NORC

The 1997 Index of Hospital Quality

Reuben H. Ehrlich
Craig A. Hill
Krishna L. Winfrey

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I. Introduction

Health care providers and consumers today face a dynamic and, often, puzzling array of choices with few tools to inform their critical decisions about quality of care. No single, standard measure of the quality of care is available for the 7,000 hospitals in the United States. In 1993, the National Opinion Research Center at the University of Chicago (NORC) developed of a measure of the quality of care available in hospitals; this "report card" is supported and published annually by *U.S.News & World Report* in an issue entitled "America's Best Hospitals." With the development and release of this annual report card, NORC and *U.S.News & World Report* aim to inform and guide patients and their doctors in making critical health care decisions.

The Index of Hospital Quality (IHQ), a statistical measure, assesses hospital quality through analysis of the three fundamental dimensions of health care: process, structure, and outcome. Neither structure, process, or outcome alone can accurately and completely represent the quality of care at a hospital. This sequence, as applied to hospitals, begins with the structural characteristics of an institution, carries through the process of care, and results in an outcome for the patient. To be most useful to the consumer and provider of care, the index — our application of the Donabedian paradigm of structure, process and outcomes — combines robust and sensitive measures of each of these dimensions for the universe of tertiary-care hospitals across a wide range of separate medical and surgical practice specialities. The Index of Hospital Quality must draw from secondary data sources, such as the American Hospital Association's Annual Survey of Hospitals, to provide measurements along these quality dimensions. We continually strive to identify improved data sources, the sensitivity of the measures derived from those data sources, and the specificity of the measures used.

For 1997, our principal refinements of the index include the application of the index to a new practice speciality, Pulmonary Disease; a more sensitive method for adjusting expected mortality rates, the All Patient Refined Diagnosis Related Group (APR-DRG); the redefinition of some of the structural measures; and, finally, the inclusion of a measure of the level of trauma care available at a hospital.

The following sections provide succinct descriptions of our definition of the universe of tertiary care hospitals; the definition of the structural components, the collection of the process measure; and the development of the standardized mortality rates. In the final section, we outline new directions anticipated for the index. For a more exhaustive review of the foundation as well as the 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".

II.   *The Index of Hospital Quality*

A.   Universe Definition

We have implemented a two-stage approach to defining eligible hospitals for each of the specialty lists. First, in order to be identified as a tertiary care hospital, a hospital must meet at least one of the following criteria:

- COTH membership;
- medical school affiliation.
- score higher than 9 on our hospital-wide high-technology index
  (see Appendix A);

Using this set of criteria, a total of 1,800 hospitals were identified as tertiary care hospitals.

Hospitals for which data reports could not be found in our primary data sources (the 1995 American Hospital Association Annual Survey and the 1994 and 1995 MEDPARS data set of claims to HCFA) were necessarily excluded from the universe.

For example, five hospitals that appeared on at least one of the published Best Hospital lists (featuring the top 42 hospitals in a specialty) of 1996 were excluded from analysis in 1997. These hospitals are Emory University Hospital, Atlanta; New York Hospital - Cornell Medical Center; Montefiorre Medical Center, Bronx, N.Y.; California Pacific Medical Center, San Francisco; and University of Louisville Hospital, Kentucky.

The next step was to create a separate analytic universe for each of the 13 practice specialties using criteria such as specialty-specific equipment, units, or facilities and a minimum number of discharges across appropriate related groups (see Figure 1).

Figure 1: 1997 Universe Definition by Specialty

Specialty	Eligibility Criteria	Number of Hospitals
AIDS	provide General Inpatient Care for AIDS/ARC, or minimum of 39 discharges for relevant DRGs	1,211
Cancer	minimum of 276 discharges for relevant DRGs	998
Cardiology	have a cardiac catheterization lab, or offer open heart surgery, or offer angioplasty, and minimum of 218 surgical discharges for relevant DRGs	752
Endocrinology	minimum of 219 discharges for relevant DRGs	1,003
Gastroenterology	minimum of 778 discharges for relevant DRGs	1,007
Geriatrics	score of 1 or more on the geriatrics service index, and minimum of 6,845 discharges for all DRGs	917
Gynecology	minimum of 45 discharges for relevant DRGs	1,240
Neurology	minimum of 505 discharges for relevant DRGs	1,010
Orthopedics	minimum of 478 discharges for relevant DRGs	998
Otolaryngology	minimum of 38 discharges for relevant DRGs	1,072
Pulmonology	minimum of 358 discharges for relevant DRGs	1,570
Rheumatology	minimum of 23 discharges for relevant DRGs	931
Urology	minimum of 193 discharges for relevant DRGs	930

Note that we have not calculated scores for hospitals that provide care in ophthalmology, pediatrics, psychiatry, and rehabilitation. Unfortunately, the data for robust and meaningful structural and outcomes measures are not available for these specialties. Thus, as shown in Appendix G, we rank hospitals in these specialties solely by reputation.

B. Composite Measure of Structure

The structural dimension defines the tools and environment available to individual caregivers in treating a patient; it represents the possibilities of care for a patient and physician. Health service research provides overwhelming evidence supporting the use of a measure of structure in assessing quality of care. However, no prior research has revealed a single indicator of quality that summarizes all others or represents the structure construct alone. Thus, the structure component of the index must be represented by a composite variable comprising a set of structural indicators that are specialty specific and weighted relative to each other.

For the 1997 index, we redefined a number of the components of the composite structural measure. All structural elements, with the exception of volume, are derived from the 1995 American Hospital Association Annual Survey of Hospitals Data Base and are described below. For specific mapping of variables to the AHA data elements, see Appendix B.

COTH membership This dichotomous variable indicates membership in the Council of Teaching Hospitals.

Technology indices We have not changed the technology indices for any of the specialties since 1996. With the addition of the pulmonology list, however, we have added a new specialty specific technology index. The pulmonology technology index includes four technological items: computed tomography scanner, diagnostic radioisotope facility, radiation therapy, and ultrasound. These data elements from the 1995 AHA Survey were selected after consultation with numerous physicians specializing in pulmonary diseases. A complete list of the technologies considered for each specialty can be found in Appendix A.

Since the 1996 version of the index, we have allowed our technology indices to reflect the real cost of high technology services. While provision of a service within the hospital attended by the

patient obviously benefits the patient, the cost of many services may not allow all hospitals to provide them. Many hospitals do, on the other hand, provide access to the technology through the hospital's health system, local community network, or through a formal contractual arrangement or joint venture with another provider in the local community. We have operationally defined this reality by giving hospitals that provide an *on-site* technology, such as ultrasound, a full point for that element; but hospitals that provide the same technology within the local community through some formal arrangement receive a half-point for each element. A hospitals receive no more than one point for each element of the index.

Volume   The volume measure equals the number of total medical and surgical discharges in the appropriate specialty DRG groupings reported to HCFA for reimbursement during the two year observation period. DRG groupings are shown in Appendix C.

R.N.s to beds The number of beds is defined by the AHA as beds set up and staffed at the end of the reporting period. Only full-time nurses are considered due to the enhanced quality of care associated with a continuity of caregiver.

Trauma   We have added the presence or absence of a regional resource or community trauma center to the composite structural measure this year. This element is dichotomous and is defined by two variables in the AHA database. To receive credit for trauma services, hospitals were required to provide either Level 1 or Level 2 trauma services in-hospital (as opposed to providing trauma services only as part of a health system, network, or joint venture). Level 1 trauma service is defined 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." Level 2 is defined by the AHA as "a community trauma center, which is capable of providing trauma care to all but the most severely injured patients who require highly specialized care."

The addition of this variable further refines the measure of structure. In 1992, the survey of board-certified physicians ranked the presence of an emergency room and a hospital's trauma provider level highly on a list of hospital quality indicators (4th and 9th highest ranked indicators). Physicians in nine of the focus specialties ranked trauma as one of the top five indicators of quality. The indications of these specialists and resultant high factor loadings supported the inclusion of this

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data for AIDS, cardiology, endocrinology, gastroenterology, gynecology, neurology, orthopedics, otolaryngology, pulmonology, and urology.

Discharge planning   The three elements of discharge planning are patient education services, case management services, and patient representative services. To receive credit for a service, it must be provided in-hospital.

Service mix   This indicator ranges from 0 to 10 points. For 1997, community outreach has been added to HIV-AIDS services, alcohol/drug abuse or dependency inpatient care, hospice, home health services, social work services, reproductive health services, psychiatric education services, women's health center/services, and psychiatric consultation/liaison services in the measure. We do not award a half-point for items in this measure that are not available within the hospital.

Geriatric services   This indicator ranges from 0 to 7 points. In 1997, we added arthritis treatment center to the services that already included adult day care program, patient representative services, geriatric services, meals on wheels, assisted living, and transportation to health facilities. Again, the half-point scheme used for the technology indices was not employed for this indicator.

Gynecology services   This indicator is new to the 1997 index. Its introduction provides a means to better rate the quality of services a hospital provides for its gynecological and obstetric patients. High factor loadings provide support to this variable's inclusion. With a range of 0 to 4, the services included are obstetric care, reproductive health care, birthing rooms, and women's health center. The half-point scheme used for the technology indices was not employed for this indicator.

To combine these structural variables, we weight the elements to create a final composite measure of structure. Using factor analysis, we force a one-factor solution and use the resultant loadings as "weight" values for each variable in the composite structure measure. The relative weight assigned to each element varies from specialty to specialty and from one release to the next within specialty. Figure 2 provides the factor weights assigned to each element for the 1997 release.

Figure 2: Factor Loading by Specialty

Specialty	COTH	Technical Indexes	Volume	R.N.s/ Beds	Trauma	Discharge Planning	Service Mix	Geriatric Services	Gynecology Services
AIDS	74	68		62	65	35			
Cancer	76	66	69	62					
Cardiology	74	54	65	59	49				
Endocrinology	76	53		65	66				
Gastroenterology	72	56	54	59	61				
Geriatrics	66	57		43		45	67	60	
Gynecology		67	64	54	53				65
Neurology	74	52		65	66				
Orthopedics	74	44	52	62	59				
Otolaryngology	76	51	57	62	59				
Pulmonary	72	53	44	56	60	36			
Rheumatology	74	58		68		41			
Urology	76	55	66	62	55				

C.   Process

The process dimension of the quality equation is the sum or net effect of physicians' clinical decision-making. Physicians' clinical choices about the use of medication or diagnostic tests, admission to the hospital or one of its units, and length of stay account for a large fraction of the outcomes experienced by patients. However, measurements of process on a national scale are extremely difficult to obtain. In order to measure process, we rely on an alternative measure to act as a proxy for "process." We contend that when a qualified expert identifies a hospital as one of the "best," he or she is, in essence, endorsing the process choices made at that hospital. Thus, we use the "nomination" of a hospital by a board-certified specialist as a measure of process. In order to collect these nominations, we conduct an annual survey of board-certified physicians. As in past releases, we have pooled nominations for the past three years (1995-97) to arrive at the process measure.

Survey sample   The sample for the 1997 survey was comprised of 2,550 board-certified physicians selected from the American Medical Association's (AMA) Physician Masterfile. From within the Masterfile, we selected a target population of 166,788 board-certified physicians who met the eligibility requirements listed in Figure 3. Stratifying by region and by specialty within region, we selected a sample of 150 physicians from each of 17 specialty areas for a total of 2,550 physicians. The final sample includes both non-federal and federal medical and osteopathic physicians residing in the 50 states and the District of Columbia.

Eligibility requirements   We defined a probability sample of physicians who could properly represent the 17 specialty groupings delineated by *U.S. News*. We used two rules of eligibility: one related to a mapping between the 17 specialties and the AMA's list of 85 self-designated specialties and the second related to a mapping between these 85 specialties and the 23 member boards of the American Boards of Medical Specialties (ABMS).

Under the first rule, we linked each of the 17 specialties to one or more relevant AMA specialties from the list of AMA self-designated practice specialty codes. Physician who designated a primary specialty in one of the 17 specialties were preliminarily eligible for the survey. Under the second rule, the physicians must also be certified by the corresponding member board of the ABMS.

Figure 3 displays the correspondence between the specialty specified for *U.S.News & World Report*, AMA self-designated specialty, and the corresponding member board.

Figure 3: Physician Sample Mapping

U.S. NEWS SPECIALTY	AMA KEY CODE	AMA SELF-DESIGNATED	AMERICAN BOARD OF
AIDS	ID/27	Infectious diseases	Internal medicine
Cancer	HEM/22 ON/24	Hematology Oncology	Internal medicine Internal medicine
Cardiology	CD/08 CDS/08	Cardiovascular diseases Cardiovascular surgery	Internal medicine Surgery
Endocrinology	END/14 DIA/12	Endocrinology Diabetes	Internal medicine Internal medicine
Gastroenterology	GE/17	Gastroenterology	Internal medicine
Geriatrics	FPG/38 IMG/38	Geriatrics	Internal medicine
Gynecology	GYN/21 OBG/42	Gynecology Obstetrics & gynecology	Obstetrics & gynecology Obstetrics & gynecology
Neurology	N/36 NS	Neurology Neurological surgery	Psychiatry & neurology
Ophthalmology	OPH/46	Ophthalmology	Ophthalmology
Orthopedics	ORS/85	Orthopedic surgery	Orthopedic surgery
Otolaryngology	OTO/48	Otolaryngology	Otolaryngology
Pediatrics	PD/55 ADL/01	Pediatrics Adolescent medicine	Pediatrics Pediatrics
Psychiatry	P/63	Psychiatry	Psychiatry & neurology
Pulmonology	PUD	Pulmonary Diseases	Internal medicine
Rehabilitation	PM/62	Physical medicine & rehabilitation	Physical medicine & rehabilitation
Rheumatology	RHU/74	Rheumatology	Internal medicine
Urology	U/91	Urological surgery	Urology

Stratification To compensate for the widely varying number of eligible physicians across the targeted specialties, we used different probabilities of selection for each grouping and used proportionate stratification across the four United States Census regions (West, Northeast, South, and North Central). Within each of the 17 strata, we achieved a sample that was also geographically representative of the spread of physicians across the country.

Data collection Sampled physicians were mailed a three-page questionnaire, a cover letter, and a prepaid return envelope. We also included a small, token incentive in the form of a two-dollar bill. We followed the initial survey mail-out a week later with a reminder postcard. Six weeks following the reminder mailing, a subset of the non-responders were sent express mail delivery of the questionnaire with cover memo. An example of the specialty-specific questionnaire for the 1997 study is included in Appendix D.

Response rate 1,221 of the 2,550 physicians returned a useable questionnaire, yielding a response rate of 47.9 percent. (Response rate is calculated as the ratio of completed interviews to all sampled cases.) Figure 4 shows the response rates by specialty for the three years used for the 1997 index.

Figure 4: Response Rate by Year (150 sampled physicians per specialty per year)

SPECIALTY	1995		1996		1997		3-year total	
	n	%	n	%	n	%	n	%
AIDS	72	48.0%	73	48.7%	65	43.3%	210	46.7%
Cancer	64	42.7%	70	46.7%	69	46.0%	203	45.1%
Cardiology	56	37.3%	71	47.3%	61	40.7%	188	41.8%
Endocrinology	69	46.0%	72	48.0%	71	47.3%	212	47.1%
Gastroenterology	73	48.7%	74	49.3%	69	46.0%	216	48.0%
Geriatrics	81	54.0%	82	54.7%	75	50.0%	238	52.9%
Gynecology	79	52.7%	78	52.0%	73	48.7%	230	51.1%
Neurology	69	46.0%	76	50.7%	82	54.7%	227	50.4%
Ophthalmology	63	42.0%	78	52.0%	72	48.0%	213	47.3%
Orthopedics	67	44.7%	81	54.0%	68	45.3%	216	48.0%
Otolaryngology	75	50.0%	72	48.0%	73	48.7%	220	48.9%
Pediatrics	74	49.3%	81	54.0%	76	50.7%	231	51.3%
Psychiatry	78	52.0%	72	48.0%	73	48.7%	223	49.6%
Pulmonary	71	47.3%	72	48.0%	71	47.3%	214	47.6%
Rehabilitation	76	50.7%	70	46.7%	68	45.3%	214	47.6%
Rheumatology	76	50.7%	71	47.3%	83	55.3%	230	51.1%
Urology	69	46.0%	83	55.3%	72	48.0%	224	49.8%
TOTAL	1,212	47.5%	1,276	50.0%	1,221	47.9%	3,709	48.5%

Weighting   We weighted the responses to the physician survey in two steps. First, weights were assigned to reflect the probability of selection within specialty groups and the overall rates of response within these groups. Second, we post-stratified the weights from the first step using selected marginals of the multi-dimensional contingency table of specialty (17 categories) by census region (West, North, South, and North Central) and by age (25-39, 40-54, and 55 and over).

To check the weights, we confirmed that the sum across the sample of the weights in each cell of the classifications (specialty × region × age) equaled the population size of that cell. When applied to the responding population as a whole, the weights do not make for large differences in marginal distributions nor do the weights change any substantive conclusions that would be drawn from the unweighted data.

D.   Outcome

Many health care professionals have decried the use of mortality rates due to limitations in the method for adjusting for case mix. Nonetheless, health services research strongly suggests that there is indeed a positive correlation between a better-than-average mortality rate and overall quality. Based on these findings, we used an adjusted mortality rate as the outcome measure for our quality of care model. All predicted mortality rates were provided by Sachs Group of Evanston, Ill. using the All Patient Refined Diagnosis Related Group (APR-DRG) method designed by 3M Health Information Services. The APR-DRG adjusts expected deaths for severity by means of principle diagnosis and categories of secondary diagnoses. A detailed description of the full APR-DRG methodology is provided in Appendix E. The Sachs Group applied this method to the pooled 1994 and 1995 data set of reimbursement claims made to the HCFA by hospitals. These complete data sets were the most current available.

In 1997, we have also refined the range of DRGs included in the mortality rate calculation for each of the specialties. Our refinements focussed on fine tuning the ratio of medical and surgical procedures; removing procedures that have become more common-place since the initial definition of the ranges; and adding procedures that are now available for HCFA reimbursement. As in previous years, we used an "all-cases" mortality rate for five specialties (AIDS, geriatrics, gynecology,

otolaryngology, and rheumatology) rather than a specialty specific rate. For these specialties, we elected to use the all-cases rate either because the number of hospitals with a sufficient discharges in the particular DRG-grouping was too low, or the DRG groupings proved to be less robust than necessary. Please refer to Appendix C for a complete listing of the procedures used for each specialty specific rate.

E. The Calculation of the Index

The calculation of the index for every hospital within each specialty considers equally the three dimensions of quality of care: structure, process, and outcome. Although all three measures represent a specific aspect of quality, a single score not only provides an easier-to-use result, the synthesis yields a more accurate portrayal of overall quality than the three aspects individually.

Therefore, in the final computation of scores for a particular specialty, the set of objective indicators used to represent structure, the nomination scores, and the mortality rates have been accorded arithmetically-equivalent importance.

The total formula for calculation of the specialty-specific IHQs is:

$$IHQ_i = \{[(S_1 * F_1) + (S_2 * F_2) + (...S_n * F_n)] + [P_i * \sum F_{1-n}] + [M * \sum F_{1-n}]\}$$

where:

IHQ_i = Index for Hospital Quality for specialty i

S_{1-n} = Structural indicators (STRUCTURE)

F = Factor loading

P = Nomination score (PROCESS)

M = Standardized mortality ratio (OUTCOMES)

The general formula for the index scores for tertiary-level hospitals is the same as it began in 1993. Each of the three components--structure, process, and outcomes--is considered equally in the determination of the final, overall score. For presentation purposes, we standardized raw scores, then transformed the raw IHQ scores as computed above to a 100-point scale, where the top hospital in each specialty received a score of 100.

By its nature, the index identifies the hospitals that truly are at the top of their craft. One conclusion that can be drawn from the curves of the scores (see Figure 5) is that there are a few extremely good hospitals, many hospitals bunched together providing competent care, and a few hospitals at the bottom end of the curve which, perhaps, need to devote more attention and resources towards improving the quality of care. Graphical representation of the curves for each specialty highlight the tendency of scores to cluster together around a value of 5 to 15. The small number of hospitals with a score clearly higher than the mean (a specialty-specific score more than one standard deviation above the mean) in each specialty clearly stand out as America's Best Hospitals, and the overwhelming majority of the hospitals analyzed are solidly in the middle of the range of index scores.

The mean and standard deviation of each of the 17 specialties are listed in Figure 6. Note that for the four reputation-only rankings, mean and standard deviation of the nominations score is presented. This data further illustrates that the spread of IHQ scores produces only a very small number of hospitals two and three standard deviations above the mean. Horizontal lines in each of the 17 specialty lists in Appendices F and G indicate the cutoff points of two and three standard deviations above the mean.

Although the four reputation-only specialties are ranked without the Index of Hospital Quality, standard deviations of the reputational scores are still useful in identifying truly superior hospitals (in terms of statistically relevant nomination scores).

Figure 5: 1997 Distribution of IHQ Score by Specialty
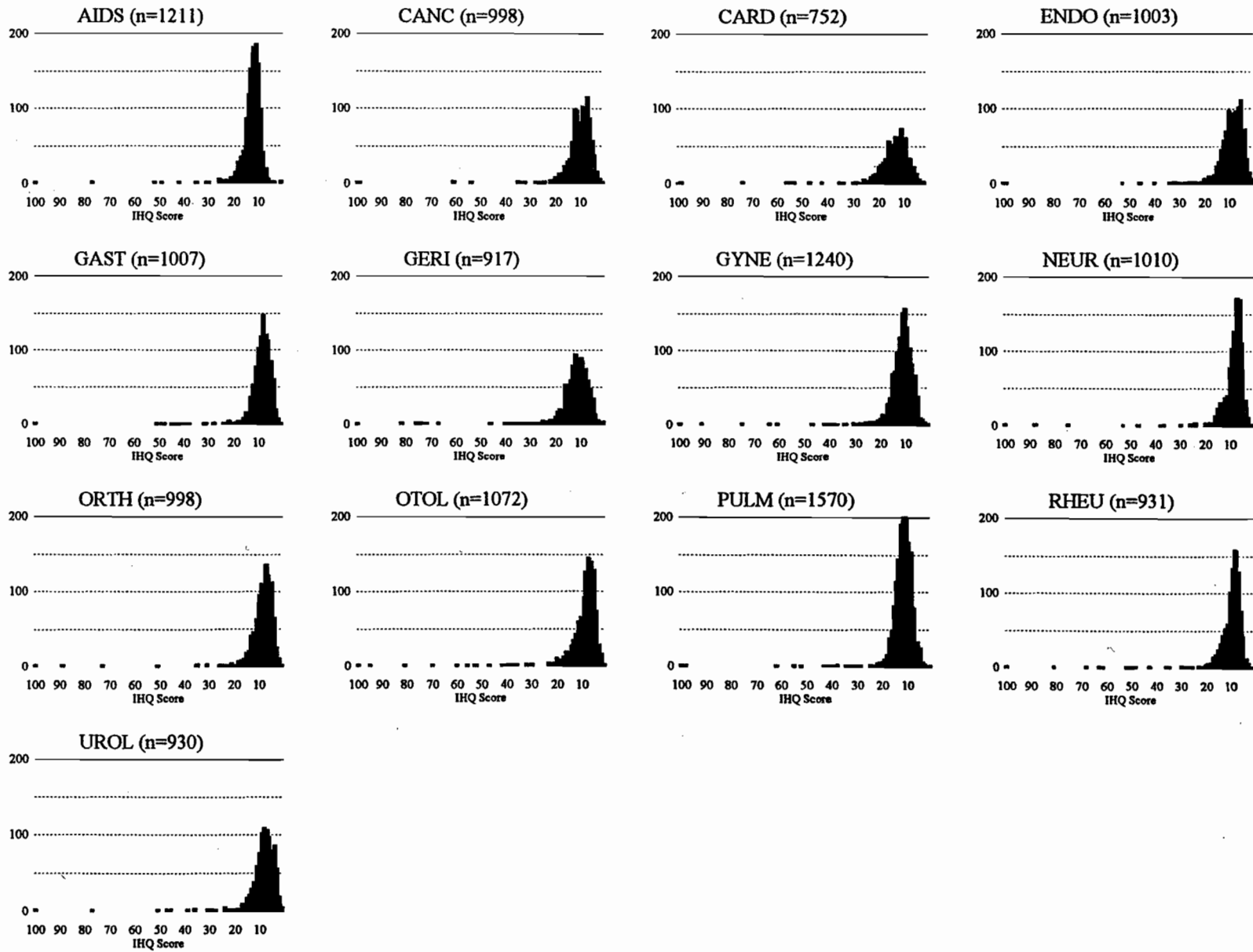
Figure 6: Mean and Standard Deviations of IHQ and Reputational Scores

	Mean	Standard deviation	1 SD above the mean	2 SDs above the mean	3 SDs above the mean
IHQ Score					
AIDS	12.12	4.85	16.97	21.81	26.66
Cancer	9.57	6.35	15.92	22.26	28.61
Cardiology	12.16	7.55	19.71	27.25	34.80
Endocrinology	8.48	6.25	14.73	20.97	27.22
Gastroenterology	8.32	5.49	13.81	19.30	24.79
Geriatrics	11.43	7.35	18.79	26.14	33.49
Gynecology	10.88	6.21	17.09	23.30	29.51
Neurology	8.15	5.96	14.11	20.07	26.02
Orthopedics	8.07	5.88	13.96	19.84	25.73
Otolaryngology	8.51	7.35	15.86	23.21	30.56
Pulmonology	10.99	5.32	16.30	21.62	26.94
Rheumatology	9.51	6.63	16.14	22.78	29.41
Urology	7.93	6.05	13.98	20.03	26.08
Reputational Score					
Ophthalmology	4.12	10.80	14.93	25.73	36.53
Pediatrics	2.21	4.69	6.90	11.59	16.28
Psychology	1.52	3.01	4.54	7.55	10.56
Rehabilitation	2.73	5.83	8.56	14.40	20.23

F.   "The Honor Roll"

To lend additional perspective, we have constructed a measure called "The Honor Roll" that indicates excellence across a broad range of specialties.

To be eligible, a hospital had to rank at least 2 standard deviations above the mean in at least 6 of the 17 specialties. Hospitals could earn points in two ways:

- For ranking between 2 and 3 standard deviations above the mean in a specialty, a hospital received one point.

- For ranking at least 3 standard deviations above the mean, a hospital received two points.

The use of standard deviations has three advantages over focusing on the sum of individual specialty rankings: (1) the number of outstanding hospitals varies from specialty to specialty, which is realistic; (2) it gives more information because it also allows one to measure a level of "almost excellent" by using a 2 standard deviation criterion; and (3) it gives some measure of the distance between hospitals, which rankings do not.

The 1997 "Honor Roll" can be found in Appendix H.

III.   *Directions for Future Releases*

Our objective in developing and releasing this "report card" each year is to provide a tool to guide consumers and providers of care in making decisions that impact health care. As such, we must also strive to improve and enhance the index for each release. For future releases of the index, we anticipate continuing to seek new secondary data sources and refining the measures drawn from those sources. More specifically, we continue to seek alternative sources for structural measures that offer more discriminatory items for the technology indices; the service-based indices; and, in particular, commitment and quality of staff measures. We plan to further our investigation of the specialization of outcome measures by performing regression analyses on the DRG groupings and other components of care. In addition, we intend to reevaluate the definition of the specialities to which we apply the index. And, finally, we seek to further enhance participation in the physician survey.

As in years past, we rely on the input and guidance of the users of the index in defining new directions the measures. Readers and users are encouraged to contact the authors with suggestions and questions regarding this tool.

Appendix A

Technology indices by specialty

All Hospital Index 18 Elements (used to define eligible hospitals)	Angioplasty
	Cardiac Catheterization Lab
	Cardiac Intensive Care Beds
	Computed Tomography Scanner
	Diagnostic Radioisotope Facility
	Diagnostic Mammography Services
	Extracorporeal Shock Wave Lithiotripter
	HIV-AIDS Services
	Magnetic Resonance Imaging
	Medical/Surgical Intensive Care
	Neonatal Intensive Care Beds
	Open Heart Surgery
	Pediatric Intensive Care Beds
	Positron Emissions Tomography Scanner
	Reproductive Health
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

AIDS 9 Elements	Computed Tomography Scanner
	HIV-AIDS Services
	Magnetic Resonance Imaging
	Medical/Surgical Intensive Care
	Pediatric Intensive Care
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Cancer *7 Elements*	*Computed Tomography Scanner*
	Magnetic Resonance Imaging
	Oncology Services
	Pediatric Intensive Care
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	X-ray Radiation Therapy

Cardiology *9 Elements*	*Angioplasty*
	Cardiac Catheterization Lab
	Cardiac Intensive Care
	Computed Tomography Scanner
	Magnetic Resonance Imaging
	Open Heart Surgery
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound

Endocrinology *7 Elements*	*Computed Tomography Scanner*
	Diagnostic Radioisotope Facility
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Gastroenterology 8 Elements	Computed Tomography Scanner
	Diagnostic Radioisotope Facility
	Extracorporeal Shock Wave Lithiotripter
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Geriatrics 8 Elements	Cardiac Catheterization Lab
	Cardiac Intensive Care
	Computed Tomography Scanner
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Gynecology 8 Elements	Computed Tomography Scanner
	Diagnostic Mammography Services
	Magnetic Resonance Imaging
	Neonatal Intensive Care
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Neurology 7 Elements	*Computed Tomography Scanner*
	Diagnostic Radioisotope Facility
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound
	X-ray Radiation Therapy

Orthopedics 5 Elements	*Computed Tomography Scanner*
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound

Otolaryngology 5 Elements	*Computed Tomography Scanner*
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	X-ray Radiation Therapy

Pulmonary 4 elements	*Computed Tomography Scanner*
	Diagnostic Radioisotope Facility
	Radiation Therapy
	Ultrasound

Rheumatology 5 Elements	*Computed Tomography Scanner*
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound

Urology 8 Elements	*Extracorporeal Shock Wave Lithiotripter*
	X-ray Radiation Therapy
	Computed Tomography Scanner
	Diagnostic Radioisotope Facility
	Magnetic Resonance Imaging
	Positron Emissions Tomography Scanner
	Single Photon Emissions Computed Tomography
	Ultrasound

Appendix B

Structural variable map

The following variables, used to construct structural elements of the 1997 IHQ, were taken from the 1995 Annual Survey of Hospitals Data Base published by the American Hospital Association.

ALL HOSPITAL INDEX - used to define hospital eligibility
1 point if AIDSSHOS=1, half point if AIDSSSYS, AIDSSNET, or AIDSSVEN=1
1 point if ANGIOHOS=1, half point if ANGIOSYS, ANGIONET, or ANGIOVEN=1
1 point if CCLABHOS=1, half point if CCLABSYS, CCLABNET, or CCLABVEN=1
1 point if CICBDHOS=1, half point if CICBDSYS, CICBDNET, or CICBDVEN=1
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if ESWLHOS=1, half point if ESWLSYS, ESWLNET, or ESWLVEN=1
1 point if MAMMSHOS=1, half point if MAMMSSYS, MAMMSNET, or MAMMSVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if MSICHOS=1, half point if MSICSYS, MSICNET, or MSICVEN=1
1 point if NICBDHOS=1, half point if NICBDSYS, NICBDNET, or NICBDVEN=1
1 point if OHSRGHOS=1, half point if OHSRGSYS, OHSRGNET, or OHSRGVEN=1
1 point if PEDBDHOS=1, half point if PEDBDSYS, PEDBDNET, or PEDBDVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if REPROHOS=1, half point if REPROSYS, REPRONET, or REPROVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

AIDS Technology Index
1 point if AIDSSHOS=1, half point if AIDSSSYS, AIDSSNET, or AIDSSVEN=1
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if MSICHOS=1, half point if MSICSYS, MSICNET, or MSICVEN=1
1 point if PEDICHOS=1, half point if PEDICSYS, PEDICNET, or PEDICVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Cancer Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if ONCOLHOS=1, half point if ONCOLSYS, ONCOLNET, or ONCOLVEN=1
1 point if PEDICHOS=1, half point if PEDICSYS, PEDICNET, or PEDICVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1

Cardiology Technology Index
1 point if ANGIOHOS=1, half point if ANGIOSYS, ANGIONET, or ANGIOVEN=1
1 point if CCLABHOS=1, half point if CCLABSYS, CCLABNET, or CCLABVEN=1
1 point if CICHOS=1, half point if CICSYS, CICNET, or CICVEN=1
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if OHSRGHOS=1, half point if OHSRGSYS, OHSRGNET, or OHSRGVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Endocrinology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Gastroenterology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if ESWLHOS=1, half point if ESWLSYS, ESWLNET, or ESWLVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Geriatrics Technology Index
1 point if CCLABHOS=1, half point if CCLABSYS, CCLABNET, or CCLABVEN=1
1 point if CICHOS=1, half point if CICSYS, CICNET, or CICVEN=1
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Gynecology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MAMMSHOS=1, half point if MAMMSSYS, MAMMSNET, or MAMMSVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if NICHOS=1, half point if NICSYS, NICNET, or NICVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Neurology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Orthopedics Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Otolaryngology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1

Pulmonology Technology Index=
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Rheumatology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Urology Technology Index
1 point if CTSCNHOS=1, half point if CTSCNSYS, CTSCNNET, or CTSCNVEN=1
1 point if DRADFHOS=1, half point if DRADFSYS, DRADFNET, or DRADFVEN=1
1 point if ESWLHOS=1, half point if ESWLSYS, ESWLNET, or ESWLVEN=1
1 point if MRIHOS=1, half point if MRISYS, MRINET, or MRIVEN=1
1 point if PETHOS=1, half point if PETSYS, PETNET, or PETVEN=1
1 point if RADTHHOS=1, half point if RADTHSYS, RADTHNET, or RADTHVEN=1
1 point if SPECTHOS=1, half point if SPECTSYS, SPECTNET, or SPECTVEN=1
1 point if ULTSNHOS=1, half point if ULTSNSYS, ULTSNNET, or ULTSNVEN=1

Discharge Planning
1 point if CMNGTHOS=1
1 point if PATEDHOS=1
1 point if PATRPHOS=1

Geriatric Services
1 point if ADULTHOS=1
1 point if ARTHCHOS=1
1 point if ASSTLHOS=1
1 point if GERSVHOS=1
1 point if MEALSHOS=1
1 point if PATRPHOS=1
1 point if TPORTHOS=1

Gynecology Services
1 point if BROOMHOS=1
1 point if OBLEV=2 or 3 *and* OBHOS=1
1 point if REPROHOS=1
1 point if WOMHCHOS=1

Service Mix
1 point if AIDSSHOS=1
1 point if ALCHHOS=1
1 point if COUTRHOS=1
1 point if HOMEHHOS=1
1 point if HOSPCHOS=1
1 point if PSYEDHOS=1
1 point if PSYLSHOS=1
1 point if REPROHOS=1
1 point if SOCWKHOS=1
1 point if WOMHCHOS=1

COTH
"Yes" if MAPP8=1

R.N.'s to Beds
Full-time Registered Nurses (FTRNTF)
divided by Total Hospital Beds
(HOSPBD)

Trauma
"Yes" if TRAUML90=1 or 2 *and*
TRAUMHOS=1

Appendix C

Diagnosis-related group (DRG) groupings by specialty

AIDS

DRG #488	HIV W EXTENSIVE O.R. PROCEDURE
DRG #489	HIV W MAJOR RELATED CONDITION
DRG #490	HIV W OR W/O OTHER RELATED CONDITION

Cancer

DRG #10	NERVOUS SYSTEM NEOPLASMS W CC
DRG #11	NERVOUS SYSTEM NEOPLASMS W/O CC
DRG #64	EAR, NOSE, MOUTH & THROAT MALIGNANCY
DRG #82	RESPIRATORY NEOPLASMS
DRG #172	DIGESTIVE MALIGNANCY W CC
DRG #173	DIGESTIVE MALIGNANCY W/O CC
DRG #199	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY
DRG #203	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS
DRG #239	PATHOLOGICAL FRACTURES & MUSCULOSKELETAL & CONN TISS MALIGNANCY
DRG #257	TOTAL MASTECTOMY FOR MALIGNANCY W CC
DRG #258	TOTAL MASTECTOMY FOR MALIGNANCY W/O CC
DRG #259	SUBTOTAL MASTECTOMY FOR MALIGNANCY W CC
DRG #260	SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC
DRG #274	MALIGNANT BREAST DISORDERS W CC
DRG #275	MALIGNANT BREAST DISORDERS W/O CC
DRG #338	TESTES PROCEDURES, FOR MALIGNANCY
DRG #344	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY
DRG #346	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, W CC
DRG #347	MALIGNANCY, MALE REPRODUCTIVE SYSTEM, W/O CC
DRG #354	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC
DRG #355	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC
DRG #357	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY
DRG #366	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W CC
DRG #367	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W/O CC
DRG #400	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE
DRG #401	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC W CC
DRG #402	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC W/O CC
DRG #403	LYMPHOMA & NON-ACUTE LEUKEMIA W CC
DRG #404	LYMPHOMA & NON-ACUTE LEUKEMIA W/O CC
DRG #405	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE AGE 0-17
DRG #409	RADIOTHERAPY
DRG #410	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS
DRG #411	HISTORY OF MALIGNANCY W/O ENDOSCOPY
DRG #412	HISTORY OF MALIGNANCY W ENDOSCOPY

DRG #413	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W CC
DRG #414	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W/O CC
DRG #473	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE AGE >17
DRG #492	CHEMOTHERAPY W ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS

Cardiology

DRG #103	HEART TRANSPLANT
DRG #104	CARDIAC VALVE PROCEDURES W CARDIAC CATH
DRG #105	CARDIAC VALVE PROCEDURES W/O CARDIAC CATH
DRG #106	CORONARY BYPASS W CARDIAC CATH
DRG #107	CORONARY BYPASS W/O CARDIAC CATH
DRG #108	OTHER CARDIOTHORACIC PROCEDURES
DRG #110	MAJOR CARDIOVASCULAR PROCEDURES W CC
DRG #111	MAJOR CARDIOVASCULAR PROCEDURES W/O CC
DRG #112	PERCUTANEOUS CARDIOVASCULAR PROCEDURES
DRG #115	PERM CARDIAC PACEMAKER IMPLANT W AMI, HEART FAILURE OR SHOCK
DRG #116	OTH PERM CARDIAC PACEMAKER IMPLANT OR AICD LEAD OR GENERATOR PRO
DRG #117	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT
DRG #118	CARDIAC PACEMAKER DEVICE REPLACEMENT
DRG #121	CIRCULATORY DISORDERS W AMI & C.V. COMP DISCH ALIVE
DRG #122	CIRCULATORY DISORDERS W AMI W/O C.V. COMP DISCH ALIVE
DRG #123	CIRCULATORY DISORDERS W AMI, EXPIRED
DRG #126	ACUTE & SUBACUTE ENDOCARDITIS
DRG #127	HEART FAILURE & SHOCK
DRG #128	DEEP VEIN THROMBOPHLEBITIS
DRG #129	CARDIAC ARREST, UNEXPLAINED
DRG #130	PERIPHERAL VASCULAR DISORDERS W CC
DRG #131	PERIPHERAL VASCULAR DISORDERS W/O CC
DRG #132	ATHEROSCLEROSIS W CC
DRG #133	ATHEROSCLEROSIS W/O CC
DRG #135	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >17 W CC
DRG #136	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >17 W/O CC
DRG #137	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE 0-17
DRG #138	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W CC
DRG #139	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W/O CC
DRG #140	ANGINA PECTORIS
DRG #141	SYNCOPE & COLLAPSE W CC
DRG #142	SYNCOPE & COLLAPSE W/O CC
DRG #144	OTHER CIRCULATORY SYSTEM DIAGNOSES W CC
DRG #145	OTHER CIRCULATORY SYSTEM DIAGNOSES W/O CC

Endocrinology

DRG #286	ADRENAL & PITUITARY PROCEDURES
DRG #287	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DISORDERS
DRG #288	O.R. PROCEDURES FOR OBESITY
DRG #289	PARATHYROID PROCEDURES
DRG #290	THYROID PROCEDURES
DRG #292	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W CC
DRG #293	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC
DRG #294	DIABETES AGE >35
DRG #295	DIABETES AGE 0-35
DRG #296	NUTRITIONAL & MISC METABOLIC DISORDERS AGE >17 W CC
DRG #297	NUTRITIONAL & MISC METABOLIC DISORDERS AGE >17 W/O CC
DRG #298	NUTRITIONAL & MISC METABOLIC DISORDERS AGE 0-17
DRG #299	INBORN ERRORS OF METABOLISM
DRG #300	ENDOCRINE DISORDERS W CC
DRG #301	ENDOCRINE DISORDERS W/O CC

Gastroenterology

DRG #146	RECTAL RESECTION W CC
DRG #147	RECTAL RESECTION W/O CC
DRG #148	MAJOR SMALL & LARGE BOWEL PROCEDURES W CC
DRG #149	MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC
DRG #150	PERITONEAL ADHESIOLYSIS W CC
DRG #151	PERITONEAL ADHESIOLYSIS W/O CC
DRG #152	MINOR SMALL & LARGE BOWEL PROCEDURES W CC
DRG #153	MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC
DRG #154	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE >17 W CC
DRG #155	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE >17 W/O CC
DRG #156	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 0-17
DRG #170	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC
DRG #171	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC
DRG #174	G.I. HEMORRHAGE W CC
DRG #175	G.I. HEMORRHAGE W/O CC
DRG #176	COMPLICATED PEPTIC ULCER
DRG #177	UNCOMPLICATED PEPTIC ULCER W CC
DRG #178	UNCOMPLICATED PEPTIC ULCER W/O CC
DRG #179	INFLAMMATORY BOWEL DISEASE
DRG #180	G.I. OBSTRUCTION W CC
DRG #181	G.I. OBSTRUCTION W/O CC
DRG #182	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE >17 W CC

DRG #183	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE >17 W/O CC
DRG #184	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE 0-17
DRG #188	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE >17 W CC
DRG #189	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE >17 W/O CC
DRG #190	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17
DRG #191	PANCREAS, LIVER & SHUNT PROCEDURES W CC
DRG #192	PANCREAS, LIVER & SHUNT PROCEDURES W/O CC
DRG #193	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC
DRG #194	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC
DRG #195	CHOLECYSTECTOMY W C.D.E. W CC
DRG #196	CHOLECYSTECTOMY W C.D.E. W/O CC
DRG #197	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC
DRG #198	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC
DRG #200	HEPATOBILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY
DRG #201	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES
DRG #202	CIRRHOSIS & ALCOHOLIC HEPATITIS
DRG #204	DISORDERS OF PANCREAS EXCEPT MALIGNANCY
DRG #205	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA W CC
DRG #206	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA W/O CC
DRG #207	DISORDERS OF THE BILIARY TRACT W CC
DRG #208	DISORDERS OF THE BILIARY TRACT W/O CC
DRG #493	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC
DRG #494	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC

Geriatrics

ALL CASES

Gynecology

DRG #353	PELVIC EVISCERATION, RADICAL HYSTERECTOMY & RADICAL VULVECTOMY
DRG #356	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
DRG #358	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC
DRG #359	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC
DRG #360	VAGINA, CERVIX & VULVA PROCEDURES
DRG #361	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION
DRG #362	ENDOSCOPIC TUBAL INTERRUPTION
DRG #363	D&C, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY
DRG #364	D&C, CONIZATION EXCEPT FOR MALIGNANCY
DRG #365	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES
DRG #368	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM
DRG #369	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS

Neorology

DRG #1	CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA
DRG #2	CRANIOTOMY FOR TRAUMA AGE >17
DRG #3	CRANIOTOMY AGE 0-17
DRG #4	SPINAL PROCEDURES
DRG #5	EXTRACRANIAL VASCULAR PROCEDURES
DRG #6	CARPAL TUNNEL RELEASE
DRG #7	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W CC
DRG #8	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC
DRG #9	SPINAL DISORDERS & INJURIES
DRG #12	DEGENERATIVE NERVOUS SYSTEM DISORDERS
DRG #13	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA
DRG #14	SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA
DRG #15	TRANSIENT ISCHEMIC ATTACK & PRECEREBRAL OCCLUSIONS
DRG #16	NONSPECIFIC CEREBROVASCULAR DISORDERS W CC
DRG #17	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O CC
DRG #18	CRANIAL & PERIPHERAL NERVE DISORDERS W CC
DRG #19	CRANIAL & PERIPHERAL NERVE DISORDERS W/O CC
DRG #20	NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS
DRG #21	VIRAL MENINGITIS
DRG #22	HYPERTENSIVE ENCEPHALOPATHY
DRG #23	NONTRAUMATIC STUPOR & COMA
DRG #24	SEIZURE & HEADACHE AGE >17 W CC
DRG #25	SEIZURE & HEADACHE AGE >17 W/O CC
DRG #26	SEIZURE & HEADACHE AGE 0-17
DRG #27	TRAUMATIC STUPOR & COMA, COMA >1 HR
DRG #28	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >17 W CC
DRG #29	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >17 W/O CC
DRG #30	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE 0-17
DRG #31	CONCUSSION AGE >17 W CC
DRG #32	CONCUSSION AGE >17 W/O CC
DRG #33	CONCUSSION AGE 0-17
DRG #34	OTHER DISORDERS OF NERVOUS SYSTEM W CC
DRG #35	OTHER DISORDERS OF NERVOUS SYSTEM W/O CC

Orthopedics

DRG #209	MAJOR JOINT & LIMB REATTACHMENT PROCEDURES OF LOWER EXTREMITY
DRG #210	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >17 W CC
DRG #211	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >17 W/O CC
DRG #212	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17

DRG #213	AMPUTATION FOR MUSCULOSKELETAL SYSTEM & CONN TISSUE DISORDERS
DRG #214	BACK & NECK PROCEDURES W CC
DRG #215	BACK & NECK PROCEDURES W/O CC
DRG #216	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE
DRG #217	WND DEBRID & SKN GRFT EXCEPT HAND,FOR MUSCSKELET & CONN TISS DIS
DRG #218	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR AGE >17 W CC
DRG #219	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR AGE >17 W/O CC
DRG #220	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR AGE 0-17
DRG #221	KNEE PROCEDURES W CC
DRG #222	KNEE PROCEDURES W/O CC
DRG #223	MAJOR SHOULDER/ELBOW PROC, OR OTHER UPPER EXTREMITY PROC W CC
DRG #224	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC, W/O CC
DRG #225	FOOT PROCEDURES
DRG #226	SOFT TISSUE PROCEDURES W CC
DRG #227	SOFT TISSUE PROCEDURES W/O CC
DRG #228	MAJOR THUMB OR JOINT PROC,OR OTH HAND OR WRIST PROC W CC
DRG #229	HAND OR WRIST PROC, EXCEPT MAJOR JOINT PROC, W/O CC
DRG #230	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES OF HIP & FEMUR
DRG #231	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES EXCEPT HIP & FEMUR
DRG #232	ARTHROSCOPY
DRG #233	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC
DRG #234	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC
DRG #235	FRACTURES OF FEMUR
DRG #236	FRACTURES OF HIP & PELVIS
DRG #237	SPRAINS, STRAINS, & DISLOCATIONS OF HIP, PELVIS & THIGH
DRG #238	OSTEOMYELITIS
DRG #240	CONNECTIVE TISSUE DISORDERS W CC
DRG #241	CONNECTIVE TISSUE DISORDERS W/O CC
DRG #471	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY
DRG #485	LIMB REATTACHMENT, HIP AND FEMUR PROC FOR MULTIPLE SIGNIFICANT T
DRG #491	MAJOR JOINT & LIMB REATTACHMENT PROCEDURES OF UPPER EXTREMITY

Otolaryngology

DRG #49	MAJOR HEAD & NECK PROCEDURES
DRG #50	SIALOADENECTOMY
DRG #51	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY
DRG #55	MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES
DRG #57	T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE >17
DRG #58	T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17
DRG #61	MYRINGOTOMY W TUBE INSERTION AGE >17
DRG #62	MYRINGOTOMY W TUBE INSERTION AGE 0-17

DRG #63	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES
DRG #65	DYSEQUILIBRIUM
DRG #66	EPISTAXIS
DRG #67	EPIGLOTTITIS
DRG #68	OTITIS MEDIA & URI AGE >17 W CC
DRG #69	OTITIS MEDIA & URI AGE >17 W/O CC
DRG #70	OTITIS MEDIA & URI AGE 0-17
DRG #71	LARYNGOTRACHEITIS
DRG #72	NASAL TRAUMA & DEFORMITY
DRG #73	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES AGE >17
DRG #74	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES AGE 0-17

Pulmonology

DRG #76	OTHER RESP SYSTEM O.R. PROCEDURES W CC
DRG #77	OTHER RESP SYSTEM O.R. PROCEDURES W/O CC
DRG #78	PULMONARY EMBOLISM
DRG #79	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE >17 W CC
DRG #80	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE >17 W/O CC
DRG #81	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 0-17
DRG #85	PLEURAL EFFUSION W CC
DRG #86	PLEURAL EFFUSION W/O CC
DRG #87	PULMONARY EDEMA & RESPIRATORY FAILURE
DRG #88	CHRONIC OBSTRUCTIVE PULMONARY DISEASE
DRG #89	SIMPLE PNEUMONIA & PLEURISY AGE >17 W CC
DRG #90	SIMPLE PNEUMONIA & PLEURISY AGE >17 W/O CC
DRG #91	SIMPLE PNEUMONIA & PLEURISY AGE 0-17
DRG #92	INTERSTITIAL LUNG DISEASE W CC
DRG #93	INTERSTITIAL LUNG DISEASE W/O CC
DRG #94	PNEUMOTHORAX W CC
DRG #95	PNEUMOTHORAX W/O CC
DRG #96	BRONCHITIS & ASTHMA AGE >17 W CC
DRG #97	BRONCHITIS & ASTHMA AGE >17 W/O CC
DRG #98	BRONCHITIS & ASTHMA AGE 0-17
DRG #99	RESPIRATORY SIGNS & SYMPTOMS W CC
DRG #100	RESPIRATORY SIGNS & SYMPTOMS W/O CC
DRG #101	OTHER RESPIRATORY SYSTEM DIAGNOSES W CC
DRG #102	OTHER RESPIRATORY SYSTEM DIAGNOSES W/O CC
DRG #475	RESPIRATORY SYSTEM DIAGNOSIS WITH VENTILATOR SUPPORT

Rheumatology

DRG #242	SEPTIC ARTHRITIS
DRG #244	BONE DISEASES & SPECIFIC ARTHROPATHIES W CC
DRG #245	BONE DISEASES & SPECIFIC ARTHROPATHIES W/O CC
DRG #246	NON-SPECIFIC ARTHROPATHIES
DRG #247	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE
DRG #256	OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES

Urology

DRG #302	KIDNEY TRANSPLANT
DRG #303	KIDNEY,URETER & MAJOR BLADDER PROCEDURES FOR NEOPLASM
DRG #304	KIDNEY,URETER & MAJOR BLADDER PROC FOR NON-NEOPL W CC
DRG #305	KIDNEY,URETER & MAJOR BLADDER PROC FOR NON-NEOPL W/O CC
DRG #306	PROSTATECTOMY W CC
DRG #307	PROSTATECTOMY W/O CC
DRG #308	MINOR BLADDER PROCEDURES W CC
DRG #309	MINOR BLADDER PROCEDURES W/O CC
DRG #310	TRANSURETHRAL PROCEDURES W CC
DRG #311	TRANSURETHRAL PROCEDURES W/O CC
DRG #312	URETHRAL PROCEDURES, AGE >17 W CC
DRG #313	URETHRAL PROCEDURES, AGE >17 W/O CC
DRG #314	URETHRAL PROCEDURES, AGE 0-17
DRG #315	OTHER KIDNEY & URINARY TRACT O.R. PROCEDURES
DRG #323	URINARY STONES W CC, &/OR ESW LITHOTRIPSY
DRG #324	URINARY STONES W/O CC
DRG #328	URETHRAL STRICTURE AGE >17 W CC
DRG #329	URETHRAL STRICTURE AGE >17 W/O CC
DRG #330	URETHRAL STRICTURE AGE 0-17
DRG #334	MAJOR MALE PELVIC PROCEDURES W CC
DRG #335	MAJOR MALE PELVIC PROCEDURES W/O CC
DRG #336	TRANSURETHRAL PROSTATECTOMY W CC
DRG #337	TRANSURETHRAL PROSTATECTOMY W/O CC
DRG #339	TESTES PROCEDURES, NON-MALIGNANCY AGE >17
DRG #340	TESTES PROCEDURES, NON-MALIGNANCY AGE 0-17
DRG #341	PENIS PROCEDURES
DRG #342	CIRCUMCISION AGE >17
DRG #343	CIRCUMCISION AGE 0-17
DRG #348	BENIGN PROSTATIC HYPERTROPHY W CC
DRG #349	BENIGN PROSTATIC HYPERTROPHY W/O CC
DRG #350	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM
DRG #351	STERILIZATION, MALE
DRG #352	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES

Appendix D

1997 Sample physician questionnaire

October 29, 1996

Dear Doctor:

The National Opinion Research Center at the University of Chicago is conducting a study for *U.S. News & World Report*. We request your judgement on two topics of considerable public interest: 1) what are this nation's preeminent hospitals for treating the most serious or difficult medical problems, and 2) what impact has the managed care movement had on physicians' ability to provide care for their patients?

You were chosen as part of a national random sample of 2,550 board-certified physicians, stratified by region and by 17 specialties. We are asking specialists with your expertise to help us create a profile of the best hospital care for AIDS and HIV-related illnesses.

The National Opinion Research Center has been conducting survey research in the public interest for more than 50 years. Throughout its history, it has engaged in diverse health studies in such areas as access to health care, maternal and infant health, drug addiction, medical utilization and expenditure patterns, and AIDS. Findings from this study will inform a broad spectrum of the American public.

Responding to this short questionnaire should take no more than five minutes. Your responses will be kept strictly confidential and all results will be reported only in statistical, summary form.

Please take a few minutes now to complete the questionnaire and return it to us in the enclosed, postage-paid envelope. We have also included a two-dollar bill as a small gesture of our appreciation and to thank you for sharing your views.

If you have any questions about this study, please contact me at (312) 759-4244. Collect calls will be accepted.

Sincerely yours,

Craig Hill, Ph.D.
Research Vice President
National Opinion Research Center

(A)

1. In your estimation, which are the **five** hospitals in the United States that provide the best care for AIDS, regardless of location or expense? In answering, think about patients with the most serious or difficult medical problems.

    List these outstanding hospitals in any order.

OUTSTANDING HOSPITAL	CITY	STATE
a.		
b.		
c.		
d.		
e.		

2. Now, thinking about caring for patients within the managed care environment, please indicate how strongly you agree or disagree with each of the following statements about the impact of managed care on the quality of care.

    To do so, please circle a "strength score" of 0 to 7 for each item.

	The managed care environment has:	Strongly Disagree							Strongly Agree
a	Lowered the cost of medical care, in general, for patients	0	1	2	3	4	5	6	7
b	Made it easier for patients to receive coordinated care	0	1	2	3	4	5	6	7
c	Made it more likely that patients will receive coordinated care	0	1	2	3	4	5	6	7
d	Increased the likelihood of patients receiving preventive care	0	1	2	3	4	5	6	7
e	Decreased the overall administrative cost of providing care to patients	0	1	2	3	4	5	6	7

The managed care environment has :	Strongly Disagree							Strongly Agree
f Decreased the amount of out-of-pocket expenses for patients receiving care	0	1	2	3	4	5	6	7
g Enhanced the quality and skill of the medical staff providing care to patients	0	1	2	3	4	5	6	7
h Resulted in greater standardization of care for patients	0	1	2	3	4	5	6	7
i Limited patients' access to services	0	1	2	3	4	5	6	7
j Reduced the quality of care received by patients	0	1	2	3	4	5	6	7
k Impaired the patient-doctor relationship	0	1	2	3	4	5	6	7
l Enhanced the range of services available to a physician when treating a patient	0	1	2	3	4	5	6	7
m Decreased the physician's administrative costs	0	1	2	3	4	5	6	7
n Disrupted the continuity of care that a patient receives	0	1	2	3	4	5	6	7

Now, please turn your attention to your primary medical practice.

3.   Below is a list reasons which may influence the *type* of primary practice arrangement -- a solo practice, a group practice, or providing care within a larger institution -- that a physician selects. Thinking about your primary practice arrangement, please indicate how strongly the following factors influenced the selection of your type of practice arrangement.

To do so, please circle a "strength score" of 0 to 7 for each item.

Factor influencing primary practice arrangement:	Weak Influence							Strong Influence
a Degree of clinical independence possible	0	1	2	3	4	5	6	7
b Cost of professional liability protection	0	1	2	3	4	5	6	7
c Level of income possible	0	1	2	3	4	5	6	7
d Stability of income possible	0	1	2	3	4	5	6	7
e Quality of staff and services with whom you would work	0	1	2	3	4	5	6	7
f Quality of patient care possible	0	1	2	3	4	5	6	7
g Contribution to a community that was possible	0	1	2	3	4	5	6	7
h Cost of establishing a practice	0	1	2	3	4	5	6	7

4.   In your primary medical practice, are you a either full- or part-owner?

Yes 1

No 2

5.   Would your primary medical practice setting be best described as:

A private hospital 1

A hospital governed by a medical school 2

A hospital governed by a university or college 3

A hospital governed by a state or local government 4

A hospital governed by an agency of the federal government 5

A medical school 6

An HMO or other managed care system 7

A free-standing care center 8

A group of physicians 9

A solo practice 10

6.   Approximately what percentage of your patients, if any, are covered by a managed care plan?

|__| |__| |__| %

7.   To the best of your knowledge, about how many contracts do you, or your employer, have with a managed care plan? Please include both discount and capitation-based contracts.

|__| |__| |__|

Thank you for your time and consideration. Please return this survey in the enclosed, postage-paid envelope.

Appendix E

Predicted mortality: APR-DRG methodology

Introduction to DRGs

The All Patient Refined Diagnosis Related Groups (APR-DRGs) were developed by 3M Health Information Systems (3M-HIS) in conjunction with the National Association of Children's Hospitals and Related Institutions (NACHRI). The APR-DRGs expand the basic diagnosis related group (DRG) structure to address patient severity of illness, risk of mortality, and resource intensity. The APR-DRG Version 14.0 uses the Health Care Financing Administration (HCFA) Version 12.0 DRG methodology. APR-DRGs are based on DRGs and All Patient DRGs (AP-DRGs), therefore a brief explanation of both structures will be reviewed.

Current HCFA DRG Structure

Created from Adjacent Diagnosis Related Groups (ADGs) which combine patients into groups with common characteristics, DRGs were developed by Yale University in the 1970's to relate a hospital's case mix index to the resource demands and associated costs experienced by the hospital.

ADGs were created by subdividing an MDC[1] into two groups based on the presence or absence of an operating room procedure. Second, surgical patients, identified as those having an operating room procedure, were then classified by type of procedure to form surgical ADGs. Patients with multiple procedures were assigned to the highest surgical class. Third, medical patients were split into more detailed groups based on their principal diagnosis to form medical ADGs.

DRGs use ADGs as a base, and then further classify patients into selected disease and procedure categories based on whether or not they have substantial comorbidity or complications (CC). Approximately 3,000 diagnosis codes have been designated by HCFA as substantial CCs, (defined by a list of additional diagnosis codes that a panel of physicians felt would increase the length of stay by at least one day for 75% of the patients). This list covers a broad range of disease conditions, and no differentiation in severity or

---

[1] Major Diagnostic Categories (MDCs) are broad medical and surgical categories one step hierarchically higher than DRGs (several DRGs roll-up into an MDC). MDCs are divided by body systems such as nervous; ear, nose, and throat; and respiratory.

complexity level was made among the additional diagnoses. The patient's age and discharge status were sometimes used in the definition of DRGs.

Current AP-DRG Structure

In 1987, the New York State Department of Health entered into an agreement with 3M-HIS to evaluate the applicability of DRGs to a non-Medicare population with a specific focus on neonates and patients with Human Immunodeficiency Virus (HIV) infections. The DRG definitions developed by this relationship are referred to as the AP-DRGs.

The AP-DRGs are modeled after the HCFA DRGs and attempt to improve the DRGs in an effort to more accurately predict a hospital's resource demands and associated costs for all acute care patients. In the creation of AP-DRGs, the modifications made to the DRG structure can be summarized as follows:

- Except for neonates who die or are transferred within the first few days of life, AP-DRGs define six ranges of birth weight that represent distinct demands on hospital resources. Within each birth weight range, neonates are then subdivided based on the presence of a significant operating room procedure, and then further subdivided based on presence of multiple major, minor, or other problems.

- Assignment to the neonatal MDC is based on the patient's age. Specifically, the AP-DRGs assign a patient to the neonatal MDC when the age of the patient is less than 29 days at admission regardless of the principal diagnosis.

- MDC 24 was created for HIV patients. Assignment to MDC 24 is dependent on both the principal and secondary diagnoses to account for a lack of coding standards for the HIV infection and HIV complications.

- MDC 25 was created to account for the highly specialized treatment of multiple trauma patients. Patients assigned to MDC 25 have at least two significant trauma diagnoses from different body sites.

- MDC 20 for alcohol and substance abuse was restructured to differentiate patients based on the substance being abused.

- Across all MDCs, patient with a tracheostomy were put into either of two tracheostomy AP-DRGs: tracheostomy performed for therapeutic reasons and tracheostomy representing long-term ventilation.

- All liver, bone marrow, heart, kidney, and lung transplant patients were assigned to an AP-DRG independent of the MDC of the principal diagnosis.

- For several MDCs, a single major comorbidity and complication (CC) AP-DRG was formed across all surgical patients within an MDC and a single major CC AP-DRG was formed across all medical patients within an MDC.

The AP-DRGs introduced changes to the HCFA DRGs in an attempt to depart from using the principal diagnosis as the initial variable for assignment. The AP-DRGs were designed to more accurately group patients into like groups that provide an operational means of defining and measuring a hospital's case mix complexity.

All Patient Refined DRGs

APR-DRG Objectives

The primary objective of the HCFA DRG and AP-DRG patient classification systems was to relate the type of patients treated to the hospital resources they consumed. This limited focus on resource intensity does not allow providers to classify patients into other groups for meaningful analysis. The APR-DRG patient classification system goes beyond traditional resource intensity measures and was designed with the ability to address the following needs:

- Compare hospitals across a wide range of resource and outcome measures
- Evaluate differences in inpatient mortality rates
- Implement and support critical pathways
- Identify continuous quality improvement initiatives
- Support internal management and planning systems
- Manage capitated payment arrangements.

In order to meet these needs, the APR-DRG system classifies patients according to severity of illness, risk of mortality, and resource intensity. Therefore, in the APR-DRG classification system a patient is assigned three distinct descriptors: base APR-DRG, severity of illness subclass, and risk of mortality subclass.

Severity of illness can be defined as the extent of physiologic decompensation or organ system loss of function experienced by the patient. In contrast, risk of mortality is defined as the patient's likelihood of dying.

For analyses such as evaluating resource intensity or patient care outcomes, the base APR-DRGs in conjunction with the severity of illness subclass is used. For evaluating patient mortality, the base APR-DRGs in conjunction with the risk of mortality subclass is used.

Development of the APR-DRGs

The AP-DRGs were used as the base DRGs in the development of the APR-DRGs because they were representative of the entire inpatient population and accounted for populations not included in DRGs at the time of development. Several consolidations, additions, and modifications were made to the AP-DRGs to form the list of APR-DRGs used in the severity of illness and risk of mortality subclass assignments. The following list summarizes the revisions made to the AP-DRGs in the creation of the APR-DRGs:

- All age, CC, and major CC splits were consolidated.

- Splits based on discharge status or death were consolidated.

- Definitions based on the presence or absence of a complicated principal diagnosis were consolidated.

- Additional APR-DRGs were created for pediatric patients.

- APR-DRGs for newborns were completely restructured to create medical and surgical hierarchies within each birth weight range.

- Low volume APR-DRGs were consolidated into other related APR-DRGs.

- APR-DRGs that could be explained by the severity of illness subclasses were consolidated into one APR-DRG.

- Due to risk of mortality subclasses, several APR-DRGs were split to account for significant differences in mortality between patient groups.

APR-DRG Severity of Illness Subclass Assignment

With the exception of neonatal patients, after a patient has been given an APR-DRG code, a Severity of Illness Subclass is assigned based on the level of the secondary diagnoses, presence of certain non-OR procedures, and the interaction among secondary diagnoses, age, APR-DRG and principal diagnosis. Neonatal patients have their own hierarchical method for determining severity of illness and will be discussed later. The four severity of illness subclasses are:

Subclass (PSC)	Severity of Illness
1	Minor (Includes non CC)
2	Moderate
3	Major
4	Extreme

The severity of illness subclass is used in conjunction with the patient's base APR-DRG for analysis such as evaluating resource intensity or patient care outcomes. A patient's severity of illness subclass should not be used with their DRG because several DRGs may form one APR-DRG. Therefore, since severity of illness subclasses correspond to the APR-DRG number and not the DRG, it is important to use the APR-DRG number to accurately interpret data.

The process for assigning a patient a severity of illness subclass is a three phase process and is summarized as follows:

Phase I

• Secondary diagnoses that are closely related to the principal diagnosis are eliminated from further analysis.

• Remaining secondary diagnoses are assigned one of four distinct Standard Severity of Illness Levels. Figure 1 presents examples of secondary diagnoses in each severity of illness level.

Figure 1. Examples of Secondary Diagnoses by Severity of Illness Level

Severity of Illness Level	Examples of Secondary Diagnoses
Minor	Benign hypertension, acute bronchitis, lumbago
Moderate	Chronic renal failure, viral pneumonia, diverticulitis
Major	Diabetic ketoacidosis, chronic heart failure, acute cholecystitis
Extreme	Septicemia, acute myocardial infarction, cerebral vascular accident

- The Standard Severity of Illness Level is modified for some secondary diagnoses based on age, APR-DRG, and presence of non-OR procedures. Figure 2 displays an example of modifications to the standard severity of illness level based on the APR-DRG.

Figure 2. Examples of Standard Severity of Illness Modifications

Secondary Diagnosis	Standard Severity of Illness Level	APR-DRG	Modified Severity of Illness Level
Stridor	Moderate	Bronchitis and asthma	Minor
Chronic renal failure	Moderate	Diabetes	Major
Cardiomegaly	Moderate	Chronic heart failure	Minor
Uncomplicated diabetes	Minor	Vaginal delivery	Moderate

Phase II

- All secondary diagnoses that are closely related to other secondary diagnoses are eliminated from further analysis, and the secondary diagnosis with the highest Severity of Illness Level is retained. This prevents double counting clinically similar diagnoses.

- The Base Severity of Illness Subclass of the patient is set to the highest Standard Severity of Illness Level of any of the secondary diagnoses.

- Patients with a Base Severity of Illness Subclass of major (3) or extreme (4), will be reduced to the next lower subclass unless the patient has multiple secondary diagnoses with a high Standard Severity of Illness Level. Figure 3 displays the requirements for keeping a severity of illness subclass of major or extreme.

Figure 3. Multiple Secondary Diagnoses Requirements

Base Severity of Illness Subclass	Multiple Secondary Diagnoses Requirements to Prevent Reduction of Severity of Illness Subclass
Major	Two or more secondary diagnoses that are major or one secondary diagnosis that is major and at least two secondary diagnoses that are moderate
Extreme	Two or more secondary diagnoses that are extreme or one secondary diagnosis that is extreme and at least two secondary diagnoses that are major

Phase III

- A minimum Severity of Illness Subclass is established based on the patient's principal diagnosis. This accounts for patients assigned to codes that contain both the underlying disease and an associated manifestation of the disease (i.e. diabetes with hyperosmolar coma), but is only assigned to the APR-DRG that accounts for the underlying disease.

- A minimum Severity of Illness Subclass is established based on combinations of principal diagnosis and age for specific APR-DRGs.

- A minimum Severity of Illness Subclass is established for some APR-DRGs with certain APR-DRG and non-OR procedure combinations as well as principal diagnosis and non-OR procedure combinations.

- A minimum Severity of Illness Subclass is established based on the presence of certain combinations of secondary diagnoses. Figure 4 shows the combination of secondary diagnoses necessary to increase the severity of illness subclass to a minimum severity of illness level. For example, a type 1 combination would be a major bacterial infection with pleural effusion. If a diagnosis from both of these categories is present plus at least one other secondary diagnosis that is at least a major severity of illness level, then the minimum patient severity of illness subclass will be extreme.

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Figure 4. Minimum Severity of Illness Requirements

Combination Type	Combination of Categories	Additional Secondary Diagnoses Required	Minimum Severity of Illness
1	Specified combinations of two major categories	At least one additional major secondary diagnosis	Extreme
2	Specified combinations of two moderate categories	At least one additional moderate secondary diagnosis	Major
3	Specified combinations of a moderate and a minor category	At least one additional moderate secondary diagnosis	Major
4	Specified combinations of two minor categories	At least two additional minor secondary diagnoses	Moderate
5	Specified combinations of two moderate categories	None	Major

- The final patient Severity of Illness Subclass is selected based on the maximum of the Phase II Base Patient Severity of Illness Subclass and the Phase III minimum Severity of Illness Subclass

Both medical and surgical patients are assigned a severity of illness level of 1-4 based on the assignment process outlined previously.

APR-DRG Risk of Mortality Subclass Assignment

Similar to the Severity of Illness Subclass assignment, the Risk of Mortality Subclass assignment is based on the level of the secondary diagnoses and the interaction among secondary diagnoses, age, APR-DRG, and principal diagnosis. In general, the patients Risk of Mortality Level and Subclass will be lower than the Severity of Illness Level and Subclass, respectively. Neonatal patients have their own hierarchical method for determining risk of mortality and will be discussed later. The four severity of illness subclasses are:

Subclass (PSC2)	Risk of Mortality
1	Minor (includes non CC)
2	Moderate
3	Major
4	Extreme

The risk of mortality subclass is used in conjunction with the patient's base APR-DRG for evaluating patient mortality. Like the severity of illness subclass, a patient's risk of mortality subclass should not be used with their DRG because several DRGs may form one APR-DRG. Therefore, since risk of mortality subclasses correspond to the APR-DRG number and not the DRG, it is important to use the APR-DRG number to accurately interpret data.

The process for assigning a patient a risk of mortality subclass is a three phase process and is summarized as follows:

Phase I

- Secondary diagnoses that are closely related to the principal diagnosis are eliminated from further analysis.

- Remaining secondary diagnoses are assigned one of four distinct Risk of Mortality Levels.

- The Risk of Mortality Level is modified for some secondary diagnosis based on the patients age and APR-DRG.

Phase II

- All secondary diagnoses that are closely related to other secondary diagnoses are eliminated from further analysis, and the secondary diagnosis with the highest Risk of Mortality Level is retained. This prevents double counting clinically-similar diagnoses.

- The Base Risk of Mortality Subclass of the patient is set to the highest Risk of Mortality Level of any of the secondary diagnoses.

- Patients with a Base Risk of Mortality Subclass of major (3) or extreme (4), will be reduced to the next lower subclass unless the patient has multiple secondary diagnoses with a high Risk of Mortality Level.

Phase III

- A minimum Risk of Mortality Subclass is established based on the patients principal diagnosis. This accounts for specific APR-DRGs that have a principal diagnosis indicative of a higher risk of mortality relative to the other principal diagnoses in the APR-DRG.

- A minimum Risk of Mortality Subclass is established based on the presence of certain combinations of secondary diagnoses.

- The final patient Risk of Mortality Subclass is selected based on the maximum of the Phase II Base Risk of Mortality Subclass and the Phase III minimum Risk of Mortality Subclass.

Appendix F

Index of Hospital Quality (IHQ) scores by specialty

1997 AIDS Best Hospital List

Rank	Hospital	IHQ	Rep. score	Hospitalwide mort. rate	COTH Member	Tech. score (of 9)	R.N.'s to beds	Trauma Center	Discharge planning (of 3)
1	San Francisco General Hospital Medical Center	100.0	58.5	0.94	No	6.0	1.67	Yes	2
2	Johns Hopkins Hospital, Baltimore	76.4	39.2	0.86	Yes	9.0	1.32	Yes	3
3	Massachusetts General Hospital, Boston	51.4	22.4	0.95	Yes	9.0	1.66	Yes	3
4	University of California, San Francisco Medical Center	48.8	20.6	0.75	Yes	9.0	1.40	No	3
5	UCLA Medical Center, Los Angeles	41.5	15.5	0.85	Yes	9.0	1.25	Yes	3
6	University of Miami, Jackson Memorial Hospital	34.7	13.0	0.98	Yes	6.5	1.16	Yes	3
7	Memorial Sloan-Kettering Cancer Center, New York	30.1	9.9	0.93	Yes	8.0	1.52	No	2
8	Northwestern Memorial Hospital, Chicago	29.1	7.6	0.63	Yes	7.5	0.80	Yes	3
9	University of Alabama Hospital at Birmingham	25.9	6.9	0.99	Yes	6.0	1.56	Yes	3
10	Mayo Clinic, Rochester, Minn.	25.9	4.3	0.65	Yes	8.0	1.52	Yes	3
11	Beth Israel Hospital, Boston	25.8	6.3	0.90	Yes	7.0	1.41	Yes	2
12	Rush-Presbyterian-St. Luke's Medical Center, Chicago	25.7	6.1	0.75	Yes	9.0	1.06	No	1
13	New York University Medical Center	25.0	6.9	1.05	Yes	8.5	1.13	No	3
14	New England Deaconess Hospital, Boston	24.7	5.8	0.72	Yes	7.0	0.97	No	3
15	Brigham and Women's Hospital, Boston	24.7	4.4	0.83	Yes	8.0	1.28	Yes	3
16	University of Washington Medical Center, Seattle	24.5	4.7	0.67	Yes	8.0	2.00	No	2
17	Columbia-Presbyterian Medical Center, New York	24.5	7.4	1.31	Yes	9.0	1.30	No	2
18	Duke University Medical Center, Durham, N.C.	23.5	3.8	0.83	Yes	9.0	1.60	No	3
19	Stanford University Hospital, Stanford, Calif.	23.2	4.0	0.82	Yes	7.0	1.09	Yes	3
20	Los Angeles County-USC Medical Center	22.9	3.0	0.63	Yes	7.5	1.13	Yes	3
21	UCSD Medical Center, San Diego	22.7	3.1	0.83	Yes	7.0	1.73	Yes	3
22	Cook County Hospital, Chicago	22.4	2.4	0.77	Yes	7.0	1.98	Yes	3
23	Harborview Medical Center, Seattle	22.3	4.7	1.13	Yes	6.5	2.18	Yes	3
24	University of Iowa Hospitals and Clinics, Iowa City	21.5	1.2	0.76	Yes	9.0	1.26	Yes	3
25	Parkland Memorial Hospital, Dallas	21.4	1.9	0.85	Yes	8.0	1.85	Yes	3
26	University of Cincinnati Hospital	20.8	0.7	0.73	Yes	8.0	1.61	Yes	3
27	Hospital of the University of Pennsylvania, Philadelphia	20.7	2.2	0.89	Yes	7.0	1.66	Yes	3
28	University of Michigan Medical Center, Ann Arbor	20.5	1.5	0.92	Yes	9.0	1.43	Yes	3
29	Cedars-Sinai Medical Center, Los Angeles	20.4	2.5	0.95	Yes	8.0	1.05	Yes	3
30	Cleveland Clinic	20.4	1.7	0.76	Yes	9.0	1.06	No	3
31	University of Wisconsin Hospital and Clinics, Madison	20.1	0.7	0.79	Yes	9.0	1.10	Yes	3
32	University of Chicago Hospitals	20.0	0.3	0.73	Yes	8.0	1.51	Yes	3
33	University of California, Davis Medical Center, Sacramento	19.8	1.1	0.78	Yes	7.0	2.20	Yes	2
34	Yale-New Haven Hospital, New Haven, Conn.	19.5	2.3	1.01	Yes	8.5	0.87	Yes	3
35	Baylor University Medical Center, Dallas	19.5	0.8	0.77	Yes	8.0	1.52	Yes	1
36	University Hospital, Denver	19.5	0.9	0.79	Yes	7.0	1.46	Yes	3
37	Mount Sinai Medical Center, New York	19.5	3.1	1.14	Yes	8.5	1.57	No	3
38	Barnes-Jewish Hospital, St. Louis	19.3	2.6	0.89	Yes	8.5	0.77	No	3
39	University of Maryland Medical System, Baltimore	19.1	1.0	0.89	Yes	7.0	2.21	Yes	3
40	University Hospital, Portland, Ore.	19.1	0.0	0.71	Yes	7.0	1.91	Yes	3
41	St. Joseph's Hospital and Medical Center, Phoenix	18.8	0.0	0.83	Yes	9.0	1.22	Yes	3
42	University of North Carolina Hospitals, Chapel Hill	18.8	0.9	0.92	Yes	8.0	1.42	Yes	3

1997 Cancer Best Hospital List

Rank	Hospital	IHQ	Rep. score	Cancer mort. rate	COTH Member	Tech. score (of 7)	Cancer discharges	R.N.'s to beds
1	Memorial Sloan-Kettering Cancer Center, New York	100.0	71.3	0.92	Yes	6.0	3739	1.52
2	University of Texas, M. D. Anderson Cancer Center, Houston	98.4	66.5	0.45	Yes	6.0	3640	1.64
3	Johns Hopkins Hospital, Baltimore	60.0	33.8	0.53	Yes	7.0	1458	1.32
4	Dana-Farber Cancer Institute, Boston	60.0	38.7	0.35	No	4.5	614	2.47
5	Mayo Clinic, Rochester, Minn.	53.3	28.5	0.51	Yes	6.0	2646	1.52
6	Duke University Medical Center, Durham, N.C.	34.6	12.0	0.66	Yes	7.0	2875	1.60
7	Stanford University Hospital, Stanford, Calif.	34.5	16.7	0.79	Yes	5.0	937	1.09
8	University of Washington Medical Center, Seattle	33.2	12.2	0.60	Yes	6.0	630	2.00
9	University of Chicago Hospitals	31.0	8.8	0.55	Yes	7.0	1304	1.51
10	University of California, San Francisco Medical Center	27.4	7.3	0.57	Yes	7.0	467	1.40
11	Massachusetts General Hospital, Boston	25.6	6.5	0.86	Yes	7.0	2228	1.66
12	Indiana University Medical Center, Indianapolis	24.0	4.6	0.79	Yes	7.0	997	1.65
13	UCLA Medical Center, Los Angeles	23.8	4.1	0.67	Yes	7.0	895	1.25
14	Roswell Park Cancer Institute, Buffalo	23.7	4.9	0.73	Yes	5.5	1675	2.88
15	University of Michigan Medical Center, Ann Arbor	21.8	1.4	0.65	Yes	7.0	1250	1.43
16	Rush-Presbyterian-St. Luke's Medical Center, Chicago	21.3	1.9	0.66	Yes	7.0	1169	1.06
17	University of Virginia Health Sciences Center, Charlottesville	21.0	0.0	0.60	Yes	7.0	1158	1.68
18	Barnes-Jewish Hospital, St. Louis	20.8	3.3	0.72	Yes	6.5	1699	0.77
19	University of Iowa Hospitals and Clinics, Iowa City	20.4	1.8	0.75	Yes	7.0	1387	1.26
20	Fox Chase Cancer Center, Philadelphia	20.2	5.4	0.65	No	4.0	1252	1.30
21	Hospital of the University of Pennsylvania, Philadelphia	20.2	3.1	0.88	Yes	6.0	1460	1.66
22	North Carolina Baptist Hospital, Winston-Salem	19.9	0.6	0.71	Yes	7.0	1695	1.42
23	Georgetown University Hospital, Washington, D.C.	19.6	1.6	0.53	Yes	6.0	814	1.01
24	Brigham and Women's Hospital, Boston	19.6	2.9	0.81	Yes	6.0	944	1.28
25	Mary Hitchcock Memorial Hospital, Lebanon, N.H.	19.4	0.5	0.71	Yes	7.0	775	1.59
26	Allegheny General Hospital, Pittsburgh	19.3	0.3	0.63	Yes	5.0	1147	1.68
27	Cleveland Clinic	19.3	1.0	0.72	Yes	7.0	1647	1.06
28	University of Wisconsin Hospital and Clinics, Madison	19.0	0.4	0.68	Yes	7.0	918	1.10
29	University Medical Center, Tucson, Ariz.	18.8	1.3	0.61	Yes	6.0	383	1.34
30	University of Minnesota Hospital and Clinic, Minneapolis	18.7	0.5	0.50	Yes	7.0	941	0.62
31	University of North Carolina Hospitals, Chapel Hill	18.6	0.6	0.68	Yes	6.0	803	1.42
32	Yale-New Haven Hospital, New Haven, Conn.	18.2	1.1	0.74	Yes	6.5	1304	0.87
33	Baylor University Medical Center, Dallas	18.1	1.0	0.81	Yes	6.0	1563	1.52
34	University of Cincinnati Hospital	18.1	0.5	0.71	Yes	6.0	651	1.61
35	Vanderbilt University Hospital and Clinic, Nashville	18.0	1.6	0.93	Yes	7.0	973	1.33
36	Shands Hospital at the University of Florida, Gainesville	18.0	1.1	0.64	Yes	6.0	557	0.92
37	Loma Linda University Medical Center, Loma Linda, Calif.	17.8	0.0	0.66	Yes	5.0	782	1.70
38	Penn State's Milton S. Hershey Medical Center, Hershey	17.8	0.0	0.70	Yes	6.0	1060	1.25
39	University Hospitals of Cleveland	17.7	0.5	0.92	Yes	7.0	1360	1.83
40	Mount Sinai Medical Center, New York	17.6	3.3	1.33	Yes	6.5	2871	1.57
41	University of California, Davis Medical Center, Sacramento	17.4	1.1	0.72	Yes	5.0	519	2.20
42	Ochsner Foundation Hospital, New Orleans	17.4	0.0	0.59	Yes	5.0	502	2.02

1997 Cardiology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Cardiology mort. rate	COTH Member	Tech. score (of 9)	Surgical Volume	R.N.'s to beds	Trauma Center
1	Cleveland Clinic	100.0	53.1	0.70	Yes	9.0	5401	1.06	No
2	Mayo Clinic, Rochester, Minn.	97.8	50.4	0.79	Yes	8.0	4265	1.52	Yes
3	Massachusetts General Hospital, Boston	72.4	34.2	0.90	Yes	9.0	3403	1.66	Yes
4	Duke University Medical Center, Durham, N.C.	54.2	22.4	0.84	Yes	9.0	3466	1.60	No
5	Brigham and Women's Hospital, Boston	53.1	22.0	0.88	Yes	8.5	1981	1.28	Yes
6	Texas Heart Institute-St. Luke's Episcopal Hospital, Houston	51.1	25.2	1.14	Yes	8.0	3217	1.24	No
7	Stanford University Hospital, Stanford, Calif.	45.7	17.6	0.86	Yes	8.0	1839	1.09	Yes
8	Johns Hopkins Hospital, Baltimore	40.2	14.0	0.95	Yes	9.0	2328	1.32	Yes
9	University of Washington Medical Center, Seattle	33.1	8.3	0.69	Yes	9.0	733	2.00	No
10	Cedars-Sinai Medical Center, Los Angeles	32.2	9.1	0.91	Yes	8.0	2114	1.05	Yes
11	Barnes-Jewish Hospital, St. Louis	28.5	7.4	0.88	Yes	9.0	1815	0.77	No
12	University of Alabama Hospital at Birmingham	27.8	8.3	1.11	Yes	7.0	3309	1.56	Yes
13	Beth Israel Hospital, Boston	27.0	5.4	0.92	Yes	8.0	1789	1.41	Yes
14	Baylor University Medical Center, Dallas	26.8	4.0	0.86	Yes	8.0	3281	1.52	Yes
15	Hospital of the University of Pennsylvania, Philadelphia	24.7	2.4	0.86	Yes	9.0	1234	1.66	Yes
16	Columbia-Presbyterian Medical Center, New York	24.7	7.2	1.17	Yes	9.0	1720	1.30	No
17	University of Chicago Hospitals	24.5	2.3	0.83	Yes	9.0	830	1.51	Yes
18	University Medical Center, Tucson, Ariz.	24.2	2.5	0.79	Yes	8.0	595	1.34	Yes
19	William Beaumont Hospital, Royal Oak, Mich.	24.2	2.1	0.83	Yes	9.0	4745	1.59	No
20	University of Michigan Medical Center, Ann Arbor	23.8	4.2	1.07	Yes	9.0	1867	1.43	Yes
21	UCLA Medical Center, Los Angeles	23.7	3.2	0.90	Yes	9.0	1004	1.25	Yes
22	University of California, San Francisco Medical Center	23.7	3.6	0.86	Yes	9.0	692	1.40	No
23	North Carolina Baptist Hospital, Winston-Salem	23.3	1.5	0.81	Yes	9.0	2260	1.42	No
24	University Hospitals of Cleveland	22.9	0.5	0.82	Yes	9.0	1256	1.83	Yes
25	Indiana University Medical Center, Indianapolis	22.9	1.7	0.80	Yes	9.0	816	1.65	No
26	Mount Sinai Medical Center, New York	22.3	2.7	0.93	Yes	8.5	2095	1.57	No
27	University of Iowa Hospitals and Clinics, Iowa City	22.2	0.9	0.82	Yes	9.0	922	1.26	Yes
28	St. Louis University Hospital	21.9	0.4	0.82	Yes	9.0	1100	1.36	Yes
29	Henry Ford Hospital, Detroit	21.9	1.1	0.85	Yes	8.0	1225	1.58	Yes
30	Ochsner Foundation Hospital, New Orleans	21.6	1.5	0.67	Yes	7.0	1235	2.02	No
31	UCSD Medical Center, San Diego	21.4	0.7	0.73	Yes	7.0	625	1.73	Yes
32	Methodist Hospital, Houston	21.3	7.1	1.33	Yes	8.0	3441	0.98	No
33	Fairfax Hospital, Falls Church, Va.	21.1	0.9	0.87	Yes	8.0	2125	1.24	Yes
34	Medical Center of Delaware, Wilmington	21.0	0.0	0.87	Yes	8.0	2203	1.80	Yes
35	Temple University Hospital, Philadelphia	21.0	0.4	0.85	Yes	8.0	1185	1.65	Yes
36	Medical University of South Carolina, Charleston	21.0	0.0	0.86	Yes	8.5	1456	1.78	Yes
37	Yale-New Haven Hospital, New Haven, Conn.	20.9	2.8	1.01	Yes	8.5	2759	0.87	Yes
38	Rush-Presbyterian-St. Luke's Medical Center, Chicago	20.9	1.0	0.80	Yes	9.0	1199	1.06	No
39	Mary Hitchcock Memorial Hospital, Lebanon, N.H.	20.7	0.5	0.84	Yes	9.0	1314	1.59	No
40	University of Cincinnati Hospital	20.6	0.0	0.80	Yes	7.5	915	1.61	Yes
41	University of Utah Hospital and Clinics, Salt Lake City	20.5	0.7	0.67	Yes	7.0	293	1.48	Yes
42	Winthrop-University Hospital, Mineola, N.Y.	20.5	0.4	0.85	Yes	7.0	1753	1.57	Yes

1997 Endocrinology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Endocrinology mort. rate	COTH Member	Tech. score (of 7)	R.N.'s to beds	Trauma Center
1	Mayo Clinic, Rochester, Minn.	100.0	60.8	0.66	Yes	6.0	1.52	Yes
2	Massachusetts General Hospital, Boston	98.9	60.1	0.79	Yes	7.0	1.66	Yes
3	University of California, San Francisco Medical Center	52.8	26.0	0.37	Yes	7.0	1.40	No
4	Johns Hopkins Hospital, Baltimore	45.9	21.8	0.74	Yes	7.0	1.32	Yes
5	Barnes-Jewish Hospital, St. Louis	39.7	20.9	0.85	Yes	7.0	0.77	No
6	Brigham and Women's Hospital, Boston	33.5	13.4	0.77	Yes	6.5	1.28	Yes
7	Parkland Memorial Hospital, Dallas	31.9	9.4	0.50	Yes	6.0	1.85	Yes
8	University of Chicago Hospitals	31.0	9.3	0.60	Yes	7.0	1.51	Yes
9	New England Deaconess Hospital, Boston	29.5	11.2	0.55	Yes	6.0	0.97	No
10	UCLA Medical Center, Los Angeles	27.1	8.9	0.84	Yes	7.0	1.25	Yes
11	University of Michigan Medical Center, Ann Arbor	26.5	6.4	0.62	Yes	7.0	1.43	Yes
12	University of Virginia Health Sciences Center, Charlottesville	26.3	8.1	0.68	Yes	7.0	1.68	No
13	University Hospital, Denver	24.3	4.2	0.35	Yes	6.0	1.46	Yes
14	Duke University Medical Center, Durham, N.C.	24.0	6.9	0.74	Yes	7.0	1.60	No
15	Hospital of the University of Pennsylvania, Philadelphia	23.9	2.9	0.41	Yes	7.0	1.66	Yes
16	Stanford University Hospital, Stanford, Calif.	23.0	4.0	0.22	Yes	6.0	1.09	Yes
17	University of Iowa Hospitals and Clinics, Iowa City	22.8	2.8	0.52	Yes	7.0	1.26	Yes
18	Vanderbilt University Hospital and Clinic, Nashville	21.1	5.9	0.82	Yes	7.0	1.33	No
19	Medical University of South Carolina, Charleston	20.8	1.0	0.39	Yes	6.5	1.78	Yes
20	University Hospital, Portland, Ore.	20.6	2.4	0.56	Yes	5.0	1.91	Yes
21	Northwestern Memorial Hospital, Chicago	19.8	2.3	0.47	Yes	6.0	0.80	Yes
22	Ohio State University Medical Center, Columbus	19.6	3.1	0.62	Yes	5.5	1.15	Yes
23	University of Cincinnati Hospital	19.5	0.0	0.38	Yes	6.5	1.61	Yes
24	University of Texas, M. D. Anderson Cancer Center, Houston	19.5	1.4	0.53	Yes	7.0	1.64	No
25	Baylor University Medical Center, Dallas	19.3	1.1	0.57	Yes	6.0	1.52	Yes
26	Beth Israel Hospital, Boston	19.0	3.6	0.89	Yes	6.0	1.41	Yes
27	F.G. McGaw Hospital at Loyola University, Maywood, Ill.	18.9	0.0	0.44	Yes	6.0	1.55	Yes
28	University of Wisconsin Hospital and Clinics, Madison	18.5	0.0	0.51	Yes	7.0	1.10	Yes
29	Herman Hospital, Houston	18.4	0.6	0.46	Yes	6.0	1.11	Yes
30	Cook County Hospital, Chicago	18.2	0.8	0.47	Yes	4.0	1.98	Yes
31	Temple University Hospital, Philadelphia	17.9	0.0	0.58	Yes	6.0	1.65	Yes
32	Cleveland Clinic	17.6	3.6	0.77	Yes	7.0	1.06	No
33	Maricopa Medical Center, Phoenix	17.6	0.0	0.26	Yes	6.0	1.11	Yes
34	University of Texas Medical Branch Hospitals, Galveston	17.6	0.0	0.38	Yes	6.0	1.11	Yes
35	University of Minnesota Hospital and Clinic, Minneapolis	17.2	1.9	0.53	Yes	7.0	0.62	No
36	St. Francis Hospital, Tulsa, Okla.	17.2	0.0	0.52	Yes	6.0	0.97	Yes
37	Columbia-Presbyterian Medical Center, New York	17.1	5.5	1.58	Yes	7.0	1.30	No
38	University of North Carolina Hospitals, Chapel Hill	17.1	1.1	0.71	Yes	6.0	1.42	Yes
39	University of Illinois Hospital and Clinics, Chicago	17.1	0.0	0.32	Yes	4.0	1.67	Yes
40	Rhode Island Hospital, Providence	17.0	0.9	0.56	Yes	6.0	0.78	Yes
41	Geisinger Medical Center, Danville, Pa.	16.9	0.0	0.38	Yes	6.0	0.89	Yes
42	Illinois Masonic Medical Center, Chicago	16.5	0.0	0.42	Yes	6.0	0.73	Yes

1997 Gastroenterology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Gastroenterology mort. rate	COTH Member	Tech. score (of 8)	Gastro. discharges	R.N.'s to beds	Trauma Center
1	Mayo Clinic, Rochester, Minn.	100.0	59.0	0.50	Yes	7.0	4679	1.52	Yes
2	Johns Hopkins Hospital, Baltimore	50.7	24.8	0.81	Yes	8.0	2030	1.32	Yes
3	Cleveland Clinic	48.8	24.2	0.66	Yes	7.5	2909	1.06	No
4	Massachusetts General Hospital, Boston	47.0	22.5	0.90	Yes	8.0	2912	1.66	Yes
5	Mount Sinai Medical Center, New York	44.9	23.1	1.00	Yes	7.5	2861	1.57	No
6	University of California, San Francisco Medical Center	43.9	20.8	0.70	Yes	8.0	1150	1.40	No
7	UCLA Medical Center, Los Angeles	41.0	19.9	1.04	Yes	8.0	1544	1.25	Yes
8	Duke University Medical Center, Durham, N.C.	39.6	18.0	0.85	Yes	8.0	2019	1.60	No
9	University of Chicago Hospitals	37.7	15.4	0.76	Yes	8.0	1333	1.51	Yes
10	Brigham and Women's Hospital, Boston	31.0	10.6	0.72	Yes	7.5	1584	1.28	Yes
11	University of Michigan Medical Center, Ann Arbor	30.6	10.2	0.78	Yes	8.0	1767	1.43	Yes
12	Baylor University Medical Center, Dallas	27.9	7.8	0.60	Yes	7.0	3010	1.52	Yes
13	Hospital of the University of Pennsylvania, Philadelphia	23.6	4.9	0.73	Yes	8.0	1423	1.66	Yes
14	University of Pittsburgh Medical Center	21.7	6.8	0.89	No	7.5	5226	1.23	Yes
15	Cedars-Sinai Medical Center, Los Angeles	21.3	4.0	0.73	Yes	7.0	3001	1.05	Yes
16	Indiana University Medical Center, Indianapolis	21.1	4.8	0.74	Yes	8.0	1061	1.65	No
17	Beth Israel Hospital, Boston	21.1	4.4	0.83	Yes	7.0	1807	1.41	Yes
18	Yale-New Haven Hospital, New Haven, Conn.	20.7	5.3	0.91	Yes	7.5	1820	0.87	Yes
19	Georgetown University Hospital, Washington, D.C.	19.4	4.1	0.75	Yes	7.0	790	1.01	Yes
20	Barnes-Jewish Hospital, St. Louis	18.9	5.4	0.99	Yes	8.0	2374	0.77	No
21	University of Iowa Hospitals and Clinics, Iowa City	18.1	1.4	0.70	Yes	8.0	1191	1.26	Yes
22	University of Wisconsin Hospital and Clinics, Madison	17.7	1.3	0.61	Yes	8.0	1271	1.10	Yes
23	Northwestern Memorial Hospital, Chicago	17.3	1.7	0.51	Yes	7.0	1470	0.80	Yes
24	Rush-Presbyterian-St. Luke's Medical Center, Chicago	17.1	1.6	0.65	Yes	8.0	1865	1.06	No
25	University of Alabama Hospital at Birmingham	17.0	2.5	0.89	Yes	6.0	1520	1.56	Yes
26	Stanford University Hospital, Stanford, Calif.	16.5	2.0	0.77	Yes	6.0	1377	1.09	Yes
27	Medical University of South Carolina, Charleston	16.3	2.0	0.91	Yes	7.0	1121	1.78	Yes
28	Ochsner Foundation Hospital, New Orleans	16.2	1.7	0.73	Yes	6.0	1508	2.02	No
29	William Beaumont Hospital, Royal Oak, Mich.	16.1	0.6	0.77	Yes	8.0	3116	1.59	No
30	Shands Hospital at the University of Florida, Gainesville	15.6	2.0	0.60	Yes	7.0	987	0.92	No
31	University of Cincinnati Hospital	15.6	0.7	0.78	Yes	6.5	1132	1.61	Yes
32	Winthrop-University Hospital, Mineola, N.Y.	15.5	0.0	0.77	Yes	6.0	2302	1.57	Yes
33	Allegheny General Hospital, Pittsburgh	15.5	0.0	0.82	Yes	7.0	2008	1.68	Yes
34	University of North Carolina Hospitals, Chapel Hill	15.4	1.5	0.92	Yes	6.5	1512	1.42	Yes
35	University of Miami, Jackson Memorial Hospital	15.3	2.7	0.90	Yes	5.5	994	1.16	Yes
36	Medical Center of Delaware, Wilmington	15.2	0.0	0.83	Yes	6.5	2487	1.80	Yes
37	Penn State's Milton S. Hershey Medical Center, Hershey	15.0	0.0	0.72	Yes	7.0	996	1.25	Yes
38	New York University Medical Center	14.9	1.7	0.86	Yes	7.0	1977	1.13	No
39	Memorial Sloan-Kettering Cancer Center, New York	14.9	0.9	0.81	Yes	7.0	1689	1.52	No
40	University of Maryland Medical System, Baltimore	14.7	1.0	0.80	Yes	5.5	840	2.21	Yes
41	University of Texas, M. D. Anderson Cancer Center, Houston	14.6	0.5	0.19	Yes	7.0	831	1.64	No
42	St. Louis University Hospital	14.6	1.0	0.84	Yes	6.5	979	1.36	Yes

1997 Geriatrics Best Hospital List

Rank	Hospital	IHQ	Rep. score	Hospitalwide mort. rate	COTH Member	Tech. score (of 8)	R.N.'s to beds	Discharge planning (of 3)	Service mix (of 10)	Geriatric services (of 7)
1	UCLA Medical Center, Los Angeles	100.0	28.4	0.85	Yes	8.0	1.25	3	6	4
2	Massachusetts General Hospital, Boston	81.9	22.1	0.95	Yes	8.0	1.66	3	8	4
3	Mayo Clinic, Rochester, Minn.	75.4	18.4	0.65	Yes	7.0	1.52	3	10	5
4	Johns Hopkins Hospital, Baltimore	73.9	19.4	0.86	Yes	8.0	1.32	3	7	3
5	Mount Sinai Medical Center, New York	71.5	19.5	1.14	Yes	7.5	1.57	3	9	3
6	Duke University Medical Center, Durham, N.C.	66.3	16.6	0.83	Yes	8.0	1.60	3	6	3
7	Beth Israel Hospital, Boston	45.6	10.1	0.90	Yes	7.0	1.41	2	8	3
8	Cleveland Clinic	39.1	6.0	0.76	Yes	8.0	1.06	3	10	4
9	University of Michigan Medical Center, Ann Arbor	37.0	6.3	0.92	Yes	8.0	1.43	3	8	4
10	Brigham and Women's Hospital, Boston	36.0	6.1	0.83	Yes	7.5	1.28	3	7	3
11	University of Washington Medical Center, Seattle	35.9	6.3	0.67	Yes	8.0	2.00	2	6	2
12	University of Chicago Hospitals	34.9	5.0	0.73	Yes	8.0	1.51	3	6	4
13	Stanford University Hospital, Stanford, Calif.	33.0	5.2	0.82	Yes	7.0	1.09	3	8	3
14	University of California, San Francisco Medical Center	32.7	3.6	0.75	Yes	8.0	1.40	3	8	5
15	Barnes-Jewish Hospital, St. Louis	31.8	3.8	0.89	Yes	8.0	0.77	3	10	6
16	Columbia-Presbyterian Medical Center, New York	30.0	6.5	1.31	Yes	8.0	1.30	2	5	3
17	St. Louis University Hospital	29.9	5.0	0.85	Yes	8.0	1.36	1	5	3
18	University of Wisconsin Hospital and Clinics, Madison	27.7	2.5	0.79	Yes	8.0	1.10	3	8	4
19	University of Iowa Hospitals and Clinics, Iowa City	26.1	1.7	0.76	Yes	8.0	1.26	3	8	4
20	University of Alabama Hospital at Birmingham	25.4	3.0	0.99	Yes	6.0	1.56	3	9	4
21	Rush-Presbyterian-St. Luke's Medical Center, Chicago	24.9	1.4	0.75	Yes	8.0	1.06	1	10	5
22	North Carolina Baptist Hospital, Winston-Salem	24.9	2.3	0.82	Yes	8.0	1.42	3	7	2
23	University Hospital, Portland, Ore.	24.6	1.8	0.71	Yes	6.0	1.91	3	9	3
24	Hospital of the University of Pennsylvania, Philadelphia	24.4	2.2	0.89	Yes	8.0	1.66	3	7	3
25	Northwestern Memorial Hospital, Chicago	23.5	1.5	0.63	Yes	6.0	0.80	3	9	4
26	University Hospitals of Cleveland	23.1	1.9	0.94	Yes	8.0	1.83	2	8	4
27	Yale-New Haven Hospital, New Haven, Conn.	22.9	3.1	1.01	Yes	7.5	0.87	3	7	2
28	St. Joseph's Hospital and Medical Center, Phoenix	22.4	0.6	0.83	Yes	8.0	1.22	3	9	4
29	Evanston Hospital, Evanston, Ill.	22.0	0.9	0.82	Yes	7.0	1.00	3	9	4
30	Mount Sinai Medical Center, Cleveland	21.9	1.3	0.76	Yes	6.0	0.77	3	9	3
31	New York University Medical Center	21.8	2.4	1.05	Yes	7.5	1.13	3	7	3
32	Long Island Jewish Medical Center, New Hyde Park, N.Y.	21.6	2.0	1.10	Yes	6.0	1.00	3	8	6
33	University of Minnesota Hospital and Clinic, Minneapolis	21.5	1.3	0.70	Yes	7.0	0.62	3	7	3
34	Cedars-Sinai Medical Center, Los Angeles	21.0	0.9	0.95	Yes	7.0	1.05	3	9	5
35	New England Deaconess Hospital, Boston	20.3	1.0	0.72	Yes	7.0	0.97	3	5	3
36	University Hospital, Denver	20.2	0.8	0.79	Yes	6.0	1.46	3	7	3
37	University of Cincinnati Hospital	19.6	0.0	0.73	Yes	6.5	1.61	3	7	4
38	F.G. McGaw Hospital at Loyola University, Maywood, Ill.	19.5	0.8	0.91	Yes	7.0	1.55	3	9	2
39	Jewish Hospital of Cincinnati	19.5	0.0	0.80	No	8.0	0.39	3	10	6
40	University of North Carolina Hospitals, Chapel Hill	19.4	1.0	0.92	Yes	7.0	1.42	3	7	3
41	Lehigh Valley Hospital, Allentown, Pa.	19.2	0.0	0.96	Yes	7.5	1.38	3	9	5
42	Allegheny General Hospital, Pittsburgh	19.2	0.7	0.86	Yes	7.0	1.68	2	8	3

1997 Gynecology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Hospitalwide mort. rate	Tech. score (of 8)	Gyne. discharges	R.N.'s to beds	Trauma Center	Gynecology Services (of 4)
1	Johns Hopkins Hospital, Baltimore	100.0	28.0	0.86	8.0	237	1.32	Yes	4
2	Mayo Clinic, Rochester, Minn.	90.1	24.6	0.65	7.0	812	1.52	Yes	3
3	University of Texas, M. D. Anderson Cancer Center, Houston	74.6	20.8	0.45	7.0	179	1.64	No	0
4	Brigham and Women's Hospital, Boston	63.1	15.6	0.83	7.5	317	1.28	Yes	3
5	Massachusetts General Hospital, Boston	60.0	14.8	0.95	8.0	437	1.66	Yes	3
6	Parkland Memorial Hospital, Dallas	46.1	10.2	0.85	7.0	62	1.85	Yes	4
7	Duke University Medical Center, Durham, N.C.	41.9	8.3	0.83	8.0	370	1.60	No	4
8	Memorial Sloan-Kettering Cancer Center, New York	40.2	10.2	0.93	7.0	120	1.52	No	0
9	Cleveland Clinic	39.7	8.1	0.76	7.0	493	1.06	No	3
10	UCLA Medical Center, Los Angeles	38.1	6.7	0.85	8.0	252	1.25	Yes	4
11	University of Chicago Hospitals	36.5	5.9	0.73	8.0	115	1.51	Yes	4
12	Northwestern Memorial Hospital, Chicago	33.2	5.4	0.63	7.0	164	0.80	Yes	4
13	Hospital of the University of Pennsylvania, Philadelphia	30.7	4.4	0.89	8.0	156	1.66	Yes	4
14	Stanford University Hospital, Stanford, Calif.	30.0	4.6	0.82	6.0	214	1.09	Yes	4
15	Baylor University Medical Center, Dallas	28.3	3.2	0.77	6.5	331	1.52	Yes	4
16	Columbia-Presbyterian Medical Center, New York	27.2	5.4	1.31	8.0	241	1.30	No	3
17	Cedars-Sinai Medical Center, Los Angeles	27.0	3.8	0.95	7.0	326	1.05	Yes	4
18	University of Michigan Medical Center, Ann Arbor	26.9	3.1	0.92	8.0	280	1.43	Yes	4
19	University of California, San Francisco Medical Center	26.7	3.4	0.75	8.0	76	1.40	No	4
20	Yale-New Haven Hospital, New Haven, Conn.	25.7	3.6	1.01	7.5	270	0.87	Yes	4
21	Ohio State University Medical Center, Columbus	25.6	3.5	0.83	6.5	55	1.15	Yes	4
22	University of North Carolina Hospitals, Chapel Hill	25.4	3.0	0.92	7.0	196	1.42	Yes	4
23	Indiana University Medical Center, Indianapolis	24.4	2.7	0.85	8.0	202	1.65	No	3
24	University of Washington Medical Center, Seattle	23.9	2.0	0.67	8.0	137	2.00	No	4
25	Barnes-Jewish Hospital, St. Louis	23.4	2.8	0.89	8.0	479	0.77	No	4
26	University of Iowa Hospitals and Clinics, Iowa City	23.3	1.3	0.76	8.0	182	1.26	Yes	4
27	Rush-Presbyterian-St. Luke's Medical Center, Chicago	23.0	1.8	0.75	8.0	217	1.06	No	4
28	Vanderbilt University Hospital and Clinic, Nashville	22.9	3.0	1.03	8.0	166	1.33	No	4
29	Thomas Jefferson University Hospital, Philadelphia	21.9	2.0	0.76	7.0	167	1.44	No	3
30	University of Utah Hospital and Clinics, Salt Lake City	21.8	1.6	0.74	6.0	97	1.48	Yes	4
31	Mount Sinai Medical Center, New York	21.7	3.1	1.14	7.5	232	1.57	No	3
32	Greater Baltimore Medical Center, Baltimore	21.1	1.4	0.76	6.0	296	2.47	No	4
33	Magee-Womens Hospital, Pittsburgh	20.8	1.8	0.71	5.5	610	1.14	No	4
34	Georgetown University Hospital, Washington, D.C.	20.6	1.4	0.67	7.0	126	1.01	Yes	3
35	Loma Linda University Medical Center, Loma Linda, Calif.	20.5	1.7	0.85	6.0	234	1.70	Yes	2
36	North Carolina Baptist Hospital, Winston-Salem	20.3	1.9	0.82	8.0	216	1.42	No	1
37	Beth Israel Hospital, Boston	20.3	1.2	0.90	7.0	184	1.41	Yes	4
38	University of Wisconsin Hospital and Clinics, Madison	20.0	1.6	0.79	7.0	122	1.10	Yes	2
39	University of Cincinnati Hospital	19.7	0.4	0.73	7.5	84	1.61	Yes	4
40	Roswell Park Cancer Institute, Buffalo	19.7	2.3	0.73	6.5	80	2.88	No	1
41	Long Beach Memorial Medical Center, Long Beach, Calif.	19.4	1.1	0.93	8.0	276	0.77	Yes	4
42	University of Minnesota Hospital and Clinic, Minneapolis	19.4	1.5	0.70	8.0	228	0.62	No	2

1997 Neurology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Neurology mort. rate	COTH Member	Tech. score (of 7)	R.N.'s to beds	Trauma Center
1	Mayo Clinic, Rochester, Minn.	100.0	51.6	0.71	Yes	6.0	1.52	Yes
2	Massachusetts General Hospital, Boston	87.6	43.7	0.98	Yes	7.0	1.66	Yes
3	Johns Hopkins Hospital, Baltimore	74.3	36.0	0.82	Yes	7.0	1.32	Yes
4	Columbia-Presbyterian Medical Center, New York	52.1	24.4	1.18	Yes	7.0	1.30	No
5	University of California, San Francisco Medical Center	46.8	20.5	0.73	Yes	7.0	1.40	No
6	UCLA Medical Center, Los Angeles	37.3	13.5	0.63	Yes	7.0	1.25	Yes
7	Cleveland Clinic	36.0	14.5	0.70	Yes	7.0	1.06	No
8	Duke University Medical Center, Durham, N.C.	29.3	9.7	0.86	Yes	7.0	1.60	No
9	Hospital of the University of Pennsylvania, Philadelphia	25.2	5.7	0.85	Yes	7.0	1.66	Yes
10	University of Miami, Jackson Memorial Hospital	25.2	8.1	0.91	Yes	4.5	1.16	Yes
11	Barnes-Jewish Hospital, St. Louis	24.4	8.4	0.95	Yes	7.0	0.77	No
12	University of Michigan Medical Center, Ann Arbor	23.7	5.4	1.11	Yes	7.0	1.43	Yes
13	University of Iowa Hospitals and Clinics, Iowa City	23.7	5.4	0.81	Yes	7.0	1.26	Yes
14	St. Joseph's Hospital and Medical Center, Phoenix	23.5	5.4	0.86	Yes	7.0	1.22	Yes
15	Baylor University Medical Center, Dallas	19.8	3.1	0.79	Yes	6.0	1.52	Yes
16	Stanford University Hospital, Stanford, Calif.	19.6	3.7	0.77	Yes	6.0	1.09	Yes
17	Brigham and Women's Hospital, Boston	19.2	2.9	0.77	Yes	6.5	1.28	Yes
18	Mount Sinai Medical Center, New York	18.4	3.6	1.02	Yes	6.5	1.57	No
19	University of Virginia Health Sciences Center, Charlottesville	18.3	3.1	0.94	Yes	7.0	1.68	No
20	Strong Memorial Hospital-Rochester University, Rochester, N.Y.	17.3	1.7	1.11	Yes	6.0	1.61	Yes
21	North Carolina Baptist Hospital, Winston-Salem	17.1	2.6	0.81	Yes	7.0	1.42	No
22	University of Cincinnati Hospital	17.0	0.9	0.75	Yes	6.5	1.61	Yes
23	University of Illinois Hospital and Clinics, Chicago	17.0	2.3	0.41	Yes	4.0	1.67	Yes
24	University of Pittsburgh Medical Center	16.9	3.7	0.94	No	6.5	1.23	Yes
25	Allegheny General Hospital, Pittsburgh	16.7	1.2	0.88	Yes	6.0	1.68	Yes
26	University of Chicago Hospitals	16.2	0.4	0.78	Yes	7.0	1.51	Yes
27	Georgetown University Hospital, Washington, D.C.	16.0	1.6	0.69	Yes	6.0	1.01	Yes
28	University Hospitals of Cleveland	15.9	0.3	1.07	Yes	7.0	1.83	Yes
29	Shands Hospital at the University of Florida, Gainesville	15.7	3.2	0.72	Yes	6.0	0.92	No
30	University of Alabama Hospital at Birmingham	15.7	1.5	1.11	Yes	5.0	1.56	Yes
31	Medical University of South Carolina, Charleston	15.6	0.0	0.72	Yes	6.5	1.78	Yes
32	Methodist Hospital, Houston	15.6	3.4	1.16	Yes	6.0	0.98	No
33	University of Maryland Medical System, Baltimore	15.4	1.3	1.24	Yes	5.0	2.21	Yes
34	Riverside Methodist Hospitals, Columbus, Ohio	15.3	0.0	0.97	Yes	7.0	1.53	Yes
35	University of Minnesota Hospital and Clinic, Minneapolis	15.2	2.8	0.48	Yes	7.0	0.62	No
36	Northwestern Memorial Hospital, Chicago	15.2	1.5	0.72	Yes	6.0	0.80	Yes
37	Temple University Hospital, Philadelphia	15.1	0.0	0.72	Yes	6.0	1.65	Yes
38	University of North Carolina Hospitals, Chapel Hill	15.1	0.8	1.16	Yes	6.0	1.42	Yes
39	University of Wisconsin Hospital and Clinics, Madison	15.1	0.8	1.13	Yes	7.0	1.10	Yes
40	Indiana University Medical Center, Indianapolis	15.0	0.8	0.69	Yes	7.0	1.65	No
41	Hamot Medical Center, Erie, Pa.	14.9	0.0	0.66	Yes	7.0	1.20	Yes
42	Beth Israel Hospital, Boston	14.8	0.4	0.84	Yes	6.0	1.41	Yes

1997 Orthopedics Best Hospital List

Rank	Hospital	IHQ	Rep. score	Orthopedics mort. rate	COTH Member	Tech. score (of 5)	Ortho. discharges	R.N.'s to beds	Trauma Center
1	Mayo Clinic, Rochester, Minn.	100.0	43.8	0.58	Yes	4.0	5405	1.52	Yes
2	Hospital for Special Surgery, New York	88.8	38.5	0.16	Yes	4.5	3624	1.64	No
3	Massachusetts General Hospital, Boston	72.2	30.5	0.98	Yes	5.0	2544	1.66	Yes
4	Johns Hopkins Hospital, Baltimore	50.7	18.2	0.63	Yes	5.0	1131	1.32	Yes
5	UCLA Medical Center, Los Angeles	34.5	11.4	1.08	Yes	5.0	1211	1.25	Yes
6	Cleveland Clinic	34.4	10.9	0.69	Yes	5.0	2428	1.06	No
7	University of Iowa Hospitals and Clinics, Iowa City	30.3	8.7	0.84	Yes	5.0	1006	1.26	Yes
8	Duke University Medical Center, Durham, N.C.	30.1	8.9	0.88	Yes	5.0	1687	1.60	No
9	University of Washington Medical Center, Seattle	25.8	5.8	0.51	Yes	5.0	687	2.00	No
10	Hospital for Joint Diseases-Orthopedic Institute, New York	23.8	4.8	0.10	Yes	4.5	1899	0.95	No
11	Northwestern Memorial Hospital, Chicago	21.9	3.5	0.55	Yes	4.0	1349	0.80	Yes
12	University of Michigan Medical Center, Ann Arbor	20.4	3.0	0.80	Yes	5.0	1182	1.43	Yes
13	Stanford University Hospital, Stanford, Calif.	20.3	3.6	0.81	Yes	4.0	1481	1.09	Yes
14	University of California, San Francisco Medical Center	20.0	3.5	0.68	Yes	5.0	799	1.40	No
15	Rush-Presbyterian-St. Luke's Medical Center, Chicago	19.5	2.2	0.55	Yes	5.0	1583	1.06	No
16	University of Chicago Hospitals	17.8	1.5	0.73	Yes	5.0	930	1.51	Yes
17	Brigham and Women's Hospital, Boston	17.7	2.7	1.18	Yes	4.5	1528	1.28	Yes
18	Columbia-Presbyterian Medical Center, New York	17.6	3.7	1.50	Yes	5.0	1877	1.30	No
19	Hospital of the University of Pennsylvania, Philadelphia	17.6	2.7	1.27	Yes	5.0	1138	1.66	Yes
20	Beth Israel Hospital, Boston	17.2	0.4	0.57	Yes	4.0	1235	1.41	Yes
21	UCSD Medical Center, San Diego	17.2	1.4	0.54	Yes	3.0	539	1.73	Yes
22	University of Pittsburgh Medical Center	16.6	3.5	1.11	No	4.5	4290	1.23	Yes
23	University of Utah Hospital and Clinics, Salt Lake City	16.5	1.4	0.68	Yes	3.0	1052	1.48	Yes
24	Cedars-Sinai Medical Center, Los Angeles	16.4	1.5	0.82	Yes	4.0	1805	1.05	Yes
25	Baylor University Medical Center, Dallas	16.3	1.5	0.95	Yes	4.0	2311	1.52	Yes
26	Barnes-Jewish Hospital, St. Louis	16.1	2.3	0.80	Yes	5.0	1390	0.77	No
27	North Carolina Baptist Hospital, Winston-Salem	16.0	1.8	0.88	Yes	5.0	1382	1.42	No
28	Evanston Hospital, Evanston, Ill.	16.0	0.0	0.56	Yes	4.0	1528	1.00	Yes
29	University of California, Davis Medical Center, Sacramento	15.9	0.6	0.51	Yes	3.0	754	2.20	Yes
30	University of Maryland Medical System, Baltimore	15.8	2.6	0.98	Yes	3.0	584	2.21	Yes
31	Thomas Jefferson University Hospital, Philadelphia	15.8	3.4	0.80	No	4.0	1250	1.44	No
32	St. Joseph's Hospital and Medical Center, Phoenix	15.6	0.5	0.78	Yes	5.0	1373	1.22	Yes
33	New York University Medical Center	15.3	2.2	0.92	Yes	4.5	1303	1.13	No
34	University of Virginia Health Sciences Center, Charlottesville	15.1	1.3	0.86	Yes	5.0	1205	1.68	No
35	St. Louis University Hospital	15.1	0.5	0.76	Yes	5.0	701	1.36	Yes
36	Hutzel Hospital, Detroit	15.0	0.5	0.33	Yes	4.0	813	2.24	No
37	University of Minnesota Hospital and Clinic, Minneapolis	15.0	1.1	0.49	Yes	5.0	767	0.62	No
38	MacNeal Hospital, Berwyn, Ill.	14.9	0.0	0.61	Yes	3.5	967	1.67	Yes
39	Memorial Medical Center, Savannah, Ga.	14.9	0.0	0.66	Yes	4.0	1030	1.54	Yes
40	Henry Ford Hospital, Detroit	14.9	0.4	0.80	Yes	4.0	1378	1.58	Yes
41	Allegheny General Hospital, Pittsburgh	14.8	0.0	0.76	Yes	4.0	1873	1.68	Yes
42	Hennepin County Medical Center, Minneapolis	14.8	0.9	0.47	Yes	3.0	790	0.65	Yes

1997 Otolaryngology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Hospitalwide mort. rate	COTH Member	Tech. score (of 5)	Otol. discharges	R.N.'s to beds	Trauma Center
1	Massachusetts Eye and Ear Infirmary, Boston	100.0	31.7	0.07	No	2.0	217	1.49	Yes
2	Johns Hopkins Hospital, Baltimore	94.1	29.7	0.86	Yes	5.0	223	1.32	Yes
3	University of Iowa Hospitals and Clinics, Iowa City	80.3	24.0	0.76	Yes	5.0	180	1.26	Yes
4	University of Michigan Medical Center, Ann Arbor	69.1	20.1	0.92	Yes	5.0	202	1.43	Yes
5	University of Pittsburgh Medical Center	59.3	18.2	0.98	No	4.5	680	1.23	Yes
6	UCLA Medical Center, Los Angeles	55.9	14.9	0.85	Yes	5.0	165	1.25	Yes
7	Barnes-Jewish Hospital, St. Louis	52.7	15.1	0.89	Yes	5.0	199	0.77	No
8	Hospital of the University of Pennsylvania, Philadelphia	51.2	12.8	0.89	Yes	5.0	157	1.66	Yes
9	Mayo Clinic, Rochester, Minn.	46.9	10.6	0.65	Yes	4.0	363	1.52	Yes
10	University of Texas, M. D. Anderson Cancer Center, Houston	41.4	7.8	0.45	Yes	5.0	79	1.64	No
11	University of Washington Medical Center, Seattle	40.1	9.0	0.67	Yes	5.0	78	2.00	No
12	University of Cincinnati Hospital	39.2	8.1	0.73	Yes	4.5	110	1.61	Yes
13	Mount Sinai Medical Center, New York	37.7	9.6	1.14	Yes	4.5	127	1.57	No
14	University of California, San Francisco Medical Center	36.8	8.3	0.75	Yes	5.0	92	1.40	No
15	Cleveland Clinic	35.6	7.6	0.76	Yes	5.0	183	1.06	No
16	Stanford University Hospital, Stanford, Calif.	31.4	6.6	0.82	Yes	4.0	82	1.09	Yes
17	Duke University Medical Center, Durham, N.C.	31.2	6.5	0.83	Yes	5.0	71	1.60	No
18	Vanderbilt University Hospital and Clinic, Nashville	30.5	6.4	1.03	Yes	5.0	163	1.33	No
19	University of Chicago Hospitals	29.7	4.7	0.73	Yes	5.0	79	1.51	Yes
20	University of Virginia Health Sciences Center, Charlottesville	29.0	5.5	0.97	Yes	5.0	140	1.68	No
21	Baylor University Medical Center, Dallas	22.8	2.1	0.77	Yes	4.0	128	1.52	Yes
22	Ohio State University Medical Center, Columbus	22.6	2.9	0.83	Yes	3.5	124	1.15	Yes
23	University of Minnesota Hospital and Clinic, Minneapolis	22.2	3.1	0.70	Yes	5.0	108	0.62	No
24	University of Illinois Hospital and Clinics, Chicago	20.5	1.4	0.63	Yes	3.0	59	1.67	Yes
25	University of Wisconsin Hospital and Clinics, Madison	20.5	1.4	0.79	Yes	5.0	122	1.10	Yes
26	Memorial Sloan-Kettering Cancer Center, New York	20.1	1.9	0.93	Yes	5.0	213	1.52	No
27	University Hospital of Arkansas, Little Rock	20.1	2.1	0.88	Yes	3.5	76	1.99	Yes
28	Indiana University Medical Center, Indianapolis	19.9	2.3	0.85	Yes	5.0	54	1.65	No
29	University of North Carolina Hospitals, Chapel Hill	19.8	1.9	0.92	Yes	4.0	96	1.42	Yes
30	University Hospitals of Cleveland	19.8	1.0	0.94	Yes	5.0	130	1.83	Yes
31	University of Alabama Hospital at Birmingham	19.5	1.7	0.99	Yes	3.0	183	1.56	Yes
32	Methodist Hospital of Indiana, Indianapolis	19.3	1.9	1.07	Yes	4.0	246	1.11	Yes
33	F.G. McGaw Hospital at Loyola University, Maywood, Ill.	19.3	1.3	0.91	Yes	4.0	121	1.55	Yes
34	North Carolina Baptist Hospital, Winston-Salem	19.2	1.6	0.82	Yes	5.0	120	1.42	No
35	Northwestern Memorial Hospital, Chicago	19.1	1.0	0.63	Yes	4.0	90	0.80	Yes
36	Columbia-Presbyterian Medical Center, New York	19.1	2.5	1.31	Yes	5.0	165	1.30	No
37	New York University Medical Center	19.1	2.4	1.05	Yes	4.5	171	1.13	No
38	Yale-New Haven Hospital, New Haven, Conn.	18.5	1.5	1.01	Yes	4.5	178	0.87	Yes
39	Temple University Hospital, Philadelphia	18.4	1.3	0.87	Yes	4.0	58	1.65	Yes
40	Allegheny General Hospital, Pittsburgh	18.3	0.8	0.86	Yes	4.0	110	1.68	Yes
41	University Hospital, Portland, Ore.	18.2	0.6	0.71	Yes	3.0	91	1.91	Yes
42	Shands Hospital at the University of Florida, Gainesville	18.1	1.7	0.73	Yes	4.0	118	0.92	No

1997 Pulmonology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Pulmonology mort. rate	COTH Member	Tech. score (of 4)	Pulm. discharges	R.N.'s to beds	Trauma Center	Discharge planning (of 3)
1	Mayo Clinic, Rochester, Minn.	100.0	37.8	0.71	Yes	4.0	2472	1.52	Yes	3
2	National Jewish Center, Denver	97.6	41.2	0.50	No	2.0	109	0.72	No	3
3	Massachusetts General Hospital, Boston	61.8	22.0	1.15	Yes	4.0	2020	1.66	Yes	3
4	Johns Hopkins Hospital, Baltimore	54.8	18.7	1.00	Yes	4.0	821	1.32	Yes	3
5	Barnes-Jewish Hospital, St. Louis	54.4	19.1	0.95	Yes	4.0	2199	0.77	No	3
6	UCSD Medical Center, San Diego	51.5	16.5	0.89	Yes	4.0	679	1.73	Yes	3
7	University of California, San Francisco Medical Center	42.7	13.2	0.87	Yes	4.0	615	1.40	No	3
8	University of Washington Medical Center, Seattle	40.3	11.2	0.68	Yes	4.0	382	2.00	No	2
9	Duke University Medical Center, Durham, N.C.	39.8	11.6	0.96	Yes	4.0	1589	1.60	No	3
10	University Hospital, Denver	37.8	9.8	0.85	Yes	4.0	615	1.46	Yes	3
11	University of Michigan Medical Center, Ann Arbor	37.6	9.7	0.88	Yes	4.0	1112	1.43	Yes	3
12	UCLA Medical Center, Los Angeles	33.5	8.2	0.92	Yes	4.0	960	1.25	Yes	3
13	Cleveland Clinic	31.9	7.1	0.77	Yes	4.0	1881	1.06	No	3
14	Hospital of the University of Pennsylvania, Philadelphia	30.9	6.9	0.93	Yes	4.0	875	1.66	Yes	3
15	University of Iowa Hospitals and Clinics, Iowa City	29.5	5.6	0.80	Yes	4.0	828	1.26	Yes	3
16	Brigham and Women's Hospital, Boston	28.2	5.1	0.85	Yes	4.0	1226	1.28	Yes	3
17	University of Chicago Hospitals	24.7	3.6	0.87	Yes	4.0	852	1.51	Yes	3
18	Parkland Memorial Hospital, Dallas	24.0	3.3	0.87	Yes	4.0	644	1.85	Yes	3
19	University of Alabama Hospital at Birmingham	22.0	2.3	0.93	Yes	4.0	1590	1.56	Yes	3
20	Yale-New Haven Hospital, New Haven, Conn.	21.9	3.6	1.07	Yes	4.0	1418	0.87	Yes	3
21	Stanford University Hospital, Stanford, Calif.	21.9	3.6	1.07	Yes	4.0	971	1.09	Yes	3
22	Vanderbilt University Hospital and Clinic, Nashville	21.3	3.8	1.05	Yes	4.0	1004	1.33	No	3
23	University of Pittsburgh Medical Center	21.0	4.4	1.22	No	4.0	4430	1.23	Yes	3
24	University of California, Davis Medical Center, Sacramento	20.7	0.9	0.70	Yes	4.0	948	2.20	Yes	2
25	Georgetown University Hospital, Washington, D.C.	20.6	1.7	0.78	Yes	4.0	559	1.01	Yes	3
26	University of Cincinnati Hospital	20.5	0.4	0.72	Yes	4.0	1244	1.61	Yes	3
27	University of Maryland Medical System, Baltimore	20.2	1.5	0.86	Yes	4.0	683	2.21	Yes	3
28	Baylor University Medical Center, Dallas	20.1	0.6	0.70	Yes	4.0	2156	1.52	Yes	1
29	Columbia-Presbyterian Medical Center, New York	19.8	4.3	1.47	Yes	4.0	2066	1.30	No	2
30	Cedars-Sinai Medical Center, Los Angeles	19.5	1.4	0.92	Yes	4.0	2378	1.05	Yes	2
31	Northwestern Memorial Hospital, Chicago	19.4	0.6	0.64	Yes	4.0	1200	0.80	Yes	3
32	University of Utah Hospital and Clinics, Salt Lake City	19.2	0.3	0.73	Yes	4.0	494	1.48	Yes	3
33	Los Angeles County-USC Medical Center	19.1	0.6	0.59	Yes	4.0	411	1.13	Yes	3
34	Beth Israel Hospital, Boston	19.1	1.4	0.95	Yes	4.0	1844	1.41	Yes	2
35	Ohio State University Medical Center, Columbus	18.9	0.4	0.66	Yes	3.5	1039	1.15	Yes	3
36	Rush-Presbyterian-St. Luke's Medical Center, Chicago	18.7	2.2	0.88	Yes	4.0	1467	1.06	No	1
37	St. Joseph's Hospital and Medical Center, Phoenix	18.7	0.0	0.69	Yes	4.0	983	1.22	Yes	3
38	Ochsner Foundation Hospital, New Orleans	18.5	0.4	0.65	Yes	4.0	1430	2.02	No	2
39	Medical University of South Carolina, Charleston	18.3	0.9	0.86	Yes	4.0	538	1.78	Yes	2
40	University of Wisconsin Hospital and Clinics, Madison	18.3	0.8	0.84	Yes	4.0	762	1.10	Yes	3
41	Fairfax Hospital, Falls Church, Va.	18.2	1.1	0.93	Yes	4.0	1464	1.24	Yes	2
42	Temple University Hospital, Philadelphia	18.1	1.0	0.95	Yes	4.0	697	1.65	Yes	3

1997 Rheumatology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Hospitalwide mort. rate	COTH Member	Tech. score (of 5)	R.N.'s to beds	Discharge planning (of 3)
1	Mayo Clinic, Rochester, Minn.	100.0	37.9	0.65	Yes	4.0	1.52	3
2	Johns Hopkins Hospital, Baltimore	80.3	28.7	0.86	Yes	5.0	1.32	3
3	Hospital for Special Surgery, New York	67.6	21.1	0.20	Yes	4.5	1.64	3
4	Massachusetts General Hospital, Boston	62.3	20.5	0.95	Yes	5.0	1.66	3
5	Brigham and Women's Hospital, Boston	61.9	20.8	0.83	Yes	4.5	1.28	3
6	UCLA Medical Center, Los Angeles	51.7	16.0	0.85	Yes	5.0	1.25	3
7	University of Alabama Hospital at Birmingham	49.2	16.1	0.99	Yes	3.0	1.56	3
8	Cleveland Clinic	48.2	14.7	0.76	Yes	5.0	1.06	3
9	Duke University Medical Center, Durham, N.C.	42.5	11.6	0.83	Yes	5.0	1.60	3
10	University of Michigan Medical Center, Ann Arbor	35.1	8.3	0.92	Yes	5.0	1.43	3
11	Stanford University Hospital, Stanford, Calif.	34.5	9.3	0.82	Yes	4.0	1.09	3
12	Hospital for Joint Diseases-Orthopedic Institute, New York	29.4	3.9	0.08	Yes	4.5	0.95	3
13	Hospital of the University of Pennsylvania, Philadelphia	29.3	5.7	0.89	Yes	5.0	1.66	3
14	University of Pittsburgh Medical Center	28.2	7.6	0.98	No	4.5	1.23	3
15	Barnes-Jewish Hospital, St. Louis	26.2	5.4	0.89	Yes	5.0	0.77	3
16	New York University Medical Center	25.6	5.0	1.05	Yes	4.5	1.13	3
17	Parkland Memorial Hospital, Dallas	22.3	3.3	0.85	Yes	4.0	1.85	3
18	University of Washington Medical Center, Seattle	22.1	2.7	0.67	Yes	5.0	2.00	2
19	Mount Sinai Medical Center, New York	21.9	2.9	1.14	Yes	4.5	1.57	3
20	University of Chicago Hospitals	20.1	1.4	0.73	Yes	5.0	1.51	3
21	University Hospitals of Cleveland	19.9	2.0	0.94	Yes	5.0	1.83	2
22	University Hospital, Denver	19.6	2.0	0.79	Yes	4.0	1.46	3
23	Vanderbilt University Hospital and Clinic, Nashville	19.2	1.4	1.03	Yes	5.0	1.33	3
24	Indiana University Medical Center, Indianapolis	19.0	1.5	0.85	Yes	5.0	1.65	2
25	University of Iowa Hospitals and Clinics, Iowa City	18.9	1.2	0.76	Yes	5.0	1.26	3
26	Columbia-Presbyterian Medical Center, New York	18.6	1.8	1.31	Yes	5.0	1.30	2
27	University of Virginia Health Sciences Center, Charlottesville	18.4	0.9	0.97	Yes	5.0	1.68	3
28	University of Wisconsin Hospital and Clinics, Madison	18.4	1.2	0.79	Yes	5.0	1.10	3
29	Beth Israel Hospital, Boston	18.1	1.9	0.90	Yes	4.0	1.41	2
30	Medical University of South Carolina, Charleston	17.7	1.3	0.85	Yes	4.5	1.78	2
31	North Carolina Baptist Hospital, Winston-Salem	17.6	0.4	0.82	Yes	5.0	1.42	3
32	William Beaumont Hospital, Royal Oak, Mich.	17.6	0.4	0.87	Yes	5.0	1.59	3
33	Yale-New Haven Hospital, New Haven, Conn.	17.6	1.8	1.01	Yes	4.5	0.87	3
34	University of North Carolina Hospitals, Chapel Hill	17.5	1.2	0.92	Yes	4.0	1.42	3
35	Los Angeles County-USC Medical Center	17.2	1.6	0.63	Yes	3.5	1.13	3
36	Ochsner Foundation Hospital, New Orleans	16.9	1.9	0.67	Yes	3.0	2.02	2
37	Temple University Hospital, Philadelphia	16.9	0.8	0.87	Yes	4.0	1.65	3
38	Cedars-Sinai Medical Center, Los Angeles	16.9	1.5	0.95	Yes	4.0	1.05	3
39	Georgetown University Hospital, Washington, D.C.	16.9	1.3	0.67	Yes	4.0	1.01	3
40	Mary Hitchcock Memorial Hospital, Lebanon, N.H.	16.7	0.0	0.82	Yes	5.0	1.59	3
41	Beth Israel Medical Center, New York	16.5	0.4	1.14	Yes	5.0	1.24	3
42	Memorial Sloan-Kettering Cancer Center, New York	16.4	0.4	0.93	Yes	5.0	1.52	2

1997 Urology Best Hospital List

Rank	Hospital	IHQ	Rep. score	Urology mort. rate	COTH Member	Tech. score (of 8)	Urol. discharges	R.N.'s to beds	Trauma Center
1	Johns Hopkins Hospital, Baltimore	100.0	55.7	1.59	Yes	8.0	763	1.32	Yes
2	Mayo Clinic, Rochester, Minn.	76.3	37.8	0.27	Yes	7.0	2449	1.52	Yes
3	UCLA Medical Center, Los Angeles	50.2	22.9	1.00	Yes	8.0	939	1.25	Yes
4	Massachusetts General Hospital, Boston	46.7	20.4	1.01	Yes	8.0	1184	1.66	Yes
5	Cleveland Clinic	45.1	19.3	0.47	Yes	7.5	1177	1.06	No
6	Duke University Medical Center, Durham, N.C.	38.5	14.5	0.65	Yes	8.0	1175	1.60	No
7	Barnes-Jewish Hospital, St. Louis	35.2	15.2	1.02	Yes	8.0	1028	0.77	No
8	Stanford University Hospital, Stanford, Calif.	35.1	12.8	0.50	Yes	6.0	702	1.09	Yes
9	Baylor University Medical Center, Dallas	30.4	10.2	0.90	Yes	7.0	925	1.52	Yes
10	Memorial Sloan-Kettering Cancer Center, New York	29.1	8.9	0.60	Yes	7.0	1084	1.52	No
11	University of California, San Francisco Medical Center	28.6	8.2	0.28	Yes	8.0	762	1.40	No
12	University of Texas, M. D. Anderson Cancer Center, Houston	27.0	8.2	0.14	Yes	7.0	537	1.64	No
13	University of Michigan Medical Center, Ann Arbor	23.6	5.3	0.82	Yes	8.0	710	1.43	Yes
14	Indiana University Medical Center, Indianapolis	23.1	5.3	0.57	Yes	8.0	525	1.65	No
15	Columbia-Presbyterian Medical Center, New York	23.0	5.6	0.70	Yes	7.0	1056	1.30	No
16	Brigham and Women's Hospital, Boston	23.0	4.7	0.25	Yes	7.5	492	1.28	Yes
17	Northwestern Memorial Hospital, Chicago	22.3	5.0	0.11	Yes	7.0	569	0.80	Yes
18	University of Iowa Hospitals and Clinics, Iowa City	21.5	3.3	0.31	Yes	8.0	625	1.26	Yes
19	Hospital of the University of Pennsylvania, Philadelphia	20.5	2.8	0.76	Yes	8.0	999	1.66	Yes
20	Parkland Memorial Hospital, Dallas	18.5	3.1	0.60	Yes	6.0	225	1.85	Yes
21	University of Virginia Health Sciences Center, Charlottesville	18.4	2.7	0.76	Yes	8.0	702	1.68	No
22	University Hospital, Denver	17.6	2.3	0.59	Yes	6.0	285	1.46	Yes
23	University of Maryland Medical System, Baltimore	17.2	1.9	0.68	Yes	5.5	589	2.21	Yes
24	Methodist Hospital of Indiana, Indianapolis	16.9	0.9	0.68	Yes	7.0	793	1.11	Yes
25	University of Alabama Hospital at Birmingham	16.8	0.5	0.55	Yes	6.0	1092	1.56	Yes
26	Strong Memorial Hospital-Rochester University, Rochester, N.Y.	16.7	0.4	0.16	Yes	7.0	641	1.61	Yes
27	Lehigh Valley Hospital, Allentown, Pa.	16.4	0.0	0.65	Yes	7.0	1029	1.38	Yes
28	University of Chicago Hospitals	16.4	1.3	0.80	Yes	8.0	446	1.51	Yes
29	Albany Medical Center Hospital, Albany, N.Y.	16.2	0.5	0.62	Yes	6.5	546	1.67	Yes
30	Beth Israel Hospital, Boston	16.1	0.4	0.39	Yes	7.0	491	1.41	Yes
31	Penn State's Milton S. Hershey Medical Center, Hershey	16.1	1.2	0.72	Yes	7.0	526	1.25	Yes
32	Medical University of South Carolina, Charleston	16.0	0.6	0.67	Yes	7.0	526	1.78	Yes
33	Georgetown University Hospital, Washington, D.C.	15.7	1.2	0.17	Yes	7.0	328	1.01	Yes
34	University of Washington Medical Center, Seattle	15.7	1.2	0.47	Yes	8.0	308	2.00	No
35	North Carolina Baptist Hospital, Winston-Salem	15.4	0.6	0.65	Yes	8.0	564	1.42	No
36	Mount Sinai Medical Center, New York	15.3	2.0	1.08	Yes	7.5	782	1.57	No
37	New York University Medical Center	15.2	3.3	1.44	Yes	7.0	1116	1.13	No
38	University Medical Center, Tucson, Ariz.	15.2	0.5	0.52	Yes	7.0	307	1.34	Yes
39	Yale-New Haven Hospital, New Haven, Conn.	15.2	1.3	0.94	Yes	7.5	781	0.87	Yes
40	Medical Center of Delaware, Wilmington	15.0	0.0	0.71	Yes	6.5	659	1.80	Yes
41	Hamot Medical Center, Erie, Pa.	14.9	0.0	0.29	Yes	8.0	315	1.20	Yes
42	UCSD Medical Center, San Diego	14.9	0.7	0.54	Yes	5.5	338	1.73	Yes

Appendix G

Reputational rankings for special-service hospitals

1997 Ophthalmology Reputational Score

	Rank	Hospital	Reputational Score
	1	Johns Hopkins Hospital (Wilmer Eye Institute), Baltimore	58.9
	2	University of Miami (Bascom Palmer Eye Institute)	56.7
	3	Wills Eye Hospital, Philadelphia	45.5
	4	Massachusetts Eye and Ear Infirmary, Boston	39.0
	5	UCLA Medical Center (Jules Stein Eye Institute), Los Angeles	27.2
	6	University of Iowa Hospitals and Clinics, Iowa City	17.6
	7	University of California, San Francisco Medical Center	11.1
	8	Mayo Clinic, Rochester, Minn.	9.7
	9	Duke University Medical Center, Durham, N.C.	8.8
	10	Doheny Eye Institute, Los Angeles	8.0
	11	Manhattan Eye, Ear, and Throat Hospital, New York	7.0
	12	Barnes-Jewish Hospital, St. Louis	6.3
	13	Baylor College of Medicine (Cullen Eye Institute), Houston	5.0
	14	New York Eye and Ear Infirmary, New York	4.9
	15	University of Wisconsin Hospital and Clinics, Madison	4.0
	16	Emory University Hospital, Atlanta	3.2

1997 Pediatrics Reputational Score

Rank	Hospital	Reputational Score
1	Children's Hospital, Boston	38.5
2	Children's Hospital of Philadelphia	24.6
3	Johns Hopkins Hospital, Baltimore	21.5
4	Childrens Hospital, Los Angeles	10.7
5	Children's Hospital Medical Center, Cincinnati	9.7
6	Children's National Medical Center, Washington, D.C.	9.0
7	Children's Memorial Hospital, Chicago	9.0
8	Children's Hospital of Pittsburgh	8.4
9	Children's Hospital, Denver	8.4
10	Mayo Clinic, Rochester, Minn.	7.6
11	Columbia-Presbyterian Medical Center, New York	7.4
12	Univ. Hosps. of Cleveland (Rainbow Babies & Childrens Hosp.)	5.7
13	Duke University Medical Center, Durham, N.C.	5.4
14	Massachusetts General Hospital, Boston	4.8
15	University of Miami, Jackson Memorial Hospital	4.2
16	St. Louis Children's Hospital	4.1
17	Stanford University Hospital, Stanford, Calif.	4.1
18	UCLA Medical Center, Los Angeles	4.0
19	University of California, San Francisco Medical Center	3.4
20	Children's Hospital and Medical Center, Seattle	3.3

1997 Psychiatry Reputational Score

Rank	Hospital	Reputational Score
1	Massachusetts General Hospital, Boston	21.1
2	C. F. Menninger Memorial Hospital, Topeka, Kan.	19.2
3	McLean Hospital, Belmont, Mass.	14.2
4	Mayo Clinic, Rochester, Minn.	12.0
5	Johns Hopkins Hospital, Baltimore	11.4
6	New York Hospital-Cornell Medical Center	9.5
7	Columbia-Presbyterian Medical Center, New York	8.1
8	Yale-New Haven Hospital, New Haven, Conn.	7.5
9	New York University Medical Center	7.4
10	Sheppard and Enoch Pratt Hospital, Baltimore	7.2
11	UCLA Neuropsychiatric Hospital, Los Angeles	7.1
12	Duke University Medical Center, Durham, N.C.	6.9
13	University of California, San Francisco Medical Center	4.0
14	Cleveland Clinic	3.7
15	University of Michigan Medical Center, Ann Arbor	3.0

1997 Rehabilitation Reputational Score

Rank	Hospital	Reputational Score
1	Rehabilitation Institute of Chicago	43.6
2	Mayo Clinic, Rochester, Minn.	24.5
3	University of Washington Medical Center, Seattle	23.7
4	Craig Hospital, Englewood, Colo.	17.6
5	New York University Medical Center (Rusk Institute)	16.4
6	Kessler Institute For Rehabilitation, West Orange, N.J.	16.4
7	Baylor University Medical Center, Dallas	14.4
8	TIRR (The Institute for Rehabilitation and Research), Houston	12.1
9	Los Angeles County-Rancho Los Amigos Med. Ctr., Downey, Calif.	11.2
10	University of Michigan Medical Center, Ann Arbor	10.5
11	Ohio State University Medical Center, Columbus	10.2
12	Thomas Jefferson University Hospital, Philadelphia	9.3
13	Spaulding Rehabilitation Institute, Boston	7.9
14	Johns Hopkins Hospital, Baltimore	7.6
15	Mount Sinai Medical Center, New York	7.0
16	Albert Einstein Medical Center (Moss Rehabilitation Hospital), Philadelphia	6.0
17	Cleveland Clinic	5.5
18	Santa Clara Valley Medical Center, San Jose, Calif.	3.9
19	University Hospital, Denver	3.6
20	National Rehabilitation Hospital, Washington, D.C.	3.4

Appendix H

The 1997 "Honor Roll"

The 1997 "Honor Roll"

Rank	Hospital	Points	3 SDs over the mean	2 SDs over the mean
1	Johns Hopkins Hospital, Baltimore	32	16	0
2	Mayo Clinic, Rochester, Minn.	29	14	1
3	Massachusetts General Hospital, Boston	27	13	1
4	Duke University Medical Center, Durham, N.C.	24	11	2
5	UCLA Medical Center, Los Angeles	23	10	3
6	Cleveland Clinic	20	10	0
7	University of California, San Francisco Medical Center	18	7	4
8	Stanford University Hospital, Stanford, Calif.	17	6	5
9	Brigham and Women's Hospital, Boston	16	7	2
10t	University of Michigan Medical Center, Ann Arbor	15	5	5
10t	University of Washington Medical Center, Seattle	15	6	3
12	Barnes-Jewish Hospital, St. Louis	13	4	5
13	University of Chicago Hospitals	12	5	2
14	Hospital of the University of Pennsylvania, Philadelphia	11	3	5
15	University of Iowa Hospitals and Clinics, Iowa City	10	3	4
16	Columbia-Presbyterian Medical Center, New York	7	1	5

A hospital received 2 points for ranking 3 standard deviations above the mean on a specialty list or 1 point for ranking 2 standard deviations above the mean.

To qualify for the Honor Roll, a hospital had to be at least 2 standard deviations over the mean in 6 of the 17 specialties.