ORIGINAL RESEARCH

Relativity, Rank, and the US News Health's Cardiology, Heart, and Vascular Surgery Best Hospitals

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Abstract

OBJECTIVE: Virtually anything can be ranked; the *US News and World Report* (USNWR or US News) ranks the top 50 hospitals specializing in cardiology, heart, and vascular surgery. Here the authors propose validating the effectiveness of rankings by comparing differences among the USNWR metrics across the top 50 hospitals.

METHODS: The ranking system for the top 50 hospitals specializing in cardiology, heart, and vascular surgery was derived from 16 variant scores. Each hospital's scores were collected from the USNWR. Hospitals were categorized into quintiles consisting of 10 institutions (1–10, 11–20, etc). An analysis of variance/ χ^2 comprehensive statistical analysis was run alongside a Wilcoxon/Kruskal–Wallis test to compare statistical outcomes. A significant threshold was deemed to be $P < 0.05$.

RESULTS: Significant differences were noted between quintiles for advanced technologies ($P = 0.05$), US News specialty score ($P < 0.001$), number of patient referrals ($P = 0.004$), and expert opinion ($P < 0.001$). Non-statistically significant differences were found among patient experience, public transparency, Society of Thoracic Surgery transparency, American College of Cardiology transparency, recognition as a magnet hospital, and nursing staffing. Interestingly, a large variance was noted in the average number of referrals between the first quintile (13,371) and the last (6690).

CONCLUSIONS: Expert opinion plays a critical role in the reputation of the USNWR's top 10 hospitals in cardiology, heart, and vascular surgery. Although many have argued about the merits of USNWR hospital rankings, taken together, rankings fill a strong customer demand and are sticky.

Introduction

The basic idea of evaluating hospital performance has long garnered immense interest. For a variety of pecuniary and nonpecuniary reasons, the general objective was to compare hospitals according to some aggregated dimensions. After all, health care is a rare purchase

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and accordingly, patients often seek prestigious hospitals. Consequently, rankings have become an important vein for annual patient visits, reimbursement rates, and funding allocation. Invariably, and not surprisingly, heart surgery and cardiology rankings are an attractive concept, from patients to clinicians to hospital administration. There are decades-old challenges over the utility of the various metrics used in rankings. So it is worth exploring the clinical indicators in these hospital ranking systems. Quality measures should ideally have a clear and causal explanation. Generally, one of the most challenging aspects of quality measurement is obtaining quantitative data. The purpose of the present article was to examine critically the most popularized existing hospital ranking system, that of the *US News and World Report* (USNWR or US News), to assess its validity and to derive insights about the top cardiology and heart surgery programs.

Methods

Utilizing the USNWR 2022–2023 Cardiology, Heart, and Vascular Surgery Best Hospital rankings, 16 variables were analyzed to determine the top 50 hospitals. In this analysis, the authors divided the overall group (n = 50) into quintiles; each cohort comprising 10 hospitals. The 16 critical categories included in this evaluation encompassed diverse aspects, such as US News specialty score, patient experience, public transparency, 3-day survival, discharging patients, intensives, Society of Thoracic Surgery (STS) transparency, American College of Cardiology (ACC) transparency, advanced technologies, patient services, trauma center, recognized as magnet hospital, current American Hospital Association (AHA) responder, number of patients, nurse staffing, and expert opinion. Guided by the USNWR, the methodology underlying these rankings integrated 3 fundamental components: structure, process, and outcomes. This approach was reflected in the assignment of critical percentages to the overall ranking distributing importance as follows: outcomes (37.5%), structure (30%), process/expert opinion (24.5%), patient experience (5%), and public transparency (3%). An analysis of variance (ANOVA) was used to compare continuous variant scores, and a χ^2 test was used to compare the categorical variant scores among the 5 quintile groups to one another. A significant threshold was deemed to be $P < 0.05$ and was applied to each of the 16 categories and quintiles to ensure a reliable evaluation of this report.

In the second phase of the analysis, the 50 hospitals, subdivided into quintiles, underwent a comprehensive division process using data sourced from the Centers for Medicare and Medicaid Services (CMS) specifically focusing on heart attack, heart failure, and stroke death rates. These metrics were quantified as percentages and categorized into the same 5 groups previously established in the USNWR rankings. Mean, median, and range values were calculated for each variable. Additionally, an overall average death rate encompassing all 3 variables was derived for each of the individual hospitals. Due to data availability constraints, 2 hospitals were excluded from the heart attack death rate category, whereas only one hospital was excluded from the heart failure and stroke death rate categories. Following the compilation of average death rates for all hospitals, the groupings were restructured based on percentiles from lowest to highest facilitating a direct comparison with the original USNWR rankings.

A total of 50 hospitals stratified into 16 distinct categories were compared via an ANOVA/χ^2 comprehensive statistical analysis along with a Wilcoxon/Kruskal–Wallis test. Statistical significance was established at a P value of < 0.05, revealing notable distinctions in 4 of the 16 categories examined.

This project was exempted from IRB approval by Temple University School of Medicine.

Results

Significant variations were seen in advanced technologies ($P = 0.05$), US News specialty score ($P < 0.001$), number of patient referrals ($P = 0.004$), and expert opinion ($P < 0.001$). Conversely, 7 categories exhibited no statistically significant differences among the quintiles encompassing patient experience ($P = 0.65$), public transparency ($P = 0.54$), STS transparency ($P = 0.54$), ACC transparency ($P = 0.40$), trauma center ($P = 0.20$), recognized as magnet hospital ($P = 0.43$), and nurse staffing ($P = 0.53$) (Table 1). Furthermore, 4 categories displayed uniform responses across all 50 hospitals and individual quintiles in the study. These categories included current AHA responder, intensives, discharging patients, and 30-day survival. Notably, the most significant variance observed pertained to the total number of referred patients between

Variable	Total (N = 87)	Group 1 (N = 10)	Group 2 (N = 10)	Group 3 (N = 10)	Group 4 (N = 10)	Group 5 (N = 10)	ANOVA/ χ^2 test	Wilcoxon/ Kruskal–Wallis test
US News specialty score, n	50	10	10	10	10	10	< 0.0001[a]	< 0.0001[a]
Mean (SD)	66.0 (9.2)	81.2 (8.6)	68.0 (1.3)	62.9 (1.4)	60.1 (0.7)	57.7 (0.5)		
Median (IQR)	62.6 (59.8, 69.2)	80.5 (73.6, 84.8)	67.8 (66.8, 69.2)	62.6 (61.9, 63.3)	60.1 (59.8, 60.9)	57.7 (57.4, 58.0)		
Median (range)	62.6 (57.1, 100.0)	80.5 (72.6, 100.0)	67.8 (66.5, 70.2)	62.6 (61.6, 66.2)	60.1 (58.9, 61.1)	57.7 (57.1, 58.8)		
Patient experience, n (%)							0.65	0.65
2	3 (6.0)	0 (0.0)	0 (0.0)	1 (10.0)	1 (10.0)	1 (10.0)		
3	7 (14.0)	1 (10.0)	1 (10.0)	1 (10.0)	1 (10.0)	3 (30.0)		
4	30 (60.0)	6 (60.0)	7 (70.0)	6 (60.0)	8 (80.0)	3 (30.0)		
5	10 (20.0)	3 (30.0)	2 (20.0)	2 (20.0)	0 (0.0)	3 (30.0)		
Public transparency, n (%)							0.54	0.54
2	2 (4.0)	0 (0.0)	1 (10.0)	0 (0.0)	1 (10.0)	0 (0.0)		
3	48 (96.0)	10 (100.0)	9 (90.0)	10 (100.0)	9 (90.0)	10 (100.0)		
30-d survival, n (%)								
5	50 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)		
Discharging patients, n (%)								
5	50 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)		
Intensives, n (%)								
Yes	50 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)		
STS transparency, n (%)							0.54	0.54
No	2 (4.0)	0 (0.0)	1 (10.0)	0 (0.0)	1 (10.0)	0 (0.0)		
Yes	48 (96.0)	10 (100.0)	9 (90.0)	10 (100.0)	9 (90.0)	10 (100.0)		
ACC transparency, n (%)							0.40	0.40
Yes	49 (98.0)	10 (100.0)	9 (90.0)	10 (100.0)	10 (100.0)	10 (100.0)		
Yes	1 (2.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)		
Advanced technologies, n (%)							0.05[a]	0.05[a]
5	12 (24.0)	0 (0.0)	1 (10.0)	4 (40.0)	2 (20.0)	5 (50.0)		
6	38 (76.0)	10 (100.0)	9 (90.0)	6 (60.0)	8 (80.0)	5 (50.0)		

Table 1: *US News and World Report* variable analysis: Examination of 16 distinct categories for quintile comparison (***Continued***)

Table 1: *Continued*

Variable	Total (N = 87)	Group 1 (N = 10)	Group 2 (N = 10)	Group 3 (N = 10)	Group 4 (N = 10)	Group 5 (N = 10)	ANOVA/ χ^2 test	Wilcoxon/ Kruskal–Wallis test
Patient services, n (%)								
8	50 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)		
Trauma center, n (%)							0.20	0.20
No	9 (18.0)	1 (10.0)	4 (40.0)	2 (20.0)	0 (0.0)	2 (20.0)		
Yes	41 (82.0)	9 (90.0)	6 (60.0)	8 (80.0)	10 (100.0)	8 (80.0)		
Recognized as magnet hospital, n (%)							0.43	0.43
0	4 (8.0)	0 (0.0)	0 (0.0)	1 (10.0)	1 (10.0)	2 (20.0)		
1	46 (92.0)	10 (100.0)	10 (100.0)	9 (90.0)	9 (90.0)	8 (80.0)		
Current AHA responder, n (%)								
Yes	50 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)		
Number of patients, N	50	10	10	10	10	10	0.004[a]	0.05[a]
Mean (SD)	8807.6 (4434.2)	13,370.5 (5587.0)	7798.9 (3491.1)	8265.0 (3736.0)	7913.4 (3456.6)	6690.1 (2698.3)		
Median (IQR)	8234.0 (5422.0, 12,190.0)	13,061.0 (8293.0, 17,714.0)	7690.5 (4830.0, 10,150.0)	8357.0 (4162.0, 12,286.0)	8054.5 (5918.0, 9269.0)	6244.0 (4637.0, 7253.0)		
Median (range)	8234.0 (2468.0, 22,840.0)	13,061.0 (5340.0, 22,840.0)	7690.5 (2468.0, 12,797.0)	8357.0 (3653.0, 13,575.0)	8054.5 (3143.0, 15,349.0)	6244.0 (3168.0, 12,325.0)		
Nurse staffing, n	50	10	10	10	10	10	0.53	0.48
Mean (SD)	2.4 (0.4)	2.6 (0.3)	2.5 (0.4)	2.3 (0.5)	2.3 (0.3)	2.3 (0.5)		
Median (IQR)	2.4 (2.1, 2.7)	2.5 (2.4, 2.7)	2.4 (2.2, 2.5)	2.1 (2.0, 2.8)	2.4 (2.2, 2.6)	2.2 (2.0, 2.7)		
Median (range)	2.4 (1.4, 3.2)	2.5 (2.0, 3.1)	2.4 (2.0, 3.2)	2.1 (1.7, 3.2)	2.4 (1.6, 2.7)	2.2 (1.4, 2.8)		
Expert opinion, n	50	10	10	10	10	10	< 0.0001[a]	< 0.0001[a]
Mean (SD)	3.9 (6.0)	11.8 (9.7)	3.3 (2.1)	1.5 (1.0)	2.1 (1.9)	0.9 (0.7)		
Median (IQR)	1.8 (1.0, 3.9)	8.3 (5.7, 11.6)	2.5 (1.7, 4.5)	1.2 (1.0, 1.8)	1.7 (0.8, 2.2)	0.7 (0.5, 1.4)		
Median (range)	1.8 (0.0, 30.5)	8.3 (3.6, 30.5)	2.5 (1.2, 7.5)	1.2 (0.0, 3.4)	1.7 (0.6, 6.8)	0.7 (0.2, 2.5)		

[a]Statistically significant.

ACC = American College of Cardiology; AHA = American Hospital Association; ANOVA = analysis of variance; IQR = interquartile range; SD = standard deviation; STS = Society of Thoracic Surgery; USNWR/US News = *US News and World Report*.

hospitals. In the first quintile, 13,371 referred patients were accounted for, whereas in the last quintile, there was only a total of 6690. This shares a substantial divergence in overall patient referrals of the hospital spectrum just within these 5 groups.

This critical analysis of significant findings that distinguish the top 50 hospitals in this study revolved around key factors focusing specifically on expert opinion and patient volume. Expert opinion, a pivotal criterion, targets an institution's ability to deliver exceptional care to challenging cases. This aspect constitutes the process component that holds substantial weight in the overall institutional ranking at 24.5%. The expert opinion as explained by the USNWR is deemed by nomination from board-certified specialists. The rankings for the year 2022–2023 were a collective analysis from the preceding 3 years of physician surveys and equal weight is assigned to each year in determining the final score for expert opinion. Regarding the structural element, the consideration of patient volume carries a weight of 6.67% within the overall ranking and constitutes 30% of the entire hospital evaluation. Structure specifically assesses hospital resources that directly impact overall patient care and the hospital environment. Lastly, patient volume is derived from medical and surgical discharges in the cardiology and heart surgery grouping based on specific Medicare Severity Diagnosis Related Group submissions for CMS reimbursement.

The secondary analysis of CMS data shown in Table 2 employed both ANOVA and Kruskal–Wallis testing, with a significance level set at $P < 0.05$. Heart attack, heart failure, stroke, and average death rates were subjected to statistical examination, categorized both by quintiles and overall grouping (total n = 50, with each quintile n = 10). For heart attack death rate, the ANOVA yielded a highly significant value of < 0.001, indicating a notable difference among quintiles. However, heart failure ($P = 0.086$) and stroke death rates ($P = 0.22$) did not exhibit significant differences among quintiles based on ANOVA analysis. Conversely, when considering the average death rate across all 3 categories, a significant P value of 0.0003 was obtained, indicating discernible distinctions among quintiles of the top 50 hospitals, particularly concerning death rates from heart attack, heart failure, and stroke. The highest death rate was found in the 4th group, namely, hospitals ranked 31–40 with USNWR, compared to the other groups (Table 2).

Subsequently, by utilizing average percentages, the top 50 hospitals were reorganized by the variable that encompassed all 3 death rates (heart failure, heart attack, and stroke) to ascertain any disparities compared with the top quintile (1–10) of hospitals as per USNWR rankings. This is shown in Table 3. The analysis revealed a restructured ranking order of (5, 3, 8, 2, 4, 25, 29, 13, 24, and 29), suggesting that post-adjustment, only 5 out of the top 10 hospitals remained within the first quintile.

Discussion

In the current climate of performance and competition, hospitals are ranked by external metrics to measure quality. It is widely acknowledged that the USNWR hospital ranking is an important ingredient in choosing a hospital. Health care providers and patients have embraced the USNWR hospital rankings as the unanimous best per se. Traditionally, hospital ranking is conceptualized as having a causal impact on patient referrals. Each year, USNWR rates and publishes a list of the top 50 US hospitals and different specialties. There are 3 dimensions that capture the quality of care: structure (staff, equipment, and environment), process (interactions between patients and the health care system for diagnosis, treatment, and experience), and outcomes.[1,2] Each dimension is complementary. On theoretical grounds, the 3 variables can be traced back to Donabedian's model.[1,2] Of the top 50 hospitals, the top 20 at the pinnacle are recognized as honor-roll hospitals.[3]

Beginning with graduate education, dissenting views have shaken the tenet of the USNWR rankings. The authors know surprisingly little of the drivers for top hospital rankings. This does not mean, however, that rankings are not based on rigor. Growing discussion has called into question the top 50 USNWR cardiology, heart, and vascular surgery hospitals, most notably illuminating the distinction between honor- vs non–honor-roll hospitals. From this perspective, this paper explores the linkage of the USNWR top 50 cardiology and cardiac and vascular surgery hospitals. Accordingly, the authors compared the variables used by USNWR to rank the top 50 hospitals.

The impact of USNWR rankings for undergraduate and graduate schools has been the center of recent controversy. Yale Law School withdrew from the USNWR ranking, despite being ranked first for many years.[4,5] Afterward, Harvard, Stanford, Georgetown, Columbia, and Berkeley followed.[4] A parallel and emerging trend occurred in January 2023, when 9 of

Data			Group					*P* values	
Variable	NMiss	Overall (N = 50)	1 (N = 10)	2 (N = 10)	3 (N = 10)	4 (N = 10)	5 (N = 10)	ANOVA	Kruskal–Wallis test
Heart attack DR, n	2	48	10	9	10	10	9	< 0.0001[a]	0.0003[a]
Mean (SD)		11.2 (1.2)	9.7 (0.8)	11.6 (0.4)	11.0 (1.1)	12.1 (1.2)	11.8 (0.8)		
Median (IQR)		11.4 (10.4, 12.1)	9.7 (9.2, 10.1)	11.7 (11.4, 12.0)	11.0 (10.4, 11.6)	12.6 (11.0, 12.9)	12.0 (11.0, 12.4)		
Median (range)		11.4 (8.9, 13.3)	9.7 (8.9, 11.5)	11.7 (10.9, 12.1)	11.0 (9.2, 12.9)	12.6 (9.9, 13.3)	12.0 (10.4, 12.7)		
Heart failure DR, n	1	49	10	10	10	10	9	0.086[a]	0.049[a]
Mean (SD)		8.7 (1.5)	7.5 (1.1)	8.9 (0.9)	8.9 (1.5)	9.2 (1.4)	9.1 (2.1)		
Median (IQR)		8.7 (8.0, 9.4)	7.5 (6.8, 8.4)	9.0 (8.4, 9.5)	8.9 (8.3, 9.7)	8.9 (8.1, 10.1)	8.3 (8.0, 9.3)		
Median (range)		8.7 (5.5, 14.5)	7.5 (5.5, 9.2)	9.0 (6.910.1)	8.9 (5.5, 11.0)	8.9 (7.4, 11.5)	8.3 (7.7, 14.5)		
Stroke DR, n	1	49	10	10	10	10	9	0.22	0.33
Mean (SD)		12.2 (1.9)	11.2 (1.9)	12.6 (1.6)	11.7 (2.2)	13.0 (1.7)	12.2 (1.8)		
Median (IQR)		12.3 (10.8, 13.3)	11.1 (10.2, 12.8)	12.4 (11.8, 12.7)	11.6 (10.1, 12.5)	13.3 (11.7, 14.2)	11.5 (11.2, 12.6)		
Median (range)		12.3 (8.0, 16.2)	11.1 (8.0, 13.4)	12.4 (10.2, 15.8)	11.6 (8.8, 16.2)	13.3 (10.5, 15.8)	11.5 (10.0, 15.4)		
Average DR, n	1	49	10	10	10	10	9	0.0003[a]	0.002[a]
Mean (SD)		10.7 (1.1)	9.5 (1.0)	11.1 (0.8)	10.5 (1.0)	11.4 (0.9)	11.0 (0.9)		
Median (IQR)		10.7 (10.1, 11.3)	9.6 (8.8, 10.2)	10.9 (10.6, 11.3)	10.6 (9.7, 11.4)	11.2 (10.7, 12.0)	10.7 (10.4, 11.4)		
Median (range)		10.7 (7.8, 12.9)	9.6 (7.8, 10.8)	10.9 (9.6, 12.4)	10.6 (9.2, 12.3)	11.2 (10.2, 12.7)	10.7 (10.1, 12.9)		

Table 2: Comprehensive Centers for Medicare and Medicaid Services data analysis: Top 50 hospitals assessments for 3 mortality variables (Heart Attack, Heart Failure, Stroke) and Composite Mean

[a]Statistically significant.

ANOVA = analysis of variance; CMS = Centers for Medicare and Medicaid Services; DR = death rate; IQR = interquartile range; SD = standard deviation.

the nation's top-ranked medical schools announced that they would no longer participate in the USNWR ranking system.[6] The schools cited philosophical differences with the system's emphasis on factors such as standardized test scores.[6] Moreover, George Q Daley, Dean of Harvard Medical School, wrote on January 17, 2023: "My concerns and the perspectives I have heard from others are more philosophical than methodological, and rest on the principled belief that rankings cannot meaningfully reflect the high aspirations for educational excellence, graduate preparedness, and compassionate and equitable patient care that the authors strive to foster in their medical education programs."[7] Moreover, Columbia University Vagelos College of Physicians and Surgeons' Dean Katrina Armstrong made the case that rankings "perpetuate a narrow and elitist perspective on medical education."[6]

Another sector where this debate is extremely relevant is hospital rankings. Empirical, as well as theoretical, researchers have argued and supported that top hospitals position themselves for increased publicity and marketing.[3,8–10] The negative effect stems from the perception that rankings are used to promote name recognition, patient referrals and volume, third-party payments, and financial rewards.[4,11,12] This is based on the idea that ranked hospitals cite the USNWR ratings in most (61%) of their direct-to-patient advertising.[13,14] Of the top 20 USNWR hospitals, 100% advertise their ranking on their website, 70% on the primary landing page.[1] In fact, the top 50 hospitals are displayed on the USNWR's website and advertised to the public.

In 2006, Williams et al examined 744 US hospitals for cardiology and cardiac surgery.[4,15] The authors found that only 23 of the top 50 hospitals demonstrated better-than-average performance, and 9 of the top 50 demonstrated significantly worse performance.[4,15] Having said this, Wang et al compared 30-day mortality and readmission rates for patients 65 years or older who were hospitalized for acute myocardial infarction, heart failure, and coronary artery bypass grafting.[16] Top-ranked hospitals had lower 30-day

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Institution name	Institution location	USNWR ranking	CMS Metrics ranking
Cleveland Clinic	OH	1	15
Mayo Clinic, Rochester	MN	2	4
Cedars-Sinai Medical Center	LA	3	2
NewYork-Presbyterian Hospital, Columbia University and Weill Cornell	NY	4	5
New York University Langone Hospitals	NY	5	1
Mount Sinai Hospital	NY	6	18
Massachusetts General Hospital	MA	7	11
Northwestern Memorial Hospital	IL	8	3
Stanford Health Care, Stanford Hospital	CA	9	13
Brigham and Women's Hospital	MA	10	27
University of California, Los Angeles Medical Center	CA	11	35
Vanderbilt University Med Center	TN	12	46
Houston Methodist Hospital	TX	13	8
The University of Texas Southwestern Medical Center	TX	14	28
Lenox Hill Hospital at Northwell Health	NY	15	31
North Shore University Hospital at Northwell Health	NY	16	26
Hospitals of the University of Pennsylvania, Penn Presbyterian Medical Center	PA	17	22
Johns Hopkins Hospital	MD	18	37
Keck Medicine of University of Southern California	CA	19	45
Heart Institute at Baylor St Luke's Medical Center	TX	20	20
University of California, San Diego Health, Cardiovascular Institute	CA	21	17
Saint Luke's Mid America Heart Institute	KA	22	38
Corewell Health William Beaumont University Hospital, Royal Oak	MI	23	29
Mayo Clinic, Phoenix	AZ	24	9
Rush University Medical Center	IL	25	6
University of Michigan Health Frankel Cardiovascular Center	MI	26	40
Scripps Memorial Hospital La Jolla	CA	27	44
MedStar Heart and Vascular Institute at MedStar Washington Hospital Center	DC	28	10
St Francis Hospital and Heart Center	NY	29	7
CentraCare, St Cloud Hospital	MN	30	32
University of Alabama at Birmingham Hospital	AL	31	47
University of California, Davis Medical Center	CA	32	41
Montefiore Medical Center	NY	33	30
Cleveland Clinic Hillcrest Hospital	OH	34	23
Duke University Hospital	NC	35	36
Ohio State University Wexner Medical Center	OH	36	34
University of California, San Francisco Medical Center	CA	37	24
University Hospitals Harrington Heart and Vascular Institute	OH	38	42
Barnes-Jewish Hospital	MO	39	16
University of Pittsburgh Medical Center Presbyterian Shadyside	PA	40	48
Mount Sinai Morningside and Mount Sinai West Hospitals	NY	41	19
Advocate Christ Medical Center	IL	42	33
Hackensack University Medical Center at Hackensack Meridian Health	NJ	43	14
Mayo Clinic, Jacksonville	FL	44	12
University of Chicago Medical Center	IL	45	21

Table 3: *US News and World Report* rankings compared to Centers for Medicare and Medicaid Services metrics rankings. (***Continued***)

Table 3: *Continued*

Institution name	Institution location	USNWR ranking	CMS Metrics ranking
Morristown Medical Center	NJ	46	25
University of Kansas Hospital	KS	47	43
Virginia Commonwealth University Medical Center	VA	48	39
NewYork-Presbyterian Brooklyn Methodist Hospital	NY	49	50
Baylor Scott & White The Heart Hospital	TX	50	49

CMS = Centers for Medicare and Medicaid Services; USNWR = *US News and World Report*.

mortality, but similar or higher readmission rates.[16] Another contribution from Mehta in 2019 showed the relationship between USNWR hospital rankings and actual outcomes for major cancers.[3] Although the authors of that paper found lower mortality at the top 50 USNWR hospitals vs non–top-ranked hospitals, hospitals within the top 50 USNWR rankings had comparable outcomes.[3] None of the 3 studies provided clear-cut results.

Debates continue as some observers have concerns with USNWR hospital rankings.[4,5] Identifying USNWR methodology issues are important from several perspectives, which are not limited to the following. First, the out-of-date data used in the rankings may not represent the entire patient population.[4,17] In 2022, the "procedure and conditions" metrics accounted for a large part of the rank, but some of the procedural data was 7 years old at that time.[4,17] Moreover, the disproportionate number of Medicare patients used in rankings does not reflect the whole population.[4] Second, "expert opinion" relies on random clinicians to rank hospitals in which they presumably have direct knowledge of the care in the hospital.[4] Nearly 85% of the hospital process dimension is expert opinion, and nearly 15% is survey accounts.[1,18]

Mortality permeates USNWR hospital rankings and is 35% of a hospital's score.[13,19] Mortality encompasses Elixhauser comorbidities and demographics and adjusts for differences in case mix between hospitals.[13,19] However, Shahian et al have shown that, due to flaws in methodology and variability in assessing comorbidities accurately, hospital mortality rates do not predict the quality of care delivered.[13,20] It is interesting, furthermore, that deaths can be attributed to a specialty despite patients not being cared for by that specialty.[13]

Although it has been long recognized that USNWR is the most commonly referenced ranking system, the question remains: What factors matter for USNWR? The results show that each hospital's expert opinion score is crucial. In light of the fact of the critical role of expert opinion, a central question is: Is there a better ranking system than USNWR? Having said that, further research should be aimed at discriminating clinical and financial factors. For instance, incorporating clinical factors and fiscally efficient health care delivery.

Conclusion

Top law and medical schools withdrawing from the USNWR rankings have ignited a great deal of interest in investigating hospital rankings. Comparing the top 50 hospitals for cardiology, heart, and vascular surgery is certainly a vantage point for USNWR methodology. Results mostly confirm that the expert opinion variable plays a critical role in the reputation of the top 10 hospitals. Concerning patient referrals, the authors underline that higher-tier hospitals receive more referrals than lower-tier hospitals. Overall, empirical evidence does not support significant differences among the top 50 hospitals regarding patient management, nurse staffing, patient experience, and overall satisfaction. The explanations for this are a range of possible answers that need further inquiry. Although many have argued about the merits of USNWR hospital rankings, taken together, rankings fill a strong customer demand and are sticky.

Data-Sharing Statement

The data underlying this article will be shared upon reasonable request to the corresponding author.

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