

FedCASIC 2017

From Survey To Star: Development, Implementation and Reporting of HCAHPS Star Ratings

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Topics

- Overview of Star Ratings and the HCAHPS Survey
- Process of Creating HCAHPS Star Ratings
- HCAHPS Star Ratings on Hospital Compare Web site
- Resources



Why Put Star Ratings on Hospital Compare?

- Consumers are the primary audience for Hospital Compare, along with other important stakeholders
- The *National Quality Strategy* envisions effective public reporting as a key driver for improving the health care system as a whole:
 - **Consumers consult** ratings
 - **Consumers choose** the care that is best for them and their families
 - **Providers are incentivized** to improve quality to retain existing patients and to attract *new ones*

CMS Principles for Star Ratings

- **Report what is most important to patients in a way they can understand**
- Leverage knowledge and lessons learned from existing sites
- Transparency of methodology and display with stakeholders
- Supplement information already on Hospital Compare



Overview of HCAHPS Star Ratings

- In April 2015, CMS added Star Ratings for HCAHPS measures to the Hospital Compare Web site
- No HCAHPS information was removed from Hospital Compare when HCAHPS Star Ratings added to the Web site
- *Hospital Compare Overall Star Ratings* added in July 2016
 - Rolls up ~60 different measures of various types
 - Still controversial



Overview of HCAHPS Star Ratings *(cont'd)*

- HCAHPS Star Ratings are based on the same data as the HCAHPS measures publicly reported on the [Hospital Compare Web site](#)
- Data comes from the HCAHPS Survey, a national, standardized, 32-item survey of patients' experience of care during a recent hospital stay



HCAHPS Never Rests

- Continuously administered since 2006
- April 2017 publicly reported scores are based on more than **3.1 million completed surveys** from patients at **4,306 hospitals**
- **Every day** more than **8,500** patients **complete** the HCAHPS Survey



HCAHPS on Hospital Compare

Hospital Compare Home

About Hospital Compare

About the data

Resources

Help

Home → Hospital Results → Compare Hospitals

+ Share

 Print all information

Compare Hospitals

Back to Results

General information

Survey of patients' experiences

Timely & effective care

Complications

Readmissions & deaths

Use of medical imaging

Payment & value of care

Survey of patients' experiences

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) is a national survey that asks patients about their experiences during a recent hospital stay. Use the results shown here to compare hospitals based on 11 important hospital quality topics.

All 11 HCAHPS Measures Receive a Star Rating

- **Composite Measures**

- Communication with Nurses
- Communication with Doctors
- Staff Responsiveness
- Pain Management
- Communication about Medicines
- Discharge Information
- Care Transition

- **Individual Items**

- Cleanliness of Hospital Environment
- Quietness of Hospital Environment

- **Global Items**

- Recommend Hospital
- Overall Hospital Rating



Process of Creating HCAHPS Star Ratings

Step 1

- Construction and Adjustment of HCAHPS Linear Mean Scores



Calculation of HCAHPS Linear Mean Scores

- All survey responses are used in the construction of HCAHPS Star Ratings
- Survey responses are converted into **linear mean scores**
 - The linear mean score for an HCAHPS measure summarizes all the responses to the survey items included in that measure

Example of HCAHPS Survey Items: “*Your Care From Nurses*”

1. During this hospital stay, how often did nurses treat you with courtesy and respect?

- 1 Never
- 2 Sometimes
- 3 Usually
- 4 Always

2. During this hospital stay, how often did nurses listen carefully to you?

- 1 Never
- 2 Sometimes
- 3 Usually
- 4 Always

3. During this hospital stay, how often did nurses explain things in a way you could understand?

- 1 Never
- 2 Sometimes
- 3 Usually
- 4 Always



HCAHPS Star Ratings Linear Mean Scores

- HCAHPS Survey responses are **converted to a 0-100 score** as follows:

• <i>Never</i> 0	<i>Sometimes</i> 33 1/3	<i>Usually</i> 66 2/3	<i>Always</i> 100
• <i>Strongly disagree</i> 0	<i>Disagree</i> 33 1/3	<i>Agree</i> 66 2/3	<i>Strongly agree</i> 100
• <i>No</i> 0			<i>Yes</i> 100
• Rating <i>0</i> = 0	Rating <i>1</i> = 10	...	Rating <i>10</i> = 100
• <i>Definitely no</i> 0	<i>Probably no</i> 33 1/3	<i>Probably yes</i> 66 2/3	<i>Definitely yes</i> 100

- HCAHPS scores are averaged to obtain linear means for each measure



Construction & Adjustment of HCAHPS Linear Mean Scores

- Linear means capture the full distribution of responses to HCAHPS Survey items
 - Not just the “Top-Box” (most positive) response
- Scores are then adjusted for patient mix and mode of survey administration

Why do HCAHPS Star Ratings use linear mean scores instead of “Top-Box” scores?

- Linear mean scores and “Top-Box” scores are alternative, statistically valid methods for summarizing HCAHPS performance
- The linear mean score utilizes the full range of survey responses to each HCAHPS item
 - “Top-Box” score is based on only the most positive response



Process of Creating HCAHPS Star Ratings

Step 2

- Conversion of Linear Mean Scores to HCAHPS Star Ratings

Converting Linear Mean Scores to HCAHPS Star Ratings

- A statistical **clustering** technique is applied to HCAHPS linear mean scores
- Clustering identifies star groups that *maximize differences between groups* and *minimize differences within groups*
 - There are no pre-determined quotas for the star categories
 - Same method is used for many CMS Part C and Part D Star Ratings



Converting Linear Mean Scores to HCAHPS Star Ratings (*cont'd*)

- 1, 2, 3, 4 or 5 whole stars are assigned to each HCAHPS measure
 - No half-stars are assigned

Does the number of hospitals that receive 5 stars differ for each of the HCAHPS measures?

- Yes. The clustering algorithm empirically determines the number of hospitals in each Star Rating category independently for each HCAHPS measure
- CMS does not force a pre-determined number or percentage of hospitals into a specific Star Rating category

HCAHPS Star Ratings and Top-Box Scores on Hospital Compare

Table 1 of 11
How often did nurses communicate well with patients?

Patients reported how often their nurses communicated well with them during their hospital stay. "Communicated well" means nurses explained things clearly, listened carefully to the patient, and treated the patient with courtesy and respect.

	Star rating for this measure	Patients who reported that their nurses "Always" communicated well	Patients who reported that their nurses "Usually" communicated well	Patients who reported that their nurses "Sometimes" or "Never" communicated well
Hospital A	★ ● ● ● ●	66%	18%	16%
Hospital B	★★★ ● ●	76%	20%	4%
Hospital C	★★ ● ● ●	73%	21%	6%

Process of Creating HCAHPS Star Ratings

Step 3

- Calculation of the HCAHPS Summary Star Rating

HCAHPS Summary Star Rating

- The HCAHPS Summary Star Rating combines the Star Ratings of all the HCAHPS measures
- The HCAHPS Summary Star Rating is the average of 9 elements:
 - 7 Star Ratings from the HCAHPS composite measures
 - Average of Cleanliness and Quietness stars
 - Average of Overall Rating and Recommend stars

HCAHPS Summary Star Rating (*cont'd*)

- Normal rounding rules are applied to the HCAHPS Summary Star Rating average to assign 1, 2, 3, 4 or 5 whole stars
 - No half-stars are assigned

Example: Calculation of HCAHPS Summary Star Rating

	11 HCAHPS Measure Star Ratings	9 Star Ratings Used in HCAHPS Summary Star Rating	9-Measure HCAHPS Summary Star Rating Average (<i>unrounded</i>)	HCAHPS Summary Star Rating (<i>rounded</i>)
HCAHPS Composite Measures			$(4+3+4+5+4+4+3+5+3.5)/9 = 3.944$	4
Communication with Nurses	4	4		
Communication with Doctors	3	3		
Responsiveness of Hospital Staff	4	4		
Pain Management	5	5		
Communication about Medicines	4	4		
Discharge Information	4	4		
Care Transition	3	3		
HCAHPS Individual Items				
Cleanliness of Hospital Environment	5	$(5+5)/2 = 5$		
Quietness of Hospital Environment	5	$= 5$		
HCAHPS Global Items				
Overall Hospital Rating	4	$(4+3)/2 = 3.5$		
Recommend the Hospital	3			

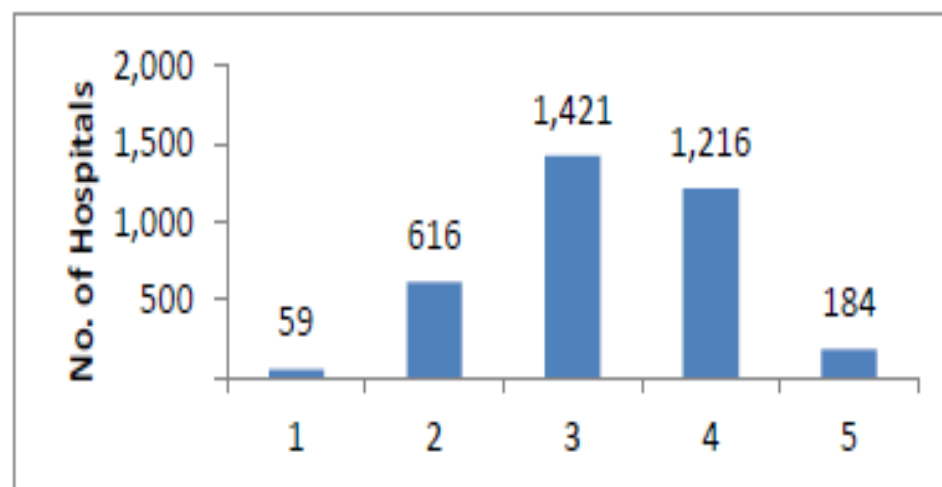
HCAHPS Summary Star Rating on Hospital Compare

	x	x	x	DISTRICT OF COLUMBIA AVERAGE	NATIONAL AVERAGE
	Hospital A	Hospital B	Hospital C		
	<p>Overall rating ⓘ:</p> <p>★●●●●●</p> <p>Learn more</p> <p>Add to My Favorites</p> <p>Map and directions</p>	<p>Overall rating ⓘ:</p> <p>★★★●●●</p> <p>Learn more</p> <p>Add to My Favorites</p> <p>Map and directions</p>	<p>Overall rating ⓘ:</p> <p>★●●●●●</p> <p>Learn more</p> <p>Add to My Favorites</p> <p>Map and directions</p>		
<p>Patient survey summary star rating. More stars are better.</p> <p>Learn more</p>	★★★●●●	★★★★●●	★★★●●●		

HCAHPS Stars Ratings Distributions for December 2016 Public Reporting (N= 3496 Hospitals)

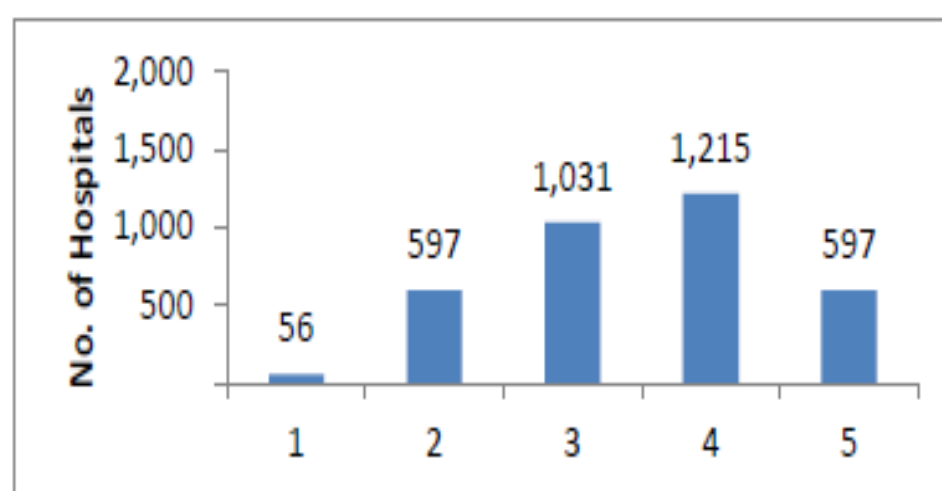
HCAHPS Summary Star Rating

Star Rating	N	%
1	59	2
2	616	18
3	1,421	41
4	1,216	35
5	184	5



Communication with Nurses

Star Rating	N	%
1	56	2
2	597	17
3	1,031	29
4	1,215	35
5	597	17



Communication with Doctors

Sources and Web sites for More Information

- For more information about HCAHPS Star Ratings, visit the official HCAHPS Web site, www.hcahpsonline.org
 - **FAQs about HCAHPS Star Ratings**
 - **HCAHPS Star Rating Technical Notes**
- Questions or feedback about Star Ratings
HospitalCompare@hsag.com
- Visit Hospital Compare:
 - <https://www.medicare.gov/hospitalcompare/search.html>

For more information or questions:

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