

Letters

RESEARCH LETTER

Comparison of Services Available in 5-Star and Non-5-Star Patient Experience Hospitals

The Centers for Medicare and Medicaid Services publicly report star ratings for hospitals based on their patient experience performance on the Hospital Consumer Assessment of Healthcare Provider and Systems (HCAHPS) survey.¹ The agency's objective is to make information about hospital quality understandable for patients. However, the hospital star rating system may not be intuitive or aid consumer choice. In the hotel industry, higher star ratings are associated with provision of a broader set of services.² It is unknown whether a similar association exists between hospital star ratings and range of services available. We compared the structural characteristics and clinical services provided by hospitals that received 5-star patient experience ratings with those that did not. We also determined the proportion of hospitals ranked by *US News & World Report* in the top 5% for each state, which is a commonly understood consumer-based metric for hospital quality.³

Methods | Hospital star rating databased on HCAHPS patient experience scores were linked with American Hospital Association data containing information about hospital characteristics, including clinical services provided, for all US hospitals in 2014.^{4,5} The data sets used for this study do not involve "human subjects" (as defined by federal regulation and guidelines); therefore, the study did not require institutional review board review or exempt determination. We used χ^2 tests to compare the proportion of hospitals that provided specific clinical services by 5-star patient experience summary rating and unpaired, 2-tailed *t* tests to compare the same hospital

groups for the number of different types of procedures performed. Subgroup analyses were conducted for general medical hospitals (excluding specialty hospitals). Hospital rankings for 2014 were obtained from *US News & World Report*, and χ^2 tests were used to compare the proportion of hospitals ranked in the top 5% for each state by 5-star patient experience summary rating. All analyses were conducted using JMP Pro, version 13 (SAS Institute Inc).

Results | Among 2798 hospitals with summary patient experience ratings, 150 (5.4%) received a 5-star rating. Compared with hospitals that did not receive 5-star ratings, hospitals that received 5-star ratings were less likely to provide several commonly sought clinical services, including emergency department services (116 of 150 [77.3%] vs 2523 of 2648 [95.3%]; odds ratio [OR], 0.16; 95% CI, 0.11-0.25), ICU services (50 of 119 [42.0%] vs 2005 of 2214 [90.6%]; OR, 0.08; 95% CI, 0.05-0.11), neurology services (28 of 119 [23.5%] vs 1554 of 2214 [70.2%]; OR, 0.13; 95% CI, 0.08-0.20) and adult cardiology services (30 of 119 [25.2%] vs 1687 of 2214 [76.2%]; OR, 0.11; 95% CI, 0.07-0.16) (Table). Subgroup analyses of general medical hospitals demonstrated similar results. Even when these services were available, they were more limited in range than those offered at hospitals without 5-star ratings. Hospitals with 5-star ratings performed fewer types of gastrointestinal procedures (mean number of procedure types, 1.2 [95% CI, 0.9-1.5] vs 2.7 [95% CI, 2.6-2.8]; *P* < .001) and cardiac procedures (mean number of procedure types, 0.5 [95% CI, 0.2-0.8] vs 2.1 [95% CI, 2.1-2.2]; *P* < .001) than hospitals without 5-star ratings, and they were less likely to be ranked in the top 5% for each state by *US News & World Report* (3 of 150 [2.0%] vs 213 of 2648 [8.1%]; OR, 0.23; 95% CI, 0.07-0.74).

Table. Comparison of Services Available at Hospitals With and Without 5-Star Patient Experience Summary Ratings

Services	Hospitals With Services Available, No./Total No. (%)		Odds Ratio (95% CI) ^a
	5-Star Rating	Non-5-Star Rating	
Emergency department	116/150 (77.3)	2523/2648 (95.3)	0.16 (0.11-0.25)
General medical	106/150 (70.7)	2616/2648 (98.8)	0.03 (0.05-0.02)
Teaching hospital	8/150 (5.3)	755/2648 (28.5)	0.14 (0.07-0.29)
Health care research hospital	12/119 (10.1)	777/2214 (35.1)	0.20 (0.11-0.38)
Intensive care unit	50/119 (42.0)	2005/2214 (90.6)	0.08 (0.05-0.11)
Adult cardiology	30/119 (25.2)	1687/2214 (76.2)	0.11 (0.07-0.16)
Interventional cardiac catheterization	9/119 (7.6)	1187/2214 (53.6)	0.07 (0.04-0.14)
Neurology	28/119 (23.5)	1554/2214 (70.2)	0.13 (0.08-0.20)
Oncology	42/119 (35.3)	1672/2214 (75.3)	0.18 (0.12-0.26)
Orthopedic	82/119 (68.9)	2064/2214 (93.2)	0.16 (0.11-0.25)
Obstetric	47/119 (39.5)	1819/2214 (82.2)	0.14 (0.10-0.21)
Neonatal intensive care unit	2/119 (1.7)	698/2214 (31.5)	0.04 (0.009-0.15)

^a For all comparisons, *P* < .001. Significance testing was 2-sided with a significance threshold of *P* < .05.

Discussion | Hospitals that provided broader clinical services were less likely to receive 5-star patient experience summary ratings. This remained true after specialty hospitals were excluded. Patients who seek “elite” care and narrow their search to 5-star patient experience hospitals might therefore be surprised that many types of expected services (eg, emergency department, cardiology, and neurology) may not be available. Hospitals that provide comprehensive services are more likely to receive “nonelite” ratings, in part because of challenges related to communication and responsiveness among more complex patient populations. The fact that it is difficult for hospitals providing a wider range of services to achieve 5-star ratings may suggest potential limitations to the star rating system as it is currently constructed. As previously suggested by the Medicare Payment Advisory Commission,⁶ the hospital star rating system may not produce true “apples-to-apples” comparisons.

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