

How to Become a Five-Star Dialysis Facility (Without Really Trying)

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INTRODUCTION

- The second round of Medicare Star Ratings for dialysis facilities was released in October 2015, just 9 months after the first ratings were released in January. About 5% of facilities experienced changes of 2 or more stars up or down (Table 1). To understand how quality ratings could change so quickly and dramatically, we conducted case studies of facilities that improved by 3 stars from 1 or 2 stars to 4 or 5 stars.

METHODS

- Facilities with improvements of 3+ stars were identified from the Dialysis Facility Compare database¹, and all measures included in the Star Ratings for both rating periods (January ratings based on 2010-2013 experience, October ratings based on 2011-2014 experience) were extracted for analysis. Changes in individual measure and reporting domain scores were analyzed and weighted per the Star Rating scoring methodology² (see **Scoring Primer** below). Key factors driving the improvement in star ratings were identified and analyzed in the context of the overall program..

FIVE STAR SCORING PRIMER

7 Measures:

Grouped into Three Domains:

Standardized Mortality Ratio (SMR)	} Domain 1: Standardized Outcomes
Standardized Hospitalization Ratio (SHR)	
Standardized Transfusion Ratio (STrR)	
% of Adult Patients with Fistula	} Domain 2: "Other Outcomes1"
% of Adult Patients with Catheter > 90 days	
% of Adult Patients with Hypercalcemia	} Domain 3: "Other Outcomes2"
% of Patients with Adequate Kt/V	

- > Data Source is **Medicare Claims** for all measures except Hypercalcemia, which is from CROWNWeb.
- > Scores on each measure are ranked low to high relative to all other facility scores (percentile ranks)
- > Ranks on each measure within each Domain are averaged to get a Domain Score
- > Domain scores are averaged across Domains to get an Overall Score

Example calculation:

Measure:	Rank:	
SMR:	55	} Domain 1 Score: (55 + 45 + 50) / 3 = 50
SHR:	45	
STrR:	50	
Fistula	90	} Domain 2 Score: (90 + 84) / 2 = 87
Catheter	84	
Hypercalcemia	80	} Domain 3 Score: (80 + 10) / 2 = 45
Kt/V	10	

Overall Score: (50 + 87 + 45) / 3 = 60.7

- > Overall Scores are forced into a bell-curve so that only 10% of facilities get 5 stars, 20% get 4 stars, etc.



STUDY SAMPLE

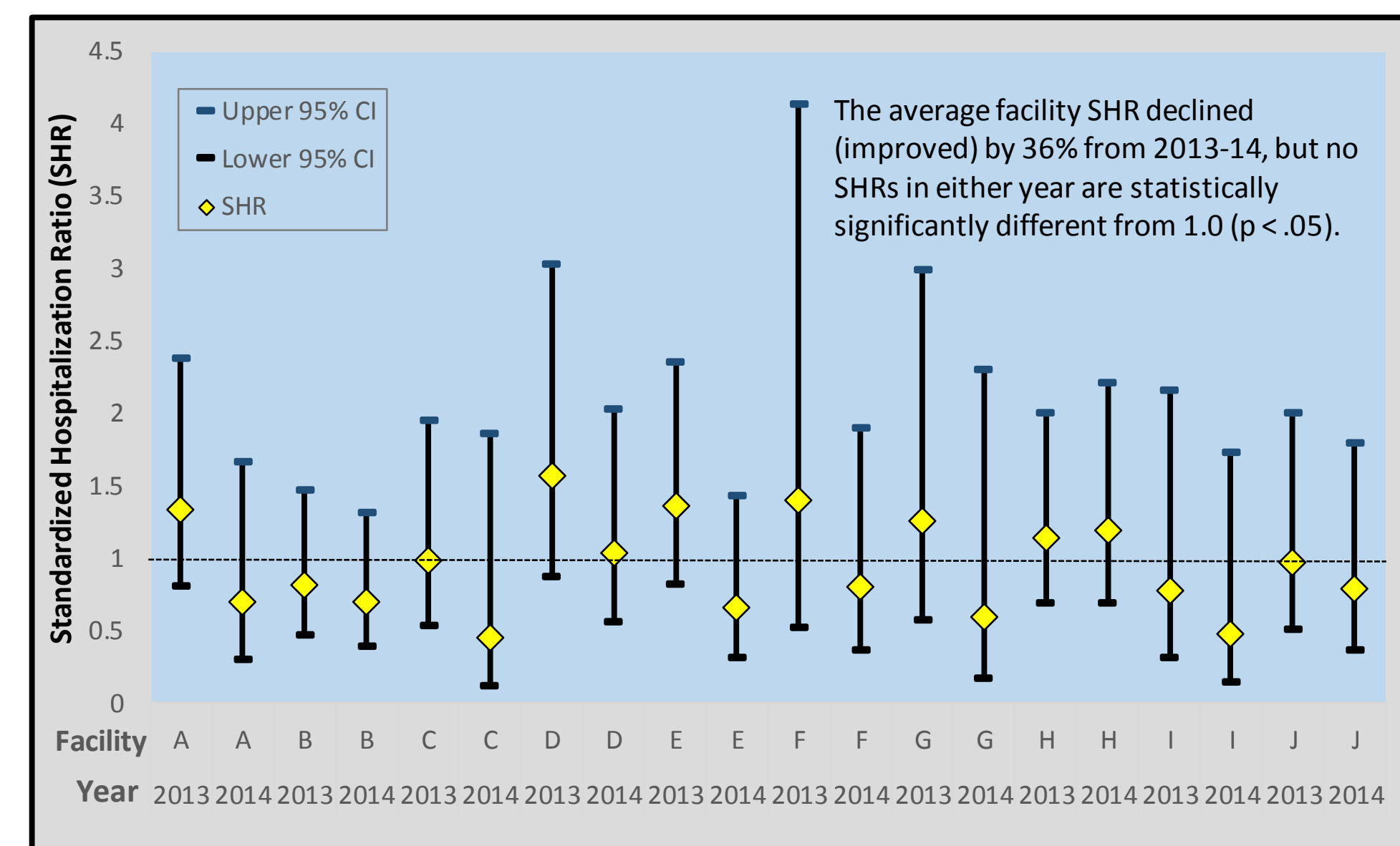
- Ten facilities were included in the case study; 4 went from 1 to 4 stars, 6 went from 2 to 5 stars (circled cells in Table 1). Facilities were 50% from large Dialysis Organizations (DOs), 30% from small-medium DOs, and 20% from hospital-based DOs. Regionally, they were 30% in the West, 30% in the South, 30% in the Midwest and 10% in the Northeast.
- Facility size ranged from 7 to 24 hemodialysis stations. Only 3 of 10 had patients in a Home Program in 2014. None had adult peritoneal dialysis or pediatric patients. Only one facility changed ownership between 2010 and 2014.

Table 1: Five Star Ratings: New Ratings Compared to Old Ratings

New Five Star Rating	Old Five Star Rating					Not Rated
	1	2	3	4	5	
1	325	158	44			48
2	160	529	369	25	1	85
3	40	361	1338	419	72	109
4	4	33	406	502	172	55
5		6	61	169	316	34
Not Rated	7	7	8	2	3	580

Rating Shift of 3 Stars up or down N=11 (0.2%)
 Rating Shift of 2 Stars up or down N=275 (5.0%)
 Rating Shift of 1 Star up or down N=2214 (40.2%)
 Same Rating both years N=3310 (54.6%)

Figure 1: Comparison of Standardized Hospitalization Ratios (SHRs) 2013 to 2014 for Study Sample



FACTORS CONTRIBUTING TO IMPROVED STAR RATINGS

1. Luck

- Between 2013 and 2014, the average improvement in Domain 1 scores (standardized mortality [SMR], hospitalization [SHR] and transfusion [STrR] ratios) for these 10 facilities was 39%.
- Mortality, hospitalizations and transfusions are events that dialysis facilities have little control over^{3,4}, and only a small percent of these standardized scores nationwide are statistically significant, as they measure rare events in small populations:
 - Nationally, across all facilities over the two years rated, only 5.4% of SHRs and 6.8% of STrRs had statistically significant odds of being different from the national average standardized score of 1.0 (p < 0.05).
 - SMR, which is based on 4 years of data, instead of just 1 year, was statistically significant for 16.2% of facilities, nationally (two years pooled analysis).
 - Among the 10 facilities with improvements in Star Ratings of 3 stars, only 2 out of 60 (3%) of standardized ratios were statistically significant at the 0.05 level (Figure 1).

2. Being Around Long Enough to Get Scores

- Five of the 10 facilities were Medicare-certified after the beginning of the first star rating experience period (January 2010), resulting in missing measures in the first round of star ratings. The addition of high-ranking STrR and SMR scores that were missing in Year 1 helped 3 facilities score higher in Year 2.
 - Nationally, a change in the number of included measures between Year 1 and Year 2 was strongly associated with a change in Star Rating (r=.555) (Table 2).

Table 2: Change in Number of Included Measures by Change in Number of Stars Year 1 to Year 2

Change in Number of Measure Scores Year1 to Year2	Change in Number of Stars Year1 to Year2										
	-5	-4	-3	-2	-1	0	1	2	3	4	5
-4											
-3											
-2											
-1											
1											
2											
3											
4											
5											
6											
7											

106 Facilities with Fewer Scores Year2 than Year1:
 29% Lost Stars in Year2
 14% Gained Stars
 57% No Change in Stars

665 Facilities with More Scores Year2 than Year1:
 57% Gained Stars in Year2
 9% Lost Stars
 34% No Change in Stars

3. Improved Reporting

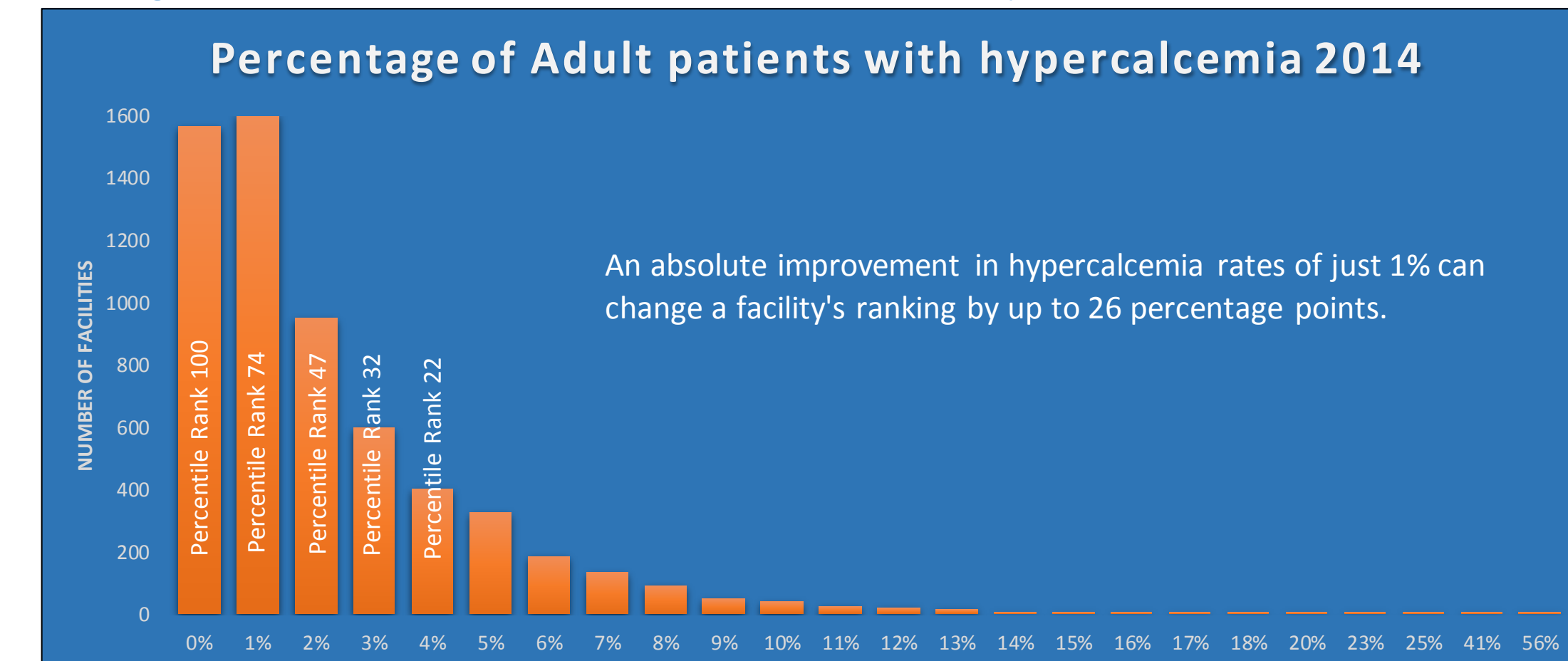
- The average percentile ranking of Kt/V scores improved by 270% for these 10 facilities in one year. One facility improved their dialysis adequacy (Kt/V) scores from the lowest percentile nationally to the 60th percentile in a single year. A second facility went from 0% to 78% of patients meeting the dialysis adequacy standard in a single year. As a result, the average Domain 3 scores for these facilities improved by 66%.

- Better claims coding in Year 2 may account for this dramatic improvement. Kt/V is reported via Value Code D5 on dialysis claims, and while it is a "required" field, it does not affect reimbursement, and may be under-reported lacking other incentives.
- Nationally, facilities that substantially improved Kt/V scores saw big jumps in Star Ratings. Facilities that improved Kt/V by 100% or more saw an average increase of 1.375 Stars. A 50% or larger improvement in Kt/V was associated with an average improvement of 1.05 Stars.

4. Small Improvements in Skewed Measures

- Very skewed distributions in some measures translate small absolute changes in clinical performance into very large changes in percentile rankings (see example for hypercalcemia in Figure 2).
 - For the 10 facilities in this study, the average percentage of adults with hypercalcemia improved by 0.6 percentage points in Year 2 (from 1.3% to 0.7%), but the average percentile rank improved by 30% (67th percentile to 87th percentile in Year 2).
 - Similarly, the average percentage of adults with A/V fistulas in place improved by 11 percentage points in Year 2 (from 59% to 70%), but the average percentile rank improved by 78% (37th percentile to 65th percentile).

Figure 2: Distribution of Raw Scores on Hypercalcemia Measure



CONCLUSION

- The nature of the Medicare star ratings for dialysis facilities can result in large changes in quality ratings from year to year that have little face validity, and may have little to do with actual changes in quality of care. Random chance, reporting inaccuracies/incompleteness, statistical artifacts and factors beyond the facilities' control may influence Star Ratings.

REFERENCES

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