

## Quality of Patient Care Star Ratings Methodology

### What Are Star Ratings?

Consumer research has shown that summary quality measures and the use of symbols, such as stars, to represent performance are valuable to consumers. Star ratings can help consumers more quickly identify differences in quality and make use of the information when selecting a health care provider. In addition to summarizing performance, star ratings can also help home health agencies (HHAs) identify areas for improvement. They are useful to consumers, consumer advocates, health care providers, and other stakeholders, when updated regularly to present the most current information available.

### Why Star Ratings for Home Health?

In order to provide home health care consumers with a summary quality measure in an accessible format, CMS published a quality of care star rating for HHAs on Care Compare starting in 2015. This is part of CMS' plan to adopt star ratings across all [Medicare.gov](https://www.medicare.gov) Compare websites.

Public reporting is a key driver for improving health care quality by supporting consumer choice and incentivizing provider quality improvement. CMS reports process, outcome and patient experience of care quality measures on the Care Compare website, to help consumers and their families make choices about who will provide their home health care. The Quality of Patient Care Star Rating is an additional measure available on the website. Several alternative methods of calculating the Quality of Patient Care Star Ratings were considered, borrowing from the methods used for other care settings, such as nursing homes, dialysis facilities, and managed care.

### Special Open Door Forums, Stakeholder Input, and Ongoing Maintenance

A Special Open Door Forum (SODF) on “Adding Star Ratings to Home Health Compare” was held on December 17, 2014 to describe the proposed calculation. After considering numerous comments and suggestions made during the SODF and received from stakeholders after the SODF, several adjustments were made to the methodology, including the use of half stars in reporting. The updated methodology was presented in a second SODF on February 5, 2015 to solicit additional stakeholder input. Based on the feedback, the Quality of Patient Care Star Ratings methodology was revised to remove the process measure “Pneumococcal Vaccine Ever Received” from the calculation.

Ongoing monitoring and stakeholder input has led to various updates and improvements to the Quality of Patient Care Star Rating, including:

- As of the April 2018 refresh, the “Influenza Vaccination Ever Received” measure was removed from the calculation algorithm. This decision was proposed in an October 10, 2017 Medicare Learning Network call and the finalized after reviewing public comment on December 14, 2017.

- As of the April 2019 refresh, the “Drug Education on All Medications Provided to Patient/Caregiver during All Episodes of Care” was removed and the “Improvement in Management of Oral Medications” measure added. This change was proposed in a June 26, 2018 Medicare Learning Network call and finalized after reviewing public comment on October 3, 2018.
- As of the April 2020 refresh, the “Improvement in Pain Interfering with Activity” was removed. The measure will be removed from the Home Health Quality Reporting Program per the 2020 Final Home Health Prospective Payment System Rule.
- As of the October 2024 Refresh, the “Acute Care Hospitalization” measure will be removed from the QOPC star rating and the “Potentially Preventable Hospitalization” measure added in its place. It is anticipated that the methodology will continue to evolve and be refined over time, and CMS continues to welcome stakeholder feedback in its ongoing efforts to improve the Quality of Patient Care Star Ratings.

### Selecting Measures for Inclusion in the Quality of Patient Care Star Ratings

The Quality of Patient Care Star Ratings methodology includes seven (7) of the reported process and outcome quality measures on Care Compare. Measures included in star rating calculation were chosen based on the following criteria:

1. The measure should apply to a substantial proportion of home health patients and have sufficient data to report for a majority of HHAs.
2. The measure should show a reasonable amount of variation among home health agencies, and it should be possible for a HHA to show improvement in performance.
3. The measure should have high face validity and clinical relevance.
4. The measure should be stable and not show substantial random variation over time.

Based on these criteria, the measures below were selected for inclusion. Appendix A provides more detail about the initial measure selection process.

Process Measures	Outcome Measures
1. Timely Initiation of Care	2. Improvement in Ambulation 3. Improvement in Bed Transferring 4. Improvement in Bathing 5. Improvement in Dyspnea 6. Improvement in Management of Oral Medications 7. Potentially Preventable Hospitalization

The “Influenza Immunization Received for the Current Flu Season,” “Drug Education on All Medications Provided to Patient/Caregiver during All Episodes of Care,” and “Improvement in Pain Interfering with Activity” measures were initially selected based on these criteria. They

were removed based on input from technical experts and other stakeholders or were removed from the Home Health Quality Reporting Program. The Improvement in Management of Oral Medications measure was added as of the April 2019 Care Compare refresh.

### **Which HHAs Receive Quality of Patient Care Star Ratings?**

All Medicare-certified HHAs are eligible to receive a Quality of Patient Care Star Rating. HHAs must have at least 20 complete quality episodes for a measure for it to be reported on Care Compare. (Completed episodes are paired start or resumption of care and end of care OASIS assessments. To be counted, the episode end date must be within the 12-month reporting period regardless of admission date.) For a star rating to be calculated, an HHA must have reported data for 5 of the 7 measures used in the calculation.

### **Reporting Period**

When the Quality of Patient Care Star Rating was first published on Care Compare in July 2015, the ratings incorporated OASIS quality measurement data from episodes ending January 1, 2014 through December 31, 2014. For the Acute Care Hospitalization measure, claims data from October 1, 2013 to September 30, 2014 was used.

Starting in the October 2017 refresh, the reporting period for OASIS quality measures moved from a 6- to a 9-month lag to accommodate the Review and Correct timeline. Thus, for the October 2017 refresh, OASIS and claims measures used data from January 1, 2016 to December 31, 2016.

Starting with the January 2019 refresh, claims measures reporting moved to annual updates; thus, the Acute Care Hospitalization measure has a reporting period of January 1, 2017 to December 31, 2017 until the January 2020 HHC refresh when it will be updated to a reporting period of January 1, 2018 to December 31, 2018. The OASIS-based measures will continue to be based on data with a 9-month lag (July 1, 2017 to June 30, 2018 for the April 2019 refresh).

Starting with the October 2024 refresh, the claims measure reporting period for Potentially Preventable Hospitalization measure is updated annually and has a reporting period of January 1, 2023 to December 31, 2023. The OASIS-based measures will continue to be based on a 9-month lag (January 1, 2023 to December 31, 2023 for the October 2024 refresh).

### **Quality of Patient Care Star Ratings Calculation**

The methodology for calculating the Quality of Patient Care Star Ratings is based on a combination of individual measure rankings and the statistical significance of the difference between the performance of an individual HHA on each measure (risk-adjusted, if an outcome measure) and the performance of all HHAs. Each HHA's quality measure scores are compared to the national agency median, and its rating is adjusted to reflect the differences relative to other agencies' quality measure scores. These adjusted ratings are then combined into one overall rating that summarizes agency performance across all individual measures.

The specific steps are as follows:

1. First, all HHAs' scores on each of the 7 quality measures are sorted low to high and divided into 10 approximately equal size groups (deciles) of agencies.<sup>1</sup> For all measures, except the potentially preventable hospitalization measure, a higher measure value means a better score.
2. Each HHA's score on each measure is then assigned its decile location, e.g. bottom tenth, top tenth, etc., as a preliminary rating. Each decile is assigned an initial rating from 0.5 to 5.0 in 0.5 increments (e.g., 0.5, 1.0, 1.5, 2.0, etc.)
3. The initial rating is then adjusted according to the statistical significance of the difference between the agency's individual quality measure score and the national agency median for that quality measure. Because all the measures are proportions (e.g., proportion of patients who improved in getting in and out of bed), the calculation uses a binomial significance test.
  - If the agency's initial rating for a measure is anything other than a 2.5 or 3 (the two middle decile categories), and the binomial test of the difference yields a probability value greater than .05 (meaning that the difference between the agency score and the national agency median is not considered statistically significant), the initial rating is adjusted to the next half star level closer to the middle categories. The results of this transformation are referred to as the "adjusted ratings."
4. To obtain one overall score for each HHA, the adjusted ratings are averaged across the 7 measures and rounded to the nearest 0.5. An overall star rating is then assigned to each agency so that ratings will range from 1.0 to 5.0 in half star increments (see table below). Thus, there are 9 star categories, with 3.0 stars being the middle category in this distribution.

<b>Overall score after averaging across QMs and rounding to the nearest half star</b>	<b>Quality of Patient Care Star Rating</b>
4.5 and 5.0	5.0 ★★★★★
4.0	4.5 ★★★★★
3.5	4.0 ★★★★★
3.0	3.5 ★★★★★
2.5	3.0 ★★★★★
2.0	2.5 ★★★★★
1.5	2.0 ★★★★★
1.0	1.5 ★★★★★
0.5	1.0 ★








---

<sup>1</sup> The cut points for the deciles are generated in SAS® using the RANK procedure.

## Distribution of the Quality of Patient Care Star Ratings Across HHAs

The Quality of Patient Care Star Ratings methodology was applied to the Care Compare data for Calendar Year 2018. Table 1 shows the distribution of ratings across all HHAs when the methodology was applied. The percent of agencies with an overall rating of 2 stars or less is 12.75 percent, while the percent of HHAs receiving 4 stars is over 23 percent. About 31.93 percent of agencies fall into the middle star categories of 2.5 or 3 stars, with an approximately equal percentage for each star category.

**Table 1: Distribution of Overall Quality of Patient Care Star Ratings Using CY 2024 Data**

Quality of Patient Care Star Rating	Percent
	1.27
	5.1
	6.48
	8.28
	10.02
	10.81
	10.22
	9.3
	3.77

## Frequently Asked Questions

CMS continues to welcome stakeholder comments and suggestions on the Quality of Patient Care Star Ratings methodology. A “Frequently Asked Questions” document is posted on the CMS website (<http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/HHOIHomeHealthStarRatings.html>) and will be updated as additional questions are received.