TRUVEN HEALTH ANALYTICS
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100 TOP HOSPITALS

50 Top Cardiovascular Hospitals Methodology Highlights

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The Truven Health 50 Top Cardiovascular Hospitals study is a quantitative study that uses a balanced scorecard approach, based on publicly available data, to identify the top cardiovascular hospitals in the United States.

The main steps we take in selecting the 50 cardiovascular study winners are to:
- Build the database of hospitals, including special selection and exclusion criteria
- Classify hospitals into comparison groups
- Score hospitals on a set of weighted performance measures
- Determine the 50 hospitals with the best performance by ranking them relative to a comparison group

This document provides an overview of these steps.

Building the Database of Hospitals
This study focuses on short-term, acute care, nonfederal U.S. hospitals that treat a broad spectrum of cardiology patients. It includes patients that require medical management, as well as those who receive invasive or surgical procedures. Because multiple measures are used, a hospital must provide all forms of cardiovascular care — including open-heart surgery — to be included in the study. Like all studies in the Truven Health 100 Top Hospitals® program, this study uses only the most recent publicly available data:
- Medicare Provider Analysis and Review (MEDPAR) data from 2014 and 2015
- Medicare Cost Reports from 2015
- Centers for Medicare & Medicaid Services (CMS) Hospital Compare datasets ending in second quarter 2016 (varies among measures)
- Residency program information from the American Medical Association and the American Osteopathic Association

Hospitals and Patient Groups Included
The focus of the study is on hospitals that offer both medical and surgical options for patients with two of the most common cardiovascular conditions — heart attack and heart failure. To build such a database, we include all hospitals that have, in the 2014 and 2015 data years combined, at least 30 unique cases in each of these four groups:
- Acute myocardial infarction (AMI)
- Heart failure (HF)
- Percutaneous coronary intervention (PCI)
- Coronary artery bypass graft (CABG)

Classifying Hospitals Into Comparison Groups
Bed size, teaching status, and residency/fellowship program involvement have profound effects on the types of patients a hospital treats and the scope of services it provides. To allow for this, we assign each hospital to one of three comparison groups according to its bed size, residents-to-beds ratio, and involvement in graduate medical education (GME) programs (the number of hospitals included is in parentheses):
- Teaching Hospitals With Cardiovascular Residency Programs (229)
- Teaching Hospitals Without Cardiovascular Residency Programs (306)
- Community Hospitals (477)

In all, 1,012 hospitals were included in the 2017 study.

Scoring Hospitals on Weighted Performance Measures

We use a balanced scorecard approach, based on public data, to select the measures most useful for boards and CEOs in the current operating environment. The seven measures in this year's study are:

Clinical Outcome Measures
1. Risk-adjusted inpatient mortality
2. Risk-adjusted complications

Clinical Process Measures
3. Percentage of bypass patients with internal mammary artery use

Extended Outcome Measures
4. 30-day mortality (AMI, HF, CABG*)
5. 30-day readmissions (AMI, HF, CABG*)

Process Efficiency Measures
6. Severity-adjusted average length of stay

Cost Efficiency Measures
7. Wage- and severity-adjusted average cost per case

* 30-day measures do not include CABG in the trend profile.

Ranking Hospitals Relative to Their Comparison Group

Within each of the three hospital comparison groups, we rank hospitals based on their performance on each of the measures independently, relative to other hospitals in their group. Each performance measure is assigned a weight for use in overall ranking. Each hospital's measure ranks are summed to arrive at a total score for the hospital. The hospitals are then ranked based on their total scores, and the hospitals with the best overall rankings in each comparison group are selected as the benchmarks, or study winners.

New This Year: Trend Analysis in Cardiovascular Care

For the first time in our 50 Top Cardiovascular Hospitals study, we are presenting new findings on trends in cardiovascular care delivered in the nation's cardiovascular hospitals. Our intent is to provide healthcare leaders with new insights by showing the direction and magnitude of change in key cardiovascular care performance indicators, between 2011 and 2015.

Potential New Measures for Future Studies

Every year, we evaluate the 50 Top Cardiovascular Hospitals study and explore whether new measures would enhance the value of the analysis we provide. For the 2017 study, we continue to test the following new performance measures to update basic standards of inpatient care and expand the balanced scorecard across the continuum of care.

- Episode-of-care payment measures
  - 30-day episode payment for AMI patients
  - 30-day episode payment for HF patients

For More Information
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