

TITLE: Missing data in CMS Hospital Star Ratings: Less is more?

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ABSTRACT: BACKGROUND CMS rates US hospitals based on a 5-star scale to help patients compare hospital quality. The methodology used has been controversial. In the January 2019

release, a hospital could report as few as 11 out of 59 measures and still receive a score.

PURPOSE To quantify the amount of missing data by measure for hospitals with a CMS star score, and to explore associations between missing data and star score performance.

METHODS Using CMS data from January 2019, we explored the amount and patterns of missing data for high-impact measures. Chi-squared tests were used to determine whether the distribution of missing data significantly differed across star score performance.

RESULTS The percent of hospitals missing data on a measure ranged from 0.2% to 80% (Average=26%, SD=22%). 14 of the 34 measures were missing data from >25% of hospitals, and 5 were missing data from >50% of hospitals. Missing data was significantly associated with star score performance for 31 of the 34 measures, with a trend for more missing data in 3, 4, and 5 star hospitals. CONCLUSIONS CMS's hospital star rating methodology may benefit hospitals who don't report data on all measures. More stringent reporting requirements should be considered.

OBJECTIVE(S): Describe the amount of missing data by measure for hospitals with a CMS star score. Evaluate associations between missing data and star score performance.