

Critical Access Hospitals, 2019

A National Benchmarks Report

Prepared for:
Sample Hospital
City, ST
Medicare ID: 999998

Report Methodology Notes

CRITICAL ACCESS HOSPITALS

In the 2018 study, we added a separate comparison group for critical access hospitals (CAH). These hospitals are not included in the 100 Top hospitals analysis or selection of winners. We are providing norms and benchmarks for six measures, for information only.

BENCHMARK AND PEER GROUPS

In the Watson Health™ 100 Top study for Critical Access Hospitals, we select 20 **Benchmark hospitals** based on overall performance in the most recent year of data available.

Peer group hospitals include all U.S. critical access hospitals in our study database, *excluding* benchmark CAHs.

In this custom report, we provide two types of comparisons for current performance and for multi-year trend performance:

- Profiled hospital versus comparison group Benchmark hospitals
- Profiled hospital versus comparison group Peer hospitals

METHODOLOGY NOTES

Present on Admission (POA) coding was used in the risk models for mortality, complications and average length of stay. Due to increasing numbers of diagnoses with invalid POA code ‘0’, we made the following adjustments to the MEDPAR data:

- 1) Original, valid (Y,N,U,W or 1) POA codes assigned to diagnoses were retained
- 2) Where a POA code of ‘0’ appeared, we took the next four steps:
 - a) We treated all principal diagnoses (dx) as ‘present on admission’
 - b) We treated all secondary dx on the CMS exempt list as ‘exempt’
 - c) We treated secondary dx for which the POA code ‘Y’ or ‘W’ appeared more than 50 percent of the time in Watson Health’s all-payer database as ‘present on admission’
 - d) All others were treated as ‘not present’

RANK WEIGHTS AND PUBLIC DATA SOURCES

Measures	Rank Wt	Source
Risk-Adjusted Inpatient Mortality	1	MEDPAR FFY ¹ 2012-2017
Risk-Adjusted Complications	1	MEDPAR FFY ¹ 2012-2017
30-Day Pneumonia Mortality	1	CMS Hospital Compare 3-yr data sets ending June 30 in 2013, 2014, 2015, 2016, 2017
30-Day Pneumonia Readmissions	1	CMS Hospital Compare 3-yr data sets ending June 30 in 2013, 2014, 2015, 2016, 2017
Severity-Adjusted Average Length of Stay	1	MEDPAR FFY ¹ 2013-2017
Adjusted Operating Profit Margin	1	HCRIS 2018 Q3 2013-2017 cost reports

¹Federal Fiscal year is Oct 1 through Sep 30.

FOR MORE INFORMATION

For a Study Overview, with full details on performance measures, methods used, and winner list, visit www.100tophospitals.com

Critical Access Hospitals Performance Matrix

INTEGRATED HOSPITAL PERFORMANCE COMPARISON

The 100 Top Hospitals® Performance Matrix, in a single view, compares your hospital's current level of achievement and 5-year rate of improvement in percentiles. These percentiles are based on your hospital's rank, overall and by measure, within the critical access hospital group. This integrated performance comparison provides insight into the success of hospital performance improvement strategies relative to other critical access hospitals.

INTERPRETING HOSPITAL PERFORMANCE

Overall hospital performance is a composite score based on the sum of the ranks of individual measures. This sum is used to rank your hospital. The matrix "Overall" dot integrates your national rank percentile for current overall performance with your national rank percentile for multi-year overall rate of improvement. Rank percentiles for each individual measure are also graphed. Measures may fall into any one of four quadrants: Declining (lower left), Improving (upper left), Leading (upper right), or At Risk (lower right).

The benchmark critical access hospitals are selected based on highest overall **current** performance. Benchmarks fall into either the "Leading" or "At Risk" quadrants, depending on their multi-year rate of improvement performance. Those with a high rate of improvement will be "Leading" performers, and those who have fallen behind their comparison group median may be "At Risk" for falling behind peers in the future, if low rates of improvement continue.

PERFORMANCE MATRIX NOTES

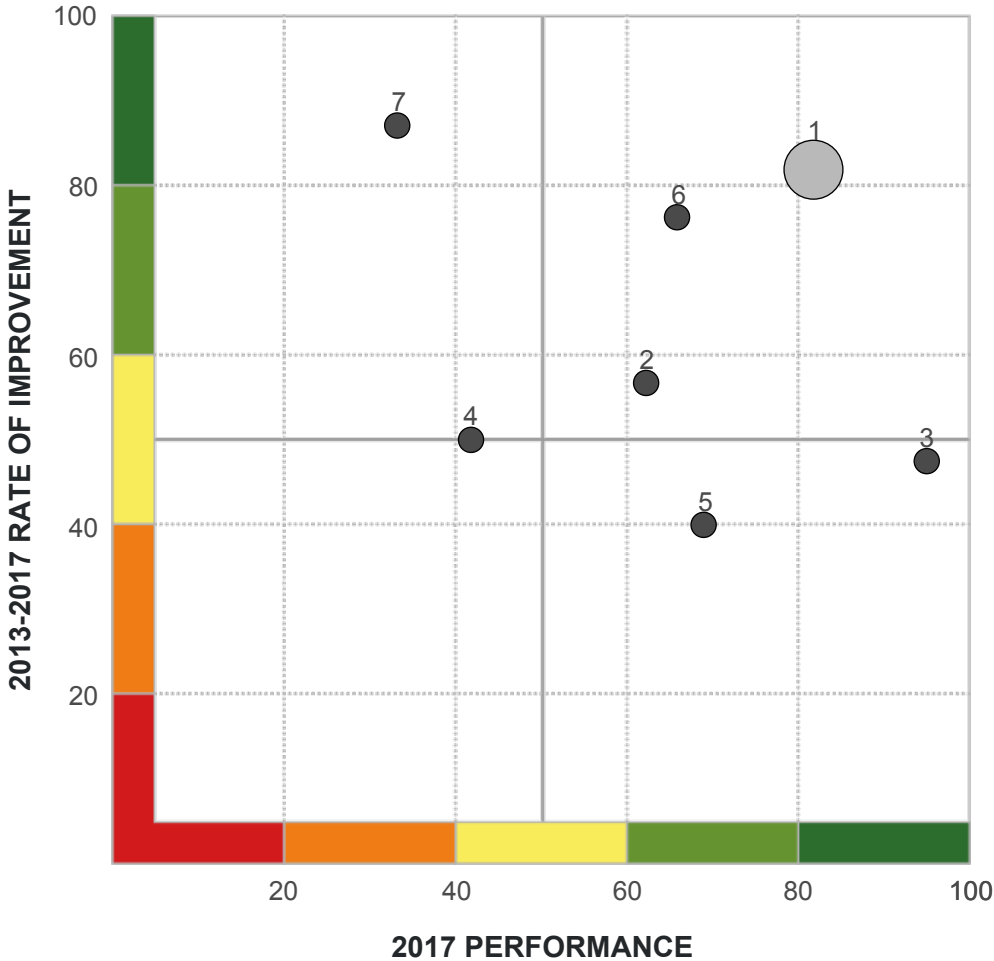
Missing Matrix Graph

The matrix graph will be missing if your hospital was excluded from the study or did not have enough years of data to be trended. If trend analysis could not be done, there also will be no trend graphs in this report. Exclusion notes are found at the end of the current and trend graphs section of this report.

Missing Measure Dots

A measure dot will be missing from the matrix if your hospital had too few useable data points (after outlier exclusions) to calculate a multi-year trend t-statistic, which is the ranked variable. In this case, the overall performance dot will also be missing. We cannot rank the hospital overall if one or more measures are missing. Notes on excluded data points are in the Appendix following the Performance Matrix graph.

2017 Performance and Five-Year Rate of Improvement Matrix



DATA POINT KEY

- 1 **OVERALL**
- 2 Inpatient Mortality
- 3 Complications
- 4 30-Day PN Mort
- 5 30-Day PN Readmit
- 6 ALOS
- 7 Oper Profit Margin

- 80 to 100
- 60 to 80
- 40 to 60
- 20 to 40
- 0 to 20

PROFILED HOSPITAL compared to:

2017 critical access hospitals: n = 679
2013-2017 critical access hospitals: n = 558

Performance and Improvement – Rank Percentiles Graphs

UNDERSTANDING THE GRAPHS

2017 Performance Rank Percentiles

This bar graph shows your hospital's performance on each measure, in the most current year of data we analyzed, reported as rank percentiles.

Individual measure percentiles are calculated by dividing your measure rank by the number of in-study hospitals and multiplying by 100.

The 2019 100 Top Hospitals benchmark critical access hospitals were selected based only on 2017 performance.

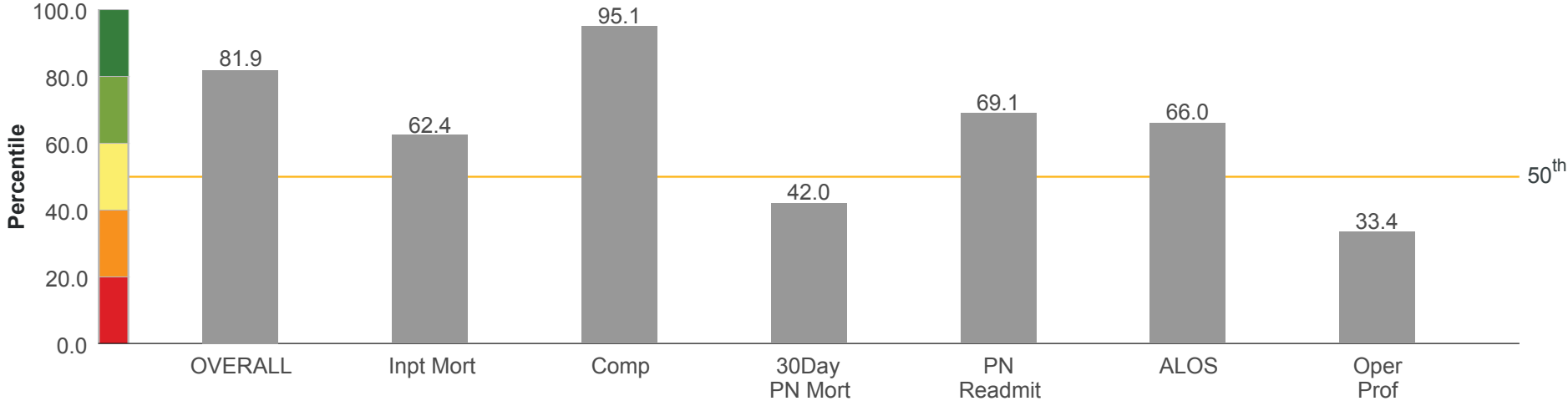
2013-2017 Rate of Improvement Rank Percentiles

This bar graph shows your hospital's rate of improvement on each measure, and overall, reported as rank percentiles. Individual measure percentiles are calculated by dividing your measure rank by the number of hospitals in-study and multiplying by 100. The overall rank percentile is based on the sum of your individual measure ranks and then re-ranked by all in-study hospitals. The overall rank sum is then converted into a percentile. The overall rank percentile is not the average of the individual measure percentiles.

Measures with rank percentiles above the median are likely to move ahead of peers on performance in the future, if those rates of improvement have continued.

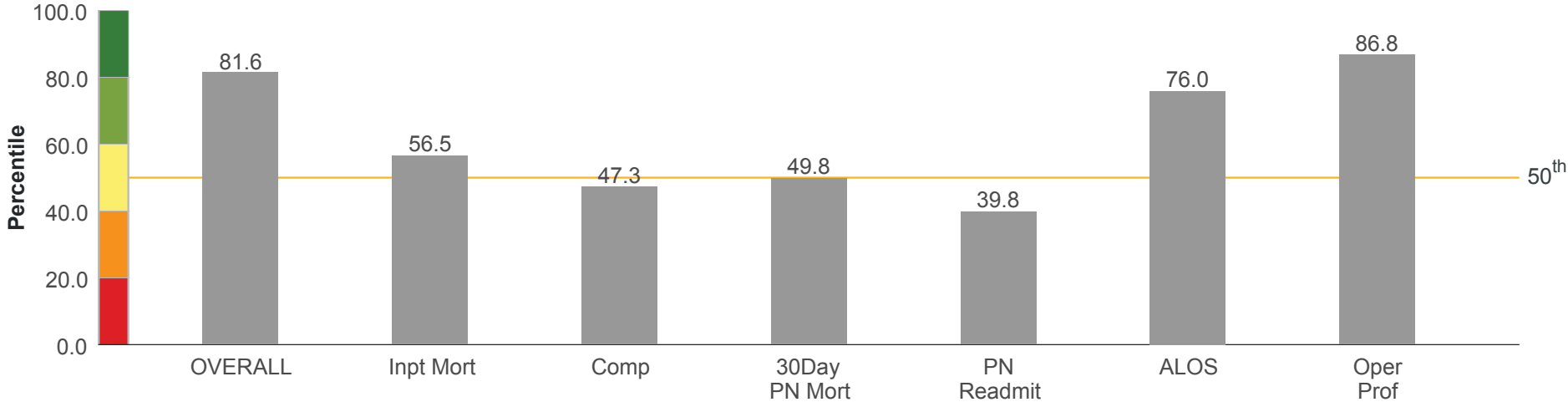
Hospitals with overall and measure-specific rank percentiles below the median are likely to fall behind peers on performance in the future, if those low rates of improvement have continued. And benchmark hospitals with a low overall rate of improvement are at risk for dropping out of the benchmark group of hospitals.

2017 Performance Rank Percentiles



Profiled hospital compared to critical access hospitals: n = 679

2013-2017 Rate of Improvement Rank Percentiles



Profiled hospital compared to critical access hospitals: n = 558

Critical Access Hospitals Current Profile Notes

CURRENT PROFILE

The 100 Top Hospitals® Current Profile analyzes your hospital's performance in the most recent year available, using a national balanced scorecard of critical performance metrics:

- Risk-Adjusted Inpatient Mortality Index
- Risk-Adjusted Complications Index
- 30-Day Pneumonia Mortality Rate
- 30-Day Pneumonia Readmission Rate
- Severity-Adjusted Average Length of Stay
- Adjusted Operating Profit Margin

Using this Profile, you can identify your hospital's level of performance achievement by individual measure and overall, and target higher performance. In addition, the Profile shows the level of achievement of benchmark hospitals and the median performance of peer hospitals for critical access hospitals.

UNDERSTANDING THE GRAPHS

Profiled Hospital Compared with Benchmark and Peer

The hospital's current performance is represented by individual bar graphs for each of the performance measures included in the Critical Access Hospitals national scorecard. Each bar graph shows performance achievement levels for three groups: your hospital, the benchmark group median, and the peer group median.

Binomial Measures

The graphs for the binomial measures – in-hospital mortality and complications – also have a statistical significance note that indicates whether your hospital's performance is better than expected, as expected, or worse than expected (99% confidence).

For binomial measures, we rank your hospital on the z-score calculated from your observed and normalized expected values. Z-scores take statistical significance into account. If your graph note indicates your performance is “as expected,” your performance is average regardless of how high or low the index value.

MISSING OR INCALCULABLE DATA POINTS

- No bar is displayed for your hospital if values were not reported or are incalculable.
- If a hospital was excluded from the study for missing or incalculable performance measures, the details are noted at the end of the graphs section.

MORE INFORMATION ON METHODOLOGIES

The methodology section of the 100 Top Hospitals Study Overview provides more details on the calculation of each performance measure and an indication of whether higher or lower values are favorable. It also describes the methodologies for calculating confidence limits and outliers, and for determining statistically poor performance on the mortality and complications measures.

See Study Overview for more details. Visit www.100tophospitals.com

Critical Access Hospitals Trend Profile Notes

TREND PROFILE OVERVIEW

The 100 Top Hospitals® Trend Profile analyzes your hospital's rate of improvement over five years, using a balanced scorecard of critical performance metrics:

- Risk-Adjusted Inpatient Mortality Index
- Risk-Adjusted Complications Index
- 30-Day Pneumonia Mortality Rate
- 30-Day Pneumonia Readmission Rate
- Severity-Adjusted Average Length of Stay
- Adjusted Operating Profit Margin

Minimum Data Requirements for Ranking

We require a minimum of four (4) valid data points for each measure (including the most current year) to include a hospital in the Trend Profile ranking.

UNDERSTANDING THE GRAPHS

Improvement Trends Versus Comparison Group Quintiles (Color Quintile Graphs)

The hospital's rate of improvement for each of the individual performance measures is represented by graphs showing your hospital's actual data points for each year. These data points are displayed against a background of quintile ranges for the data points of all hospitals in the study. Each range is color-coded to indicate rate of improvement level, from dark green (best quintile) to red (worst quintile). You can use these graphs to see whether you are moving ahead of or falling behind other critical access hospitals.

A statistical significance note is displayed for each graph, indicating whether your performance is **improving, not changing, or worsening** over the five years we analyzed (99% confidence for mortality and complications; 95%, all other measures). We rank each measure using the t-statistic of the regression line through the data points (slope/S.E.).

Missing Data Points

Individual data points are missing on the Color Quintile Graphs when one or more of the following conditions apply:

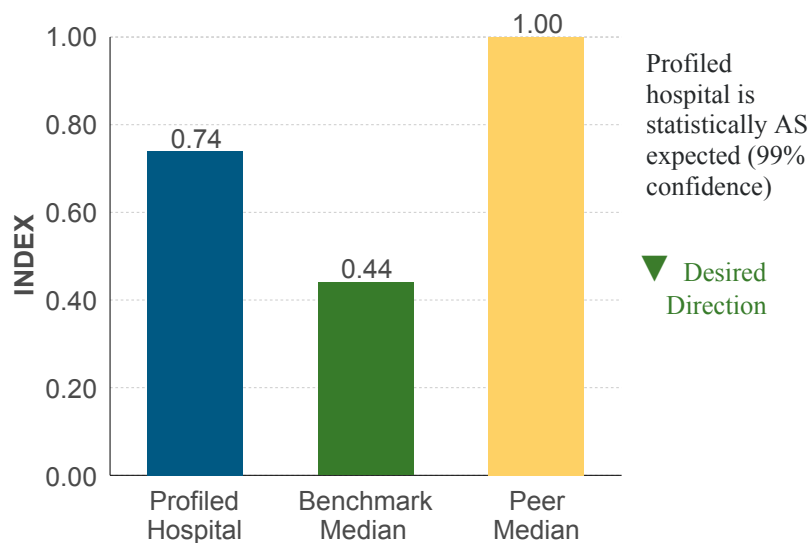
- Measure data for a specific year was missing in the source data file (HCRIS hospital cost reports - impacts adjusted operating profit margin)
- Measure was incalculable due to insufficient MEDPAR POA coding (impacts inpatient mortality, complications and ALOS)
- Measure was excluded from trend analysis as a high or low outlier. We apply an interquartile range ("IQR") methodology to identify high and low outlier trim points (impacts adjusted operating profit margin)
- Measure was based on 11 or fewer patient records (HIPAA Privacy Rule-based exclusion applied to MEDPAR as a Limited Data Set)

Data Point Time Periods

Data points on the graphs – labeled 2013, 2014, 2015, 2016, 2017 – represent various data periods. See Report Methodology Notes page, Rank Weights and Public Data Sources table for more details.

Risk-adjusted inpatient mortality index

2017 IP MORTALITY PERFORMANCE

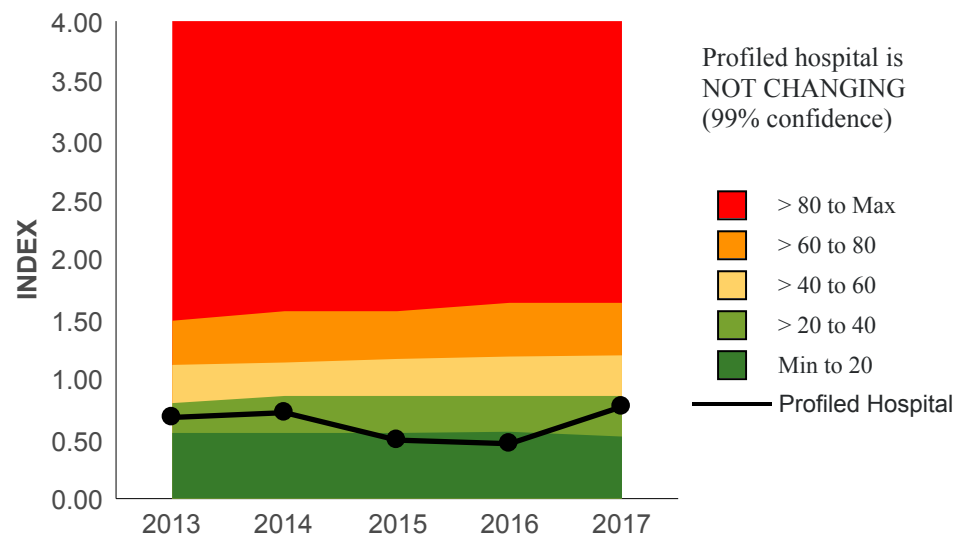


Benchmark hospitals are the winners in the comparison group: n = 20

Peer hospitals are the non-winners in the comparison group: n = 659

Note: 2017 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

2013-2017 IP MORTALITY RATE OF IMPROVEMENT

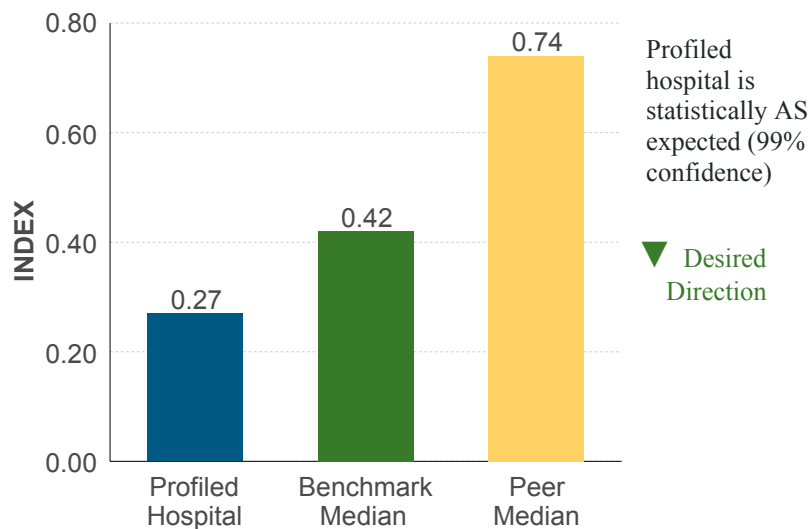


Hospital performance compared to peer hospitals quintiles: n = 558

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper C.I.	Lower C.I.
YEARS	2013	0.55	0.80	1.12	1.49	0.68	1.21	0.34
	2014	0.55	0.86	1.14	1.57	0.72	1.35	0.33
	2015	0.55	0.86	1.17	1.57	0.49	1.15	0.15
	2016	0.56	0.86	1.19	1.64	0.46	1.37	0.09
	2017	0.52	0.86	1.20	1.64	0.77	2.32	0.15

Risk-adjusted complications index

2017 COMPLICATIONS PERFORMANCE

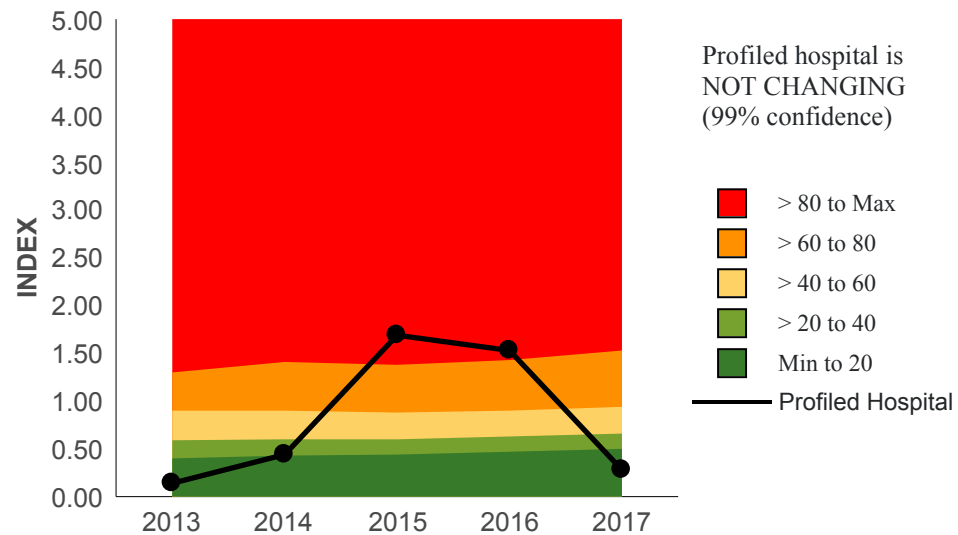


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Note: 2017 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

2013-2017 COMPLICATIONS RATE OF IMPROVEMENT

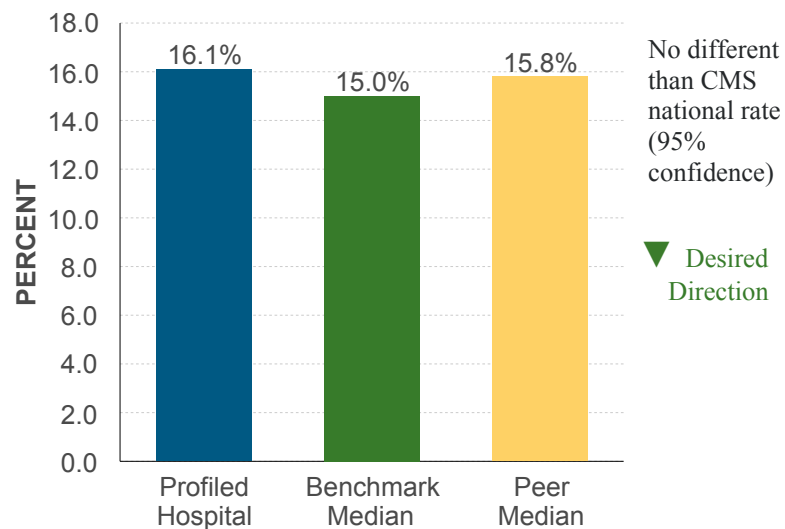


Hospital performance compared to peer hospitals quintiles: n = 558

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper C.I.	Lower C.I.
YEARS	2013	0.40	0.59	0.90	1.30	0.14	0.92	0.00
	2014	0.43	0.60	0.90	1.41	0.44	1.51	0.06
	2015	0.44	0.60	0.88	1.38	1.69	3.79	0.58
	2016	0.47	0.63	0.90	1.43	1.53	3.85	0.44
	2017	0.50	0.66	0.94	1.53	0.28	1.89	0.00

30-day pneumonia mortality rate

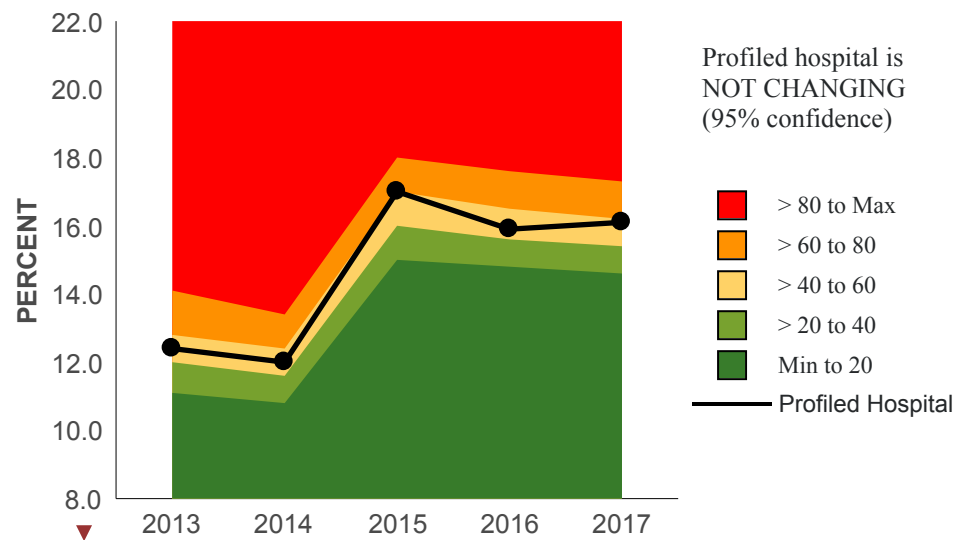
2017 30D PN MORTALITY PERFORMANCE



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2013-2017 30D PN MORTALITY RATE OF IMPROVEMENT

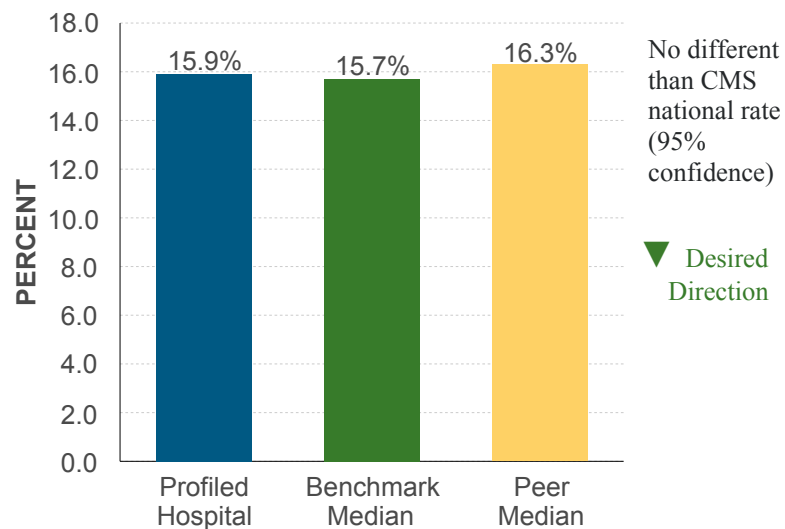


Hospital performance compared to peer hospitals quintiles: n = 558

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2013	11.1	12.0	12.8	14.1	12.4
	2014	10.8	11.6	12.4	13.4	12.0
	2015	15.0	16.0	17.0	18.0	17.0
	2016	14.8	15.6	16.5	17.6	15.9
	2017	14.6	15.4	16.2	17.3	16.1

30-day pneumonia readmission rate

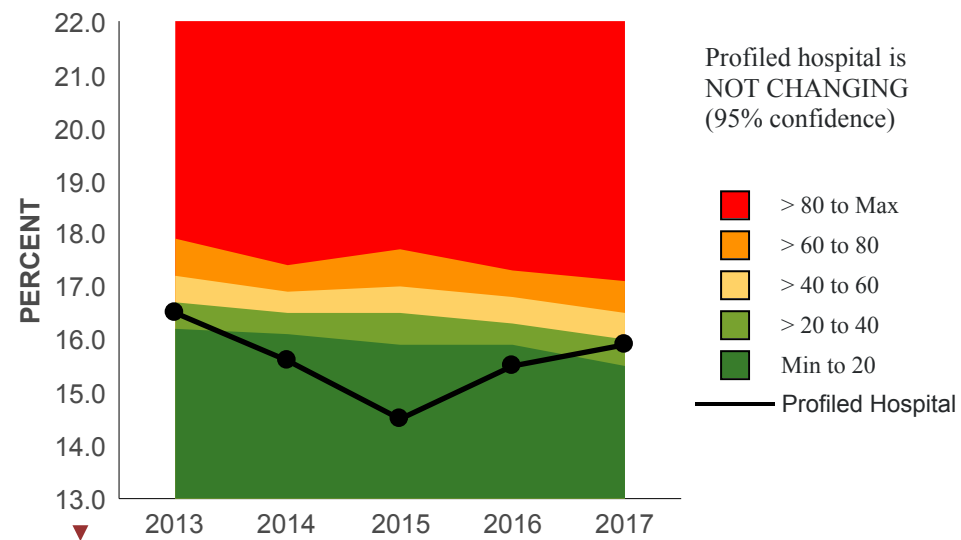
2017 30D PN READMISSION PERFORMANCE



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2013-2017 30D PN READMISSION RATE OF IMPROVEMENT

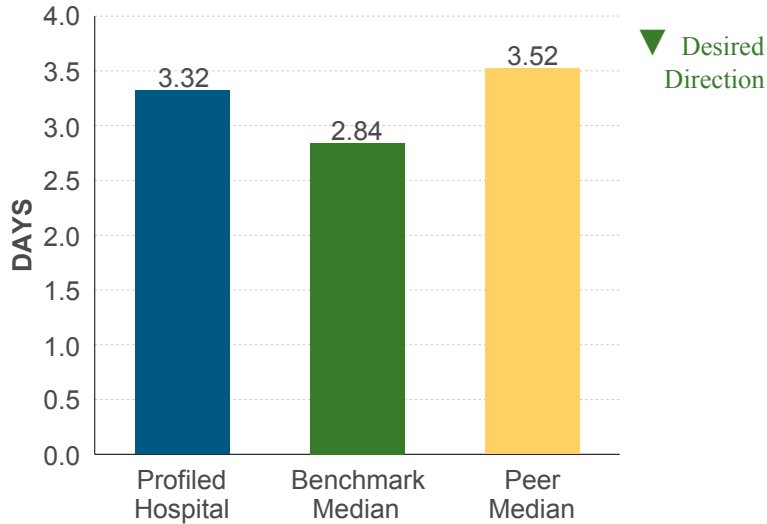


Hospital performance compared to peer hospitals quintiles: n = 558

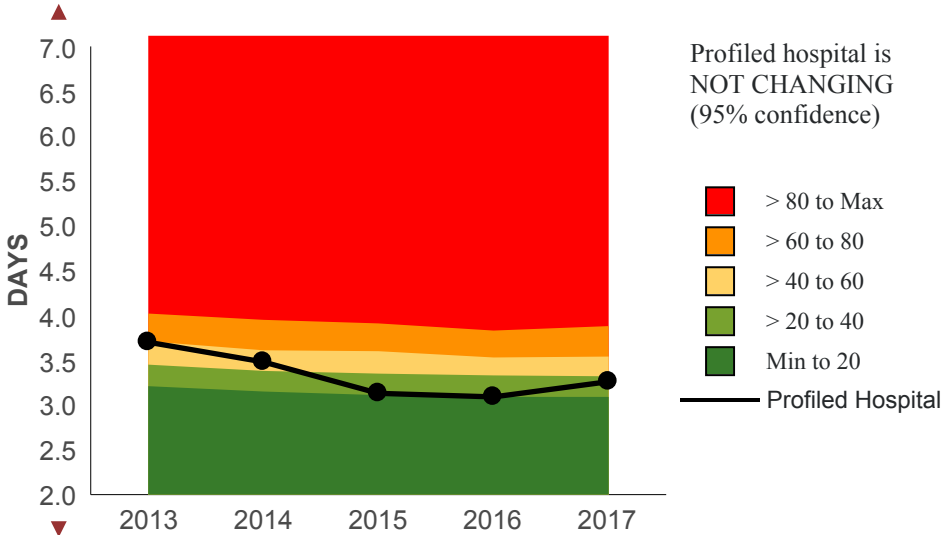
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2013	16.2	16.7	17.2	17.9	16.5
	2014	16.1	16.5	16.9	17.4	15.6
	2015	15.9	16.5	17.0	17.7	14.5
	2016	15.9	16.3	16.8	17.3	15.5
	2017	15.5	16.0	16.5	17.1	15.9

Severity-adjusted average length of stay

2017 ALOS PERFORMANCE



2013-2017 ALOS RATE OF IMPROVEMENT



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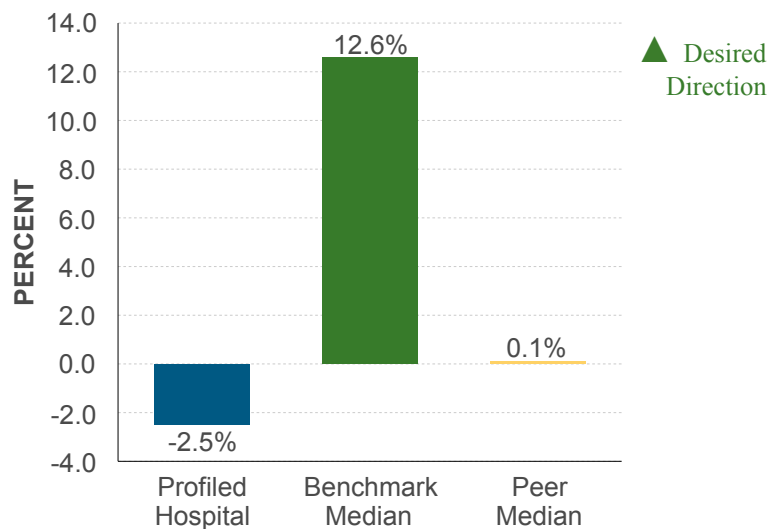
Note: 2017 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospitals quintiles: n = 558

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2013	3.21	3.45	3.71	4.02	3.70
	2014	3.15	3.38	3.61	3.95	3.48
	2015	3.11	3.35	3.60	3.91	3.13
	2016	3.09	3.33	3.53	3.83	3.09
	2017	3.09	3.32	3.54	3.88	3.26

Adjusted operating profit margin

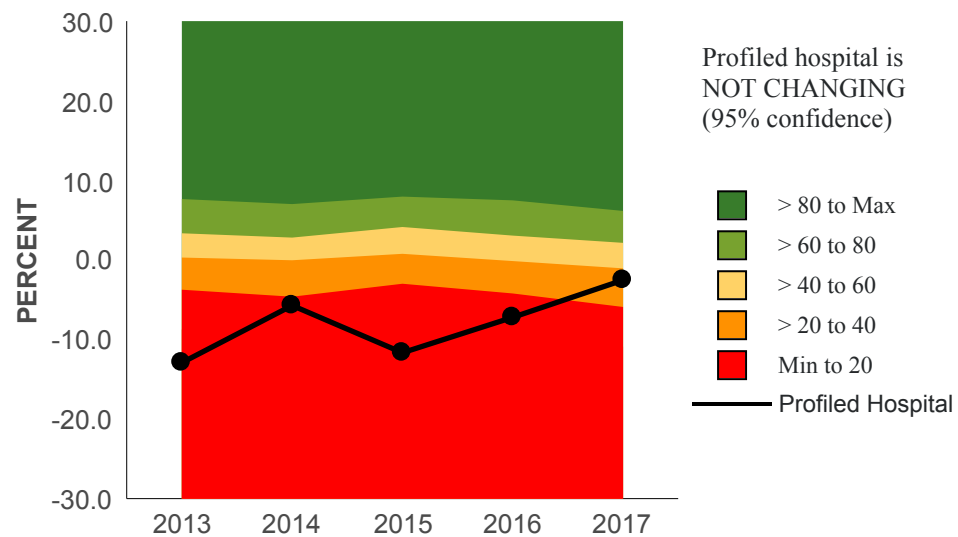
2017 PROFIT PERFORMANCE



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Peer hospitals are the non-winners in the comparison group: n = 659

2013-2017 PROFIT RATE OF IMPROVEMENT



Hospital performance compared to peer hospitals quintiles: n = 558

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2013	-3.75	0.29	3.34	7.64	-12.92
	2014	-4.63	-0.05	2.80	7.01	-5.73
	2015	-3.00	0.76	4.13	7.95	-11.67
	2016	-4.22	-0.15	3.05	7.48	-7.22
	2017	-5.92	-1.07	2.14	6.15	-2.54

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