Improving America's Hospitals

The Joint Commission's Annual Report on Quality and Safety

2010

The Joint Commission

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Letter from The Joint Commission President

As a leader in performance measurement, The Joint Commission continues to work to enhance the impact that performance measures have on improving health outcomes for the patients of America's hospitals. Recently, we announced a new approach to performance measurement that specifies new and rigorous criteria (see sidebar on page 4) for those measures that are used for accountability purposes (accreditation, public reporting or payment). We believe that measures that meet all four of these criteria will have the greatest likelihood of improving patient outcomes. Measures that do not meet the criteria often lead hospitals and clinicians to undertake activities that do not contribute to improving outcomes.

The new focus on accountability measures is the latest improvement in hospital performance measurement during a decade that has seen this discipline make enormous progress. In 2000, only a few quality measures had been established, and there was no national data collection or reporting. In this report, we show the improvements hospitals have made on 24 accountability measures and six other non-accountability measures of quality.

Hospitals have devoted enormous resources and energy to change their clinical processes and improve on their performance measures in order to improve outcomes for patients. As we show this progress, we also point to the road ahead – the need to use performance measurement as part of the effort to maximize health benefits to patients. To achieve this goal, we must rigorously examine current performance measures and replace those that do not directly relate to better patient outcomes with others that do. Not only will we improve health outcomes through this process, we will also reduce unproductive work in hospitals and enhance the credibility of our performance measurement program among physicians and other key stakeholders.

By being able to clearly demonstrate the link between performance measurement and outcomes, Joint Commission-accredited hospitals will be well prepared for success within a rapidly changing health care environment. Performance data will be examined more and more critically in the coming years, as hospitals work to improve the delivery of care, earn incentive payments, and increase transparency. For example, performance measure data will be the basis for much of Medicare's Value-Based Purchasing Program.

The Joint Commission will continue to work with other stakeholders in the decision-making processes that result in the development and adoption of new measures that are used for accountability purposes. We urge all stakeholders to use the accountability measures framework and criteria to guide these decisions going forward. Doing so will strengthen the partnerships hospitals have already developed with physicians, nurses, pharmacists, and other clinicians who are engaged in the hard work of improving clinical processes of care. They are doing this hard work to reach the levels of consistent excellence reflected in many of the measures depicted in this report.

For its part, The Joint Commission has fully embraced the accountability measures framework within its performance measurement program. We have announced plans to incorporate specific expectations of performance on accountability core measures into accreditation requirements. We are currently engaging in widespread discussions with hospitals and clinicians as we develop the specific mechanisms for achieving this objective, and we expect that the first such requirements will take effect in 2012. At the same time, we are developing additional ways to help hospitals achieve high performance. For example, we will create a "solutions exchange" that will permit hospitals to share effective interventions.

Through these efforts, The Joint Commission will continue to be a leader in the use of performance data to improve the quality, safety and value of our nation's health care system, and more importantly, to help hospitals improve the care they provide to patients.

Sincerely,

Mark R. Chassin, M.D., M.P.P, M.P.H
President
The Joint Commission

Understanding Accountability Measures

To help hospitals make a significant impact on patient outcomes through performance measurement, The Joint Commission has introduced a new focus on accountability measures – measures of evidence-based care closely linked to positive patient outcomes.

"Accountability" measures are so named because they are most suitable for use in programs that hold providers accountable for their performance to external oversight entities and to the public. There is an evolution of such oversight programs, including those for value-based purchasing, accreditation, certification, and public reporting programs intended to drive market share based upon provider performance. Measures that do not meet the rigorous criteria for accountability are more suited for internal quality improvement or educational and guidance purposes.

The new approach categorizes performance measures into accountability and non-accountability measures. Each accountability measure meets four criteria (see sidebar) that evaluate whether or not evidence-based care processes associated with the measures lead to positive patient outcomes. Non-accountability measures, on the other hand, do not meet all four criteria. While they reflect good health care practices, they are not as suitable for use in accountability contexts.

While improving the quality of care, this new approach will prepare hospitals for a future in which performance measurement will increasingly drive efforts to improve health care quality and cost-efficiency and to determine appropriate reimbursements.

Most of the measures used through 2009 are now categorized as accountability measures; there are six non-accountability measures (see sidebar on next page). New measures are being evaluated against the accountability test. The Joint Commission is working with all stakeholders, such as the Centers for Medicare & Medicaid Services, to encourage them to adopt this approach.

On the tables in the National Performance Summary section (pages 11-15), the overall composite results include both accountability and non-accountability measures. These overall composite results have historically been provided in previous annual reports, allowing them to be tracked from year-to-year. The composite results for only the accountability measures are provided in the Accountability Measures Summary section (page 10).

Criteria for accountability measures

Research: Strong scientific evidence demonstrates that performing the evidence-based care process improves health outcomes (either directly or by reducing risk of adverse outcomes).

Proximity: Performing the care process is closely connected to the patient outcome; there are relatively few clinical processes that occur after the one that is measured and before the improved outcome occurs.

Accuracy: The measure accurately assesses whether or not the care process has actually been provided. That is, the measure should be capable of indicating whether the process has been delivered with sufficient effectiveness to make improved outcomes likely.

No Adverse Effects: Implementing the measure has little or no chance of inducing unintended adverse consequences.

Understanding Accountability Measures (Cont'd)

How The Joint Commission is bringing accountability measures into practice

Accountability measures have already been integrated into the information reported on Quality Check™ (www.qualitycheck.org). Now, only accountability measures count in the overall rate for heart attack, heart failure, pneumonia, surgical, and children's asthma care; still, the new calculation has a negligible impact on performance information previously calculated and reported. However, overall heart failure care performance now reflects performance on only one accountability measure – ACE Inhibitor or ARB for LVSD (left ventricular systolic dysfunction).

The Joint Commission is also considering ways to integrate performance on accountability measures into accreditation standards; it plans to work closely with hospitals to determine the best ways to achieve this goal. The Joint Commission will be getting hospitals' input through focus groups, online surveys, and other methods. In addition, The Joint Commission is creating programs to assist hospitals to improve on these measures, including a new database to share improvement interventions as well as enhanced information on the evidence demonstrating that improved performance on quality measures leads to better health outcomes for patients.

To learn more about accountability measures, read the *New England Journal of Medicine* article "Accountability Measures: Using Measurement to Promote Quality Improvement," for which Mark R. Chassin, M.D., M.P.P, M.P.H., president of The Joint Commission, was the lead author. The article was published in the August 12, 2010 issue.

Accountability measures

Heart attack care
Aspirin at arrival
Aspirin at discharge
ACEI or ARB at discharge
Beta-blocker at discharge
Fibrinolytic therapy within 30 minutes
PCI therapy within 90 minutes

Heart failure care
ACEI or ARB at discharge

Pneumonia care*
Pneumococcal vaccination
Blood culture in ICU
Blood culture in ED
Antibiotics to ICU patients within 24 hours
Antibiotics to non-ICU patients within 24 hours
Influenza vaccination

Surgical care
Antibiotics within one hour before the first surgical cut
Appropriate prophylactic antibiotics
Stopping antibiotics within 24 hours
Cardiac patients with 6 a.m. postoperative blood glucose
Patients with appropriate hair removal
Beta-blocker patients who received beta-blocker perioperatively
Prescribing VTE medicine/treatment
Receiving VTE medicine/treatment

Children's asthma care
Relievers for inpatient asthma
Systemic corticosteroids for inpatient asthma
Home management plan of care

Non-accountability measures

Heart attack care
Smoking cessation advice

Heart failure care
Discharge instructions
LVS assessment
Smoking cessation advice

Pneumonia care
Antibiotics within six hours of arrival
Smoking cessation advice

* The list of accountability measures for pneumonia care differs slightly from that published in the *New England Journal of Medicine* article. Blood culture in ICU was not included in the NEJM article; it was later determined to be an accountability measure. Also, antibiotics to ICU patients within 24 hours and antibiotics to non-ICU patients within 24 hours were combined as antibiotics for immunocompetent patients, which is the Centers for Medicare and Medicaid Services' name for these two measures.

Executive Summary

For the first time, *Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety* focuses on accountability measures. By doing this The Joint Commission takes another important step to more closely link quality performance with better patient outcomes.

Nineteen measures have been followed for eight years (2002-2009) and 11 more have been followed from five to two years. The magnitude of improvement on the individual accountability measures had a median value of 8.6 percent for 23 of the 24 measures* and ranged from -0.5 percent (for a measure with two years of reporting experience) to +62.6 percent (for one measure with eight years of reporting experience). While there were differing amounts of improvement over the measures, all but one measure showed improvement over the range of reporting experience. That measure – the surgical care measure for beta-blocker patients who received beta-blocker perioperatively – had only two years of reporting experience. With that one exception, all of the measures consistently showed year-over-year improvement.

While the data show impressive gains in hospital quality performance, improvements can still be made. Some hospitals perform better than others in treating particular conditions and in achieving patient satisfaction. Quality, safety and patient satisfaction results for specific hospitals can be found at www.qualitycheck.org

More than 3,000 Joint Commission accredited hospitals contributed data.

See the Glossary for definitions.

Key Findings

1. Hospital performance on accountability measures improved significantly over time. This improvement has greatly enhanced the quality of care provided in America's hospitals and has resulted in better patient outcomes.

In 2002, hospitals achieved 81.8 percent "composite" performance on 957,000 opportunities to perform care processes related to accountability measures. In 2009, hospitals achieved 95.4 percent composite performance on 12.5 million opportunities – an improvement of 13.6 percentage points. A composite result sums up the results of all individual accountability measures into a single percentage rating.

2. Hospitals have significantly improved the quality of care provided to heart attack, pneumonia, surgical care, and children's asthma care patients, according to composite accountability measures results.

Composite accountability measures for heart attack and pneumonia care have been compiled since 2002, surgical care since 2004, and children's asthma care since 2007. *Note: There is no accountability composite for heart failure care since there is only one heart failure accountability measure. A composite must have at least two measures. However, the overall accountability composite results include the one heart failure measure (see graph 5). For more information about accountability composite results versus composite results, see "Note on Calculations and Methodology" on page 19.*

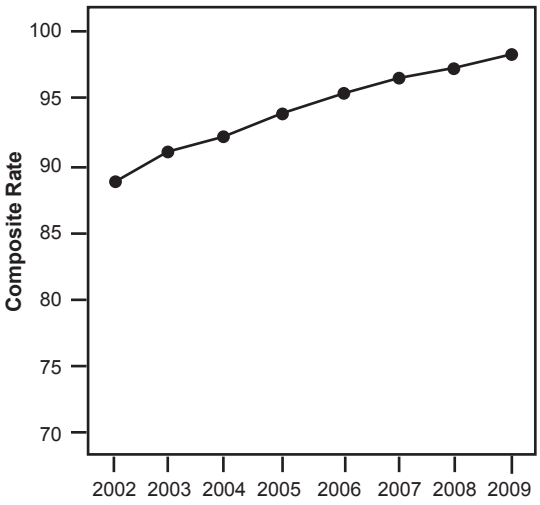
*There was only one year of reporting for the children's asthma care measure on home management plan of care.

Executive Summary (Cont'd)

- **The 2009 heart attack care result is 97.7 percent,** up from 88.6 percent in 2002 – an improvement of 9.1 percentage points. A 97.7 percent score means that hospitals provided an evidence-based heart attack treatment 977 times for every 1,000 opportunities to do so.

  This composite includes:
  - Aspirin at arrival
  - Aspirin at discharge
  - ACEI or ARB at discharge
  - Beta-blocker at discharge
  - Fibrinolytic therapy within 30 minutes
  - PCI therapy within 90 minutes

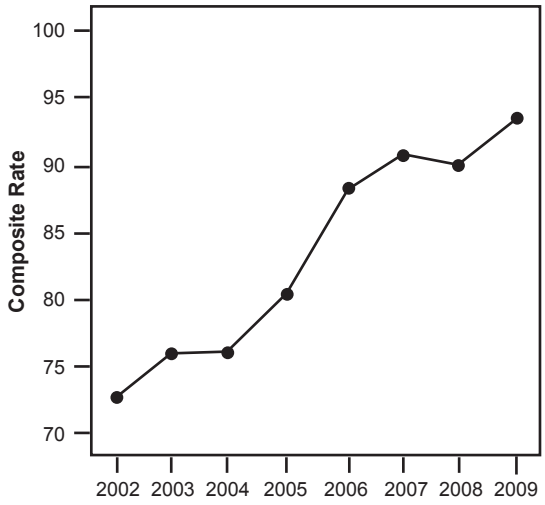
Graph 1: Heart attack care accountability composite



- **The 2009 pneumonia care result is 92.9 percent,** up from 72.4 percent in 2002 – an improvement of 20.5 percentage points.

  This composite includes:
  - Pneumococcal vaccination
  - Blood culture in ICU
  - Blood culture in ED
  - Antibiotics to ICU patients within 24 hours
  - Antibiotics to non-ICU patients within 24 hours
  - Influenza vaccination

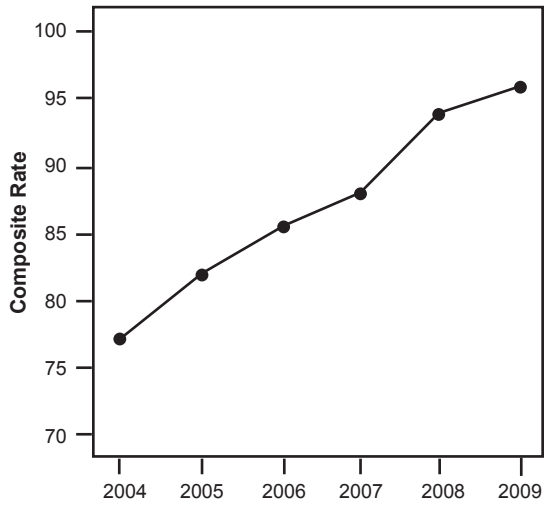
Graph 2: Pneumonia care accountability composite



- **The 2009 surgical care result is 95.8 percent,** up from 77.4 percent in 2004 – an improvement of 18.4 percentage points.

  This composite includes:
  - Antibiotics within one hour before the first surgical cut
  - Appropriate prophylactic antibiotics
  - Stopping antibiotics within 24 hours
  - Cardiac patient with 6 a.m. postoperative blood glucose
  - Patients with appropriate hair removal
  - Beta-blocker patients who received beta-blocker perioperatively
  - Prescribing VTE medicine/treatment
  - Receiving VTE medicine/treatment

Graph 3: Surgical care accountability composite

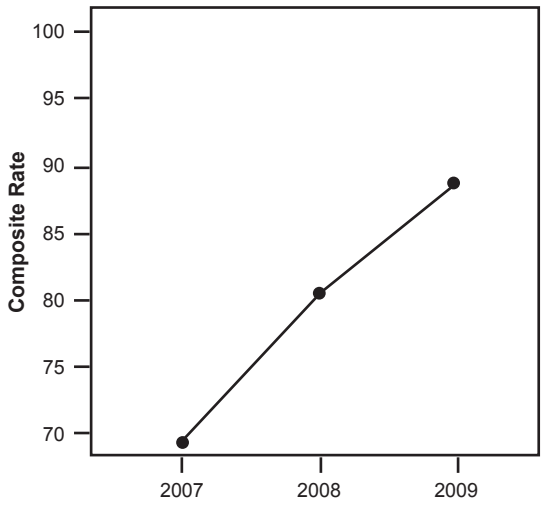


Executive Summary (Cont'd)

- **The 2009 children's asthma care result is 88.1 percent,** up from 70.7 percent in 2007 – an improvement of 17.4 percentage points.

  This composite includes:
  - Relievers for inpatient asthma
  - Systemic corticosteroids for inpatient asthma
  - Home management plan of care

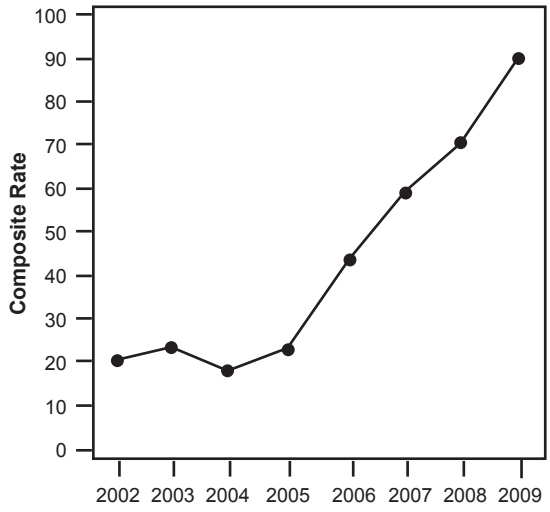
Graph 4: Children's asthma care accountability composite



3. **The percentage of hospitals achieving composite accountability measures greater than 90 percent has also dramatically improved,** as shown in the following graphic. In 2009, 85.9 percent of hospitals achieved 90 percent compliance.

   This composite includes accountability measures from all measure sets (all those listed in Key Findings #2 above).

Graph 5: Overall accountability composite greater than 90 percent



Executive Summary (Cont'd)

4. Seven new performance measures, one relating to children's asthma care and six to inpatient psychiatric services, were introduced in 2009. The inpatient psychiatric services measures have not yet been evaluated against the accountability criteria. Two performance measures were retired.

The children's asthma care measure reflects whether a home management plan of care document is provided to the patient or caregiver. The inpatient psychiatric services measures are use of physical restraint, use of seclusion, multiple antipsychotic medications at discharge, multiple antipsychotic medications at discharge with justification, post-discharge continuing care plan created, and post-discharge continuing care plan transmitted. These measures have not yet been evaluated against the accountability criteria.

A new measure type – a ratio measure – has been introduced into the inpatient psychiatric services measure set. A ratio tells how one number is related to another. For example, counting a group of people and then referring to the ratio of men to women. This measure set contains two ratio measures: physical restraint hours per 1,000 patient hours and seclusion hours per 1,000 patient hours. In addition, these two measures are stratified by age groups 1-12 years, 13-17 years, 18-64 years, and ages 65 and above.

For some measures, a high rate is desirable and for some a lower rate is desirable. In the inpatient psychiatric services measure set, a low rate is desirable for the multiple antipsychotic medications at discharge measure.

The oxygenation assessment measure relating to pneumonia care was retired, as was the beta blockers at arrival measure of heart attack care.

5. Improvement is still needed.

While hospitals achieved 90 percent or better performance on most individual measures, more improvement is needed. For example, hospitals finished 2009 with relatively low performance on two measures introduced in 2005.

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

What's New This Year

- Focus on accountability measures – See "Understanding Accountability Measures" on page 4
  - o Non-accountability measures are highlighted in gray in the tables provided in the National Performance Summary
- Results on seven new performance measures:
  - o Inpatient psychiatric services measure set – See the summary on page 15
  - o One new children's asthma care measure on home management plan of care
- A new measure type – a ratio measure – is introduced with the inpatient psychiatric services measure set

Accountability Measures Summary, 2002-2009

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. **The results shown in tables 1 and 2 are only for accountability measures; non-accountability measures have been excluded.** The composite results for all measures (accountability and non-accountability) can be seen in tables 3-7.

Accountability composite results: The accountability composite results calculation is derived from only the accountability measures for each of four measure sets (heart attack care, pneumonia care, surgical care and children's asthma care). *Note: There is no accountability composite for heart failure care since there is only one heart failure accountability measure. A composite must have at least two measures. However, the overall accountability composite results include the one heart failure measure. For more information about acountability composite results versus composite results, see "Note on Calculations and Methodology" on page 19.* The accountability composite calculation reflected in this report is the same calculation as that provided on Quality Check (beginning with third quarter 2009 data).

See Glossary for definitions.

Table 1: Accountability composite measure results

Accountability composite measures	2002	2003	2004	2005	2006	2007	2008	2009
Heart attack care composite	88.6%	91.0%	91.9%	93.2%	94.4%	95.7%	96.8%	97.7%
Pneumonia care composite	72.4%	76.5%	76.5%	80.5%	87.1%	90.3%	89.8%	92.9%
Surgical care composite	N/A	N/A	77.4%	82.1%	86.2%	88.9%	93.5%	95.8%
Children's asthma care composite	N/A	N/A	N/A	N/A	N/A	70.7%	79.8%	88.1%
Overall	81.8%	83.9%	83.3%	84.9%	88.2%	90.0%	93.1%	95.4%

Table 2: Percentage of hospitals achieving accountability composite rates greater than 90 percent

Accountability composite measures	2002	2003	2004	2005	2006	2007	2008	2009
Heart attack care composite	49.8%	56.6%	59.6%	68.3%	76.7%	85.0%	91.1%	94.5%
Pneumonia care composite	5.4%	9.5%	6.5%	11.3%	33.9%	57.0%	55.8%	75.5%
Surgical care composite	N/A	N/A	10.2%	15.2%	30.2%	42.1%	74.4%	89.5%
Children's asthma care composite	N/A	N/A	N/A	N/A	N/A	2.6%	21.3%	50.8%
Overall	20.4%	24.6%	16.5%	21.9%	41.5%	60.0%	70.8%	85.9%

National Performance Summary, 2002-2009

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.

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.

Composite results (or overall composite results): The composite results calculation is derived from all measures – both accountability and non-accountability – for each of the three measure sets tracked continuously from 2002 to 2009 (heart attack care, heart failure care and pneumonia care). These overall composite results have historically been provided in previous annual reports, allowing them to be tracked from year-to-year.

Non-accountability measures are shaded in gray.

See Glossary for definitions.

Table 3: Heart attack care measure results

Performance measure	2002	2003	2004	2005	2006	2007	2008	2009	Improvement since inception (percentage points)
Heart attack care composite	*86.9%*	*89.8%*	*91.1%*	*92.8%*	*94.4%*	*95.8%*	*96.7%*	*97.8%*	*11.0%*
Aspirin at arrival	93.0%	94.3%	94.7%	95.5%	96.7%	97.4%	97.9%	98.4%	5.4%
Aspirin at discharge	92.0%	93.7%	94.5%	95.7%	96.6%	97.2%	97.7%	98.4%	6.3%
ACEI or ARB at discharge	75.8%	78.3%	79.9%	83.6%	86.7%	91.6%	93.9%	95.5%	19.7%
Smoking cessation advice	66.6%	76.2%	84.3%	92.2%	96.6%	98.2%	98.9%	99.4%	32.8%
Beta-blocker at discharge	87.3%	90.3%	92.5%	94.8%	96.2%	97.3%	97.8%	98.3%	10.9%
Fibrinolytic therapy within 30 minutes	N/A	N/A	N/A	38.8%	42.8%	51.4%	52.4%	55.2%	16.5%
PCI therapy within 90 minutes	N/A	N/A	N/A	68.3%	67.7%	72.3%	81.6%	87.4%	19.1%

Table 4: Heart failure care measure results

Performance measure	2002	2003	2004	2005	2006	2007	2008	2009	Improvement since inception (percentage points)
Heart failure care composite	*59.7%*	*66.4%*	*71.2%*	*78.2%*	*84.1%*	*88.4%*	*91.6%*	*93.9%*	*34.1%*
Discharge instructions	30.9%	42.4%	49.6%	59.2%	70.3%	77.5%	83.4%	87.5%	56.6%
LVS assessment	81.5%	84.5%	87.5%	90.9%	93.4%	95.4%	97.0%	98.1%	16.6%
Smoking cessation advice	42.2%	56.8%	69.6%	83.9%	92.1%	95.8%	97.6%	98.6%	56.4%
ACEI or ARB at discharge	74.2%	75.8%	76.3%	83.0%	85.6%	90.1%	92.7%	94.3%	20.1%

Table 5: Pneumonia care measure results

Performance measure	2002	2003	2004	2005	2006	2007	2008	2009	Improvement since inception (percentage points)
Pneumonia care composite	*72.3%*	*76.1%*	*79.9%*	*81.7%*	*87.4%*	*90.5%*	*92.9%*	*93.7%*	*21.4%*
Pneumococcal vaccination	30.2%	37.6%	48.8%	62.9%	75.9%	84.0%	89.0%	92.8%	62.6%
Blood culture in ICU	N/A	N/A	N/A	N/A	90.4%	92.8%	93.9%	95.5%	5.1%
Blood culture in ED	N/A	N/A	N/A	N/A	90.1%	91.1%	93.2%	95.0%	4.9%
Antibiotics within six hours of arrival	N/A	N/A	N/A	N/A	N/A	N/A	93.6%	94.6%	1.0%
Smoking cessation advice	37.2%	50.2%	65.5%	80.1%	89.4%	93.7%	96.0%	97.6%	60.4%
Antibiotics to ICU patients within 24 hours	N/A	N/A	N/A	50.2%	59.8%	63.9%	60.3%	67.5%	17.3%
Antibiotics to non-ICU patients within 24 hours	N/A	N/A	N/A	84.0%	88.8%	91.9%	93.0%	94.5%	10.5%
Influenza vaccination*	N/A	N/A	N/A	N/A	N/A	79.5%	85.7%	88.9%	9.4%

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

National Performance Summary, 2005-2009 (Cont'd)

The overall measure and rates are indicated in **bold**; the specific surgical procedures for each measure are indicated in regular type.

Table 6: Surgical care measure results

Performance measure	2005	2006	2007	2008	2009	Improvement since inception (percentage points)
Surgical care composite	*82.1%*	*86.2%*	*88.9%*	*93.5%*	*95.8%*	*13.7%*
Antibiotics within one hour before the first surgical cut**	**81.8%**	**86.6%**	**89.5%**	**93.5%**	**96.2%**	**14.4%**
For CABG surgery	85.2%	87.6%	89.5%	94.0%	96.8%	11.6%
For cardiac surgery (other than CABG)	83.8%	87.1%	89.0%	93.7%	96.6%	12.8%
For colon surgery	72.2%	78.0%	82.4%	87.6%	91.8%	19.6%
For hip joint replacement surgery	81.3%	86.9%	89.4%	93.4%	96.3%	14.9%
For hysterectomy surgery	82.4%	86.9%	89.8%	93.7%	96.4%	14.1%
For knee joint replacement surgery	85.1%	90.4%	92.5%	95.3%	97.2%	12.1%
For vascular surgery	75.2%	81.1%	85.3%	90.6%	94.6%	19.4%
Appropriate prophylactic antibiotics**	**N/A**	**N/A**	**94.9%**	**96.8%**	**97.7%**	**2.8%**
For CABG surgery	N/A	N/A	97.8%	98.7%	99.5%	1.7%
For cardiac surgery (other than CABG)	N/A	N/A	96.2%	99.1%	99.7%	3.5%
For colon surgery	N/A	N/A	75.7%	84.3%	87.8%	12.1%
For hip joint replacement surgery	N/A	N/A	98.0%	98.7%	99.2%	1.2%
For hysterectomy surgery	N/A	N/A	93.7%	96.1%	96.3%	2.6%
For knee joint replacement surgery	N/A	N/A	98.2%	98.8%	99.3%	1.2%
For vascular surgery	N/A	N/A	95.3%	96.6%	97.8%	2.5%
Stopping antibiotics within 24 hours**	**73.5%**	**79.1%**	**85.6%**	**90.5%**	**93.5%**	**20.0%**
For CABG surgery	69.7%	87.3%	89.7%	93.6%	95.5%	25.8%
For cardiac surgery (other than CABG)	62.7%	86.2%	89.7%	92.6%	94.8%	32.1%
For colon surgery	61.5%	65.3%	74.8%	80.4%	84.9%	23.4%
For hip joint replacement surgery	69.2%	74.9%	84.0%	89.8%	93.6%	24.4%
For hysterectomy surgery	88.0%	89.1%	90.2%	92.8%	94.8%	6.9%
For knee joint replacement surgery	69.5%	76.2%	85.4%	91.3%	94.7%	25.2%
For vascular surgery	65.0%	67.3%	77.0%	83.0%	88.2%	23.2%
Cardiac patients with 6 a.m. postoperative blood glucose	**N/A**	**N/A**	**N/A**	**89.9%**	**92.7%**	**2.9%**
Patients with appropriate hair removal	**N/A**	**N/A**	**N/A**	**97.4%**	**99.2%**	**1.8%**
Beta-blocker patients who received beta-blocker perioperatively	**N/A**	**N/A**	**N/A**	**92.0%**	**91.5%**	**-0.5%**
Prescribing VTE medicine/treatment	**N/A**	**N/A**	**87.2%**	**92.1%**	**93.7%**	**6.5%**
Receiving VTE medicine/treatment	**N/A**	**N/A**	**83.2%**	**89.6%**	**91.9%**	**8.6%**

**These surgical care measures report rates on seven specific surgical procedures, as well as the overall measure rate.

National Performance Summary, 2008-2009 (Cont'd)

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

Table 7: Children's asthma care measure results

Performance measure	2008	2009	Improvement since inception (percentage points)
Children's asthma care composite	*79.8%*	*88.1%*	*8.3%*
Relievers for inpatient asthma	**99.8%**	**99.9%**	**0.2%**
For age 2-4 years	99.8%	99.9%	0.1%
For age 5-12 years	99.8%	99.9%	0.2%
For age 13-17 years	99.8%	99.9%	0.2%
Systemic corticosteroids for inpatient asthma	**99.1%**	**99.5%**	**0.4%**
For age 2-4 years	98.8%	99.4%	0.6%
For age 5-12 years	99.3%	99.5%	0.2%
For age 13-17 years	99.0%	99.5%	0.5%
Home management plan of care	**40.6%**	**64.9%**	**24.3%**

National Performance Summary, 2009 (Cont'd)

A new measure type – a ratio measure – has been introduced into the inpatient psychiatric services measure set. A ratio tells how one number is related to another. For example, counting a group of people and then referring to the ratio of men to women. This measure set contains two ratio measures: physical restraint hours per 1,000 patient hours and seclusion hours per 1,000 patient hours. In addition, these two measures are stratified by age groups 1-12 years, 13-17 years, 18-64 years, and ages 65 and above.

For some measures, a high rate is desirable and for some a lower rate is desirable. In the inpatient psychiatric services measure set, a low rate is desirable for the multiple antipsychotic medications at discharge measure.

The inpatient psychiatric services measures have not yet been evaluated against the accountability criteria.

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

Table 8: Inpatient psychiatric services measure results

Performance measure	2009
Inpatient psychiatric services	
Physical restraint (hours per 1,000 patient hours)	**0.29**
For age 1-12 years	0.43
For age 13-17 years	0.41
For age 18-64 years	0.27
For age 65 and above	0.17
Seclusion (hours per 1,000 patient hours)	**0.18**
For age 1-12 years	0.74
For age 13-17 years	0.33
For age 18-64 years	0.13
For age 65 and above	0.05
Multiple antipsychotic medications at discharge	**11.8%**
For age 1-12 years	5.1%
For age 13-17 years	5.9%
For age 18-64 years	14.8%
For age 65 and above	9.4%
Multiple antipsychotic medications at discharge with justification	**28.3%**
For age 1-12 years	30.8%
For age 13-17 years	29.4%
For age 18-64 years	28.4%
For age 65 and above	25.6%
Post discharge continuing care plan	**85.7%**
For age 1-12 years	87.1%
For age 13-17 years	86.1%
For age 18-64 years	85.9%
For age 65 and above	82.4%
Post discharge continuing care plan transmitted	**74.1%**
For age 1-12 years	76.2%
For age 13-17 years	73.0%
For age 18-64 years	74.4%
For age 65 and above	72.2%

National Performance Summary

The following table shows percentage of hospitals achieving rates of performance of greater than 90 percent on a measure. The last column is reported as percentage points. This is the difference on a percentage scale between two rates, in this case 2008 performance versus 2009 performance.

Non-accountability measures are shaded in gray.

Table 9: Percentage of hospitals achieving greater than 90 percent performance

Performance measure	2006 High (percentage >90)	2007 High (percentage >90)	2008 High (percentage >90)	2009 High (percentage >90)	2008-2009 difference (percentage)
Relievers for inpatient asthma (Children's Asthma)	N/A	N/A	N/A	100.0	N/A
Systemic corticosteroids for inpatient asthma (Children's Asthma)	N/A	N/A	N/A	100.0	N/A
Smoking cessation advice (Heart Attack)	91.5	96.7	98.0	99.3	1.3
Aspirin at arrival (Heart Attack)	93.0	96.4	97.5	98.4	0.9
Patients with appropriate hair removal (Surgical Care)	N/A	N/A	93.5	98.3	4.8
Smoking cessation advice (Heart Failure)	75.2	89.7	94.8	97.9	3.0
Beta-blocker at discharge (Heart Attack)	88.7	93.7	96.2	96.8	0.6
Appropriate prophylactic antibiotics (Surgical Care)	N/A	83.2	91.9	96.7	4.8
Aspirin at discharge (Heart Attack)	90.0	91.9	94.3	96.6	2.3
Smoking cessation advice (Pneumonia)	62.8	78.1	88.3	94.1	5.8
LVS assessment (Heart Failure)	69.5	81.1	88.6	93.8	5.2
Antibiotics within one hour before the first surgical cut (Surgical Care)	39.9	53.7	76.1	90.8	14.8
Blood culture in ICU (Pneumonia)	66.8	75.4	84.6	90.8	6.1
ACEI or ARB at discharge (Heart Attack)	43.6	68.8	82.1	88.0	5.9
Antibiotics within six hours of arrival (Pneumonia)	N/A	N/A	83.4	87.8	4.4
Blood culture in ED (Pneumonia)	58.3	64.2	77.2	86.8	9.6
Antibiotics to non-ICU patients within 24 hours (Pneumonia)	49.3	69.4	77.2	86.0	8.8
ACEI or ARB at discharge (Heart Failure)	36.1	57.7	72.3	81.1	8.7
Stopping antibiotics within 24 hours (Surgical Care)	20.1	37.6	58.0	78.6	20.5
Receiving VTE medicine/treatment (Surgical Care)	N/A	29.3	66.5	75.8	9.3
Pneumococcal vaccination (Pneumonia)	22.7	38.6	57.9	75.1	17.2
Cardiac patients with 6 a.m. postoperative blood glucose (Surgical Care)	N/A	N/A	58.3	74.7	16.4
Beta-blocker patients who received beta-blocker perioperatively (Surgical Care)	N/A	49.4	69.7	67.0	-2.7
Prescribing VTE medicine/treatment (Surgical Care)	N/A	43.6	52.4	65.2	12.9
Post discharge continuing care plan (Inpatient psychiatric services)	N/A	N/A	N/A	62.7	N/A
Influenza vaccination (Pneumonia)	N/A	26.9	43.1	57.3	14.1
PCI therapy within 90 minutes (Heart Attack)	7.8	15.1	35.0	53.4	18.4
Discharge instructions (Heart Failure)	17.7	27.5	40.1	52.3	12.3
Multiple antipsychotic medications at discharge (Inpatient psychiatric services)	N/A	N/A	N/A	48.0	N/A
Post discharge continuing care plan transmitted (Inpatient psychiatric services)	N/A	N/A	N/A	33.7	N/A
Home management plan of care (Children's Asthma)	N/A	N/A	N/A	14.9	N/A
Antibiotics to ICU patients within 24 hours (Pneumonia)	0.7	7.2	4.9	11.7	6.8
Multiple antipsychotic medications at discharge with justification (Inpatient psychiatric services)	N/A	N/A	N/A	1.2	N/A

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,* 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.

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, surgery, children's asthma, and inpatient psychiatric services. 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.

It's important to note that 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.

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, surgery, children's asthma, and inpatient psychiatric services. 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 & 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.

Understanding the Quality of Care Measures (Cont'd)

These measures also are used for the "Hospital Quality Alliance (HQA): Improving Care through Information" initiative. 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 includes representatives from the Centers for Medicare & 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, the Department of Veterans Affairs, 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 organizations accredited by CMS-recognized accrediting organizations other than the Joint Commission; some unaccredited organizations; and most Department of Veterans Affairs medical centers. It does not currently include Department of Defense and Indian Health Service hospitals.

Data Collection and Reporting Requirements

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.

Understanding the Quality of Care Measures (Cont'd)

Note on Calculations and Methodology

With the introduction of accountability measures, this report now includes two different calculations of composite rates:

- **Overall composite results:** The overall composite results calculation is derived from all measures – both accountability and non-accountability – for each of the three measure sets tracked continuously from 2002 to 2009 (heart attack care, heart failure care and pneumonia care). These overall composite results have historically been provided in previous annual reports, allowing them to be tracked from year-to-year. The overall composites are provided in the National Performance Summary section of this report.
- **Accountability composite results:** The accountability composite results calculation is derived from only the accountability measures for each of four measure sets (heart attack care, pneumonia care, surgical care and children's asthma care). *Note: There is no accountability composite for heart failure care since there is only one heart failure accountability measure. A composite must have at least two measures. However, the overall accountability composite result does include the one heart failure measure.* The accountability composite calculation reflected in this report is the same calculation as that provided on Quality Check (beginning with third quarter 2009 data). The accountability composites are provided in the Accountability Measures Summary section of this report.

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.

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

Accountability composite results. The accountability composite results calculation is derived from only the accountability measures for each of four measure sets (heart attack care, pneumonia care, surgical care and children's asthma care). *Note: There is no accountability composite for heart failure care since there is only one heart failure accountability measure. A composite must have at least two measures. However, the overall accountability composite result does include the one heart failure measure.*

Accountability measure. An accountability measure is a quality measure that meets four criteria designed to identify measures that produce the greatest positive impact on patient outcomes when hospitals demonstrate improvement. The four criteria are: research, proximity, accuracy and adverse effects (see page 5 for an explanation of the criteria).

ACEI (ACE inhibitors). 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.

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.

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. However, accountability composites are restricted to accountability measures; non-accountability measures are excluded.

Composite results (also called overall composite results). The overall composite results calculation is derived from all measures – both accountability and non-accountability – for each of the three measure sets tracked continuously from 2002 to 2009 (heart attack care, heart failure care and pneumonia care). These overall composite results have historically been provided in previous annual reports, allowing them to be tracked from year-to-year.

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.

Inpatient psychiatric services. Inpatient psychiatric services include care provided to a patient for a mental disorder while hospitalized in a psychiatric unit of an acute care hospital or a free-standing psychiatric hospital. Services rendered to outpatients or "day treatment" patients are not considered inpatient psychiatric services.

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.

Multiple antipsychotic medications. Antipsychotic medications are drugs prescribed to treat mental disorders; if two or more medications are routinely administered or prescribed, it is considered multiple medications.

Non-accountability measure. A non-accountability measure differs from an accountability measure in that it is more suitable for secondary uses, such as exploration or learning within individual health care organizations, and is good advice in terms of appropriate patient care.

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).

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

Perioperative. This generally refers to 24 hours before surgery and lasts until the patient leaves the recovery area.

Physical restraint. A physical restraint is any manual or physical or mechanical device, material, or equipment that immobilizes a patient or reduces the ability of a patient to move his or her arms, legs, body or head freely. A physical restraint is used as a restriction to manage a patient's behavior or restrict the patient's freedom of movement and is not a standard treatment for the patient's medical or psychiatric condition.

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.

Glossary (Cont'd)

Pneumococcal vaccination. A vaccination that helps to prevent pneumonia.

Post discharge continuing care plan. Communication from the hospital to the next health provider after a patient is discharged from the hospital. The plan must contain the reason for hospitalization, main diagnosis at discharge, a list of medications at discharge, and recommendations for the next level of care.

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

Seclusion. Seclusion is the involuntary confinement of a patient alone in a room or an area where the patient is physically prevented from leaving.

Systemic 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.