

2016 Dialysis Facility Compare Star Ratings Refresh

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1:00 PM ET**



Agenda

Topic	Speaker
Dialysis Facility Compare Star Ratings Overview	Elena K. Balovlenkov Technical Lead, Dialysis Facility Compare, Centers for Medicare & Medicaid Services
Dialysis Facility Compare Star Ratings Methodology	Chris Harvey, M.S. Research Analyst, University of Michigan Kidney Epidemiology and Cost Center
Dialysis Facility Compare Next Steps	Elena K. Balovlenkov Technical Lead, Dialysis Facility Compare, Centers for Medicare & Medicaid Services
Dialysis Facility Compare New Measures	Joel Andress ESRD Measures Development Lead, Division of Chronic and Post-Acute Care, Centers for Medicare & Medicaid Services
Questions	



Dialysis Facility Compare Star Ratings Overview

Background

The Centers for Medicare & Medicaid Services (CMS) developed the Dialysis Facility Compare (DFC) star ratings in response to a national call for greater transparency in how the agency measures the quality of kidney care and health care consumers' desire to use health care quality data to make informed decisions.

The following initiatives supported the development of the DFC star ratings:

- Affordable Care Act
- National Quality Strategy
- Obama Administration's Digital Government Strategy

DFC Star Ratings

Goal: To create increased transparency and ensure the information on the DFC website is presented in a way consumers can understand.

Audience:

- Health care consumers and patients
- Patient advocacy groups
- Dialysis facilities

Key Takeaways:

DFC star ratings can help health care consumers by:

- Providing an easily recognizable way to compare dialysis facilities.
- Offering additional information patients and caretakers can use to make decisions about where to receive care.

First Year of DFC Star Ratings Timeline

Date	Activity
June 2014	Star ratings announcement
July 2014	DFC star ratings preview period
August 2014	Consumer testing
January 2015	Star ratings release on DFC
April 2015	Technical expert panel (TEP) review
October 2015	DFC star ratings refresh

DFC Star Ratings Refresh Timeline

Date	Activity
December 2015	TEP discussion of April 2015 report
February – March 2016	Public comment period
July – August 2016	Preview period
October 2016	DFC star ratings refresh



Dialysis Facility Compare Star Ratings Methodology

DFC Star Ratings Quality Measures

- Standardized Transfusion Ratio (STrR)
- Standardized Mortality Ratio (SMR)
- Standardized Hospitalization Ratio (SHR)
- Percentage of adult hemodialysis (HD) patients who had enough wastes removed from their blood during dialysis *
- Percentage of pediatric hemodialysis (HD) patients who had enough wastes removed from their blood during dialysis *
- Percentage of adult peritoneal dialysis (PD) patients who had enough wastes removed from their blood during dialysis *
- Percentage of adult dialysis patients who had hypercalcemia
- Percentage of adult dialysis patients who received treatment through arteriovenous (AV) fistula
- Percentage of adult patients who had a catheter left in vein 90 days or longer for their regular hemodialysis treatment

Measures used in the October 2016 DFC star ratings are the same measures used in the previous releases.

**Combined three dialysis adequacy quality measures into a single Kt/V measure value, weighted average of three individual measures. The Kt/V measures will be updated with the new NQF approved methodology for the October 2016 DFC star ratings.*

Description of Original Methodology

Several steps were used to calculate measure scores and final scores before each facility was assigned a star rating:

- Probit scoring transformed individual measures to be between 0 to 100.
- Analytic method resulted in identifying three measure domains.
- Measures scored within domains equally weighted to give a domain score.
- Percent of facilities that receive each star rating:
 - 5 Stars – 10%
 - 4 Stars – 20%
 - 3 Stars – 40%
 - 2 Stars – 20%
 - 1 Star – 10%

Star Rating Technical Expert Panel

- Two Technical Expert Panel (TEP) workgroups met on April 27-28, 2015:
 - The Methodology Workgroup
 - The Public Reporting/Patient and Consumer Understanding Workgroup
- The TEP provided recommendations on:
 - The current and future star rating statistical methodology.
 - Measures used in the star ratings.
 - Readability and presentation of the star ratings on the DFC website.
- The TEP held follow up meetings in August and December 2015.
- The TEP provided additional recommendations on:
 - Allowing a facility to provide comments on explanations of the organization's star rating.
 - Increasing measurement and scoring consistency across ESRD programs.
 - Adding the following measure categories:
 - Patient safety outcomes
 - Patient-reported outcomes
 - Facility staff
 - Facilitating measure testing specifically for consumers.

TEP Recommendations

Recommendations	Updated Methodology
Establish a baseline to show improvement.	<ul style="list-style-type: none"> • Takes into account changes in facility performance on the quality measures over time. • Compares data to performance standards set in a baseline year. • Demonstrates if a facility's star ratings improves (or declines) in performance over time.
Account for highly skewed measures.	<ul style="list-style-type: none"> • Limits the impact of a few very low scores by applying a statistical method called truncated Z-scores. • This ensures that star ratings are not determined by extreme outlier performance on a single measure.
Ensure accuracy of ratings.	<ul style="list-style-type: none"> • Keeps the continuity of measures.

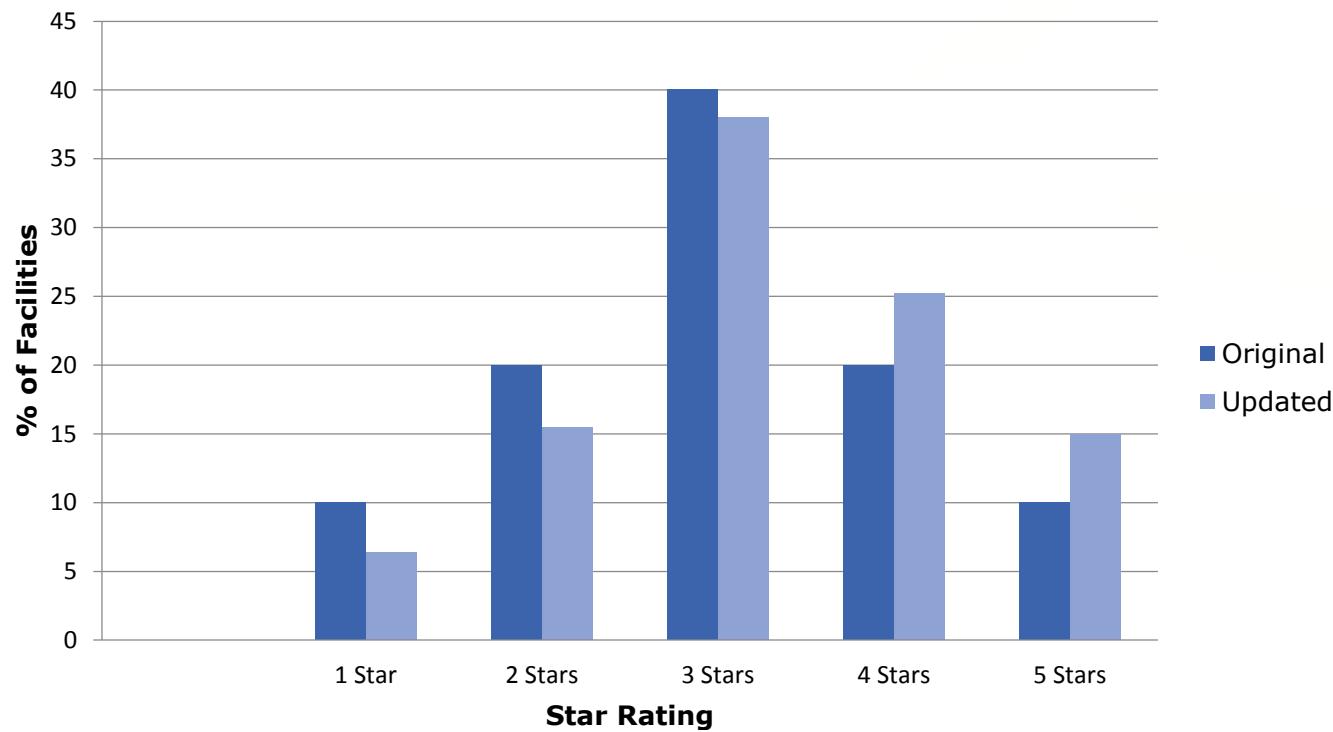
For details, see the Updated Dialysis Facility Compare Star Rating Methodology Technical Notes [here](#).

DFC Star Ratings Original Methodology	DFC Star Ratings Updated Methodology
Probit scores used for percentage measures.	Z-scores used for percentage measures.
Calculate measure scores in the current year based off relative scoring in the current year .	Calculate measures scores in the current year based off relative scoring in the baseline year .
Assign star ratings in the current year based on relative cutoffs for Final Facility Scores set in the current year .	Assign star ratings in the current year based on relative cutoffs for Final Facility Scores in the baseline year .

Current year refers to the calendar year of data that is being presented as new on DFC.

Baseline year refers to the calendar year of collected data that is used to analytically determine measure scoring criteria and star rating cutoffs.

DFC Star Ratings Comparison Chart



In the graph, the original methodology uses 2014 as the current year. The updated methodology uses 2014 as the current year and 2013 as the baseline year.

For the October 2016 release, the updated methodology uses 2014 as the baseline year and 2015 as the current year.

DFC Star Rating Shift

Comparison of Star Rating Distribution Between the Original and Updated Methodology

Original Methodology	Updated Methodology					Total (%)
	1	2	3	4	5	
Cell Counts = Number of Facilities	369	218	0	0	0	587 (10%)
1	369	218	0	0	0	587 (10%)
2	6	677	491	0	0	1,174 (20%)
3	0	12	1,719	619	0	2,350 (40%)
4	0	0	23	850	301	1,174 (20%)
5	0	0	0	10	577	587 (10%)
Total (%)	375 (6%)	907 (15%)	2,233 (38%)	1,479 (25%)	878 (15%)	5,872 (100%)

Comparison of Averages of Individual Measures Between Dialysis Facility Compare Rating Categories

Results of the Updated Methodology

Using 2013 as the Baseline Year and 2014 as the Current Year

Measure	*	**	***	****	*****
Facility N	375 (6%)	907 (15%)	2,233 (38%)	1,479 (25%)	878 (15%)
Final Score	-0.97	-0.41	0.05	0.45	0.83
SMR	1.38	1.12	1.04	0.95	0.84
SHR	1.31	1.15	1.03	0.92	0.75
STrR	1.50	1.28	1.05	0.85	0.64
Kt/V	80.09	87.22	90.17	92.77	94.05
Hypercalcemia	4.61	3.58	2.30	1.37	0.99
Fistula	49.32	57.43	63.14	68.31	75.34
Catheter	21.02	14.89	10.30	7.41	5.29

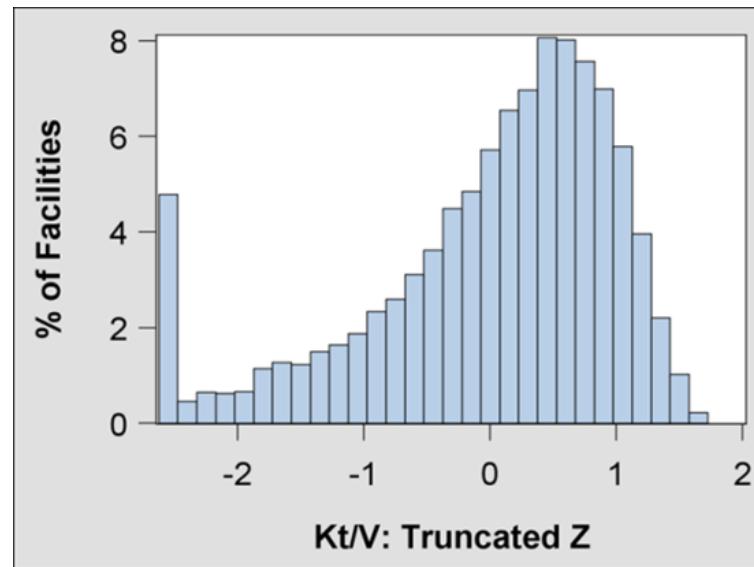
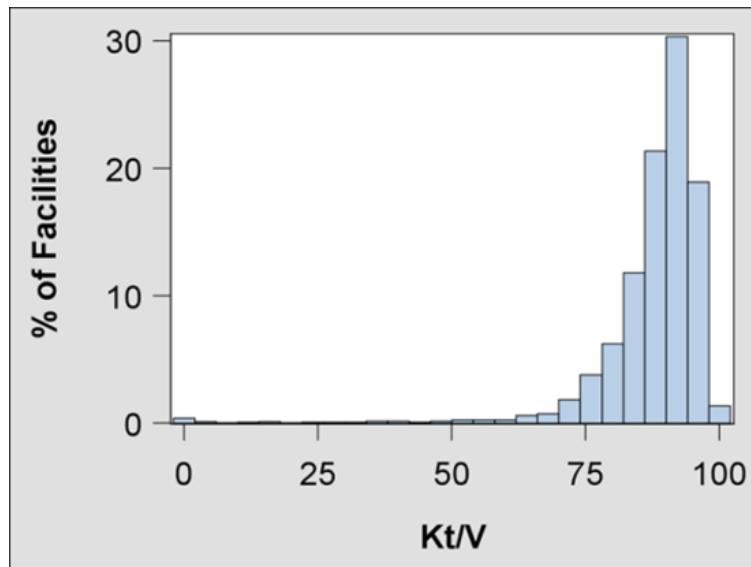
Correlation of final scores between original methodology and updated methodology: $r=0.90$ and $p\text{-value}<0.0001$

Calculating Percentage Measure Scores in the Baseline Year

- Calculate Z-scores for the Kt/V, hypercalcemia, catheter ≥ 90 days, and fistula percentage measures:
 - All scored measures have mean of 0 and variance of 1.
- Perform truncation of the Z-scores:
 - Limit the range of scores so that star ratings are not determined by outlier performance on a single measure.
 - The upper and lower truncation bounds are chosen so that all final measure scores have a maximum range of -2.58 to 2.58.

For details, see the Updated Dialysis Facility Compare Star Rating Methodology Technical Notes [here](#).

Histogram: Scoring Kt/V Using Z-scoring Methods



Calculating Percentage Measure Scores in the Current Year

Kt/V, Hypercalcemia, Fistula, Catheter Measures

- The new scoring system first applies truncated Z-scores in the baseline year, effectively defining the criteria that assigns scores from measure values.
- This criteria is then applied in the current year for reporting.

Calculating Standardized Measure Scores in the Current Year

SMR, SHR, STrR Measures

- Current year facility ratios are first multiplied by an adjustment factor to account for differences in population event rates between the baseline year and the current year.
 - This allows the current year ratio value to reflect the same measure value it would have taken on in the baseline year.
- Probit scoring is performed on the baseline year data to define the criteria that assigns scores to measures.
- This criteria is applied in the current year for reporting after implementation of the adjustment factor.

For a detailed example, see the Updated Dialysis Facility Compare Star Rating Methodology Technical Notes [here](#).

Assigning Star Ratings

Baseline Year

- Final scores for the 2014 baseline year facilities are used to determine the final score cutoffs for the current year star ratings.
- Baseline year cutoffs set at: 10% 5-stars, 20% 4-stars, 40% 3-stars, 20% 2-stars, 10% 1-star.
- Baseline year cutoffs are retained for determining star ratings in subsequent current years until a new baseline year is established.

Current Year

- The final score cutoffs that are defined using the baseline year data are used to assign star ratings to facilities for the current year.
- Defining measure scores and star rating cutoffs in the baseline year allows the dialysis community to observe changes in facility performance over time.

Dialysis Facility Compare Next Steps

DFC Next Steps

CMS will:

- Evaluate when to re-baseline the star ratings.
- Continue to evaluate data and consider findings for future changes to the methodology.
- Publish new data on Dialysis Facility Compare in October 2016.
- Report results from the In-Center Hemodialysis Consumer Assessment of Healthcare Providers and Systems (ICH-CAHPS®) patient experience survey semi-annually.
- Introduce new quality measures.

DFC Improvements

To ensure DFC is meeting the needs of patients, advocacy groups, and facilities, CMS will:

- Facilitate consumer testing.
- Review website content and design.
- Offer opportunities for the public to provide feedback.

Dialysis Facility Compare New Measures

Patient Experience Survey

In response to requests from health care consumers' feedback about the importance of understanding other patients' experiences and TEP recommendations, CMS will report results from the ICH-CAHPS® patient experience survey semi-annually.

- The patient experience survey results will not be part of the star ratings.
- Survey results will appear on a page separate from star ratings and other quality measures.
- An in-center hemodialysis facility must have at least 30 completed surveys for reporting.
- Data are adjusted so facilities can be compared fairly.
- Dialysis Facility Compare will report six indicators of patients' experience:
 - Three items which combine a number of survey questions and summarize responses about:
 - Kidney doctors communication and caring.
 - The quality of dialysis center care and operations.
 - How well the dialysis center is providing information to patients.
 - Three individual questions which provide patients' ratings of their experiences with:
 - Kidney doctors
 - Dialysis center staff
 - Dialysis facility

National Healthcare Safety Network Standardized Bloodstream Infection Ratio

The standardized infection ratio (SIR) is a ratio of the number of bloodstream infections that are observed at a facility versus the number of bloodstream infections that are predicted for that facility, based on national baseline data.

$$\text{SIR} = \frac{\text{Number of Observed Bloodstream Infections}}{\text{Number of Expected Bloodstream Infections}}$$

SIR>1

More infections than predicted

SIR=1

Same number of infections as predicted

SIR<1

Fewer infections than predicted

Example Dialysis Event BSI Rate and SIR					
Vascular Access Type	# BSI	# Patient-months	Facility BSI Rate/ 100 Patient-months	NHSN BSI Rate/ 100 Patient-months ¹	Predicted # of BSIs ²
Fistula	0	114	0.00	0.26	0.32
Graft	1	102	0.98	0.39	0.41
All CVC	3	72	4.17	2.16	1.78
Other	0	3	0.00	0.67	0.03
All	4	291	-	-	2.54

Standardized Infection Ratio (SIR) = $\frac{\text{Observed}}{\text{Predicted}} = \frac{4}{2.54} = 1.57$

1. 2014 aggregate NHSN BSI rates.
2. Mock data for illustrative purposes only.

Pediatric Peritoneal Dialysis Kt/V

The Pediatric Peritoneal Dialysis (PD) Kt/V measure equals the percent of eligible pediatric PD patients at the facility who had enough wastes removed from their blood during dialysis: Kt/V greater than or equal to 1.8.

- **Denominator:** To be included in the denominator for a particular reporting month, the patient must:
 - Be on PD for the entire month.
 - Be < 18 years old at the beginning of the month.
 - Have had ESRD for greater than 90 days at the beginning of the month.
 - Be assigned to that facility for the entire month.
- **Numerator:** Number of patient months in the denominator in which delivered PD dose was a weekly Kt/V urea ≥ 1.8 (dialytic + residual, measured in the last six months)

Resources

- Technical notes on the updated dialysis facility compare star rating methodology
- Technical notes on Dialysis Facility Compare star rating original methodology
- Technical expert panel reports and recommendations
- For additional information about the star ratings methodology or measure specifications, please email the University of Michigan Kidney Epidemiology and Cost Center Helpdesk at dialysisdata@umich.edu.

Resources

- [Dialysis Facility Compare](#)
- [In-Center Hemodialysis Consumer Assessment of Healthcare Providers and Systems \(ICH-CAHPS®\) Survey](#)
- [Pediatric Peritoneal Dialysis \(PD\) Kt/v Measure Information Form](#)
- [National Healthcare Safety Network \(NHSN\) Dialysis Event Surveillance](#)
- [NHSN Guide to the NHSN Dialysis Event Surveillance Bloodstream Infection \(BSI\) Standardized Infection Ratio \(SIR\) Measure](#)

Questions



Thank you!