

Small Facility Adjustment Proposal for the ESRD QIP

The purpose of the small facility adjustment (SFA) is to correct for the measure estimated below the national average level, which is likely due to the random variation because of a small facility size. The proposed SFA methodology for future payment years applies to all clinical measures. The adjusted estimate of measure is determined by calculating the weighted average of the original measure and the national average. The adjustments are to be applied only to small facilities that perform below the national average. The cut-offs for defining small facilities vary by measures. For each measure, the cut-off is determined by the minimum facility size required for reaching an Inter-Unit Reliability (IUR) higher than 0.4. For VAT, Hypercalcemia, and Kt/V, the facility size, based on which the IURs were calculated, is the number of patients at a given facility. Tables 1a – 1d present these results. Since the reliability of Kt/V was already high with relatively small facility sizes, we did not complete the chart as the IUR is a monotone function of facility; the larger the facility size, the larger the IUR.

Table 1a. IUR for Fistula by increasing facility size

# of Patients	# of Facilities	IUR
11-15	196	0.4333
16-20	303	0.3942
21-25	365	0.4680
26-30	356	0.5510
31-35	374	0.5420
36-40	343	0.5745
41-45	371	0.5712
46-50	377	0.6008
51-55	369	0.6439
>=56	2711	0.7381

Table 1b. IUR for Catheter by increasing facility size

# of Patients	# of Facilities	IUR
11-15	196	0.4221
16-20	303	0.5759
21-25	365	0.5232
26-30	356	0.6000
31-35	374	0.5643
36-40	343	0.6522
41-45	371	0.6050
46-50	377	0.5728
51-55	369	0.7127
>=56	2711	0.7717

Table 1c. IUR for Hypercalcemia by increasing facility size

# of Patients	# of Facilities	IUR
11-15	129	0.7345
16-20	151	0.4185
21-25	213	0.4252
26-30	227	0.4709
31-35	260	0.7112
36-40	259	0.5566
41-45	253	0.7036
46-50	265	0.6131
51-55	244	0.6984
>=56	3664	0.8349

Table 1d. IUR for Kt/V Dialysis Adequacy by increasing facility size

# of Patients	# of Facilities	IUR
11-15	184	0.8870
16-20	217	0.8899
21-25	256	0.8825

For SRR and STrR, we determined the minimum sample size required to reach an IUR of 0.40 (Table 2).

Table 2. SFA ranges for SRR and STrR

Measure	Small facility adjustment range
SRR	11-41 discharges
STrR	10-21 patient years at risk

Results in Tables 1a – 1d suggest that the reliability of the Fistula and Catheter measures levels off for facilities with at least 26 patients. For Hypercalcemia, the IUR increases considerably among facilities with 31 or more patients. However, the IUR of facilities with 26-30 patients is higher than 0.40. Kt/V shows high reliability among all facility sizes, thus we may consider not applying an adjustment to this measure.

Proposed SFA Methodology

We propose the following:

For the i^{th} facility, suppose the original measure is p_i and the number of patients at the i^{th} facility is n_i .

In cases where large values of p_i are good, we propose altering the scores for the small facilities

$L \leq n_i < C$ by using the following rule:

- Let $w_i = \frac{n_i}{C}$ if $L \leq n_i < C$. For example, $L=11$ and $C=26$ for the VAT and Hypercalcemia measures.
- The new score is: $t_i = w_i * p_i + (1 - w_i) * \bar{P}$, if $p_i < \bar{P}$, where \bar{P} is the national mean measure.

Note that for measures where lower scores are better (i.e. Catheter and Hypercalcemia and % of months with catheter), the new score is: $t_i = w_i * p_i + (1 - w_i) * \bar{P}$, if $p_i > \bar{P}$. For the standardized ratio measures such as SRR and STrR, set $\bar{P}=1$. Facilities with size less than L will not receive a score.

Empirical Results

To study the impact of the proposed SFA adjustment on payment reductions, we applied it to the final data used for PY 2015. We used the same small facility range (11-25 patients) for the new SFA analysis.

Table 3 compares the distributions of payment reductions under the PY 2015 rule and the proposed SFA.

Table 3. PY 2015 Payment Reductions by SFA methodology

Payment reduction distribution in PY 2015 using the old rule			Estimated payment reduction distribution in PY 2015 using the new SFA		
Payment Reduction	Number of Facilities	Percent of Facilities	Payment Reduction	Number of Facilities	Percent of Facilities
0%	5303	93.86%	0%	5296	93.73%
0.5%	246	4.35%	0.5%	255	4.51%
1.0%	41	0.73%	1.0%	45	0.80%
1.5%	22	0.39%	1.5%	26	0.46%
2%	38	0.67%	2%	28	0.50%

Note: This table excludes 488 facilities that did not receive a score because they did not have enough data to receive a Total Performance Score.

Results suggest slightly more facilities would receive a payment reduction under the new methodology. A total of 347 (6.1%) of facilities received a payment reduction in PY 2015, whereas under the new SFA methodology, a total of 354 (6.3%) of facilities would have received a payment reduction.

We also evaluated the impact of this methodology on individual measure scores and the Total Performance Score (TPS). Table 4 presents the changes in measure scores observed after applying the new SFA and comparing to final PY 2015 scores.

Table 4. Impact of proposed SFA on individual measure scores

Metric	# facilities received SFA* in PY 2015	National mean in the performance period (CY 2013), used in the new SFA method	# facilities receiving SFA under new method	# facilities with score change due to new SFA method N (% out of scored facilities)	# facilities with improved score under new SFA method	# facilities with worse score under new SFA method
Hgb	1253	0.4%	63	32 out of 5513 (0.6%)	32	0
Fistula	938	64.1%	391	341 out of 5547 (6.1%)	66	275
Catheter	826	11.7%	352	301 out of 5562 (5.4%)	65	236
HD Kt/V	588	91.1%	173	248 out of 5641 (4.4%)	22	226
Ped HD Kt/V	11	80.1%	1	8 out of 11 (72.7%)	0	8
PD Kt/V	787	76.4%	192	400 out of 1203 (33.3%)	62	338
TPS				513 out of 5650 (9.1%)	96	417
Reduction				43 out of 5650 (0.8%)	23	20

Fewer facilities received an adjustment under the new methodology, since small facilities with performance rates above the national mean do not receive an adjustment. However, over half of those facilities that do receive an adjustment received a larger adjustment under the new methodology. For example, of the 43 facilities that received a different payment reduction under the new SFA, 23 (53%) received a lower payment reduction.

Finally, we estimated the number of facilities that would receive an adjustment and the mean adjustment for the proposed PY 19 clinical measures (Table 5). CROWNWeb data were used to calculate Kt/V and Hypercalcemia estimates. CY 2013 claims were used to calculate the Fistula and Catheter, and the standardized rate ratios.

Table 5. Estimated number of facilities receiving SFA for PY 19

Measure	Total # facilities	# small facilities	National mean ^a	# facilities with SFA	Average improvement rate
Fistula	6138	928	64.2%	387	1.44%
Catheter ^b	6138	812	11.4%	357	-1.42%
Hypercal ^b	6281	683	2.22%	209	-0.41%
Kt/V	5818	657	91.0%	269	2.37%
SRR ^b		1239	1.0	412	-0.035
STrR ^b		1024	1.0	478	-0.083

^a For standardized rate ratios, national mean is always 1.0.

^b Lower score is better.