

Risk-Adjusted Utilization Index



Utilization (amount of functional status change per episode) can be risk-adjusted by taking advantage of a risk-adjusted 3x3 **value-based purchasing table** - an average "weighted / distribution" of the Functional Status Change (**EFFECTIVENESS**) to Visits (**EFFICIENCY**).

In the table, risk-adjusted residuals of functional status change are divided by percentiles into less (i.e., lowest third or lowest outcomes), expected (i.e., middle third) and more (i.e., highest third or best outcomes), and risk-adjusted residuals of number of treatment visits are divided by percentiles into fewest (i.e., lowest third or fewest number of visits), expected (i.e., middle third) and more (i.e., highest third or most number of visits).

With Functional Status (FS) change in 3 rows (highest on top) and visits in 3 columns (fewest on left), a 3 X 3 table is created where those with better than predicted FS change treated in fewer than predicted visits are in cell 1 in the upper left corner, and those with lower than predicted FS change treated in more than predicted visits in cell 9 in the lower right corner. Clinically, you would not want to be a patient in cell 9 (lower right corner) where your outcomes were worse than predicted with a higher number of visits, but you would prefer to be in cell 1 (upper left corner) where your outcomes were better than predicted and delivered in the fewest number of visits.

		EFFICIENCY		
		Actual Visits for Episode Compared to Predicted Visits		
		Less Visits than Predicted	Same Visits as Predicted	More Visits than Predicted
EFFECTIVENESS Points of Functional Status Improvement for Episode Compared to Predicted	More FS Change than Predicted	1	2	3
	Same FS Change as Predicted	4	5	6
	Less FS Change than Predicted	7	8	9

Once each patient is placed in one of the 9 cells in our 3 X 3 table, a score is created for the unit being analyzed, such as the clinic or clinician, that represents a risk-adjusted utilization index from which the risk-adjusted percentile ranking is calculated.

For Example:

Clinic A's patients were scored using the 3x3 value table. Then, the percentage of patients for the Unit that fell into the More Effective/Efficient cells (1,2 and 4), Expected cells (3,5 and 7) or Less Efficient/Effective cells (6, 8 and 9) is calculated.

COMBINED EFFECTIVENESS / EFFICIENCY	
Cells 1, 2, 4 MORE EFFECTIVE/ EFFICIENT	Episodes with more FS change than expected in the expected or fewer visits. Or, episodes with expected change but in fewer visits than expected
Cells 3, 5, 7 EXPECTED	Episodes with expected amount of FS change in the expected number or fewer visits. Or, episodes with less change in fewer visits than expected. Or, episodes with more change in more visits than expected.
Cells 6, 8, 9 LESS EFFECTIVE/ EFFICIENT	Episodes with more visits than expected with the expected amount of FS change or less. Or, episodes with expected number of visits but less change than expected.

The percentage of patients in each grouping is then multiplied by the weight for each grouping, to establish the weighted sum of the total of all 3 weighted scores. Please note that the weighted sum ranges are from 0.17 to 0.50 and all scores will be rounded on the quarterly profile report to two decimal points.

It is the weighted sum that is compared with all other user weight sums to determine the national utilization percentage ranking for each unit, using the 0.17 to 0.50 range. A minimum of forty (40) complete discharged episodes for the rolling 12 months (or 10 per quarter) is required to receive a percentile ranking. An estimated percentile rank is provided if the complete discharged episodes do not meet the minimum criteria, noted by an asterisk (*) in the percentile rank cell.

Percentage of Episodes in each Utilization Category					Ntl. Percentile Rank
	More	Expected	Less	Weighted Sum	
Category Weight	0.5	0.333333	0.166667	0.42	89%
Weight Calculation (% x Weight)	0.33	0.08	0.02		

$Weight + Weight + Weight = \text{Weighted Sum}$

On the Scorecard, the Utilization Percentile Ranking will be listed. To access more detail information, click on the percentile ranking to open the Utilization Detail.

As outlined in page 1 of this resource handout, each complete discharged episode is plotted in one of the 9-cell grids based on the points of FS change and visits compared with the predicted change and visits. The percentage of episodes in each cell is calculated. The total percentage of episodes plotted in the 9-cell grid categories is then represented in the percentage of total episodes in each Utilization Category.

Completion Rate
 Utilization
 Effectiveness
 Efficiency
 Duration
 Satisfaction
 Key Process Indicators
 Non Participation

Scorecard 12 month period ending 09/2017, Group: ABC Outpatient Physical Therapy												
Care Type: Impairment	Completion Rate (#Complete Discharged Episodes / #Intakes)			Utilization			Effectiveness			Efficiency		
	Intakes	Complete Discharged Episodes	Rate	More Effective /Efficient	Expect	Less Effective /Efficient	Pct Rank	FS Change	Predicted	Pct Rank	# Visits	Predicted
Orthopedic: All	6384	4284	67%	48%	34%	18%	87	26.87	17.73	98	12.56	12.14
Neurological: All	81	52	64%	50%	31%	19%	85	26.13	16.45	98	10.83	14.11
Cardiovascular and Pulmonary: All	88	36	41%	50%	27%	19%	86*	26.13	16.45	86*	11.53	11.45

Complete DC episode are plotted in the 9-cell grid

Click on the Percentile Rank to expand the detail as shown below

% Sample

Utilization Summary	
More Effective /Efficient 48%	Episodes with more change than expected in the expected number or fewer visits. Or, episodes with expected change but in fewer visits than expected.
Expected 34%	Episodes with expected amount of change in the expected number or fewer visits. Or, episodes with less change in fewer visits than expected. Or, episodes with more change in more visits than expected.
Less Effective /Efficient 18%	Episodes with more visits than expected with the expected amount of change or less. Or, episodes with expected number of visits but less change than expected.

Outcomes Utilization Grid			
More Change	21.4%	18.7%	19.8%
Expected Change	8.0%	8.8%	10.7%
Less Change	4.9%	3.8%	3.9%
	Fewer Visits	Expected Visits	More Visits

Show Counts

You can also click on the "Show Counts" link and this will surface the UR table showing the number of episodes in each of the 9-cell grids or UR summary.

Utilization Summary	
More Effective /Efficient 2060	Episodes with more change than expected in the expected number or fewer visits. Or, episodes with expected change but in fewer visits than expected.
Expected 1437	Episodes with expected amount of change in the expected number or fewer visits. Or, episodes with less change in fewer visits than expected. Or, episodes with more change in more visits than expected.
Less Effective /Efficient 787	Episodes with more visits than expected with the expected amount of change or less. Or, episodes with expected number of visits but less change than expected.

Outcomes Utilization Grid			
More Change	915	803	849
Expected Change	342	377	459
Less Change	211	162	166
	Fewer Visits	Expected Visits	More Visits

Show Percentages