

Hospital System Membership and Performance

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Summary

By comparing the performance and rate of performance improvement of hospitals that are members of health systems and those that are not (independent hospitals), we found that on a balanced scorecard of measures, hospitals that belong to health systems significantly outperform and improve significantly faster than independent hospitals.

Methods

This analysis used methodologies from the 2012 versions of the Truven Health 100 Top Hospitals® and 15 Top Health Systems studies as its basis. We measured performance and performance improvement using the 100 Top Hospitals balanced scorecard metric.¹ The data came from public sources, including the Medicare Provider Analysis and Review (MedPAR) dataset, the Centers for Medicare & Medicaid Services (CMS) Hospital Compare dataset, and the Medicare Cost Report. The performance measures in the 100 Top Hospitals metric and the data sources for each are outlined in the table below.

PERFORMANCE MEASURE	DATA SOURCES AND PERIODS	
	CURRENT PERFORMANCE	5-YEAR PERFORMANCE IMPROVEMENT
Risk-Adjusted Mortality Index	MedPAR federal fiscal year (FFY) 2009 and 2010	MedPAR FFY 2005-2010
Risk-Adjusted Complications Index	MedPAR FFY 2009 and 2010	MedPAR FFY 2005-2010
Risk-Adjusted Patient Safety Index	MedPAR FFY 2009 and 2010	MedPAR FFY 2005-2010
Core Measures Mean Percent	CMS Hospital Compare 2nd quarter 2011 (Oct. 1, 2009-Sept. 30, 2010 dataset)	CMS Hospital Compare 2nd quarter releases (FFY 2006-2010)
30-Day Mortality Rates for Acute Myocardial Infarction (AMI), Heart Failure, and Pneumonia	CMS Hospital Compare, 2nd quarter 2011 (July 1, 2007-June 30, 2010 dataset)	Trend data not available

PERFORMANCE MEASURE	DATA SOURCES AND PERIODS	
	CURRENT PERFORMANCE	5-YEAR PERFORMANCE IMPROVEMENT
30-Day Readmission Rates for AMI, Heart Failure, and Pneumonia	CMS Hospital Compare, 2nd quarter 2011 (July 1, 2007–June 30, 2010 dataset)	Trend data not available
Severity-Adjusted, Average Length of Stay	MedPAR FFY 2010	MedPAR FFY 2006–2010
Adjusted Inpatient Expense per Discharge	Healthcare Cost Report Information System (HCRIS), 4th quarter 2011 (calendar year (CY) 2010 Medicare Cost Reports)	HCRIS, CY 2006–2010 Medicare Cost Reports
Adjusted Operating Profit Margin	HCRIS, 4th quarter 2011 (CY 2010 Medicare Cost Reports)	HCRIS, CY 2006–2010 Medicare Cost Reports
Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Patient Perception of Care	CMS Hospital Compare 2nd quarter 2011 (Oct. 1, 2009–Sept. 30, 2010 dataset)	CMS Hospital Compare 2nd quarter releases (FFY 2007–2010)

The study included 2,791 short-term, general, nonfederal hospitals. To identify whether a hospital belonged to a system, we used the “home office” or “related organization” designation reported on the hospitals’ 2010 Medicare Cost Reports. After identification, the study contained 1,628 hospitals that are members of systems and 1,163 independent hospitals.

For valid comparisons, the 100 Top Hospitals methodology classifies hospitals into comparison groups according to bed size and teaching status. The groups are: major teaching hospitals; teaching hospitals; and large, medium, and small community hospitals.

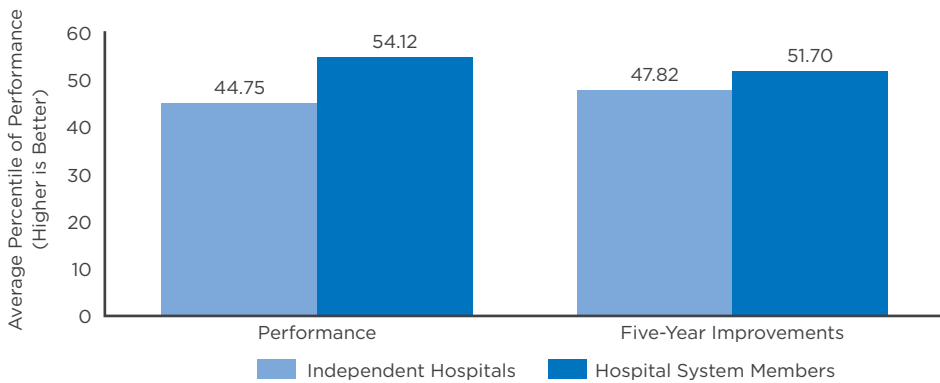
Each hospital in the 100 Top Hospitals database receives a percentile rank. To determine the award winners, we rank hospitals relative to their comparison group. Within the five hospital comparison groups, we rank hospitals on the basis of their performance on each of the 10 measures relative to other hospitals in their group. We then sum each hospital’s performance-measure rankings and rerank, overall, to arrive at a final rank for the hospital.

In this study, to compare the performance of hospital system members with independent hospitals, we grouped them and compared the mean percentile rank for each group. We did the same with their five-year performance rankings, using the 100 Top Hospitals multi-year trending methodology.

Results

Hospitals that are system members have better balanced scorecard performance and rates of improvement. In both one-year performance and five-year improvement on the 100 Top Hospitals metric, hospital system members ranked in a higher percentile of performance than independent hospitals. For one-year performance, the hospital system members ranked, on average, in the 54th percentile on the 100 Top Hospitals balanced scorecard, compared with an average in only the 45th percentile for independent hospitals. For five-year performance improvement, hospital system members had an average rank in the 52nd percentile of performance, compared with only the 48th percentile for the average independent hospital (Figure 1). The results for both comparisons are statistically significant ($p < 0.0001$).

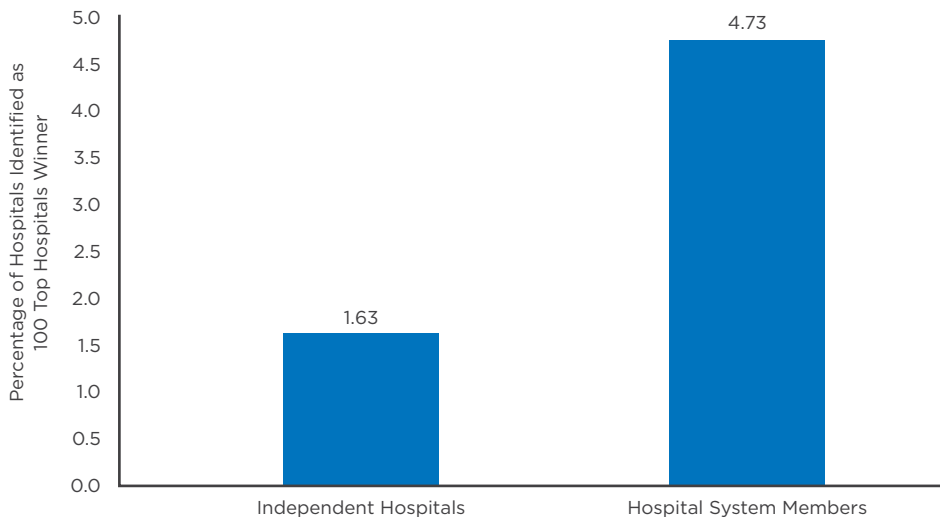
Figure 1: Hospitals That are System Members Have Better Balanced Scorecard Performance*



* Both comparisons are statistically significant.

Hospitals that are system members have a higher probability of being a 100 Top Hospitals award winner. For this analysis, we simply calculated the percentage of 100 Top Hospitals 2012 award winners for both the independent hospital and hospital system member groups. We found that the hospital system members had a substantially higher probability of winning the award. Nearly 5 percent of hospitals that were members of a system won a 100 Top Hospitals award in 2012, compared with fewer than 2 percent of independent hospitals (Figure 2). These results are also statistically significant ($p < 0.0001$).

Figure 2: Hospitals That are System Members Have a Higher Probability of Winning a 100 Top Hospitals Award*



* Both comparisons are statistically significant.

Discussion

Data showing that system membership positively affects hospital performance in both the short and long term is an important finding for the industry. Before this study, health system formation had not been statistically proven to lower costs, reduce prices, or improve patient outcomes. This finding appears to support the formation of health systems.

1 Truven Health Analytics. *100 Top Hospitals, 2012: Study Overview and Research Findings*. Ann Arbor, MI: Center for Healthcare Improvement, Truven Health Analytics. April 2012. Available for download at 100tophospitals.com.

2 Truven Health Analytics. *15 Top Health Systems, 2012: Study Overview and Research Findings*. Ann Arbor, MI: Center for Healthcare Improvement, Truven Health Analytics. January 2012. Available for download at 100tophospitals.com.

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