. procedure w/o CC/MCC | Include all | 2 | 0.9642 |
| 823 | S | Lymphoma & non-acute leukemia w other O.R. proc w MCC | Include all | 1 | 1.0170 |
| 824 | S | Lymphoma & non-acute leukemia w other O.R. proc w CC | Include all | 2 | 1.0236 |
| 825 | S | Lymphoma & non-acute leukemia w other O.R. proc w/o CC/MCC | Include all | 2 | 0.9907 |
| 826 | S | Myeloprolif disord or poorly diff neopl w maj O.R. proc w MCC | Include all | 1 | 0.9845 |
| 827 | S | Myeloprolif disord or poorly diff neopl w maj O.R. proc w CC | Include all | 2 | 1.0218 |
| 828 | S | Myeloprolif disord or poorly diff neopl w maj O.R. proc w/o CC/MCC | Include all | 2 | 0.9672 |
| 829 | S | Myeloprolif disord or poorly diff neopl w other O.R. proc w CC/MCC | Include all | 2 | 0.9934 |
| 830 | S | Myeloprolif disord or poorly diff neopl w other O.R. proc w/o CC/MCC | Include all | 2 | 0.9618 |
| 834 | M | Acute leukemia w/o major O.R. procedure w MCC | Include all | 1 | 1.0181 |
| 835 | M | Acute leukemia w/o major O.R. procedure w CC | Include all | 2 | 1.0101 |
| 836 | M | Acute leukemia w/o major O.R. procedure w/o CC/MCC | Include all | 2 | 1.0275 |
| 837 | M | Chemo w acute leukemia as sdx or w high dose chemo agent w MCC | Include all | 1 | 1.0126 |
| 838 | M | Chemo w acute leukemia as sdx w CC or high dose chemo agent | Include all | 2 | 1.0480 |
| 839 | M | Chemo w acute leukemia as sdx w/o CC/MCC | Include all | 2 | 1.0047 |
| 840 | M | Lymphoma & non-acute leukemia w MCC | Include all | 1 | 1.0328 |
| 841 | M | Lymphoma & non-acute leukemia w CC | Include all | 2 | 1.0344 |
| 842 | M | Lymphoma & non-acute leukemia w/o CC/MCC | Include all | 2 | 1.0674 |
| 843 | M | Other myeloprolif dis or poorly diff neopl diag w MCC | Include all | 3 | 1.0254 |
| 844 | M | Other myeloprolif dis or poorly diff neopl diag w CC | Include all | 3 | 1.0259 |
| 845 | M | Other myeloprolif dis or poorly diff neopl diag w/o CC/MCC | Include all | 3 | 0.9274 |
| 846 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w MCC | Include all | 3 | 0.9753 |
| 847 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w CC | Include all | 3 | 1.0215 |
| 848 | M | Chemotherapy w/o acute leukemia as secondary diagnosis w/o CC/MCC | Include all | 3 | 1.0000 |
| 849 | M | Radiotherapy | Include all | 3 | 1.0158 |
| 853 | S | Infectious & parasitic diseases w O.R. procedure w MCC | Include all | 1 | 0.9976 |

| 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 | 0.9997 |
| 855 | S | Infectious & parasitic diseases w O.R. procedure w/o CC/MCC | Include all | 2 | 0.9569 |
| 856 | S | Postoperative or post-traumatic infections w O.R. proc w MCC | Include all | 1 | 1.0031 |
| 857 | S | Postoperative or post-traumatic infections w O.R. proc w CC | Include all | 2 | 0.9955 |
| 858 | S | Postoperative or post-traumatic infections w O.R. proc w/o CC/MCC | Include all | 2 | 0.9898 |
| 862 | M | Postoperative & post-traumatic infections w MCC | Include all | 1 | 0.9851 |
| 863 | M | Postoperative & post-traumatic infections w/o MCC | Include all | 2 | 0.9968 |
| 864 | M | Fever of unknown origin | Include all | 2 | 0.9888 |
| 865 | M | Fever | Include all | 1 | 0.9877 |
| 866 | M | Viral illness w/o MCC | Include all | 2 | 0.9950 |
| 867 | M | Other infectious & parasitic diseases diagnoses w MCC | Include all | 1 | 1.0046 |
| 868 | M | Other infectious & parasitic diseases diagnoses w CC | Include all | 2 | 1.0065 |
| 869 | M | Other infectious & parasitic diseases diagnoses w/o CC/MCC | Include all | 2 | 1.0599 |
| 870 | M | Septicemia or severe sepsis w MV 96+ hours | Include all | 1 | 1.0072 |
| 871 | M | Septicemia or severe sepsis w/o MV 96+ hours w MCC | Include all | 1 | 1.0020 |
| 872 | M | Septicemia or severe sepsis w/o MV 96+ hours w/o MCC | Include all | 1 | 1.0039 |
| 876 | S | O.R. procedure w principal diagnoses of mental illness | Include all | 3 | 0.9937 |
| 880 | M | Acute adjustment reaction & psychosocial dysfunction | Include all | 3 | 1.0150 |
| 881 | M | Depressive neuroses | Include all | 3 | 1.0195 |
| 882 | M | Neuroses except depressive | Include all | 3 | 0.9893 |
| 883 | M | Disorders of personality & impulse control | Include all | 3 | 0.9274 |
| 884 | M | Organic disturbances & mental retardation | Include all | 3 | 1.0081 |
| 885 | M | Psychoses | Include all | 3 | 1.0167 |
| 886 | M | Behavioral & developmental disorders | Include all | 3 | 1.0599 |
| 887 | M | Other mental disorder diagnoses | Include all | 3 | 0.9820 |
| 894 | M | Alcohol/drug abuse or dependence, left ama | Include all | 3 | 1.1270 |
| 895 | M | Alcohol/drug abuse or dependence w rehabilitation therapy | Include all | 3 | 1.1270 |
| 896 | M | Alcohol/drug abuse or dependence w/o rehabilitation therapy w MCC | Include all | 3 | 1.0135 |
| 897 | M | Alcohol/drug abuse or dependence w/o rehabilitation therapy w/o MCC | Include all | 3 | 1.0010 |
| 901 | S | Wound debridements for injuries w MCC | Include all | 1 | 1.0505 |
| 902 | S | Wound debridements for injuries w CC | Include all | 2 | 1.0072 |
| 903 | S | Wound debridements for injuries w/o CC/MCC | Include all | 2 | 0.9789 |
| 904 | S | Skin grafts for injuries w CC/MCC | Include all | 2 | 1.0096 |
| 905 | S | Skin grafts for injuries w/o CC/MCC | Include all | 2 | 1.0711 |
| 906 | S | Hand procedures for injuries | Include all | 3 | 1.0511 |
| 907 | S | Other O.R. procedures for injuries w MCC | Include all | 1 | 1.0027 |
| 908 | S | Other O.R. procedures for injuries w CC | Include all | 2 | 0.9952 |
| 909 | S | Other O.R. procedures for injuries w/o CC/MCC | Include all | 2 | 1.0045 |
| 913 | M | Traumatic injury w MCC | Include all | 1 | 0.9985 |
| 914 | M | Traumatic injury w/o MCC | Include all | 2 | 1.0078 |
| 915 | M | Allergic reactions w MCC | Include all | 3 | 1.0151 |
| 916 | M | Allergic reactions w/o MCC | Include all | 3 | 1.0166 |
| 917 | M | Poisoning & toxic effects of drugs w MCC | Include all | 2 | 1.0072 |
| 918 | M | Poisoning & toxic effects of drugs w/o MCC | Include all | 3 | 0.9822 |
| 919 | M | Complications of treatment w MCC | Include all | 3 | 1.0024 |
| 920 | M | Complications of treatment w CC | Include all | 3 | 0.9830 |
| 921 | M | Complications of treatment w/o CC/MCC | Include all | 3 | 0.9274 |
| 922 | M | Other injury, poisoning & toxic effect diag w MCC | Include all | 3 | 1.0139 |
| 923 | M | Other injury, poisoning & toxic effect diag w/o MCC | Include all | 3 | 0.9959 |
| 927 | S | Extensive burns or full thickness burns w MV 96+ hrs w skin graft | Include all | 1 | 1.0305 |

| 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 | 0.9888 |
| 929 | S | Full thickness burn w skin graft or inhal inj w/o CC/MCC | Include all | 2 | 1.0387 |
| 933 | M | Extensive burns or full thickness burns w MV 96+ hrs w/o skin graft | Include all | 1 | 1.1270 |
| 934 | M | Full thickness burn w/o skin grft or inhal inj | Include all | 2 | 0.9744 |
| 935 | M | Non-extensive burns | Include all | 2 | 1.0578 |
| 939 | S | O.R. proc w diagnoses of other contact w health services w MCC | Include all | 3 | 0.9797 |
| 940 | S | O.R. proc w diagnoses of other contact w health services w CC | Include all | 3 | 1.0328 |
| 941 | S | O.R. proc w diagnoses of other contact w health services w/o CC/MCC | Include all | 3 | 0.9274 |
| 945 | M | Rehabilitation w CC/MCC | Include all | 3 | 0.9825 |
| 946 | M | Rehabilitation w/o CC/MCC | Include all | 3 | 0.9783 |
| 947 | M | Signs & symptoms w MCC | Include all | 3 | 0.9988 |
| 948 | M | Signs & symptoms w/o MCC | Include all | 3 | 0.9947 |
| 949 | M | Aftercare w CC/MCC | Include all | 3 | 0.9649 |
| 950 | M | Aftercare w/o CC/MCC | Include all | 3 | 0.9274 |
| 951 | M | Other factors influencing health status | Include all | 3 | 1.1270 |
| 955 | S | Craniotomy for multiple significant trauma | Include all | 1 | 1.1270 |
| 956 | S | Limb reattachment, hip & femur proc for multiple significant trauma | Include all | 1 | 1.0333 |
| 957 | S | Other O.R. procedures for multiple significant trauma w MCC | Include all | 1 | 1.1270 |
| 958 | S | Other O.R. procedures for multiple significant trauma w CC | Include all | 2 | 1.1270 |
| 959 | S | Other O.R. procedures for multiple significant trauma w/o CC/MCC | Include all | 2 | 1.1270 |
| 963 | M | Other multiple significant trauma w MCC | Include all | 1 | 1.1270 |
| 964 | M | Other multiple significant trauma w CC | Include all | 2 | 1.1270 |
| 965 | M | Other multiple significant trauma w/o CC/MCC | Include all | 2 | 1.1062 |
| 969 | S | HIV w extensive O.R. procedure w MCC | Include all | 1 | 0.9274 |
| 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 | 0.9996 |
| 975 | M | HIV w major related condition w CC | Include all | 1 | 1.0820 |
| 976 | M | HIV w major related condition w/o CC/MCC | Include all | 1 | 1.1270 |
| 977 | M | HIV w or w/o other related condition | Include all | 2 | 0.9820 |
| 981 | S | Extensive O.R. procedure unrelated to principal diagnosis w MCC | Include all | 1 | 1.0055 |
| 982 | S | Extensive O.R. procedure unrelated to principal diagnosis w CC | Include all | 2 | 0.9980 |
| 983 | S | Extensive O.R. procedure unrelated to principal diagnosis w/o CC/MCC | Include all | 2 | 1.0071 |
| 984 | S | Prostatic O.R. procedure unrelated to principal diagnosis w MCC | Include all | 3 | 0.9769 |
| 985 | S | Prostatic O.R. procedure unrelated to principal diagnosis w CC | Include all | 3 | 1.0336 |
| 986 | S | Prostatic O.R. procedure unrelated to principal diagnosis w/o CC/MCC | Include all | 3 | 0.9274 |
| 987 | S | Non-extensive O.R. proc unrelated to principal diagnosis w MCC | Include all | 3 | 0.9921 |
| 988 | S | Non-extensive O.R. proc unrelated to principal diagnosis w CC | Include all | 3 | 0.9966 |
| 989 | S | Non-extensive O.R. proc unrelated to principal diagnosis w/o CC/MCC | Include all | 3 | 0.9274 |

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 | 0.7941 |
| 735 | S | Pelvic evisceration, rad hysterectomy & rad vulvectomy w/o CC/MCC | Include all | 1 | 1.0225 |
| 736 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w MCC | Include all | 1 | 0.5777 |
| 737 | S | Uterine & adnexa proc for ovarian or adnexal malignancy w CC | Include all | 2 | 0.7464 |

| 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 | 0.8520 |
| 739 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w MCC | Include all | 1 | 0.5260 |
| 740 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w CC | Include all | 2 | 0.7168 |
| 741 | S | Uterine,adnexa proc for non-ovarian/adnexal malig w/o CC/MCC | Include all | 2 | 0.7199 |
| 742 | S | Uterine & adnexa proc for non-malignancy w CC/MCC | Include all | 2 | 1.4199 |
| 743 | S | Uterine & adnexa proc for non-malignancy w/o CC/MCC | Include all | 3 | 0.9480 |
| 746 | S | Vagina, cervix & vulva procedures w CC/MCC | Include all | 3 | 0.5931 |
| 747 | S | Vagina, cervix & vulva procedures w/o CC/MCC | Include all | 3 | 0.7825 |
| 749 | S | Other female reproductive system O.R. procedures w CC/MCC | Include all | 2 | 0.9017 |
| 750 | S | Other female reproductive system O.R. procedures w/o CC/MCC | Include all | 2 | 1.4199 |
| 754 | M | Malignancy, female reproductive system w MCC | Include all | 1 | 0.5753 |
| 755 | M | Malignancy, female reproductive system w CC | Include all | 2 | 0.6050 |
| 756 | M | Malignancy, female reproductive system w/o CC/MCC | Include all | 2 | 0.6790 |
| 757 | M | Infections, female reproductive system w MCC | Include all | 3 | 0.4570 |
| 758 | M | Infections, female reproductive system w CC | Include all | 3 | 0.5110 |
| 759 | M | Infections, female reproductive system w/o CC/MCC | Include all | 3 | 0.3880 |
| 760 | M | Menstrual & other female reproductive system disorders w CC/MCC | Include all | 3 | 0.7836 |
| 761 | M | Menstrual & other female reproductive system disorders w/o CC/MCC | Include all | 3 | 0.9186 |

Nephrology

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|--|----------|--------|
| 008 | S | Simultaneous pancreas/kidney transplant | Include all | 1 | 1.1425 |
| 652 | S | Kidney transplant | Include all | 1 | 1.0245 |
| 653 | S | Major bladder procedures w MCC | Include all | 1 | 0.9835 |
| 654 | S | Major bladder procedures w CC | Include all | 2 | 1.1682 |
| 655 | S | Major bladder procedures w/o CC/MCC | Include all | 2 | 1.2304 |
| 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 | 1.0227 |
| 657 | S | Kidney & ureter procedures for neoplasm w CC | See MS-DRG 656 | 2 | 1.2947 |
| 658 | S | Kidney & ureter procedures for neoplasm w/o CC/MCC | See MS-DRG 656 | 2 | 1.3951 |
| 659 | S | Kidney & ureter procedures for non-neoplasm w MCC | See MS-DRG 656 | 2 | 1.0991 |
| 660 | S | Kidney & ureter procedures for non-neoplasm w CC | See MS-DRG 656 | 2 | 1.5113 |
| 661 | S | Kidney & ureter procedures for non-neoplasm w/o CC/MCC | See MS-DRG 656 | 3 | 1.5588 |
| 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 | 1.0607 |
| 674 | S | Other kidney & urinary tract procedures w CC | Include procedures 3807, 3816, 3836- | 3 | 1.1921 |

| 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 | 0.8857 |
| 682 | M | Renal failure w MCC | Include all | 1 | 0.9177 |
| 683 | M | Renal failure w CC | Include all | 2 | 0.9787 |
| 684 | M | Renal failure w/o CC/MCC | Include all | 2 | 1.0570 |
| 686 | M | Kidney & urinary tract neoplasms w MCC | Include diagnoses: 1890-1, 1980, 2230 | 2 | 1.1728 |
| 687 | M | Kidney & urinary tract neoplasms w CC | See MS-DRG 686 | 2 | 1.2741 |
| 688 | M | Kidney & urinary tract neoplasms w/o CC/MCC | See MS-DRG 686 | 3 | 1.6954 |
| 689 | M | Kidney & urinary tract infections w MCC | Include diagnoses: 0160, 590, 0786, 0954, 5900-3, 5908-9, 59010-11, 59080-1 | 3 | 1.2067 |
| 695 | M | Kidney & urinary tract signs & symptoms w MCC | Include all | 3 | 0.8570 |
| 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 | 1.1258 |
| 699 | M | Other kidney & urinary tract diagnoses w CC | See MS-DRG 698 | 3 | 1.3783 |
| 700 | M | Other kidney & urinary tract diagnoses w/o CC/MCC | See MS-DRG 698 | 3 | 1.6954 |

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 | 1.9167 |
| 021 | S | Intracranial vascular procedures w PDX hemorrhage w CC | Include all | 1 | 3.1658 |
| 022 | S | Intracranial vascular procedures w PDX hemorrhage w/o CC/MCC | Include all | 1 | 3.1658 |
| 023 | S | Cranio w major dev impl/acute complex CNS PDX w MCC or chemo implant | Include all | 1 | 1.3274 |
| 024 | S | Cranio w major dev impl/acute complex CNS PDX w/o MCC | Include all | 1 | 1.2040 |
| 025 | S | Craniotomy & endovascular intracranial procedures w MCC | Include all | 1 | 1.4099 |
| 026 | S | Craniotomy & endovascular intracranial procedures w CC | Include all | 1 | 1.7664 |
| 027 | S | Craniotomy & endovascular intracranial procedures w/o CC/MCC | Include all | 1 | 1.9588 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|--|-------------|----------|--------|
| 031 | S | Ventricular shunt procedures w MCC | Include all | 1 | 1.9995 |
| 032 | S | Ventricular shunt procedures w CC | Include all | 2 | 1.8588 |
| 033 | S | Ventricular shunt procedures w/o CC/MCC | Include all | 2 | 1.3455 |
| 034 | S | Carotid artery stent procedure w MCC | Include all | 1 | 0.8017 |
| 035 | S | Carotid artery stent procedure w CC | Include all | 2 | 0.8168 |
| 036 | S | Carotid artery stent procedure w/o CC/MCC | Include all | 2 | 0.8181 |
| 037 | S | Extracranial procedures w MCC | Include all | 1 | 0.7747 |
| 038 | S | Extracranial procedures w CC | Include all | 2 | 0.8203 |
| 039 | S | Extracranial procedures w/o CC/MCC | Include all | 2 | 0.8017 |
| 040 | S | Periph & cranial nerve & other nerv syst proc w MCC | Include all | 1 | 1.0629 |
| 041 | S | Periph/cranial nerve & other nerv syst proc w CC or periph neurostim | Include all | 2 | 1.2118 |
| 042 | S | Periph & cranial nerve & other nerv syst proc w/o CC/MCC | Include all | 2 | 1.2832 |
| 052 | M | Spinal disorders & injuries w CC/MCC | Include all | 2 | 1.1133 |
| 053 | M | Spinal disorders & injuries w/o CC/MCC | Include all | 2 | 1.5151 |
| 054 | M | Nervous system neoplasms w MCC | Include all | 1 | 1.1452 |
| 055 | M | Nervous system neoplasms w/o MCC | Include all | 2 | 1.2760 |
| 056 | M | Degenerative nervous system disorders w MCC | Include all | 1 | 0.7736 |
| 057 | M | Degenerative nervous system disorders w/o MCC | Include all | 2 | 0.7620 |
| 058 | M | Multiple sclerosis & cerebellar ataxia w MCC | Include all | 1 | 1.1983 |
| 059 | M | Multiple sclerosis & cerebellar ataxia w CC | Include all | 2 | 1.3041 |
| 060 | M | Multiple sclerosis & cerebellar ataxia w/o CC/MCC | Include all | 2 | 1.7122 |
| 061 | M | Acute ischemic stroke w use of thrombolytic agent w MCC | Include all | 1 | 0.8123 |
| 062 | M | Acute ischemic stroke w use of thrombolytic agent w CC | Include all | 2 | 0.9556 |
| 063 | M | Acute ischemic stroke w use of thrombolytic agent w/o CC/MCC | Include all | 2 | 1.0010 |
| 064 | M | Intracranial hemorrhage or cerebral infarction w MCC | Include all | 1 | 0.8359 |
| 065 | M | Intracranial hemorrhage or cerebral infarction w CC | Include all | 2 | 0.8867 |
| 066 | M | Intracranial hemorrhage or cerebral infarction w/o CC/MCC | Include all | 2 | 0.9120 |
| 067 | M | Nonspecific cva & precerebral occlusion w/o infarct w MCC | Include all | 1 | 0.7953 |
| 068 | M | Nonspecific cva & precerebral occlusion w/o infarct w/o MCC | Include all | 2 | 0.7965 |
| 069 | M | Transient ischemia | Include all | 3 | 0.7453 |
| 070 | M | Nonspecific cerebrovascular disorders w MCC | Include all | 2 | 0.8048 |
| 071 | M | Nonspecific cerebrovascular disorders w CC | Include all | 2 | 0.8245 |
| 073 | M | Cranial & peripheral nerve disorders w MCC | Include all | 1 | 0.9589 |
| 074 | M | Cranial & peripheral nerve disorders w/o MCC | Include all | 2 | 1.2761 |
| 075 | M | Viral meningitis w CC/MCC | Include all | 2 | 2.7974 |
| 076 | M | Viral meningitis w/o CC/MCC | Include all | 2 | 3.1658 |
| 077 | M | Hypertensive encephalopathy w MCC | Include all | 1 | 0.8682 |
| 078 | M | Hypertensive encephalopathy w CC | Include all | 2 | 0.8812 |
| 079 | M | Hypertensive encephalopathy w/o CC/MCC | Include all | 2 | 0.8623 |
| 080 | M | Nontraumatic stupor & coma w MCC | Include all | 1 | 0.9014 |
| 081 | M | Nontraumatic stupor & coma w/o MCC | Include all | 2 | 0.9170 |
| 082 | M | Traumatic stupor & coma, coma >1 hr w MCC | Include all | 1 | 1.3895 |
| 083 | M | Traumatic stupor & coma, coma >1 hr w CC | Include all | 1 | 1.3526 |
| 084 | M | Traumatic stupor & coma, coma >1 hr w/o CC/MCC | Include all | 1 | 2.0756 |
| 085 | M | Traumatic stupor & coma, coma <1 hr w MCC | Include all | 1 | 0.8988 |
| 086 | M | Traumatic stupor & coma, coma <1 hr w CC | Include all | 2 | 0.8986 |
| 087 | M | Traumatic stupor & coma, coma <1 hr w/o CC/MCC | Include all | 2 | 1.0341 |
| 091 | M | Other disorders of nervous system w MCC | Include all | 3 | 0.9292 |
| 092 | M | Other disorders of nervous system w CC | Include all | 3 | 0.8757 |
| 093 | M | Other disorders of nervous system w/o CC/MCC | Include all | 3 | 0.8352 |
| 094 | M | Bacterial & tuberculous infections of nervous system w MCC | Include all | 1 | 1.5000 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------|----------|--------|
| 095 | M | Bacterial & tuberculous infections of nervous system w CC | Include all | 2 | 1.9002 |
| 096 | M | Bacterial & tuberculous infections of nervous system w/o CC/MCC | Include all | 2 | 3.0911 |
| 097 | M | Non-bacterial infect of nervous sys exc viral meningitis w MCC | Include all | 1 | 1.4222 |
| 098 | M | Non-bacterial infect of nervous sys exc viral meningitis w CC | Include all | 2 | 1.9070 |
| 099 | M | Non-bacterial infect of nervous sys exc viral meningitis w/o CC/MCC | Include all | 2 | 3.1658 |
| 100 | M | Seizures w MCC | Include all | 2 | 1.2453 |
| 955 | S | Craniotomy for multiple significant trauma | Include all | 1 | 3.1658 |

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 | 1.4921 |
| 029 | S | Spinal procedures w CC or spinal neurostimulators | See MS-DRG 028 | 2 | 1.7459 |
| 030 | S | Spinal procedures w/o CC/MCC | See MS-DRG 028 | 2 | 1.9333 |
| 453 | S | Combined anterior/posterior spinal fusion w MCC | Include all | 1 | 1.1381 |
| 454 | S | Combined anterior/posterior spinal fusion w CC | Include all | 2 | 1.3825 |
| 455 | S | Combined anterior/posterior spinal fusion w/o CC/MCC | Include all | 2 | 1.5203 |
| 456 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w MCC | Include all | 1 | 1.4393 |
| 457 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w CC | Include all | 2 | 1.3739 |
| 458 | S | Spinal fus exc cerv w spinal curv/malig/infec or 9+ fus w/o CC/MCC | Include all | 2 | 1.7508 |
| 459 | S | Spinal fusion except cervical w MCC | Include all | 1 | 0.9830 |
| 460 | S | Spinal fusion except cervical w/o MCC | Include all | 2 | 1.1762 |
| 461 | S | Bilateral or multiple major joint procs of lower extremity w MCC | Include all | 1 | 1.0030 |
| 462 | S | Bilateral or multiple major joint procs of lower extremity w/o MCC | Include all | 2 | 1.3734 |
| 463 | S | Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w MCC | Include procedures: 8005, 8006 | 1 | 0.8703 |
| 464 | S | Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w CC | Include procedures: 8005, 8006 | 2 | 0.9771 |
| 465 | S | Wound Debridement and Skin Graft Except Hand, for Musculo-Connective Tissue Disease w/o CC/MCC | Include procedures: 8005, 8006 | 2 | 1.2124 |
| 466 | S | Revision of hip or knee replacement w MCC | Include all | 3 | 0.7801 |
| 467 | S | Revision of hip or knee replacement w CC | Include all | 3 | 0.9032 |
| 468 | S | Revision of hip or knee replacement w/o CC/MCC | Include all | 3 | 1.0584 |
| 469 | S | Major joint replacement or reattachment of lower extremity w MCC | Include all | 1 | 0.7550 |
| 470 | S | Major joint replacement or reattachment of lower extremity w/o MCC | Include all | 2 | 1.0513 |
| 471 | S | Cervical spinal fusion w MCC | Include all | 1 | 1.1094 |
| 472 | S | Cervical spinal fusion w CC | Include all | 2 | 1.3825 |
| 473 | S | Cervical spinal fusion w/o CC/MCC | Include all | 2 | 1.4091 |
| 480 | S | Hip & femur procedures except major joint w MCC | Include all | 2 | 0.7506 |
| 481 | S | Hip & femur procedures except major joint w CC | Include all | 2 | 0.7652 |
| 482 | S | Hip & femur procedures except major joint w/o CC/MCC | Include all | 3 | 1.0918 |
| 483 | S | Major joint & limb reattachment proc of upper extremity w CC/MCC | Include all | 1 | 0.8814 |
| 485 | S | Knee procedures w pdx of infection w MCC | Include all | 1 | 0.8769 |
| 486 | S | Knee procedures w pdx of infection w CC | Include all | 2 | 1.1158 |
| 487 | S | Knee procedures w pdx of infection w/o CC/MCC | Include all | 2 | 1.3058 |

| 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 | 1.1095 |
| 493 | S | Lower extrem & humer proc except hip,foot,femur w CC | Include all | 2 | 1.3375 |
| 494 | S | Lower extrem & humer proc except hip,foot,femur w/o CC/MCC | Include all | 3 | 1.9333 |
| 495 | S | Local excision & removal int fix devices exc hip & femur w MCC | Include all | 2 | 1.0465 |
| 496 | S | Local excision & removal int fix devices exc hip & femur w CC | Include all | 2 | 1.4847 |
| 497 | S | Local excision & removal int fix devices exc hip & femur w/o CC/MCC | Include all | 3 | 1.9333 |
| 498 | S | Local excision & removal int fix devices of hip & femur w CC/MCC | Include all | 3 | 1.0640 |
| 499 | S | Local excision & removal int fix devices of hip & femur w/o CC/MCC | Include all | 3 | 1.1304 |
| 500 | S | Soft tissue procedures w MCC | Include all | 3 | 1.0903 |
| 501 | S | Soft tissue procedures w CC | Include all | 3 | 1.2825 |
| 503 | S | Foot procedures w MCC | Include all | 3 | 0.9759 |
| 504 | S | Foot procedures w CC | Include all | 3 | 1.2763 |
| 505 | S | Foot procedures w/o CC/MCC | Include all | 3 | 1.6254 |
| 506 | S | Major thumb or joint procedures | Include all | 3 | 1.0072 |
| 507 | S | Major shoulder or elbow joint procedures w CC/MCC | Include all | 2 | 1.2569 |
| 508 | S | Major shoulder or elbow joint procedures w/o CC/MCC | Include all | 2 | 1.9333 |
| 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 | 0.8690 |
| 516 | S | Other musculoskelet sys & conn tiss O.R. proc w CC | See MS-DRG 515 | 3 | 0.8310 |
| 517 | S | Other musculoskelet sys & conn tiss O.R. proc w/o CC/MCC | See MS-DRG 515 | 3 | 0.7783 |
| 518 | S | Back & Neck Procedures Except Spinal Fusion with MCC or Disc Device/Neurostimulator | Include all | 1 | 1.2361 |
| 519 | S | Back & Neck Procedures Except Spinal Fusion with CC | Include all | 2 | 1.1394 |
| 520 | S | Back & Neck Procedures Except Spinal Fusion without CC/MCC | Include all | 3 | 0.9307 |
| 533 | M | Fractures of femur w MCC | Include all | 1 | 0.7365 |
| 534 | M | Fractures of femur w/o MCC | Include all | 2 | 1.0507 |
| 535 | M | Fractures of hip & pelvis w MCC | Include all | 1 | 0.6995 |
| 536 | M | Fractures of hip & pelvis w/o MCC | Include all | 2 | 0.7237 |
| 539 | M | Osteomyelitis w MCC | Include all | 3 | 1.0156 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|--|----------|--------|
| 540 | M | Osteomyelitis w CC | Include all | 3 | 1.1041 |
| 541 | M | Osteomyelitis w/o CC/MCC | Include all | 3 | 1.1913 |
| 542 | M | Pathological fractures & musculoskelet & conn tiss malig w MCC | Include diagnoses: 7331, 73310-6, 73319, 73393-5 | 1 | 0.7487 |
| 543 | M | Pathological fractures & musculoskelet & conn tiss malig w CC | See MS-DRG 542 | 2 | 0.7428 |
| 544 | M | Pathological fractures & musculoskelet & conn tiss malig w/o CC/MCC | See MS-DRG 542 | 2 | 0.6935 |
| 956 | S | Limb reattachment, hip & femur proc for multiple significant trauma | Include all | 1 | 1.5128 |

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 | 1.5125 |
| 004 | S | Trach w MV 96+ hrs or PDX exc face, mouth & neck w/o maj O.R. | Include all | 1 | 1.1751 |
| 007 | S | Lung transplant | Include all | 1 | 1.5749 |
| 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 | 1.2467 |
| 164 | S | Major chest procedures w CC | See MS-DRG 163 | 2 | 1.1810 |
| 165 | S | Major chest procedures w/o CC/MCC | See MS-DRG 163 | 2 | 1.2746 |
| 166 | S | Other resp system O.R. procedures w MCC | Include all | 2 | 1.0352 |
| 167 | S | Other resp system O.R. procedures w CC | Include all | 2 | 1.1642 |
| 168 | S | Other resp system O.R. procedures w/o CC/MCC | Include all | 3 | 1.2418 |
| 175 | M | Pulmonary embolism w MCC | Include all | 1 | 1.0960 |
| 176 | M | Pulmonary embolism w/o MCC | Include all | 1 | 1.3993 |
| 177 | M | Respiratory infections & inflammations w MCC | Exclude diagnoses: 7955, V712, 79551, 75952 | 1 | 0.8477 |
| 178 | M | Respiratory infections & inflammations w CC | See MS-DRG 177 | 2 | 0.9003 |
| 179 | M | Respiratory infections & inflammations w/o CC/MCC | See MS-DRG 177 | 2 | 1.0459 |
| 180 | M | Respiratory neoplasms w MCC | Exclude diagnoses: 2122-5, 2128-9, 2133 | 1 | 1.0277 |
| 181 | M | Respiratory neoplasms w CC | See MS-DRG 181 | 2 | 1.0879 |
| 182 | M | Respiratory neoplasms w/o CC/MCC | See MS-DRG 181 | 2 | 1.1391 |
| 183 | M | Major chest trauma w MCC | Include all | 1 | 1.1218 |
| 184 | M | Major chest trauma w CC | Include all | 1 | 1.3838 |
| 185 | M | Major chest trauma w/o CC/MCC | Include all | 1 | 1.3752 |
| 186 | M | Pleural effusion w MCC | Include all | 3 | 0.9354 |

| MS-DRG | Medical/Surgical | DRG Title | ICD-9-CM | Severity | Weight |
|--------|------------------|---|-------------------------|----------|--------|
| 187 | M | Pleural effusion w CC | Include all | 3 | 1.0036 |
| 189 | M | Pulmonary edema & respiratory failure | Include all | 2 | 0.9658 |
| 190 | M | Chronic obstructive pulmonary disease w MCC | Include all | 3 | 0.8886 |
| 191 | M | Chronic obstructive pulmonary disease w CC | Include all | 3 | 0.8514 |
| 192 | M | Chronic obstructive pulmonary disease w/o CC/MCC | Include all | 3 | 0.8655 |
| 193 | M | Simple pneumonia & pleurisy w MCC | Include all | 3 | 0.8868 |
| 194 | M | Simple pneumonia & pleurisy w CC | Include all | 3 | 0.9008 |
| 196 | M | Interstitial lung disease w MCC | Include all | 3 | 0.9305 |
| 197 | M | Interstitial lung disease w CC | Include all | 3 | 1.0090 |
| 198 | M | Interstitial lung disease w/o CC/MCC | Include all | 3 | 1.3114 |
| 199 | M | Pneumothorax w MCC | Exclude diagnoses: 5121 | 1 | 1.2683 |
| 200 | M | Pneumothorax w CC | See MS-DRG 199 | 2 | 1.5749 |
| 202 | M | Bronchitis & asthma w CC/MCC | Include all | 3 | 1.5749 |
| 207 | M | Respiratory system diagnosis w ventilator support 96+ hours | Include all | 2 | 1.1121 |
| 208 | M | Respiratory system diagnosis w ventilator support <96 hours | Include all | 2 | 1.0892 |
| 870 | M | Septicemia or severe sepsis w MV 96+ hours | Include all | 1 | 1.0327 |
| 871 | M | Septicemia or severe sepsis w/o MV 96+ hours w MCC | Include all | 1 | 0.9268 |
| 872 | M | Septicemia or severe sepsis w/o MV 96+ hours w/o MCC | Include all | 1 | 1.2070 |

Urology

| MS-DRG | Medical/Surgical | DRG Title | IC9-CM | Severity | Weight |
|--------|------------------|--|--|----------|--------|
| 653 | S | Major bladder procedures w MCC | Include all | 1 | 0.9858 |
| 654 | S | Major bladder procedures w CC | Include all | 2 | 1.1710 |
| 655 | S | Major bladder procedures w/o CC/MCC | Include all | 2 | 1.2333 |
| 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 | 0.7936 |
| 657 | S | Kidney & ureter procedures for neoplasm w CC | See MS-DRG 656 | 2 | 0.9498 |
| 658 | S | Kidney & ureter procedures for neoplasm w/o CC/MCC | See MS-DRG 656 | 2 | 0.8559 |
| 659 | S | Kidney & ureter procedures for non-neoplasm w MCC | See MS-DRG 656 | 2 | 1.2703 |
| 660 | S | Kidney & ureter procedures for non-neoplasm w CC | See MS-DRG 656 | 2 | 1.8961 |
| 661 | S | Kidney & ureter procedures for non-neoplasm w/o CC/MCC | See MS-DRG 656 | 3 | 1.3124 |
| 662 | S | Minor bladder procedures w MCC | Include all | 3 | 0.8965 |
| 663 | S | Minor bladder procedures w CC | Include all | 3 | 1.0189 |
| 664 | S | Minor bladder procedures w/o CC/MCC | Include all | 3 | 1.8961 |
| 665 | S | Prostatectomy w MCC | Include all | 3 | 0.8086 |
| 666 | S | Prostatectomy w CC | Include all | 3 | 0.7846 |
| 668 | S | Transurethral procedures w MCC | Include all | 3 | 0.9237 |
| 669 | S | Transurethral procedures w CC | Include all | 3 | 1.0570 |
| 671 | S | Urethral procedures w CC/MCC | Include all | 3 | 1.0679 |
| 673 | S | Other kidney & urinary tract procedures w MCC | Include procedures: 1756, 3806-7, 3816, 3836-7, | 3 | 0.9297 |

| 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 | 0.7989 |
| 675 | S | Other kidney & urinary tract procedures w/o CC/MCC | See MS-DRG 673 | 3 | 0.6562 |
| 686 | M | Kidney & urinary tract neoplasms w MCC | Exclude diagnoses: 1890-1, 1980-1, 2230-1 | 2 | 0.9650 |
| 687 | M | Kidney & urinary tract neoplasms w CC | See MS-DRG 686 | 2 | 0.9377 |
| 688 | M | Kidney & urinary tract neoplasms w/o CC/MCC | See MS-DRG 686 | 3 | 0.6562 |
| 691 | M | Urinary stones w esw lithotripsy w CC/MCC | Include all | 3 | 1.4107 |
| 692 | M | Urinary stones w esw lithotripsy w/o CC/MCC | Include all | 3 | 1.1194 |
| 697 | M | Urethral stricture | Include all | 3 | 1.0409 |
| 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 | 0.8549 |
| 699 | M | Other kidney & urinary tract diagnoses w CC | See MS-DRG 698 | 3 | 0.9327 |
| 700 | M | Other kidney & urinary tract diagnoses w/o CC/MCC | See MS-DRG 698 | 3 | 1.0566 |
| 707 | S | Major male pelvic procedures w CC/MCC | Include all | 2 | 1.5229 |
| 708 | S | Major male pelvic procedures w/o CC/MCC | Include all | 2 | 1.7699 |
| 709 | S | Penis procedures w CC/MCC | Include all | 3 | 1.2070 |
| 710 | S | Penis procedures w/o CC/MCC | Include all | 3 | 1.1194 |
| 711 | S | Testes procedures w CC/MCC | Include all | 2 | 1.8961 |
| 712 | S | Testes procedures w/o CC/MCC | Include all | 3 | 1.8961 |
| 713 | S | Transurethral prostatectomy w CC/MCC | Include all | 2 | 0.8514 |
| 715 | S | Other male reproductive system O.R. proc for malignancy w CC/MCC | Include all | 2 | 1.3451 |
| 716 | S | Other male reproductive system O.R. proc for malignancy w/o CC/MCC | Include all | 2 | 1.8566 |
| 717 | S | Other male reproductive system O.R. proc exc malignancy w CC/MCC | Include all | 3 | 1.0298 |
| 718 | S | Other male reproductive system O.R. proc exc malignancy w/o CC/MCC | Include all | 3 | 1.1194 |
| 722 | M | Malignancy, male reproductive system w MCC | Include all | 1 | 1.0913 |
| 723 | M | Malignancy, male reproductive system w CC | Include all | 2 | 1.0820 |
| 724 | M | Malignancy, male reproductive system w/o CC/MCC | Include all | 2 | 1.2727 |
| 727 | M | Inflammation of the male reproductive system w MCC | Include all | 3 | 0.9951 |

| MS-DRG | Medical/Surgical | DRG Title | IC9-CM | Severity | Weight |
|--------|------------------|--|-------------------------|----------|--------|
| 728 | M | Inflammation of the male reproductive system w/o MCC | Include all | 3 | 1.1295 |
| 729 | M | Other male reproductive system diagnoses w CC/MCC | Exclude diagnoses: V252 | 3 | 1.2922 |
| 730 | M | Other male reproductive system diagnoses w/o CC/MCC | See MS-DRG 729 | 3 | 1.0098 |
| 984 | S | Prostatic O.R. procedure unrelated to principal diagnosis w MCC | Include all | 3 | 0.7875 |
| 985 | S | Prostatic O.R. procedure unrelated to principal diagnosis w CC | Include all | 3 | 0.7608 |
| 986 | S | Prostatic O.R. procedure unrelated to principal diagnosis w/o CC/MCC | Include all | 3 | 0.6562 |

Appendix D

2018-19 Best Hospitals Rankings, Data-Driven Specialties

Best Hospitals 2018-19: 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 | 7,855 | 2.0 | Yes | 8 | 8 | 1 | Yes | 2 | 53.3 | Yes |
| 2 | Memorial Sloan-Kettering Cancer Center, New York | 97.4 | 10 | 5 | 2 | 1 | 3 | 2 | 6,241 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 50.6 | Yes |
| 3 | Mayo Clinic, Rochester, Minn. | 95.3 | 10 | 5 | 2 | 2 | 2 | 2 | 4,019 | 2.8 | Yes | 8 | 8 | 1 | Yes | 2 | 22.3 | Yes |
| 4 | Dana-Farber/Brigham and Women's Cancer Center, Boston | 83.0 | 10 | 5 | 2 | 2 | 2 | 2 | 3,161 | 2.3 | Yes | 8 | 8 | 1 | Yes | 2 | 26.6 | Yes |
| 5 | Cleveland Clinic | 80.9 | 10 | 6 | 2 | 3 | 2 | 2 | 2,554 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 8.7 | Yes |
| 6 | Johns Hopkins Hospital, Baltimore | 80.3 | 10 | 4 | 1 | 2 | 2 | 2 | 1,855 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 17.6 | Yes |
| 7 | Seattle Cancer Care Alliance/University of Washington Med. Center | 78.5 | 10 | 5 | 2 | 2 | 2 | 2 | 1,580 | 2.0 | Yes | 8 | 8 | 1 | Yes | 2 | 8.1 | Yes |
| 8 | H. Lee Moffitt Cancer Center and Research Institute, Tampa | 76.6 | 10 | 4 | 2 | 2 | 2 | 1 | 3,264 | 1.2 | Yes | 8 | 7 | 1 | Yes | 2 | 7.0 | Yes |
| 8 | UCSF Medical Center, San Francisco | 76.6 | 10 | 6 | 3 | 2 | 2 | 2 | 2,089 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 5.4 | Yes |
| 10 | Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 75.8 | 10 | 6 | 2 | 3 | 2 | 2 | 3,037 | 2.4 | Yes | 8 | 8 | 1 | Yes | 2 | 6.8 | Yes |
| 11 | Mayo Clinic-Phoenix | 74.1 | 10 | 6 | 3 | 2 | 2 | 2 | 1,761 | 2.9 | Yes | 8 | 8 | 1 | Yes | 2 | 2.7 | Yes |
| 12 | Massachusetts General Hospital, Boston | 72.6 | 9 | 5 | 2 | 2 | 2 | 2 | 2,866 | 2.4 | Yes | 8 | 8 | 1 | Yes | 2 | 9.9 | Yes |
| 12 | Northwestern Memorial Hospital, Chicago | 72.6 | 10 | 5 | 2 | 2 | 2 | 2 | 1,723 | 1.8 | Yes | 8 | 8 | 1 | Yes | 2 | 2.2 | Yes |
| 14 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 72.4 | 10 | 5 | 2 | 2 | 2 | 2 | 2,126 | 2.5 | Yes | 8 | 8 | 1 | Yes | 2 | 5.9 | Yes |
| 15 | Siteman Cancer Center, St. Louis | 72.3 | 10 | 5 | 2 | 2 | 2 | 2 | 3,402 | 2.2 | Yes | 8 | 8 | 1 | Yes | 2 | 4.0 | Yes |
| 15 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 72.3 | 10 | 7 | 2 | 2 | 3 | 3 | 2,128 | 2.7 | Yes | 8 | 8 | 1 | Yes | 2 | 3.7 | Yes |
| 17 | USC Norris Cancer Hospital-Keck Medical Center of USC, Los Angeles | 71.7 | 10 | 6 | 2 | 3 | 2 | 2 | 1,345 | 2.4 | Yes | 8 | 8 | 0 | Yes | 2 | 1.0 | Yes |
| 18 | University of Iowa Hospitals and Clinics, Iowa City | 70.2 | 10 | 5 | 2 | 2 | 2 | 2 | 1,356 | 1.8 | Yes | 8 | 8 | 1 | Yes | 2 | 1.4 | Yes |
| 19 | Wake Forest Baptist Medical Center, Winston-Salem, N.C. | 70.0 | 10 | 5 | 2 | 2 | 2 | 2 | 2,652 | 1.6 | Yes | 8 | 8 | 1 | Yes | 2 | 1.5 | Yes |
| 20 | Ohio State University James Cancer Hospital, Columbus | 69.9 | 10 | 5 | 2 | 2 | 2 | 2 | 3,206 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 4.8 | Yes |
| 21 | City of Hope Helford Clinical Research Hospital, Duarte, Calif. | 69.4 | 10 | 5 | 2 | 2 | 2 | 2 | 2,152 | 2.4 | Yes | 8 | 8 | 0 | Yes | 2 | 5.0 | Yes |
| 21 | UCLA Medical Center, Los Angeles | 69.4 | 10 | 5 | 2 | 2 | 2 | 2 | 2,053 | 3.0 | Yes | 8 | 8 | 1 | Yes | 2 | 5.0 | Yes |
| 23 | UPMC Presbyterian Shadyside, Pittsburgh | 68.9 | 10 | 5 | 2 | 2 | 2 | 2 | 3,820 | 1.9 | Yes | 8 | 8 | 1 | Yes | 2 | 4.1 | Yes |
| 24 | MUSC Health-University Medical Center, Charleston, S.C. | 68.7 | 10 | 5 | 2 | 2 | 2 | 2 | 1,082 | 2.3 | Yes | 8 | 8 | 1 | Yes | 2 | 0.4 | Yes |
| 25 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 68.5 | 10 | 4 | 2 | 1 | 2 | 2 | 4,424 | 2.9 | Yes | 8 | 8 | 0 | Yes | 2 | 3.5 | Yes |
| 26 | Jefferson Health-Thomas Jefferson University Hospitals, Philadelphia | 68.4 | 10 | 5 | 2 | 2 | 2 | 2 | 2,082 | 2.2 | Yes | 8 | 8 | 1 | Yes | 2 | 2.1 | Yes |
| 26 | University of Colorado Hospital, Aurora | 68.4 | 10 | 5 | 2 | 2 | 2 | 2 | 1,803 | 1.9 | Yes | 8 | 8 | 1 | Yes | 2 | 1.5 | Yes |
| 28 | OHSU Hospital, Portland, Ore. | 67.9 | 10 | 5 | 2 | 2 | 2 | 2 | 1,648 | 2.0 | Yes | 8 | 8 | 1 | Yes | 2 | 1.2 | Yes |
| 28 | University Hospitals Seidman Cancer Center, Cleveland | 67.9 | 10 | 5 | 2 | 2 | 2 | 2 | 1,538 | 2.6 | Yes | 8 | 8 | 1 | Yes | 2 | 1.1 | Yes |
| 30 | Mayo Clinic Jacksonville, Fla. | 67.8 | 10 | 6 | 2 | 2 | 2 | 3 | 961 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 2.8 | Yes |
| 30 | Roswell Park Comprehensive Cancer Center, Buffalo | 67.8 | 10 | 5 | 2 | 2 | 2 | 2 | 1,257 | 1.9 | Yes | 8 | 8 | 0 | Yes | 2 | 2.1 | Yes |
| 32 | University of Maryland Medical Center, Baltimore | 67.7 | 10 | 3 | 1 | 2 | 1 | 2 | 1,073 | 2.9 | Yes | 8 | 8 | 1 | Yes | 2 | 0.5 | Yes |
| 33 | University of Chicago Medical Center | 67.2 | 10 | 7 | 2 | 3 | 2 | 3 | 1,818 | 2.4 | Yes | 8 | 8 | 0 | Yes | 2 | 3.8 | Yes |
| 33 | University of Minnesota Medical Center, Fairview | 67.2 | 10 | 5 | 2 | 2 | 2 | 2 | 1,680 | 2.0 | Yes | 8 | 8 | 0 | Yes | 2 | 0.4 | Yes |
| 35 | Duke University Hospital, Durham, N.C. | 67.1 | 9 | 6 | 2 | 3 | 2 | 2 | 2,047 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 5.4 | Yes |
| 36 | University of California, Davis Medical Center, Sacramento | 66.8 | 10 | 5 | 2 | 2 | 2 | 2 | 1,509 | 2.8 | Yes | 8 | 8 | 1 | Yes | 2 | 0.4 | Yes |
| 36 | University of North Carolina Hospitals, Chapel Hill | 66.8 | 10 | 5 | 2 | 2 | 2 | 2 | 1,538 | 1.8 | Yes | 8 | 8 | 1 | Yes | 2 | 2.4 | Yes |
| 38 | University of Kentucky Albert B. Chandler Hospital, Lexington | 66.1 | 10 | 5 | 2 | 2 | 2 | 2 | 1,015 | 1.9 | Yes | 8 | 8 | 1 | Yes | 2 | 1.2 | Yes |
| 39 | Vanderbilt University Medical Center, Nashville, Tenn. | 65.8 | 9 | 6 | 2 | 3 | 2 | 2 | 1,844 | 2.5 | Yes | 8 | 8 | 1 | Yes | 2 | 2.9 | Yes |
| 40 | University of Virginia Medical Center, Charlottesville | 65.6 | 10 | 5 | 2 | 2 | 2 | 2 | 962 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 0.8 | Yes |
| 41 | Cedars-Sinai Medical Center, Los Angeles | 65.5 | 10 | 5 | 2 | 2 | 2 | 2 | 2,650 | 2.6 | Yes | 8 | 8 | 1 | No | 2 | 1.5 | Yes |
| 42 | University of Kansas Hospital, Kansas City | 65.3 | 10 | 5 | 2 | 2 | 2 | 2 | 1,501 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 0.8 | Yes |
| 43 | University of Wisconsin Hospitals, Madison | 65.1 | 10 | 5 | 2 | 2 | 2 | 2 | 1,349 | 2.1 | Yes | 8 | 8 | 1 | Yes | 2 | 0.7 | Yes |
| 44 | NYU Langone Hospitals, New York, N.Y. | 64.4 | 10 | 5 | 2 | 2 | 2 | 2 | 1,699 | 2.3 | Yes | 8 | 8 | 1 | Yes | 1 | 1.4 | Yes |
| 45 | UC San Diego Health-Moores Cancer Center | 64.0 | 10 | 5 | 2 | 2 | 2 | 2 | 1,315 | 2.0 | Yes | 8 | 8 | 1 | Yes | 2 | 1.6 | Yes |
| 46 | Indiana University Health Academic Health Center, Indianapolis | 63.3 | 10 | 5 | 2 | 2 | 2 | 2 | 1,564 | 2.0 | Yes | 8 | 8 | 1 | Yes | 2 | 0.5 | Yes |
| 47 | Mount Sinai Hospital, New York | 62.3 | 9 | 6 | 2 | 3 | 2 | 2 | 1,933 | 1.9 | Yes | 8 | 8 | 1 | Yes | 2 | 0.8 | Yes |
| 48 | Huntsman Cancer Institute at the University of Utah, Salt Lake City | 62.2 | 10 | 5 | 2 | 2 | 2 | 2 | 1,153 | 1.8 | Yes | 8 | 8 | 0 | Yes | 2 | 0.7 | Yes |
| 49 | Beth Israel Deaconess Medical Center, Boston | 62.1 | 10 | 5 | 2 | 2 | 2 | 2 | 1,405 | 1.6 | Yes | 8 | 8 | 0 | Yes | 2 | 0.5 | Yes |
| 49 | Rush University Medical Center, Chicago | 62.1 | 10 | 5 | 2 | 2 | 2 | 2 | 1,505 | 2.2 | Yes | 8 | 8 | 1 | No | 2 | 1.2 | Yes |

Rankings are based on all of the above measures.

| Best Hospitals 2018-19: 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 | 10 | 5 | 2 | 2 | 2 | 777 | 2.8 | Yes | 4 | 8 | 1 | 45.4 | Yes | | |
| 2 | Johns Hopkins Hospital, Baltimore | 86.8 | 10 | 4 | 1 | 2 | 2 | 354 | 2.1 | Yes | 4 | 8 | 1 | 18.3 | Yes | | |
| 3 | Massachusetts General Hospital, Boston | 83.1 | 8 | 5 | 2 | 2 | 2 | 515 | 2.4 | Yes | 4 | 8 | 1 | 28.9 | Yes | | |
| 4 | Cleveland Clinic | 80.5 | 8 | 6 | 2 | 3 | 2 | 646 | 2.1 | Yes | 4 | 8 | 1 | 16.2 | Yes | | |
| 5 | Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 79.1 | 9 | 6 | 2 | 3 | 2 | 578 | 2.4 | Yes | 4 | 8 | 1 | 8.9 | Yes | | |
| 6 | UCSF Medical Center, San Francisco | 78.5 | 10 | 6 | 3 | 2 | 2 | 394 | 2.1 | Yes | 4 | 8 | 1 | 9.0 | Yes | | |
| 6 | University of Colorado Hospital, Aurora | 78.5 | 10 | 5 | 2 | 2 | 2 | 588 | 1.9 | Yes | 4 | 8 | 1 | 5.6 | Yes | | |
| 8 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 78.1 | 8 | 4 | 2 | 1 | 2 | 1,369 | 2.9 | Yes | 4 | 8 | 0 | 11.6 | Yes | | |
| 9 | UCLA Medical Center, Los Angeles | 76.6 | 9 | 5 | 2 | 2 | 2 | 557 | 3.0 | Yes | 4 | 8 | 1 | 5.7 | Yes | | |
| 10 | Barnes-Jewish Hospital, St. Louis | 76.3 | 9 | 5 | 2 | 2 | 2 | 608 | 2.2 | Yes | 4 | 8 | 1 | 7.0 | Yes | | |
| 11 | UPMC Presbyterian Shadyside, Pittsburgh | 74.4 | 10 | 5 | 2 | 2 | 2 | 695 | 1.9 | Yes | 4 | 8 | 1 | 3.5 | Yes | | |
| 12 | University of Washington Medical Center, Seattle | 73.3 | 10 | 5 | 2 | 2 | 2 | 175 | 2.0 | Yes | 4 | 8 | 1 | 7.3 | Yes | | |
| 13 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 73.2 | 9 | 7 | 2 | 2 | 3 | 390 | 2.7 | Yes | 4 | 8 | 1 | 5.5 | Yes | | |
| 14 | Beaumont Hospital-Royal Oak, Mich. | 72.6 | 10 | 6 | 2 | 2 | 3 | 946 | 1.9 | Yes | 4 | 8 | 1 | 0.1 | Yes | | |
| 15 | Cedars-Sinai Medical Center, Los Angeles | 72.5 | 9 | 5 | 2 | 2 | 2 | 886 | 2.6 | Yes | 4 | 8 | 1 | 2.5 | Yes | | |
| 16 | DMC Harper University Hospital, Detroit | 72.2 | 10 | 5 | 2 | 2 | 2 | 237 | 1.7 | Yes | 4 | 8 | 1 | 0.2 | Yes | | |
| 17 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 72.1 | 10 | 5 | 2 | 2 | 2 | 439 | 2.5 | Yes | 4 | 8 | 1 | 3.5 | Yes | | |
| 18 | University of Kansas Hospital, Kansas City | 71.9 | 10 | 5 | 2 | 2 | 2 | 337 | 2.1 | Yes | 4 | 8 | 1 | 0.2 | Yes | | |
| 19 | Scripps La Jolla Hospitals, La Jolla, Calif. | 71.7 | 10 | 6 | 2 | 3 | 2 | 353 | 3.1 | Yes | 4 | 8 | 1 | 0.5 | Yes | | |
| 20 | Providence Portland Medical Center, Portland, Ore. | 71.4 | 10 | 4 | 2 | 1 | 2 | 251 | 1.5 | Yes | 3 | 8 | 1 | 0.0 | Yes | | |
| 21 | Ohio State University Wexner Medical Center, Columbus | 71.1 | 10 | 5 | 2 | 2 | 2 | 587 | 2.1 | Yes | 4 | 8 | 1 | 2.6 | Yes | | |
| 21 | UT Southwestern Medical Center, Dallas | 71.1 | 10 | 5 | 2 | 2 | 2 | 336 | 2.3 | Yes | 4 | 8 | 1 | 2.9 | Yes | | |
| 23 | Abbott Northwestern Hospital, Minneapolis | 70.7 | 10 | 5 | 2 | 2 | 2 | 422 | 2.4 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 24 | Tampa General Hospital | 70.6 | 10 | 3 | 1 | 1 | 2 | 440 | 2.1 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 25 | VCU Medical Center, Richmond, Va. | 70.5 | 10 | 5 | 2 | 2 | 2 | 188 | 2.4 | Yes | 4 | 8 | 1 | 0.1 | Yes | | |
| 26 | MedStar Georgetown University Hospital, Washington, D.C. | 70.4 | 10 | 5 | 2 | 2 | 2 | 135 | 1.1 | Yes | 4 | 8 | 1 | 0.5 | Yes | | |
| 27 | Brigham and Women's Hospital, Boston | 70.1 | 9 | 5 | 2 | 2 | 2 | 433 | 2.3 | Yes | 4 | 8 | 0 | 10.5 | Yes | | |
| 28 | University of Alabama at Birmingham Hospital | 70.0 | 10 | 6 | 2 | 2 | 3 | 441 | 1.8 | Yes | 4 | 8 | 1 | 1.0 | Yes | | |
| 28 | West Virginia University Hospitals, Morgantown, W.Va. | 70.0 | 10 | 6 | 2 | 3 | 2 | 276 | 2.8 | Yes | 4 | 8 | 1 | 0.4 | Yes | | |
| 30 | Indiana University Health Academic Health Center, Indianapolis | 69.5 | 10 | 5 | 2 | 2 | 2 | 386 | 2.0 | Yes | 4 | 8 | 1 | 0.2 | Yes | | |
| 31 | Mayo Clinic-Phoenix | 69.1 | 9 | 6 | 3 | 2 | 2 | 362 | 2.9 | Yes | 4 | 8 | 1 | 1.1 | Yes | | |
| 31 | Sentara Norfolk General Hospital, Norfolk, Va. | 69.1 | 10 | 5 | 2 | 2 | 2 | 244 | 1.6 | Yes | 4 | 8 | 1 | 1.2 | Yes | | |
| 33 | University of Kentucky Albert B. Chandler Hospital, Lexington | 69.0 | 10 | 5 | 2 | 2 | 2 | 216 | 1.9 | Yes | 4 | 8 | 1 | 0.1 | Yes | | |
| 34 | Yale-New Haven Hospital, New Haven, Conn. | 68.5 | 8 | 4 | 2 | 1 | 2 | 812 | 2.0 | Yes | 4 | 8 | 1 | 5.6 | Yes | | |
| 35 | Bon Secours St. Francis Hospital, Charleston, S.C. | 68.4 | 10 | 5 | 2 | 2 | 2 | 129 | 1.4 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 36 | Mount Sinai Hospital, New York | 68.0 | 8 | 6 | 2 | 3 | 2 | 617 | 1.9 | Yes | 4 | 8 | 1 | 5.1 | Yes | | |
| 37 | Orange Coast Memorial Medical Center, Fountain Valley, Calif. | 67.6 | 10 | 5 | 2 | 2 | 2 | 137 | 2.2 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 38 | University of Maryland Medical Center, Baltimore | 67.3 | 10 | 3 | 1 | 2 | 1 | 172 | 2.9 | Yes | 4 | 8 | 1 | 0.6 | Yes | | |
| 39 | Montefiore Medical Center, Bronx, N.Y. | 66.9 | 9 | 4 | 2 | 1 | 2 | 1,154 | 2.3 | Yes | 4 | 8 | 0 | 1.4 | Yes | | |
| 39 | OHSU Hospital, Portland, Ore. | 66.9 | 9 | 5 | 2 | 2 | 2 | 251 | 2.0 | Yes | 4 | 8 | 1 | 2.9 | Yes | | |
| 39 | UF Health Shands Hospital, Gainesville, Fla. | 66.9 | 10 | 5 | 2 | 2 | 2 | 300 | 1.9 | Yes | 4 | 8 | 1 | 0.5 | Yes | | |
| 42 | Houston Methodist Hospital | 66.7 | 9 | 5 | 2 | 2 | 2 | 583 | 2.0 | Yes | 4 | 8 | 1 | 0.3 | Yes | | |
| 42 | University Hospitals Cleveland Medical Center | 66.7 | 9 | 5 | 2 | 2 | 2 | 394 | 2.6 | Yes | 4 | 8 | 1 | 0.8 | Yes | | |
| 44 | Penn Medicine Chester County Hospital, West Chester, Pa. | 66.4 | 10 | 5 | 2 | 2 | 2 | 164 | 1.8 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 45 | Queen's Medical Center, Honolulu | 66.3 | 10 | 4 | 1 | 2 | 2 | 382 | 1.7 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 46 | Providence Little Company of Mary Medical Center Torrance, Calif. | 66.0 | 10 | 5 | 2 | 2 | 2 | 246 | 2.8 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |
| 47 | NYU Langone Hospitals, New York, N.Y. | 65.9 | 8 | 5 | 2 | 2 | 2 | 633 | 2.3 | Yes | 4 | 8 | 1 | 2.9 | Yes | | |
| 48 | University of California, Davis Medical Center, Sacramento | 65.8 | 9 | 5 | 2 | 2 | 2 | 318 | 2.8 | Yes | 4 | 8 | 1 | 0.2 | Yes | | |
| 49 | Flagler Hospital, St. Augustine, Fla. | 65.4 | 10 | 5 | 2 | 2 | 2 | 213 | 1.6 | Yes | 3 | 7 | 1 | 0.0 | Yes | | |
| 49 | Miami Valley Hospital, Dayton, Ohio | 65.4 | 9 | 5 | 2 | 2 | 2 | 387 | 2.5 | Yes | 4 | 8 | 1 | 0.0 | Yes | | |

Rankings are based on all of the above measures.

| Best Hospitals 2018-19: 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 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 100.0 | 9 | 7 | 2 | 2 | 3 | 3 | 343 | 2.7 | Yes | 1 | 8 | Yes | 1 | 12.0 | Yes |
| 2 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 99.9 | 10 | 5 | 2 | 2 | 2 | 2 | 322 | 2.5 | Yes | 1 | 8 | Yes | 1 | 10.4 | Yes |
| 3 | University of Iowa Hospitals and Clinics, Iowa City | 99.5 | 10 | 5 | 2 | 2 | 2 | 2 | 214 | 1.8 | Yes | 1 | 8 | Yes | 1 | 12.7 | Yes |
| 4 | Ohio State University Wexner Medical Center, Columbus | 97.7 | 10 | 5 | 2 | 2 | 2 | 2 | 467 | 2.1 | Yes | 1 | 8 | Yes | 1 | 6.5 | Yes |
| 5 | Mayo Clinic, Rochester, Minn. | 97.3 | 8 | 5 | 2 | 2 | 2 | 2 | 396 | 2.8 | Yes | 1 | 8 | Yes | 1 | 12.5 | Yes |
| 6 | Massachusetts Eye and Ear Infirmary, Mass. General Hosp. Boston | 94.4 | 7 | 5 | 2 | 2 | 2 | 2 | 355 | 2.4 | Yes | 1 | 8 | Yes | 1 | 21.2 | Yes |
| 7 | UCSF Medical Center, San Francisco | 93.8 | 10 | 6 | 3 | 2 | 2 | 2 | 224 | 2.1 | Yes | 1 | 8 | Yes | 1 | 7.7 | Yes |
| 8 | Johns Hopkins Hospital, Baltimore | 93.5 | 7 | 4 | 1 | 2 | 2 | 2 | 195 | 2.1 | Yes | 1 | 8 | Yes | 1 | 24.3 | Yes |
| 9 | UCLA Medical Center, Los Angeles | 91.1 | 8 | 5 | 2 | 2 | 2 | 2 | 488 | 3.0 | Yes | 1 | 8 | Yes | 1 | 6.4 | Yes |
| 10 | University of North Carolina Hospitals, Chapel Hill | 90.5 | 10 | 5 | 2 | 2 | 2 | 2 | 247 | 1.8 | Yes | 1 | 8 | Yes | 1 | 4.5 | Yes |
| 11 | Cleveland Clinic | 90.4 | 10 | 6 | 2 | 3 | 2 | 2 | 257 | 2.1 | Yes | 1 | 8 | No | 1 | 10.2 | Yes |
| 12 | MUSC Health-University Medical Center, Charleston, S.C. | 90.0 | 9 | 5 | 2 | 2 | 2 | 2 | 234 | 2.3 | Yes | 1 | 8 | Yes | 1 | 7.6 | Yes |
| 13 | Hosp. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 88.6 | 7 | 6 | 2 | 3 | 2 | 2 | 432 | 2.4 | Yes | 1 | 8 | Yes | 1 | 8.6 | Yes |
| 14 | University of Texas MD Anderson Cancer Center, Houston | 86.6 | 7 | 5 | 2 | 2 | 2 | 2 | 670 | 2.0 | Yes | 1 | 8 | No | 1 | 9.4 | Yes |
| 15 | Jefferson Health-Thomas Jefferson University Hospitals, Philadelphia | 85.5 | 9 | 5 | 2 | 2 | 2 | 2 | 456 | 2.2 | Yes | 1 | 8 | Yes | 1 | 2.6 | Yes |
| 16 | University Hospitals Cleveland Medical Center | 81.9 | 9 | 5 | 2 | 2 | 2 | 2 | 244 | 2.6 | Yes | 1 | 8 | Yes | 1 | 1.9 | Yes |
| 17 | Memorial Sloan-Kettering Cancer Center, New York | 81.3 | 9 | 5 | 2 | 1 | 3 | 2 | 363 | 2.1 | Yes | 1 | 8 | No | 1 | 3.3 | Yes |
| 18 | University of Virginia Medical Center, Charlottesville | 80.5 | 9 | 5 | 2 | 2 | 2 | 2 | 115 | 2.1 | Yes | 1 | 8 | Yes | 1 | 3.9 | Yes |
| 19 | Memorial Hermann-Texas Medical Center, Houston | 80.3 | 10 | 5 | 2 | 2 | 2 | 2 | 81 | 2.2 | Yes | 1 | 8 | Yes | 1 | 0.3 | Yes |
| 20 | University of California, Davis Medical Center, Sacramento | 80.1 | 9 | 5 | 2 | 2 | 2 | 2 | 183 | 2.8 | Yes | 1 | 8 | Yes | 1 | 1.2 | Yes |
| 21 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 79.9 | 9 | 4 | 2 | 1 | 2 | 2 | 294 | 2.9 | Yes | 1 | 8 | Yes | 0 | 3.2 | Yes |
| 22 | Barnes-Jewish Hospital, St. Louis | 79.8 | 7 | 5 | 2 | 2 | 2 | 2 | 311 | 2.2 | Yes | 1 | 8 | Yes | 1 | 7.0 | Yes |
| 23 | Henry Ford Hospital, Detroit | 79.7 | 10 | 5 | 2 | 2 | 2 | 2 | 130 | 2.1 | Yes | 1 | 8 | Yes | 0 | 0.7 | Yes |
| 24 | Rush University Medical Center, Chicago | 79.6 | 10 | 5 | 2 | 2 | 2 | 2 | 156 | 2.2 | Yes | 1 | 8 | Yes | 1 | 1.0 | Yes |
| 25 | Ochsner Medical Center, New Orleans | 78.8 | 10 | 5 | 2 | 2 | 2 | 2 | 192 | 1.9 | Yes | 1 | 8 | Yes | 1 | 1.0 | Yes |
| 25 | OHSU Hospital, Portland, Ore. | 78.8 | 8 | 5 | 2 | 2 | 2 | 2 | 318 | 2.0 | Yes | 1 | 8 | Yes | 1 | 2.4 | Yes |
| 27 | Yale-New Haven Hospital, New Haven, Conn. | 78.5 | 9 | 4 | 2 | 1 | 2 | 2 | 353 | 2.0 | Yes | 1 | 8 | Yes | 1 | 1.2 | Yes |
| 28 | Mayo Clinic-Phoenix | 78.0 | 8 | 6 | 3 | 2 | 2 | 2 | 241 | 2.9 | Yes | 1 | 8 | No | 1 | 2.1 | Yes |
| 29 | University of Alabama at Birmingham Hospital | 77.6 | 7 | 6 | 2 | 2 | 2 | 3 | 499 | 1.8 | Yes | 1 | 8 | Yes | 1 | 2.0 | Yes |
| 30 | Wake Forest Baptist Medical Center, Winston-Salem, N.C. | 77.3 | 8 | 5 | 2 | 2 | 2 | 2 | 386 | 1.6 | Yes | 1 | 8 | Yes | 1 | 2.1 | Yes |
| 31 | University of Utah Hospital, Salt Lake City | 77.0 | 10 | 5 | 2 | 2 | 2 | 2 | 152 | 1.8 | Yes | 1 | 8 | Yes | 0 | 1.6 | Yes |
| 32 | UPMC Presbyterian Shadyside, Pittsburgh | 76.3 | 5 | 5 | 2 | 2 | 2 | 2 | 493 | 1.9 | Yes | 1 | 8 | Yes | 1 | 9.2 | Yes |
| 33 | Vanderbilt University Medical Center, Nashville, Tenn. | 75.6 | 4 | 6 | 2 | 3 | 2 | 2 | 359 | 2.5 | Yes | 1 | 8 | Yes | 1 | 10.8 | Yes |
| 34 | University of Cincinnati Medical Center | 74.9 | 9 | 5 | 2 | 2 | 2 | 2 | 256 | 1.7 | Yes | 1 | 8 | Yes | 0 | 5.0 | Yes |
| 35 | Beaumont Hospital-Troy, Mich. | 74.7 | 9 | 8 | 3 | 2 | 3 | 3 | 120 | 2.0 | Yes | 1 | 8 | Yes | 1 | 0.1 | Yes |
| 35 | Cedars-Sinai Medical Center, Los Angeles | 74.7 | 8 | 5 | 2 | 2 | 2 | 2 | 171 | 2.6 | Yes | 1 | 8 | Yes | 1 | 0.6 | Yes |
| 37 | Mount Sinai Hospital, New York | 74.2 | 6 | 6 | 2 | 3 | 2 | 2 | 326 | 1.9 | Yes | 1 | 8 | Yes | 1 | 5.7 | Yes |
| 37 | University of Washington Medical Center, Seattle | 74.2 | 7 | 5 | 2 | 2 | 2 | 2 | 179 | 2.0 | Yes | 1 | 8 | No | 1 | 7.0 | Yes |
| 39 | University of Maryland Medical Center, Baltimore | 74.0 | 8 | 3 | 1 | 2 | 1 | 2 | 219 | 2.9 | Yes | 1 | 8 | Yes | 1 | 1.2 | Yes |
| 40 | Baylor University Medical Center, Dallas | 73.8 | 10 | 5 | 2 | 2 | 2 | 2 | 183 | 1.5 | Yes | 1 | 8 | Yes | 1 | 0.6 | Yes |
| 41 | University of Miami Hospital | 73.5 | 10 | 4 | 2 | 2 | 2 | 1 | 612 | 1.4 | Yes | 1 | 8 | Yes | 0 | 1.1 | Yes |
| 42 | Via Christi Hospital on St. Francis, Wichita, Kan. | 72.0 | 10 | 5 | 2 | 2 | 2 | 2 | 73 | 1.8 | Yes | 1 | 6 | Yes | 0 | 0.0 | Yes |
| 43 | Strong Memorial Hospital of the Univ. of Rochester, Rochester, N.Y. | 71.5 | 8 | 5 | 2 | 2 | 2 | 2 | 189 | 1.8 | Yes | 1 | 8 | Yes | 1 | 0.6 | Yes |
| 44 | New York Eye and Ear Infirmary of Mount Sinai, N.Y. | 71.3 | 10 | 5 | 2 | 2 | 2 | 2 | <11 | 1.4 | Yes | 1 | 8 | No | 1 | 1.8 | Yes |
| 45 | University of Kentucky Albert B. Chandler Hospital, Lexington | 71.0 | 8 | 5 | 2 | 2 | 2 | 2 | 186 | 1.9 | Yes | 1 | 8 | Yes | 1 | 0.4 | Yes |
| 46 | Vidant Medical Center, Greenville, N.C. | 70.7 | 9 | 6 | 2 | 3 | 2 | 2 | 118 | 2.0 | Yes | 1 | 8 | Yes | 1 | 0.0 | Yes |
| 47 | Froedtert Hospital and the Medical College of Wisconsin, Milwaukee | 69.6 | 8 | 5 | 2 | 2 | 2 | 2 | 116 | 1.8 | Yes | 1 | 8 | Yes | 1 | 1.1 | Yes |
| 47 | Reading Hospital, West Reading, Pa. | 69.6 | 10 | 5 | 2 | 2 | 2 | 2 | 109 | 1.1 | Yes | 1 | 4 | Yes | 1 | 0.0 | Yes |
| 49 | Northwestern Memorial Hospital, Chicago | 68.9 | 8 | 5 | 2 | 2 | 2 | 2 | 105 | 1.8 | Yes | 1 | 8 | Yes | 1 | 2.1 | Yes |
| 50 | Porter Adventist Hospital, Denver | 68.5 | 9 | 3 | 2 | 1 | 1 | 2 | 195 | 1.9 | Yes | 1 | 8 | No | 1 | 0.4 | Yes |

Rankings are based on all of the above measures.

| Best Hospitals 2018-19: Geriatrics | | 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 |
|---------------------------------------|--|---------------------------|-----------------|----------------|---|---|---|---|--------------------|----------------|--------------|------------------|-------------------------------------|-----------------------------------|---|-----------------------|
| Rank | Hospital | | | | | | | | | | | | | | | |
| 1 | Mayo Clinic, Rochester, Minn. | 100.0 | 10 | 5 | 2 | 2 | 2 | 2 | 32,095 | 2.8 | Yes | 9 | 1 | Yes | 12.3 | Yes |
| 2 | Johns Hopkins Hospital, Baltimore | 97.5 | 10 | 4 | 1 | 2 | 2 | 2 | 8,640 | 2.1 | Yes | 9 | 1 | Yes | 19.2 | Yes |
| 3 | Mount Sinai Hospital, New York | 94.5 | 10 | 6 | 2 | 3 | 2 | 2 | 21,549 | 1.9 | Yes | 9 | 1 | Yes | 22.8 | Yes |
| 4 | UCLA Medical Center, Los Angeles | 90.0 | 10 | 5 | 2 | 2 | 2 | 2 | 19,365 | 3.0 | Yes | 9 | 1 | No | 24.5 | Yes |
| 5 | Cleveland Clinic | 87.5 | 10 | 6 | 2 | 3 | 2 | 2 | 20,167 | 2.1 | Yes | 9 | 1 | No | 7.2 | Yes |
| 6 | Mayo Clinic-Phoenix | 87.4 | 10 | 6 | 3 | 2 | 2 | 2 | 14,223 | 2.9 | Yes | 9 | 1 | Yes | 1.1 | Yes |
| 7 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 86.8 | 10 | 7 | 2 | 2 | 3 | 3 | 11,941 | 2.7 | Yes | 9 | 1 | Yes | 4.7 | Yes |
| 8 | UCSF Medical Center, San Francisco | 85.9 | 10 | 6 | 3 | 2 | 2 | 2 | 9,635 | 2.1 | Yes | 9 | 1 | Yes | 9.6 | Yes |
| 9 | Northwestern Memorial Hospital, Chicago | 83.7 | 10 | 5 | 2 | 2 | 2 | 2 | 12,237 | 1.8 | Yes | 9 | 1 | Yes | 2.5 | Yes |
| 10 | Massachusetts General Hospital, Boston | 82.9 | 10 | 5 | 2 | 2 | 2 | 2 | 22,725 | 2.4 | Yes | 9 | 1 | Yes | 4.4 | Yes |
| 11 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 82.6 | 10 | 4 | 2 | 1 | 2 | 2 | 42,595 | 2.9 | Yes | 9 | 0 | Yes | 5.1 | Yes |
| 12 | UPMC Presbyterian Shadyside, Pittsburgh | 81.8 | 9 | 5 | 2 | 2 | 2 | 2 | 26,646 | 1.9 | Yes | 9 | 1 | Yes | 8.7 | Yes |
| 13 | Hosps. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 81.7 | 10 | 6 | 2 | 3 | 2 | 2 | 16,298 | 2.4 | Yes | 9 | 1 | Yes | 3.2 | Yes |
| 14 | NYU Langone Hospitals, New York, N.Y. | 81.4 | 10 | 5 | 2 | 2 | 2 | 2 | 24,663 | 2.3 | Yes | 9 | 1 | Yes | 3.4 | Yes |
| 14 | Rush University Medical Center, Chicago | 81.4 | 10 | 5 | 2 | 2 | 2 | 2 | 8,461 | 2.2 | Yes | 9 | 1 | Yes | 2.6 | Yes |
| 16 | Barnes-Jewish Hospital, St. Louis | 81.0 | 10 | 5 | 2 | 2 | 2 | 2 | 17,621 | 2.2 | Yes | 9 | 1 | Yes | 3.0 | Yes |
| 17 | Keck Hospital of USC, Los Angeles | 79.3 | 10 | 6 | 2 | 3 | 2 | 2 | 5,780 | 2.4 | Yes | 9 | 0 | Yes | 1.1 | Yes |
| 18 | UT Southwestern Medical Center, Dallas | 78.9 | 10 | 5 | 2 | 2 | 2 | 2 | 7,084 | 2.3 | Yes | 9 | 1 | Yes | 1.0 | Yes |
| 19 | Banner University Medical Center Phoenix | 78.7 | 10 | 5 | 2 | 2 | 2 | 2 | 7,863 | 2.3 | Yes | 9 | 1 | Yes | 0.5 | Yes |
| 20 | Cedars-Sinai Medical Center, Los Angeles | 78.5 | 10 | 5 | 2 | 2 | 2 | 2 | 37,049 | 2.6 | Yes | 8 | 1 | No | 1.3 | Yes |
| 21 | University of California, Davis Medical Center, Sacramento | 78.3 | 10 | 5 | 2 | 2 | 2 | 2 | 10,832 | 2.8 | Yes | 9 | 1 | Yes | 0.6 | Yes |
| 22 | University of Washington Medical Center, Seattle | 78.1 | 10 | 5 | 2 | 2 | 2 | 2 | 4,920 | 2.0 | Yes | 9 | 1 | Yes | 2.0 | Yes |
| 23 | University of Kansas Hospital, Kansas City | 77.9 | 10 | 5 | 2 | 2 | 2 | 2 | 9,595 | 2.1 | Yes | 9 | 1 | Yes | 0.9 | Yes |
| 23 | Yale-New Haven Hospital, New Haven, Conn. | 77.9 | 8 | 4 | 2 | 1 | 2 | 2 | 30,662 | 2.0 | Yes | 9 | 1 | Yes | 5.4 | Yes |
| 25 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 76.1 | 10 | 5 | 2 | 2 | 2 | 2 | 13,968 | 2.5 | Yes | 9 | 1 | Yes | 1.3 | Yes |
| 26 | Mayo Clinic Jacksonville, Fla. | 75.3 | 10 | 6 | 2 | 2 | 2 | 3 | 8,379 | 2.1 | Yes | 9 | 1 | Yes | 2.5 | Yes |
| 27 | University of Wisconsin Hospitals, Madison | 74.8 | 10 | 5 | 2 | 2 | 2 | 2 | 9,494 | 2.1 | Yes | 9 | 1 | Yes | 2.0 | Yes |
| 28 | Indiana University Health Academic Health Center, Indianapolis | 74.6 | 10 | 5 | 2 | 2 | 2 | 2 | 12,368 | 2.0 | Yes | 9 | 1 | Yes | 1.9 | Yes |
| 29 | Houston Methodist Hospital | 74.2 | 10 | 5 | 2 | 2 | 2 | 2 | 21,216 | 2.0 | Yes | 9 | 1 | No | 0.9 | Yes |
| 30 | Beaumont Hospital-Royal Oak, Mich. | 73.8 | 10 | 6 | 2 | 2 | 3 | 2 | 33,094 | 1.9 | Yes | 9 | 1 | No | 1.1 | Yes |
| 31 | Wake Forest Baptist Medical Center, Winston-Salem, N.C. | 73.5 | 9 | 5 | 2 | 2 | 2 | 2 | 17,743 | 1.6 | Yes | 9 | 1 | Yes | 3.7 | Yes |
| 32 | UF Health Shands Hospital, Gainesville, Fla. | 72.4 | 9 | 5 | 2 | 2 | 2 | 2 | 10,426 | 1.9 | Yes | 9 | 1 | Yes | 1.2 | Yes |
| 33 | Emory University Hospital at Wesley Woods, Atlanta | 71.8 | 9 | 5 | 2 | 2 | 2 | 2 | 9,700 | 1.9 | Yes | 9 | 1 | Yes | 1.8 | Yes |
| 34 | OHSU Hospital, Portland, Ore. | 71.3 | 10 | 5 | 2 | 2 | 2 | 2 | 7,984 | 2.0 | Yes | 9 | 1 | Yes | 0.3 | Yes |
| 35 | Scripps La Jolla Hospitals, La Jolla, Calif. | 70.8 | 10 | 6 | 2 | 3 | 2 | 2 | 16,196 | 3.1 | Yes | 7 | 1 | No | 0.8 | Yes |
| 36 | UC San Diego Health-UC San Diego Medical Center, Calif. | 70.6 | 9 | 5 | 2 | 2 | 2 | 2 | 9,433 | 2.0 | Yes | 9 | 1 | Yes | 0.6 | Yes |
| 37 | University of Colorado Hospital, Aurora | 70.5 | 10 | 5 | 2 | 2 | 2 | 2 | 11,546 | 1.9 | Yes | 9 | 1 | No | 1.7 | Yes |
| 38 | Abbott Northwestern Hospital, Minneapolis | 70.2 | 10 | 5 | 2 | 2 | 2 | 2 | 24,574 | 2.4 | Yes | 9 | 1 | No | 0.0 | Yes |
| 39 | Duke University Hospital, Durham, N.C. | 70.1 | 8 | 6 | 2 | 3 | 2 | 2 | 12,194 | 2.1 | Yes | 9 | 1 | No | 9.5 | Yes |
| 40 | Jefferson Health-Thomas Jefferson University Hospitals, Philadelphia | 69.8 | 10 | 5 | 2 | 2 | 2 | 2 | 16,927 | 2.2 | Yes | 9 | 1 | No | 3.1 | Yes |
| 40 | University Hospitals Cleveland Medical Center | 69.8 | 10 | 5 | 2 | 2 | 2 | 2 | 11,146 | 2.6 | Yes | 9 | 1 | No | 0.7 | Yes |
| 42 | University of Alabama at Birmingham Hospital | 69.1 | 10 | 6 | 2 | 2 | 2 | 3 | 14,077 | 1.8 | Yes | 8 | 1 | No | 3.7 | Yes |
| 43 | Brigham and Women's Hospital, Boston | 69.0 | 10 | 5 | 2 | 2 | 2 | 2 | 14,618 | 2.3 | Yes | 9 | 0 | Yes | 0.7 | Yes |
| 44 | St. Cloud Hospital, St. Cloud, Minn. | 68.8 | 10 | 5 | 2 | 2 | 2 | 2 | 24,112 | 2.2 | Yes | 8 | 1 | No | 0.0 | Yes |
| 45 | Cleveland Clinic Fairview Hospital, Cleveland | 67.9 | 10 | 6 | 3 | 2 | 2 | 2 | 11,106 | 1.9 | Yes | 9 | 1 | No | 0.1 | Yes |
| 46 | Beth Israel Deaconess Medical Center, Boston | 67.7 | 9 | 5 | 2 | 2 | 2 | 2 | 13,948 | 1.6 | Yes | 9 | 0 | Yes | 3.1 | Yes |
| 46 | DMC Harper University Hospital, Detroit | 67.7 | 10 | 5 | 2 | 2 | 2 | 2 | 5,413 | 1.7 | Yes | 8 | 1 | No | 0.0 | Yes |
| 46 | Ohio State University Wexner Medical Center, Columbus | 67.7 | 10 | 5 | 2 | 2 | 2 | 2 | 15,115 | 2.1 | Yes | 9 | 1 | No | 0.5 | Yes |
| 49 | Hoag Memorial Hospital Presbyterian, Newport Beach, Calif. | 66.7 | 9 | 7 | 3 | 3 | 2 | 2 | 24,646 | 2.4 | Yes | 9 | 1 | No | 0.0 | Yes |
| 50 | Aurora St. Luke's Medical Center, Milwaukee | 66.3 | 10 | 3 | 2 | 1 | 1 | 2 | 23,212 | 2.2 | Yes | 9 | 1 | No | 0.7 | Yes |

Rankings are based on all of the above measures.

| Best Hospitals 2018-19: Gynecology | | 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 |
|---|--|----------------------------------|------------------------|-----------------------|--|--|--|--|---------------------------|-----------------------|---------------------|------------------------------|-------------------------|--|--|------------------------------|
| Rank | Hospital | | | | | | | | | | | | | | | |
| 1 | Mayo Clinic, Rochester, Minn. | 100.0 | 10 | 5 | 2 | 2 | 2 | 2 | 475 | 2.8 | Yes | 5 | 9 | 1 | 13.5 | Yes |
| 2 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 87.0 | 10 | 7 | 2 | 2 | 3 | 3 | 197 | 2.7 | Yes | 5 | 9 | 1 | 4.4 | Yes |
| 3 | Memorial Sloan-Kettering Cancer Center, New York | 86.6 | 9 | 5 | 2 | 1 | 3 | 2 | 642 | 2.1 | Yes | 5 | 8 | 1 | 7.1 | Yes |
| 4 | Johns Hopkins Hospital, Baltimore | 84.2 | 10 | 4 | 1 | 2 | 2 | 2 | 146 | 2.1 | Yes | 5 | 9 | 1 | 10.1 | Yes |
| 5 | Cleveland Clinic | 83.8 | 9 | 6 | 2 | 3 | 2 | 2 | 239 | 2.1 | Yes | 5 | 9 | 1 | 10.4 | Yes |
| 6 | UCSF Medical Center, San Francisco | 81.8 | 10 | 6 | 3 | 2 | 2 | 2 | 155 | 2.1 | Yes | 5 | 9 | 1 | 8.2 | Yes |
| 7 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 81.5 | 10 | 5 | 2 | 2 | 2 | 2 | 192 | 2.5 | Yes | 5 | 9 | 1 | 3.4 | Yes |
| 8 | Vanderbilt University Medical Center, Nashville, Tenn. | 79.0 | 10 | 6 | 2 | 3 | 2 | 2 | 127 | 2.5 | Yes | 5 | 9 | 1 | 2.8 | Yes |
| 9 | Massachusetts General Hospital, Boston | 77.2 | 9 | 5 | 2 | 2 | 2 | 2 | 288 | 2.4 | Yes | 5 | 9 | 1 | 4.8 | Yes |
| 10 | University of Wisconsin Hospitals, Madison | 77.0 | 10 | 5 | 2 | 2 | 2 | 2 | 344 | 2.1 | Yes | 5 | 9 | 1 | 0.5 | Yes |
| 11 | Scripps La Jolla Hospitals, La Jolla, Calif. | 76.4 | 10 | 6 | 2 | 3 | 2 | 2 | 162 | 3.1 | Yes | 5 | 8 | 1 | 1.2 | Yes |
| 12 | Barnes-Jewish Hospital, St. Louis | 75.9 | 8 | 5 | 2 | 2 | 2 | 2 | 561 | 2.2 | Yes | 5 | 9 | 1 | 3.6 | Yes |
| 13 | Northwestern Memorial Hospital, Chicago | 75.6 | 10 | 5 | 2 | 2 | 2 | 2 | 96 | 1.8 | Yes | 5 | 9 | 1 | 5.9 | Yes |
| 14 | Medical City Dallas | 75.3 | 10 | 6 | 2 | 3 | 2 | 2 | 130 | 2.0 | Yes | 5 | 8 | 1 | 0.1 | Yes |
| 14 | Pennsylvania Hospital, Philadelphia | 75.3 | 10 | 5 | 2 | 2 | 2 | 2 | 87 | 1.8 | Yes | 5 | 9 | 1 | 0.7 | Yes |
| 14 | University of California, Davis Medical Center, Sacramento | 75.3 | 9 | 5 | 2 | 2 | 2 | 2 | 244 | 2.8 | Yes | 5 | 9 | 1 | 1.0 | Yes |
| 17 | Brigham and Women's Hospital, Boston | 75.1 | 9 | 5 | 2 | 2 | 2 | 2 | 326 | 2.3 | Yes | 5 | 9 | 0 | 12.8 | Yes |
| 18 | MUSC Health-University Medical Center, Charleston, S.C. | 75.0 | 10 | 5 | 2 | 2 | 2 | 2 | 222 | 2.3 | Yes | 5 | 9 | 1 | 0.5 | Yes |
| 19 | St. Joseph's Hospital and Medical Center, Phoenix | 74.8 | 10 | 6 | 3 | 2 | 2 | 2 | 140 | 2.1 | Yes | 5 | 8 | 0 | 0.1 | Yes |
| 20 | UC Irvine Medical Center, Orange, Calif. | 74.4 | 10 | 5 | 2 | 2 | 2 | 2 | 190 | 2.1 | Yes | 5 | 8 | 1 | 1.6 | Yes |
| 20 | United Hospital, St. Paul, Minn. | 74.4 | 10 | 6 | 2 | 3 | 2 | 2 | 128 | 2.4 | Yes | 5 | 7 | 0 | 0.1 | Yes |
| 22 | Nebraska Medicine-Nebraska Medical Center, Omaha | 73.9 | 10 | 5 | 2 | 2 | 2 | 2 | 84 | 2.2 | Yes | 5 | 9 | 1 | 0.7 | Yes |
| 23 | Cedars-Sinai Medical Center, Los Angeles | 73.8 | 9 | 5 | 2 | 2 | 2 | 2 | 331 | 2.6 | Yes | 5 | 9 | 1 | 2.9 | Yes |
| 24 | Mount Sinai Hospital, New York | 73.7 | 9 | 6 | 2 | 3 | 2 | 2 | 275 | 1.9 | Yes | 5 | 9 | 1 | 2.8 | Yes |
| 25 | University Hospitals Cleveland Medical Center | 73.1 | 9 | 5 | 2 | 2 | 2 | 2 | 264 | 2.6 | Yes | 5 | 9 | 1 | 1.6 | Yes |
| 25 | University of Alabama at Birmingham Hospital | 73.1 | 8 | 6 | 2 | 2 | 2 | 3 | 470 | 1.8 | Yes | 5 | 9 | 1 | 3.1 | Yes |
| 27 | Abbott Northwestern Hospital, Minneapolis | 73.0 | 9 | 5 | 2 | 2 | 2 | 2 | 321 | 2.4 | Yes | 5 | 9 | 1 | 0.1 | Yes |
| 28 | Hosp. of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 72.7 | 9 | 6 | 2 | 3 | 2 | 2 | 195 | 2.4 | Yes | 5 | 9 | 1 | 3.1 | Yes |
| 29 | Aurora St. Luke's Medical Center, Milwaukee | 72.6 | 10 | 3 | 2 | 1 | 1 | 2 | 196 | 2.2 | Yes | 5 | 9 | 1 | 0.4 | Yes |
| 30 | Loma Linda University Medical Center, Loma Linda, Calif. | 72.4 | 10 | 5 | 2 | 2 | 2 | 2 | 124 | 2.6 | Yes | 5 | 8 | 0 | 0.3 | Yes |
| 30 | University of Colorado Hospital, Aurora | 72.4 | 9 | 5 | 2 | 2 | 2 | 2 | 271 | 1.9 | Yes | 5 | 9 | 1 | 1.5 | Yes |
| 32 | University of Utah Hospital, Salt Lake City | 72.1 | 10 | 5 | 2 | 2 | 2 | 2 | 145 | 1.8 | Yes | 5 | 9 | 0 | 1.6 | Yes |
| 33 | Huntington Memorial Hospital, Pasadena, Calif. | 71.9 | 10 | 6 | 3 | 2 | 2 | 2 | 104 | 2.6 | Yes | 4 | 9 | 1 | 0.7 | Yes |
| 34 | Mayo Clinic Jacksonville, Fla. | 71.8 | 10 | 6 | 2 | 2 | 2 | 3 | 95 | 2.1 | Yes | 5 | 8 | 1 | 0.9 | Yes |
| 35 | Keck Hospital of USC, Los Angeles | 71.4 | 10 | 6 | 2 | 3 | 2 | 2 | 69 | 2.4 | Yes | 5 | 9 | 0 | 1.6 | Yes |
| 36 | Banner University Medical Center Tucson, Ariz. | 71.0 | 10 | 4 | 2 | 2 | 2 | 1 | 163 | 2.0 | Yes | 5 | 8 | 1 | 0.0 | Yes |
| 36 | Rush University Medical Center, Chicago | 71.0 | 9 | 5 | 2 | 2 | 2 | 2 | 266 | 2.2 | Yes | 5 | 9 | 1 | 0.4 | Yes |
| 38 | West Virginia University Hospitals, Morgantown, W.Va. | 70.9 | 10 | 6 | 2 | 3 | 2 | 2 | 77 | 2.8 | Yes | 5 | 9 | 1 | 0.0 | Yes |
| 39 | Avera McKennan Hospital and Univ. Health Center, Sioux Falls, S.D. | 70.7 | 10 | 5 | 2 | 2 | 2 | 2 | 179 | 1.2 | Yes | 5 | 8 | 1 | 0.1 | Yes |
| 40 | H. Lee Moffitt Cancer Center and Research Institute, Tampa | 70.4 | 10 | 4 | 2 | 2 | 2 | 1 | 300 | 1.2 | Yes | 5 | 8 | 1 | 0.1 | Yes |
| 41 | John Muir Health-Walnut Creek Medical Center, Walnut Creek, Calif. | 70.3 | 9 | 5 | 2 | 2 | 2 | 2 | 283 | 2.3 | Yes | 5 | 8 | 1 | 0.0 | Yes |
| 42 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 69.8 | 8 | 4 | 2 | 1 | 2 | 2 | 308 | 2.9 | Yes | 5 | 9 | 0 | 7.6 | Yes |
| 43 | Swedish Medical Center, Englewood, Colo. | 69.7 | 10 | 5 | 2 | 2 | 2 | 2 | 280 | 1.8 | Yes | 5 | 9 | 0 | 0.1 | Yes |
| 44 | St. Luke's Hospital of Kansas City, Mo. | 69.6 | 10 | 5 | 2 | 2 | 2 | 2 | 144 | 1.6 | Yes | 5 | 8 | 1 | 0.1 | Yes |
| 45 | Highland Hospital, Rochester N.Y. | 68.9 | 10 | 5 | 2 | 2 | 2 | 2 | 159 | 1.4 | Yes | 5 | 9 | 1 | 0.0 | Yes |
| 45 | University of North Carolina Hospitals, Chapel Hill | 68.9 | 8 | 5 | 2 | 2 | 2 | 2 | 247 | 1.8 | Yes | 5 | 9 | 1 | 4.8 | Yes |
| 47 | Dartmouth-Hitchcock Medical Center, Lebanon, N.H. | 68.7 | 10 | 5 | 2 | 2 | 2 | 2 | 135 | 1.7 | Yes | 5 | 9 | 0 | 0.0 | Yes |
| 47 | University of Washington Medical Center, Seattle | 68.7 | 9 | 5 | 2 | 2 | 2 | 2 | 214 | 2.0 | Yes | 5 | 9 | 1 | 1.9 | Yes |
| 49 | Wake Forest Baptist Medical Center, Winston-Salem, N.C. | 68.4 | 9 | 5 | 2 | 2 | 2 | 2 | 267 | 1.6 | Yes | 5 | 9 | 1 | 1.2 | Yes |
| 50 | University of Iowa Hospitals and Clinics, Iowa City | 67.9 | 9 | 5 | 2 | 2 | 2 | 2 | 251 | 1.8 | Yes | 5 | 9 | 1 | 1.5 | Yes |

Appendix E

2018-19 Best Hospitals Rankings, Reputation-Only

Specialties

Best Hospitals 2018-19: Ophthalmology

| Rank | Hospital | Reputation (%) |
|------|--|----------------|
| 1 | Bascom Palmer Eye Institute-Anne Bates Leach Eye Hospital, Miami | 54.7% |
| 2 | Wills Eye Hospital, Thomas Jefferson University Hospital, Philadelphia | 50.3% |
| 3 | Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore | 39.2% |
| 4 | Massachusetts Eye and Ear Infirmary, Mass. General Hosp., Boston | 27.0% |
| 5 | Stein and Doheny Eye Institutes, UCLA Medical Center, Los Angeles | 22.6% |
| 6 | Duke University Hospital, Durham, N.C. | 14.1% |
| 7 | University of Iowa Hospitals and Clinics, Iowa City | 13.2% |
| 8 | Kellogg Eye Center-Michigan Medicine, Ann Arbor | 8.9% |
| 9 | Cole Eye Institute, Cleveland Clinic | 8.1% |
| 10 | UCSF Medical Center, San Francisco | 7.7% |
| 11 | New York Eye and Ear Infirmary of Mount Sinai, N.Y. | 6.8% |
| 12 | USC Roski Eye Institute, Los Angeles | 5.9% |

Best Hospitals 2018-19: Psychiatry

| Rank | Hospital | Reputation (%) |
|-------------|---|-----------------------|
| 1 | McLean Hospital, Belmont, Mass. | 22.7% |
| 2 | Massachusetts General Hospital, Boston | 19.7% |
| 3 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 15.0% |
| 4 | Johns Hopkins Hospital, Baltimore | 14.0% |
| 5 | Menninger Clinic, Houston | 13.7% |
| 6 | Sheppard Pratt Hospital, Baltimore | 12.4% |
| 7 | Mayo Clinic, Rochester, Minn. | 11.9% |
| 8 | Resnick Neuropsychiatric Hospital at UCLA, Los Angeles | 10.2% |
| 9 | Yale-New Haven Hospital, New Haven, Conn. | 6.5% |
| 10 | Austen Riggs Center, Stockbridge, Mass. | 5.9% |
| 11 | UCSF Medical Center, San Francisco | 5.7% |

Best Hospitals 2018-19: Rehabilitation

| Rank | Hospital | Reputation (%) |
|------|---|----------------|
| 1 | Shirley Ryan AbilityLab (formerly Rehab. Institute of Chicago), Chicago | 35.2% |
| 2 | Spaulding Rehabilitation Hospital, Massachusetts General Hosp., Boston | 19.9% |
| 3 | TIRR Memorial Hermann, Houston | 19.5% |
| 4 | Kessler Institute for Rehabilitation, West Orange, N.J. | 19.0% |
| 5 | University of Washington Medical Center, Seattle | 16.7% |
| 6 | Mayo Clinic, Rochester, Minn. | 14.6% |
| 7 | Rusk Rehabilitation at NYU Langone Medical Center, New York | 13.7% |
| 8 | Craig Hospital, Englewood, Colo. | 12.5% |
| 9 | Shepherd Center, Atlanta | 11.6% |
| 10 | MossRehab, Elkins Park, Pa. | 7.2% |
| 11 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 6.4% |
| 12 | UPMC Presbyterian Shadyside, Pittsburgh | 6.3% |
| 13 | Magee Rehabilitation Hospital, Philadelphia | 5.3% |

Best Hospitals 2018-19: Rheumatology

| Rank | Hospital | Reputation (%) |
|------|--|----------------|
| 1 | Johns Hopkins Hospital, Baltimore | 40.2% |
| 2 | Cleveland Clinic | 39.6% |
| 3 | Hospital for Special Surgery, New York-Presbyterian Hospital, N.Y. | 37.1% |
| 4 | Mayo Clinic, Rochester, Minn. | 33.8% |
| 5 | Brigham and Women's Hospital, Boston | 24.1% |
| 6 | Massachusetts General Hospital, Boston | 15.1% |
| 7 | UCSF Medical Center, San Francisco | 15.0% |
| 8 | UCLA Medical Center, Los Angeles | 14.5% |
| 9 | Hospital for Joint Diseases, NYU Langone Medical Center, New York | 13.9% |
| 10 | University of Alabama at Birmingham Hospital | 9.8% |
| 11 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 7.8% |
| 12 | Duke University Hospital, Durham, N.C. | 6.5% |
| 13 | UPMC Presbyterian Shadyside, Pittsburgh | 6.0% |

Appendix F

2018-19 Best Hospitals Honor Roll

2018-19 Best Hospitals Honor Roll

| Rank | Hospital | Points |
|-------------|--|---------------|
| 1 | Mayo Clinic, Rochester, Minn. | 414 |
| 2 | Cleveland Clinic | 385 |
| 3 | Johns Hopkins Hospital, Baltimore | 355 |
| 4 | Massachusetts General Hospital, Boston | 354 |
| 5 | University of Michigan Hospitals-Michigan Medicine, Ann Arbor | 324 |
| 6 | UCSF Medical Center, San Francisco | 296 |
| 7 | UCLA Medical Center, Los Angeles | 267 |
| 8 | Cedars-Sinai Medical Center, Los Angeles | 252 |
| 9 | Stanford Health Care-Stanford Hospital, Stanford, Calif. | 250 |
| 10 | New York-Presbyterian Hospital-Columbia and Cornell, N.Y. | 242 |
| 11 | Barnes-Jewish Hospital, St. Louis | 241 |
| 11 | Mayo Clinic-Phoenix | 241 |
| 13 | Northwestern Memorial Hospital, Chicago | 228 |
| 14 | Hospitals of the Univ. of Pennsylvania-Penn Presbyterian, Philadelphia | 225 |
| 15 | NYU Langone Hospitals, New York, N.Y. | 208 |
| 15 | UPMC Presbyterian Shadyside, Pittsburgh | 208 |
| 17 | Vanderbilt University Medical Center, Nashville, Tenn. | 198 |
| 18 | Mount Sinai Hospital, New York | 192 |
| 19 | Duke University Hospital, Durham, N.C. | 178 |
| 20 | Brigham and Women's Hospital, Boston | 177 |

