



15 Top Health Systems, 2016

A National Benchmarks Report

Prepared For:
Any Health System
Any City, US

PERFORMANCE REPORT NOTES

HEALTH SYSTEM SELECTION

In the Truven Health Analytics 15 Top Health Systems study, we identify health systems as follows:

- Must have at least two acute care hospitals
- Must report a parent or related organization relationship on the hospital Medicare cost report

We also include Women’s, Cardiac and Orthopedic hospitals, as well as Critical Access Hospitals in the system analysis.

If a health system has separately reported subsystems as members, we rank each subsystem's performance independent of its parent, as well as including it in its parent system. A hospital may be included in both a parent system and a subsystem analysis.

HEALTH SYSTEM COMPARISON GROUPS AND WINNERS

We divide health systems into three comparison groups to develop more actionable performance benchmarks. Total operating expense was used to classify:

Comparison Group	Tot Operating Expense	Winners
Large Health System	> \$1.75 billion	5
Medium Health System	\$750 million - \$1.75 billion	5
Small Health System	< \$750 million	5
Overall		15

We select 15 **Benchmark health systems** (winners) based on overall performance across all included measures, in the most recent year of data available. Overall performance is determined by ranking each measure individually, by comparison group, summing the weighted ranks and re-ranking overall.

Peer health systems include all U.S. health systems in our study database, *excluding* benchmark systems.

HEALTH SYSTEM MEASURE CALCULATION

We produce health system measures by aggregating patient level and hospital data to the health system level. See study Abstract for details.

METHODOLOGY NOTES

Present on Admission (POA) coding was used in the risk models for mortality, complications and average length of stay (ALOS). In addition, due to increasing numbers of diagnoses with missing POA coding, we made the following adjustments to the MEDPAR data in processing the study:

- 1) We treated all diagnosis codes on the CMS exempt list as 'exempt', regardless of POA coding.
- 2) We treated all principal diagnoses as 'present on admission'.
- 3) We treated secondary diagnoses where POA code 'Y' or 'W' appeared more than 50 percent of the time in Truven's all-payer database, as 'present on admission'.

For mortality and complications six data years were combined in two year increments (2009-10; 2010-11; 2011-12; 2012-13; 2013-14) to develop 5 data points for trend. ALOS was trended across the 5 single data years.

RANK WEIGHTS AND PUBLIC DATA SOURCES

Measures	Rank Wt	Source
Risk-Adjusted Mortality	1	MedPAR FFY 2009-2014
Risk-Adjusted Complications	1	MedPAR FFY 2009-2014
Core Measures Mean Percent (Stroke, Blood Clot Prevention) ¹	1	CMS Hospital Compare FFY 2014
Mean 30 Day Mortality ² (AMI, Heart Failure, Pneumonia, COPD, Stroke)	1	CMS Hospital Compare 3 yr data sets ending June 30 in 2010, 2011, 2012, 2013, 2014
Mean 30 Day Readmissions ² (AMI, Heart Failure, Pneumonia, Hip/Knee, COPD, Stroke)	1	CMS Hospital Compare 3 yr data sets ending June 30 in 2010, 2011, 2012, 2013, 2014
Severity-Adjusted Average Length of Stay	1	MedPAR FFY 2010-2014
Mean Emergency Department Throughput ¹	1	CMS Hospital Compare CY 2014
Medicare Spend per Beneficiary Index ¹	1	CMS Hospital Compare CY 2014
HCAHPS	1	CMS Hospital Compare CY 2010-2014

¹Trend data not available for Core Measures, ED Throughput, and Medicare spend per beneficiary index. Matrix data points cannot be graphed. ²Trend includes only AMI, Heart Failure, and Pneumonia.

FOR MORE INFORMATION

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

15 TOP HEALTH SYSTEMS PERFORMANCE MATRIX

INTEGRATED SYSTEM PERFORMANCE COMPARISON

The 15 Top Health Systems Performance Matrix, in a single view, compares your system's current level of achievement and 5 year rate of improvement in percentiles. These percentiles are based on your rank, by measure and overall, versus all other health systems in your comparison group. This integrated performance comparison provides insight into the success of your performance improvement strategies relative to other similar health systems.

INTERPRETING SYSTEM PERFORMANCE

Overall health system performance is a composite score based on the sum of the ranks of individual measures. For 2014 Performance overall, all measures had a weight of 1 in both the current and trend profiles. This sum is used to rank your health system versus your comparison group. The matrix "Overall" dot integrates your national rank percentile for current overall performance with your national rank percentile for 5-year overall rate of improvement. Rank percentiles for each individual measure are also graphed. Measures may fall into any one of four quadrants: Declining, Improving, Leading, or At Risk.

WINNER SELECTION

15 Top Health Systems award winners are selected based on highest overall **current** performance achievement only. Winners may have a wide range of performance on 5-year rate of improvement. Those with very low rates of improvement are "At Risk" for losing their benchmark status in future studies.

PERFORMANCE MATRIX NOTES

Missing Matrix Graph or Matrix Data Point

Your matrix graph will be missing if your health system is out-of-study due to missing data needed to calculate one or more measures. Also, there will be no matrix graph if your system has too few years of data to trend. A minimum of four years of data are required.

Your health system will have no matrix graph overall dot and one or more missing measure dots if one or more performance measures could not be trended due to outlier trimming. A minimum of three good data points is needed to calculate the trend statistic used for ranking rate of improvement.

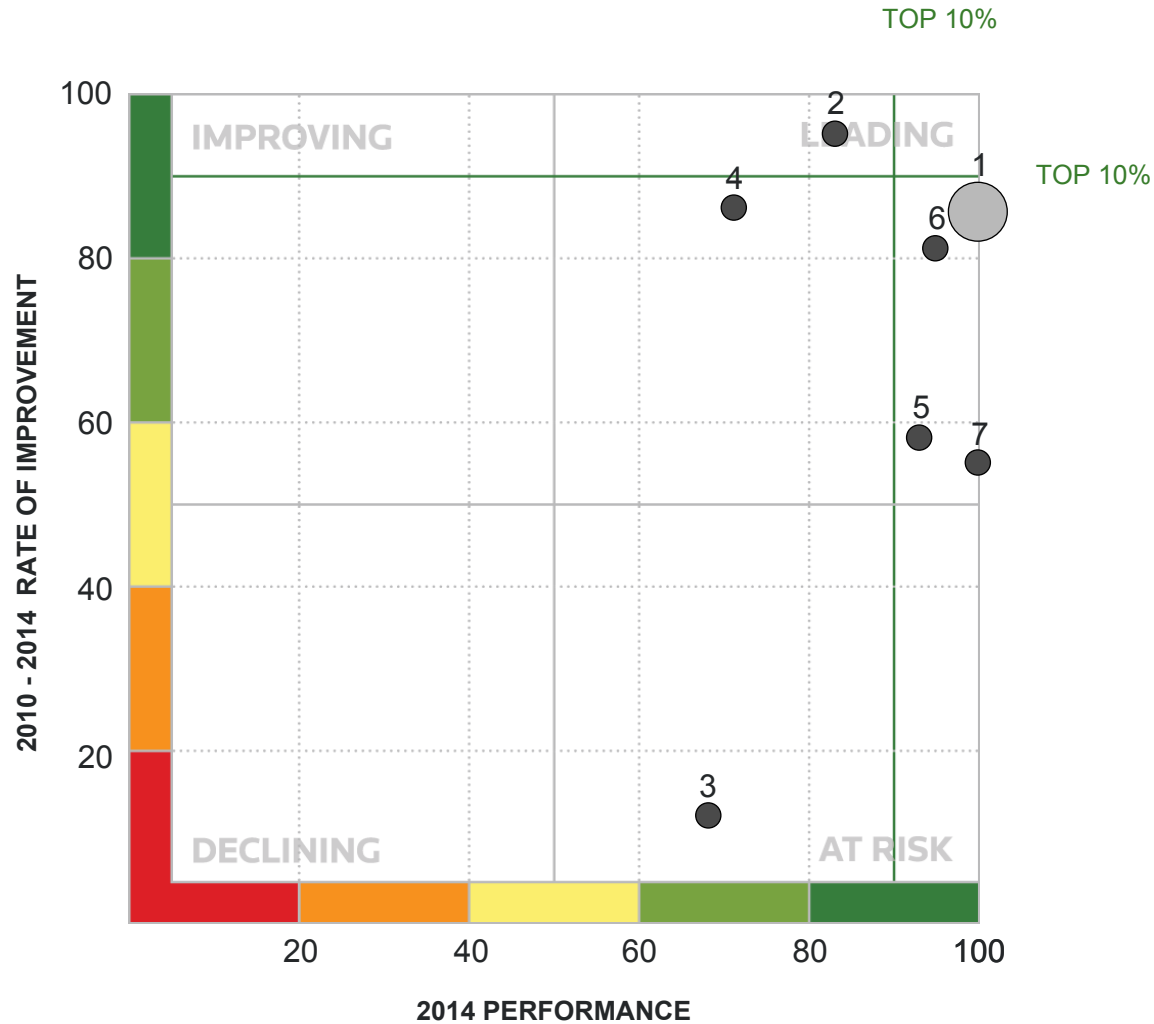
30-Day Rate Measures

Mean 30-day mortality: 2014 Performance includes AMI, heart failure, pneumonia, COPD and stroke; 2010-2014 Rate of Improvement includes AMI, heart failure and pneumonia.

Mean 30-day readmissions: 2014 Performance includes AMI, heart failure, pneumonia, hip/knee, COPD and stroke; 2010-2014 Rate of Improvement includes AMI, heart failure and pneumonia.

15 TOP HEALTH SYSTEMS PERFORMANCE MATRIX

2014 PERFORMANCE AND RATE OF IMPROVEMENT COMPARED WITH LARGE HEALTH SYSTEM QUINTILES



DATA POINTS

1: OVERALL

2: Mortality

3: Complications

4: 30-Day Mortality

5: 30-Day Readmit

6: ALOS

7: HCAHPS

QUINTILES

80 TO 100

60 TO 80

40 TO 60

20 TO 40

0 TO 20

PROFILED HEALTH SYSTEM:

2014 Comparison group: n = 101

2010 - 2014 Comparison group: n = 101

15 TOP HEALTH SYSTEMS TREND PROFILE

TREND PROFILE

The 15 Top Health Systems Trend Profile analyzes your health system's rate of performance improvement over five years, using a balanced scorecard of critical performance metrics:

- Risk-Adjusted Mortality (in-hospital)
- Risk-Adjusted Complications
- 30-Day Mortality (AMI, heart failure, pneumonia)
- 30-Day Readmissions (AMI, heart failure, pneumonia)
- Severity-Adjusted Average Length of Stay
- HCAHPS Score (Patient Overall Hospital Rating)

UNDERSTANDING THE GRAPHS

Performance Trends by Measure (Regression Line Graphs)

This section of the Profile contains graphs for each individual performance measure. Regression lines, calculated from your included years of data, are displayed for your health system and the benchmark and peer health systems in your comparison group.

A statistical significance note is also displayed for each graph, indicating whether your performance is **improving, not changing, or worsening** over the five years. A 99% confidence interval was used for the mortality and complications measures, all other measures were 95% confidence.

You can easily identify the consistency of your rates of improvement across all measures from these graphs. In addition, you can compare your rates of performance improvement to benchmark rates to identify areas of greatest opportunity.

Performance Trends Versus Comparison Group Quintiles (Color Quintile Graphs)

This section of the Profile contains graphs for each individual

performance measure showing your health system's actual data points for each year. These data points are displayed against a background of quintile ranges for the data points of all health systems in your comparison group. Each range is color-coded to indicate level of performance, 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 similar health systems.

REPORT NOTES

Use of Median Values for Missing Measures

For each data year, when an individual 30 day mortality or 30 day readmission rate is missing or the reported value is insufficiently precise (patient count too low) to be included, the median value of your comparison group is substituted. Median values are not displayed on the Color Quintile Graphs.

Regression Line Graphs - Missing Line

No health system trend line is displayed on the Regression Line Graphs if fewer than three data points are available. Benchmark and peer median values will still be displayed.

Color Quintile Graphs - Missing Data Points

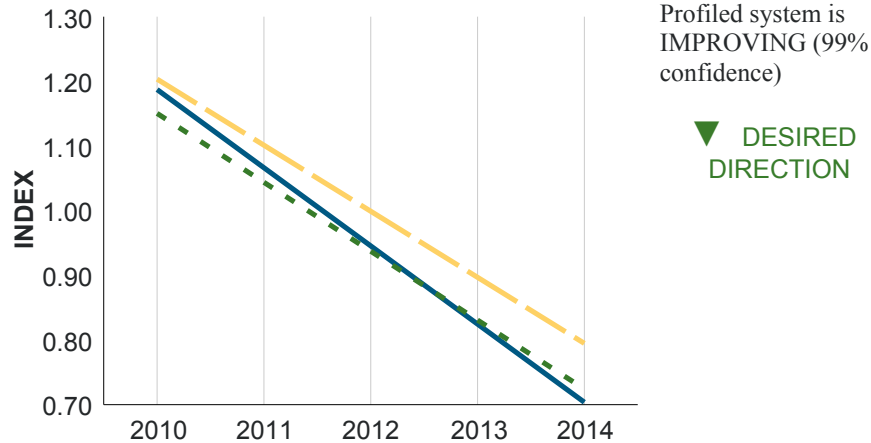
Individual data points are missing on the Color Quintile Graphs when the following occur:

- values are not reported
- comparison group median value has been substituted, in a specific year (applies to 30 day rates)

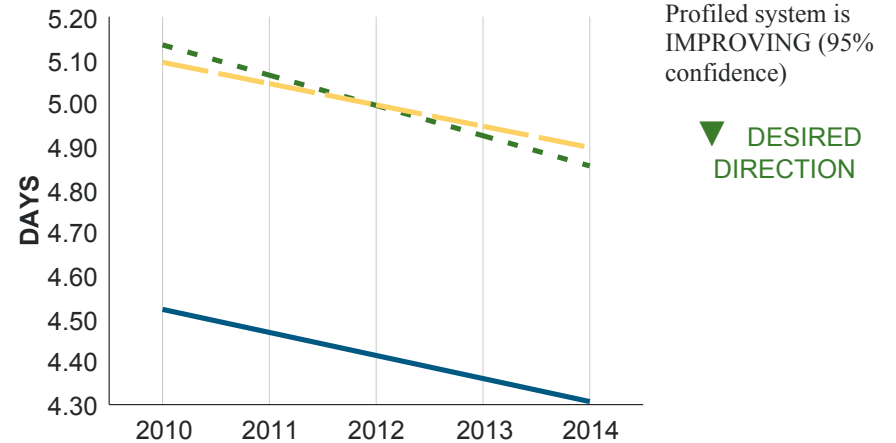
If a health system was excluded from the trend profile analysis for missing one or more measures, the details are noted at the end of the Trend Profile section.

PROFILED SYSTEM PERFORMANCE TRENDS COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS

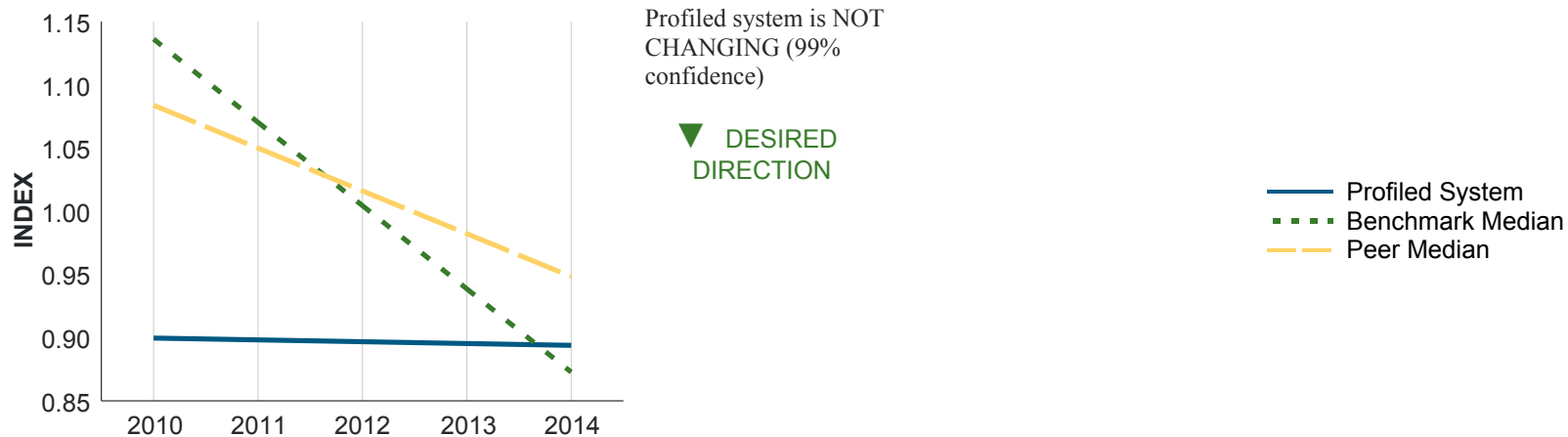
RISK-ADJUSTED MORTALITY INDEX



SEVERITY-ADJUSTED AVERAGE LENGTH OF STAY



RISK-ADJUSTED COMPLICATIONS INDEX

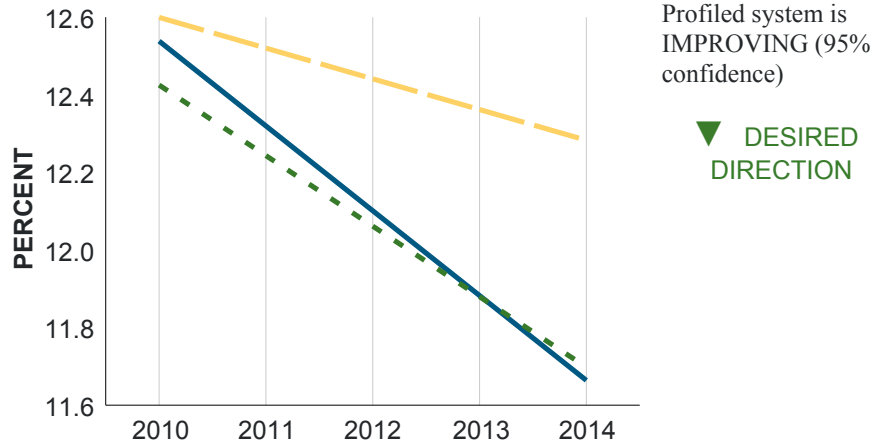


¹Benchmark health systems n=5

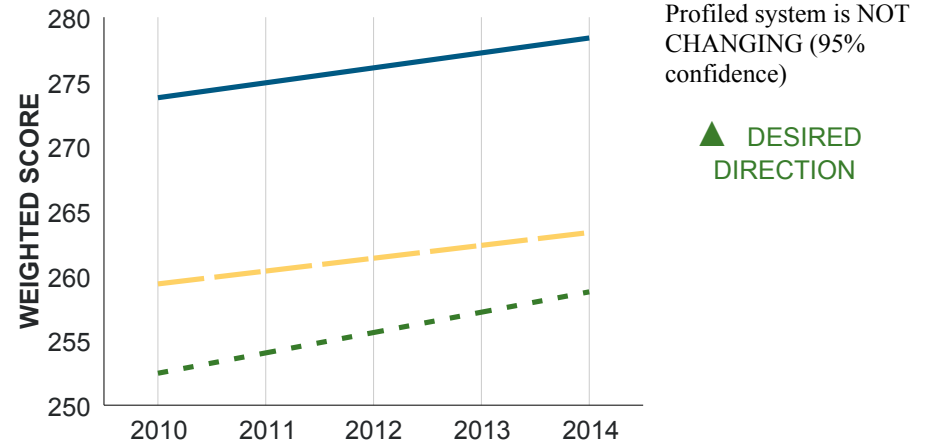
²Non-benchmark health systems n=96

PROFILED SYSTEM PERFORMANCE TRENDS COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS

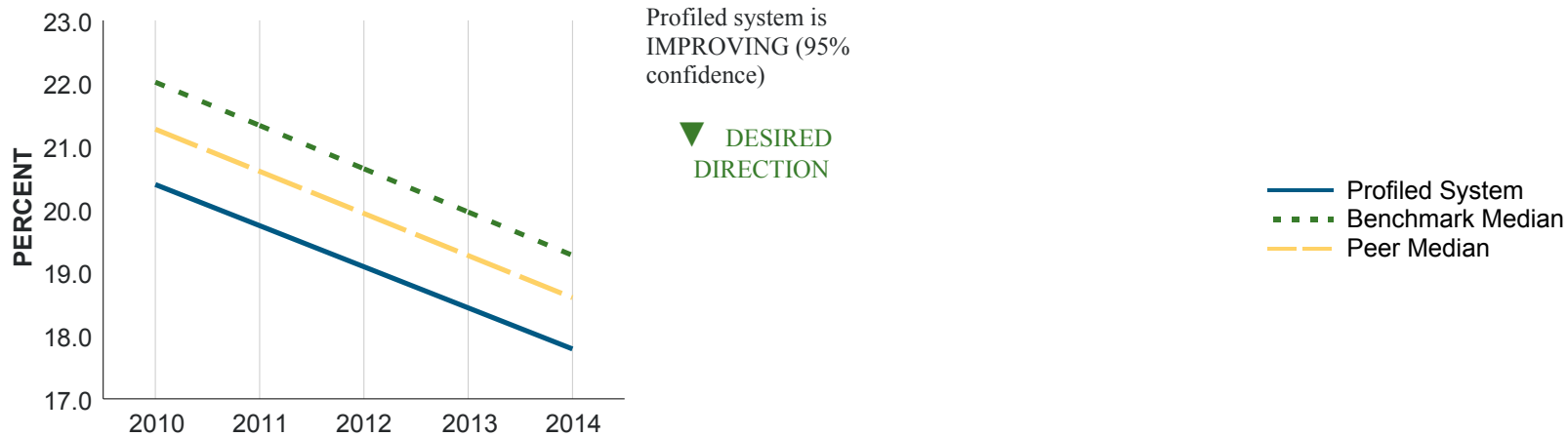
30-DAY MORTALITY RATE (AMI, HF, PNEU)



HCAHPS SCORE OVERALL RATING



30-DAY READMISSION RATE (AMI, HF, PNEU)

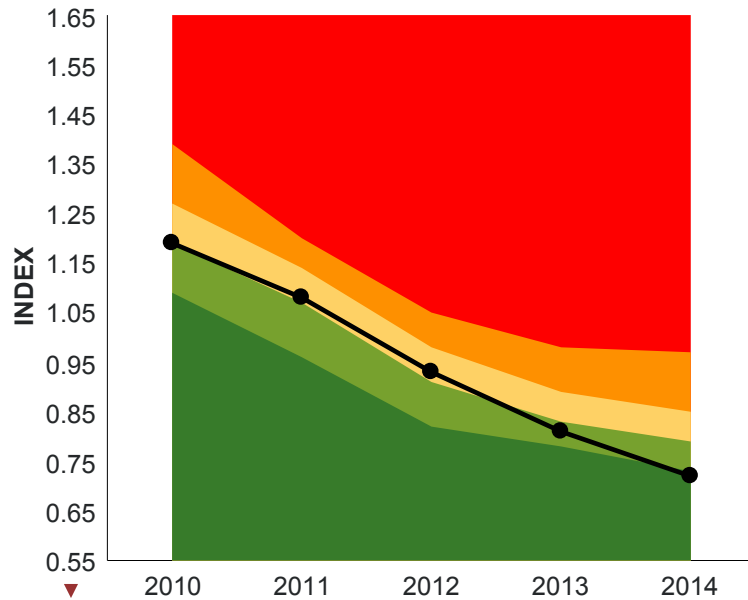


¹Benchmark health systems n=5

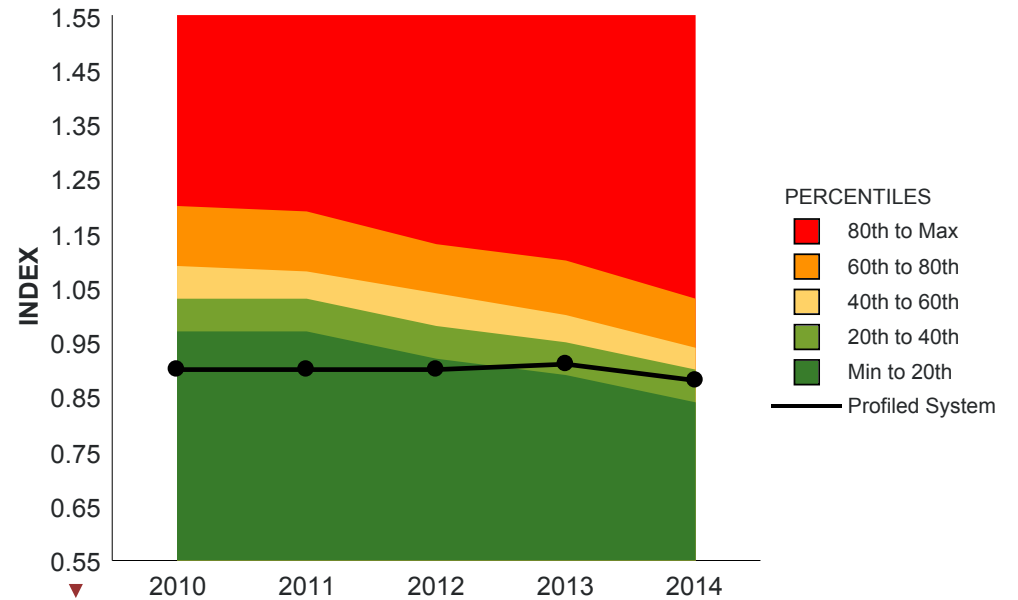
²Non-benchmark health systems n=96

PROFILED SYSTEM PERFORMANCE TRENDS COMPARED WITH LARGE HEALTH SYSTEM QUINTILES (n=101)

RISK-ADJUSTED MORTALITY INDEX



RISK-ADJUSTED COMPLICATIONS INDEX

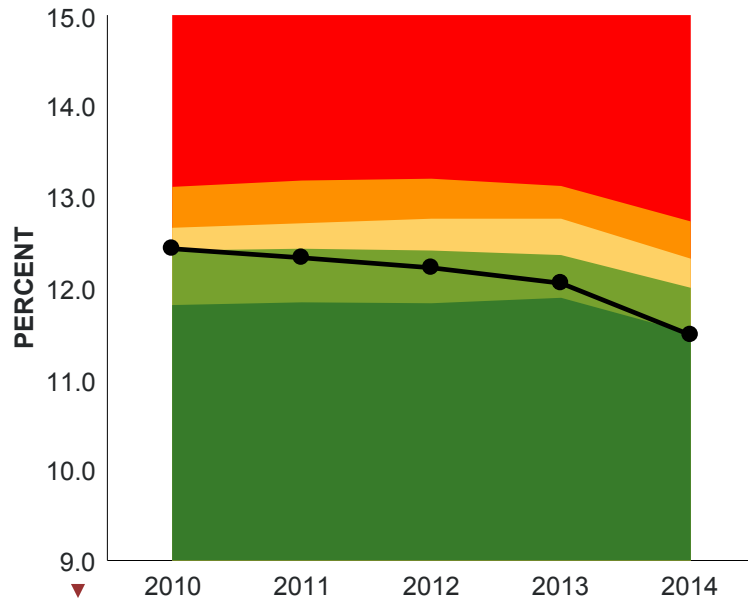


PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM		
		20th	40th	60th	80th	Value	Upper C.I.	Lower C.I.
YEARS	2010	1.09	1.19	1.27	1.39	1.19	1.25	1.13
	2011	0.96	1.07	1.14	1.20	1.08	1.14	1.03
	2012	0.82	0.91	0.98	1.05	0.93	0.98	0.88
	2013	0.78	0.83	0.89	0.98	0.81	0.85	0.76
	2014	0.73	0.79	0.85	0.97	0.72	0.76	0.68

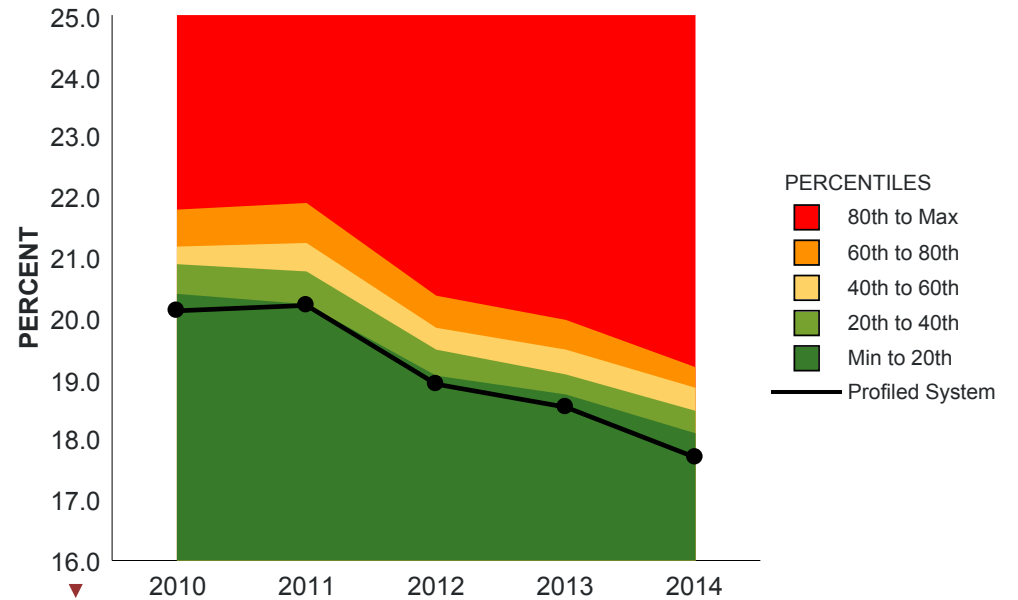
PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM		
		20th	40th	60th	80th	Value	Upper C.I.	Lower C.I.
YEARS	2010	0.97	1.03	1.09	1.20	0.90	0.94	0.86
	2011	0.97	1.03	1.08	1.19	0.90	0.94	0.86
	2012	0.92	0.98	1.04	1.13	0.90	0.94	0.86
	2013	0.89	0.95	1.00	1.10	0.91	0.95	0.87
	2014	0.84	0.90	0.94	1.03	0.88	0.93	0.84

PROFILED SYSTEM PERFORMANCE TRENDS COMPARED WITH LARGE HEALTH SYSTEM QUINTILES (n=101)

30-DAY MORTALITY RATE (AMI, HF, PNEU)



30-DAY READMISSION RATE (AMI, HF, PNEU)

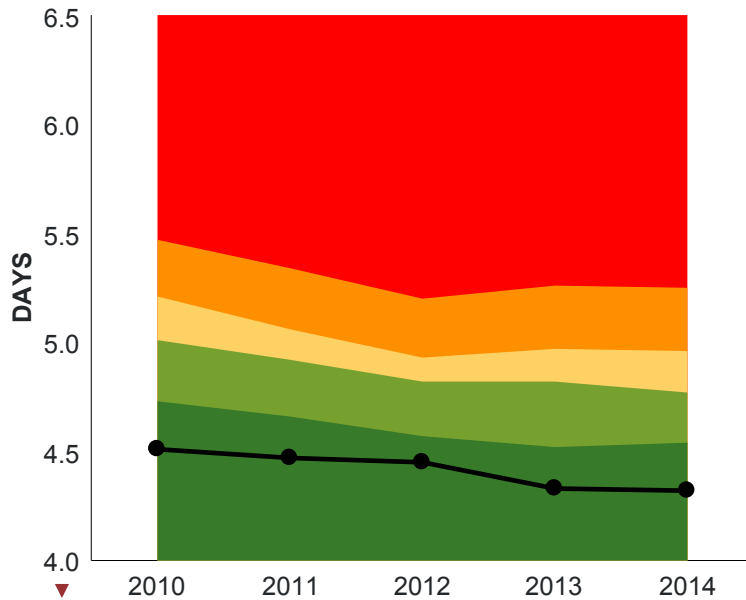


PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM
		20th	40th	60th	80th	Value
YEARS	2010	11.81	12.41	12.66	13.11	12.43
	2011	11.84	12.43	12.71	13.18	12.33
	2012	11.83	12.41	12.76	13.20	12.22
	2013	11.89	12.36	12.76	13.12	12.05
	2014	11.50	12.00	12.32	12.73	11.48

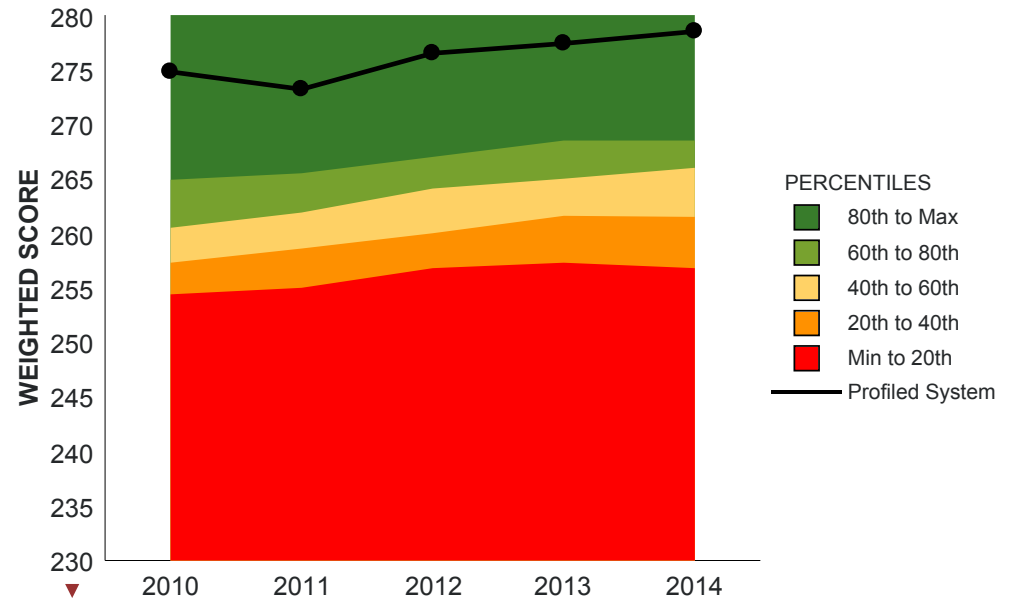
PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM
		20th	40th	60th	80th	Value
YEARS	2010	20.40	20.89	21.18	21.79	20.12
	2011	20.23	20.77	21.24	21.90	20.21
	2012	19.05	19.48	19.84	20.37	18.91
	2013	18.74	19.07	19.48	19.97	18.53
	2014	18.10	18.47	18.85	19.19	17.70

PROFILED SYSTEM PERFORMANCE TRENDS COMPARED WITH LARGE HEALTH SYSTEM QUINTILES (n=101)

SEVERITY-ADJUSTED AVERAGE LENGTH OF STAY



HCAHPS SCORE OVERALL RATING



PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM
		20th	40th	60th	80th	Value
YEARS	2010	4.73	5.01	5.21	5.47	4.51
	2011	4.66	4.92	5.06	5.34	4.47
	2012	4.57	4.82	4.93	5.20	4.45
	2013	4.52	4.82	4.97	5.26	4.33
	2014	4.54	4.77	4.96	5.25	4.32

PERCENTILE POINTS ►		HEALTH SYSTEM COMPARISON GROUP				PROFILED SYSTEM
		20th	40th	60th	80th	Value
YEARS	2010	254.4	257.3	260.5	264.9	274.8
	2011	255.0	258.6	261.9	265.5	273.2
	2012	256.8	260.0	264.1	267.0	276.5
	2013	257.3	261.6	265.0	268.5	277.4
	2014	256.8	261.5	266.0	268.5	278.5

15 TOP HEALTH SYSTEMS CURRENT PROFILE

CURRENT PROFILE

The 15 Top Health Systems Current Profile analyzes your health system's performance in the most recent year available, using a national balanced scorecard of critical performance metrics:

- Risk-Adjusted Mortality Index (in-hospital)
- Risk-Adjusted Complications Index
- Core Measures Mean Percent
- 30-Day Mortality (AMI, HF, PN, Stroke, COPD)
- 30-Day Readmissions (AMI, HF, PN, HipKnee, Stroke, COPD)
- Severity-Adjusted Average Length of Stay
- Mean Emergency Department Throughput
- Medicare Spend per Beneficiary Index
- HCAHPS Score (Patient Overall Hospital Rating)

Using this Profile, you can identify your health system's level of performance achievement by individual measure and overall, and target higher performance. In addition, the Profile shows the level of achievement of national award-winning (benchmark) health systems and the median performance of non-winning (peer) systems.

MEASURE CALCULATION OVERVIEW

Mortality, complications and length of stay (LOS) indexes are calculated by summing hospital observed and expected values to the health system level. Expected values are normalized by system class. LOS indexes are converted to average length of stay in days for reporting, using the in-study health system grand mean LOS.

Core measures, 30 day mortality and 30 day readmissions are calculated by summing member hospital observed and eligible patient counts to the health system level to calculate the percents or rates.

The system-level emergency department throughput measure is the arithmetic mean of the three included ED throughput measures. Each individual ED measure is aggregated to the system level by summing

the member hospital wait time minutes and dividing by the sum of the hospital ED patient count.

Medicare spend per beneficiary index (MSPB) is calculated by weighting the member hospital MSPB indexes by the hospital MedPAR discharges. The weighted indexes are summed and divided by the total member hospital discharges. This produces the weighted MSPB for each system.

The HCAHPS score is calculated by weighting the member hospital HCAHPS scores by the hospital MedPAR discharges. Weighted scores are summed and divided by the total member hospital discharges. This produces the weighted HCAHPS score for each system.

UNDERSTANDING THE GRAPHS

Profiled System Compared with Benchmark and Peer

This section contains individual bar graphs for each of the performance measures included in the 15 Top Health Systems national balanced scorecard. Each bar graph shows performance achievement levels for three groups: your health system, the benchmark group median, and the peer group median.

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

Core Measures, Emergency Department Throughput and HCAHPS Detail

This section contains bar graphs for the individual measures that make up the composite ranked measures for Core Measures Mean Percent and Mean Emergency Department Throughput. In addition, performance on each HCAHPS question is included for information. Only the Overall Hospital Rating question (an HCAHPS outcome metric) is ranked.

CURRENT PROFILE NOTES

Member Hospital Exclusions

Member hospitals are excluded from the parent health system analysis if one or more of the following conditions exist:

- Identified as a specialty hospital (Children's, Cancer, LTAC, Psych or SNF)
- Identified as a Federally-owned hospital
- Identified as a non-U.S. hospital (Guam, Puerto Rico, Virgin Islands)
- Medicare average length of stay longer than 30 days

Any member hospital measures for which there are useable data will be included when aggregating member hospital data to the system level.

System Study Exclusions (No Report Available)

- Organization does not have at least two short term general acute care hospitals that report system membership on the hospital cost report
- System has one or more missing measures
- POA not coded for 2013 or 2014 Medicare claims

System Winner Exclusions

A system is winner excluded if:

- Observed mortality or complications are statistically worse than expected (99% confidence)
- MSPB is missing

Use of Median Values

When individual measures are missing or the reported value is insufficiently precise (patient count too low), we substitute class median values so your health system can be ranked. This was done for the following measures:

- Individual core measures
- 30 day mortality rates (AMI, HF, Pneumonia, COPD, Stroke)
- 30 day readmission rates (AMI, HF, Pneumonia, Hip/Knee, COPD, Stroke)
- Individual emergency department throughput measures

Because CMS does not publish Medicare spend per beneficiary data for Maryland hospitals, we substitute health system class median values so Maryland systems can be included in the study. These systems are not eligible to be 15 Top benchmark systems.

New Measures for Information Only

We are including a number of new measures in this report, to allow you to compare your performance relative to your peer and benchmark groups. These measures are **not** included in your overall performance rating and are not used to select the 15 Top award-winning health systems. You will find these measures in a separate section of this Current Profile.

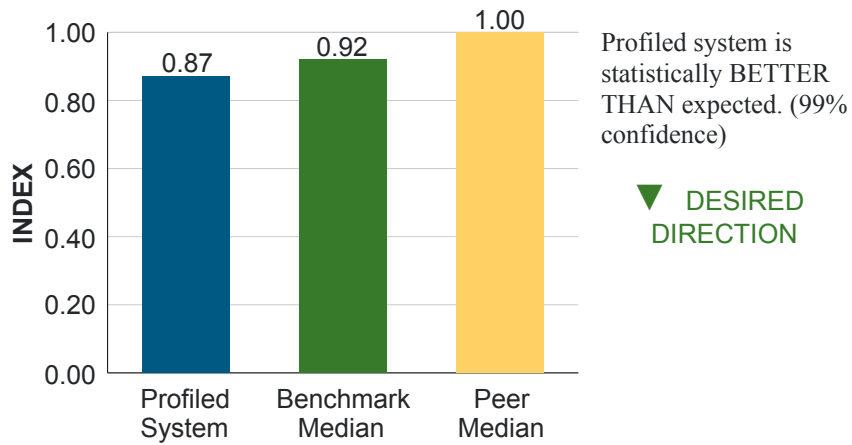
HCAHPS QUESTIONS

We ranked health systems on the Overall Rating question only. All other question results are reported for information only.

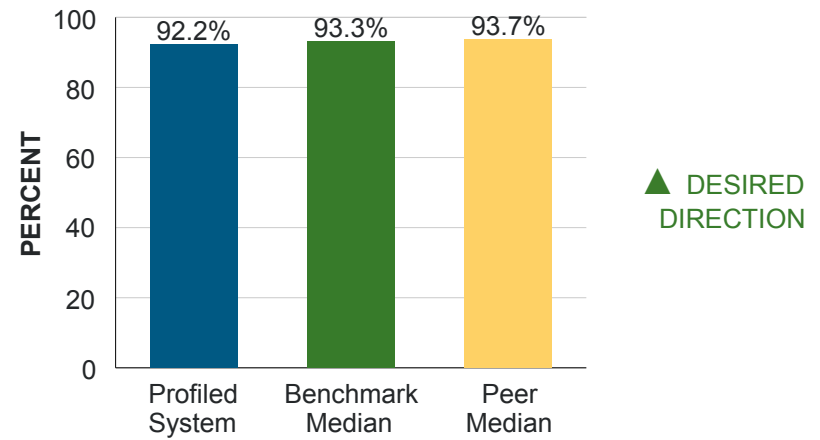
See Abstract for more details. Visit www.100tophospitals.com.

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

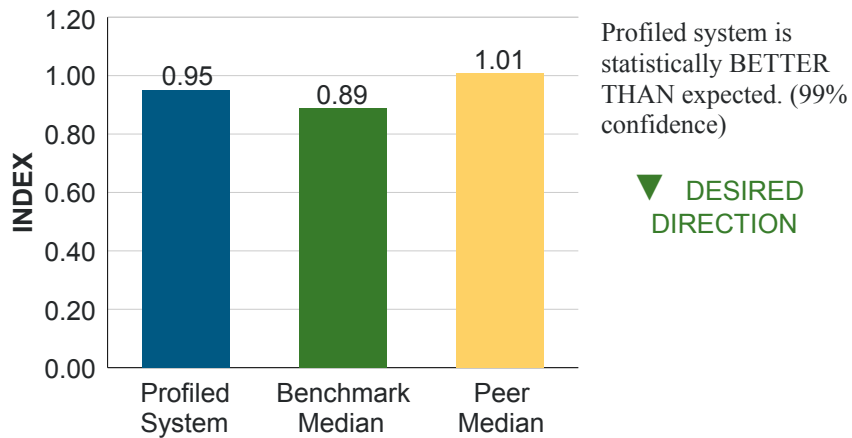
RISK-ADJUSTED MORTALITY INDEX



CORE MEASURES MEAN PERCENT



RISK-ADJUSTED COMPLICATIONS INDEX

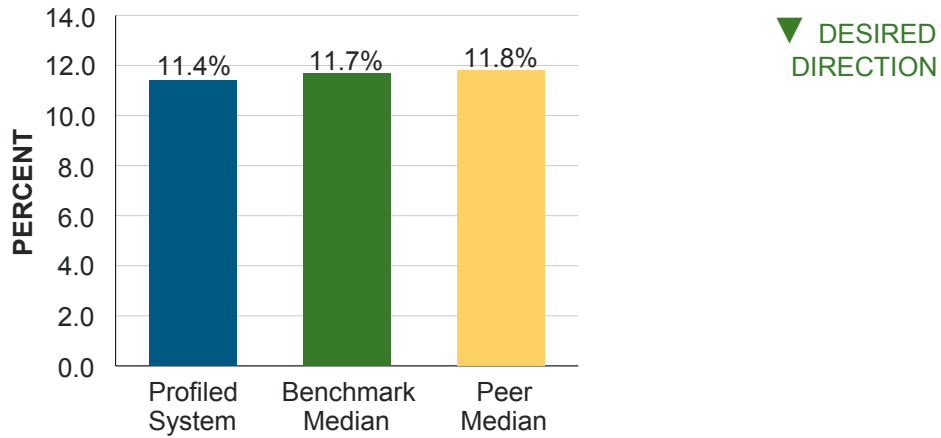


¹Benchmark health systems n=5

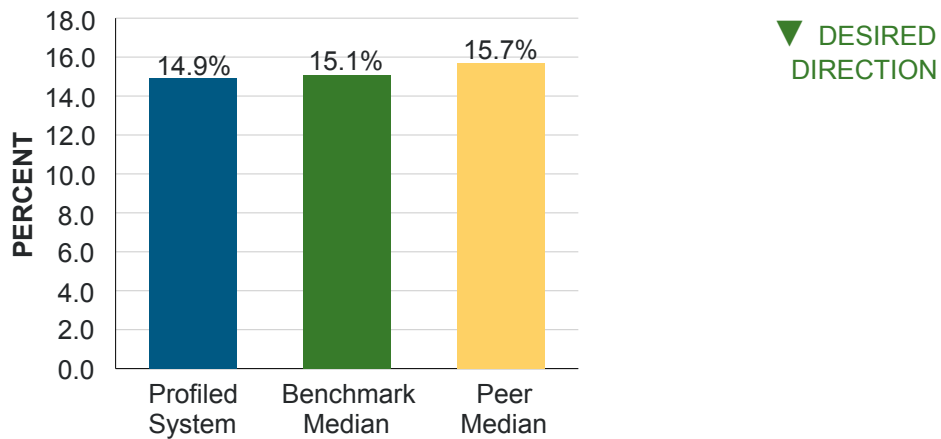
²Non-benchmark health systems n=96

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

30-DAY MORTALITY RATE (AMI, HF, PNEU, COPD, STROKE)



30-DAY READMISSION RATE (AMI, HF, PNEU, HIP/KNEE, COPD, STROKE)

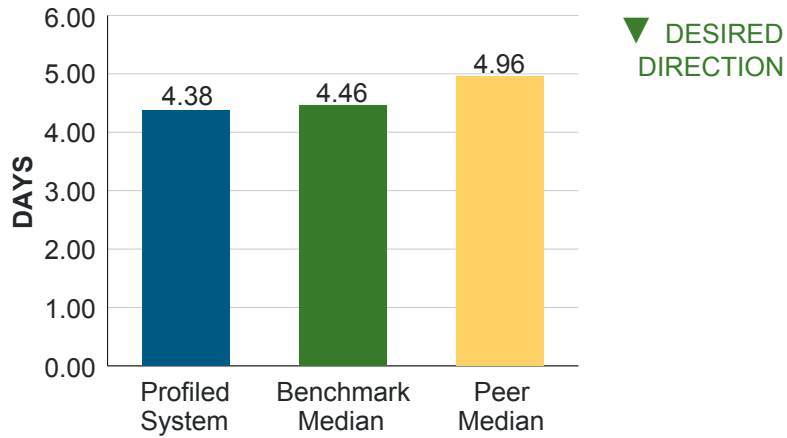


¹Benchmark health systems n=5

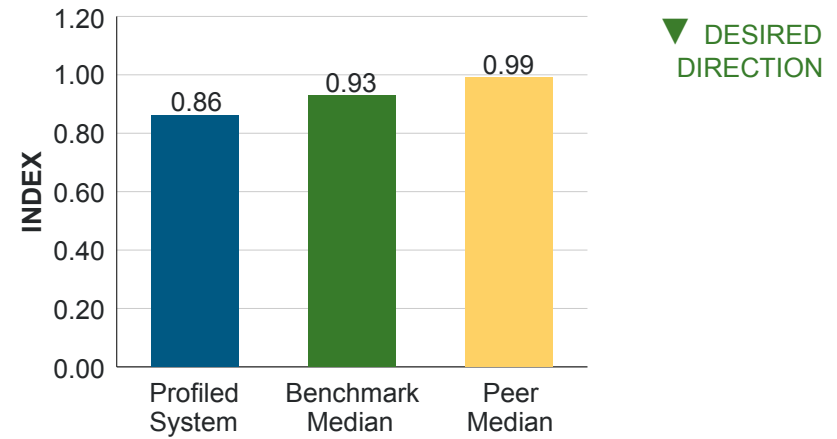
²Non-benchmark health systems n=96

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

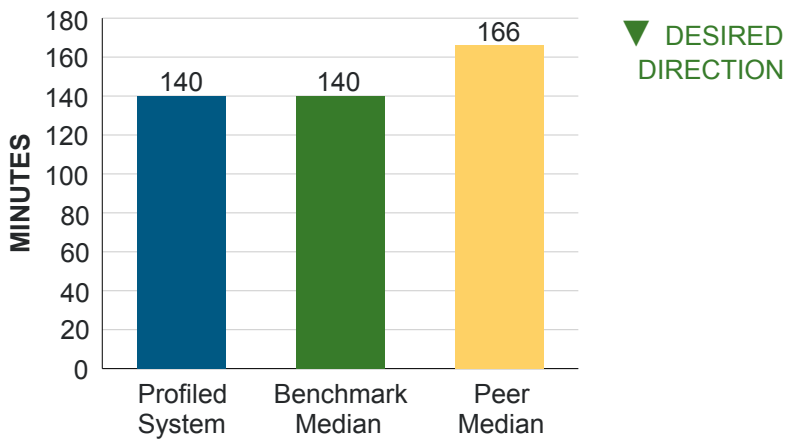
SEVERITY-ADJUSTED AVERAGE LENGTH OF STAY



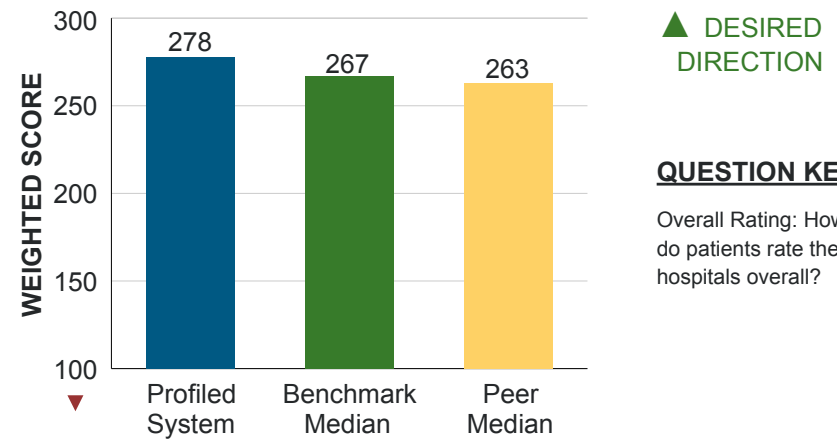
MEDICARE SPEND PER BENEFICIARY INDEX



EMERGENCY DEPARTMENT MEASURES



HCAHPS QUESTION: OVERALL RATING³



QUESTION KEY:

Overall Rating: How do patients rate the hospitals overall?

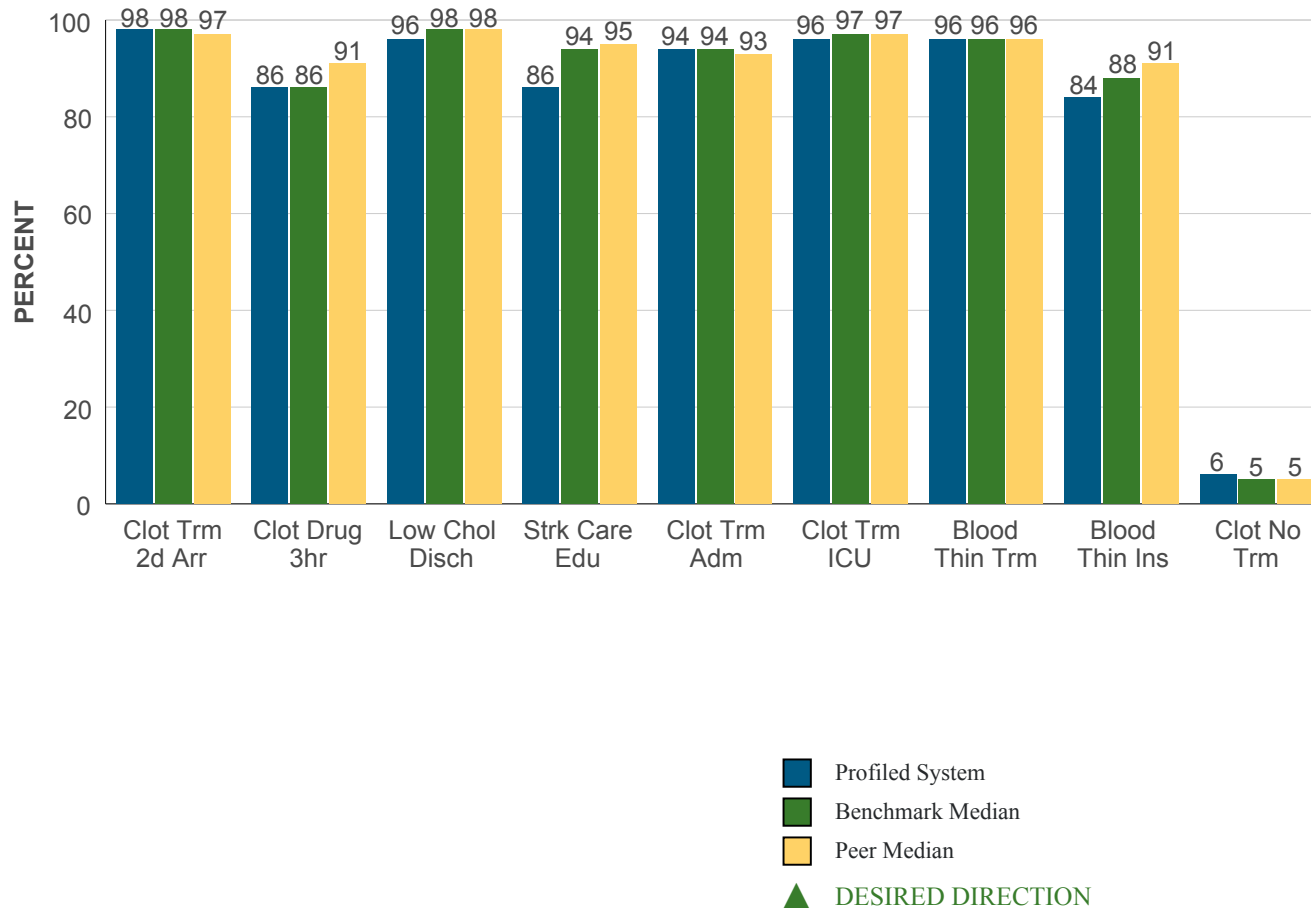
¹Benchmark health systems n=5

²Non-benchmark health systems n=96

³Highest possible score is 300

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

STROKE CARE AND BLOOD CLOT PREVENTION CORE MEASURES



STROKE CARE AND BLOOD CLOT ABBREVIATION KEY:

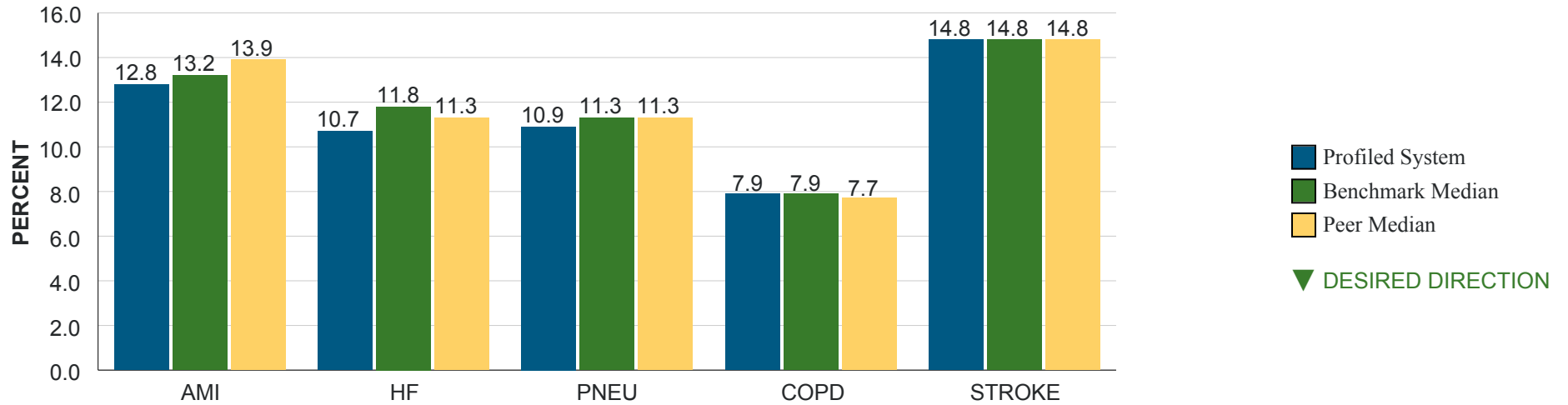
- Clot Trm 2d Arr: Venous Thromboembolism (VTE) Prophylaxis
- Clot Drug 3hr: Thrombolytic Therapy
- Low Chol Disch: Discharged on Statin Medication
- Strk Care Edu: Stroke Education
- Clot Trm Adm: Venous Thromboembolism Prophylaxis
- Clot Trm ICU: Intensive Care Unit Venous Thromboembolism Prophylaxis
- Blood Thin Trm: Venous Thromboembolism Patients with Anticoagulation Overlap Therapy
- Blood Thin Ins: Venous Thromboembolism Warfarin Therapy Discharge Instructions
- Clot No Trm: Hospital Acquired Potentially-Preventable Venous Thromboembolism (**lower is better**)

¹Benchmark health systems n=5

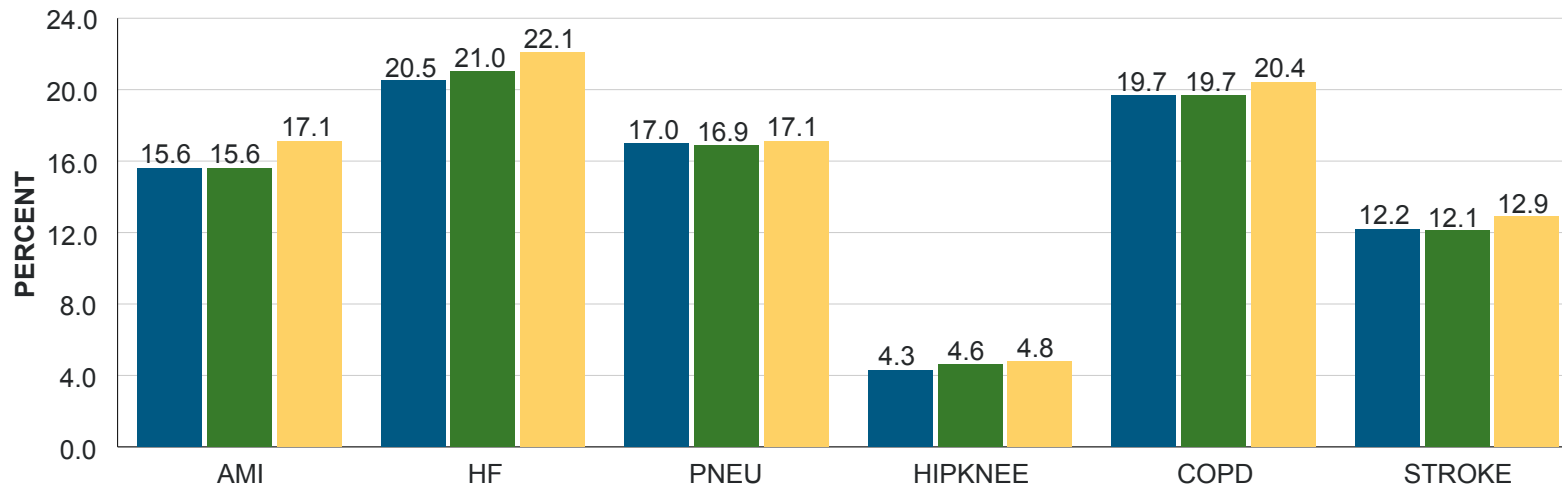
²Non-benchmark health systems n=96

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

30-DAY MORTALITY RATES BY PATIENT CONDITION



30-DAY READMISSION RATES BY PATIENT CONDITION

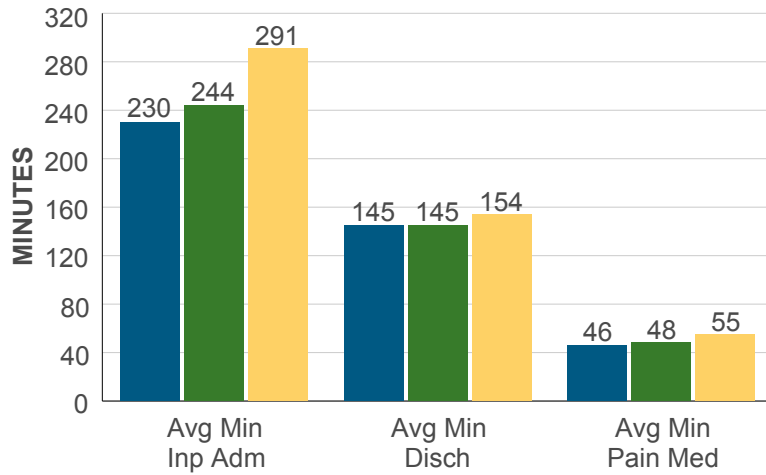


¹Benchmark health systems n=5

²Non-benchmark health systems n=96

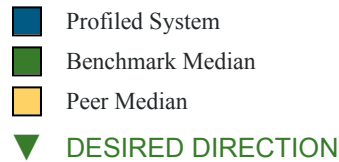
PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

EMERGENCY DEPARTMENT MEASURES



EMERGENCY DEPARTMENT ABBREVIATION KEY:

- Avg Min Inp Adm Average time patients spent in the ED, before they were admitted to the hospital as an inpatient
- Avg Min Disch Average time patients spent in the ED before being sent home
- Avg Min Pain Med Average time patients who came to the ED with broken bones had to wait before receiving pain medication

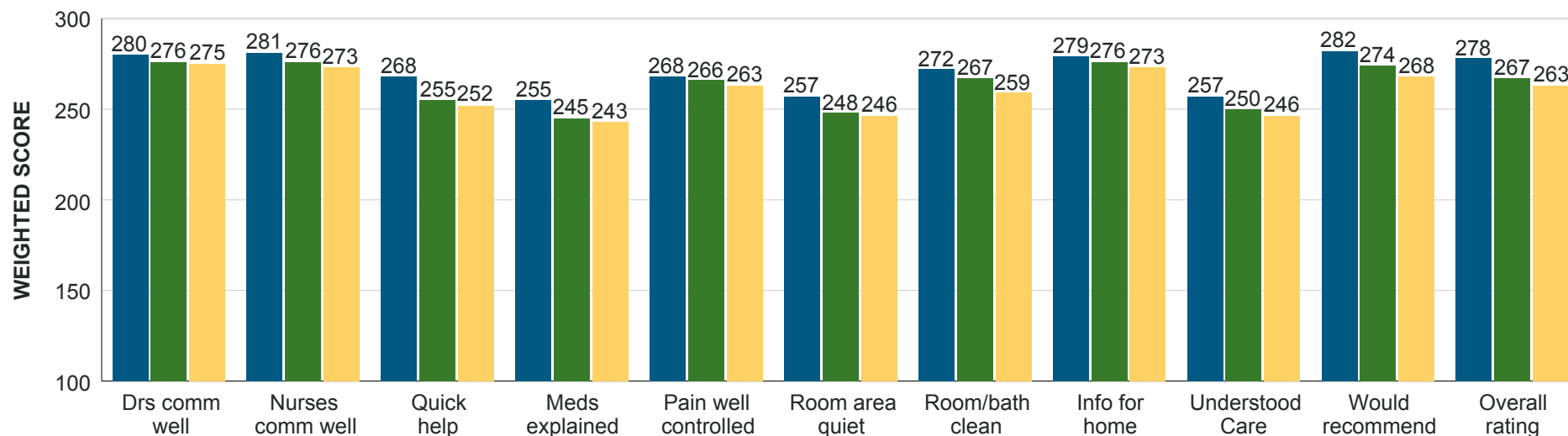


¹Benchmark health systems n=5

²Non-benchmark health systems n=96

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

HCAHPS QUESTIONS



QUESTION KEY:

- Drs comm well How often did doctors communicate well with patients?
- Nurses comm well How often did nurses communicate well with patients?
- Quick help How often did patients receive help quickly from hospital staff?
- Meds explained How often did staff explain about medicines before giving them to patients?
- Pain well controlled How often was patients pain well controlled?
- Room area quiet How often was the area around patients rooms kept quiet at night?
- Room/bath clean How often were the patients rooms and bathrooms kept clean?
- Info for home Were patients given information about what to do during their recovery at home?
- Understood care How often did patients understand their care at discharge?
- Would recommend Would patients recommend the hospital to friends and family?
- Overall rating How do patients rate the hospital overall?

- Profiled System
- Benchmark Median
- Peer Median
- ▲ DESIRED DIRECTION

¹Benchmark health systems n=5

²Non-benchmark health systems n=96

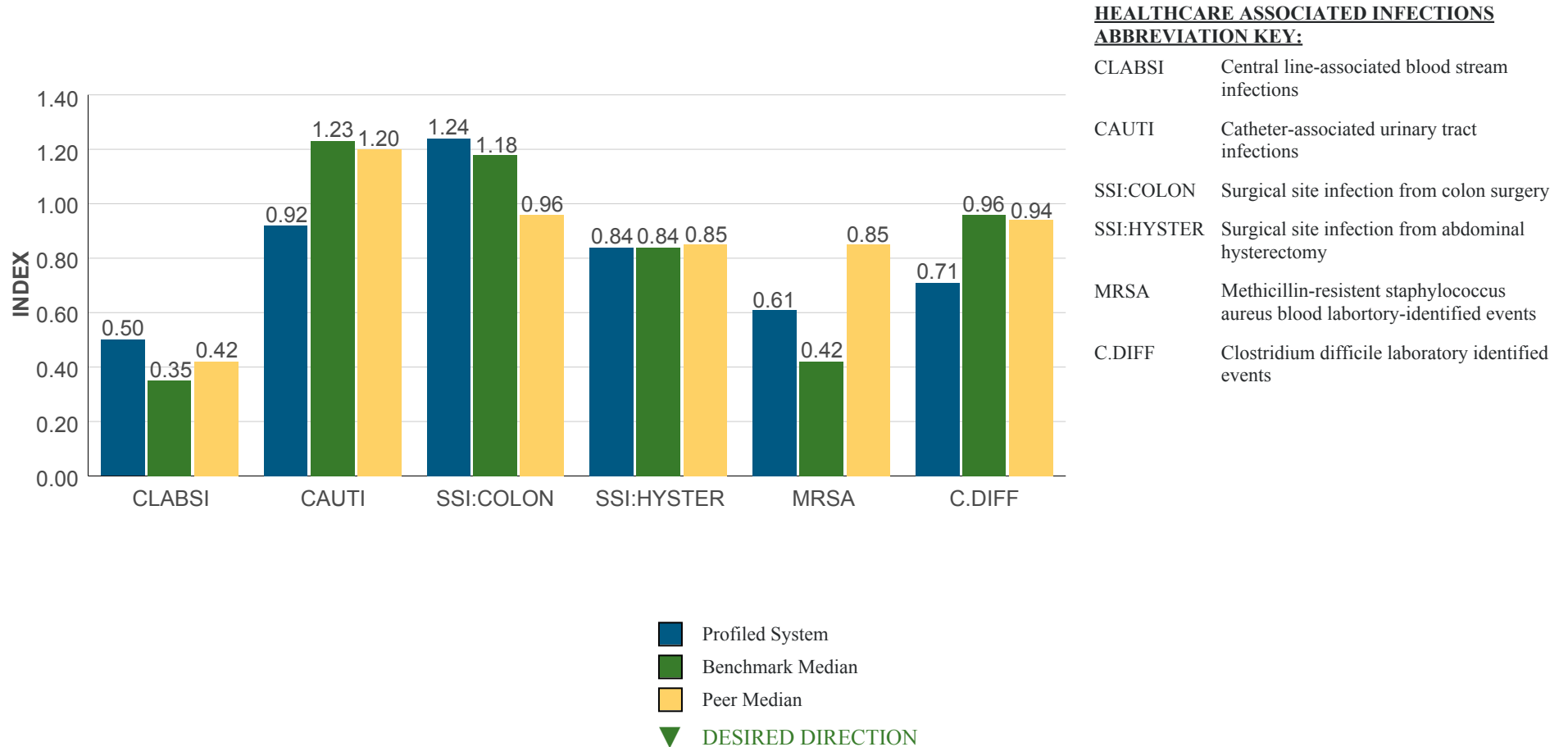
NEW METRICS UNDER CONSIDERATION

- This section of your report contains new measures that we are currently considering for future inclusion in the study. Some of the measures move outside the inpatient acute care setting and look at extended care from a clinical standpoint and others from a cost efficiency perspective. Other new measures focus on inpatient outcomes.
- We welcome your comments and feedback on the usefulness and relevance of these measures in assessing leadership's ability to drive high level balanced performance.

PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

Metrics Under Consideration

HEALTHCARE ASSOCIATED INFECTION MEASURES



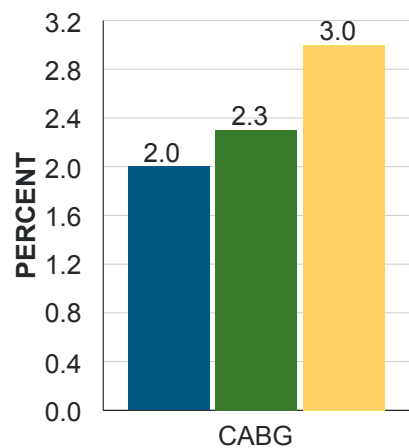
¹Benchmark health systems n=5

²Non-benchmark health systems n=96

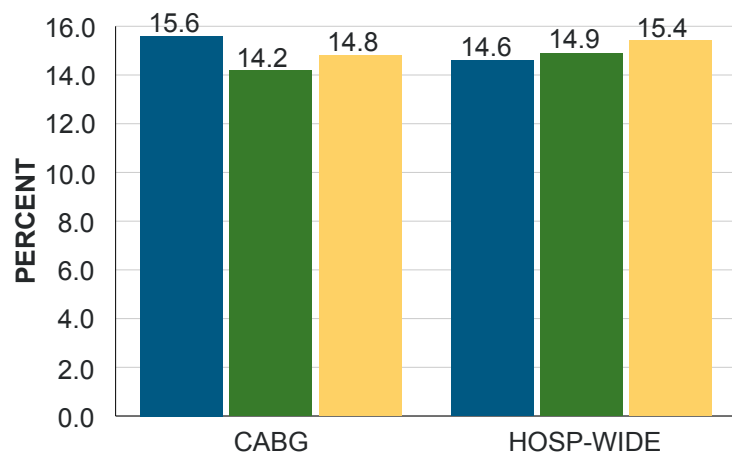
PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

Metrics Under Consideration

30-DAY MORTALITY RATE (CABG)



30-DAY READMISSION RATES (CABG, HOSP-WIDE)



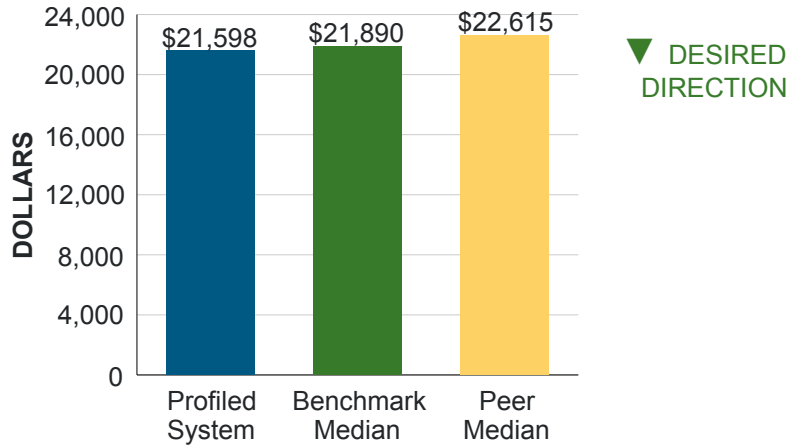
¹Benchmark health systems n=5

²Non-benchmark health systems n=96

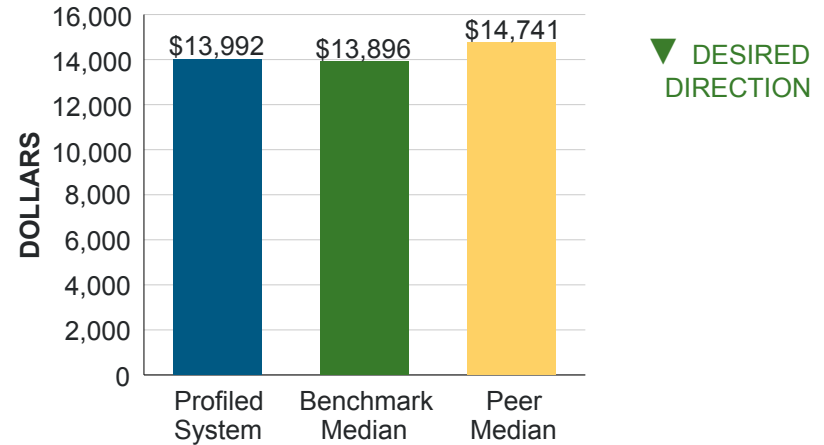
PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

Metrics Under Consideration

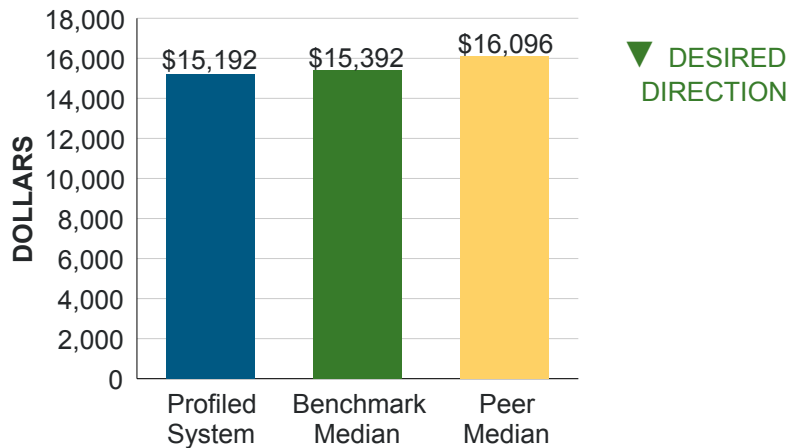
AMI 30-DAY EPISODE PAYMENT



PNEUMONIA 30-DAY EPISODE PAYMENT



HF 30-DAY EPISODE PAYMENT



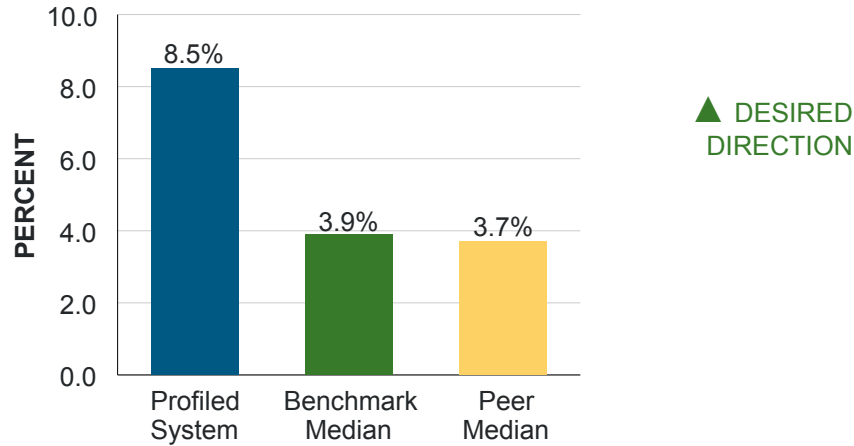
¹Benchmark health systems n=5

²Non-benchmark health systems n=96

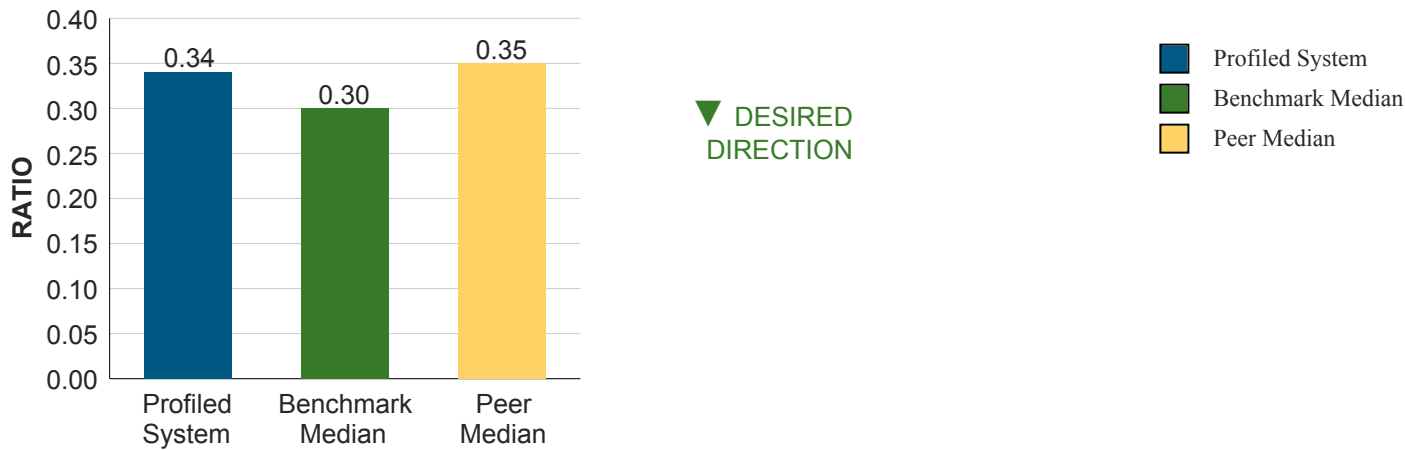
PROFILED SYSTEM COMPARED WITH LARGE BENCHMARK¹ AND PEER² SYSTEMS 2014

Metrics Under Consideration

OPERATING MARGIN



LONG-TERM DEBT TO CAPITALIZATION



¹Benchmark health systems n=5

²Non-benchmark health systems n=96

HEALTH SYSTEM MEMBER HOSPITAL ALIGNMENT

Overview

This section shows the performance and improvement alignment of health system member acute care hospitals. There are two components to the alignment view. First, we are providing a summary graph showing **performance-weighted alignment** for the health system compared to the best systems in both performance and improvement. This is a new feature of the report. Second, we provide member hospital performance overall and for each individual measure on comparison matrix graphs.

Graphed Member Hospitals

Short-term, general, acute care hospitals are included in the alignment analysis. **Only member hospitals that are ranked in the 100 Top Hospitals, 2016 study are graphed.** Some acute care hospitals that are included in the 15 Top Health Systems study cannot be graphed because they were missing data for one or more measures used only in the 100 Top Hospitals study and were, therefore, not ranked in that study.

Women’s, Cardiac, Orthopedic, and Critical Access hospitals that are **included** in the 15 Top Health Systems study are not graphed in this section because we do not include these hospitals when comparing short term general acute care hospital performance in the 100 Top Hospitals study.

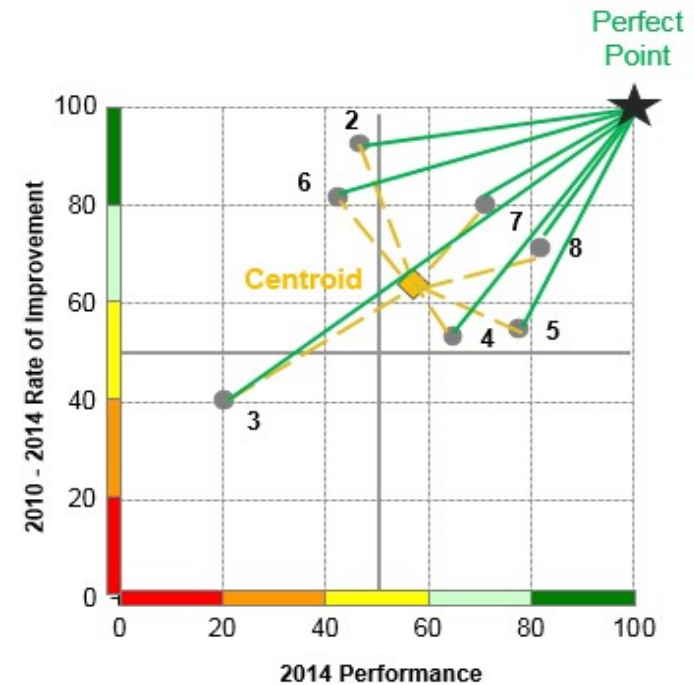
Performance-Weighted Alignment Score Findings

The performance-weighted alignment scores measure how consistently the system delivers on high level performance and improvement across their member hospitals, overall and for each measure. Better-performing health systems have better Overall alignment, and the difference is statistically significant.

Methodology

Each system performance-weighted alignment score is the average of the distance of each member hospital from their central point (Centroid) and the distance of each of those hospitals from the 100th – 100th percentile point (Perfect Point), weighted by the distance from the perfect point. A score is calculated overall and for each measure. **Higher percentiles mean better**

performance. See Study Overview for details.

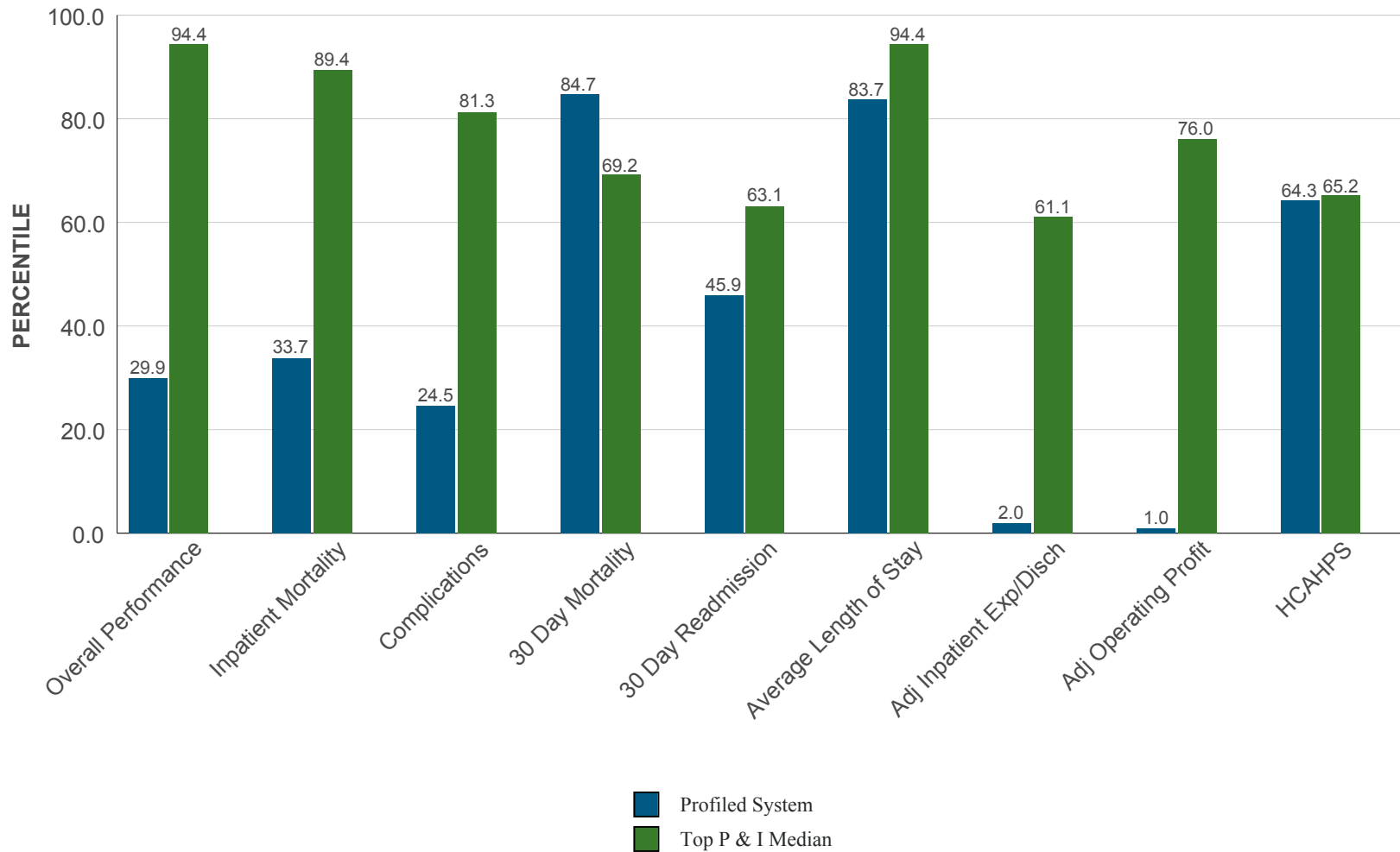


The system performance-weighted alignment scores are ranked by comparison group and reported as rank percentiles. Higher percentiles mean better performance. The profiled system performance is compared to the median alignment scores for the hospitals that were in the top quintile on both Performance and Improvement (Top P & I Group). This group was selected using the study ranked metrics, **not** member hospital alignment. We find that high alignment has not yet been achieved uniformly across all measures, even in this high performing group.

Your comments on the value and analytical characteristics of this metric are welcome. Call 1.800.366.7526 or e-mail us at 100tophospitals@truvenhealth.com.

PROFILED SYSTEM COMPARED WITH LARGE TOP P & I SYSTEMS¹ 2014

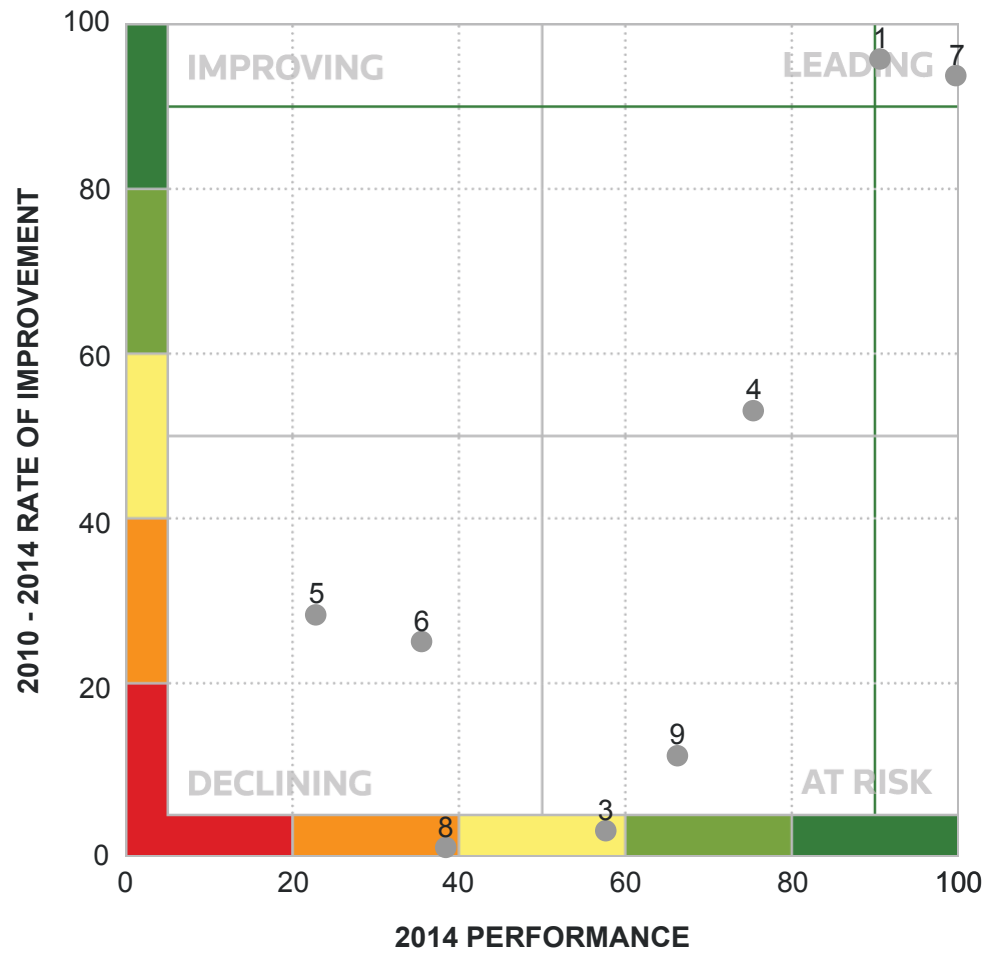
PERFORMANCE-WEIGHTED ALIGNMENT SCORE PERCENTILES



¹Top Performance & Improvement health systems n=7

MEMBER HOSPITALS - OVERALL PERFORMANCE

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

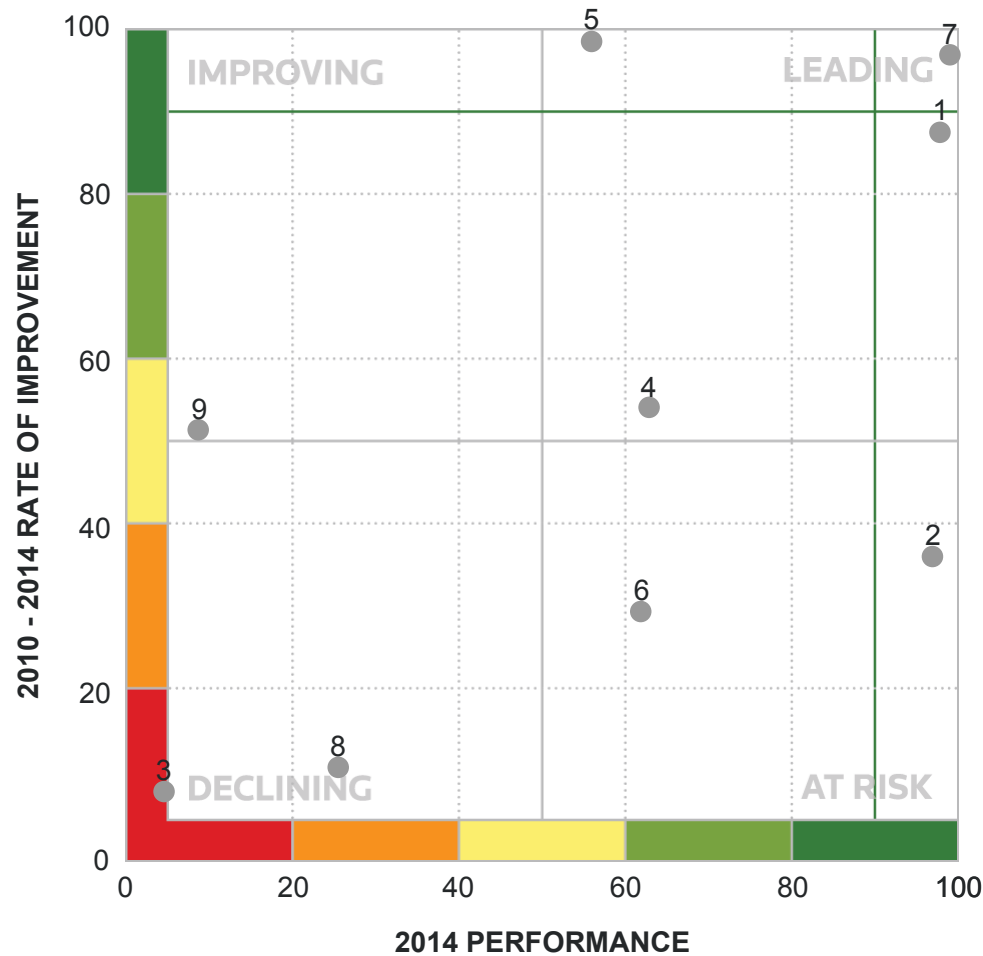
- 1 Comfort Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - MORTALITY

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

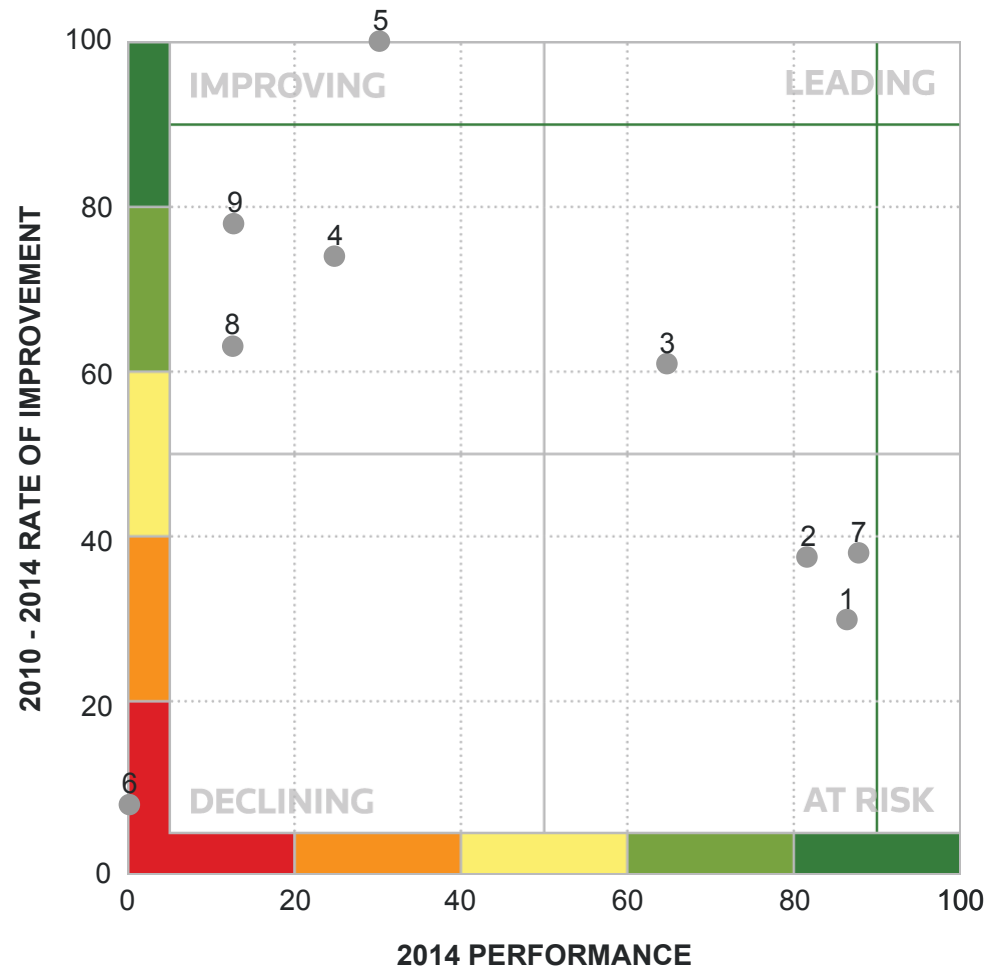
- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - COMPLICATIONS

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

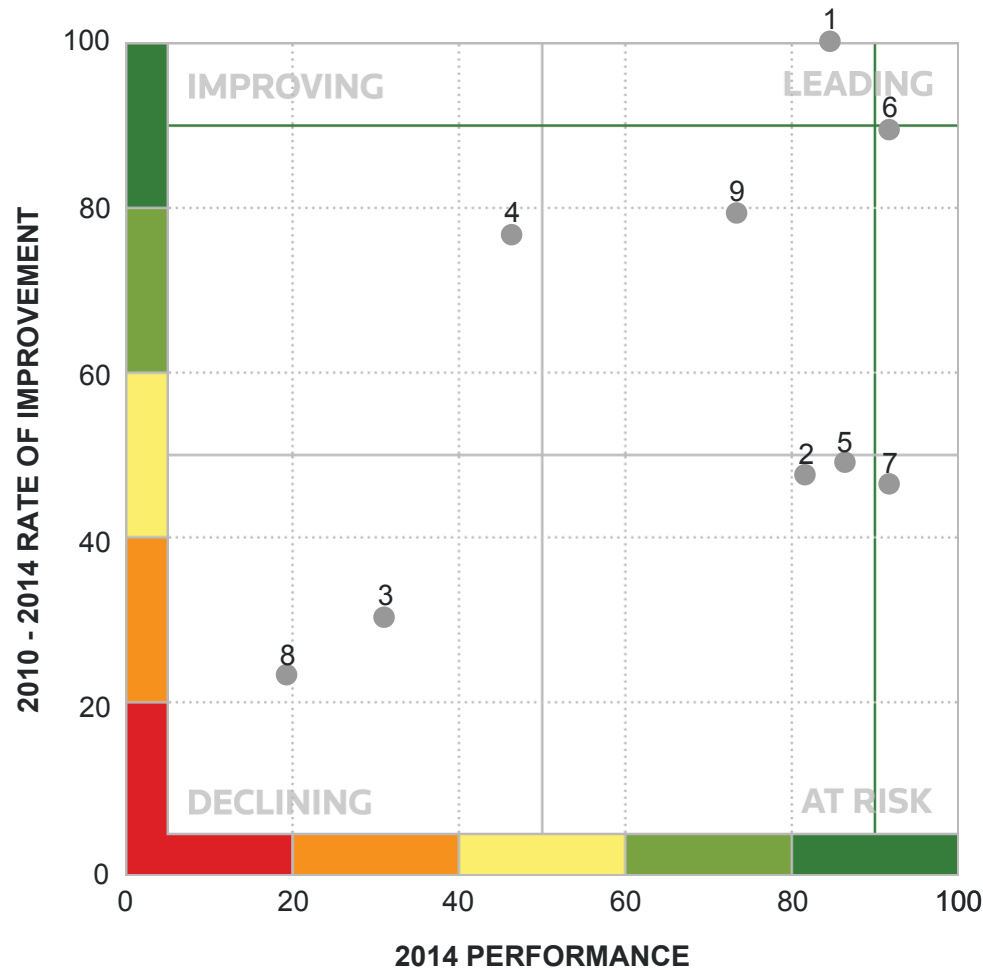
- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - 30-DAY MORTALITY

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

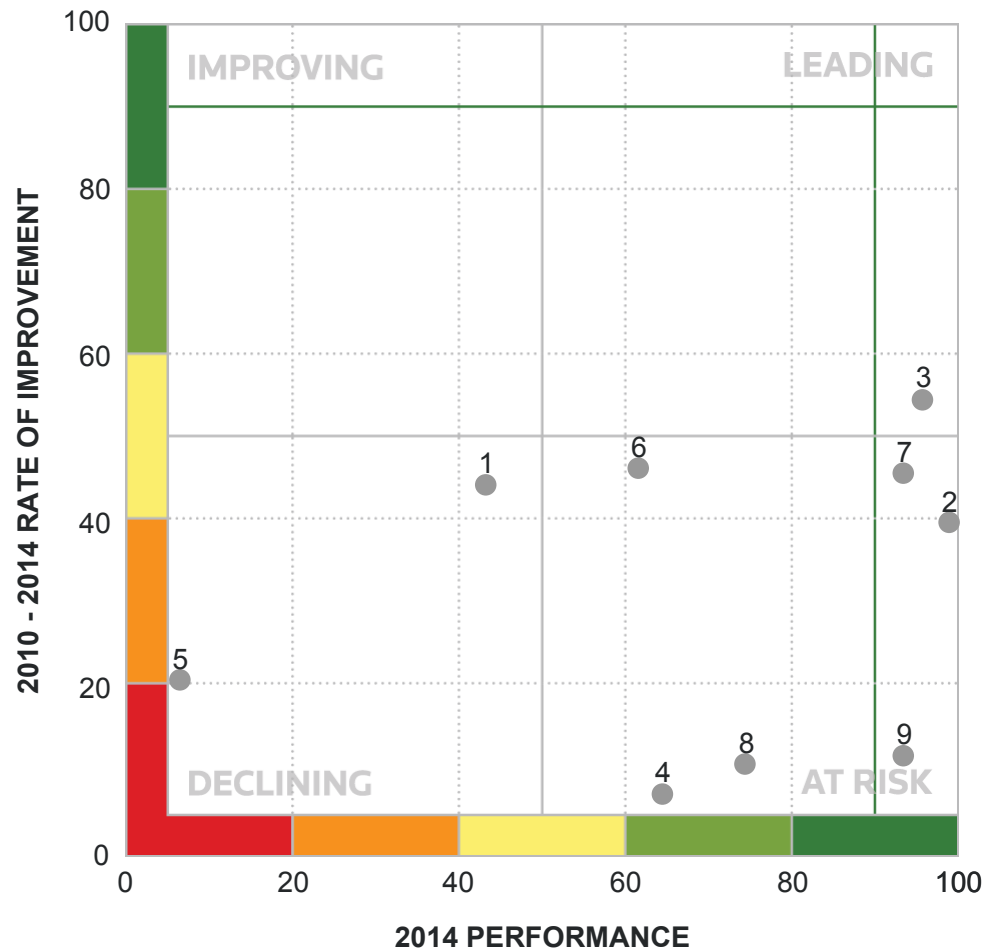
- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - 30-DAY READMISSION

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

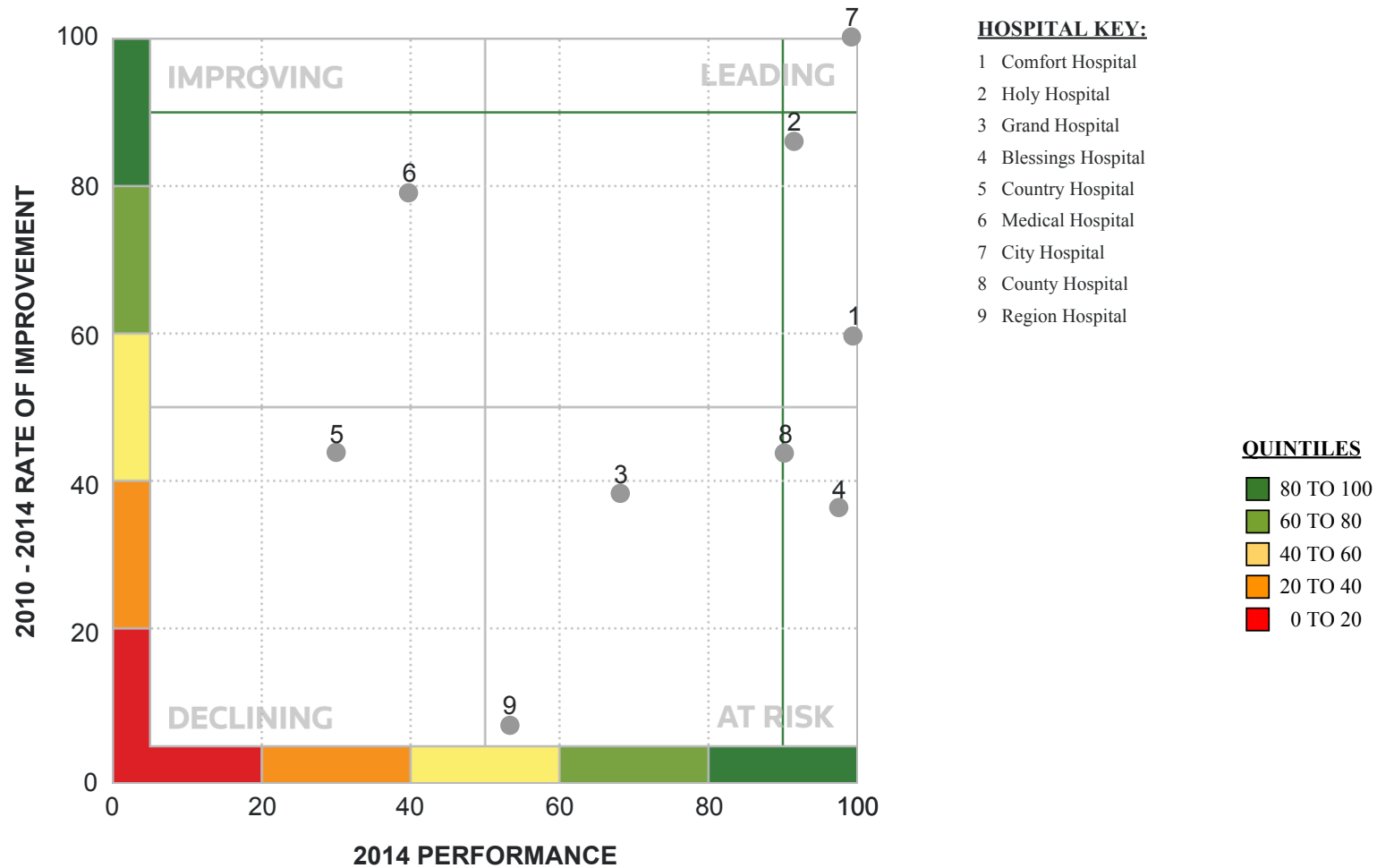
- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - AVERAGE LENGTH OF STAY

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



MEMBER HOSPITALS - ADJUSTED INPATIENT EXPENSE PER DISCHARGE

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

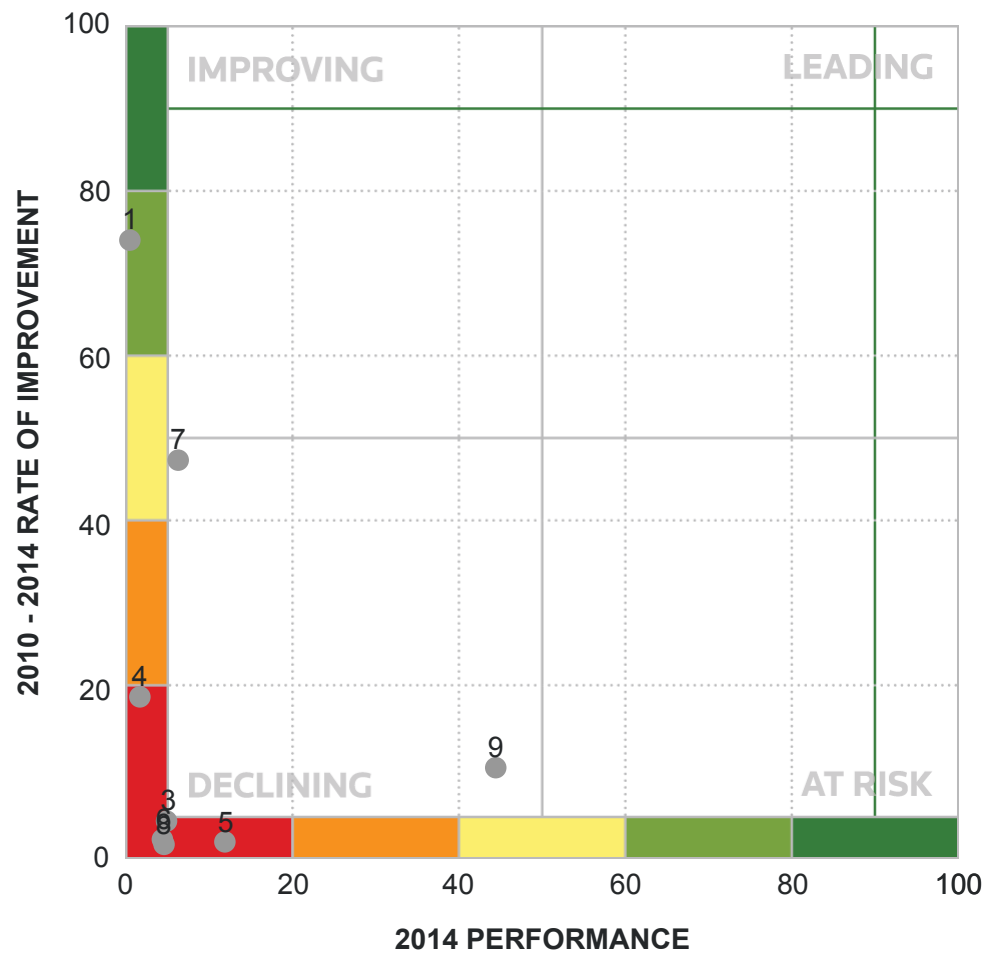
- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - ADJUSTED OPERATING PROFIT MARGIN

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

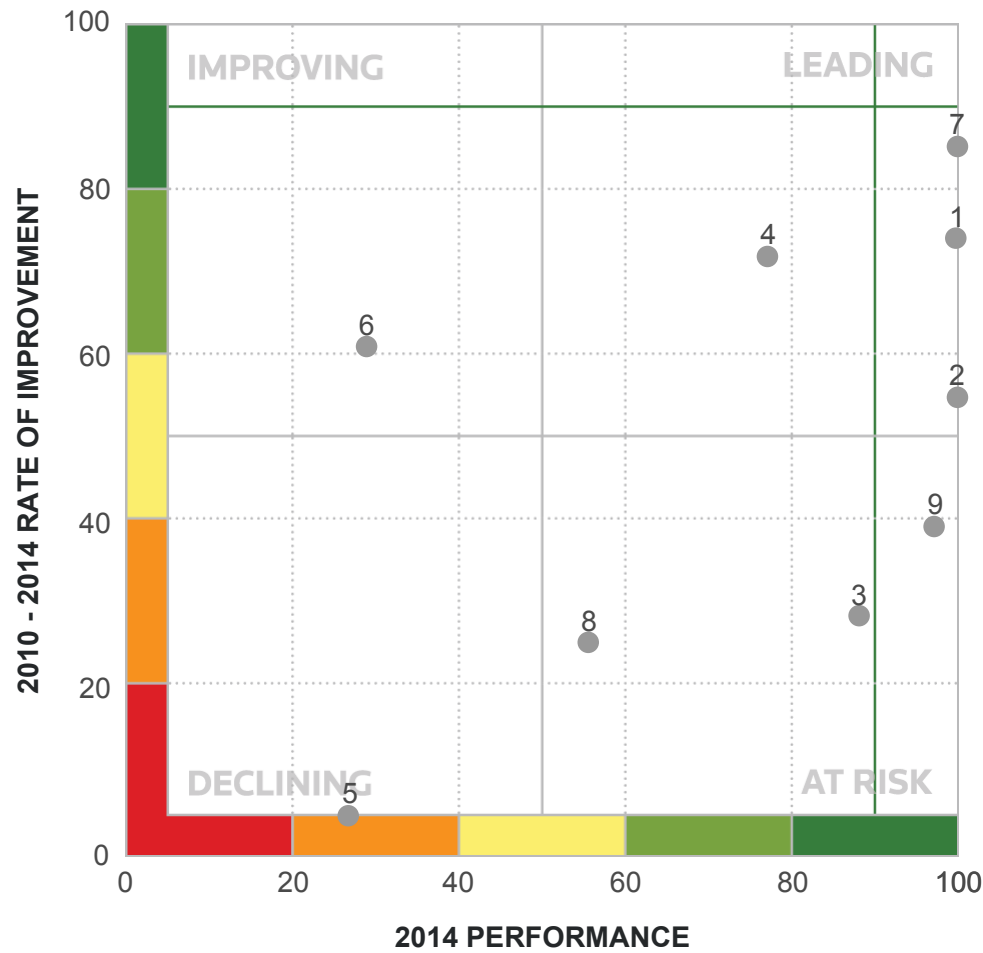
- 1 Comfort Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

MEMBER HOSPITALS - HCAHPS

2014 PERFORMANCE VERSUS RATE OF IMPROVEMENT



HOSPITAL KEY:

- 1 Comfort Hospital
- 2 Holy Hospital
- 3 Grand Hospital
- 4 Blessings Hospital
- 5 Country Hospital
- 6 Medical Hospital
- 7 City Hospital
- 8 County Hospital
- 9 Region Hospital

QUINTILES

- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

APPENDIX

INCLUDED MEMBER HOSPITALS

This section contains the list of health system member hospitals included in the 15 Top Health Systems, 2016 study, identified using 2014 cost reports.

The following hospitals were included in the 15 Top Health Systems, 2016 study: acute care general, cardiac, orthopedic, women's, and critical access hospitals.

HEALTH SYSTEM INCLUDED MEMBER HOSPITALS

GRAPH KEY	MCARE ID	HOSPITAL NAME	CITY	STATE	2014 OVERALL PERCENTILE	2010-14 OVERALL PERCENTILE
1	999999	Comfort Hospital	Any City	US	90.7	95.6
2	999999	Holy Hospital	Any City	US	98.5	NA
3	999999	Grand Hospital	Any City	US	57.8	3.0
4	999999	Blessings Hospital	Any City	US	75.5	53.4
5	999999	Country Hospital	Any City	US	23.0	28.9
6	999999	Medical Hospital	Any City	US	35.7	25.7
7	999999	City Hospital	Any City	US	99.8	93.6
8	999999	County Hospital	Any City	US	38.6	1.0
9	999999	Region Hospital	Any City	US	66.4	12.0
	999999	State Hospital	Any City	US	NA	NA
	999999	Lake Hospital	Any City	US	NA	NA
	999999	Wonderful Hospital	Any City	US	NA	NA
	999999	River Hospital	Any City	US	NA	NA
	999999	Creek Valley Hospital	Any City	US	NA	NA
	999999	Beach Hospital	Any City	US	NA	NA
	999999	Mountain Hospital	Any City	US	NA	NA
	999999	First Rate Hospital	Any City	US	NA	NA
	999999	Top Hospital	Any City	US	NA	NA

HEALTH SYSTEM INCLUDED MEMBER HOSPITALS

GRAPH KEY	MCARE ID	HOSPITAL NAME	CITY	STATE	2014 OVERALL PERCENTILE	2010-14 OVERALL PERCENTILE
	999999	Excellent Hospital	Any City	US	NA	NA
	999999	Fantastic Hospital	Any City	US	NA	NA
	999999	Comfort Hospital	Any City	US	14.1	NA
	999999	Holy Hospital	Any City	US	NA	NA
	999999	Grand Hospital	Any City	US	NA	NA
	999999	Blessings Hospital	Any City	US	NA	NA
	999999	Country Hospital	Any City	US	NA	NA
	999999	Medical Hospital	Any City	US	NA	NA