



50 Top Cardiovascular Hospitals® Study 2025 Annual Report



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Table of Contents

Introduction	4
Study Methodology	5
Datasets and Measures	5
Exclusions	6
Stratification	7
Scoring Method.....	7
2025 50 Top Cardiovascular Hospitals®	9
Key Findings.....	12
All In-Study Hospitals.....	12
Clinical Outcomes	12
Process and Cost Efficiency	12
Patient Experience	12
Teaching Hospitals with Cardiovascular Residency Programs	14
Teaching Hospitals without Cardiovascular Residency Programs	15
Community Hospitals.....	16
Test Metrics: Reported for Information Only	17
Performance Trends	18
References.....	21

Introduction

Cardiovascular disease is a leading cause of mortality in the U.S and is associated with considerably higher healthcare costs.¹⁻³ According to the 2024 annual American Heart Association (AHA) report, 127.9 million American adults had some form of cardiovascular disease between 2017 and 2020, and as of 2020, coronary heart disease remains the number one cause of death in the U.S.³ Furthermore, in 2019 and 2020, combined direct and indirect costs related to cardiovascular disease totaled \$422.3 billion.³ This includes the cost of healthcare services, medicines and lost productivity due to death. Based on 2020 U.S. Census Bureau data, projected rates of cardiovascular risk factors and disease will increase considerably by the year 2060.⁴

Given the significant impact that the cardiovascular disease epidemic has on both health outcomes and cost of care, an annual 50 Top Cardiovascular Hospitals® study is conducted as part of Premier's 100 Top Hospitals® program to identify outstanding cardiovascular service lines nationwide. The primary aim is to provide an unbiased evaluation of hospitals to aid healthcare organizations in their improvement efforts towards optimal care. A list of high-performing hospitals recognized through the study is published annually by Premier, Inc. and *Fortune*.^{5,6}

Since 1998, publicly available data has been statistically analyzed to compile the annual 50 Top Cardiovascular Hospitals® report. Similar to the broader 100 Top Hospitals® study, this cardiovascular assessment uses a balanced set of metrics to highlight high-performing cardiovascular healthcare providers in the U.S. The recognized cardiovascular institutions have demonstrated a balance of clinical and operational excellence in a complex healthcare landscape, and their success stories may help guide other healthcare entities in achieving similar success. In addition to the published list of high-performing hospitals, the study more broadly serves as a tool for comparing outcomes, with the larger goal of improving quality, efficiency, and patient experience across all hospitals. As such, a report referred to as the "Current Profile," is produced for all hospitals, which serves as a reference point of their performance relative to a meaningful set of peer facilities.

In addition to current-state performance, the study produces a "Trend Profile" report designed to show an institution's rate of improvement relative to a peer group comprised of similar hospitals. Measuring improvement across current and trended performance helps enable clinical leadership and service line management to assess their real-world progress toward top performance within and across the profiled cardiovascular patient groups.

Organizations are included in the 50 Top Cardiovascular Hospitals® study based solely on availability of data from Medicare and meeting the study's inclusion criteria. Participation in the study is not solicited and there are no fees for winners to promote their achievements. Hospitals can receive their individual report at no cost, upon request. Further, it is the policy to revoke a 100 Top Hospitals® award if hospital data is found to be inaccurate or misleading for any of the 100 Top Hospitals® data sources. At the sole discretion of Premier, the circumstances under which a 100 Top Hospitals® award could be revoked include, but are not limited to, inaccurate data, agency investigations or sanctions.

Study Methodology

Datasets and Measures

The cardiovascular study relies solely on publicly available data sources, including the Centers for Medicare and Medicaid Services (CMS) Care Compare,⁷ the Medicare Provider Analysis and Review (MEDPAR),⁸ and Healthcare Provider Cost Reporting Information System (HCRIS)⁹ cost report datasets. Limiting the study to publicly available data sources ensures a representative and objective evaluation of hospital performance across cardiovascular disease cohorts. While the Care Compare and HCRIS cost report datasets include facility-aggregated data, the MEDPAR dataset includes Medicare claims and serves as the base dataset for the study-specific inpatient risk-adjusted measures within the program.

The cardiovascular disease cohorts evaluated in the study are based on the International Classification of Diseases Version-10 (ICD-10) coding and include acute myocardial infarction (AMI), heart failure (HF), coronary artery bypass graft (CABG) and percutaneous coronary interventions (PCI). Each patient group is designed to be mutually exclusive, and therefore, AMI and HF groups explicitly exclude patients who also had a PCI or CABG procedure. Disease groups are based on ICD-10 definitions.

Each cardiovascular disease group is evaluated using a set of balancing measures that encompass hospital clinical outcomes, cost and process efficiency, and patient experience. Within the outcome domain, the risk-adjusted inpatient mortality and complications, as well as risk-adjusted 30-day mortality and readmissions are evaluated.¹⁰⁻¹³ Process measures include severity-adjusted length of stay (LOS). The efficiency measure group includes wage- and severity-adjusted cost per case and 30-day episodic payment,¹⁴ and the patient experience group is based on the overall Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) score.¹⁵ Due to data availability, not all measures will be evaluated for each cardiovascular disease group.

Table 1 lists all measures included in the 2025 cardiovascular study by measure domain and disease group, along with the respective data sources and time periods used to compute the measure results.

Table 1: Summary of Measure Data Sources and Data Periods

Performance Metric (Data Source)	Current Time Periods	Trend Time Periods
Clinical Outcomes		
AMI, HF, CABG, PCI risk-adjusted inpatient mortality index (MEDPAR)	Federal Fiscal Year (FFY) 2022 and 2023	Federal Fiscal Year 2018-2023 ^a
CABG, PCI risk-adjusted complications index (MEDPAR)	Federal Fiscal Year (FFY) 2022 and 2023	Federal Fiscal Year 2018-2023 ^a
Extended Outcomes		
AMI, HF, CABG 30-day mortality (%) (CMS Care Compare)	Jul 1, 2020-June 30, 2023	Three-year datasets ending Jun 30 in 2019*, 2021, 2022, 2023 ^b
AMI, HF, CABG 30-day readmission (%) (CMS Care Compare)	Jul 1, 2020-June 30, 2023	Three-year datasets ending Jun 30 in 2019*, 2021, 2022, 2023 ^b
Efficiency		
AMI, HF, CABG, PCI severity-adjusted average length of stay (ALOS) (MEDPAR)	FFY 2023	FFY 2019-2023
AMI, HF, CABG, PCI wage- and severity-adjusted average cost per case (MEDPAR)	FFY 2023	FFY 2019-2023
Extended Efficiency		
AMI, HF 30-day episode payment (CMS Care Compare)	Jul 1, 2020-June 30, 2023	Three-year datasets ending Jun 30 in 2019*, 2021, 2022, 2023 ^b
Patient Experience		
HCAHPS score (%) (CMS Care Compare)	FFY 2023	FFY 2019, 2021, 2022, 2023, July 1-Dec 31, 2020 ^{**c}

^aTwo years of data are combined for each study year data point.

^bTwo data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets, 2 ½ years of data in 2020 data point.

^c2020 data point has 6 months of data due to CMS removal of Q1 and Q2 2020 data from measure data sets.

Exclusions

The study focuses on hospitals that offer both medical and surgical treatment options for four of the most common cardiovascular conditions. Specifically, these groups include non-surgical AMI, non-surgical HF, CABG and PCI (excluding open chest coronary artery angioplasty). As such, the MEDPAR dataset is limited to hospitals that had at least 30 unique cases in each of the four disease groups across the two most recent years of data. In addition, the following exclusions are applied to patient- and hospital-level data:

- Patients younger than 65 years old.
- Patients transferred to another short-term facility (to prevent double counting encounter).
- Specialty hospitals: critical access, children's, women's, psychiatric, substance abuse, rehabilitation and long-term acute care.
- Federally owned hospitals.

- Non-continental U.S. hospitals (e.g., those residing in Puerto Rico, Guam and the Virgin Islands).
- Hospitals with Medicare average lengths of stay longer than 30 days.
- Hospitals with no recorded deaths.
- Hospitals with no Medicare claims for the two most recent years.
- Hospitals missing data for calculating one or more performance measures.
- Hospitals for which a Medicare Cost Report was not available for the two most recent years.
- Hospitals with missing POA indicators in the two most recent years of MEDPAR data.

Stratification

Bed size, teaching status and involvement in a residency or fellowship program can affect a hospital's case mix and the resulting services that it provides. When analyzing the performance of an individual hospital, it is important to do so against a set of comparable facilities, even when using risk-standardized outcome measures.¹⁶ To mitigate bias due to hospital factors, each hospital is assigned to one of three classes. These classes include:

- Teaching hospitals with cardiovascular residency programs.
- Teaching hospitals without cardiovascular residency programs.
- Community hospitals.

Teaching hospitals with cardiovascular residency programs stratum must meet the definition of a teaching hospital (see below) and be involved in a cardiovascular residency program accredited by the Accreditation Council for Graduate Medical Education (ACGME).¹⁷ Participation in a fellowship program was identified and confirmed based on American Medical Association (AMA) and American Osteopathic Association (AOA) participation from ACGME files, and Fellowship and Residency Electronic Interactive Database Access (FREIDA) database.¹⁸

Teaching hospitals without cardiovascular residency programs must not be involved in a cardiovascular residency program and must additionally satisfy two of the following criteria:

- 200 or more acute care beds in service.
- An intern/resident-per-bed ratio of at least 0.03.
- Involvement in at least three accredited GME programs overall.

OR

- Resident-to-Bed ratio >0.25, regardless of beds or GME programs.

The community hospital comparison group is defined as not meeting the criteria for a teaching facility.

Scoring Method

Measure results are normalized and ranked within each hospital comparison group. The ranked measures are further weighted and summed up at the hospital level to form the hospital level total score. The hospitals with the best overall score in each comparison group are selected as Premier's 50 Top Cardiovascular Hospitals®.

The final count of evaluated facilities after exclusions and the count of award winners are listed below.

Table 2: Study Population by Comparison Group

Comparison Group	In-Study Hospitals	Benchmark Hospitals
Teaching hospitals with cardiovascular residency programs	302	20
Teaching hospitals without cardiovascular residency programs	336	20
Community hospitals	287	10
Total	925	50

Full details regarding the 50 Top Cardiovascular Hospitals® Study methodology can be found in the 100 Top Hospitals® Program Methodology Guide: <https://www.100tophospitals.com/>

2025 50 Top Cardiovascular Hospitals®

Premier's 100 Top Hospitals® program is pleased to present the **2025** 50 Top Cardiovascular Hospitals®.

Please note that the order of hospitals in the following tables does not reflect performance ratings. Hospitals are ordered alphabetically and within their comparison group.

Table 3: Teaching Hospitals With Cardiovascular Residency Programs

Hospital	Location	CCN
Baylor Scott & White Medical Center - Temple	Temple, TX	450054
Baylor Scott & White The Heart Hospital - Plano	Plano, TX	670025
Froedtert Hospital	Milwaukee, WI	520177
HCA Florida Bayonet Point Hospital	Hudson, FL	100256
Intermountain Medical Center	Murray, UT	460010
Lancaster General Hospital	Lancaster, PA	390100
Lehigh Valley Hospital-Cedar Crest	Allentown, PA	390133
Loma Linda University Medical Center	Loma Linda, CA	050327
Methodist Hospital	San Antonio, TX	450388
NYU Langone Hospitals	New York, NY	330214
Northwestern Medicine Central DuPage Hospital	Winfield, IL	140242
OhioHealth Riverside Methodist Hospital	Columbus, OH	360006
Penn Presbyterian Medical Center	Philadelphia, PA	390223
Riverside Community Hospital	Riverside, CA	050022
St. Luke's Hospital	Chesterfield, MO	260179
Summa Health System - Akron Campus	Akron, OH	360020
The Christ Hospital	Cincinnati, OH	360163
UChicago Medicine – Hyde Park Hospitals	Chicago, IL	140088
UNC Health Rex	Raleigh, NC	340114
UNC Hospitals	Chapel Hill, NC	340061

Table 4: Teaching Hospitals Without Cardiovascular Residency Programs

Hospital	Location	CCN
Ascension Sacred Heart Pensacola	Pensacola, FL	100025
Bronson Methodist Hospital	Kalamazoo, MI	230017
CHI Memorial Hospital Chattanooga	Chattanooga, TN	440091
Chester County Hospital	West Chester, PA	390179
Eastern Idaho Regional Medical Center	Idaho Falls, ID	130018
Grand Strand Medical Center	Myrtle Beach, SC	420085
HCA Florida North Florida Hospital	Gainesville, FL	100204
HCA Florida West Hospital	Pensacola, FL	100231
IU Health Arnett Hospital	Lafayette, IN	150173
Lee Memorial Hospital/HealthPark Medical Center	Fort Myers, FL	100012
McKay-Dee Hospital	Ogden, UT	460004
Parkridge Medical Center	Chattanooga, TN	440156
Piedmont Athens Regional Medical Center	Athens, GA	110074
Sanford Medical Center Fargo	Fargo, ND	350011
St. Anthony Hospital	Lakewood, CO	060015
St. Joseph's Hospital	Tampa, FL	100075
Swedish Medical Center	Englewood, CO	060034
The Medical Center of Aurora	Aurora, CO	060100
TriStar Centennial Medical Center	Nashville, TN	440161
Trident Medical Center	Charleston, SC	420079

Table 5: Community Hospitals

Hospital	Location	CCN
Advocate Good Shepherd Hospital	Barrington, IL	140291
Ascension St. Vincent Heart Center	Indianapolis, IN	150153
Henrico Doctors' Hospital	Richmond, VA	490118
McLaren Northern Michigan	Petoskey, MI	230105
Ogden Regional Medical Center	Ogden, UT	460005
Providence Saint Joseph Medical Center	Burbank, CA	050235
Southwest General Health Center	Middleburg Heights, OH	360155
St. David's Medical Center	Austin, TX	450431
St. George Regional Hospital	Saint George, UT	460021
UCHealth Memorial Hospital Central	Colorado Springs, CO	060022

Key Findings

The 50 Top Cardiovascular Hospitals® study identifies U.S. hospitals that have achieved the highest performance on a balanced scorecard of performance measures. The 2025 50 Top Cardiovascular Hospitals® provided higher quality clinical care and were identified as being more efficient than their peers. If all U.S. hospitals' cardiovascular service lines performed at the level of these study winners, more than 14,000 additional lives and over \$1.5 billion could be saved, and over 28,600 additional bypass and angioplasty patients could be complication-free.

One of the goals of Premier's 100 Top Hospitals® program is to provide realistic benchmarks that can help all hospitals improve their performance. This section highlights some notable differences between benchmark facilities (winners) and peer facilities (non-winners). Comparisons between this year's 50 Top Cardiovascular Hospitals® and their peers showed that room for improvement still exists (see Table 6 for measure details).

Differences between benchmark and peer facilities in each of the hospital comparison groups (teaching with CV residency programs, teaching without CV residency programs and community hospitals) can be found in Tables 7-9.

All In-Study Hospitals

Clinical Outcomes

- Benchmark facilities had significantly higher inpatient survival rates across all patient groups – AMI, HF, CABG, PCI (25-66 percent higher).
- Fewer patients had complications in the surgical groups, CABG and PCI, at benchmark facilities (19-30 percent fewer).
- Better 30-day survival rates were found at winning hospitals for AMI, HF and CABG patients (0.4-1.2 percentage points higher).
- Benchmark facilities showed lower 30-day readmission rates for AMI, HF and CABG patients (0.2-0.5 percentage points lower).

Process and Cost Efficiency

- Shorter average lengths of stay (ALOS) varied between patient groups - 0.5 for AMI, 0.4 for HF, 0.3 for PCI and 1.0 for CABG patients at benchmark facilities.
- Benchmark hospitals showed better cost efficiency in average costs per patient case in all patient groups. The difference was \$1,798 for AMI, \$1,386 for HF, \$2,898 for PCI and \$6,974 for CABG patients.

Patient Experience

- Patients had a better experience at benchmark hospitals compared to peer hospitals, with a top-box HCAHPS score of 72 percent versus 68 percent.

Table 6: National Performance Comparison (All In-study Hospitals)

Performance Measure	Benchmark Median	Peer Median	Benchmark Compared with Peer Group			
			Difference	Percent Difference	Statistical Significance	Comments
Clinical Outcomes						
AMI risk-adjusted inpatient mortality index ¹	0.76	1.02	-0.26	-25.4%	***	Lower mortality
HF risk-adjusted inpatient mortality index ¹	0.66	0.97	-0.31	-31.6%	***	Lower mortality
CABG risk-adjusted inpatient mortality index ¹	0.35	1.02	-0.67	-65.9%	***	Lower mortality
PCI risk-adjusted inpatient mortality index ¹	0.71	1.00	-0.29	-29.2%	***	Lower mortality
CABG risk-adjusted complications index ¹	0.69	0.98	-0.29	-29.7%	***	Fewer complications
PCI risk-adjusted complications index ¹	0.81	1.00	-0.19	-18.9%	***	Fewer complications
Extended Outcomes						
AMI 30-day mortality (%) ²	11.5	12.7	-1.2	n/a ³	***	Lower 30-day mortality
HF 30-day mortality (%) ²	10.7	11.5	-0.9	n/a ³	***	Lower 30-day mortality
CABG 30-day mortality (%) ²	2.4	2.8	-0.4	n/a ³	***	Lower 30-day mortality
AMI 30-day readmission (%) ²	13.3	13.7	-0.5	n/a ³	***	Fewer 30-day readmissions
HF 30-day readmission (%) ²	19.2	19.7	-0.5	n/a ³	***	Fewer 30-day readmissions
CABG 30-day readmission (%) ²	10.6	10.7	-0.2	n/a ³	*	Fewer 30-day readmissions
Efficiency						
AMI severity-adjusted average length of stay (ALOS) ⁴	3.6	4.1	-0.5	-11.2%	***	Shorter ALOS
HF severity-adjusted average length of stay (ALOS) ⁴	4.8	5.2	-0.4	-7.2%	***	Shorter ALOS
CABG severity-adjusted average length of stay (ALOS) ⁴	8.1	9.2	-1.0	-11.1%	***	Shorter ALOS
PCI severity-adjusted average length of stay (ALOS) ⁴	3.3	3.6	-0.3	-7.9%	***	Shorter ALOS
AMI wage- and severity-adjusted average cost per case ⁴	\$10,306	\$12,103	-\$1,798	-14.9%	***	Lower cost per case
HF wage- and severity-adjusted average cost per case ⁴	\$11,023	\$12,409	-\$1,386	-11.2%	***	Lower cost per case
CABG wage- and severity-adjusted average cost per case ⁴	\$44,814	\$51,788	-\$6,974	-13.5%	***	Lower cost per case
PCI wage- and severity-adjusted average cost per case ⁴	\$18,565	\$21,464	-\$2,898	-13.5%	***	Lower cost per case
Extended Efficiency						
AMI 30-day episode payment ²	\$27,820	\$29,124	-\$1,304	-4.5%	***	Lower 30-day payment
HF 30-day episode payment ²	\$19,531	\$20,039	-\$508	-2.5%	**	Lower 30-day payment
Patient Experience						
HCAHPS score (%)	72.5	68.0	4.5	n/a ³	***	Better patient experience

¹MEDPAR Federal Fiscal Year (FFY) 2022 and 2023.

²Two data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets, 2 ½ years of data in 2020 data point. CMS Care Compare July 1, 2020-June 30, 2023.

³A percentage difference is not calculated for these measures as they are already a percent value.

⁴MEDPAR FFY 2023.

Statistical significance * = 75%, ** = 95%, *** = 99%.

Teaching Hospitals with Cardiovascular Residency Programs

Table 7: Performance Comparisons for Teaching Hospitals With CV Programs

Performance Measure	Benchmark Median	Peer Median	Benchmark Compared with Peer Group			
			Difference	Percent Difference	Statistical Significance	Comments
Clinical Outcomes						
AMI risk-adjusted inpatient mortality index ¹	0.75	0.99	-0.24	-23.8%	***	Lower mortality
HF risk-adjusted inpatient mortality index ¹	0.82	0.94	-0.12	-13.1%	***	Lower mortality
CABG risk-adjusted inpatient mortality index ¹	0.34	0.98	-0.64	-65.2%	***	Lower mortality
PCI risk-adjusted inpatient mortality index ¹	0.76	0.99	-0.24	-23.7%	**	Lower mortality
CABG risk-adjusted complications index ¹	0.78	0.99	-0.21	-21.3%	**	Fewer complications
PCI risk-adjusted complications index ¹	0.86	1.01	-0.15	-14.7%	**	Fewer complications
Extended Outcomes						
AMI 30-day mortality (%) ²	11.4	12.4	-1.0	n/a ³	***	Lower 30-day mortality
HF 30-day mortality (%) ²	9.7	10.5	-0.8	n/a ³	*	Lower 30-day mortality
CABG 30-day mortality (%) ²	2.2	2.6	-0.4	n/a ³	***	Lower 30-day mortality
AMI 30-day readmission (%) ²	13.2	13.8	-0.7	n/a ³		Fewer 30-day readmissions
HF 30-day readmission (%) ²	19.3	19.7	-0.4	n/a ³	**	Fewer 30-day readmissions
CABG 30-day readmission (%) ²	10.5	10.7	-0.3	n/a ³		Fewer 30-day readmissions
Efficiency						
AMI severity-adjusted average length of stay (ALOS) ⁴	3.5	4.0	-0.5	-13.4%	***	Shorter ALOS
HF severity-adjusted average length of stay (ALOS) ⁴	4.8	5.3	-0.5	-8.6%	***	Shorter ALOS
CABG severity-adjusted average length of stay (ALOS) ⁴	8.6	9.2	-0.6	-6.4%	***	Shorter ALOS
PCI severity-adjusted average length of stay (ALOS) ⁴	3.3	3.7	-0.4	-10.9%	***	Shorter ALOS
AMI wage- and severity-adjusted average cost per case ⁴	\$10,357	\$12,180	-\$1,822	-15.0%	***	Lower cost per case
HF wage- and severity-adjusted average cost per case ⁴	\$11,239	\$12,417	-\$1,178	-9.5%	**	Lower cost per case
CABG wage- and severity-adjusted average cost per case ⁴	\$45,590	\$53,344	-\$7,754	-14.5%	***	Lower cost per case
PCI wage- and severity-adjusted average cost per case ⁴	\$19,984	\$22,239	-\$2,255	-10.1%	**	Lower cost per case
Extended Efficiency						
AMI 30-day episode payment ²	\$28,136	\$29,178	-\$1,042	-3.6%	***	Lower 30-day payment
HF 30-day episode payment ²	\$19,582	\$20,238	-\$656	-3.2%	*	Lower 30-day payment
Patient Experience						
HCAHPS score (%)	74.0	68.0	6.0	n/a ³	***	Better patient experience

¹MEDPAR Federal Fiscal Year (FFY) 2022 and 2023.

²Two data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets, 2 ½ years of data in 2020 data point. CMS Care Compare July 1, 2020-June 30, 2023.

³A percentage difference is not calculated for these measures as they are already a percent value.

⁴MEDPAR FFY 2023.

Statistical significance * = 75%, ** = 95%, *** = 99%.

Teaching Hospitals without Cardiovascular Residency Programs

Table 8: Performance Comparisons for Teaching Hospitals Without CV Programs

Performance Measure	Benchmark Median	Peer Median	Benchmark Compared with Peer Group			
			Difference	Percent Difference	Statistical Significance	Comments
Clinical Outcomes						
AMI risk-adjusted inpatient mortality index ¹	0.75	1.02	-0.27	-26.5%	***	Lower mortality
HF risk-adjusted inpatient mortality index ¹	0.55	0.97	-0.42	-43.0%	***	Lower mortality
CABG risk-adjusted inpatient mortality index ¹	0.45	1.01	-0.57	-55.7%	**	Lower mortality
PCI risk-adjusted inpatient mortality index ¹	0.61	1.01	-0.41	-40.3%	***	Lower mortality
CABG risk-adjusted complications index ¹	0.60	1.01	-0.42	-41.0%	***	Fewer complications
PCI risk-adjusted complications index ¹	0.58	1.03	-0.45	-44.0%	***	Fewer complications
Extended Outcomes						
AMI 30-day mortality (%) ²	11.6	12.8	-1.3	n/a ³	***	Lower 30-day mortality
HF 30-day mortality (%) ²	11.1	11.9	-0.9	n/a ³	*	Lower 30-day mortality
CABG 30-day mortality (%) ²	2.6	2.9	-0.4	n/a ³	*	Lower 30-day mortality
AMI 30-day readmission (%) ²	13.1	13.7	-0.7	n/a ³	*	Fewer 30-day readmissions
HF 30-day readmission (%) ²	19.3	19.8	-0.5	n/a ³	*	Fewer 30-day readmissions
CABG 30-day readmission (%) ²	10.7	10.6	0.1	n/a ³		More 30-day readmissions
Efficiency						
AMI severity-adjusted average length of stay (ALOS) ⁴	3.8	4.1	-0.3	-7.9%	***	Shorter ALOS
HF severity-adjusted average length of stay (ALOS) ⁴	5.0	5.3	-0.4	-7.0%	**	Shorter ALOS
CABG severity-adjusted average length of stay (ALOS) ⁴	8.1	9.3	-1.2	-12.8%	***	Shorter ALOS
PCI severity-adjusted average length of stay (ALOS) ⁴	3.2	3.7	-0.5	-12.5%	***	Shorter ALOS
AMI wage- and severity-adjusted average cost per case ⁴	\$10,109	\$12,017	-\$1,908	-15.9%	*	Lower cost per case
HF wage- and severity-adjusted average cost per case ⁴	\$10,800	\$12,729	-\$1,928	-15.1%	***	Lower cost per case
CABG wage- and severity-adjusted average cost per case ⁴	\$42,774	\$49,024	-\$6,250	-12.7%	*	Lower cost per case
PCI wage- and severity-adjusted average cost per case ⁴	\$17,109	\$20,645	-\$3,535	-17.1%	*	Lower cost per case
Extended Efficiency						
AMI 30-day episode payment ²	\$27,129	\$29,078	-\$1,949	-6.7%	***	Lower 30-day payment
HF 30-day episode payment ²	\$19,682	\$19,960	-\$278	-1.4%	*	Lower 30-day payment
Patient Experience						
HCAHPS score (%)	71.5	67.0	4.5	n/a ³	**	Better patient experience

¹MEDPAR Federal Fiscal Year (FFY) 2022 and 2023.

²Two data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets, 2 ½ years of data in 2020 data point. CMS Care Compare July 1, 2020-June 30, 2023.

³A percentage difference is not calculated for these measures as they are already a percent value.

⁴MEDPAR FFY 2023.

Statistical significance * = 75%, ** = 95%, *** = 99%.

Community Hospitals

Table 9: Performance Comparisons for Community Hospitals

Performance Measure	Benchmark Median	Peer Median	Benchmark Compared with Peer Group			
			Difference	Percent Difference	Statistical Significance	Comments
Clinical Outcomes						
AMI risk-adjusted inpatient mortality index ¹	0.73	1.00	-0.26	-26.3%	**	Lower mortality
HF risk-adjusted inpatient mortality index ¹	0.69	0.95	-0.26	-27.8%	**	Lower mortality
CABG risk-adjusted inpatient mortality index ¹	0.31	1.03	-0.72	-69.9%	*	Lower mortality
PCI risk-adjusted inpatient mortality index ¹	0.74	0.97	-0.22	-23.2%	*	Lower mortality
CABG risk-adjusted complications index ¹	0.87	1.03	-0.16	-15.5%	*	Fewer complications
PCI risk-adjusted complications index ¹	0.74	1.01	-0.27	-26.4%	**	Fewer complications
Extended Outcomes						
AMI 30-day mortality (%) ²	11.8	12.8	-1.0	n/a ³	**	Lower 30-day mortality
HF 30-day mortality (%) ²	11.0	11.8	-0.8	n/a ³	*	Lower 30-day mortality
CABG 30-day mortality (%) ²	2.5	2.9	-0.4	n/a ³	*	Lower 30-day mortality
AMI 30-day readmission (%) ²	13.4	13.7	-0.3	n/a ³	**	Fewer 30-day readmissions
HF 30-day readmission (%) ²	18.8	19.6	-0.8	n/a ³		Fewer 30-day readmissions
CABG 30-day readmission (%) ²	10.3	10.8	-0.5	n/a ³	*	Fewer 30-day readmissions
Efficiency						
AMI severity-adjusted average length of stay (ALOS) ⁴	3.6	4.1	-0.5	-12.2%	***	Shorter ALOS
HF severity-adjusted average length of stay (ALOS) ⁴	4.6	5.2	-0.6	-11.8%	**	Shorter ALOS
CABG severity-adjusted average length of stay (ALOS) ⁴	8.3	9.3	-1.0	-10.8%	*	Shorter ALOS
PCI severity-adjusted average length of stay (ALOS) ⁴	3.6	3.6	-0.1	-2.0%	*	Shorter ALOS
AMI wage- and severity-adjusted average cost per case ⁴	\$9,466	\$12,201	-\$2,735	-22.4%	***	Lower cost per case
HF wage- and severity-adjusted average cost per case ⁴	\$10,966	\$12,556	-\$1,590	-12.7%	**	Lower cost per case
CABG wage- and severity-adjusted average cost per case ⁴	\$46,076	\$53,744	-\$7,668	-14.3%	**	Lower cost per case
PCI wage- and severity-adjusted average cost per case ⁴	\$18,638	\$21,949	-\$3,311	-15.1%	**	Lower cost per case
Extended Efficiency						
AMI 30-day episode payment ²	\$27,976	\$29,075	-\$1,098	-3.8%	**	Lower 30-day payment
HF 30-day episode payment ²	\$19,444	\$19,978	-\$534	-2.7%		Lower 30-day payment
Patient Experience						
HCAHPS score (%)	71.5	69.0	2.5	n/a ³	*	Better patient experience

¹MEDPAR Federal Fiscal Year (FFY) 2022 and 2023.

²*Two data points end in 2019 due to CMS removal of Q1 and Q2 2020 data from measure data sets, 2 ½ years of data in 2020 data point. CMS Care Compare July 1, 2020-June 30, 2023.

³A percentage difference is not calculated for these measures as they are already a percent value.

⁴MEDPAR FFY 2023.

Statistical significance * = 75%, ** = 95%, *** = 99%.

Test Metrics: Reported for Information Only

Every year, in addition to the ranked study measures, a set of non-ranked or test measures that may be of interest to leaders of hospitals and health systems is published. This year, the published test measures include 30-day excess days in acute care (EDAC) measures for AMI and HF patients. These performance measures, along with the existing ranked extended care measures, 30-day mortality, readmission and episode of payment, offer healthcare leaders an additional insight into the performance of hospitals across the continuum of care.

As defined by CMS, the EDAC measures capture excess days that a hospital's patients spent in acute care within 30 days after discharge.¹⁹ These measures summarize the number of risk-adjusted days patients spend in an emergency department (ED), a hospital observation unit or a hospital inpatient unit 30 days following a hospitalization for AMI or HF.

Comparing benchmark facilities and peers on this measure shows better performance with winners at the national level, as shown in Table 10.

Table 10: National Performance Comparisons for 30-Day Excess Days in Acute Care (All Hospitals In-study)

Performance Measure	Benchmark Median	Peer Median	Benchmark Compared with Peer Group		
			Difference	Percent Difference	Comments
AMI 30-day excess days in acute care ¹	-2.7	3.5	-6.2	n/a	Fewer days in acute care
HF 30-day excess days in acute care ¹	-1.5	5.9	-7.4	n/a	Fewer days in acute care

¹CMS Care Compare July 1, 2020 - June 30, 2023.

Performance Trends

An evaluation of longitudinal performance change of all hospitals eligible for the study (peers and benchmarks) shows that U.S. hospitals have not been able to significantly improve performance across the entire 50 Top Cardiovascular Hospitals[®] balanced scorecard: in the majority of measures (17 of 23), 70 percent or more of all in-study hospitals saw no statistically significant change in any of the scorecard measures.

However, over the evaluated study years, some facilities did accomplish statistically significant improvement at the 95% confidence level, especially among measures evaluating outcomes that extend beyond the acute inpatient stay. As shown in Table 11 on the next page, a modest proportion of hospitals improved their AMI 30-Day Readmission Rate with 66 percent of the hospitals showing significantly improved performance, followed by 52 percent of hospitals improving performance in CABG 30-Day Readmission Rate.

Table 11: Direction of Performance Change for All Cardiovascular Hospitals 2019 – 2023

Performance Measure	Significantly Improving Performance (95% CI)		No Statistically Significant Change (95% CI)		Statistically Declining Performance (95% CI)	
	Count of hospitals ¹	Percent of hospitals ²	Count of hospitals ¹	Percent of hospitals ²	Count of hospitals ¹	Percent of hospitals ²
AMI Risk-Adjusted Mortality Index	22	2.4%	849	94.5%	27	3.0%
HF Risk-Adjusted Mortality Index	35	3.9%	828	92.2%	35	3.9%
CABG Risk-Adjusted Mortality Index	92	10.2%	726	80.8%	80	8.9%
PCI Risk-Adjusted Mortality Index	94	10.5%	743	82.7%	61	6.8%
CABG Risk-Adjusted Complications Index	155	17.3%	622	69.3%	121	13.5%
PCI Risk-Adjusted Complications Index	133	14.8%	702	78.2%	63	7.0%
AMI 30-Day Mortality Rate	111	12.4%	683	76.1%	104	11.6%
HF 30-Day Mortality Rate	77	8.6%	683	76.1%	138	15.4%
CABG 30-Day Mortality Rate	136	15.1%	686	76.4%	76	8.5%
AMI 30-Day Readmission Rate	590	65.7%	304	33.9%	4	0.4%
HF 30-Day Readmission Rate	402	44.8%	478	53.2%	18	2.0%
CABG 30-Day Readmission Rate	465	51.8%	428	47.7%	5	0.6%
AMI Severity-Adjusted Avg. Length of Stay	36	4.0%	826	92.0%	36	4.0%
HF Severity-Adjusted Avg. Length of Stay	56	6.2%	773	86.1%	69	7.7%
CABG Severity-Adjusted Avg. Length of Stay	67	7.5%	794	88.4%	37	4.1%
PCI Severity-Adjusted Avg. Length of Stay	60	6.7%	794	88.4%	44	4.9%
AMI Wage- and Severity-Adjusted Cost per Case	54	6.0%	805	89.7%	38	4.2%
HF Wage- and Severity-Adjusted Cost per Case	70	7.8%	735	81.8%	93	10.4%
CABG Wage- and Severity-Adjusted Cost per Case	104	11.6%	745	83.1%	48	5.4%
PCI Wage- and Severity-Adjusted Cost per Case	116	12.9%	723	80.6%	58	6.5%
AMI 30-Day Episode Payment	3	0.3%	339	37.8%	556	61.9%
HF 30-Day Episode Payment	2	0.2%	405	45.1%	491	54.7%
HCAHPS Question: Overall Rating	4	0.4%	669	74.5%	225	25.1%

¹Count refers to the number of in-study hospitals whose performance fell into the highlighted category on the measure.

²Percent is of total in-study hospitals across all peer groups.



More About the 100 Top Hospitals® Program

The 50 Top Cardiovascular Hospitals® Study is one of several studies of Premier's 100 Top Hospitals® program. Additional information regarding these studies, including lists of award recipients, can be found by visiting <https://www.100tophospitals.com/>.

We Welcome Your Input

The 100 Top Hospitals® program is designed to evaluate hospitals across various facets in a way that is objective, transparent, and meaningful. The validity of the performance measures, program methods, and data sources is regularly assessed. Comments about our study from health systems, hospitals, and physicians are welcomed. To submit comments, visit the Contact Us section of <https://www.100tophospitals.com/>.

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Premier, Inc. (NASDAQ: PINC) is a leading technology-driven healthcare improvement company, providing solutions to two-thirds of all healthcare providers in the U.S. Playing a critical role in the rapidly evolving healthcare industry, Premier unites providers, suppliers, payers and policymakers to make healthcare better with national scale, smarter with actionable intelligence and faster with novel technologies. Headquartered in Charlotte, N.C., Premier offers integrated data and analytics, collaboratives, supply chain solutions, consulting and other services in service of our mission to improve the health of communities. Please visit Premier's news and investor sites on www.premierinc.com; as well as [X](#), [Facebook](#), [LinkedIn](#), [YouTube](#), [Instagram](#) and [Premier's blog](#) for more information about the company.

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