



# 50 TOP CARDIOVASCULAR HOSPITALS™

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**2024**

## **National Benchmarks**

Prepared for:

Sample Hospital

City, ST

CCN: 999999

# Report Methodology Notes

## COMPARISON GROUPS

So that we can compare your hospital with others most like it, we assign each hospital to one of three comparison groups according to size, teaching status, and residency/fellowship program involvement. Classification details are in the Study Overview.

- Teaching hospitals with cardiovascular residency programs (CARDIO TEACHING)
- Teaching hospitals without cardiovascular residency programs (TEACHING)
- Community hospitals (COMMUNITY)

Comparison Group	Number of Winners
CARDIO TEACHING	20
TEACHING	20
COMMUNITY	10

## BENCHMARK AND PEER GROUPS

In the PINC AI™ 50 Top Cardiovascular Hospitals™ study, we select 50 **Benchmark hospitals** (winners) based on overall performance in the most recent year of data available. Winners are selected by comparison group, as indicated in the table above.

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

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

- Current: Profiled hospital versus comparison group Benchmark and Peer hospitals.
- Trend: Profiled hospital versus comparison group Peer hospitals.

## INCLUDED PATIENT GROUPS

The focus of the study is on hospitals that offer both medical and surgical treatment options for patients with two of the most common cardiovascular conditions — coronary atherosclerosis and heart failure. We include data for acute myocardial infarction (AMI), heart failure (HF), coronary artery bypass graft (CABG) and primary percutaneous coronary intervention (PCI) patients in our analysis. Patients are assigned to mutually exclusive groups, as follows:

- CABG patients (primary or secondary)
- PCI patients (excludes open chest coronary artery angioplasty)
- AMI patients (restricted to non-surgical)
- HF patients (restricted to non-surgical)

## POA METHODOLOGY NOTES

Present on Admission (POA) coding is used in risk models for inpatient mortality, complications, average LOS, and cost per case. 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 diagnoses for which the POA code 'Y' or 'W' appeared more than 50 percent of the time in the all-payer database, as 'present on admission'
  - d. All others were treated as 'not present'

## RANK WEIGHTS AND PUBLIC DATA SOURCES

Ranked Performance Metric	Current Wt	Trend Wt	Source
Risk-Adjusted IP Mortality (AMI, HF, CABG, PCI)	½ ea	½ ea	MEDPAR FFY <sup>1</sup> 2017-2022
Risk-Adjusted Complications (CABG, PCI)	¼ ea	¼ ea	MEDPAR FFY <sup>1</sup> 2017-2022
30-Day Mortality Rate (AMI, HF, CABG)	⅙ ea	⅙ ea	CMS Care Compare: 3-yr datasets ending Jun 30 in 2018, 2019*, 2021, 2022
30-Day Readmission Rate (AMI, HF, CABG)	⅙ ea	⅙ ea	CMS Care Compare: 3-yr datasets ending Jun 30 in 2018, 2019*, 2021, 2022
Severity-Adjusted ALOS (AMI, HF, CABG, PCI)	¼ ea	¼ ea	MEDPAR FFY <sup>1</sup> 2018-2022
Wage- and Severity-Adjusted Average Cost per Case (AMI, HF, CABG, PCI)	¼ ea	¼ ea	MEDPAR FFY <sup>1</sup> 2018-2022
30-Day Episode Payment (AMI, HF)	½ ea	½ ea	CMS Care Compare: 3-yr datasets ending Jun 30 in 2018, 2019*, 2021, 2022
HCAHPS	½	NA	CMS Care Compare: CY 2022

<sup>1</sup> Federal Fiscal Year is Oct 1 through Sep 30.

\* Two data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets in current year, 2 ½ years of data in 2020 data point.

## FOR MORE INFORMATION

For a Study Overview, with full details on performance measures, methods used and winner list, visit [www.100tophospitals.com](http://www.100tophospitals.com).

# 50 Top Cardiovascular Hospitals Performance Matrix

## INTEGRATED HOSPITAL PERFORMANCE COMPARISON

The PINC AI™ 50 Top Cardiovascular Hospitals™ Performance Matrix, in a single view, compares your hospital's current level of performance achievement and five-year rate of improvement (trend) in percentiles. These percentiles are based on your hospital's rank, overall and by measure, within your comparison group. This integrated performance comparison provides insight into the success of hospital performance improvement strategies relative to other similar 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 within your comparison group. The matrix "Overall" dot integrates your national rank percentile for current overall performance with your national rank percentile for multi-year (trend) 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).

PINC AI 50 Top Cardiovascular Hospitals award winners are selected based on highest overall **current** performance. Winners 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.

Overall hospital performance on the multi-year (trend) rate of improvement is also a composite score based on the sum of the weighted ranks of individual measures on improvement. This sum is used to rank your hospital within your comparison group and produce your trend percentile.

## PERFORMANCE MATRIX NOTES

### Overall Dot

Due to the number of individual measures in this study, two matrix graphs are provided to better visualize the performance of each measure. One graph shows the medical patient group measures (AMI and HF) and the other shows the surgical patient group measures (CABG and PCI). **However**, the "Overall" dot on each matrix graph represents the hospital overall current and trend performance based on **all** measures and patient groups, combined (AMI, HF, CABG, PCI). Therefore, it is identical on each matrix graph.

### Missing Matrix Graphs

The matrix graphs will be missing if your hospital did not have enough years of data to be trended. A minimum of four years of data, including the most current year, are required. There also will be no trend graphs in the report.

If there were too few years of data for one or more measures, but not all, there will be no matrix graphs; but there will be trend graphs for the measures that were not missing. Exclusion notes are found at the end of the graphs section of this report.

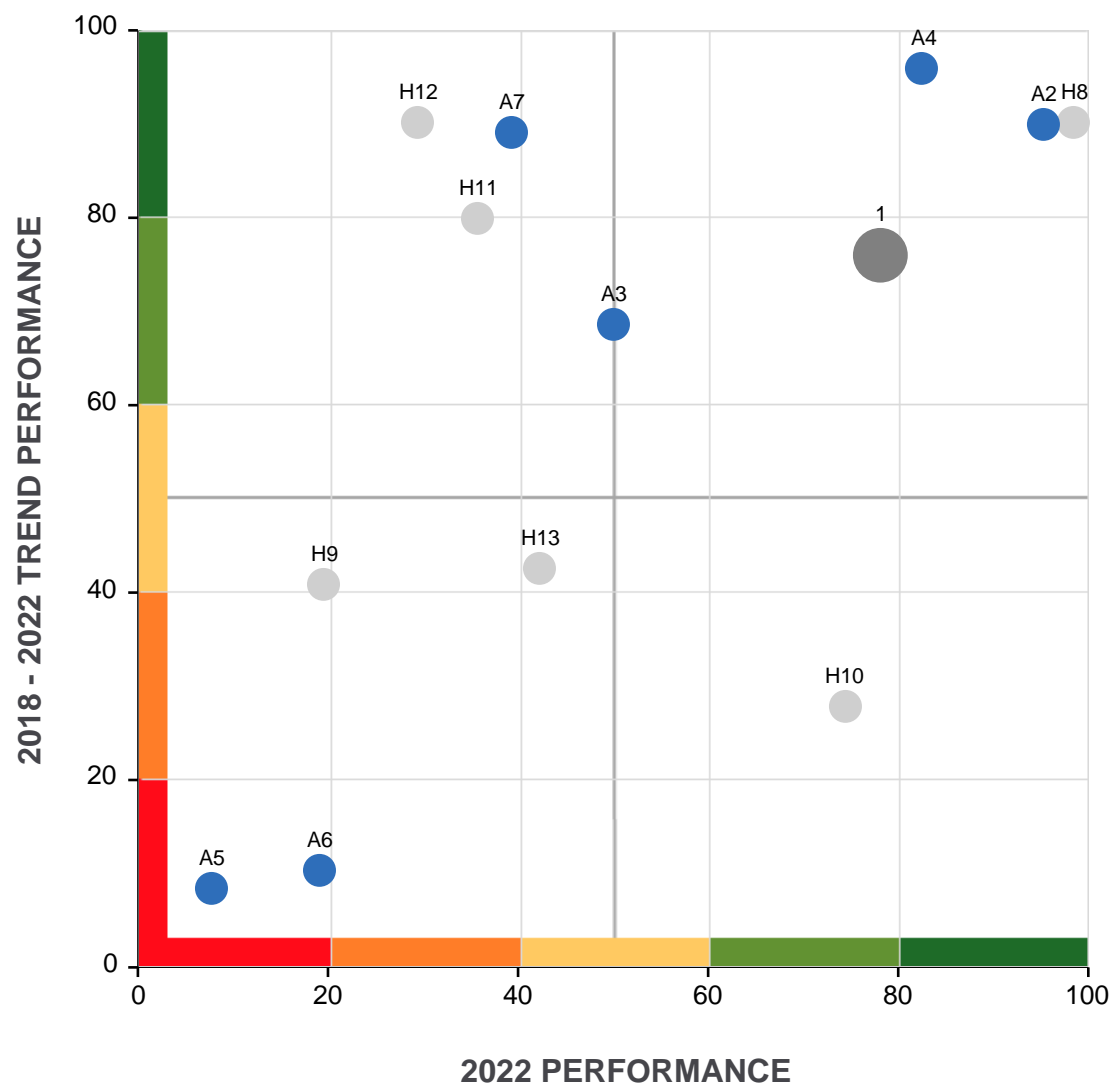
### Missing Measure Dots

A measure dot will be missing from the matrix if your hospital had too few usable data points (after outlier exclusions) to calculate a regression line t-statistic, which is the ranked variable. If this occurs, the dot for the affected measure(s) will be missing on the matrix graph **and** there will be no "Overall" dot. In addition, data points will be missing from the affected trend measure graphs. Notes on excluded data points are in the Appendix page following the Performance Matrix graphs.

# 50 Top Cardiovascular Hospitals Performance Comparison Group

**Profiled hospital compared to Teaching hospitals**

# AMI and HF Patients: 2022 Performance and Five-Year Rate of Improvement Matrix



## DATA POINT KEY

- 1** OVERALL\*
- A2 AMI IP Mortality
- A3 AMI 30-Day Mort
- A4 AMI 30-Day Readmit
- A5 AMI Avg LOS
- A6 AMI Cost per Case
- A7 AMI 30-Day Payment

## QUINTILES

- H8 HF IP Mortality
- H9 HF 30-Day Mort
- H10 HF 30-Day Readmit
- H11 HF Avg LOS
- H12 HF Cost per Case
- H13 HF 30-Day Payment

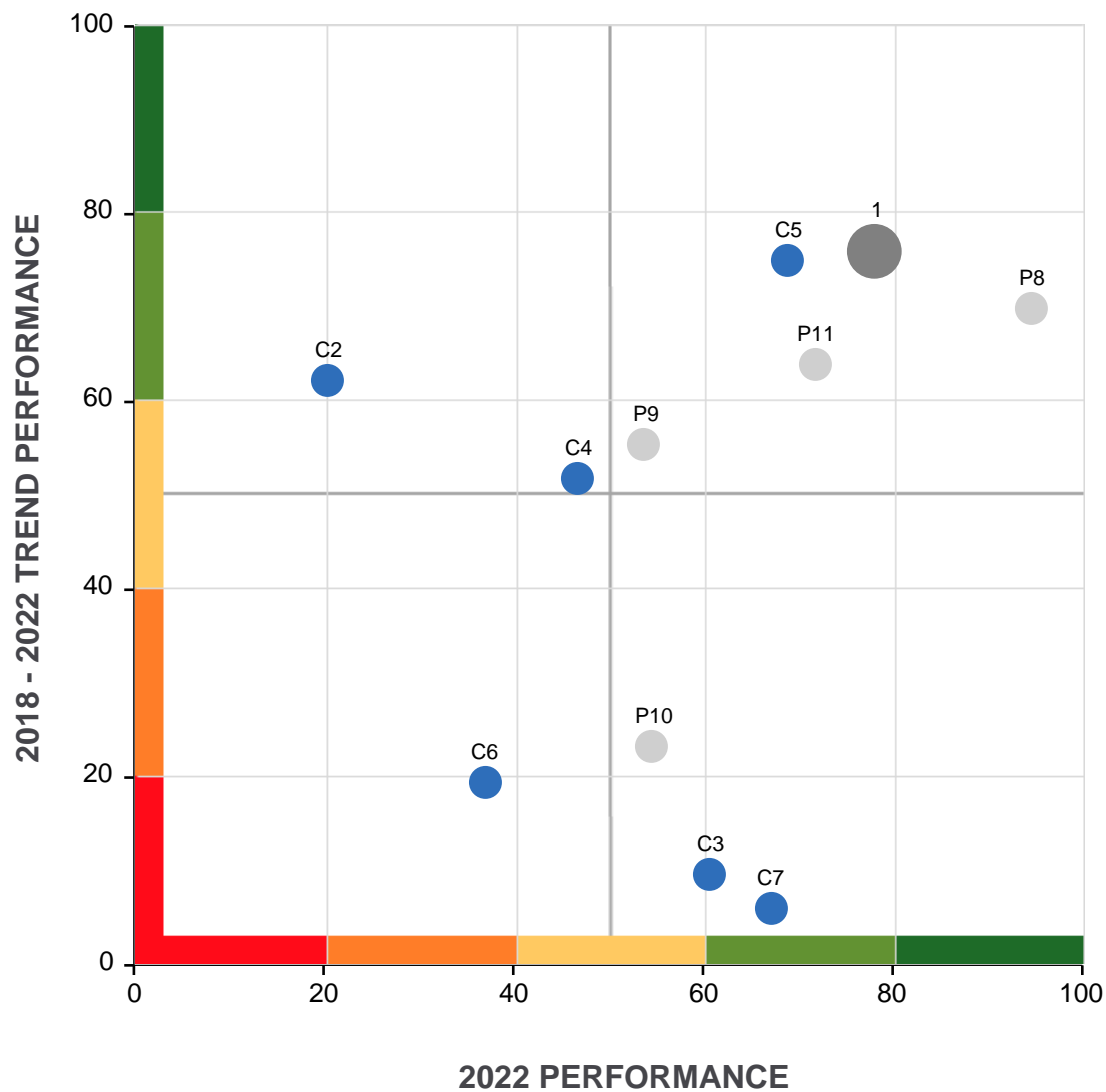
- 80 TO 100
- 60 TO 80
- 40 TO 60
- 20 TO 40
- 0 TO 20

\*Overall Measure includes all 4 patient groups of measures: AMI, HF, CABG, PCI

## PROFILED HOSPITAL compared to:

2022 Teaching hospitals: n = 345  
2018 - 2022 Teaching hospitals: n = 336

# CABG and PCI Patients: 2022 Performance and Five-Year Rate of Improvement Matrix



## DATA POINT KEY

- 1 **OVERALL\***
- C2 CABG IP Mortality
- C3 CABG Complications
- C4 CABG 30-day Mort
- C5 CABG 30-day Readmit
- C6 CABG Avg LOS
- C7 CABG Cost per Case

## QUINTILES

- P8 PCI IP Mortality
- P9 PCI Complications
- P10 PCI Avg LOS
- P11 PCI Cost per Case

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

\*Overall Measure includes all 4 patient groups of measures: AMI, HF, CABG, PCI

## PROFILED HOSPITAL compared to:

2022 Teaching hospitals: n = 345  
2018 - 2022 Teaching hospitals: n = 336

# Performance and Improvement – Rank Percentiles Graphs

## UNDERSTANDING THE GRAPHS

### 2022 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 within your comparison group by the number of hospitals in the group and multiplying by 100.

**The 50 Top Cardiovascular Hospitals benchmark hospitals (winners) are selected based only on 2022 performance.**

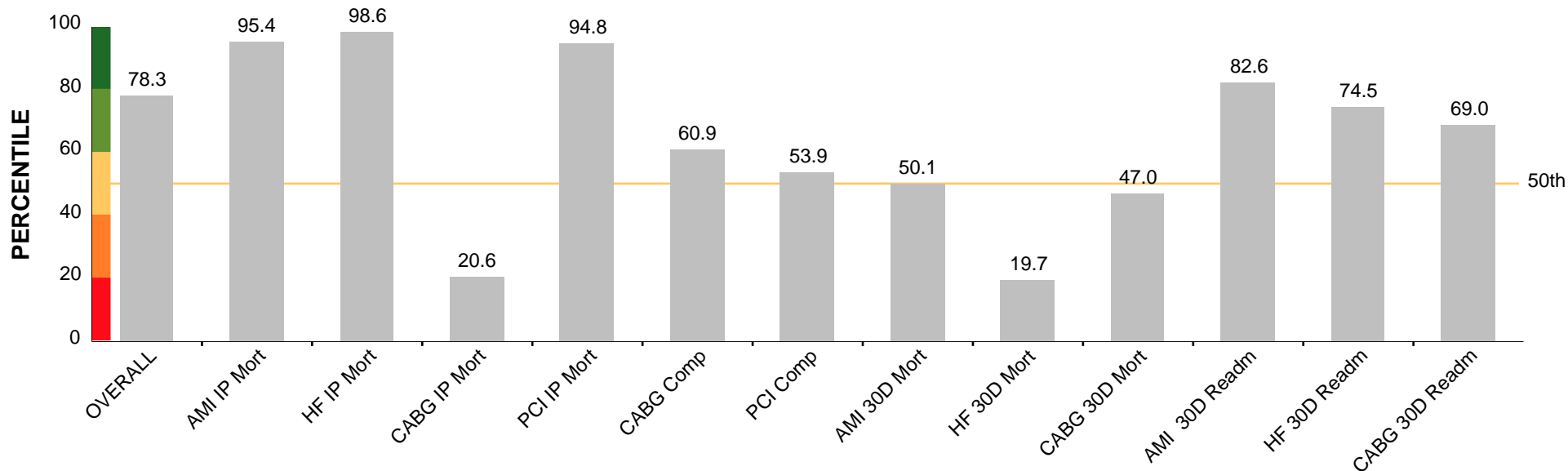
### 2018 - 2022 Rate of Improvement Rank Percentiles

This bar graph shows your hospital's rate of improvement (trend) on each measure and overall, reported as rank percentiles. Individual measure percentiles are calculated by dividing your measure rank within your comparison group by the number of hospitals in the group and multiplying by 100. The overall rank percentile is based on the sum of your individual measure ranks, re-ranked by comparison group. 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.

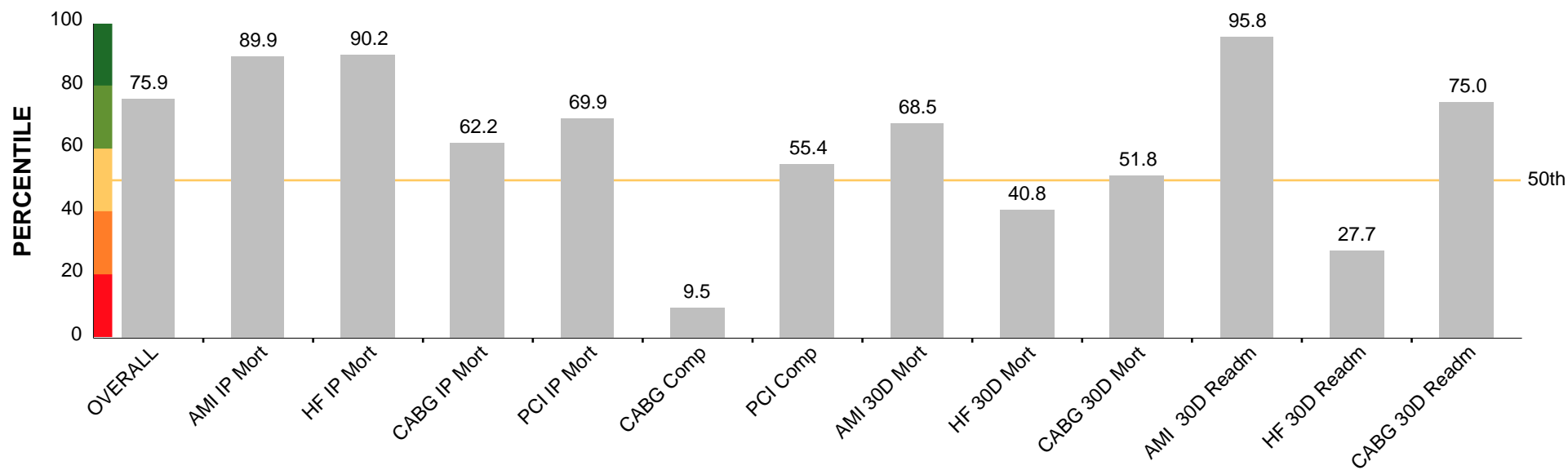
Hospitals with overall and measure-specific rank percentiles below the median are likely to fall behind peers on performance in the future if those low rates of improvement have continued. Winners with a low overall rate of improvement are at risk for dropping out of the winner circle entirely.

## 2022 Clinical Performance Rank Percentiles



Profiled hospital compared to Teaching hospitals: n = 345

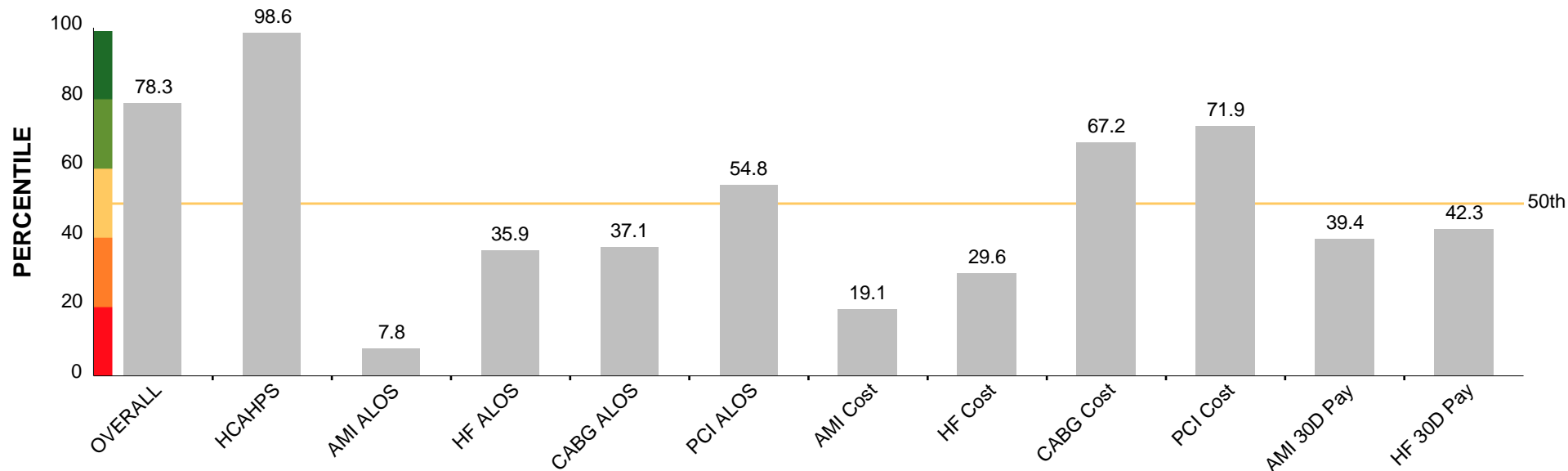
## 2018 - 2022 Clinical Rank Percentiles



Profiled hospital compared to Teaching hospitals: n = 336

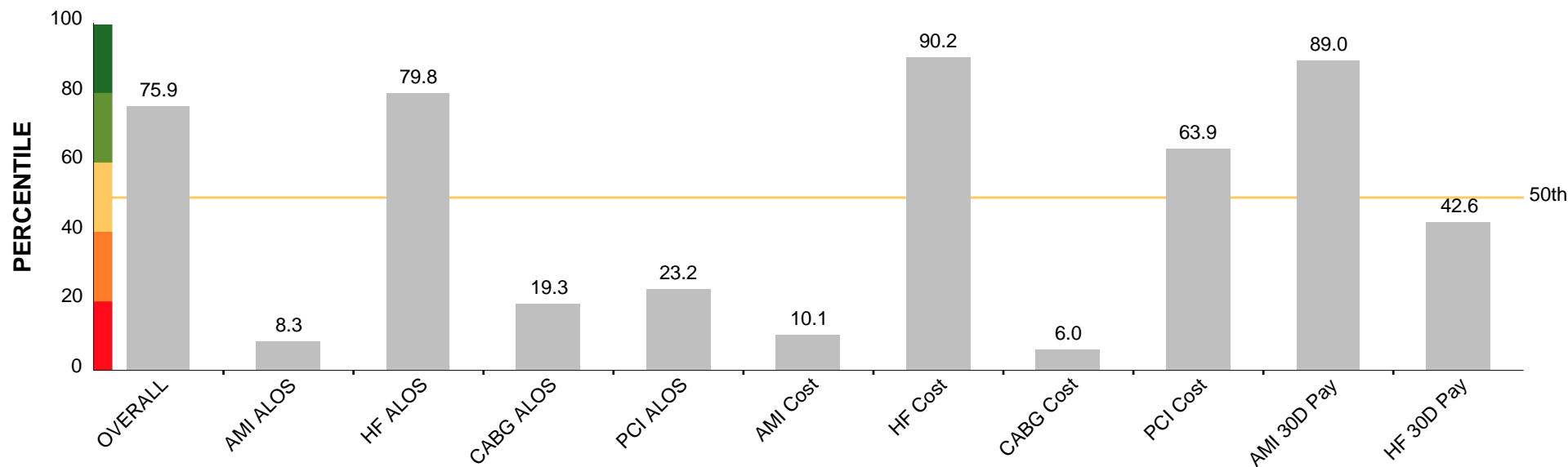


## 2022 Operational Performance Rank Percentiles



Profiled hospital compared to Teaching hospitals: n = 345

## 2018 - 2022 Operational Rank Percentiles



Profiled hospital compared to Teaching hospitals: n = 336

# 50 Top Cardiovascular Hospitals Current Profile Notes

## CURRENT PROFILE

The PINC AI™ 50 Top Cardiovascular Hospitals™ winners are selected based on performance in the most current year of the study (Current Profile).

The 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 (AMI, HF, PCI, CABG)
- Risk-Adjusted Complications Index (PCI, CABG)
- 30-Day Mortality Rate (AMI, HF, CABG)
- 30-Day Readmission Rate (AMI, HF, CABG)
- Severity-Adjusted Average Length of Stay (AMI, HF, PCI, CABG)
- Wage- and Severity-Adjusted Average Cost per Case (AMI, HF, PCI, CABG)
- 30-Day Episode Payment (AMI, HF)
- HCAHPS Top-Box Percent (Overall Hospital Rating)

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 median level of achievement of national award-winning (benchmark) hospitals and the median performance of non-winning (peer) hospitals in your comparison group.

## 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 50 Top Cardiovascular Hospitals balanced scorecard, organized by patient group. 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 – inpatient mortality and complications – 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 note indicates your performance is “as expected,” your performance is “normal”, regardless of how high or low the index value.

## Missing Bars and Measure Rank Percentiles

A measure’s performance bar and its associated rank percentile value are not displayed if one or more of the following conditions apply:

- Measure data for a specific year was missing in the source data file (CMS Care Compare; HCRIS hospital cost reports)
- Measure was incalculable due to insufficient MEDPAR POA coding (impacts inpatient mortality, complications, ALOS, cost per case)
- Measure was based on fewer than 11 patient records (HIPAA)

## Measure Data Periods

Measure	Data Period Used for 2022 Performance
Inpatient Mortality and Complications	FFY 2021-2022
30-Day Mortality, Readmissions and Episode Payment	July 1, 2019-June 30, 2022
ALOS; Cost per Case	FFY 2022
HCAHPS	CY 2022

# 50 Top Cardiovascular Hospitals Current Profile Notes

## 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 hospital can be ranked. This was done only for the following measures:

- 30-day mortality rates (AMI, HF, CABG)
- 30-day readmission rates (AMI, HF, CABG)

*Note: Hospitals missing all 30-day mortality rates or all 30-day readmission rates are excluded from the study.*

## WINNER EXCLUSIONS

A hospital was not eligible to be a winner if one of the following applied in the most current year:

- Statistically poor performance on any inpatient mortality or complications measure (99% confidence interval).
- One or more outliers for the cost per case measures (IQR methodology).
- Less than 11 cases in any of the patient groups (AMI, HF, CABG, PCI) in the most current year.
- One or more 30-day mortality measures missing.
- One or more 30-day readmission measures missing.

## MEASURES FOR INFORMATION ONLY

We continue to include measures for information only 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 50 Top award-winning hospitals. You will find these measures at the end of the report.

## MORE INFORMATION ON METHODOLOGIES

The methodology and appendix sections of the 50 Top Cardiovascular Hospitals Study Overview provide more detail on the calculation of each performance measure. The Overview also describes the methodology used to calculate IQR outliers and to determine statistically poor performance on the inpatient mortality and complications measures.

**See Study Overview for more details.**  
Visit [www.100tophospitals.com](http://www.100tophospitals.com).

# 50 Top Cardiovascular Hospitals Trend Profile Notes

## TREND PROFILE

The PINC AI™ 50 Top Cardiovascular Hospitals™ Trend analysis is intended to provide insight into progress toward performance improvement. Its results are **not** used to select winners.

The 50 Top Cardiovascular Hospitals Trend Profile analyzes your hospital's rate of performance improvement over five years, using a balanced scorecard of critical performance metrics:

- Risk-Adjusted Inpatient Mortality Index (AMI, HF, PCI, CABG)
- Risk-Adjusted Complications Index (PCI, CABG)
- 30-Day Mortality Rate (AMI, HF, CABG)
- 30-Day Readmission Rate (AMI, HF, CABG)
- Severity-Adjusted Average Length of Stay (AMI, HF, PCI, CABG)
- Wage- and Severity-Adjusted Average Cost per Case (AMI, HF, PCI, CABG)
- 30-Day Episode Payment (AMI, HF)

### 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

### Multi-Year Trend Graphs – Profiled Hospital and Comparison Group Quintiles

Your 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 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 hospitals.

## Missing Data Points

Data points will be missing from a trend graph if one or more of the following conditions apply:

- Measure data for a specific year was missing in the source data file (CMS Care Compare; HCRIS hospital cost reports)
- Measure was incalculable due to insufficient MEDPAR POA coding (impacts inpatient mortality, complications, ALOS, and cost per case)
- 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 cost per case measures).
- Measure was based on 11 or fewer patient records (HIPAA Privacy Rule-based exclusion applied to MEDPAR as a Limited Data Set)

## Measure Data Periods

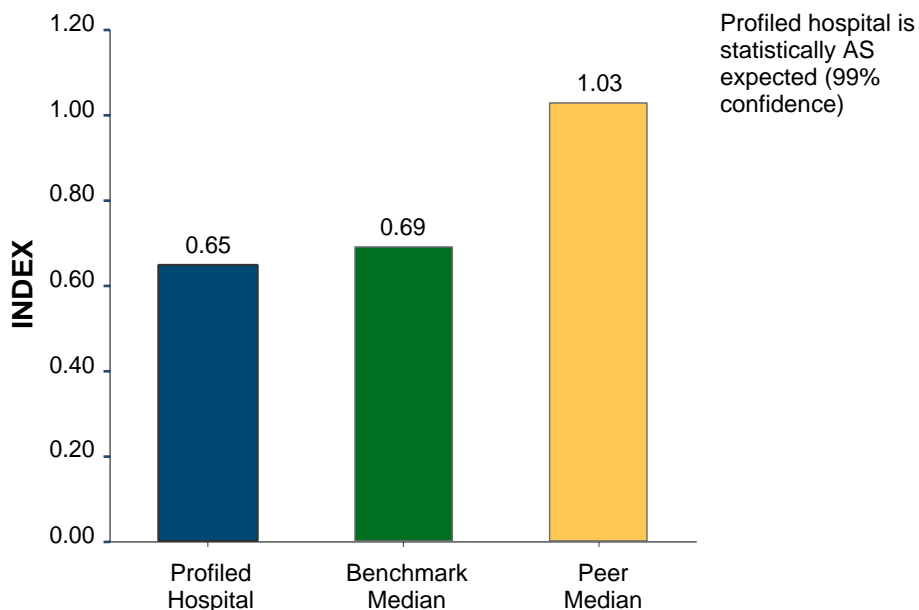
Measure	Data Point	Data Period
Inpatient Mortality and Complications*	2022	FFY 2021-2022
	2021	FFY 2020-2021
	2020	FFY 2019-2020
	2019	FFY 2018-2019
	2018	FFY 2017-2018
30-Day Mortality, Readmissions and Episode Payment	2022	July 1, 2019-June 30, 2022
	2021	July 1, 2018-June 30, 2021
	2020	July 1, 2017-Dec 31, 2019**
	2019	July 1, 2016-June 30, 2019
	2018	July 1, 2015-June 30, 2018
ALOS, Cost per Case	2018-2022	FFY 2018-2022

\*Two years of MEDPAR data combined for each study year.

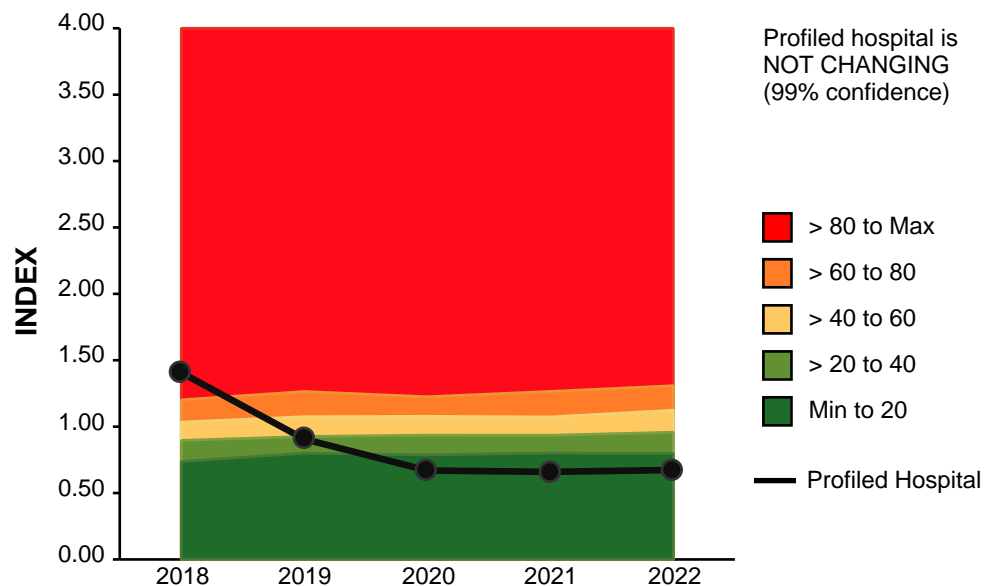
\*\*Measures have only 2 ½ years of data instead of 3 due to CMS removal of Q1 and Q2 2020 data from measure data sets.

# AMI Patients: Risk-Adjusted Inpatient Mortality Index

## 2022 IP MORTALITY PERFORMANCE



## 2018 - 2022 IP MORTALITY TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

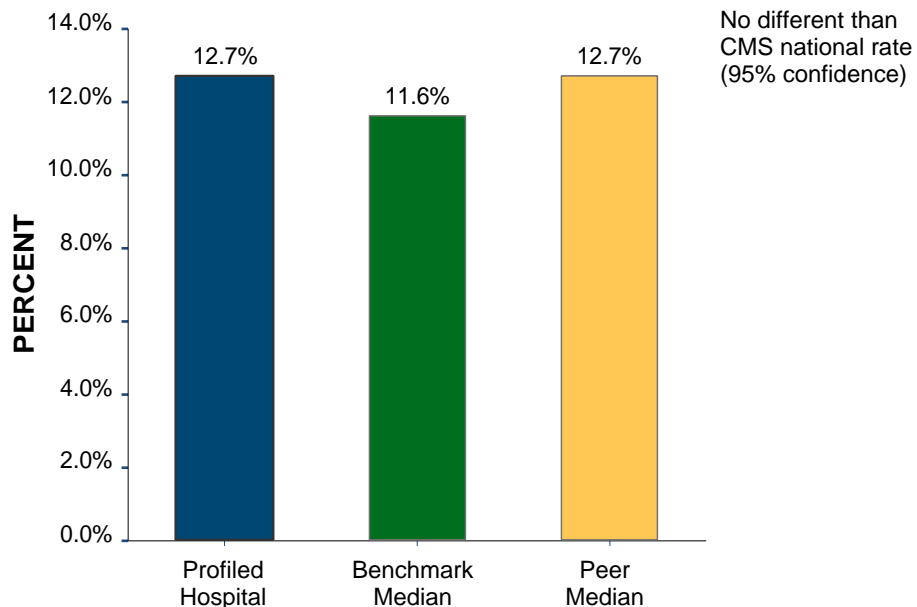
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

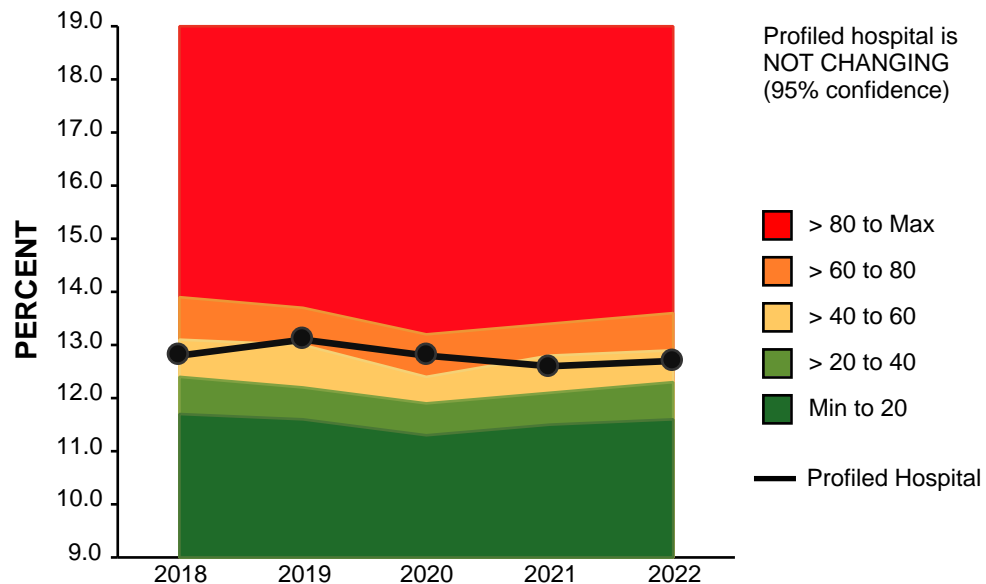
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.74	0.90	1.03	1.20	1.41	3.16	0.49
	2019	0.80	0.93	1.08	1.26	0.91	2.04	0.31
	2020	0.79	0.94	1.08	1.23	0.67	1.58	0.21
	2021	0.80	0.94	1.07	1.27	0.66	1.37	0.26
	2022	0.80	0.96	1.12	1.31	0.67	1.32	0.29

# AMI Patients: 30-Day Mortality Rate

## 2022 30D MORTALITY PERFORMANCE



## 2018 - 2022 30D MORTALITY TREND



### ▼ Desired Direction

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

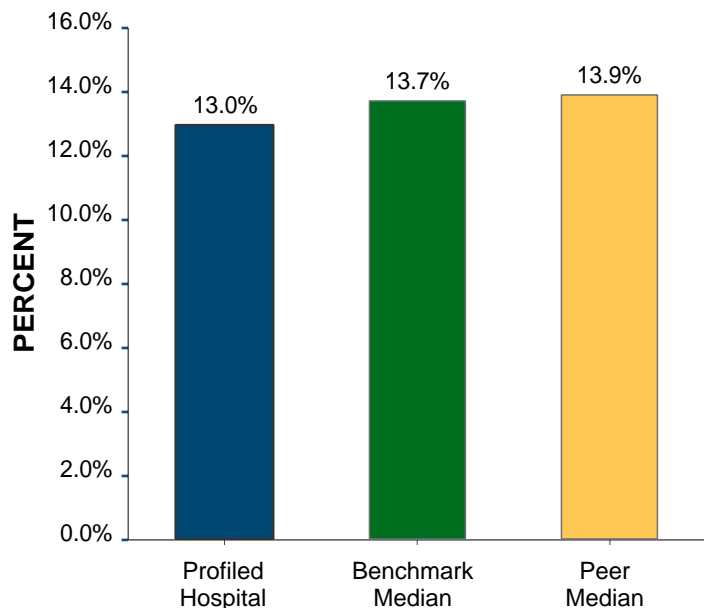
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	11.7	12.4	13.1	13.9	12.8
	2019	11.6	12.2	13.0	13.7	13.1
	2020	11.3	11.9	12.4	13.2	12.8
	2021	11.5	12.1	12.8	13.4	12.6
	2022	11.6	12.3	12.9	13.6	12.7

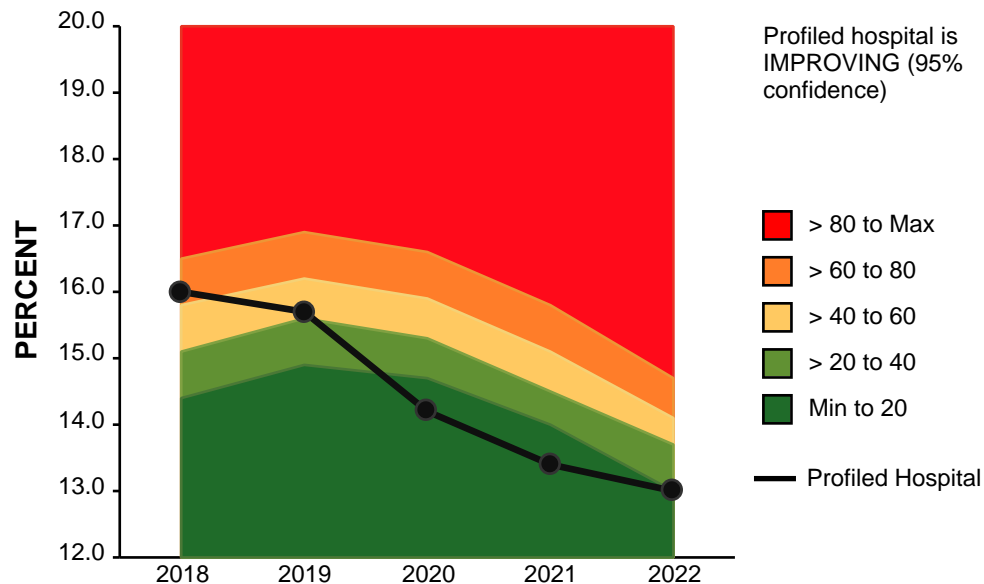
# AMI Patients: 30-Day Readmission Rate

## 2022 30D READMISSION PERFORMANCE



No different than CMS national rate (95% confidence)

## 2018 - 2022 30D READMISSION TREND



### ▼ Desired Direction

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

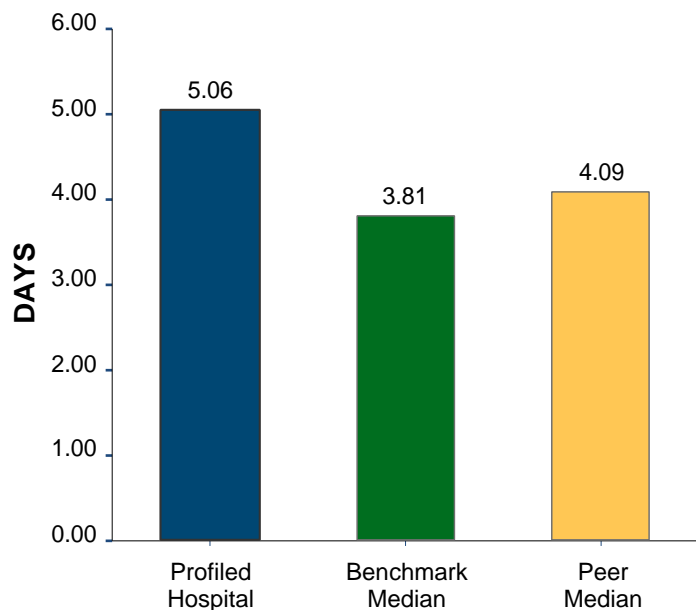
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

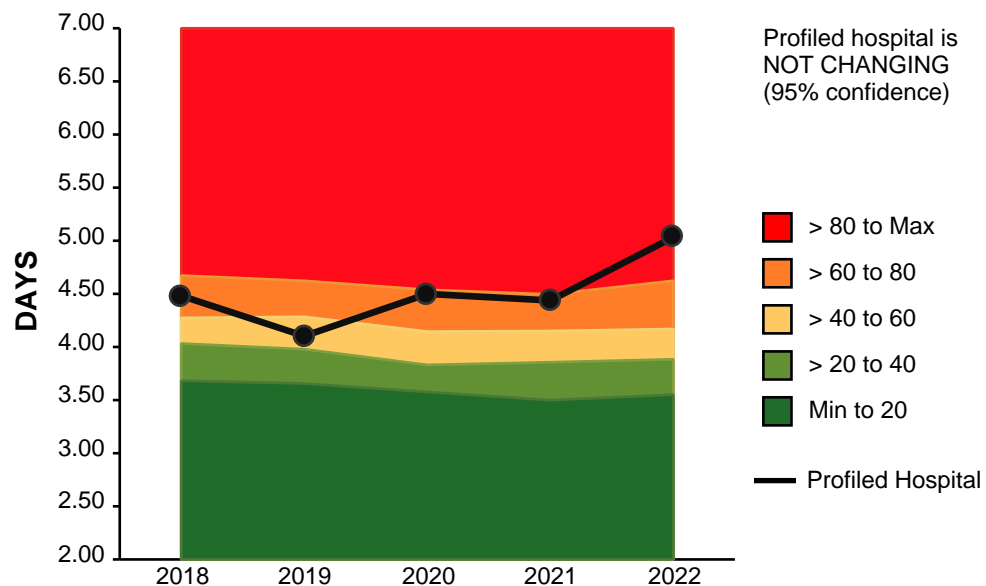
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	14.4	15.1	15.8	16.5	16.0
	2019	14.9	15.6	16.2	16.9	15.7
	2020	14.7	15.3	15.9	16.6	14.2
	2021	14.0	14.5	15.1	15.8	13.4
	2022	13.0	13.7	14.1	14.7	13.0

# AMI Patients: Severity-Adjusted Average Length of Stay

## 2022 ALOS PERFORMANCE



## 2018 - 2022 ALOS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

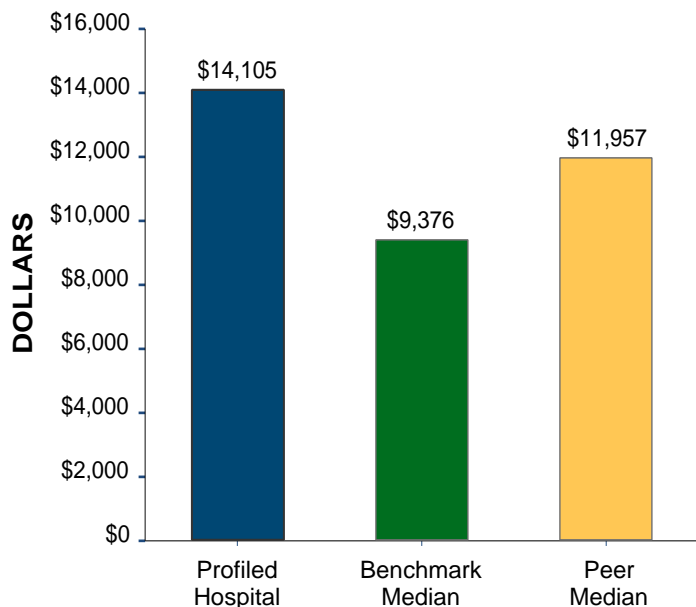
Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	3.68	4.03	4.27	4.67	4.48
	2019	3.66	3.98	4.28	4.62	4.10
	2020	3.58	3.83	4.14	4.54	4.50
	2021	3.50	3.86	4.15	4.50	4.44
	2022	3.55	3.88	4.17	4.62	5.03

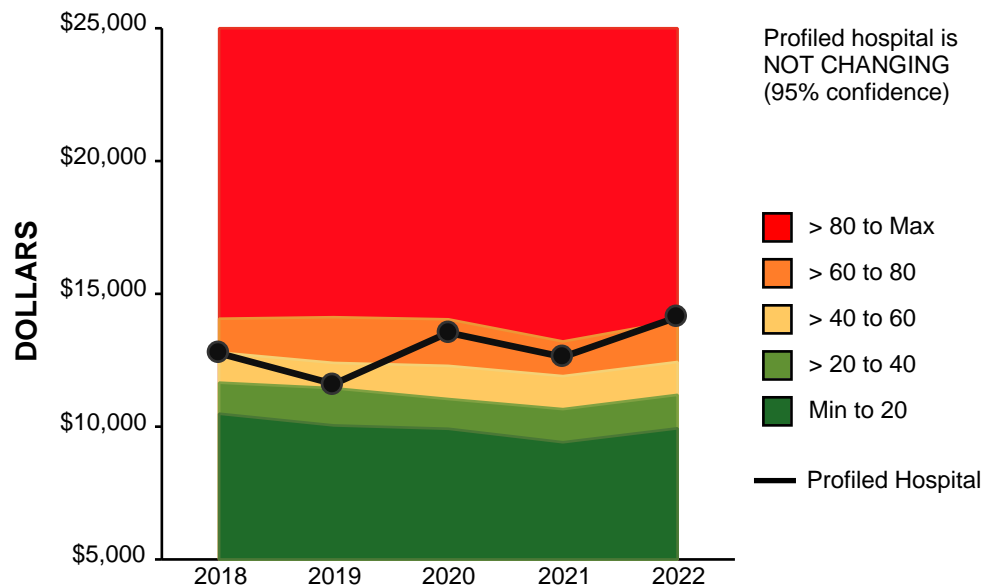


# AMI Patients: Wage- and Severity-Adjusted Cost per Case

2022 COST PER CASE PERFORMANCE



2018 - 2022 COST PER CASE TREND



▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

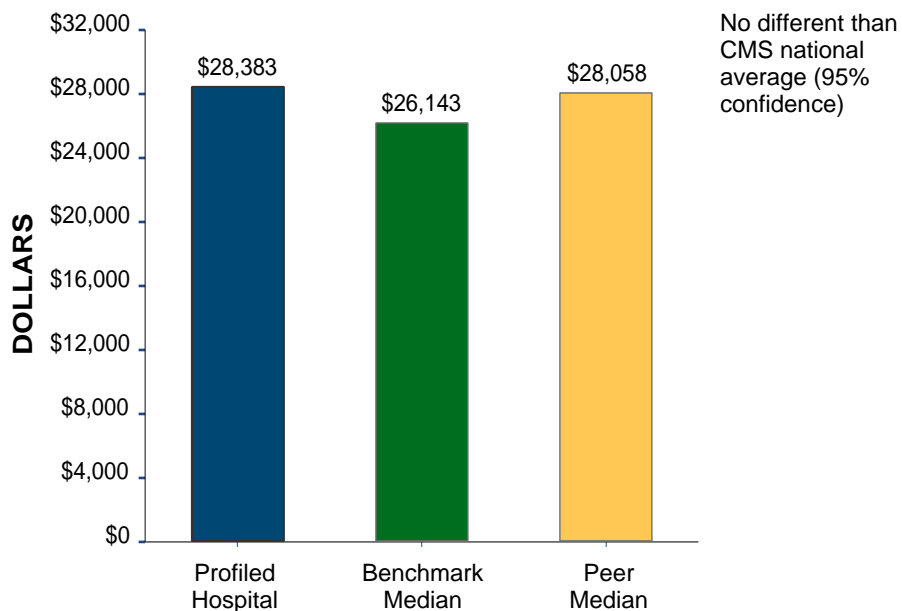
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

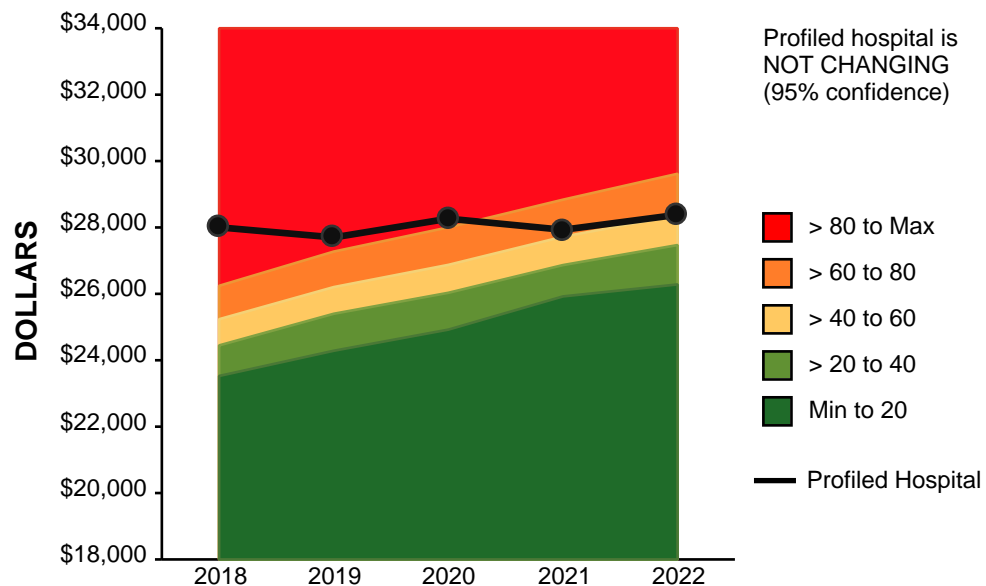
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	10,487	11,657	12,792	14,065	12,762
	2019	10,047	11,447	12,399	14,120	11,607
	2020	9,920	11,039	12,288	14,041	13,538
	2021	9,413	10,660	11,903	13,208	12,625
	2022	9,938	11,198	12,435	13,986	14,125

# AMI Patients: 30-Day Episode of Payment

## 2022 30D EPISODE PAYMENT PERFORMANCE



## 2018 - 2022 30D EPISODE PAYMENT TREND



### ▼ Desired Direction

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

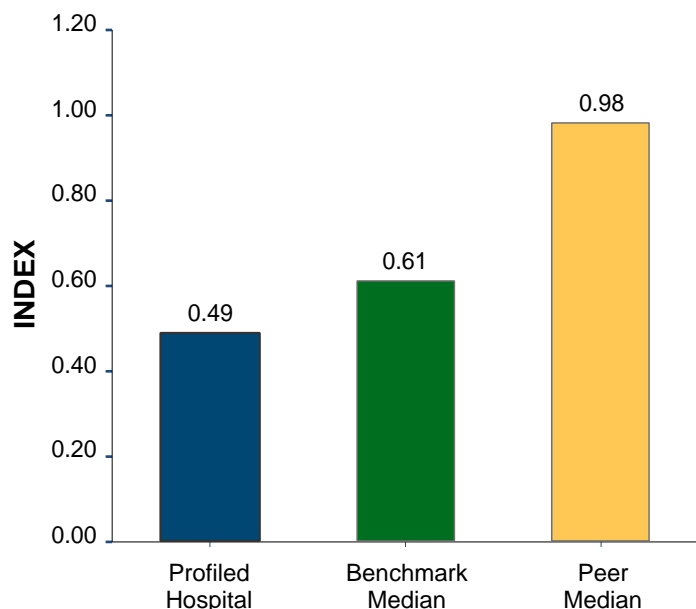
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	23,527	24,448	25,237	26,243	28,004
	2019	24,286	25,401	26,204	27,274	27,700
	2020	24,923	26,032	26,874	28,002	28,265
	2021	25,923	26,867	27,721	28,837	27,930
	2022	26,284	27,470	28,365	29,618	28,383

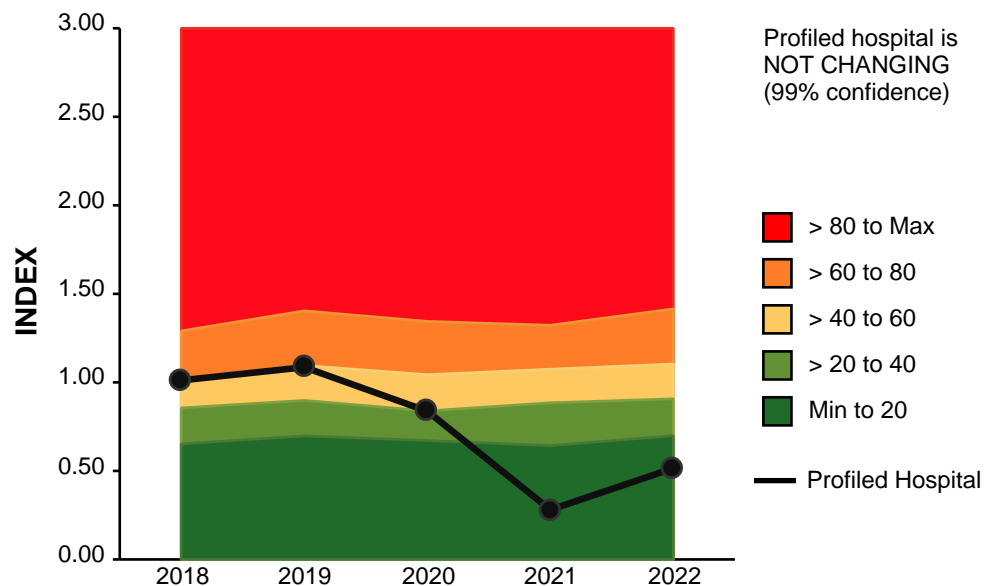
# HF Patients: Risk-Adjusted Inpatient Mortality Index

## 2022 IP MORTALITY PERFORMANCE



Profiled hospital is statistically **BETTER THAN** expected (99% confidence)

## 2018 - 2022 IP MORTALITY TREND



Profiled hospital is **NOT CHANGING** (99% confidence)

### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

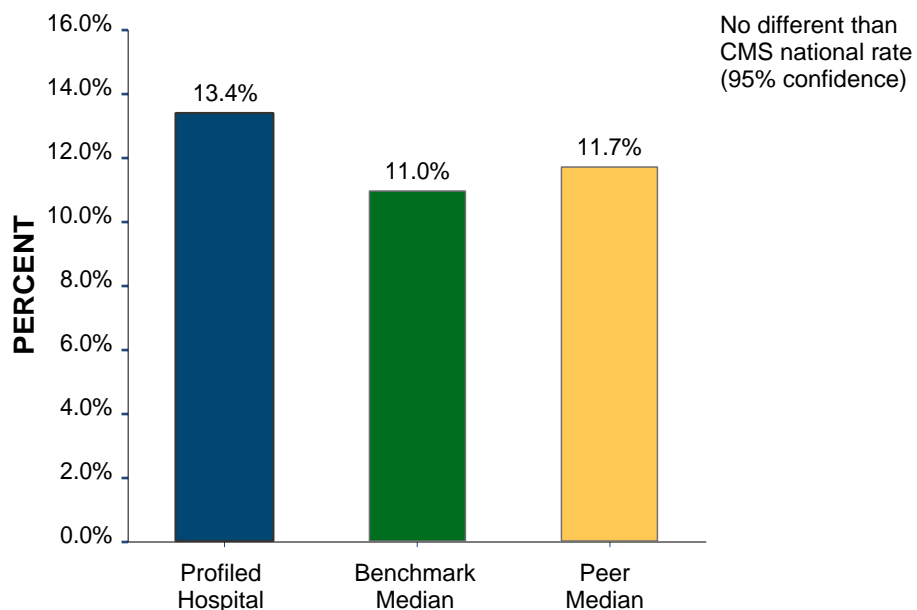
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

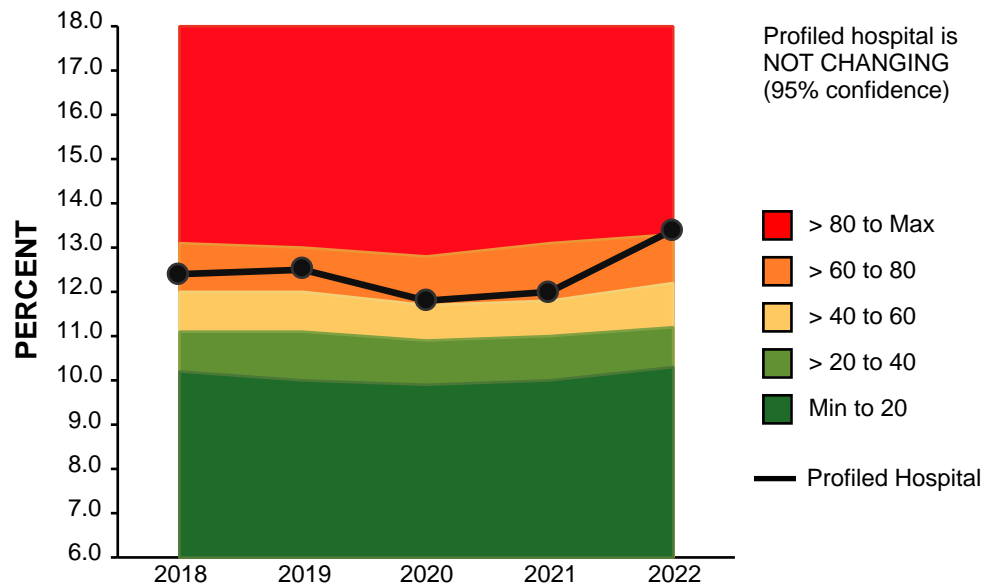
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.65	0.86	1.02	1.29	1.01	1.55	0.62
	2019	0.70	0.90	1.10	1.40	1.09	1.65	0.68
	2020	0.67	0.84	1.04	1.34	0.84	1.38	0.47
	2021	0.64	0.89	1.07	1.32	0.28	0.63	0.10
	2022	0.70	0.91	1.10	1.42	0.52	0.89	0.27

# HF Patients: 30-Day Mortality Rate

## 2022 30D MORTALITY PERFORMANCE



## 2018 - 2022 30D MORTALITY TREND



### ▼ Desired Direction

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

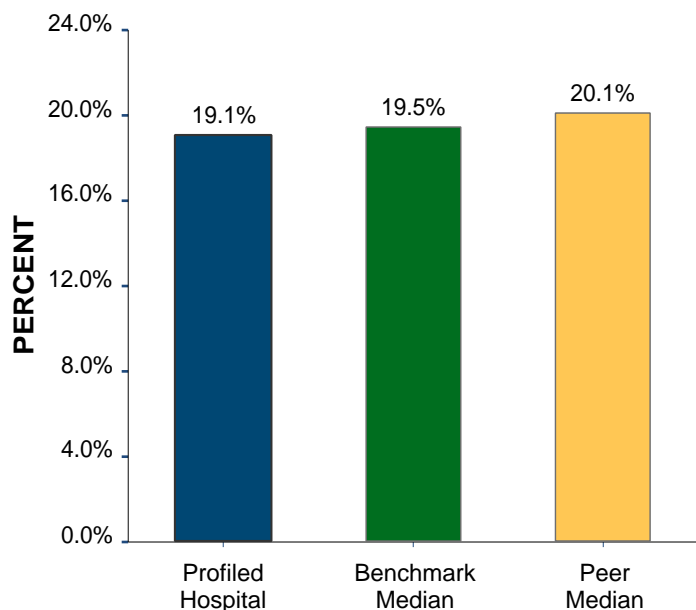
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	10.2	11.1	12.0	13.1	12.4
	2019	10.0	11.1	12.0	13.0	12.5
	2020	9.9	10.9	11.7	12.8	11.8
	2021	10.0	11.0	11.8	13.1	12.0
	2022	10.3	11.2	12.2	13.3	13.4

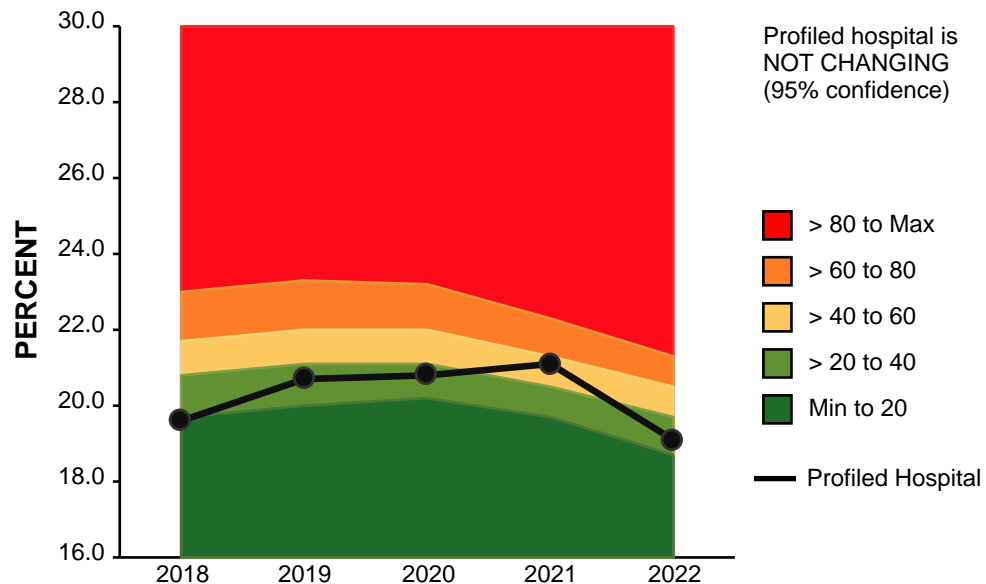
# HF Patients: 30-Day Readmission Rate

## 2022 30D READMISSION PERFORMANCE



No different than CMS national rate (95% confidence)

## 2018 - 2022 30D READMISSION TREND



### ▼ Desired Direction

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

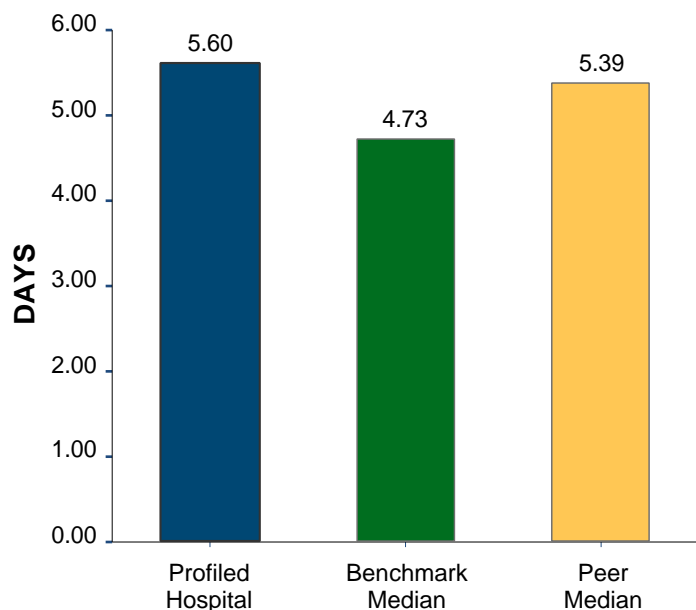
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

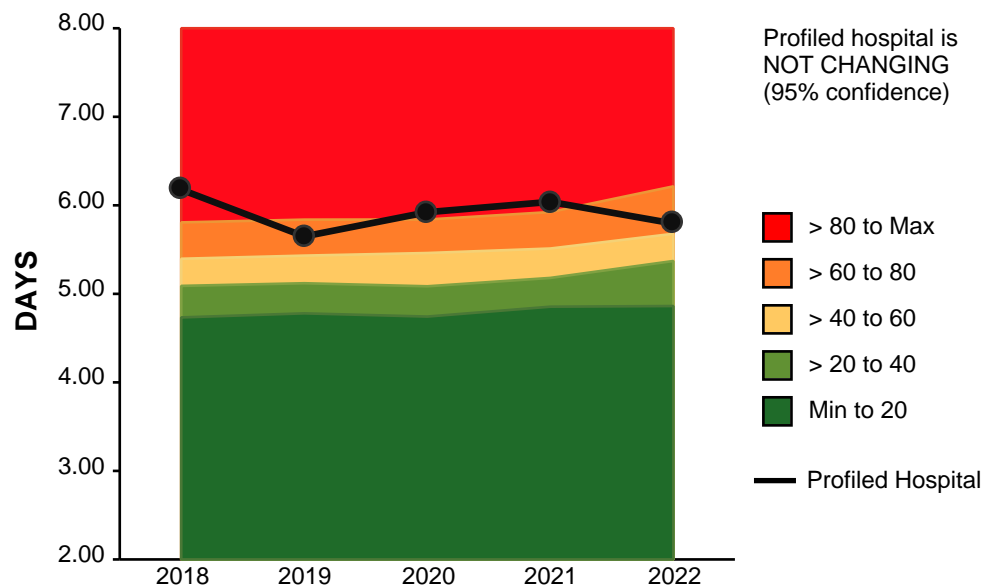
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	19.7	20.8	21.7	23.0	19.6
	2019	20.0	21.1	22.0	23.3	20.7
	2020	20.2	21.1	22.0	23.2	20.8
	2021	19.7	20.5	21.3	22.3	21.1
	2022	18.7	19.7	20.5	21.3	19.1

# HF Patients: Severity-Adjusted Average Length of Stay

## 2022 ALOS PERFORMANCE



## 2018 - 2022 ALOS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

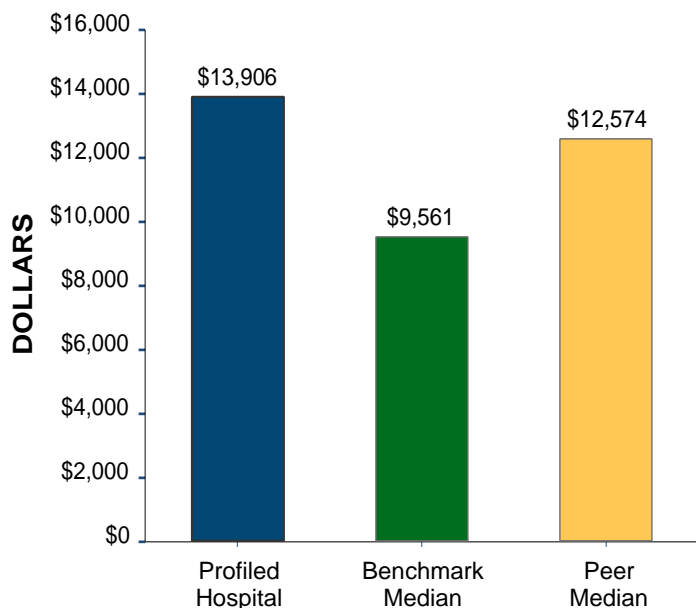
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

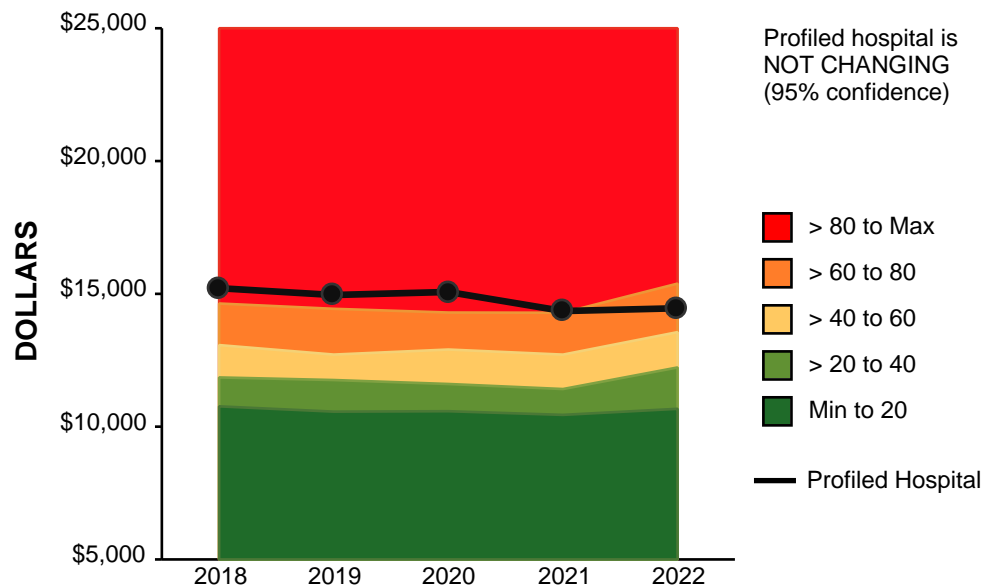
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	4.73	5.09	5.40	5.81	6.18
	2019	4.78	5.12	5.43	5.84	5.65
	2020	4.74	5.09	5.46	5.84	5.92
	2021	4.85	5.18	5.51	5.92	6.04
	2022	4.86	5.37	5.68	6.21	5.79

# HF Patients: Wage- and Severity-Adjusted Cost per Case

2022 COST PER CASE PERFORMANCE



2018 - 2022 COST PER CASE TREND



▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

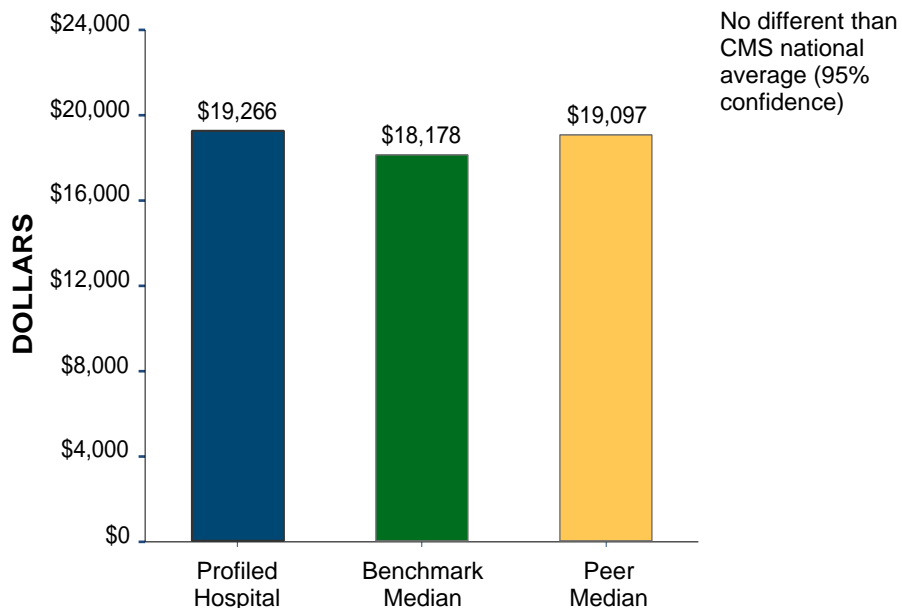
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

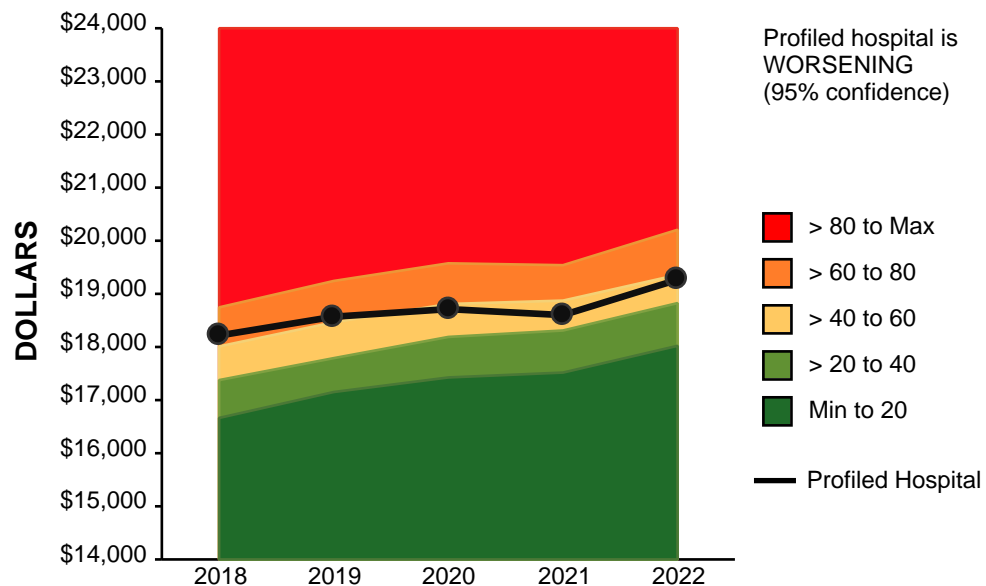
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	10,764	11,853	13,071	14,636	15,214
	2019	10,565	11,755	12,714	14,437	14,956
	2020	10,582	11,606	12,903	14,297	15,071
	2021	10,444	11,416	12,712	14,289	14,353
	2022	10,672	12,229	13,559	15,386	14,458

# HF Patients: 30-Day Episode of Payment

2022 30D EPISODE PAYMENT PERFORMANCE



2018 - 2022 30D EPISODE PAYMENT TREND



▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

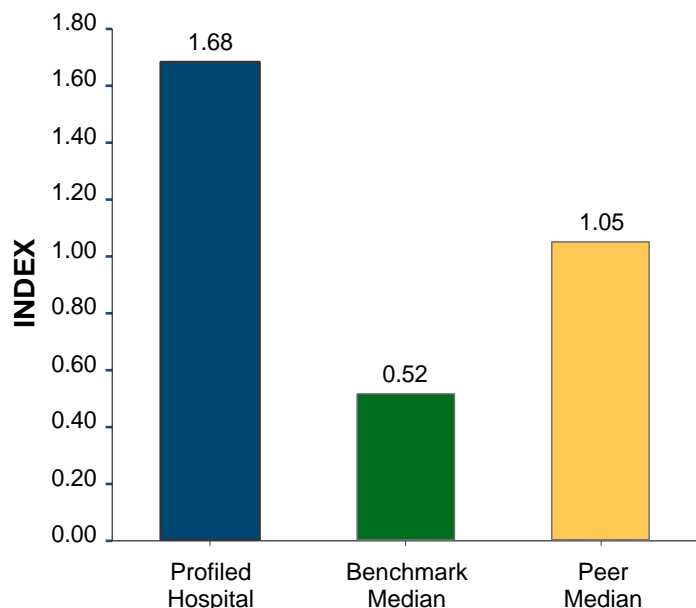
Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	16,664	17,377	18,011	18,746	18,216
	2019	17,152	17,790	18,465	19,243	18,570
	2020	17,426	18,189	18,809	19,575	18,713
	2021	17,518	18,310	18,873	19,540	18,600
	2022	18,022	18,826	19,358	20,207	19,266



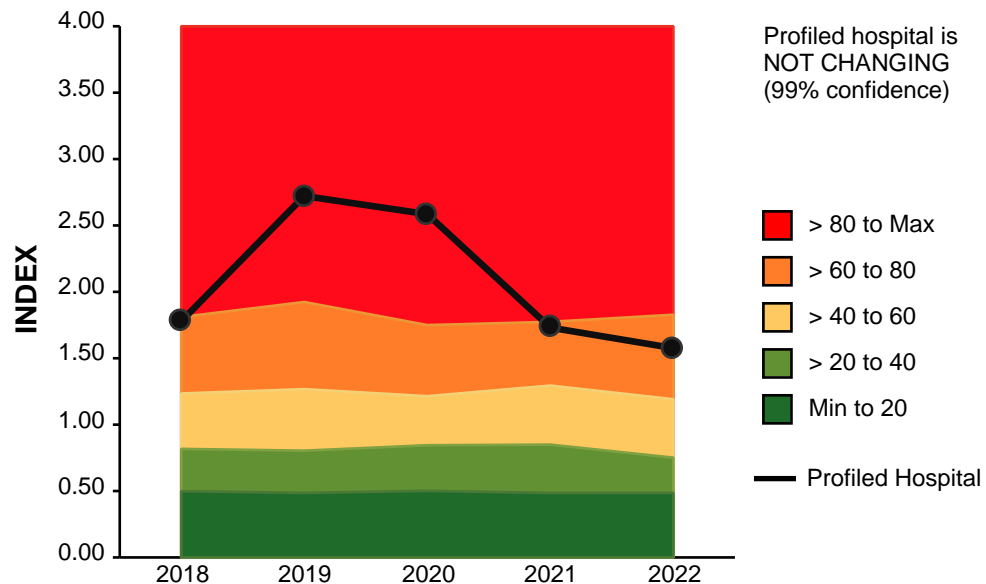
# CABG Patients: Risk-Adjusted Inpatient Mortality Index

## 2022 IP MORTALITY PERFORMANCE



Profiled hospital is statistically AS expected (99% confidence)

## 2018 - 2022 IP MORTALITY TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

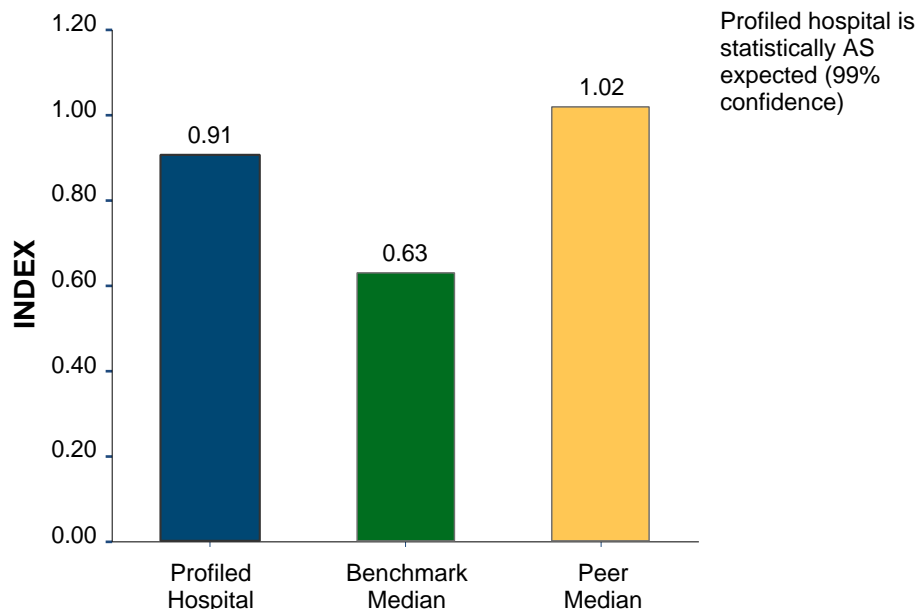
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

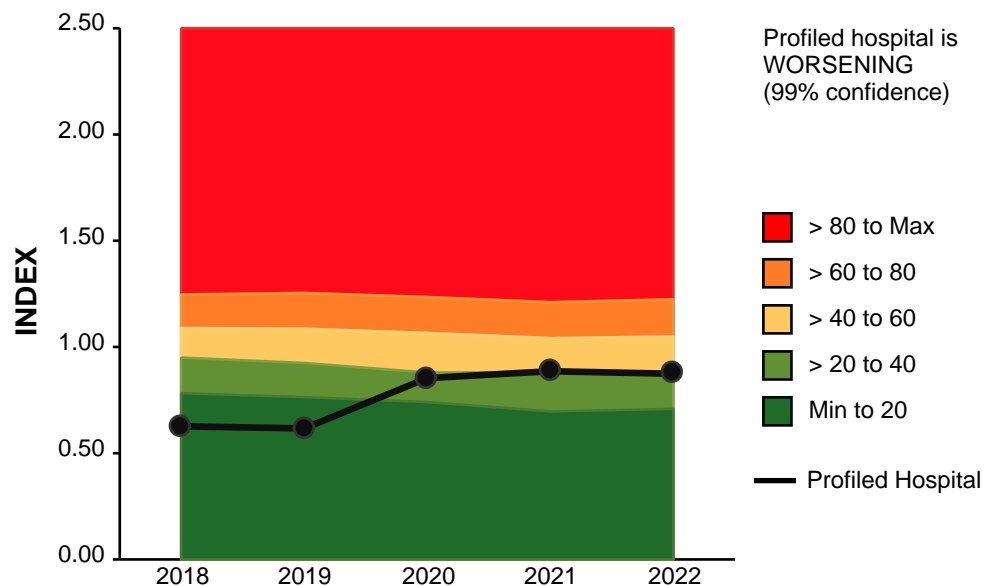
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.50	0.82	1.23	1.81	1.78	4.20	0.57
	2019	0.49	0.80	1.27	1.92	2.72	6.12	0.94
	2020	0.50	0.85	1.21	1.75	2.58	7.00	0.63
	2021	0.49	0.85	1.29	1.77	1.73	4.09	0.55
	2022	0.49	0.75	1.19	1.83	1.58	3.96	0.45

# CABG Patients: Risk-Adjusted Complications Index

## 2022 COMPLICATIONS PERFORMANCE



## 2018 - 2022 COMPLICATIONS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

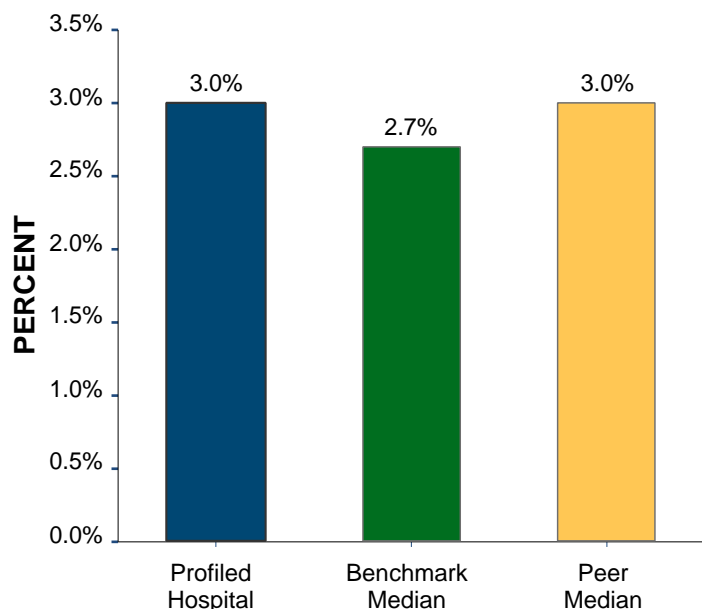
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.78	0.95	1.09	1.25	0.63	0.88	0.43
	2019	0.76	0.92	1.09	1.25	0.62	0.88	0.41
	2020	0.74	0.88	1.07	1.24	0.85	1.15	0.61
	2021	0.70	0.88	1.04	1.21	0.89	1.17	0.66
	2022	0.71	0.87	1.05	1.22	0.87	1.16	0.64

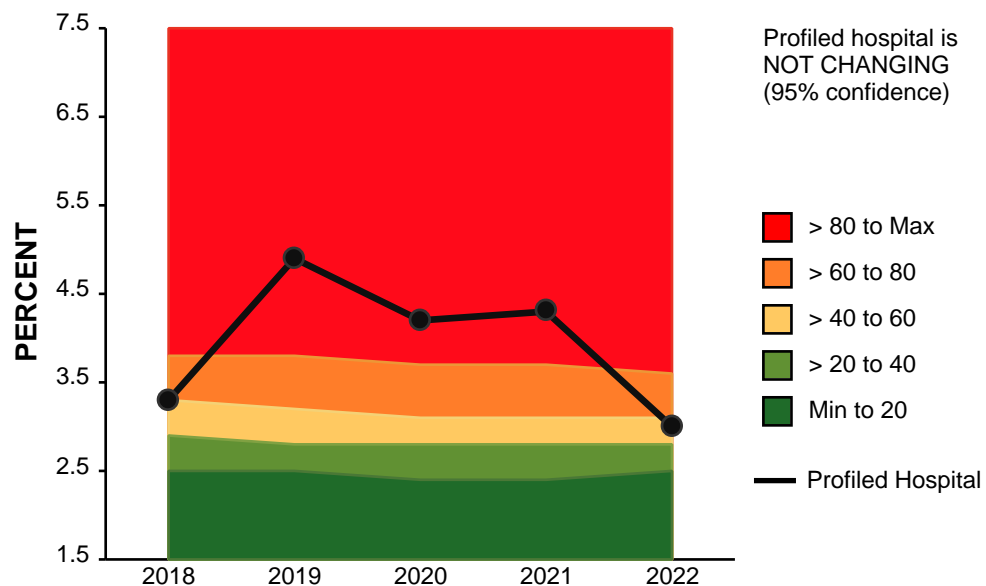
# CABG Patients: 30-Day Mortality Rate

## 2022 30D MORTALITY PERFORMANCE



No different than CMS national rate (95% confidence)

## 2018 - 2022 30D MORTALITY TREND



### ▼ Desired Direction

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

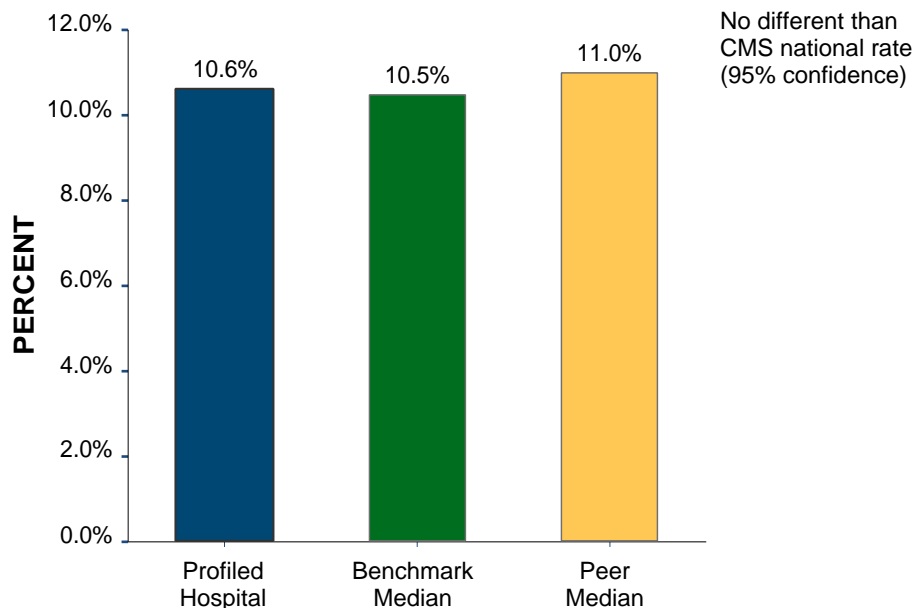
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

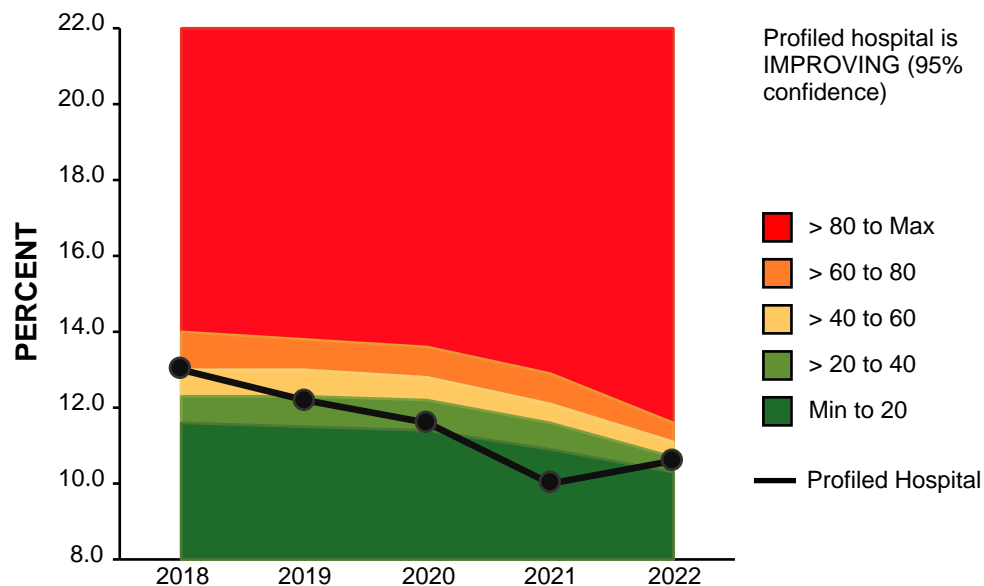
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	2.5	2.9	3.3	3.8	3.3
	2019	2.5	2.8	3.2	3.8	4.9
	2020	2.4	2.8	3.1	3.7	4.2
	2021	2.4	2.8	3.1	3.7	4.3
	2022	2.5	2.8	3.1	3.6	3.0

# CABG Patients: 30-Day Readmission Rate

## 2022 30D READMISSION PERFORMANCE



## 2018 - 2022 30D READMISSION TREND



### ▼ Desired Direction

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

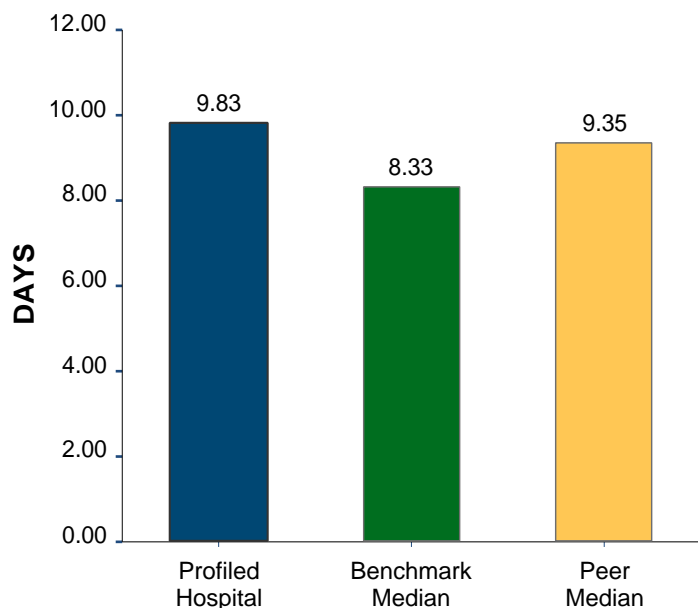
Peer hospitals are the non-winners in the comparison group: n=325

Hospital performance compared to peer hospital quintiles n = 336

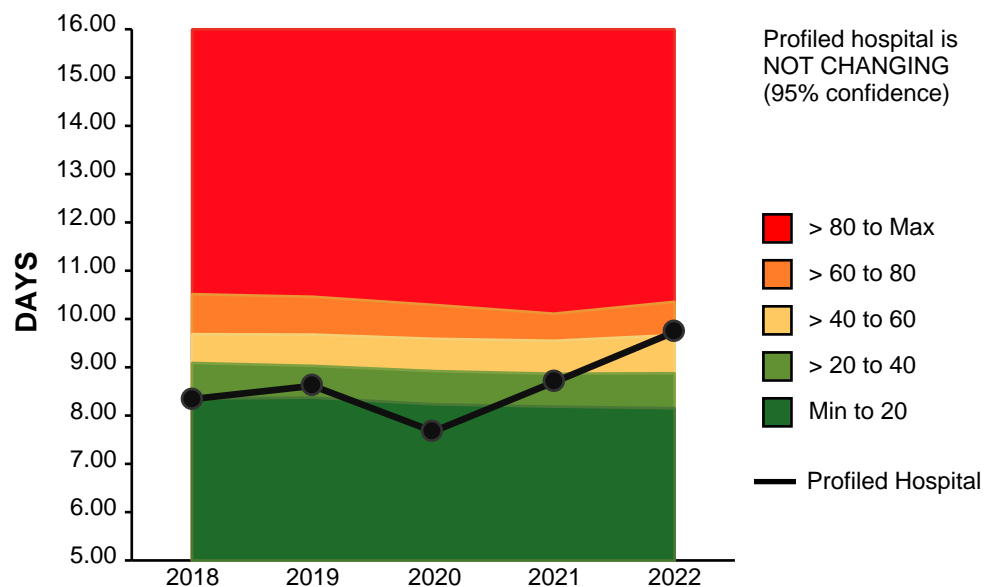
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	11.6	12.3	13.0	14.0	13.0
	2019	11.5	12.3	13.0	13.8	12.2
	2020	11.4	12.2	12.8	13.6	11.6
	2021	10.9	11.6	12.1	12.9	10.0
	2022	10.3	10.7	11.1	11.6	10.6

# CABG Patients: Severity-Adjusted Average Length of Stay

## 2022 ALOS PERFORMANCE



## 2018 - 2022 ALOS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

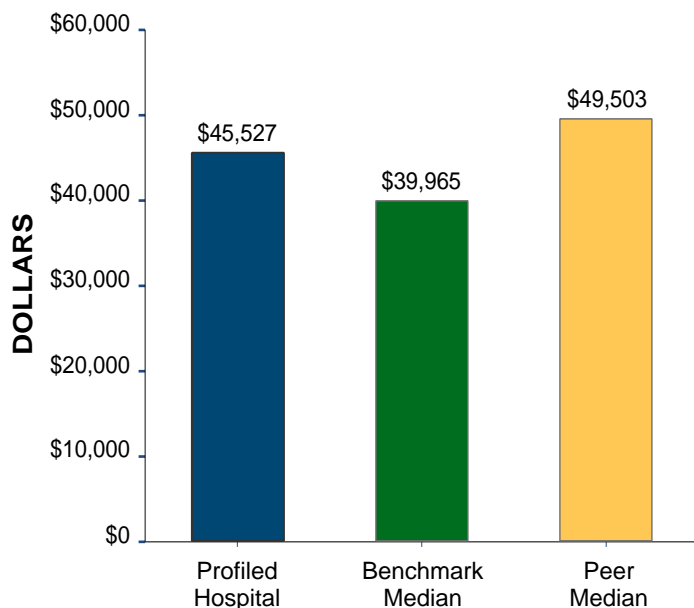
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

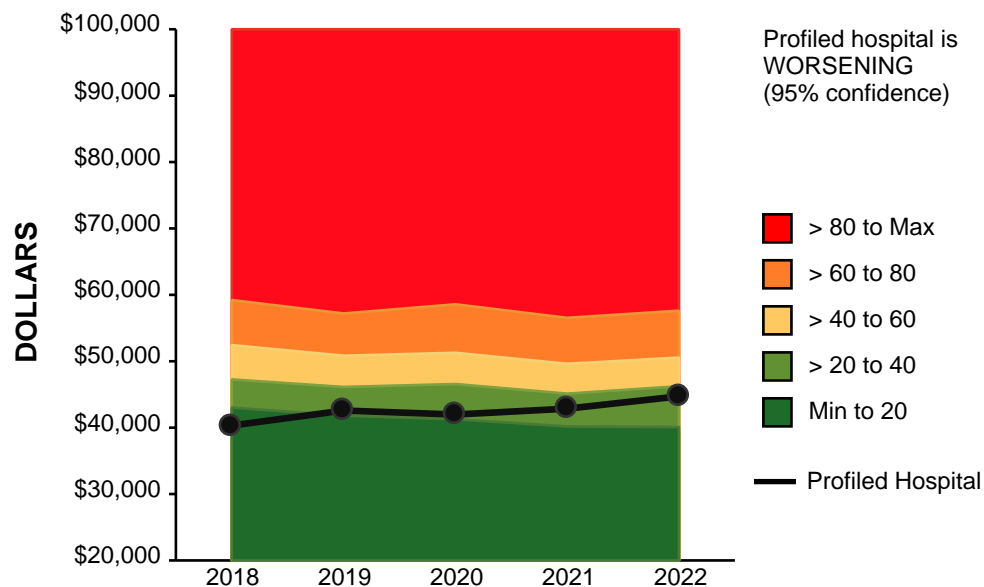
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	8.35	9.09	9.69	10.51	8.34
	2019	8.37	9.03	9.68	10.46	8.62
	2020	8.23	8.92	9.59	10.29	7.67
	2021	8.18	8.87	9.55	10.11	8.69
	2022	8.15	8.88	9.67	10.36	9.73

# CABG Patients: Wage- and Severity-Adjusted Cost per Case

2022 COST PER CASE PERFORMANCE



2018 - 2022 COST PER CASE TREND



▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

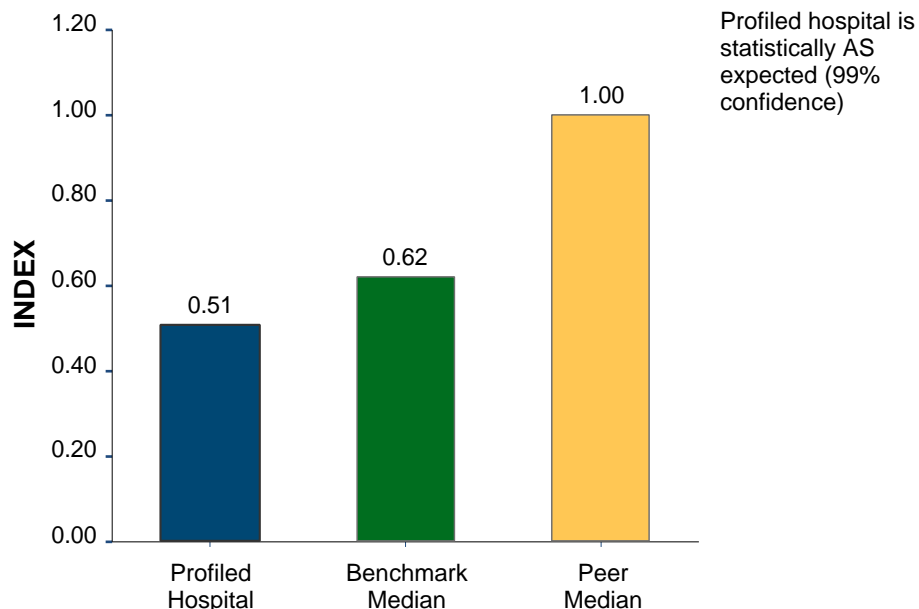
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

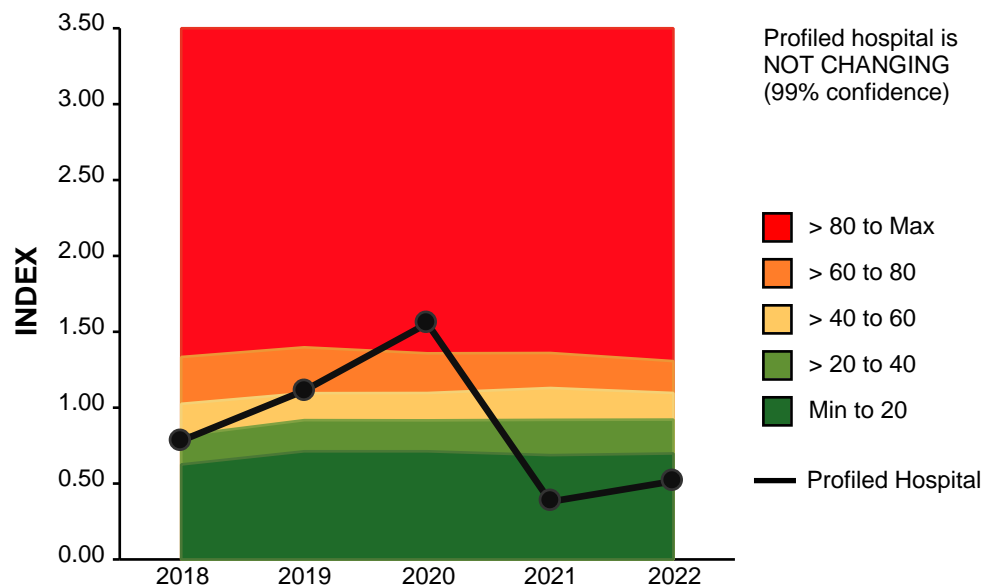
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	43,026	47,266	52,432	59,213	40,325
	2019	41,806	46,129	50,837	57,198	42,574
	2020	41,267	46,574	51,278	58,579	41,976
	2021	40,182	45,124	49,618	56,539	42,857
	2022	40,083	46,243	50,552	57,614	44,716

# PCI Patients: Risk-Adjusted Inpatient Mortality Index

## 2022 IP MORTALITY PERFORMANCE



## 2018 - 2022 IP MORTALITY TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

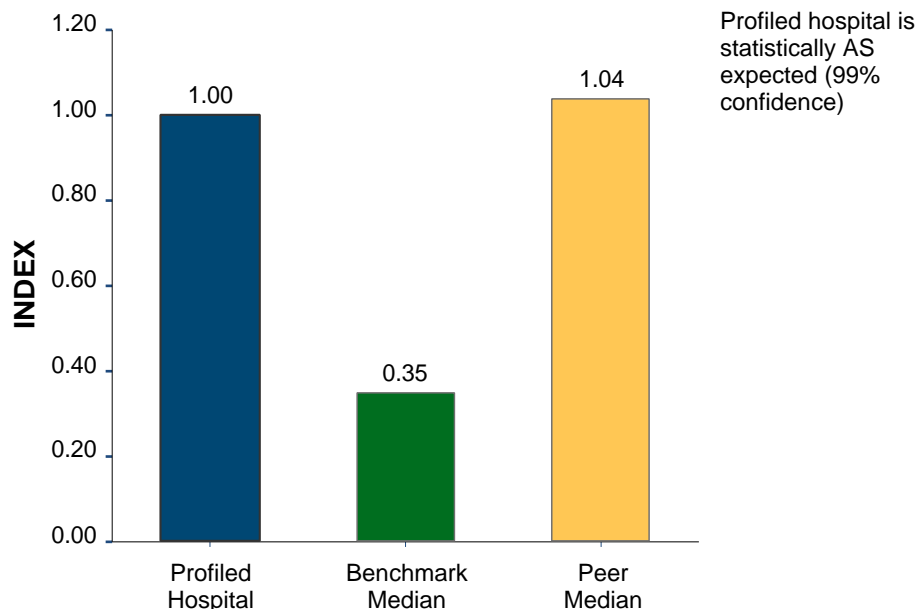
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

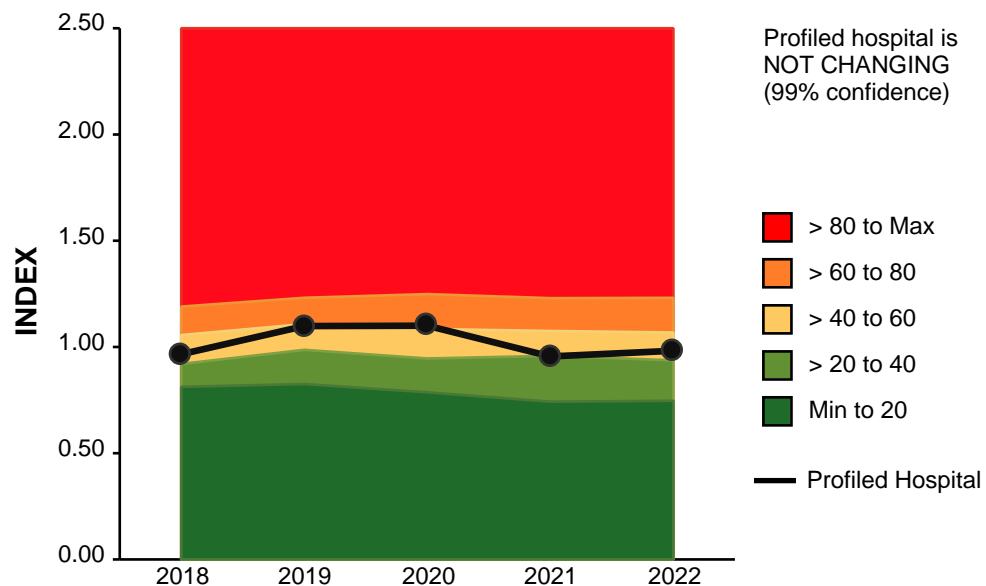
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.63	0.82	1.03	1.33	0.78	2.34	0.15
	2019	0.71	0.92	1.10	1.40	1.11	3.01	0.27
	2020	0.71	0.92	1.10	1.36	1.55	3.90	0.44
	2021	0.69	0.92	1.13	1.36	0.38	1.65	0.03
	2022	0.70	0.92	1.10	1.31	0.52	1.40	0.13

# PCI Patients: Risk-Adjusted Complications Index

## 2022 COMPLICATIONS PERFORMANCE



## 2018 - 2022 COMPLICATIONS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

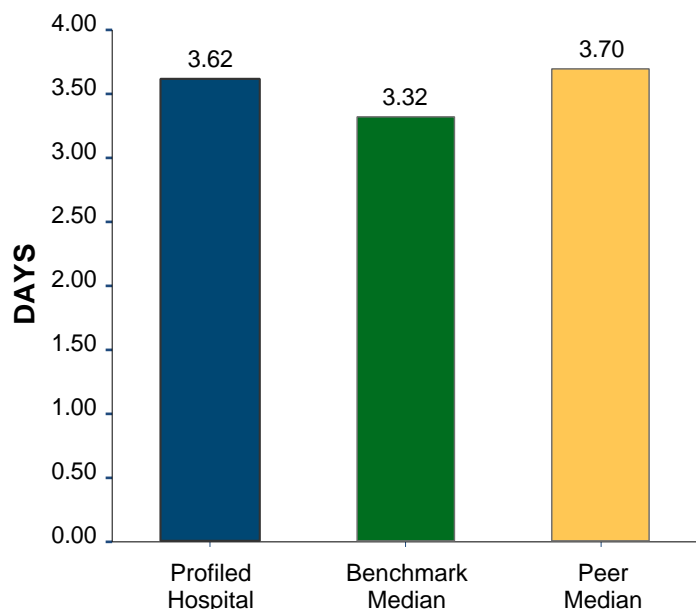
Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL		
		20th	40th	60th	80th	Value	Upper CI	Lower CI
YEARS	2018	0.81	0.92	1.06	1.19	0.97	1.49	0.59
	2019	0.83	0.99	1.11	1.23	1.10	1.66	0.68
	2020	0.79	0.95	1.08	1.25	1.10	1.67	0.68
	2021	0.74	0.96	1.08	1.23	0.96	1.43	0.60
	2022	0.75	0.94	1.07	1.23	0.98	1.40	0.66

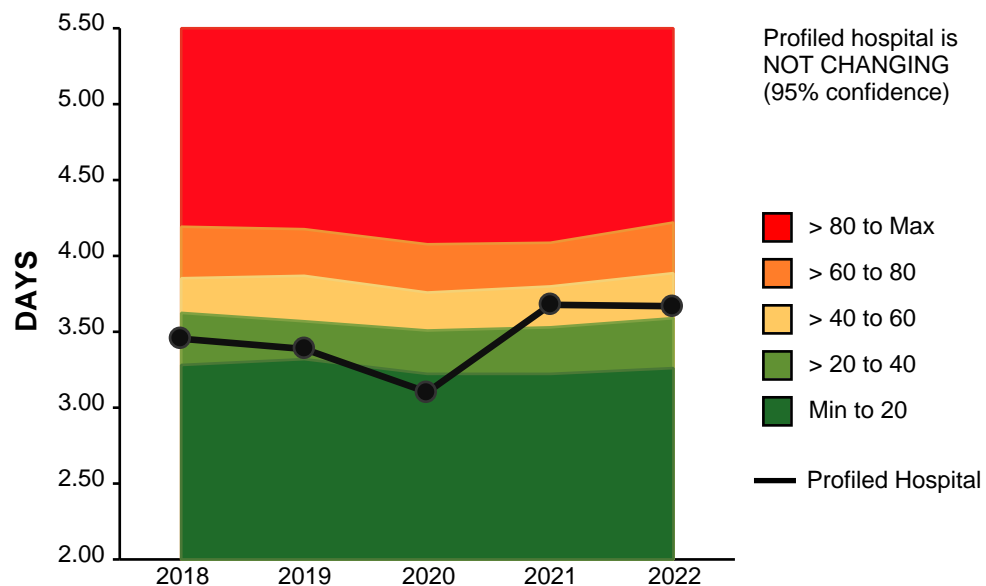


# PCI Patients: Severity-Adjusted Average Length of Stay

## 2022 ALOS PERFORMANCE



## 2018 - 2022 ALOS TREND



### ▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

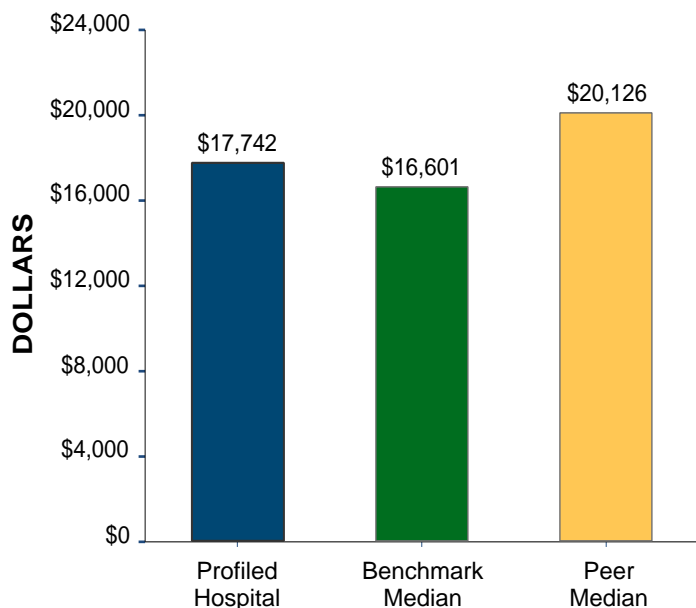
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

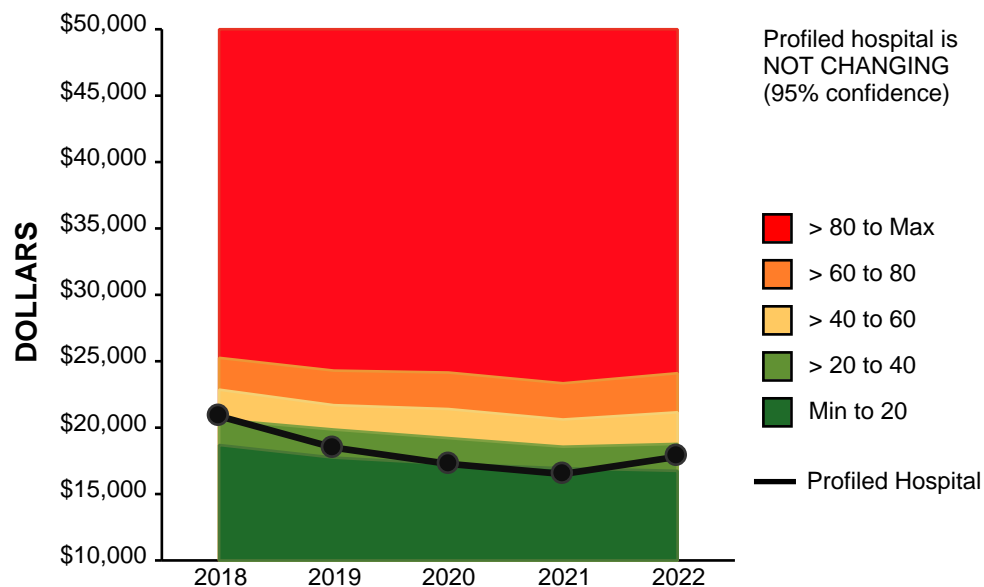
PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	3.28	3.62	3.85	4.19	3.45
	2019	3.32	3.57	3.87	4.18	3.39
	2020	3.22	3.51	3.76	4.08	3.10
	2021	3.22	3.53	3.80	4.09	3.68
	2022	3.26	3.59	3.89	4.22	3.67

# PCI Patients: Wage- and Severity-Adjusted Cost per Case

2022 COST PER CASE PERFORMANCE



2018 - 2022 COST PER CASE TREND



▼ Desired Direction

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

Peer hospitals are the non-winners in the comparison group: n=325

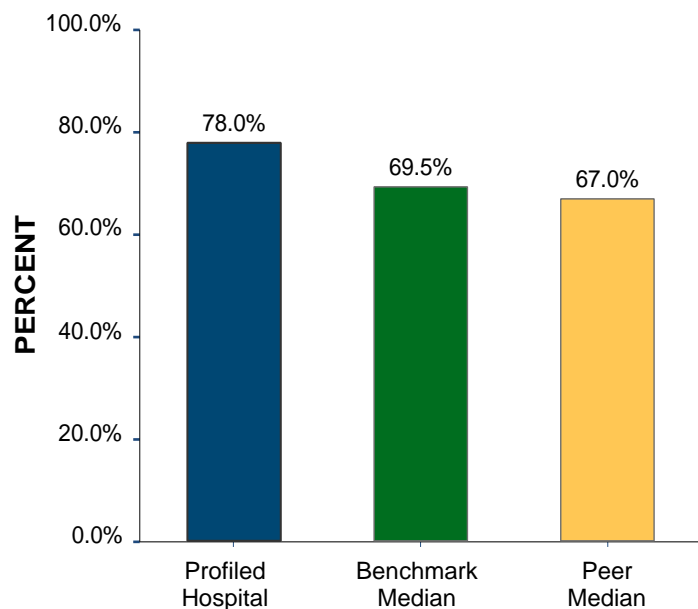
Note: 2022 values on the current and trend graphs will not match due to different norm factors used to normalize the expected values.

Hospital performance compared to peer hospital quintiles n = 336

PERCENTILE POINTS ►		HOSPITAL COMPARISON GROUP				PROFILED HOSPITAL
		20th	40th	60th	80th	Value
YEARS	2018	18,692	20,615	22,862	25,256	20,863
	2019	17,745	19,858	21,695	24,297	18,494
	2020	17,271	19,212	21,402	24,151	17,275
	2021	16,945	18,564	20,614	23,342	16,509
	2022	16,746	18,778	21,156	24,101	17,811

# HCAHPS: Overall Rating Question

## 2022 HCAHPS TOP-BOX PERFORMANCE



**QUESTION KEY:**  
Overall rating: How do patients rate the hospital overall?

## MEASURE NOT IN TREND PROFILE

### ▲ Desired Direction

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

*Peer hospitals are the non-winners in the comparison group: n=325*

## Supplemental Information-Only Measures

This section of your report contains measures that we are profiling only for informational purposes; they were not included in ranking or determination of winners. 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.

- **Excess days in acute care (EDAC) measures:**

- 30-day excess days in acute care for AMI patients
- 30-day excess days in acute care for HF patients

As defined by the Centers for Medicare & Medicaid Services (CMS), the “EDAC measures capture excess days that a hospital’s patients spent in acute care within 30 days after discharge”.

The values of these measures are the number of risk-adjusted days a hospital’s patients spend in an emergency department (ED), a hospital observation unit, or a hospital inpatient unit (“days in acute care”) during the 30 days following a hospitalization for AMI or HF.

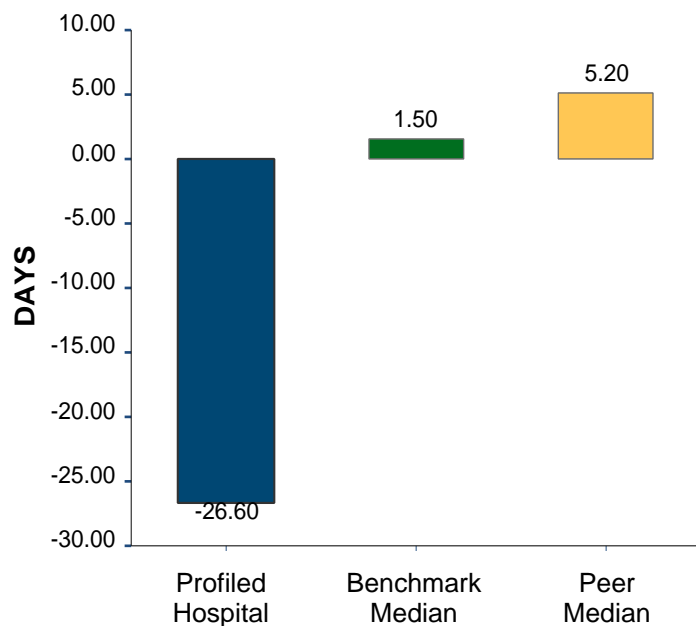
The measures report the difference (“excess”) between each hospital’s average days in acute care (“predicted days”) and the number of days in acute care that each hospital’s patients would have been expected to spend if discharged from an average-performing hospital (“expected days”). The measure is reported as excess days per 100 discharges.

- **HCAHPS**

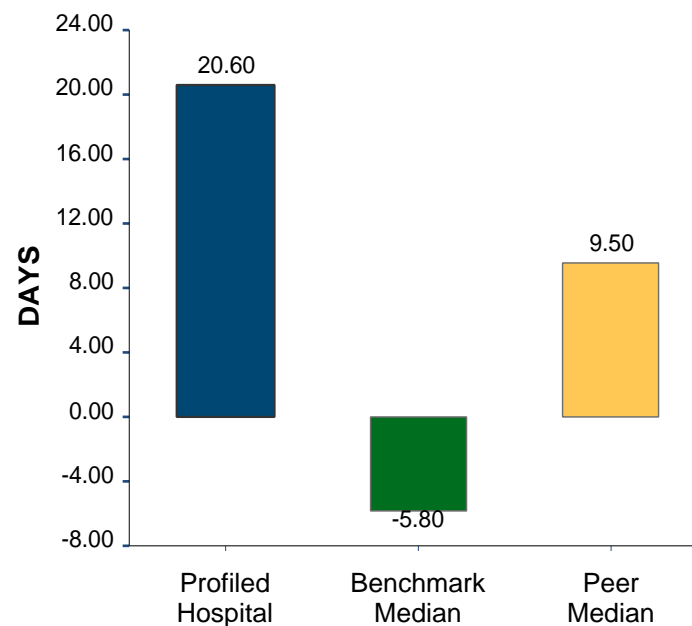
The ranked measure is the overall hospital rating question. The individual detailed survey questions are displayed for information only.

# AMI and HF Patients: 30-Day Excess Days in Acute Care

**AMI 30D EXCESS DAYS IN ACUTE CARE**



**HF 30D EXCESS DAYS IN ACUTE CARE**



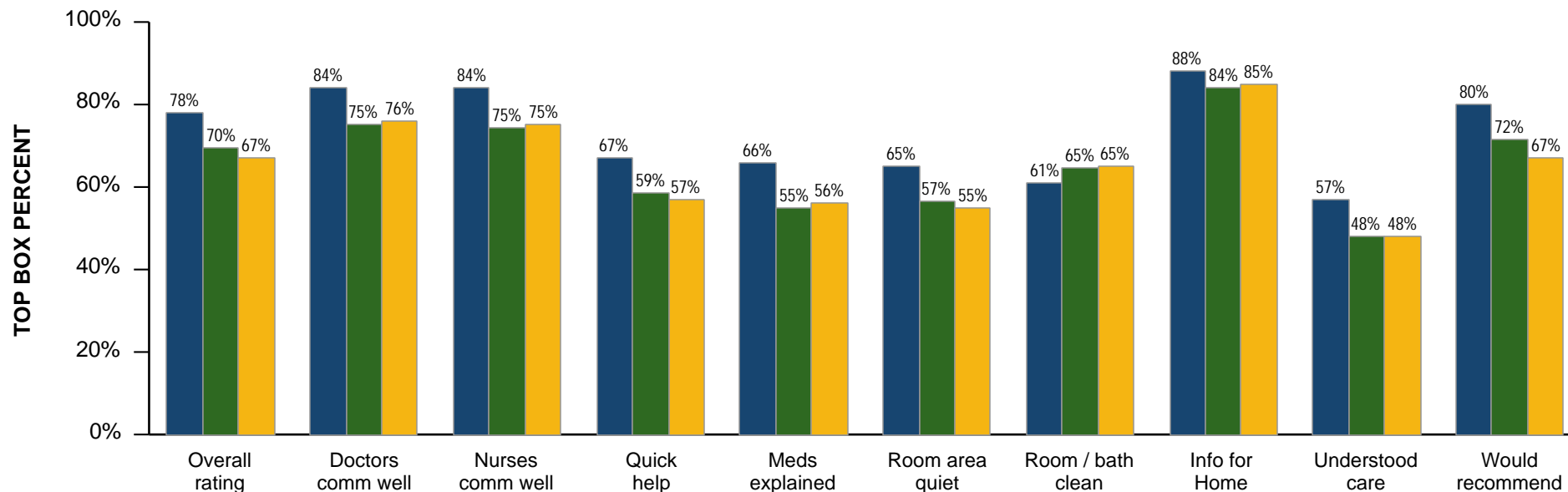
▼ Desired Direction

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

*Peer hospitals are the non-winners in the comparison group: n=325*

# HCAHPS Questions – Only Overall Rating Used in Ranking

## 2022 HCAHPS PERFORMANCE



### QUESTION KEY

Overall rating	How do patients rate the hospital overall?
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?
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?

▲ Desired Direction

■ Profiled Hospital

■ Benchmark Median

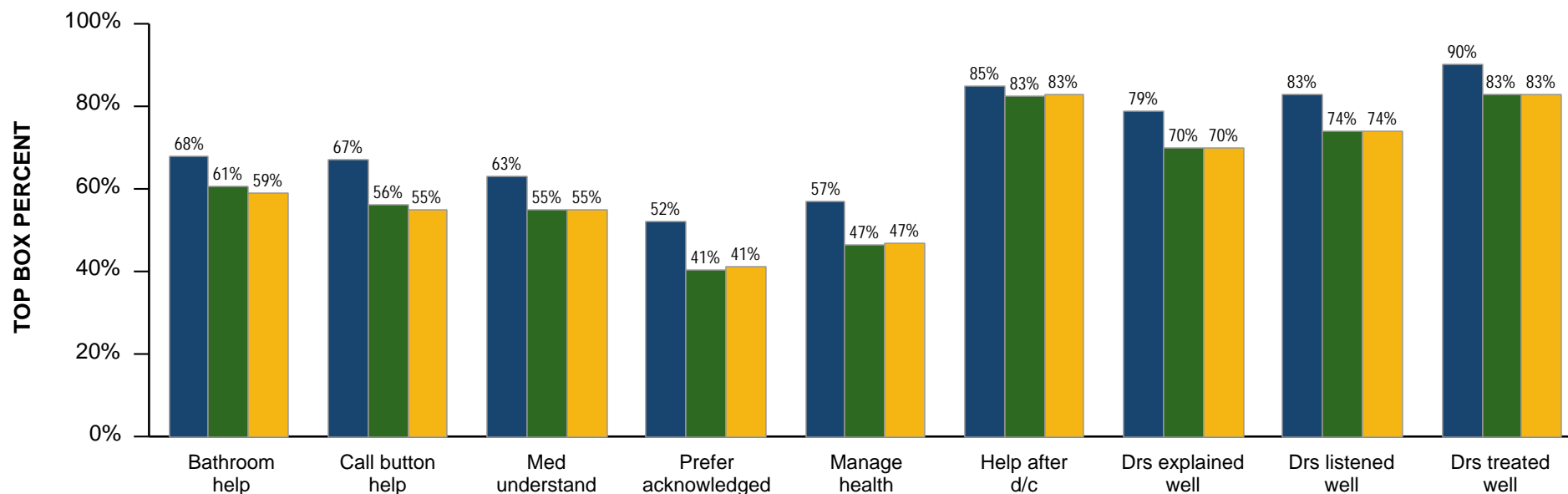
■ Peer Median

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

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# HCAHPS Questions, con't

## 2022 HCAHPS PERFORMANCE



### QUESTION KEY

- Bathroom help      How often did patients receive bathroom help as soon as they wanted?
- Call button help      How often did patients receive help after using the call button as soon as they wanted?
- Med understanding      How often did patients understand the purpose of their medications when leaving the hospital?
- Prefer acknowledged      How often did the staff take patients' preferences into account when determining health care needs?
- Manage health      How often did patients understand their responsibilities in managing their health?
- Help after discharge      How often did patients discuss whether they would need help after discharge?
- Drs explained well      How often did doctors explain things in a way patients could understand?
- Drs listened well      How often did doctors listen carefully to patients?
- Drs treated well      How often did doctors treat patients with courtesy and respect?

▲ Desired Direction

■ Profiled Hospital

■ Benchmark Median

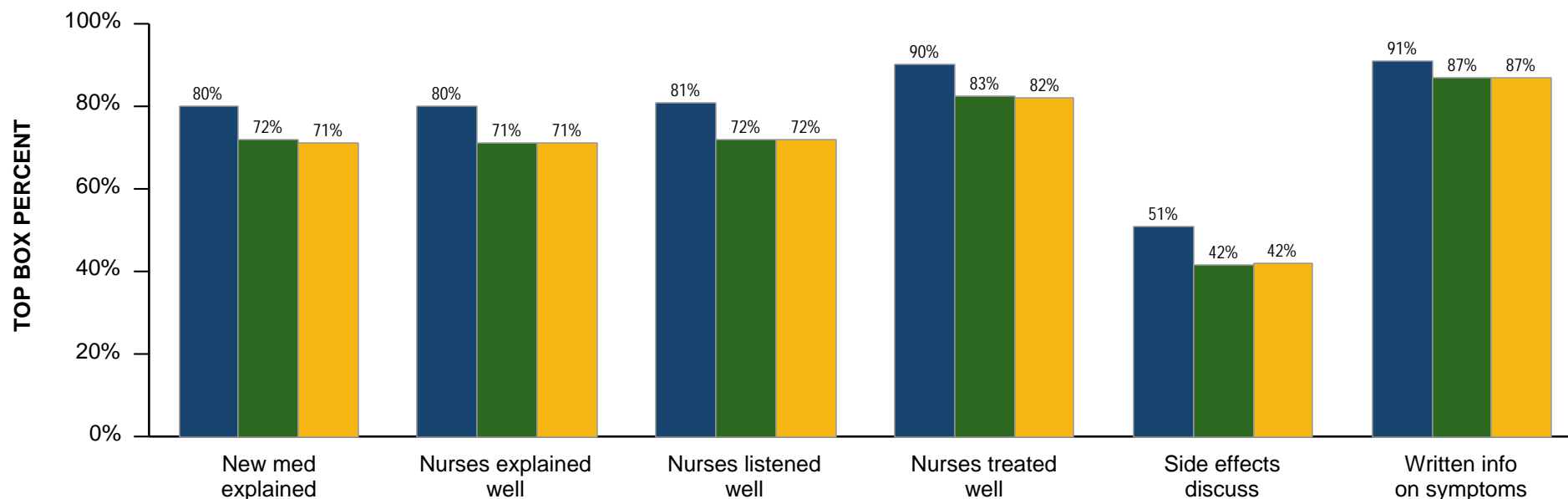
■ Peer Median

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# HCAHPS Questions, con't

## 2022 HCAHPS PERFORMANCE



### QUESTION KEY

- New med explained: How often did staff communicate what the new medication was for?
- Nurses explained well: How often did nurses explain things in a way patients could understand?
- Nurses listened well: How often did nurses listen carefully to patients?
- Nurses treated well: How often did nurses treat patients with courtesy and respect?
- Side effects discussed: How often did staff discuss possible side effects when receiving a new medication?
- Written info on symptoms: Did patients receive written information about possible symptoms to look out for after discharge?

- ▲ Desired Direction
- Profiled Hospital
- Benchmark Median
- Peer Median

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