Improving America's Hospitals

The Joint Commission's Annual Report on Quality and Safety

2009

The Joint Commission

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Executive Summary

Hospitals accredited by The Joint Commission continue to improve quality of patient care, according to *Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety 2009*. The fourth annual report shows continual improvement over a seven-year period (2002-2008) on 12 quality measures reflecting the best evidence-based treatments – practices demonstrated by scientific evidence to lead to the best outcomes. The magnitude of national improvement on these measures ranged from 4.9 percent to 58.8 percent. Hospital performance also improved on 13 other measures. Two measures decreased in performance:

- Measuring oxygen in blood for pneumonia patients decreased from 99.8 percent in 2007 to 99.7 percent in 2008
- Antibiotics to pneumonia patients in the intensive care unit within 24 hours decreased from 63.9 percent in 2007 to 60.3 percent in 2008

Improved quality saves lives, improves health and reduces costs

"In addition to saving lives and improving health, improved quality reduces health care costs by eliminating preventable complications," said Mark R. Chassin, M.D., M.P.P., M.P.H., president, The Joint Commission. "Quality improvement is an important aspect of the ongoing reform effort to make health care accessible to more Americans and 'bend the curve' on increasing costs. By eliminating the preventable complications that today drive up the cost of care, we would easily save the many billions of dollars lawmakers are struggling so hard to locate."

Five new measures introduced

Five new measures were introduced in 2008, bringing the total number of Joint Commission measures covered in this report to 31. There are eight measures of care relating to heart attack, four to heart failure, nine to pneumonia, eight to surgical care, and two to children's asthma care. More than 3,000 accredited hospitals contributed data.

Key Findings

1. Hospitals accredited by The Joint Commission have significantly improved the quality of care provided to heart attack, heart failure and pneumonia patients over a seven-year period.

Hospitals are more consistently providing evidence-based treatments – practices shown by scientific evidence to lead to the best outcomes for patients, according to "composite" quality performance results for heart attack, heart failure and pneumonia care compiled over the past seven years. Each of the three composite results sum up the results of the 2002-2008 individual measures (six for heart attack care, four for heart failure care, and three for pneumonia care) into a single percentage rating.

- **The 2008 heart attack care result is 96.7 percent,** up from 86.9 percent in 2002 – an improvement of 9.8 percentage points. A 96.7 percent score means that hospitals provided an evidence-based heart attack treatment 967 times for every 1,000 opportunities to do so.
- **The 2008 heart failure care result is 91.6 percent,** up from 59.7 percent in 2002 – an improvement of 31.9 percentage points.
- **The 2008 pneumonia care result is 92.9 percent,** up from 72.3 percent in 2002 – an improvement of 20.6 percentage points.

2. Hospitals have steadily improved on individual surgical care performance measures – as well as on additional individual heart attack and pneumonia care measures – over a two-, three- or four-year period.

For example, the most significant improvements for individual measures for each quality measure are:

- For heart attack patients, smoking cessation advice improved from 66.6 percent in 2002, to 76.2 percent in 2003, to 84.3 percent in 2004, to 92.2 percent in 2005, to 96.6 percent in 2006, to 98.2 percent in 2007, to 98.9 percent in 2008.
- For heart failure patients, smoking cessation advice improved from 42.2 percent in 2002, to 56.8 percent in 2003, to 69.6 percent in 2004, to 83.9 percent in 2005, to 92.1 percent in 2006, to 95.8 percent in 2007, to 97.6 percent in 2008.
- For pneumonia patients, smoking cessation advice improved from 37.2 percent in 2002, to 50.2 percent in 2003, to 65.5 percent in 2004, to 80.1 percent in 2005, to 89.4 percent in 2006, to 93.7 percent in 2007, to 96.0 percent in 2008.
- For surgical patients, stopping antibiotics within 24 hours improved from 73.5 percent in 2005, to 79.1 percent in 2006, to 85.6 percent in 2007, to 90.5 percent in 2008.

Complete results are outlined in the tables on pages 5 to 9.

Key Findings (Cont'd)

3. Hospital performance on two individual measures of quality relating to inpatient care for childhood asthma is excellent after only one year of measurement.

- 99.8 percent performance on providing relievers to childhood asthma inpatients
- 99.1 percent performance on providing systematic corticosteroids to childhood asthma inpatients

4. Improvement is still needed.

While hospitals averaged 90 percent or better performance on most individual quality measures, more improvement is needed. For example, hospitals finished 2008 with relatively low performance on two measures introduced in 2005.

- 52.4 percent performance on providing fibrinolytic therapy within 30 minutes of arrival to heart attack patients
- 60.3 percent performance on providing antibiotics to intensive care unit pneumonia patients within 24 hours of arrival

90 percent of American hospitals achieved greater than 90 percent performance on eight of 28 measures tracked during 2008. The percentage of hospitals performing over 90 percent ranges from 99.7 percent to 4.9 percent on 28 measures of heart attack, heart failure, pneumonia and surgical care. The best performance was in measuring oxygen in blood for patients with pneumonia, with 99.7 percentage of hospitals achieving rates over 90 percent in 2008. Three other measures for which more than 95 percent of hospitals scored over 90 percent in 2008 related to heart attack care. Performance on the other 24 measures ranged from 94.8 to 4.9 percent. Only four of the 28 measures had performance levels on the lower end of the scale (50 percent performance or less).

5. Where a patient receives care makes a difference.

Not all hospitals deliver the same level of quality; some hospitals perform better than others in treating particular conditions and in achieving patient satisfaction. This variability has been known within the hospital industry for a long time. Quality, safety and patient satisfaction results for specific hospitals can be found at www.qualitycheck.org.

National Performance Summary, 2002-2008

All improvements or decreases in performance are statistically significant. Many of the smaller percentage improvements occurred within large patient populations, meaning that significantly more patients received a treatment. In some cases, performance was already quite high and there was less room for improvement.

Performance measure*	2002	2003	2004	2005	2006	2007	2008	Improvement since inception (percentage points)
*Heart attack care composite***	*86.9%*	*89.8%*	*91.1%*	*92.8%*	*94.4%*	*95.8%*	*96.7%*	*9.8*
Aspirin at arrival	93.0%	94.3%	94.7%	95.5%	96.7%	97.4%	97.9%	4.9
Aspirin at discharge	92.0%	93.7%	94.5%	95.7%	96.6%	97.2%	97.7%	5.7
ACEI or ARB at discharge	75.8%	78.3%	79.9%	83.6%	86.7%	91.6%	93.9%	18.1
Smoking cessation advice	66.6%	76.2%	84.3%	92.2%	96.6%	98.2%	98.9%	32.3
Beta blocker at discharge	87.3%	90.3%	92.5%	94.8%	96.2%	97.3%	97.8%	10.5
Beta blocker at arrival	85.0%	88.2%	90.0%	92.2%	93.6%	94.8%	95.3%	10.3
Fibrinolytic therapy within 30 minutes	N/A	N/A	N/A	38.8%	42.8%	51.4%	52.4%	13.6
Primary PCI balloon therapy within 90 minutes	N/A	N/A	N/A	68.3%	67.7%	72.3%	81.6%	13.3

* Results are determined by the number of times the hospital met the measure (such as giving aspirin before or after arrival for heart attack patients) divided by the number of opportunities (eligible patients) the hospital had during the year. Results are expressed as a percentage.

** Composite measures combine the results of all individual measures on a similar medical condition into a single percentage rating calculated by adding up the number of times recommended evidence-based care was provided to patients and dividing this sum by the total number of opportunities to provide this care.

See Glossary for definitions

National Performance Summary, 2002-2008 (Cont'd)

All improvements or decreases in performance are statistically significant. Many of the smaller percentage improvements occurred within large patient populations, meaning that significantly more patients received a treatment. In some cases, performance was already quite high and there was less room for improvement.

Performance measure*	2002	2003	2004	2005	2006	2007	2008	Improvement since inception (percentage points)
*Heart failure care composite***	*59.7%*	*66.4%*	*71.2%*	*78.2%*	*84.1%*	*88.4%*	*91.6%*	*31.9*
Discharge instructions	30.9%	42.4%	49.6%	59.2%	70.3%	77.5%	83.4%	52.5
LVS assessment	81.5%	84.5%	87.5%	90.9%	93.4%	95.4%	97.0%	15.5
Smoking cessation advice	42.2%	56.8%	69.6%	83.9%	92.1%	95.8%	97.6%	55.4
ACEI or ARB at discharge	74.2%	75.8%	76.3%	83.0%	85.6%	90.1%	92.7%	18.5

* Results are determined by the number of times the hospital met the measure (such as giving aspirin before or after arrival for heart attack patients) divided by the number of opportunities (eligible patients) the hospital had during the year. Results are expressed as a percentage.

** Composite measures combine the results of all individual measures on a similar medical condition into a single percentage rating calculated by adding up the number of times recommended evidence-based care was provided to patients and dividing this sum by the total number of opportunities to provide this care.

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National Performance Summary, 2002-2008 (Cont'd)

All improvements or decreases in performance are statistically significant. Many of the smaller percentage improvements occurred within large patient populations, meaning that significantly more patients received a treatment. In some cases, performance was already quite high and there was less room for improvement.

Performance measure*	2002	2003	2004	2005	2006	2007	2008	Improvement since inception (percentage points)
Pneumonia care composite*	***72.3%***	***76.1%***	***79.9%***	***81.7%***	***87.4%***	***90.5%***	***92.9%***	***20.6***
Measuring oxygen in blood	95.0%	97.2%	98.6%	99.3%	99.6%	99.8%	99.7%	4.7
Pneumococcal vaccination	30.2%	37.6%	48.8%	62.9%	75.9%	84.0%	89.0%	58.8
Blood culture in ICU	N/A	N/A	N/A	N/A	90.4%	92.8%	93.9%	3.5
Blood culture in ED	N/A	N/A	N/A	N/A	90.1%	91.1%	93.2%	3.1
Antibiotics within four hours of arrival***	N/A	N/A	N/A	74.5%	79.1%	N/A	N/A	N/A
Antibiotics within six hours of arrival***	N/A	N/A	N/A	N/A	N/A	N/A	93.6%	N/A
Smoking cessation advice	37.2%	50.2%	65.5%	80.1%	89.4%	93.7%	96.0%	58.8
Antibiotics to ICU patients within 24 hours	N/A	N/A	N/A	50.2%	59.8%	63.9%	60.3%	10.1
Antibiotics to non-ICU patients within 24 hours	N/A	N/A	N/A	84.0%	88.8%	91.9%	93.0%	9.0
Influenza vaccination†	N/A	N/A	N/A	N/A	N/A	79.5%	85.7%	6.2

* Results are determined by the number of times the hospital met the measure (such as giving aspirin before or after arrival for heart attack patients) divided by the number of opportunities (eligible patients) the hospital had during the year. Results are expressed as a percentage.

** Composite measures combine the results of all individual measures on a similar medical condition into a single percentage rating calculated by adding up the number of times recommended evidence-based care was provided to patients and dividing this sum by the total number of opportunities to provide this care.

*** This measure changed to "providing antibiotics within six hours of arrival," according to practice standards, in 2007. However, 2008 is the first year sufficient data for reporting purposes were available.

† Influenza vaccination based on flu season rather than calendar year.

See Glossary for definitions

National Performance Summary, 2005-2008

All improvements or decreases in performance are statistically significant. Many of the smaller percentage improvements occurred within large patient populations, meaning that significantly more patients received a treatment. In some cases, performance was already quite high and there was less room for improvement. (The overall measure and rates are indicated in **bold**; the specific surgical procedures for each measure are indicated in regular type.)

Performance measure*	2005	2006	2007	2008	Improvement since inception (percentage points)
Surgical care					
Antibiotics within one hour before the first surgical cut††	**81.8%**	**86.6%**	**89.5%**	**93.5%**	**11.7**
For CABG surgery	85.2%	87.6%	89.5%	94.0%	8.8
For cardiac surgery (other than CABG)	83.8%	87.1%	89.0%	93.7%	9.9
For colon surgery	72.2%	78.0%	82.4%	87.6%	15.4
For hip joint replacement surgery	81.3%	86.9%	89.4%	93.4%	12.1
For hysterectomy surgery	82.4%	86.9%	89.8%	93.7%	11.3
For knee joint replacement surgery	85.1%	90.4%	92.5%	95.3%	10.2
For vascular surgery	75.2%	81.1%	85.3%	90.6%	15.4
Appropriate prophylactic antibiotics††	**N/A**	**N/A**	**94.9%**	**96.8%**	**1.9**
For CABG surgery	N/A	N/A	97.8%	98.7%	0.9
For cardiac surgery (other than CABG)	N/A	N/A	96.2%	99.1%	2.9
For colon surgery	N/A	N/A	75.7%	84.3%	8.6
For hip joint replacement surgery	N/A	N/A	98.0%	98.7%	0.7
For hysterectomy surgery	N/A	N/A	93.7%	96.1%	2.4
For knee joint replacement surgery	N/A	N/A	98.2%	98.8%	0.6
For vascular surgery	N/A	N/A	95.3%	96.6%	1.3
Stopping antibiotics within 24 hours††	**73.5%**	**79.1%**	**85.6%**	**90.5%**	**17.0**
For CABG surgery within 48 hours	69.7%	87.3%	89.7%	93.6%	23.9
For cardiac surgery within 48 hours (other than CABG)	62.7%	86.2%	89.7%	92.6%	29.9
For colon surgery	61.5%	65.3%	74.8%	80.4%	18.9
For hip joint replacement surgery	69.2%	74.9%	84.0%	89.8%	20.6
For hysterectomy surgery	88.0%	89.1%	90.2%	92.8%	4.8
For knee joint replacement surgery	69.5%	76.2%	85.4%	91.3%	21.8
For vascular surgery	65.0%	67.3%	77.0%	83.0%	18.0
Cardiac patients with controlled 6 a.m. postoperative blood glucose	**N/A**	**N/A**	**N/A**	**89.9%**	**N/A**
Patients with appropriate hair removal	**N/A**	**N/A**	**N/A**	**97.4%**	**N/A**
Beta blocker patients who received beta blocker perioperatively	**N/A**	**N/A**	**N/A**	**92.0%**	**N/A**
Prescribing VTE medicine/treatment	**N/A**	**N/A**	**87.2%**	**92.1%**	**4.9**
Receiving VTE medicine/treatment	**N/A**	**N/A**	**83.2%**	**89.6%**	**6.4**

* Results are determined by the number of times the hospital met the measure (such as giving aspirin before or after arrival for heart attack patients) divided by the number of opportunities (eligible patients) the hospital had during the year. Results are expressed as a percentage.

†† These surgical care measures report rates on seven specific surgical procedures, as well as the overall measure rate.
See Glossary for definitions

National Performance Summary, 2008

The overall measure and rate are indicated in **bold**; the specific age ranges of patients for each measure are indicated in regular type.

Performance measure*	2008
Children's Asthma Care	
Relievers for inpatient asthma	**99.8%**
For age 2 years through 4 years	99.8%
For age 5 years through 12 years	99.8%
For age 13 years through 17 years	99.8%
Systematic corticosteroids for inpatient asthma	**99.1%**
For age 2 years through 4 years	98.8%
For age 5 years through 12 years	99.3%
For age 13 years through 17 years	99.0%

* Results are determined by the number of times the hospital met the measure (such as giving aspirin before or after arrival for heart attack patients) divided by the number of opportunities (eligible patients) the hospital had during the year. Results are expressed as a percentage.

See Glossary for definitions

National Performance Summary

Percentage of hospitals achieving greater than 90 percent performance

The following table shows percentage of hospitals achieving rates of performance of greater than 90 percent on a measure.
Note: The last column is reported as percentage points. This is the difference on a percentage scale between two rates, in this case 2007 performance versus 2008 performance.

Performance measure	2006 High (percentage >90)	2007 High (percentage >90)	2008 High (percentage >90)	2007-2008 difference (percentage)
Measuring oxygen in blood (Pneumonia)	99.6	99.8	99.7	-0.1
Smoking cessation advice (Heart Attack)	91.5	96.7	98.0	1.4
Aspirin at arrival (Heart Attack)	93.0	96.4	97.5	1.1
Beta blocker at discharge (Heart Attack)	88.7	93.7	96.2	2.4
Smoking cessation advice (Heart Failure)	75.2	89.7	94.8	5.1
Aspirin at discharge (Heart Attack)	90.0	91.9	94.3	2.4
Patients with appropriate hair removal (Surgical Care)	N/A	N/A	93.5	N/A
Appropriate prophylactic antibiotics (Surgical Care)	N/A	83.2	91.9	8.7
Beta blocker at arrival (Heart Attack)	79.0	86.0	89.1	3.1
LVS assessment (Heart Failure)	69.5	81.1	88.6	7.5
Smoking cessation advice (Pneumonia)	62.8	78.1	88.3	10.2
Blood culture in ICU (Pneumonia)	66.8	75.4	84.6	9.2
Antibiotics within six hours of arrival (Pneumonia)***	N/A	N/A	83.4	N/A
ACEI or ARB at discharge (Heart Attack)	43.6	68.8	82.1	13.3
Blood culture in ED (Pneumonia)	58.3	64.2	77.2	13.0
Antibiotics to non-ICU patients within 24 hours (Pneumonia)	49.3	69.4	77.2	7.8
Antibiotics within one hour before the first surgical cut (Surgical Care)	39.9	53.7	76.1	22.4
ACEI or ARB at discharge (Heart Failure)	36.1	57.7	72.3	14.7
Beta blocker patients who received beta blocker perioperatively (Surgical Care)	N/A	49.4	69.7	20.3
Receiving VTE medicine/treatment (Surgical Care)	N/A	29.3	66.5	37.2
Cardiac patients with controlled 6 a.m. postoperative blood glucose (Surgical Care)	N/A	N/A	58.3	N/A
Stopping antibiotics within 24 hours (Surgical Care)	20.1	37.6	58.0	20.4
Pneumococcal vaccination (Pneumonia)	22.7	38.6	57.9	19.3
Prescribing VTE medicine/treatment (Surgical Care)	N/A	43.6	52.4	8.8
Influenza vaccination (Pneumonia)	N/A	26.9	43.1	16.3
Discharge instructions (Heart Failure)	17.7	27.5	40.1	12.5
Primary PCI balloon therapy within 90 minutes (Heart Attack)	7.8	15.1	35.0	20.0
Antibiotics to ICU patients within 24 hours (Pneumonia)	0.7	7.2	4.9	-2.3

*** This measure changed to "providing antibiotics within six hours of arrival," according to practice standards, in 2007. However, 2008 is the first year sufficient data for reporting purposes were available.

See Glossary for definitions

Understanding the Quality of Care Measures

Why they were created, what they report and why the results are important

The Joint Commission has been involved in performance measurement since 1986, viewing it as a critical way to extend the reach and sophistication of the accreditation process. The Joint Commission's 1990 publication, *The Primer on Clinical Indicator Development and Application* — its all-time best-selling technical book — created a readily adaptable template for performance measure development that is still in wide use today and established The Joint Commission as a leader in this arena.

The Joint Commission continues to be a leader through initiatives such as the creation of a performance measure data network. Today, this network of 43 measurement systems, all under contract to The Joint Commission, is the source of all quality-related data on The Joint Commission's Quality Check Web site (www.qualitycheck.org) and provides 95 percent of the data displayed on the Centers for Medicare and Medicaid Services' (CMS) Hospital Compare Web site (www.hospitalcompare.hhs.gov).

Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety presents the overall performance of Joint Commission-accredited hospitals on quality of care measures relating to heart attack, heart failure, pneumonia, surgical care and childhood asthma. All of the measures described in this report were chosen because they provide concrete data about the best kinds of treatments or practices for common conditions for which Americans enter the hospital and seek care. Hospitals that performed well are those that consistently provide "evidence-based" treatments — practices demonstrated by scientific evidence to lead to the best outcomes.

The results are important because they show that hospitals have improved. The results identify opportunities for further improvement, and support continual measurement and reporting. Quality improvement in hospitals contributes to saved lives, better health and quality of life for many patients, as well as to lower health care costs.

Why these measures?

The Joint Commission worked closely with clinicians, health care providers, hospital associations, performance measurement experts, and health care consumers across the nation to identify the quality measures. This collaborative process identified measures that reflect the best "evidence-based" treatments for heart attack, heart failure, pneumonia, surgical care and childhood asthma. These measures are the product of The Joint Commission's Hospital Core Measure Initiative that sought to create a set of standard national measures that would permit comparisons across organizations. Subsequently, The Joint Commission collaborated with other organizations, including the Centers for Medicare and Medicaid Services (CMS) and the National Quality Forum (NQF), to align these measures with other measurement efforts to ease data collection efforts by hospitals and to ensure that the measure data were gathered and calculated in a consistent way in all organizations. These measures also are used for the "Hospital Quality Alliance (HQA): Improving Care through Information" initiative.

Understanding the Quality of Care Measures (Cont'd)

The HQA is a public-private partnership that was founded in 2002 for the purpose of developing a process for hospitals to voluntarily collect and publicly report their performance data. The HQA was initiated through the leadership of the American Hospital Association, Association of American Medical Colleges, and the Federation of American Hospitals. HQA is supported by the Centers for Medicare and Medicaid Services, the Agency for Healthcare Research and Quality, the National Quality Forum, The Joint Commission, the American Medical Association, the American Nurses Association, the National Association of Children's Hospitals and Related Institutions, National Association of Public Hospitals and Health Systems, the Consumer-Purchaser Disclosure Project, the AFL-CIO, AARP, U.S. Chamber of Commerce, America's Health Insurance Plans, Blue Cross and Blue Shield Association, the National Business Coalition on Health, the Society for Critical Care Medicine, and the Wisconsin Collaborative for Healthcare Quality.

Related Quality Reporting Efforts of Other Organizations. The CMS Hospital Compare Web site (www.hospitalcompare.hhs.gov) reports quality information from U.S. hospitals, including treatments for heart attack, heart failure, pneumonia, surgical care and childhood asthma. Hospitals voluntarily submit these data abstracted from their medical records about the treatments that their adult patients receive for heart attack, heart failure, pneumonia and surgical care, and that their pediatric patients receive for asthma, including patients with Medicare and those who do not have Medicare. Consumers can use Hospital Compare to compare care of local hospitals to state and national averages. The Hospital compare Web site was created through the efforts of CMS and the Hospital Quality Alliance (HQA). Unlike Quality Check, Hospital Compare includes data from some unaccredited organizations but does not include Veterans Administration, Department of Defense and Indian Health Service hospitals.

Data Collection Methods. In 2007, The Joint Commission required most hospitals to select three measure sets (in 2008, the requirement increased to four measure sets). Hospitals choose sets best reflecting their patient population and report on all the applicable measures in each of the sets they choose. Hospitals submit monthly data on all measures of performance within specific sets they choose to third-party vendors, which compile and provide data to The Joint Commission each quarter. Hospitals can obtain feedback reports through The Joint Commission's extranet.

Note on Calculations and Methodology. For each of the three measure sets tracked continuously from 2002 to 2008 (heart attack care, heart failure care and pneumonia care), a composite measure was created. A composite measure is calculated by adding or "rolling up" the number of times recommended care was provided over all the process measures in the given measure set and dividing this sum by the total number of opportunities for providing this recommended care, determined by summing up all of the process measure populations for this same set of measures. The composite measure shows the percentage of the time that recommended care was provided.

Understanding the Quality of Care Measures (Cont'd)

For example, if a heart attack patient receives each treatment included in the heart attack measure set, that's a total of seven treatments in seven opportunities. If 60 patients receive all seven treatments, that's 420 treatments in 420 opportunities - 100 percent composite performance. However, if some of the 60 patients don't receive all seven treatments (e.g., the total number of opportunities for treatments is 410), and the treatments given to the 60 patients add to a total of 378, the composite score is 92 percent.

Composite performance measures are useful in integrating performance measure information in an easily understood format that gives a summary assessment of performance for a given area of care in a single rate. The three composite measures in this report are based on combining all of the process rate-based measures in the measure set. For a performance measure, each patient identified as falling in the measure population can be considered an opportunity to provide recommended care.

Inclusions and Exclusions. This report only includes data about patients considered "eligible" for one of the evidence-based treatments or measures. It's important to understand that not every patient gets — or should get — a treatment. Often, patients have health care conditions or factors that influence the effectiveness of treatments, or whether or not a provider orders a particular treatment. Also, a patient may choose to refuse treatment or not follow the instructions of his or her care plan.

Links for More Information

The Joint Commission: **www.jointcommission.org**
Quality Check: **www.qualitycheck.org**

Glossary

ACE Inhibitors (ACEI). ACE stands for "angiotensin converting enzyme." ACE inhibitors are medicines that are used to treat heart failure and high blood pressure. These medicines block an enzyme in the body that is responsible for causing the blood vessels to narrow. If the blood vessels are relaxed, blood pressure is lowered and more oxygen-rich blood can reach the heart. ACE inhibitors also lower the amount of salt and water in the body, which helps to lower blood pressure.

AMI - Acute Myocardial Infarction. The medical term for "heart attack." Acute myocardial infarction results from a blockage in one or more of the blood vessels leading to the heart. Damage to the heart muscle results, due to the lack of blood flow.

Antibiotic timing. The length of time from arrival at the hospital until antibiotics are given. Antibiotics are generally given as soon as possible to pneumonia patients to speed their recovery.

ARB. ARB stands for "angiotensin receptor blocker." An ARB is a medicine taken by mouth that reduces blood pressure and strengthens the heart beat. ARBs are useful in the treatment of cardiac diseases such as heart attack and heart failure.

At Arrival. The time period lasting from 24 hours before to 24 hours after a patient arrives at a hospital.

At Discharge. The time during which a patient is preparing to leave the hospital. At discharge, patients often receive information and advice about medicines, diet, activities and signs to watch for to prevent further hospitalization.

Beta blocker. This type of medicine blocks the action of certain hormones on the heart. By blocking these hormones, beta blockers help to reduce the heart rate and blood pressure, thereby reducing the amount of oxygen needed by the heart.

Blood cultures. Blood tests that look for bacteria in the blood. These tests are given to pneumonia patients before antibiotics are administered.

CABG. CABG stands for coronary artery bypass graft surgery - an operation in which a section of vein or artery is used to bypass a blockage in a coronary artery, allowing enough blood to flow to deliver oxygen and nutrients to the heart muscles. CABG is performed to prevent damage from a myocardial infarction (heart attack) or to relieve angina.

Composite measure. A measure that combines the results of all process measures within a set into a single rating.

Controlled 6 a.m. postoperative blood glucose in cardiac surgery patients. Cardiac surgery patients with controlled 6 a.m. blood glucose (≤ 200 mg/dL) on postoperative day one (POD 1) and postoperative day two (POD 2) with Surgery End Date being postoperative day zero (POD 0).

Glossary (Cont'd)

Fibrinolytic therapy. Medication that dissolves blood clots. Breaking up blood clots increases blood flow to the heart. If blood flow is returned to the heart muscle quickly during a heart attack, the risk of death is decreased.

Hair removal, appropriate. Removing hair with clippers or depilatory is considered appropriate. Shaving is considered inappropriate

Heart failure. A condition in which the heart loses its ability to efficiently pump blood throughout the body.
LVAD. LVAD stands for Left Ventricular Assist Device - a device that is used to aid the pumping action of a weakened heart ventricle.

LVS assessment. An in-depth evaluation of heart muscle function that helps determine the correct treatment for heart failure. LVS stands for "left ventricular systolic." An LVS assessment evaluates how well the left ventricle—the heart's main pumping chamber—is functioning. Left ventricular diastolic dysfunction results when the heart chamber is not pumping all the blood out before it refills for the next heart beat. This results in high pressure within the heart and can produce heart failure.

Joint Commission National Patient Safety Goals. A series of specified actions that accredited organizations are expected to take in order to prevent medical errors.

National Quality Improvement Goals. Standardized performance measures that can be applied across accredited hospitals.

Oxygenation assessment. A test measuring the amount of oxygen in a patient's bloodstream.

Percentage points. This is the difference on a percentage scale between two rates. For example, the difference between 2002 performance and 2007 performance.

Perioperative. The time period of a patient's surgical procedure. This generally refers to 24 hours before surgery and lasts until the patient leaves the recovery area.

PCI therapy. PCI stands for "percutaneous coronary interventions." PCI therapy is a coronary angioplasty procedure performed by a doctor who threads a small device into a clogged artery to open it, thereby improving blood flow to the heart. A lack of blood supply to the heart muscle can cause lasting heart damage. PCI therapy is used as an alternative treatment to coronary artery bypass surgery (CABG).

Glossary (Cont'd)

Pneumonia. An acute infection of lung tissue that is associated with at least some symptoms of acute infection, such as altered or abnormal breathing sounds.

Pneumococcal screening and vaccination. A vaccination and a series of tests that help to prevent pneumonia.

Reliever, for asthma. A medication that reduces narrowing in the lung's airways, providing quick relief from asthma symptoms.

Systematic corticosteroid, for asthma. A medication that helps control asthma symptoms by controlling swelling, inflammation, and the buildup of mucous in the lung's airways.

VTE. VTE stands for venous thromboembolism. VTE is a common complication of surgery and is when a blood clot forms in a deep vein in the body, such as in the leg.

The Joint Commission