

# Home Health Quality of Patient Care Star Ratings

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## Quality Improvement through Public Reporting

- CMS has long played a leading role in the use of public reporting as an important tactic for driving healthcare quality improvement.
- Launched starting in 1998, the Compare and health plan websites support key CMS priorities:
  - Transparency
  - Improved quality
  - Informed decision making
- Most recently, CMS has adopted an initiative to expand the use of Star Ratings across all Compare and health plan sites.



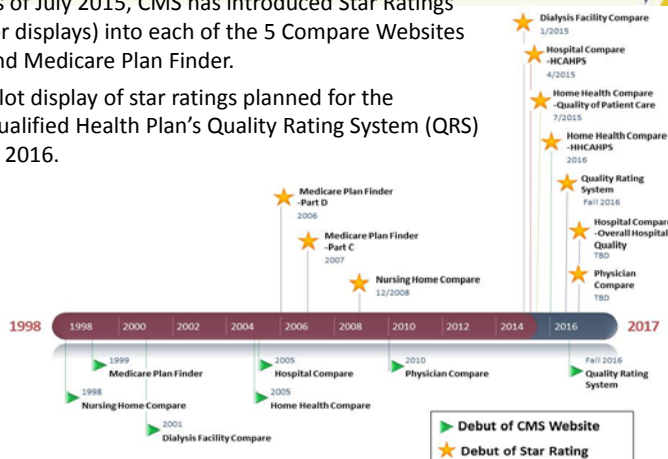
## Why Star Ratings?

- Displays of stars are an efficient, familiar, consumer-centric way to communicate relative performance (visual shortcut).
- Format addresses the barrier of innumeracy, i.e. it is not necessary to understand or interpret the numbers behind the stars to understand and use them.
- CMS Star Ratings are an important tool for empowering consumers, encouraging providers to strive for higher levels of quality, and driving overall health system improvement.
- The Affordable Care Act calls for transparent, easily understood information on provider quality to be publicly reported and made widely available.



## CMS Star Ratings Initiatives

- As of July 2015, CMS has introduced Star Ratings (or displays) into each of the 5 Compare Websites and Medicare Plan Finder.
- Pilot display of star ratings planned for the Qualified Health Plan's Quality Rating System (QRS) in 2016.



## Home Health Quality Reporting Program

- Home Health (HH) Quality Initiative
  - Home Health Compare (HHC)
- Deficit Reduction Act of 2005
- Over 12,000 home health agencies and nearly 30 quality measures on HHC
  - 13 OASIS-based process measures
  - 7 OASIS-based outcome measures
  - 4 Claims-based utilization measures
  - 5 HHCAHPS®-based measures



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## Quality of Patient Care Star Ratings: Measure Selection Criteria

- Quality of Patient Care (QoPC) Star Ratings: selected a subset of the 24 non-survey measures reported on HHC in late 2014.
- Criteria for selecting measures:
  - The measure applies to substantial proportion of HH patients, and has sufficient data to report for a majority of home health agencies (HHAs).
  - The measure shows reasonable amount of variation among HHAs, and it is possible for HHAs to show improvement.
  - The measure has high face validity and clinical relevance.
  - The measure is stable with respect to random variation over time



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## QoPC Star Ratings: Measures Selected

- 10 measures initially selected; after stakeholder feedback 9 measures used in the final QoPC Star Ratings.
- HHAs must be able to report 5 of the 9 measures to have a QoPC Star Rating computed.

Measure Type	9 Total Measures
<b>Process</b> (not risk adjusted)	1. Timely Initiation of Care
	2. Drug Education on all Medications Provided to Patient/Caregiver
	3. Influenza Immunization Received for Current Flu Season
<b>Outcome</b> (risk adjusted)	4. Improvement in Ambulation
	5. Improvement in Bed Transferring
	6. Improvement in Bathing
	7. Improvement in Pain Interfering With Activity
	8. Improvement in Dyspnea
	9. Acute care hospitalization (claims-based)



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## QoPC Star Ratings: Methodology

- Rank each measure: 10 equally sized groups
- Adjust ranking based on statistical significance of measure score vs. national median score.
- Average across measures
  - Require at least 5 measures to receive star rating
- Round and assign a summary QoPC star rating



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## Step 1: Rank Each Measure

1. For each of the 9 measures, rank all agencies based on score and assign into 10 equally sized groups (deciles).
  - The 10 groups are assigned an initial rating from 0.5 to 5 in 0.5 increments (0.5, 1, 1.5, 2, etc.).
  - Ranking agencies in comparison to each other mitigates upward creep in star ratings.
  - Decile values vary depending on measure-specific distribution.



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## Step 2: Adjust Rankings

2. Adjust the HHA's initial individual measure rating based on two factors:
  - 1) The decile ranking (0.5, 1, 1.5, 2, etc.) of the individual measure, and
  - 2) A statistical test of the agency's measure score versus the overall (national) median.
    - One-sided binomial probability test (based on the agency's measure score, the agency's number of episodes and the national median).
    - Statistical significance at the 5 percent significant level.

***Adjustment is applied to help distinguish scores that are different from the national median.***



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## Step 2: No Adjustment Made

There are three scenarios in which no adjustment to the initial decile ranking is made.

- If the initial decile ranking of the individual measure is equal to 2.5 or 3.0 (the two middle deciles), no change is made, regardless of the result of the statistical test.
- If initial decile ratings is less than 2.5 and the agency's measure score is statistically different from the national median ( $p\text{-value} \leq 0.05$ ), no change is made.
- If initial decile ratings is greater than 3.0 and the agency's measure score is statistically different from the national median ( $p\text{-value} \leq 0.05$ ), no change is made.



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## Step 2: Adjust Rankings, Scenario 1

- If the initial decile ranking of the individual measure is less than 2.5 (a middle decile), and
- the agency's measure score is not statistically significantly different from the national median ( $p\text{-value} > 0.05$ )

THEN



Initial decile rating  
is adjusted up by 0.5

Example

Agency X	Improved Walking or Moving Around
Measure Score	57.8
Initial Decile Ranking	2.0
Number of Cases (N)	612
National (All HHA) Median	60.7
Statistical Test (p-value)	.080
Statistical Results (is the p-value $\leq 0.050$ ?)	No
Adjusted Rating	2.5



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## Step 2: Adjust Rankings, Scenario 2

- If the initial decile ranking of the individual measure is greater than 3.0 (a middle decile), and
- the agency's measure score is not statistically significantly different from the national median ( $p\text{-value} > 0.05$ )

Example

THEN



Initial decile rating  
is adjusted down by 0.5

Agency X	Improved Walking or Moving Around
Measure Score	64.8
Initial Decile Ranking	3.5
Number of Cases (N)	293
National (All HHA) Median	60.7
Statistical Test (p-value)	.081
Statistical Results (is the p-value $\leq$ 0.050?)	No
Adjusted Rating	3.0



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## Step 2: Adjust Rankings, Summary

- If the agency's measure score is not (statistically) different from the national median, move the decile ranking closer to the middle (where the national median is located), if it is not already ranked in the middle.
- If the agency's measure score is (statistically) different from the national median, leave the initial decile ranking alone (except if initial value falls in the middle).



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## Step 3: Average Across Measures

3. For each agency, average the adjusted ratings across all measures (at least five needed) and round to the nearest 0.5.
  - Each individual measure is equally weighted.
  - Standard rounding rules are used (e.g., 4.24 rounds to 4.0; 4.25 rounds to 4.5).



## Step 4: Assign Star Rating

4. Assign an overall Quality of Patient Care Star Rating using this table:

- Rating ranges from 1 to 5 in half star increments.
- There are 9 star rating categories with a middle category of 3 stars

Overall score after averaging across QMs and rounding to the nearest half star	Quality of Patient Care Star Rating
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 ★★★★★





## Data Availability Timeline

- Preview reports were first provided to HHAs on April 2015 and results first displayed on HHC in July 2015
- HHC displays data that are 6 months lagged for OASIS and 9 months for claims, to accommodate preview reports and the suppression request process
- April 2016 HHC refresh:
  - o OASIS data from January 1, 2015 to December 31, 2015
  - o Claims data from October 1, 2014 to September 30, 2015
- Preview reports are available to HHAs one quarter in advance of ratings display - agencies can request suppression based on preview report data



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## QoPC Star Ratings: Four Quarters of Rolling Data

1. *Launch Quarter:* Q2\_2015 displayed on HHC in **July 2015**
  - o OASIS data from January 1, 2014 to December 31, 2014;
  - o Claims data from October 1, 2013 to September 30, 2014
2. Q3\_2015 displayed on HHC in **October 2015**
3. Q4\_2015 displayed on HHC in **January 2016**
4. *Latest Quarter:* Q1\_2016 displayed on HHC in **April 2016**
  - o OASIS data from October 1, 2014 to September 30, 2015
  - o Claims data from July 1, 2014 to June 30, 2015



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## Stakeholder Involvement

- CCSQ held a conference call for major stakeholders before public announcement.
- Preliminary methodology presented at a Special Open Door Forum (SODF) on 12/17/14.
- Methodology revised based on feedback and additional testing; new star ratings web page on CMS.gov added on 1/30/15 to disseminate methodology and rating information.
- The updated methodology was presented in a second SODF forum on 2/2/2015.
- A revised (final) methodology based on feedback was posted on the CMS.gov star ratings web page on May 11, 2015.



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## Stakeholder Reaction & Actions Taken



- Over 100 comments on methodology received via a designated email box, in addition to many comments offered on the SODF calls.
- Agencies generally agreed with the intent of star ratings. Many comments related to concern in consumer interpretation of ratings.
- Methodology changes based on stakeholder feedback:
  - Use of half stars (9 categories) rather than full stars (5 categories) to “flatten” the distribution (less clustering).
  - Eliminated one process measure.
  - Other changes: use of deciles in the initial measure ranking; adjustment by 0.5 stars based on statistical test; final rating adjusted to fit on 1 to 5 star scale in half star increments.



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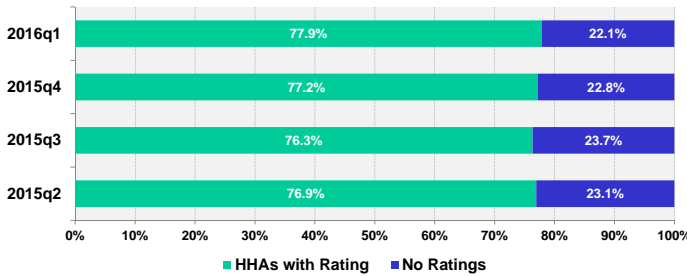
## Patient/Consumer Involvement

- Performed consumer testing of alternative presentations of star ratings and supporting language
  - Consumer interviews conducted by NORC.
  - Focus on consumer interpretation of star ratings, esp. middle values (3.0-3.5 stars) that include most agencies (vs. distribution on popular retail and travel web sites).
    - One respondent noted after reading the explanation, “3 or 3.5 stars doesn’t seem mediocre or average, but that it is good. I may not be getting excellent [care] but I’m getting good [care].”



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## Over 75 Percent of HHAs Rated

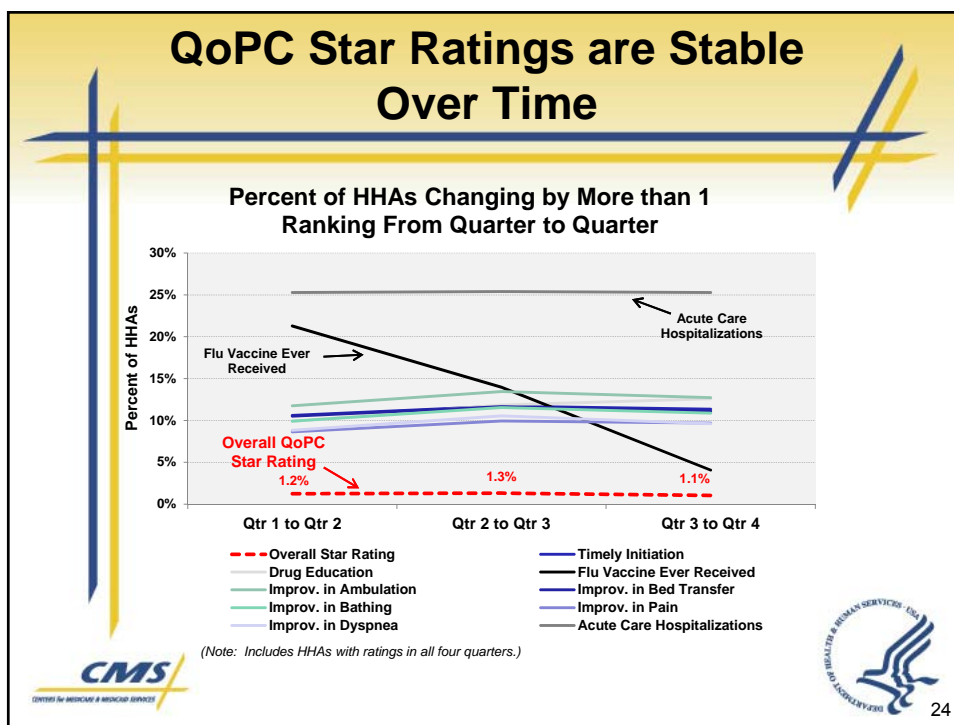
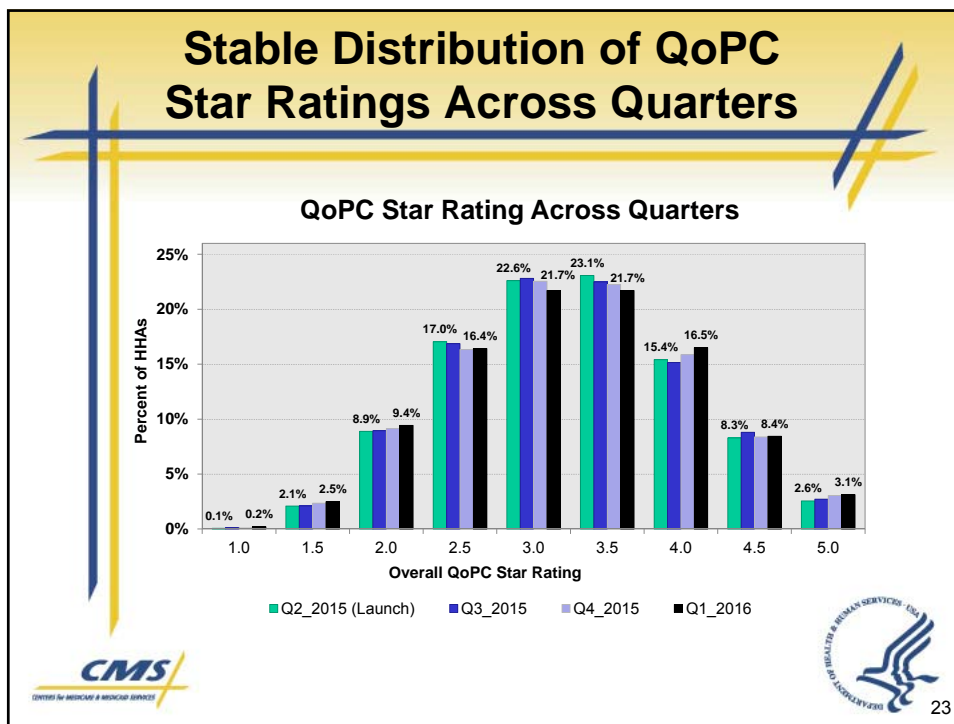
- 9,959 of 12,485 (79.8%) HHAs rated for at least one quarter
- 8,731 (69.9%) HHAs rated all four quarters

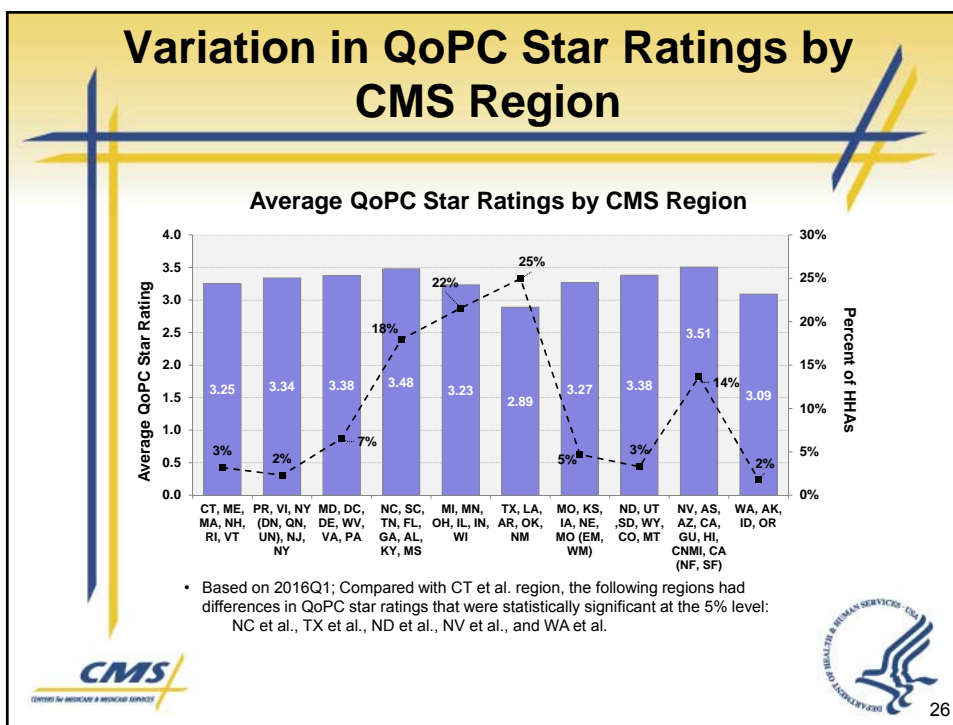
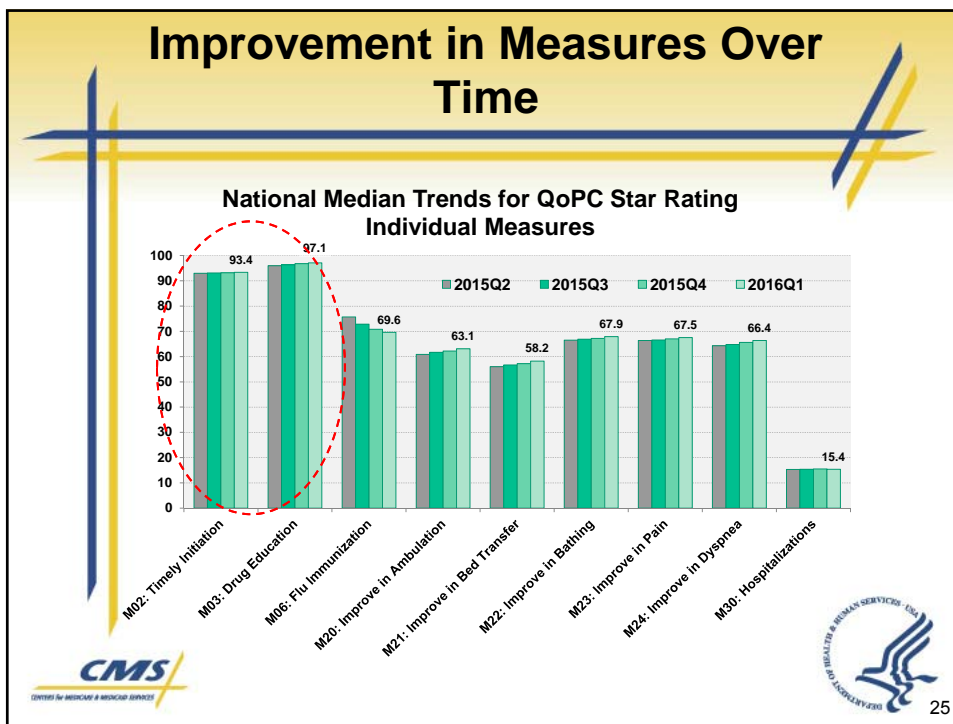


Quarter	HHAs with Rating	No Ratings
2016q1	77.9%	22.1%
2015q4	77.2%	22.8%
2015q3	76.3%	23.7%
2015q2	76.9%	23.1%

- 1,228 HHAs rated for 1 to 3 quarters tend to be very small, not-for-profit and freestanding



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## QoPC Star Ratings: One year summary

- QoPC Star Ratings are fairly stable over time
  - Decile evaluations and statistical comparisons result in limited “creep” over time
- There is variation in QoPC Star Ratings – by design, there are a limited number 5-Star HHAs
  - Minimum number of required measures to reflect multiple dimensions of quality
- Good reportability of QoPC Star Ratings across HHAs
  - Variety of agencies included
- Already see improvement in measures across time



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## Star Ratings – Future Plans

Technical Expert Panel: May 2-3, 2016

- Measure selection
  - “Maintenance” measures
- Methodology
  - For Longer Episode “Chronic” patients
  - Addition of Patient Experience of Care (PEC) Star Ratings
- Consumer engagement/education



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## “Maintenance” Measures

- No stabilization/maintenance measures on HHC (topped out)
- IMPACT Act standardized assessment data (by Jan 2019):
  - functional status, such as mobility and self care;
  - cognitive function, such as ability to express ideas and to understand, and mental status, such as depression and dementia;
  - impairments, such as incontinence and an impaired ability to hear, see, or swallow.
- Stratify measures by episode length
  - 19.3% of HH episodes are greater than 60 days long



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## New Measures on HHC

- July 2015:
  - Rehospitalization during the first 30 days of HH (NQF #2380)
  - Emergency Department Use without Hospital Readmission during the first 30 days of HH (NQF #2505)
- January 2019:
  - Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678)



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## Patient Experience of Care (PEC) Star Ratings (HCAHPS®)

- 4 measure-specific star ratings and one summary star rating (full-stars)
- Methodology differs - calculation considers relative distribution and clustering
- Adjusted for the effects of patient mix and updated each quarter
- 5,743 HHAs of 9,411 HHAs (61%) with QoPC Star Ratings also have PEC Star Ratings displayed on HHC



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## Potential to Combine QoPC and PEC Star Ratings?

### Combined Ratings Simulation

- Start with QoPC Star Rating as initial value (as more HHAs have reportable data)
- Use PEC Star Rating to create an “adjusted HHA Star Rating” (Rating is capped at 5)
  - Increase QoPC Star Rating by 0.5 star if PEC Star Rating is 5
  - Decrease QoPC Star Rating by 0.5 star if PEC Star Rating is 1 or 2

	# HHAs	Avg # of Episodes	Avg. Actual QoPC Star Rating	Avg. Combined Rating
Ratings Increased	2,075	866	3.34	3.84
Ratings Stayed the Same	6,906	593	3.22	3.22
Ratings decreased	430	1,061	3.17	2.67



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**Questions?**



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