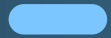


# 50 Top Cardiovascular Hospitals, 2018

## Competitor Report



CLIENT HOSPITAL NAME  
DATE OF REPORT DELIVERY



**Watson Health™**

# Contents

- Background and Approach
- Profiled Competitors
- Executive Summary
- 2016 Performance and 5-Year Rate of Improvement Graphs
- Methodology Overview

## Background and Approach

The 50 Top Cardiovascular Hospitals Competitor Report shows national hospital performance in two dimensions – five year rate of improvement and current year performance

- Each hospital is compared to similar hospital peers across the U.S. *(Three comparison groups: Cardio Teaching, Teaching, Community Hospital)*
- Because hospital improvement and performance are calculated as rank percentiles, hospitals falling into different comparison groups can be directly compared

The competitor report provides objective comparative analysis of four key medical and surgical cardiovascular patient groups:

- Acute myocardial infarction (AMI)
- Heart failure (HF)
- Coronary artery bypass graft (CABG)
- Percutaneous coronary intervention (PCI)

Measures fall into five domains: Clinical outcomes, clinical process, extended outcomes, operational efficiency, cost efficiency

*Note: See Methodology Appendix for details*

## **Profiled Competitors**

- Client Facility**
- Profiled Competitor 1
- Profiled Competitor 2
- Profiled Competitor 3
- Profiled Competitor 4
- Profiled Competitor 5
- Profiled Competitor 6
- Profiled Competitor 7

# Executive Summary

## Overall National Performance

- **Client Hospital** falls into the \_\_\_\_ Percentile nationally for both 2016 performance and 2012-2016 rate of improvement
- Competitor \_\_\_\_\_ and \_\_\_\_\_ facilities lead this group based on performance on all 50 Top Cardiovascular Hospitals measures

## AMI and HF Patients

Where **Client Hospital** is strong among peers, and improving

- <Text>
- <Text>

Where **Client Hospital** might have significant opportunity to improve nationally, and compared to these competitors

- <Text>
- <Text>

# Executive Summary

(cont'd)

## CABG and PCI Patients

Where **Client Hospital** is strong among peers, and improving

– <Text>

– <Text>

Where **Client Hospital** might have significant opportunity to improve nationally, and compared to these competitors

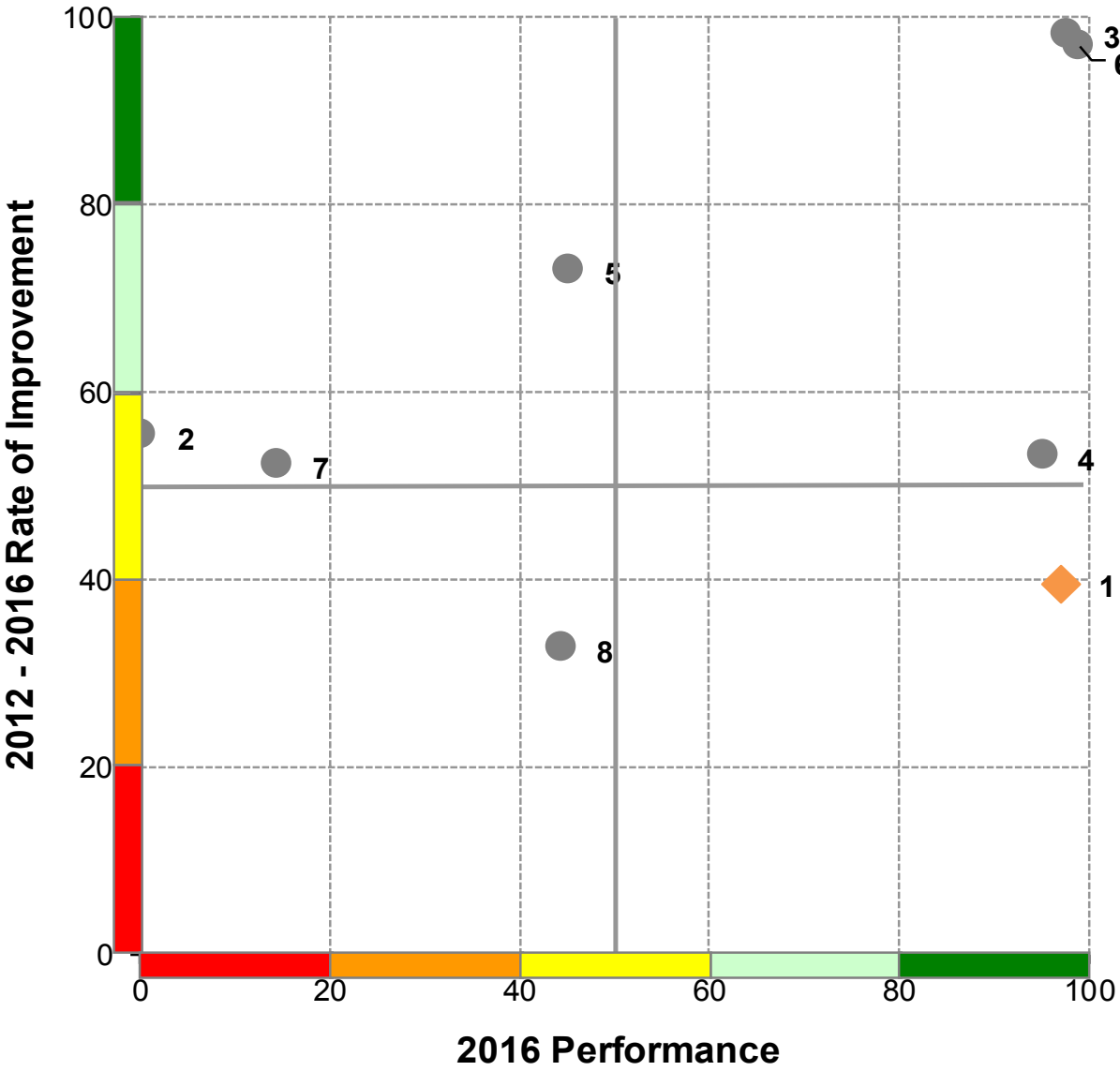
– <Text>

– <Text>

# Overall Performance

# 50 Top Cardiovascular Hospitals, 2018

## Overall Performance



### HOSPITAL KEY

- 1 CLIENT FACILITY
- 2 COMPETITOR 1
- 3 COMPETITOR 2
- 4 COMPETITOR 3
- 5 COMPETITOR 4
- 6 COMPETITOR 5
- 7 COMPETITOR 6
- 8 COMPETITOR 7

### Quintile Key

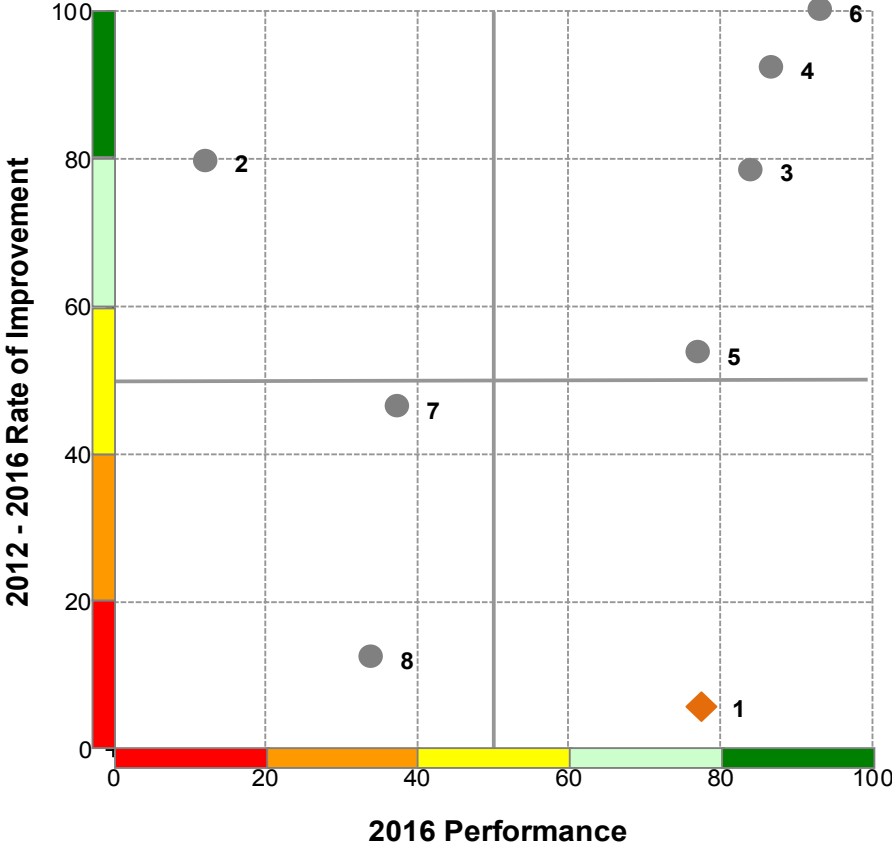
- > 80 to 100
- > 60 to 80
- > 40 to 60
- > 20 to 40
- > 0 to 20



# AMI Patient Group

# 50 Top Cardiovascular Hospitals, 2018

## AMI Inpatient Mortality



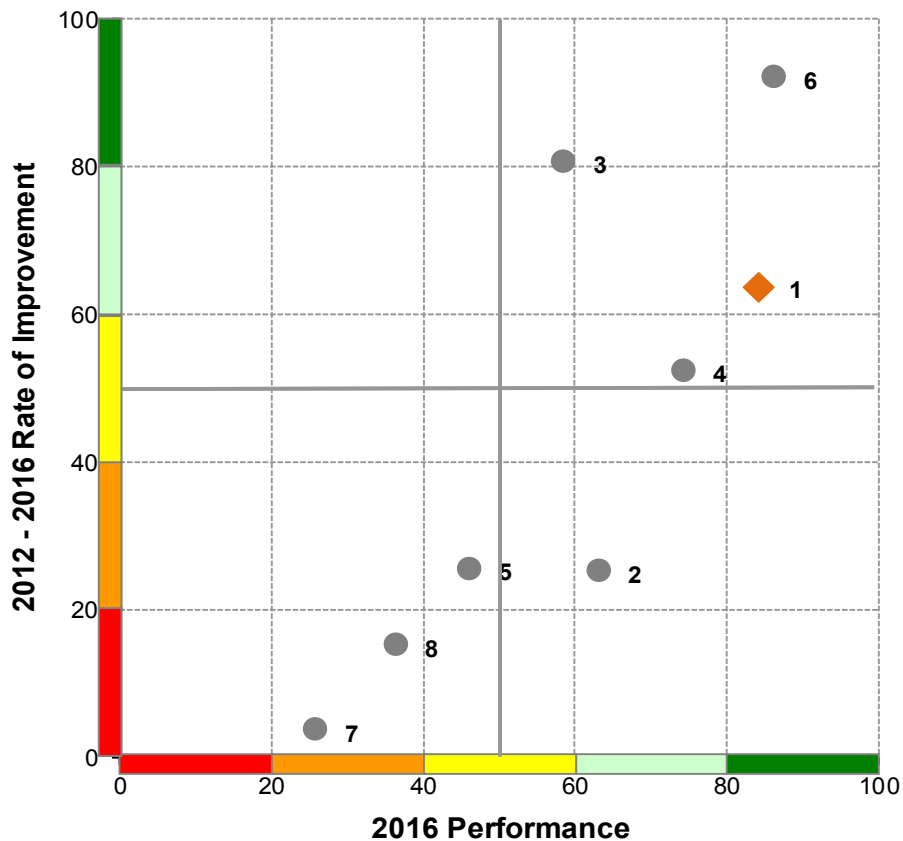
- 1 **CLIENT FACILITY**
- 2 **COMPETITOR 1**
- 3 **COMPETITOR 2**
- 4 **COMPETITOR 3**
- 5 **COMPETITOR 4**
- 6 **COMPETITOR 5**
- 7 **COMPETITOR 6**
- 8 **COMPETITOR 7**

### Quintile Key

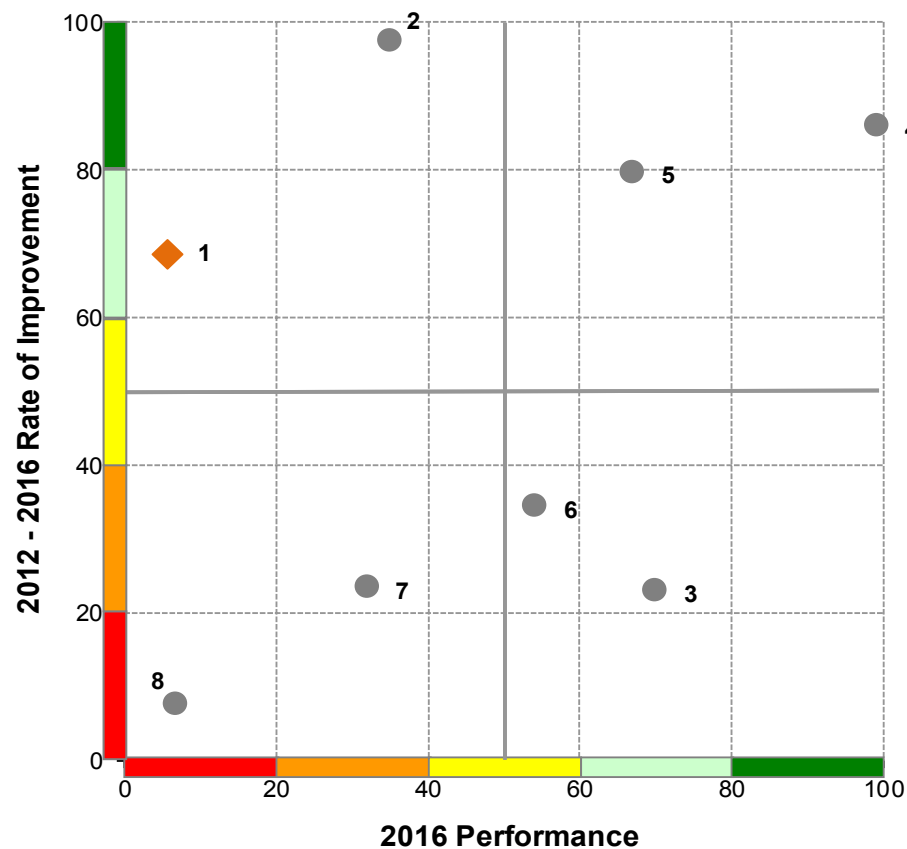
- > 80 to 100
- > 60 to 80
- > 40 to 60
- > 20 to 40
- > 0 to 20

# 50 Top Cardiovascular Hospitals, 2018

## AMI 30-Day Mortality



## AMI 30-Day Readmissions



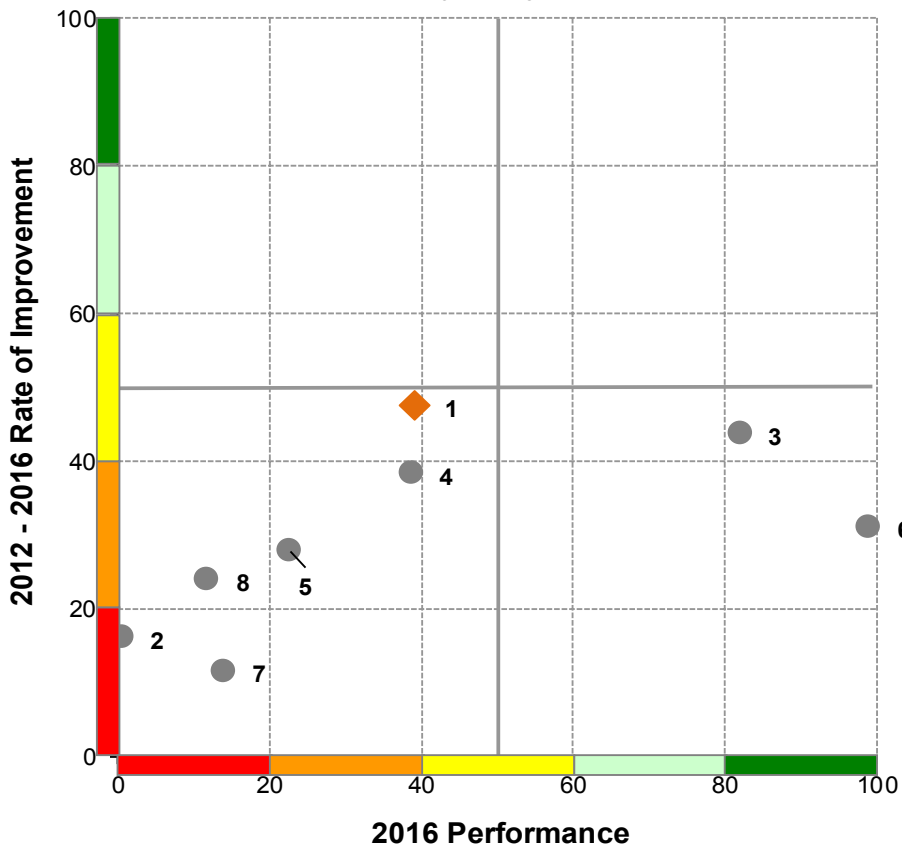
- 1 CLIENT FACILITY
- 2 COMPETITOR 1
- 3 COMPETITOR 2
- 4 COMPETITOR 3
- 5 COMPETITOR 4
- 6 COMPETITOR 5
- 7 COMPETITOR 6
- 8 COMPETITOR 7

### Quintile Key

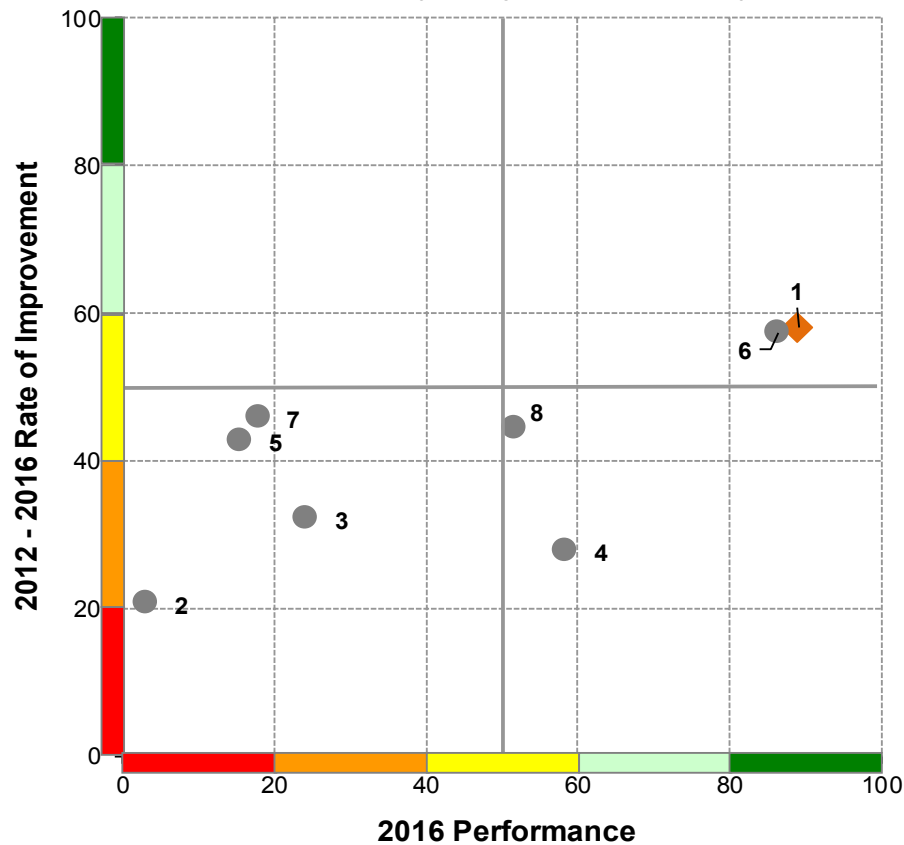


# 50 Top Cardiovascular Hospitals, 2018

## AMI Severity-Adjusted ALOS

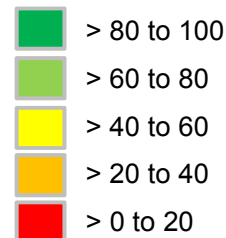


## AMI AWI & Severity-Adjusted Cost per Case



- 1 **CLIENT FACILITY**
- 2 **COMPETITOR 1**
- 3 **COMPETITOR 2**
- 4 **COMPETITOR 3**
- 5 **COMPETITOR 4**
- 6 **COMPETITOR 5**
- 7 **COMPETITOR 6**
- 8 **COMPETITOR 7**

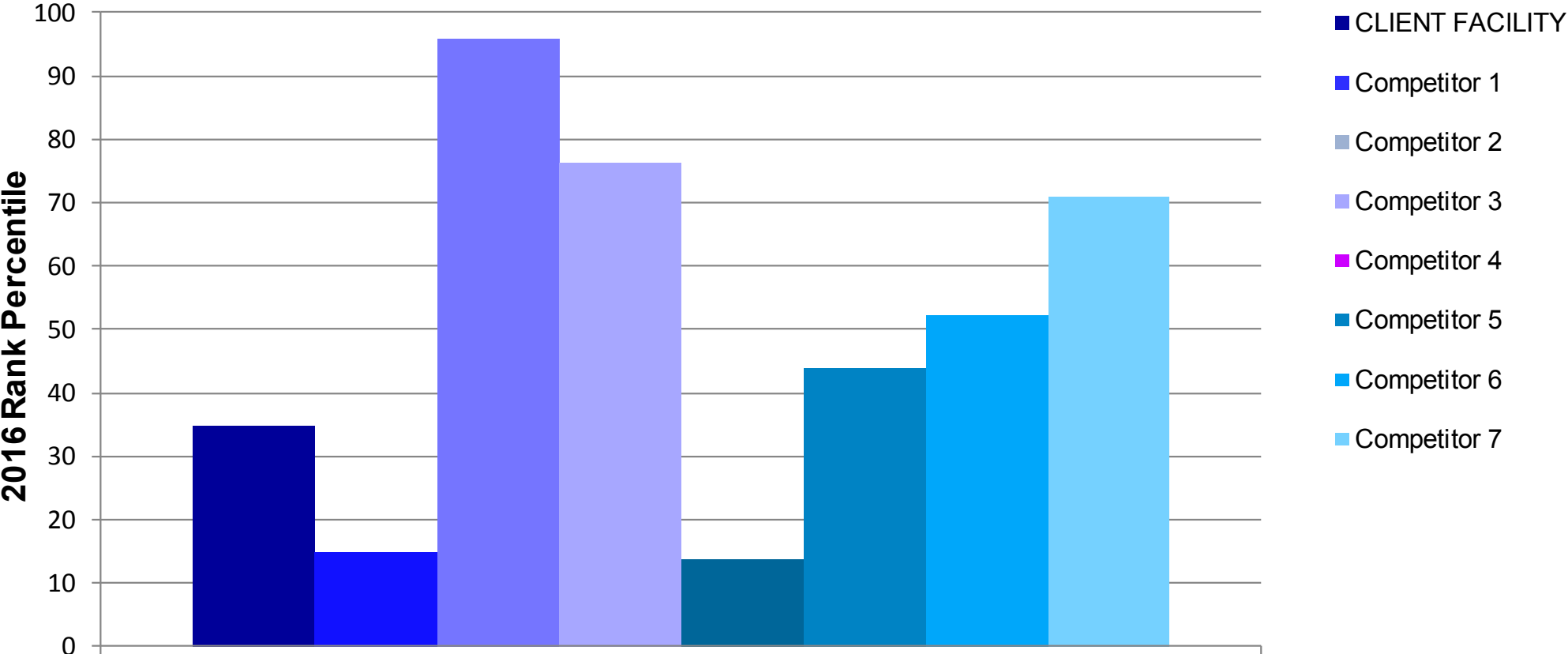
### Quintile Key



# 50 Top Cardiovascular Hospitals, 2018

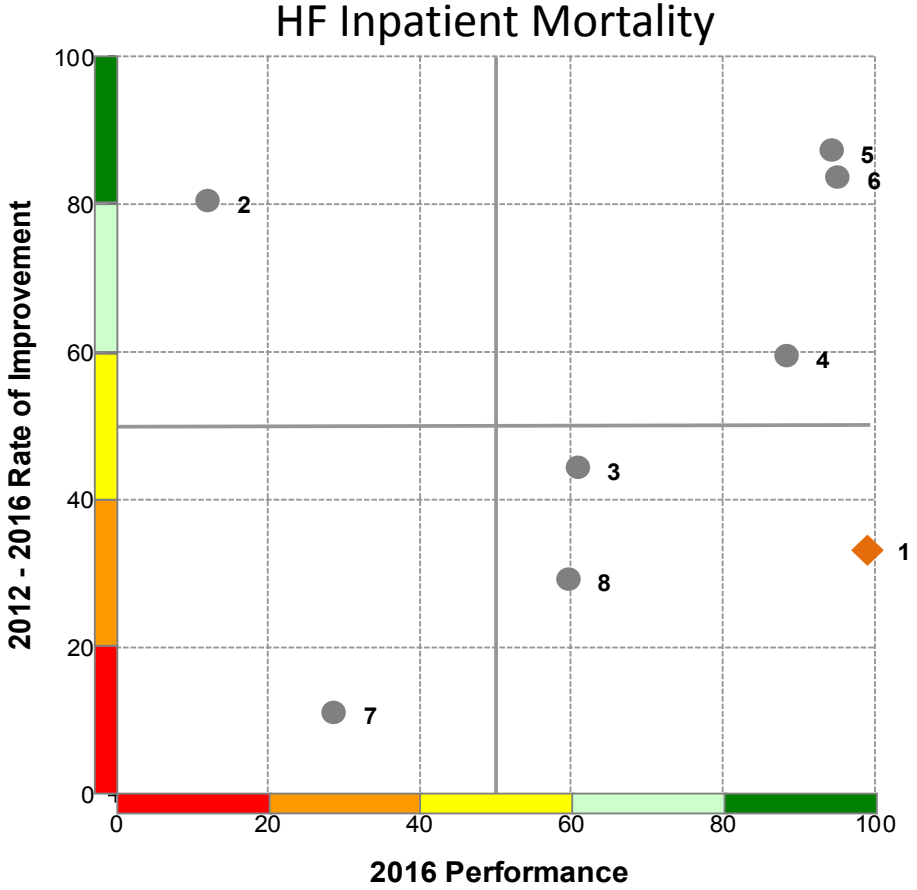
## AMI 30-Day Episode Total Payment

*Higher percentile denotes better performance in peer comparison group*

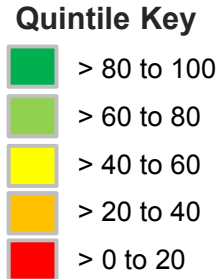


# HF Patient Group

# 50 Top Cardiovascular Hospitals, 2018

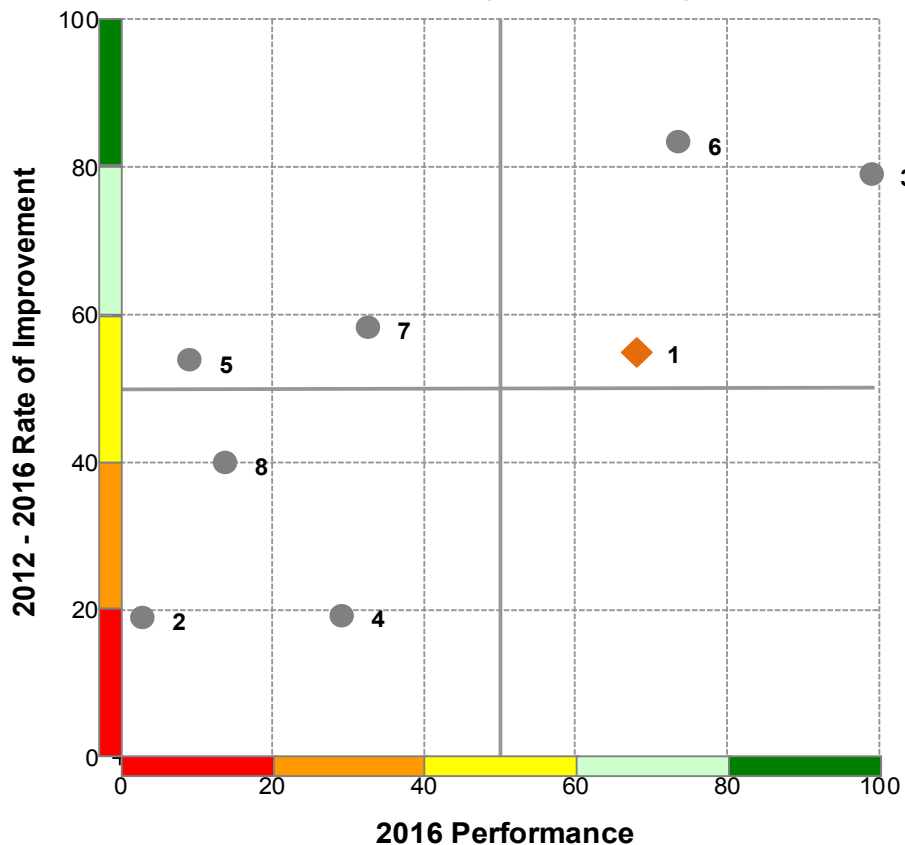


- 1 **CLIENT FACILITY**
- 2 COMPETITOR 1
- 3 COMPETITOR 2
- 4 COMPETITOR 3
- 5 COMPETITOR 4
- 6 COMPETITOR 5
- 7 COMPETITOR 6
- 8 COMPETITOR 7

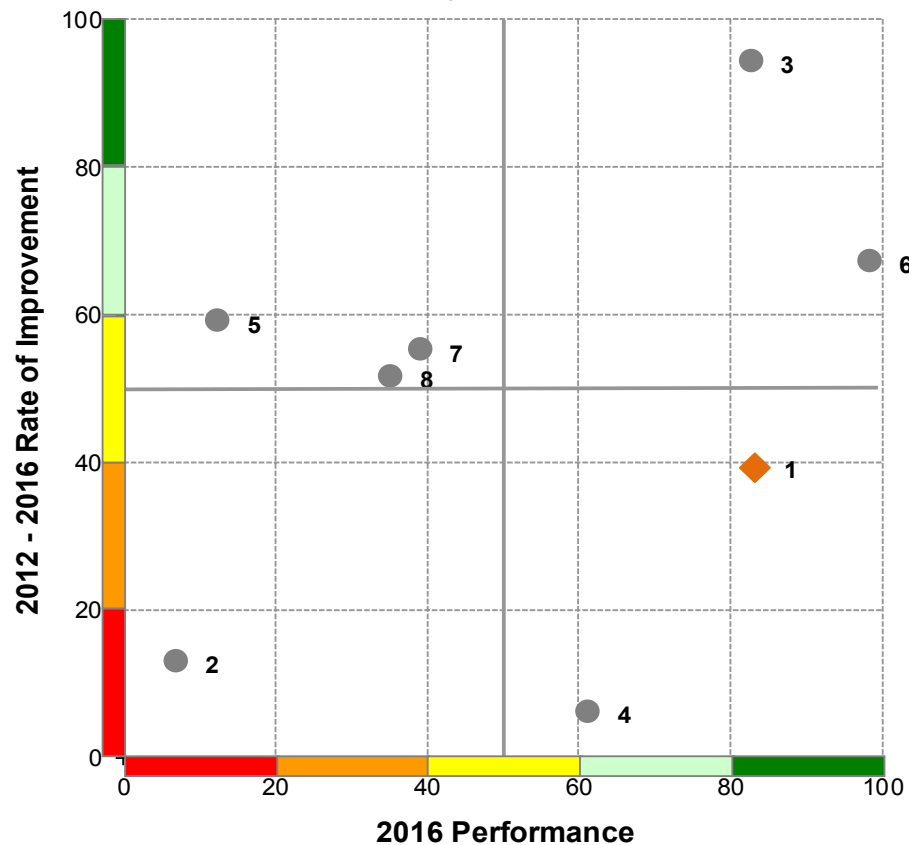


# 50 Top Cardiovascular Hospitals, 2018

## HF 30-Day Mortality



## HF 30-Day Readmissions



- |                   |                |
|-------------------|----------------|
| 1 CLIENT FACILITY | 5 COMPETITOR 4 |
| 2 COMPETITOR 1    | 6 COMPETITOR 5 |
| 3 COMPETITOR 2    | 7 COMPETITOR 6 |
| 4 COMPETITOR 3    | 8 COMPETITOR 7 |

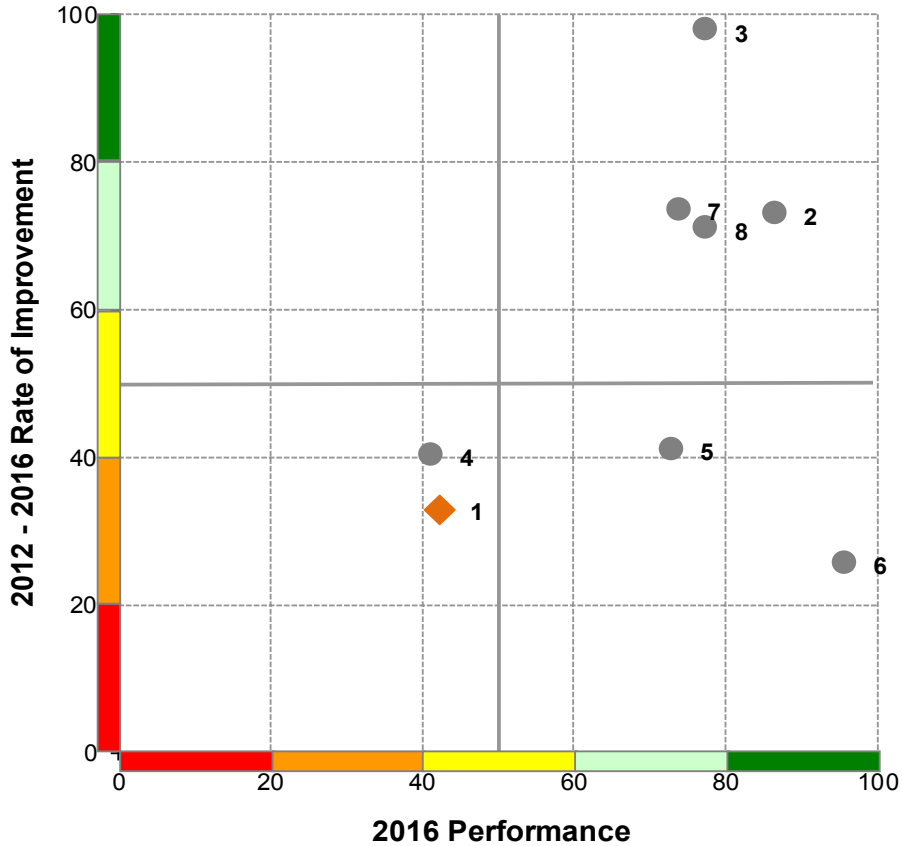
### Quintile Key



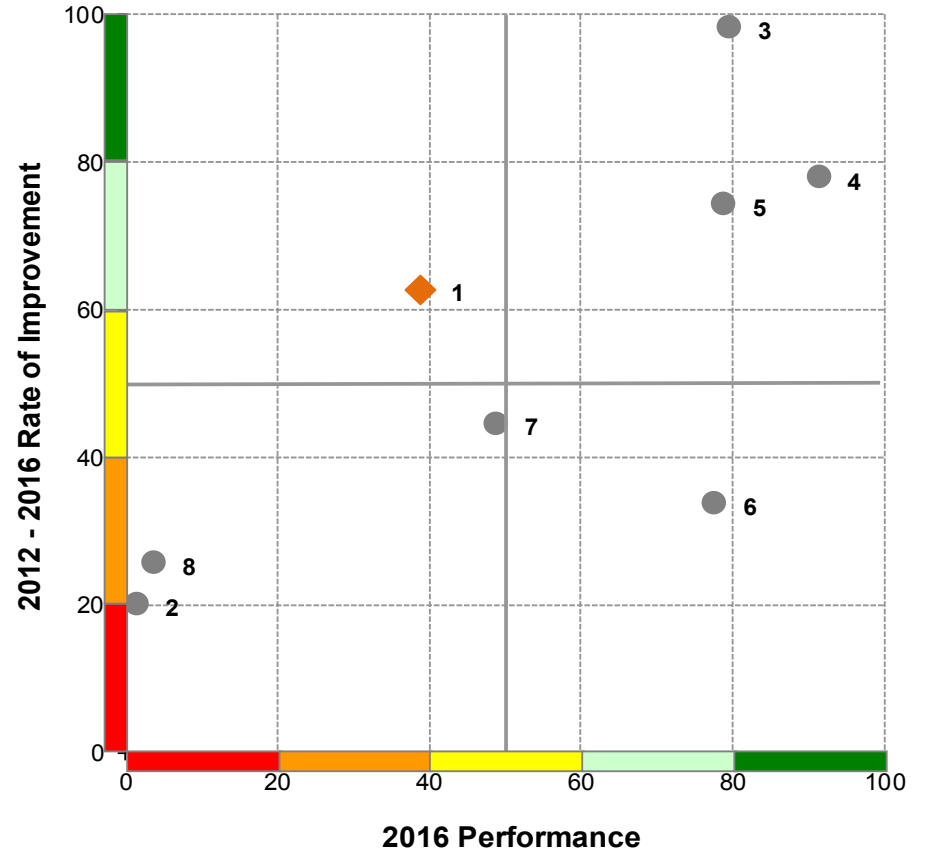


# 50 Top Cardiovascular Hospitals, 2018

## HF Severity-Adjusted ALOS



## HF AWI & Severity-Adjusted Cost per Case



- |                   |                |
|-------------------|----------------|
| 1 CLIENT FACILITY | 5 COMPETITOR 4 |
| 2 COMPETITOR 1    | 6 COMPETITOR 5 |
| 3 COMPETITOR 2    | 7 COMPETITOR 6 |
| 4 COMPETITOR 3    | 8 COMPETITOR 7 |

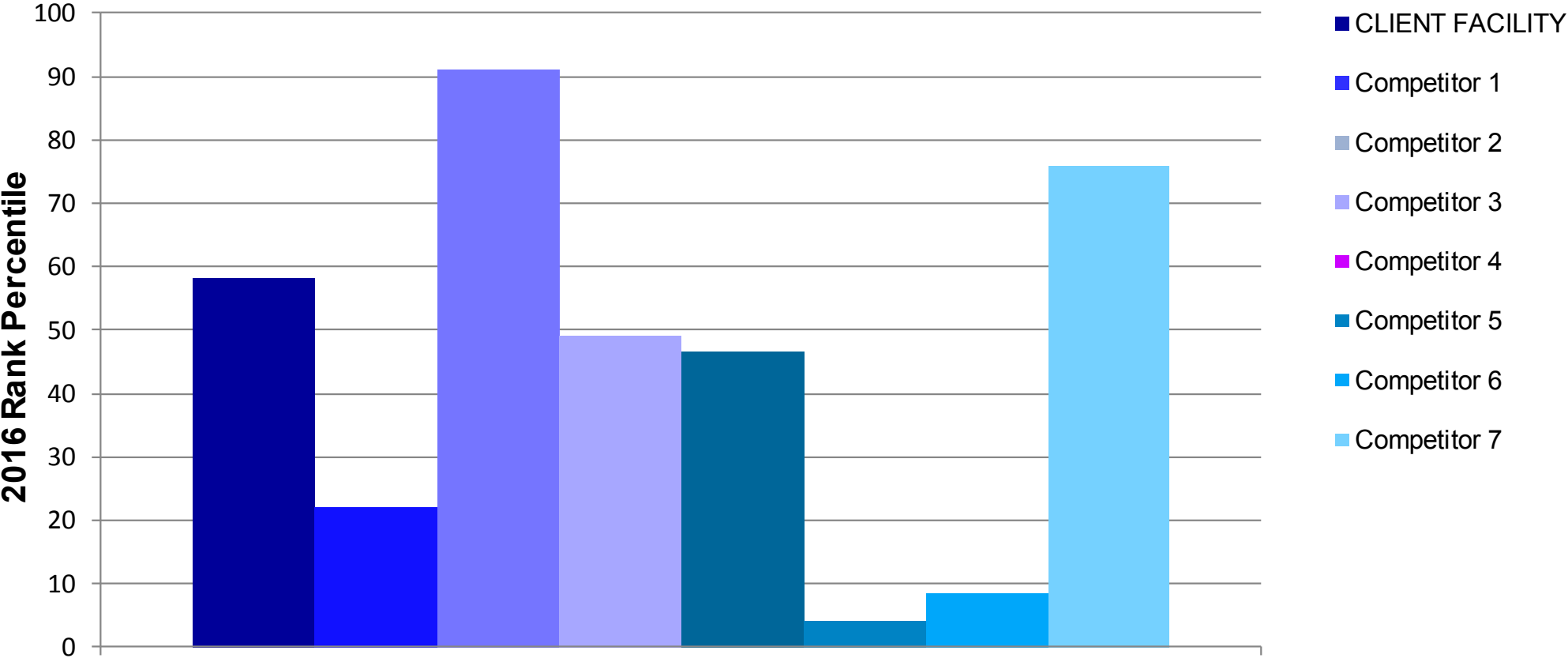
### Quintile Key



# 50 Top Cardiovascular Hospitals, 2018

## HF 30-Day Episode Total Payment

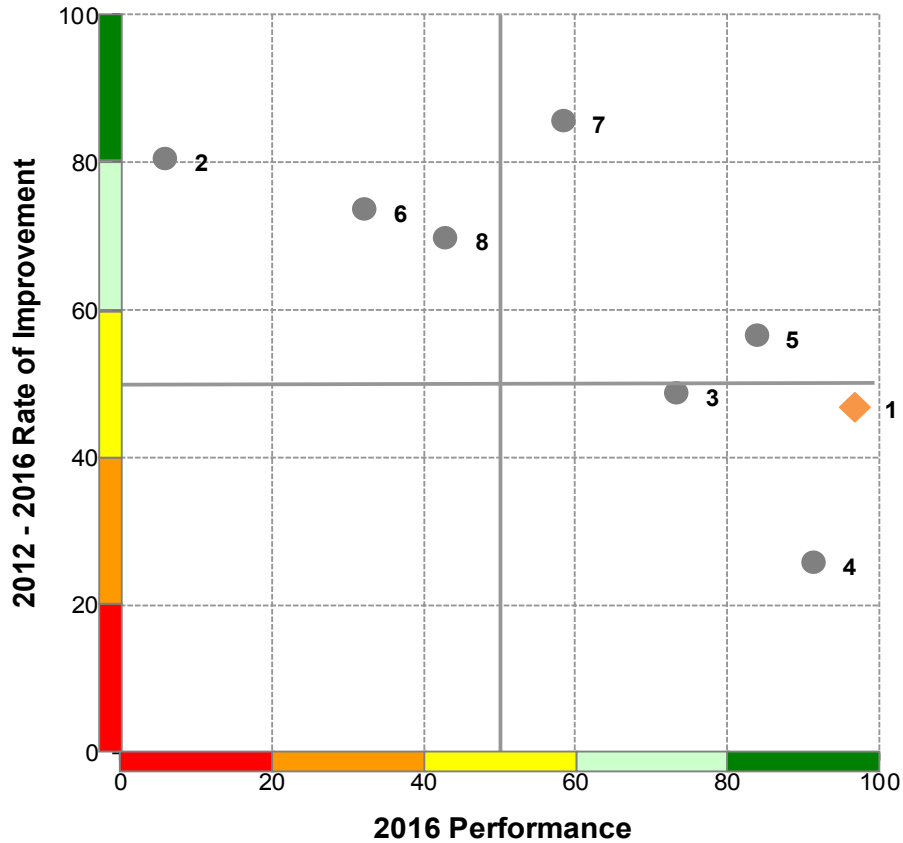
*Higher percentile denotes better performance in peer comparison group*



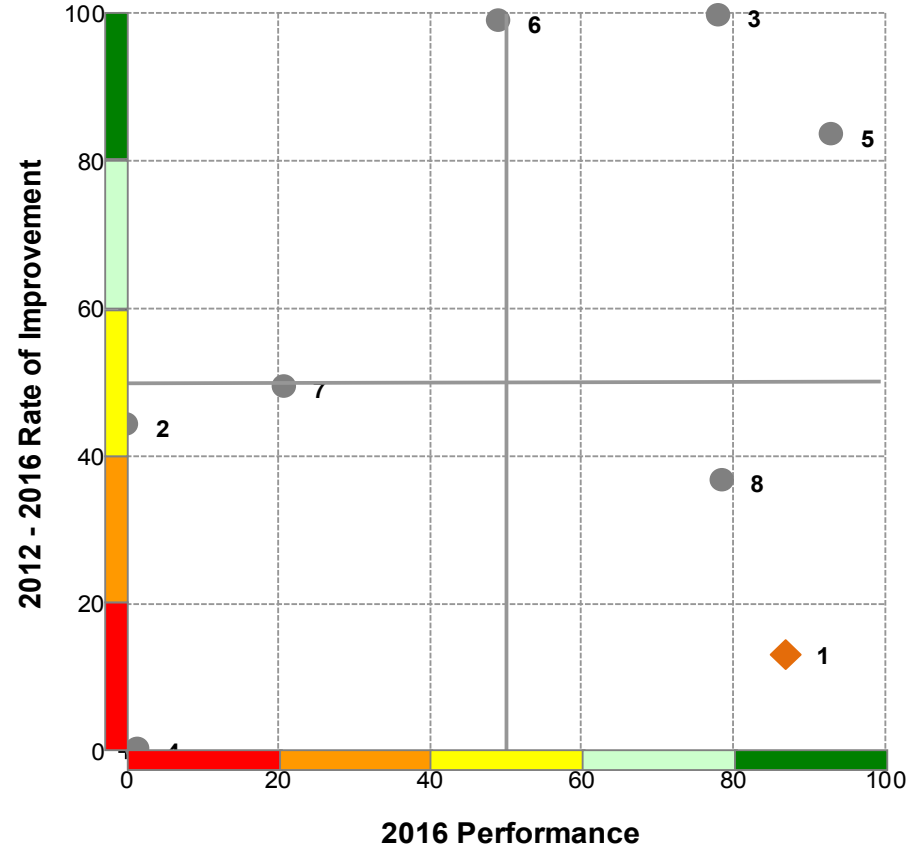
# CABG Patient Group

# 50 Top Cardiovascular Hospitals, 2018

## CABG Inpatient Mortality



## CABG Complications

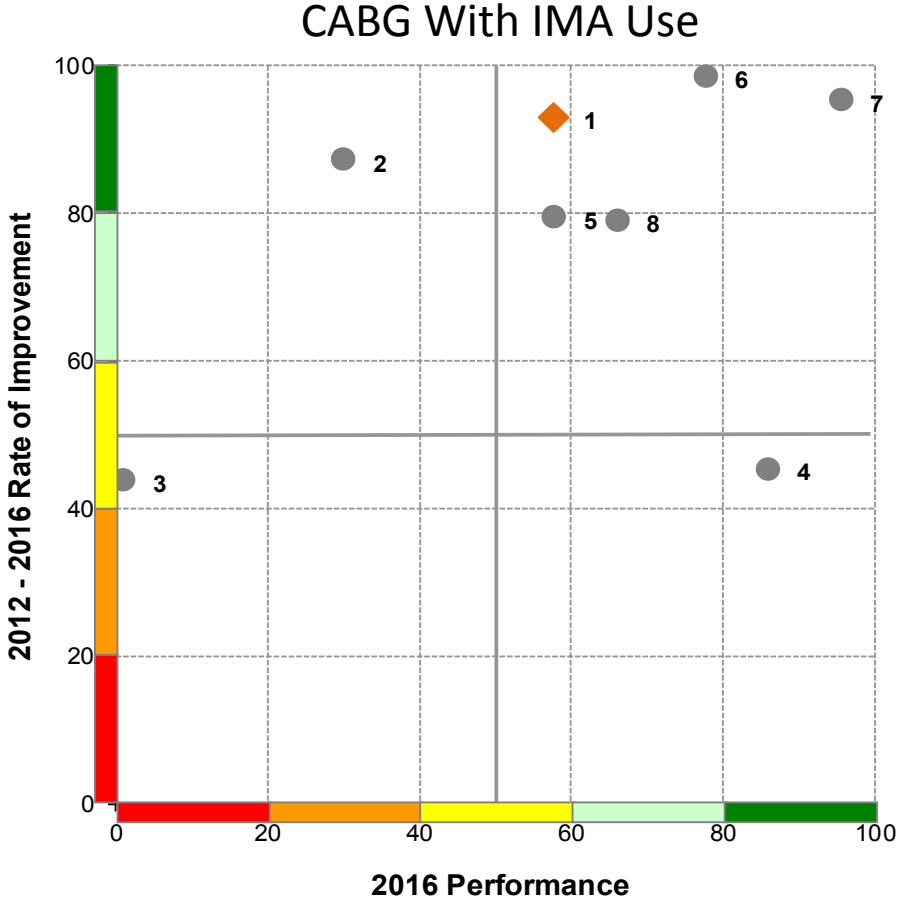


- |                   |                |
|-------------------|----------------|
| 1 CLIENT FACILITY | 5 COMPETITOR 4 |
| 2 COMPETITOR 1    | 6 COMPETITOR 5 |
| 3 COMPETITOR 2    | 7 COMPETITOR 6 |
| 4 COMPETITOR 3    | 8 COMPETITOR 7 |

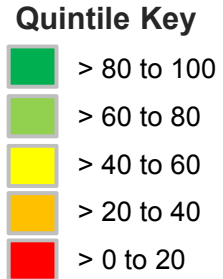
### Quintile Key



# 50 Top Cardiovascular Hospitals, 2018

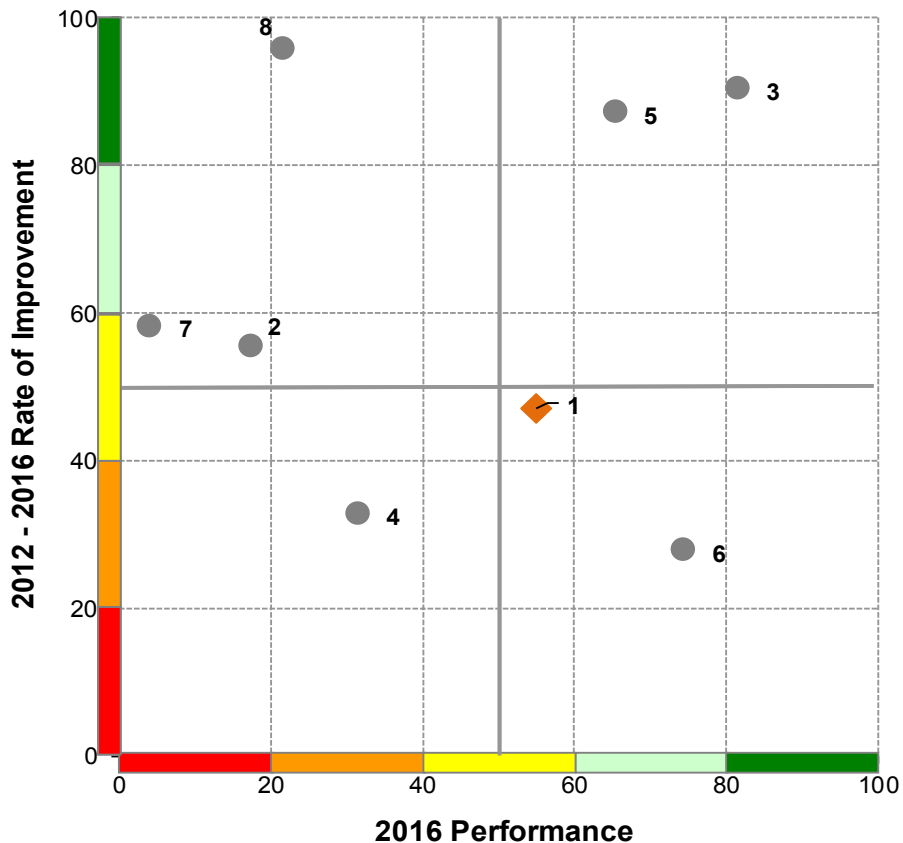


- 1 **CLIENT FACILITY**
- 2 **COMPETITOR 1**
- 3 **COMPETITOR 2**
- 4 **COMPETITOR 3**
- 5 **COMPETITOR 4**
- 6 **COMPETITOR 5**
- 7 **COMPETITOR 6**
- 8 **COMPETITOR 7**

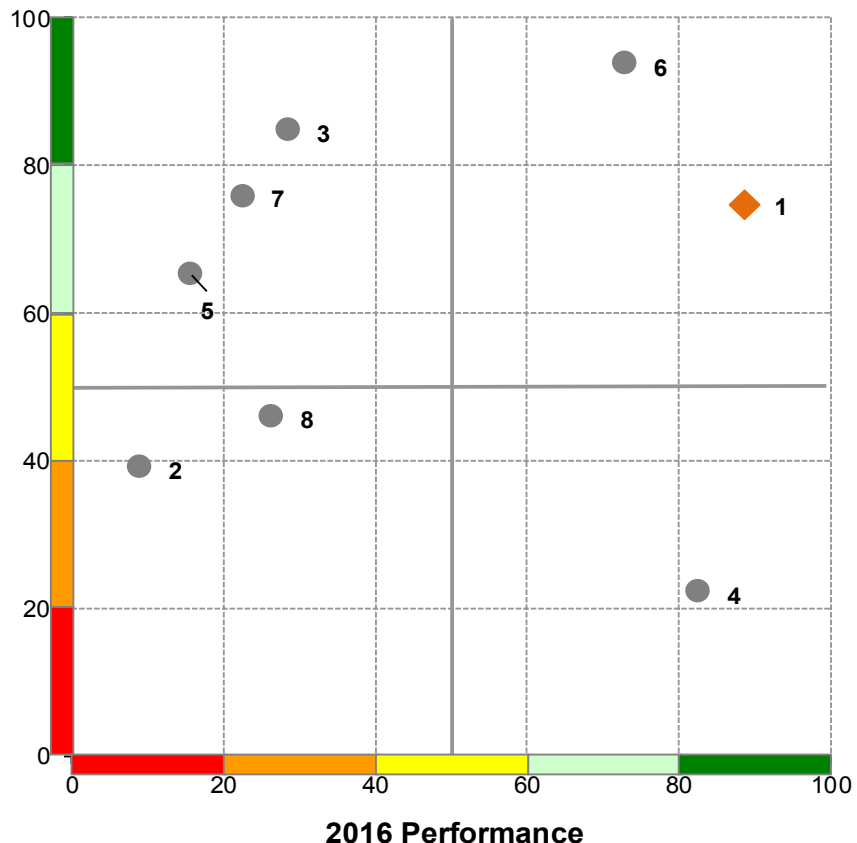


# 50 Top Cardiovascular Hospitals, 2018

## CABG Severity-Adjusted ALOS



## CABG AWI & Severity-Adjusted Cost per Case



- 1 **CLIENT FACILITY**
- 2 **COMPETITOR 1**
- 3 **COMPETITOR 2**
- 4 **COMPETITOR 3**
- 5 **COMPETITOR 4**
- 6 **COMPETITOR 5**
- 7 **COMPETITOR 6**
- 8 **COMPETITOR 7**

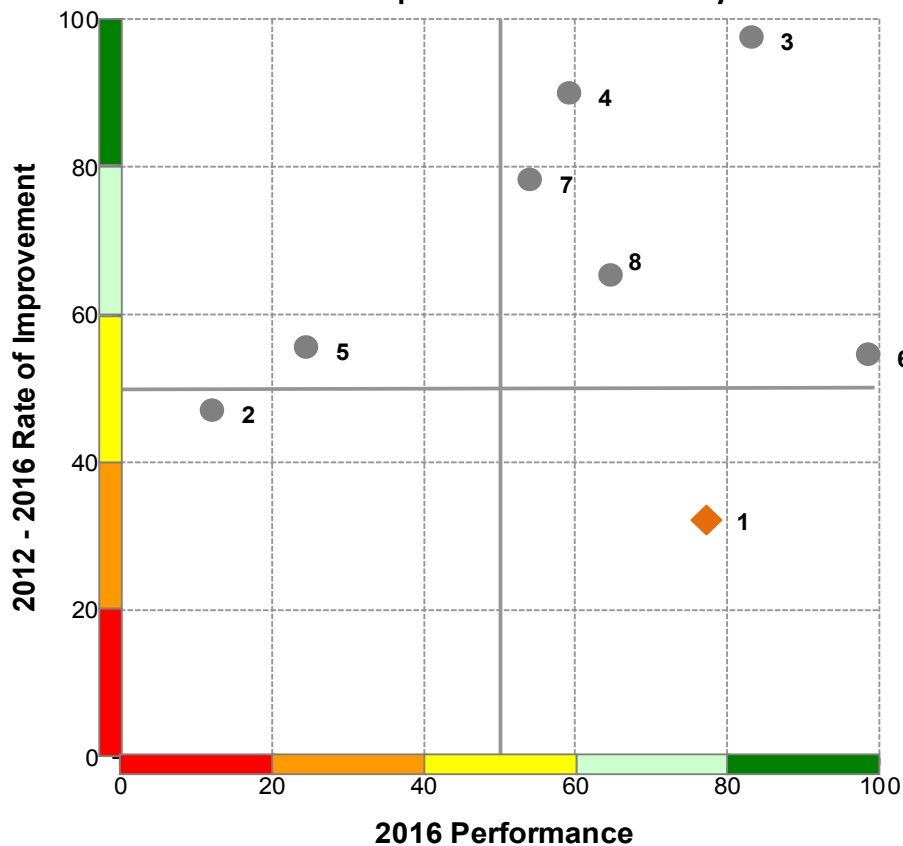
### Quintile Key



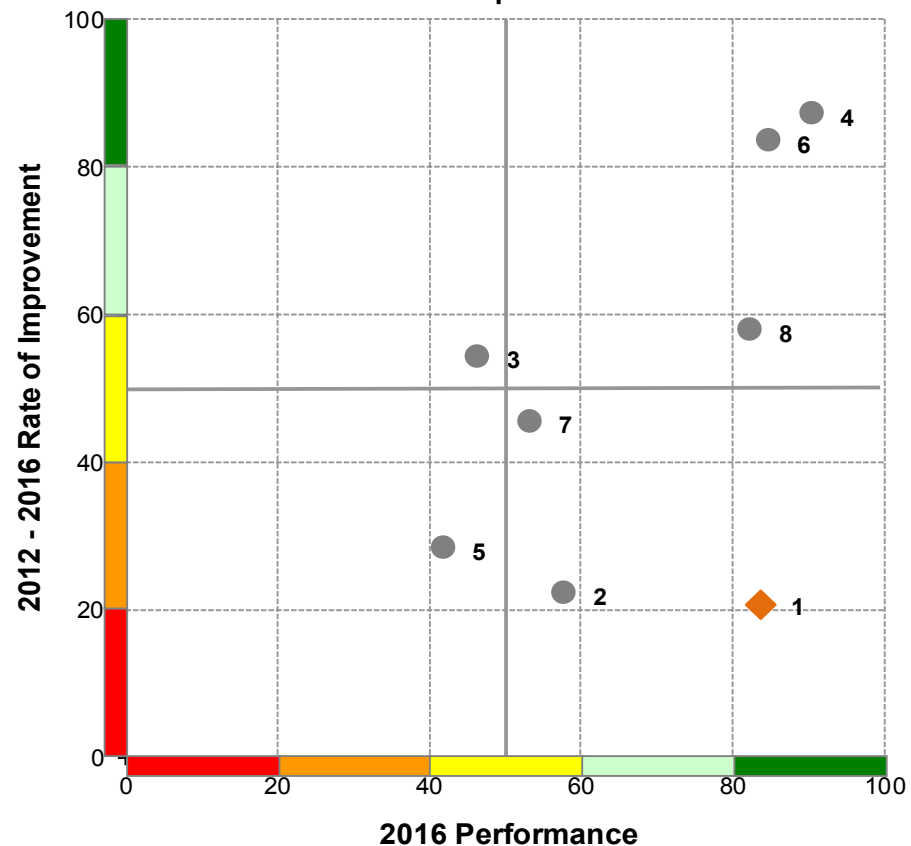
# PCI Patient Group

# 50 Top Cardiovascular Hospitals, 2018

## PCI Inpatient Mortality



## PCI Complications



- 1 **CLIENT FACILITY**
- 2 **COMPETITOR 1**
- 3 **COMPETITOR 2**
- 4 **COMPETITOR 3**
- 5 **COMPETITOR 4**
- 6 **COMPETITOR 5**
- 7 **COMPETITOR 6**
- 8 **COMPETITOR 7**

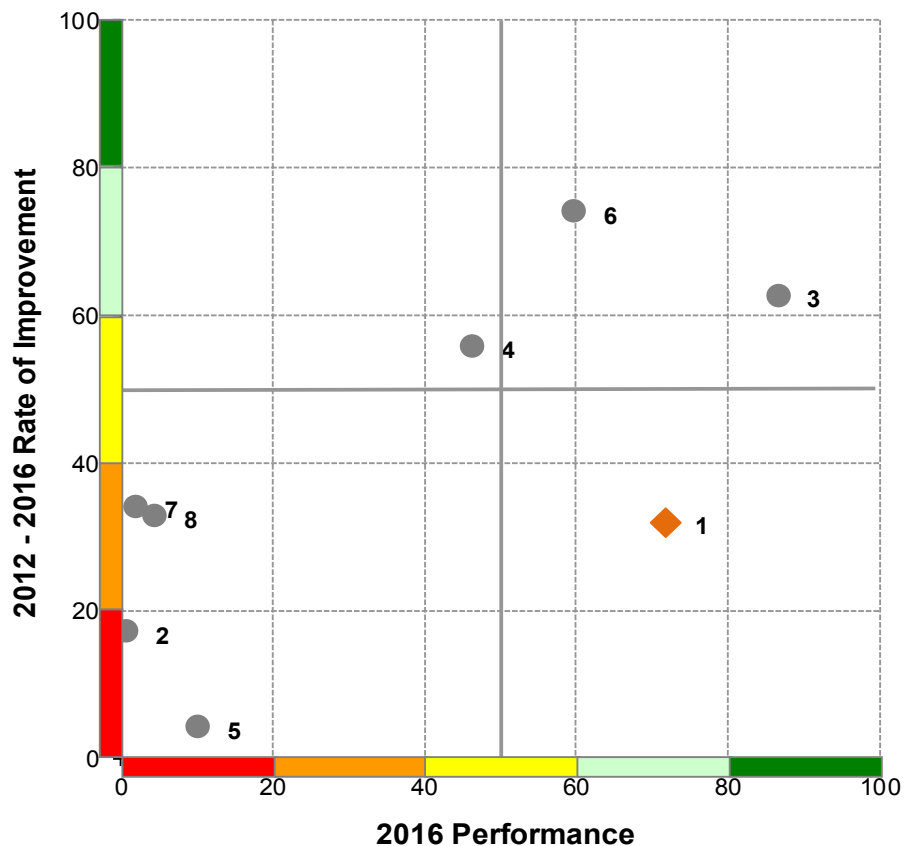
### Quintile Key



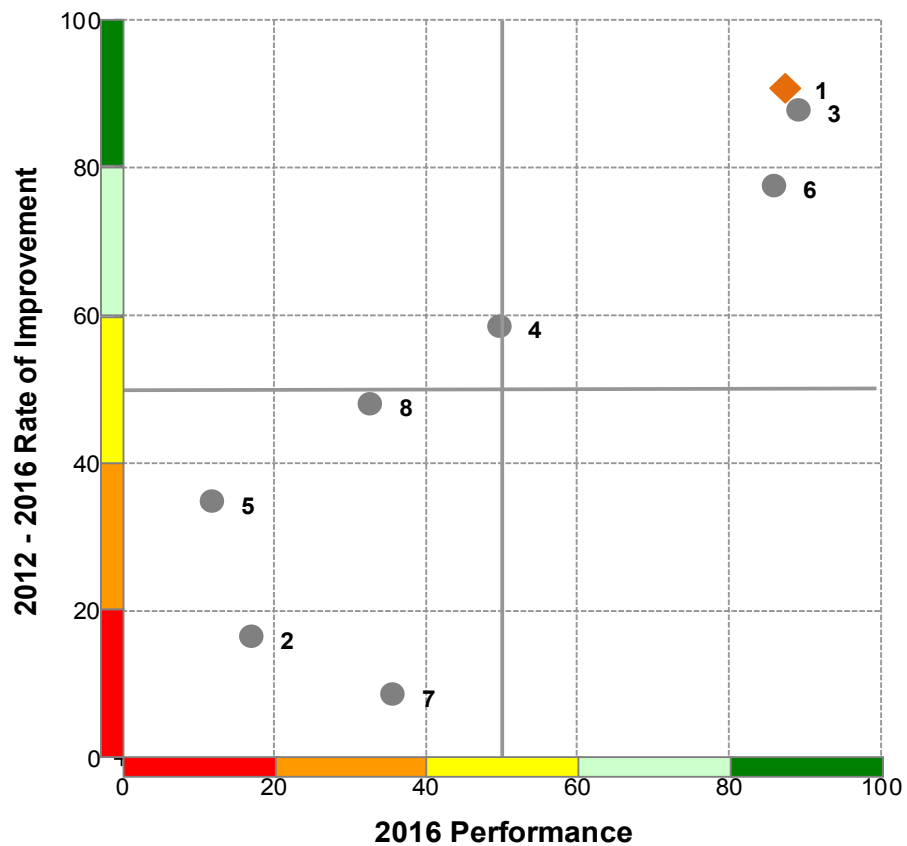


# 50 Top Cardiovascular Hospitals, 2018

## PCI Severity-Adjusted ALOS



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



- |                   |                |
|-------------------|----------------|
| 1 CLIENT FACILITY | 5 COMPETITOR 4 |
| 2 COMPETITOR 1    | 6 COMPETITOR 5 |
| 3 COMPETITOR 2    | 7 COMPETITOR 6 |
| 4 COMPETITOR 3    | 8 COMPETITOR 7 |

### Quintile Key



# Methodology Overview

## 50 Top Cardiovascular Study Eligibility

All non-federal U.S. acute care hospitals with an open heart program are eligible

- Must have Medicare patient claims, with POA coding (2015-2016)
- Must have data for all included measures

To be in-study, a hospital must have a minimum of 30 cases for each of the included groups:

- Heart Attack patients (AMI)
- Heart Failure patients (HF)
- Percutaneous Coronary Intervention patients (PCI)
- Coronary Artery Bypass Graft patients (CABG)

# General ranking methodology

## 2016 performance

- Uses most current public data (various data set ending in 2016)
- Each measure ranked independently by peer comparison group
- Ranks are weighted, summed and the sum is re-ranked by comparison group to determine each hospital's overall performance score
- Winners are the top scoring overall performers in each comparison group

## 2012-2016 rate of improvement

- Regression line t-statistic is produced for each measure
- Each measure ranked independently by peer comparison group
- Ranks are weighted, summed and the sum is re-ranked by comparison group to determine each hospital's overall rate of improvement score
- Trend results are presented to guide leadership decision-making. They are not used in the selection of winners.

## Patient group definitions

Patient groups are mutually exclusive.

- Coronary artery bypass graft (CABG) group: Includes any patients with CABG (principal or secondary procedure); isolated cases only
- Percutaneous cardiac intervention (PCI) group: Includes any patient with PCI (principal or secondary procedure); excludes patient with CABG or open chest coronary artery angioplasty
- Acute myocardial infarction (AMI) group: Includes medical cases only
- Heart failure (HF) group: Includes medical cases only

CABG patient inclusion rules different for calculation of Percent CABG with IMA use.

- Includes isolated CABGs only
- Excludes all cases with prior CABG px

# Hospital Classification

Hospital Comparison Groups	Winners	Total
<b>Teaching Hospitals <i>with</i> Cardiovascular Residency</b> <ul style="list-style-type: none"> <li>– Cardio residency / fellowship program accredited by ACGME or AOA</li> <li>– Two of the following three criteria:               <ul style="list-style-type: none"> <li>• 200 or more acute-care beds in service</li> <li>• An intern/resident-per-bed ratio of at least 0.03</li> <li>• Involvement in at least 3 accredited GME programs overall</li> </ul> </li> </ul>	<b>15</b>	<b>234</b>
<b>Teaching Hospitals <i>without</i> Cardiovascular Residency</b> <ul style="list-style-type: none"> <li>– No cardiovascular residency / fellowship program</li> <li>– Two of the following three criteria:               <ul style="list-style-type: none"> <li>• 200 or more acute-care beds in service</li> <li>• An intern/resident-per-bed ratio of at least 0.03</li> <li>• Involvement in at least 3 GME programs overall</li> </ul> </li> </ul>	<b>20</b>	<b>307</b>
<b>Community Hospitals</b> <ul style="list-style-type: none"> <li>– Both of the following criteria:               <ul style="list-style-type: none"> <li>• 25 or more acute-care beds in service</li> <li>• Not teaching hospital</li> </ul> </li> </ul>	<b>15</b>	<b>475</b>
<b>Totals</b>	<b>50</b>	<b>1,016</b>

# Scorecard Domains Measures and Rank Weights

Domain	Performance Measure	2016 Weight	Trend Weight
Clinical Outcomes	Risk-adjusted inpatient mortality (AMI, HF, CABG, PCI)	½ ea	½ ea
	Risk-adjusted complications (CABG, PCI)	¼ ea	¼ ea
Clinical Process	Percent CABG patients with IMA use	½	½
Extended Outcomes	30-day mortality rate (AMI, HF, CABG*)	⅙ ea	¼ ea
	30-day readmission rate (AMI, HF, CABG*)	⅙ ea	¼ ea
Efficiency	Severity-adjusted average length of stay (AMI, HF, CABG, PCI)	¼ ea	¼ ea
	Wage- and severity-adjusted cost per case (AMI, HF, CABG, PCI)	¼ ea	¼ ea
Extended Efficiency	30-day episode payment (AMI, HF)	½ ea	*

*\*Insufficient data points to trend CABG 30-day metrics; AMI, HF episode payment metrics*

## Data Sources

Performance Measure	2016 Performance (50 Top Award)	5-Year Trend**
Inpatient mortality	MEDPAR Federal Fiscal Year (FFY) 2015 and 2016*	MEDPAR FFY 2011-2016*
Complications	MEDPAR FFY 2015 and 2016*	MEDPAR FFY 2011-2016*
% CABG with IMA use	MEDPAR FFY 2015 and 2016*	MEDPAR FFY 2011-2016*
30-day mortality rates	CMS Hospital Compare (CMSHC) July 1, 2013-June 30, 2016	CMSHC 2012, 2013, 2014, 2015, 2016 3-yr datasets
30-day readmission rates	CMSHC July 1, 2013-June 30, 2016	Same as above
Average length of stay	MEDPAR FFY 2016	MEDPAR FFY 2012-2016
Cost per case	MEDPAR FFY 2016	MEDPAR FFY 2012-2016
30-day episode payment	CMSHC July 1, 2013-June 30, 2016	na

\*Two years of MEDPAR data are combined to calculate each study year data point.

\*\*Trend data for 30-day rates do not include CABG.



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