



# DO NURSING HOMES INFLATE THEIR MEDICARE STAR RATINGS BY SELF-REPORTING OVERLY POSITIVE ASSESSMENTS?

## Why This Study Is Important

Patients, physicians and payers rely heavily on the five-star rating system that Medicare uses to compare nursing homes. The star ratings reflect a base score from an objective, on-site inspection plus two scores from facility-reported information on staffing and quality. Self-reported scores have trended upward, pushing overall ratings higher. This study investigates whether these rating improvements reflect actual quality gains or unjustified ratings inflation.

## What This Study Found

- Nursing homes with more to gain financially from higher ratings are more likely to improve their overall rating through self-reporting.
- There is little direct correlation between self-reported measures and on-site inspection results, either contemporaneously or over time.
- The number of resident complaints is similar for nursing homes with the same objectively derived inspection rating but varies appreciably between facilities with the same overall rating, further suggesting inflation in self-reported measures.
- Models indicate that at least 6 percent of the nursing homes inflate their self-reported measures.
- Larger and for-profit nursing homes and those with the most to gain financially are more likely to inflate self-reported ratings.

## What These Findings Mean

Using several different lines of investigation, this work provides systematic evidence that some nursing homes are inflating the self-reported measures in Medicare's star rating system. By showing that there is a manageable number of facilities that are likely inflators and identifying key predictors of being an inflator, the findings can help Medicare focus its future audits more strategically and improve its inspection process and ratings system.

## More About This Study

This study relies on 2009 to 2013 data for over 1,200 nursing homes in California. The data include the facilities' star ratings and other characteristics from Medicare files and information on facility finances and resident complaints from other databases maintained by California. The ratings and financial data were used to compute the average daily profit per resident for each star rating level, and ordinal logit models were estimated to assess how the higher profits attainable for higher ratings affect the difference between on-site inspection and overall ratings. Same-year correlations between the inspection and self-reported ratings were examined to identify the degree of internal consistency, and correlations between self-reported ratings in one year and inspection results in the next year were examined to determine if self-reports of high quality are borne out by subsequent inspections. Analysis of variance was used to examine the pattern of complaints for facilities with the same inspection results but different overall ratings and for facilities with the same overall rating but different inspection results. To quantify the likely extent of rating inflation, a predictive model was estimated for the subsample of nursing homes conservatively identified as showing no evidence of rating inflation, and those model parameters were used to predict the highest possible rating for all remaining study facilities. Those with an actual overall rating above their maximum predicted rating were tagged as likely ratings inflators. Variable importance analysis was used to identify characteristics distinguishing facilities that are likely ratings inflators.

Han X, Yaraghi N and Gopal R. "Winning at All Costs: Analysis of Inflation in Nursing Homes' Rating System." *Production and Operations Management* (2017), <https://doi.org/10.1111/poms.12804>

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