CBE 2979: Standardized Transfusion Ratio for Dialysis Facilities

5.2.3a Attach Additional Reliability Testing Results, Table 2

Table 2. Accountable Entity Level Reliability Testing Results by Denominator, Target Population Size

Enter overall mean, minimum, and maximum performance scores, along with the count of measured entities and persons/encounters/episodes. Organize entities into deciles by the entity number of persons/encounters/episodes (denominator) from 1 (smallest N) to 10 (largest N). Provide mean reliability, performance score, number of entities (total) and number of persons/encounters/episodes (total) for entities assigned to each decile. For minimum reliability, provide reliability value for the entity with the smallest N. For maximum reliability, provide the reliability value for the entity with the largest N.

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability (IUR)	0.448	0.095	0.215	0.287	0.334	0.372	0.406	0.44	0.473	0.509	0.552	0.638	0.905
Mean Performance Score	0.96	0.15	1.00	0.99	0.96	0.93	0.95	0.96	0.94	0.95	0.97	0.98	1.10
N of Facilities	7,268	1	712	740	709	746	741	705	719	734	732	730	1
N of Patients	473,742	11	17,440	26,116	31,398	38,656	44,522	48,624	55,843	65,551	77,486	110,601	868
N of Patient Years	363,642	10	11,389	17,090	20,970	26,183	30,277	33,183	38,726	45,668	54,177	77,228	386

Please note: The IUR deciles were calculated based on the sample size within each facility and some facilities had the same values, so were grouped into the same decile. Due to this reason, deciles may not have a consistent distribution of facility counts.

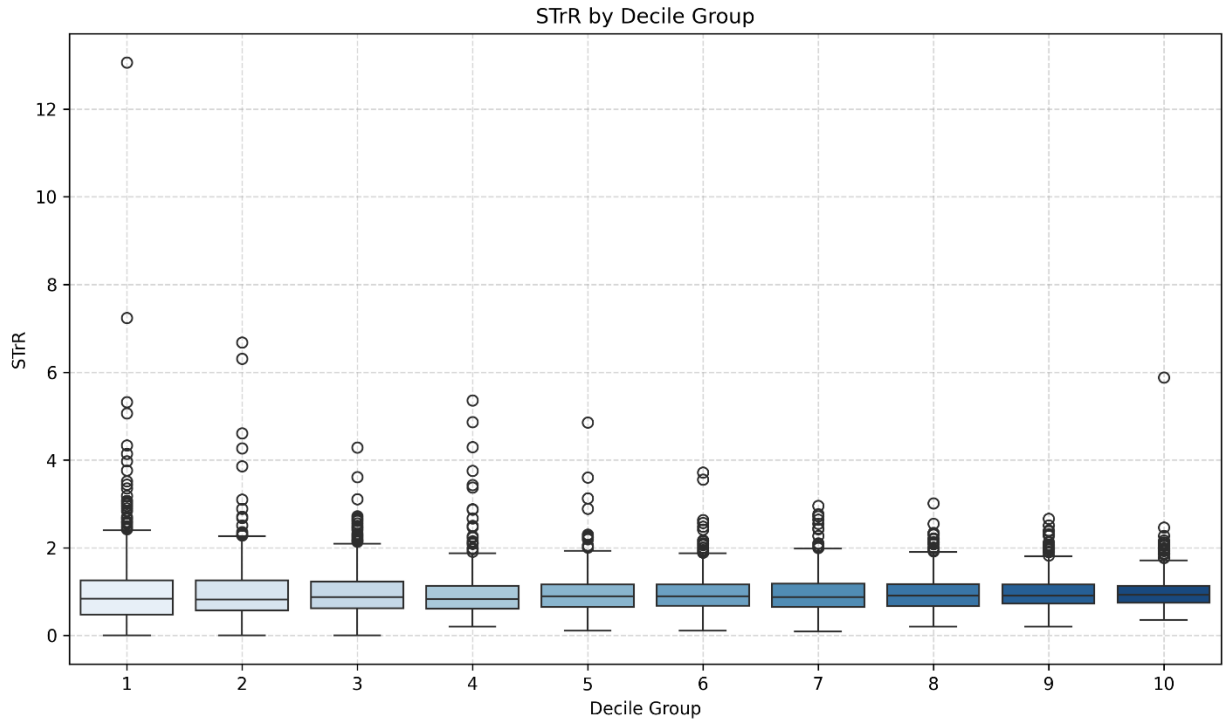
CBE 2979: Standardized Transfusion Ratio for Dialysis Facilities

5.2.3a Attach Additional Reliability Testing Results

Reliability of STrR

Distribution of STrR in decile groups

To better understand the characteristics of entities with low and high reliabilities, the boxplot below displays the distribution of STrRs across decile groups. In general, the STrR distributions are similar across decile groups, with the median STrR remaining close to 1 in all cases.



Inclusion of small facilities

Reliability metrics naturally increase with the size of the entity being measured, given a fixed level of between- and within-entity variation. United States dialysis facilities are extremely small relative to measured entities in other care venues (e.g., hospitals), and the typical variation in health outcomes for dialysis patients would require an unrealistic number of very large dialysis facilities to achieve thresholds such as 0.6 for most facilities. Therefore, universal reliability standards for the entirety of care settings, when applied to this care setting, will result in the endorsement of only a small number of quality measures, and mostly those that are process or intermediate outcomes (especially unadjusted for additional risk) as reliability metrics are also known to decrease with improved risk adjustment.

Nevertheless, the transfusion measure for kidney dialysis patients has proven highly useful in quality incentive programs. That said, there is an inherent trade-off between maximizing reliability and ensuring broader inclusion of facilities. In this case, including more facilities—even at the cost of lower reliability—will be preferable, as it improves participation and representation across entities and can have a greater impact on overall quality of care. If we are to include impactful quality outcomes in the portfolio of dialysis facilities, then we must accept a different standard for reliability. Failure to do so will result in a general absence of adequately risk-adjusted quality measures focused on health outcomes for the dialysis community, one of the most vulnerable patient groups within the healthcare system.

In addition, while smaller facilities naturally have measure values that exhibit greater uncertainty and variation, statistical hypothesis testing methods account for this variability and flag only providers with truly extreme results. In addition, the QIP includes a small-facility adjustment (generally applied to facilities with 25 or fewer eligible patients), which helps mitigate the low IURs observed in the first decile that would otherwise contribute to payment reductions. Both the star ratings and the QIP further reduce random noise by combining information across multiple measures when determining payment adjustments. As a result, even a measure with a low IUR can still contribute to raising the overall reliability of the combined measure set.

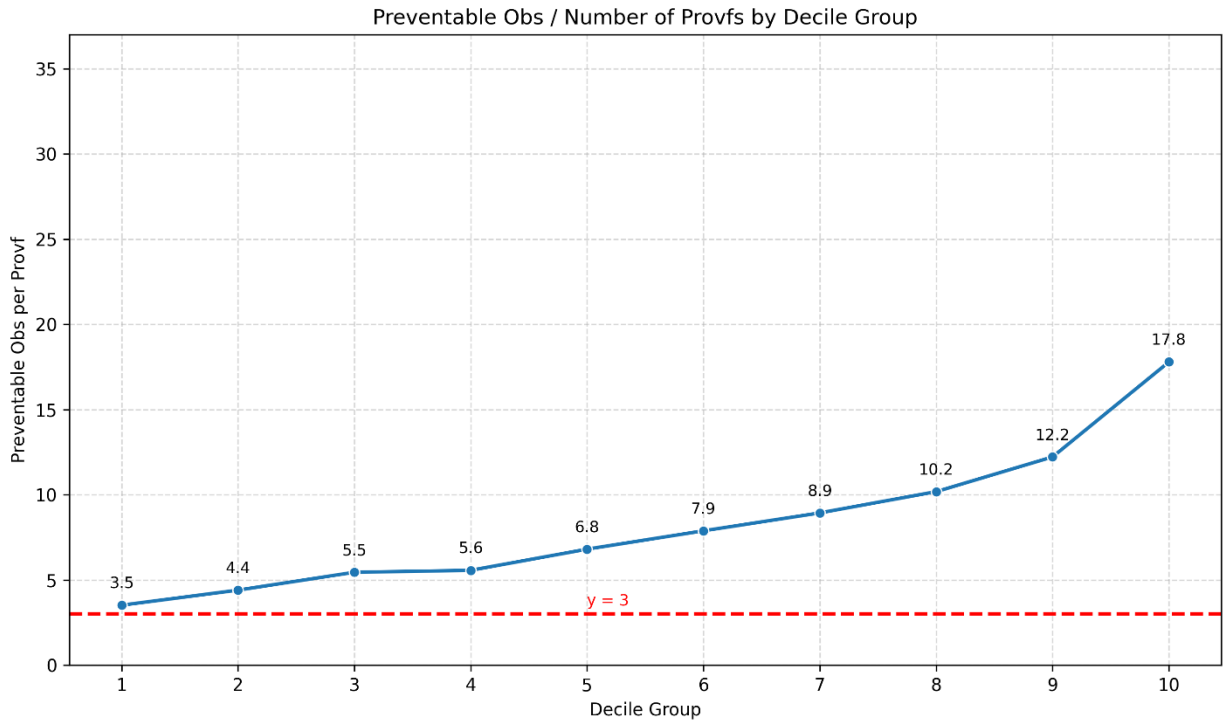
Table 1. Minimum dialysis facility size needed to achieve IUR thresholds for STrR.

Facility Size Needed		**Observed Distribution of Facility Sizes from Real Data**		
IUR=0.4	IUR=0.6	25th perc.	median	75th perc.
102 patients	230 patients	76	111	157

Preventable events per facility in decile groups

To illustrate the benefit of including more facilities in the STrR evaluation, we analyzed preventable events, defined as the difference between observed and benchmark event counts when the observed count exceeds the benchmark (and zero otherwise). The number of preventable events reflects the potential for improvement at a given facility. For STrR—calculated as the ratio of total observed events to total expected events over a given period, where lower values indicate better performance—the benchmark was set to the performance score of the third decile (0.65), where deciles here are defined by sorting facilities according to their performance scores.

We examined the ratio of total preventable events to the number of facilities in each decile group. A higher ratio generally indicates greater potential benefit from targeted quality improvement. The accompanying line plot shows the average preventable events per facility across decile groups, revealing a clear upward trend: facilities in higher deciles tend to have more preventable events on average. This pattern suggests that even smaller facilities in low-reliability groups still have a high average burden of adverse events, supporting the case for broader inclusion in STrR-based quality improvement programs.



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