

**QUALITY MEASUREMENT AND PUBLIC REPORTING  
ON HOSPITAL PERFORMANCE:  
A COMPENDIUM OF EXISTING REPORTING SERVICES**

**Table of Contents**

**PREFACE**

<b>I. INTRODUCTION .....</b>	<b>1</b>
<b>II. AVAILABLE PUBLIC REPORTING VEHICLES IN TODAY’S HEALTHCARE ENVIRONMENT .....</b>	<b>3</b>
<b>III. COMPENDIUM OF MAJOR PUBLIC REPORT CARDS ON HOSPITAL PERFORMANCE.....</b>	<b>5</b>
A. Overview of the Compendium Purpose and Organization .....	5
B. Descriptive List of Major Services by the Type of Reporting Organization .....	6
<b>1. Federal Government Quality Reporting.....</b>	<b>6</b>
- Agency for Healthcare Research and Quality: <i>Quality Indicators</i> .....	6
- CMS-Hospital Quality Alliance: <i>Hospital Compare</i> .....	12
- U.S. Department of Health and Human Services Measure Inventory .....	16
<b>2. State Government Quality Reporting .....</b>	<b>17</b>
- New Jersey Department of Health and Senior Services:	
<i>Health Care Quality Assessment – Hospital Performance Report</i> .....	17
<i>Health Care Quality Assessment – Cardiac Surgery in New Jersey</i> .....	20
<b>3. Business Groups on Health and Purchaser Coalitions.....</b>	<b>22</b>
- The Leapfrog Group .....	22
<b>4. Health Insurance Companies .....</b>	<b>25</b>
- Horizon Blue Cross Blue Shield Association .....	25
<b>5. Professional Organizations.....</b>	<b>28</b>
- The Joint Commission: <i>Improving America’s Hospitals: The Joint Commission’s                 Annual Report on Quality and Safety</i> .....	28
<b>6. Consumer Oriented Organizations and Foundations.....</b>	<b>31</b>
- The Commonwealth Fund: <i>Why Not The Best?</i> .....	31

<b>7. Healthcare Trade Associations</b> .....	34
- New Jersey Hospital Association / HRET: <i>Comparative Clinical Outcomes Report</i> .....	34
<b>8. For profit Businesses</b> .....	36
- HealthGrades: <i>Hospital Quality in America Study</i> .....	36

**IV. APPENDICES**

Appendix 1. Summary Tables of Major Public Reporting Systems by Measures Reported .....	40
Appendix 2. National Quality Forum .....	42
Appendix 3. Online Resources and Web sites .....	46
Appendix 4. HHS Measure Inventory.....	47



# **QUALITY MEASUREMENT AND PUBLIC REPORTING ON HOSPITAL PERFORMANCE: A COMPENDIUM OF EXISTING REPORTING SERVICES**

## **I. INTRODUCTION**

Over the last few decades, as advances in research, technology and care have altered the delivery of healthcare services, there have been growing concerns regarding the quality of services delivered, how many services are provided and at what cost. In this new environment, numerous stakeholders, including payers, purchasers, patients and policymakers, have an intense interest in increasing the transparency, the efficiency and the quality of care provided. In an effort to achieve these goals, a number of initiatives, including public reporting of comparative information on healthcare quality indicators, have been introduced in recent years and become an accepted way of improving accountability and quality. The Agency for Healthcare Research and Quality (AHRQ) has recently identified more than 220 such healthcare reports available to the public.

Public reporting, as the name suggests, refers to any report that includes healthcare data made available to the public. According to the Institute of Medicine, “performance measures can serve as the foundation for public reporting programs intended to improve accountability among providers and to aid consumers in making informed choices.” Public disclosure of performance measures may contribute to advancing improvement via incremental changes in consumer, professional and managerial behavior. The transparency achieved through hospital quality measurement and public reporting of performance can accelerate the quality improvement process and create accountability for resource use.

There are ongoing debates on the concept of public reporting as part of healthcare organizations’ culture of accountability and transparency, as well as who should provide them and the type of meaningful and accurate information that should be available to patients for their healthcare decision making. Currently, public reporting of quality efforts are used for:

- National and regional tracking;
- Accreditation;
- Comparative clinical outcomes; and,
- Pay for performance.

The factors examined in public reports to measure and report the quality of care and evaluate a provider typically include one or more of the following types of information:

- Structural indicators: accreditation, certification and staffing ratios;
- Volume: number of procedures performed by a provider;
- Process: clinical quality indicators measured during the treatment process;
- Outcomes: risk-adjusted short term, intermediate and long term;
- Spending: cost of care provided, price or resources used to provide care;

- Efficiency/Value: combination of cost and quality metrics; and,
- Patient experience: patients' perception of the provider and care provided.

The public report cards reflecting the composite scoring of providers' ratings and rankings on these factors should be based on all patients or a statistically representative sample of patients of a practice. However, many current reports are limited in the population included or the type of information collected. They are sometimes representative of small populations characterized by a specific disease or condition, geographic area or single insurer data. In addition, they may represent only one aspect of care, such as cost, or focus on limited quality metrics.

Other obstacles and challenges to quality measurements and reporting include difficulty collecting certain type of surgical/clinical outcomes data from administrative data or billing systems; limited ability to collect accurate process and outcomes data, which may lead to inappropriate categorization of providers and adverse healthcare decisions by other stakeholders; and limited ability of many organizations to adjust for patient risk factors, which may lead to some providers avoiding certain procedures on the sickest patients.

These limitations and concerns have prompted some efforts to standardize the public reporting of healthcare data, including the development of principles to guide organizations involved in collecting and reporting of these data. These principles, such as those developed by the Ambulatory Quality Alliance, include the following:

- Standardized measures when available;
- Transparent measures, methods and performance targets;
- A contextual framework to accompany the report; and,
- Timely and ongoing evaluation of reports.

In addition, recent literature has underscored that the key to successful reporting of quality measures includes an organization's commitment to performance measurement and public reporting; reliable, accurate, valid and comprehensive quality measures; assurance that quality measurement does not burden organizations; and continuous evolution of data sources and measurement systems.

To this end, the National Quality Forum (NQF) is an example of a collaborative effort, including the input of providers and other stakeholders, to standardize healthcare quality measurement and reporting. All measures are considered for NQF endorsement as voluntary consensus standards. Agreement around the recommendations is developed through NQF's formal Consensus Development Process. All measure development involves the active participation of representatives from across the spectrum of healthcare stakeholders and is guided by a Steering Committee. Recently, the NQF endorsed guidelines for consumer-focused public reporting, which is a guide for Internet-based reports to help provide accurate and dependable information about the quality of healthcare. Appendix 1 provides a more detailed description of NQF efforts and an example of a set of indicators developed through this process.

## II. AVAILABLE PUBLIC REPORTING VEHICLES IN TODAY'S HEALTHCARE ENVIRONMENT

Despite the recent developments and accomplishments, public reports, available in many shapes and sizes, are still in their infancy and are rapidly developing and continually evolving. But it is important that the provider community continues educating itself on existing public reporting programs and services and uses them, even if they are not perfect measurement systems.

The major existing services in reporting of healthcare data, categorized by the type of organizations developing them, include:

- **Federal Government** (e.g., U.S. DHHS *Nursing Home Compare* and Hospital Quality Alliance *Hospital Compare*, which includes performance measures from Surgical Care Improvement Project, approved by the NQF and adopted by the Hospital Quality Alliance; and CMS Physician Quality Reporting Initiative, which allows providers to submit data similar to *Hospital Compare* and receive a 1.5 percent bonus payment but does not report provider-specific data);
- **State Governments** (e.g., series of efforts by the New Jersey Department of Health and Senior Services in healthcare data transparency, quality and outcomes of care initiatives – including reports and Web pages for healthcare consumers);
- **Business Groups and Purchaser Coalitions** (e.g., Leapfrog Group patient safety standards and reports of hospital quality and outcome measures - city, state and regional coalitions of purchasers that obtain information about the quality and cost of care, and some post them publicly);
- **Health Insurance Companies** (e.g. BC/BS of Louisiana – some insurance companies keep quality and cost information in password-protected sites and release only to enrollees, while others post their reports on publicly available Web pages);
- **Professional Organizations** (e.g. the Joint Commission, which provides free resources for healthcare providers, researchers and professionals interested in tracking hospital performance across the country on various healthcare quality measures);
- **Consumer-Oriented Organizations and Foundations** (e.g., the Commonwealth Fund, which publicly reports healthcare data with a focus on consumers. Some of these reports cover mainly surgical care with no specific information on quality or cost metrics);
- **Healthcare Trade Associations** (e.g., NJHA/HRET *Comparative Clinical Outcomes Report* - trade organizations and other membership-based associations publicly reporting data on quality measures);
- **For-profit Businesses** (e.g., Consumers' Checkbook and HealthGrades – which process healthcare utilization data, ranks healthcare facilities and physicians and makes them available to providers and consumers for a fee);

- **For-profit Companies, Free Reports** (e.g., About.com's *UCompare* – provided alongside healthcare information for consumers);
- **Regional Value Exchanges** (e.g., Hospital Quality Alliance and HHS – formal collaborations among healthcare stakeholders by geographic area with a multi-stakeholder approach and a regional focus on quality and cost improvement through public transparency. The Wisconsin Collaborative for Healthcare Quality and Massachusetts Health Quality Partners are examples of these collaborative efforts that make healthcare data, mostly limited to chronic disease management and primary care physicians, available on their Web sites).

It should be noted that many data reports, such as those from health insurers, are developed and used strictly for internal quality improvement tracking purposes and are unavailable to the public. In addition, quality performance measures used by these data reports undergo continuous review by expert panels and are subject to changes following new evidence-based information and clinical research findings. For example, one of the acute myocardial infarction measures related to receipt of a beta-blocker within 24 hours after hospital arrival that was incorporated into the Joint Commission and Centers for Medicare and Medicaid Services (CMS) data reporting requirements in 2005 was reviewed in 2007 after concerns were raised about its contraindications. With the guidance of stakeholders including the National Quality Forum, the Hospital Quality Alliance, the American College of Cardiology and the American Heart Association, CMS and the Joint Commission announced the exclusion of this measure from their public reporting and data submission requirements effective April 1, 2009.

### **III. COMPENDIUM OF MAJOR PUBLIC REPORT CARDS ON HOSPITAL PERFORMANCE**

#### **A. The Compendium Purpose and Organization**

The following provides descriptive summaries of a selection of major report cards and public reporting services on healthcare. The information about these services, their scope and features were collected as part of an extensive study of the existing national and state-level public reporting bodies that publicly report data on hospital performance, processes and care outcomes.

The goal of this study was to compile all necessary information about the existing public reporting services to help New Jersey hospitals identify the major bodies/services that publicly report their process and outcomes data, determine the strengths and weaknesses of their reports, identify the most reliable report cards and establish processes to regularly monitor their reported data for benchmarking.

The following summaries of existing services are organized by type of organization as outlined in the previous section. These are just a sampling of the organizations releasing public reports. The summaries include: an overview of each program/service; the scope and performance targets; the measures reported; the sources of data and methodologies utilized for data collection, analysis and rate calculation; and the strengths and limitations of each service and the associated methodologies.

The best way to utilize these public reports is to integrate them into hospital quality improvement efforts. Specifically, hospitals can use them to: identify and target areas needing improvement in the quality of care provided or the process through which the care is delivered; benchmark their performance and outcomes compared to national and statewide rates, as well as rates for the various peer groups of hospitals; and use examples of especially good processes of care that can be used as a model to improve other processes.

## **B. Descriptive List of Major Services by the Type of Reporting Organization**

### **1. FEDERAL GOVERNMENT QUALITY REPORTING**

#### **Agency for Healthcare Research and Quality - *Quality Indicators***

##### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

The Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QI) are a family of measures that providers, policymakers and researchers can use with inpatient data to identify apparent variations in the quality of inpatient or outpatient care. These measures were prompted by requests for assistance from state-level data organizations and hospital associations with inpatient data collection systems. AHRQ developed a set of quality measures that required only the type of information found in routine hospital administrative data – diagnoses and major procedures, along with information on a patient’s age, gender, source of admission and discharge status.

These states are part of the Healthcare Cost and Utilization Project (HCUP), an ongoing federal–state–private sector collaboration to build uniform healthcare databases from administrative hospital-based data, as well as related software tools and products. HCUP databases bring together the data collection efforts of state data organizations, hospital associations, private data organizations and the federal government to create a national information resource of discharge-level healthcare data. All QI software and documentation is publicly available at no charge from the AHRQ QI Web site, [www.qualityindicators.ahrq.gov](http://www.qualityindicators.ahrq.gov).

AHRQ developed measures, called the HCUP Quality Indicators, to take advantage of a readily available data source – administrative data based on hospital claims – and quality measures that had been reported elsewhere, organized under four domains: Prevention Quality Indicators; Inpatient Quality Indicators; Patient Safety Indicators; and Pediatric Quality Indicators. The 33 HCUP QIs include measures for avoidable adverse outcomes, such as in-hospital mortality and complications of procedures; use of specific inpatient procedures thought to be overused, underused or misused; and ambulatory care sensitive conditions. The QIs specifically include:

- Prevention Quality Indicators (released in 2001) or ambulatory care sensitive conditions – identify hospital admissions that evidence suggests could have been avoided, at least in part, through high-quality outpatient care.
  - Diabetes, short-term complications
  - Perforated appendicitis
  - Diabetes, long-term complications
  - Chronic obstructive pulmonary disease
  - Hypertension
  - Congestive heart failure
  - Low birth weight

- Dehydration
  - Bacterial pneumonia
  - Urinary infections
  - Angina without procedure
  - Uncontrolled diabetes
  - Adult asthma
  - Lower extremity amputations among patients with diabetes.
- Inpatient Quality Indicators (released in 2002) reflect quality of care inside hospitals and include measures of utilization of procedures for which there are questions of overuse, underuse or misuse.

*Mortality Rates for Medical Conditions*

- Acute myocardial infarction (AMI)
- AMI, Without Transfer Cases
- Congestive heart failure
- Stroke
- Gastrointestinal hemorrhage
- Hip fracture
- Pneumonia

*Mortality Rates for Surgical Procedures*

- Esophageal resection
- Pancreatic resection
- Abdominal aortic aneurysm repair
- Coronary artery bypass graft
- Percutaneous transluminal coronary angioplasty
- Carotid endarterectomy
- Craniotomy
- Hip replacement

*Hospital-level Procedure Utilization Rates*

- Cesarean section delivery
- Primary Cesarean delivery
- Vaginal Birth After Cesarean (VBAC), Uncomplicated
- VBAC, All
- Laparoscopic cholecystectomy
- Incidental appendectomy in the elderly
- Bi-lateral cardiac catheterization

*Area-level Utilization Rates*

- Coronary artery bypass graft
- Percutaneous transluminal coronary angioplasty
- Hysterectomy
- Laminectomy or spinal fusion

*Volume of Procedures*

- Esophageal resection
- Pancreatic resection

- Abdominal aortic aneurysm repair
- Coronary artery bypass graft
- Percutaneous transluminal coronary angioplasty
- Carotid endarterectomy
- Patient Safety Indicators (released in 2003) reflect quality of care inside hospitals, by focusing on surgical complications and other iatrogenic events.

*Provider Level*

- Complications of anesthesia
- Death in low-mortality DRGs
- Decubitus ulcer
- Failure to rescue
- Foreign body left during procedure
- Iatrogenic pneumothorax
- Selected infections due to medical care
- Postoperative hip fracture
- Postoperative hemorrhage or hematoma
- Postoperative physiologic and metabolic derangements
- Postoperative respiratory failure
- Postoperative pulmonary embolism or deep vein thrombosis
- Postoperative sepsis
- Postoperative wound dehiscence
- Accidental puncture or laceration
- Transfusion reaction
- Birth trauma – injury to neonate
- Obstetric trauma – vaginal with instrument
- Obstetric trauma – vaginal without instrument
- Obstetric trauma – cesarean delivery.

*Area Level (modified to assess total incidence of adverse event within geographic areas)*

- Foreign body left during procedure
- Iatrogenic pneumothorax
- Selected infections due to medical care
- Postoperative wound dehiscence
- Accidental puncture or laceration
- Transfusion reaction
- Postoperative hemorrhage or hematoma.
- Pediatric Quality Indicators (released in 2006) reflect quality of care inside hospitals and identify potentially avoidable hospitalizations among children.

*Provider Level*

- Accidental puncture or laceration
- Decubitus ulcer
- Foreign body left during procedure
- Iatrogenic pneumothorax in neonates at risk
- Iatrogenic pneumothorax in non-neonates
- Pediatric heart surgery mortality
- Pediatric heart surgery volume

- Postoperative hemorrhage or hematoma
- Postoperative respiratory failure
- Postoperative sepsis
- Postoperative wound dehiscence
- Selected infections due to medical care
- Transfusion reaction

*Area Level*

- Asthma Admission Rate
- Diabetes Short-Term Complication Rate
- Gastroenteritis Admission Rate
- Perforated Appendix Admission Rate
- Urinary Tract Infection Admission Rate

Although administrative data cannot provide definitive measures of healthcare quality, they can be used to provide indicators of healthcare quality that can serve as the starting point for further investigation. The HCUP QIs have been used to assess potential quality-of-care problems and to delineate approaches for dealing with those problems. Hospitals with high rates of poor outcomes on the HCUP QIs have reviewed medical records to verify the presence of those outcomes and to investigate potential quality-of-care problems. For example, one hospital that detected high utilization rates for certain procedures refined patient selection criteria for these procedures to improve appropriate utilization.

The project took a multi-pronged approach to the identification, development and evaluation of QIs that included literature, clinician panels, expert coders and empirical analyses, including:

- Developing a conceptual framework and standardized definitions of commonly used terms;
- Evaluating the soundness of each indicator by using six areas of evidence: face validity (important aspect of quality and subject to provider or public health system control), precision (substantial amount of provider- or community-level variation that is attributable to random variation), minimum bias (little effect on the indicator of variations in patient disease severity and co-morbidities, or is it possible to apply risk-adjustment to remove these biases), construct validity (identifies true or actual quality of care problems), fosters real quality improvement, application (measure has been used effectively in practice);
- Searching literature to identify references relevant to potential indicators;
- Developing a candidate list of indicators by first reviewing the literature, then selecting a subset of indicators to undergo face validity testing by clinical panels using the RAND/UCLA Appropriateness Method; and,
- Conducting empirical analysis to explore the frequency and variation of the indicators, the potential bias, based on limited risk adjustment, and the relationship between indicators.

**WHEN DID THEY START?** In the early 1990s.

**FREQUENCY OF REPORT.** Each year since 2001, a new report has been released for a unique set of indicators.

## **METHODOLOGY**

### ***Sources of data***

The report uses discharge abstract data, specifically ICD-9-CM diagnosis and procedure codes, patient age, sex, diagnoses-related group (DRG) and date of procedure. AHRQ's Quality Indicators were applied to the HCUP hospital discharge data for several measures. The QIs rely solely on hospital inpatient administrative data and, for this reason, are screens for examining quality that may indicate the need for more in-depth studies.

### ***Risk adjustment / Statistical procedures to adjust data***

Identification of statistical issues included the following: age-gender adjustment for all indicators; severity/co-morbidity adjustment for the discharge-based indicators; and derivation of standard errors and appropriate hypothesis tests.

### ***Limitations***

Many important concerns cannot currently be monitored well using administrative data, such as adverse drug events, and using these data tends to favor specific types of indicators. For example, the Patient Safety Indicators contain a large proportion of surgical indicators, rather than medical or psychiatric, because medical complications are often difficult to distinguish from co-morbidities that are present on admission. In addition, medical populations tend to be more heterogeneous than surgical, especially elective surgical populations, making it difficult to account for case-mix. Panelists often expressed that indicators were more applicable to patient safety when limited to elective surgical admissions. However, the careful use of administrative data holds promise for screening to target further data collection and analysis. The ability to assess all patients at risk for a particular patient safety problem, along with the relative low cost, are particular strengths of these data sets.

Two broad areas of concern also hold true for these data sets, namely:

- Questions about the clinical accuracy of discharge-based diagnosis coding lead to concerns about the interpretation of reported diagnoses that may represent safety problems. Specifically:
  - Administrative data are unlikely to capture all cases of a complication, regardless of the preventability, without false positives and false negatives (sensitivity and specificity).
  - When the codes are accurate in defining an event, the clinical vagueness inherent in the description of the code itself (e.g., “hypotension”), may lead to a highly heterogeneous pool of clinical states represented by that code.
  - Incomplete reporting is an issue in the accuracy of any data source used for identifying patient safety problems, as medical providers might fear adverse consequences as a result of “full disclosure” in potentially public records such as discharge abstracts.

- The information about the ability of these data to distinguish adverse events in which no error occurred from true medical errors is limited. A number of factors, such as the heterogeneity of clinical conditions included in some codes, lack of information about event timing available in these data sets and limited clinical detail for risk adjustment, contribute to the difficulty in identifying complications that represent medical error or may be at least in some part preventable.

## CMS-Hospital Quality Alliance - *Hospital Compare*

### WHAT IS IT? WHAT MEASURES ARE REPORTED?

The American Hospital Association (AHA), Federation of American Hospitals (FAH) and Association of American Medical Colleges (AAMC) launched the Hospital Quality Alliance (HQA), a national public-private collaboration to encourage hospitals to voluntarily collect and report hospital quality performance information.

This effort is intended to make important information about hospital performance accessible to the public and to inform and invigorate efforts to improve quality. The Centers for Medicare and Medicaid Services (CMS) and The Joint Commission participate in the HQA, along with the AHA, the FAH, the AAMC, the American Medical Association, the American Nurses Association, the National Association of Children's Hospitals and Related Organizations, American Association of Retired People, American Federation of Labor and Council of Industrial Organizations, the Consumer-Purchaser Disclosure Project, the Agency for Healthcare Research and Quality, the National Quality Forum, the Blue Cross and Blue Shield Association, the National Business Coalition on Health, General Electric and the U.S. Chamber of Commerce.

The CMS Hospital Compare Web site ([www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov)) reports quality information from U.S. hospitals on treatments for heart attack, heart failure, pneumonia and surgical care, including patients with Medicare and those who do not have Medicare. To increase hospital submission of this data, CMS offers hospitals monetary incentives as part of its quality improvement programs. Specifically, CMS links *Reporting Hospital Quality Data Annual Payment Update program* to the hospital Inpatient Prospective Payment System (IPPS). The hospitals that are subject to IPPS payment provisions must collect and submit quality data to receive their full IPPS annual payment update. IPPS hospitals that fail to report the required quality measures may receive an annual payment update that is reduced by 2.0 percentage points. There is no incentive payment for non-IPPS hospitals, such as Critical Access Hospitals, since they are not paid under the IPPS. These hospitals may voluntarily participate in CMS surveys on patient experience of care - Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS).

Consumers can use Hospital Compare to compare care of local hospitals to state and national averages. A general search of the Web site provides information on: Hospital Process of Care Measures; Hospital Outcome of Care Measures; and Survey of Patients' Hospital Experiences. The public can also search by a specific medical condition or surgical procedure, which provides information on: Hospital Process of Care Measures and Hospital Outcome of Care Measures, where applicable; Survey of Patients' Hospital Experiences and Medicare Payment and Volume.

Hospital Compare measures include:

- Acute myocardial infarction (AMI)/heart attack
  - *Inpatient setting*
    - Aspirin at arrival
    - Aspirin at discharge

- Beta blocker at arrival \*
- Beta blocker at discharge
- Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) for left ventricular systolic dysfunction (LVSD)
- Smoking cessation advice/counseling
- Thrombolytic medication received within 30 minutes of arrival
- Percutaneous Coronary Intervention (PCI) received within 90 minutes of arrival
- 30-day mortality rate

*Outpatient setting*

- Aspirin at arrival for patients treated in the emergency department (ED) and then transferred
- Median time from arrival to fibrinolysis for patients treated in the ED and then transferred
- Fibrinolytic therapy received within 30 minutes of arrival for patients treated in the ED and then transferred
- Median time from arrival to electrocardiogram (ECG) for patients treated in the ED and then transferred
- Median time from ED arrival to transfer for PCI

▪ Heart failure

*Inpatient setting*

- left ventricular systolic function evaluation
- ACE inhibitor or ARB for LVSD
- Discharge instructions received
- Smoking cessation advice/counseling
- 30-day mortality rate

▪ Pneumonia

*Inpatient setting*

- Initial antibiotic(s) received within 6 hours of arrival
- Oxygenation assessment
- Pneumococcal vaccination
- Blood culture performed prior to administration of first antibiotic(s)
- Smoking cessation advice/counseling
- Received most appropriate antibiotic
- Influenza vaccination
- 30-day mortality rate

▪ Surgical care improvement

*Inpatient setting*

- Prophylactic antibiotic(s) one hour before incision
- Prophylactic antibiotic(s) stopped within 24 hours after surgery
- Selection of antibiotic given to surgical patients
- Prophylaxis to prevent venous thromboembolism ordered
- Prophylaxis to prevent venous thromboembolism received
- Appropriate hair removal

- Cardiac surgery patients with controlled 6 a.m. postoperative serum glucose

*Outpatient setting*

- Timing of antibiotic prophylaxis
  - Selection of prophylactic antibiotic – first or second generation cephalosporin
- Patient experience of care
    - Inpatient setting* – Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey results using a standardized survey instrument and data collection methodology to measure patients’ perspectives on hospital care, on the following measures:
      - Rating hospital overall (0 to 10)
      - Recommending hospital to others (yes or no)
      - Rating patient experience on seven domains (always, usually, sometimes, never):
        - Nurse communication (always, usually, sometimes, never)
        - Physician communication (always, usually, sometimes, never)
        - Staff responsiveness (always, usually, sometimes, never)
        - Pain management/control (always, usually, sometimes, never)
        - Communication about medications (always, usually, sometimes, never)
        - Cleanliness/quietness (yes or no)
        - Discharge information (yes or no)
  - Pediatric asthma
    - Inpatient setting*
      - Use of relievers for inpatient asthma care
      - Use of systemic corticosteroids for inpatient asthma care

**WHEN DID THEY START?** December 2002, with the Hospital Compare Web site kicking off in April 2005.

**FREQUENCY OF REPORT.** Available year round; data updated quarterly.

## **METHODOLOGY**

### ***Sources of data***

The data presented comes from hospitals that voluntarily submit these data from their medical records about the treatments their adult patients receive for specific conditions, including patients with Medicare and those who do not have Medicare. The clinical measures reported focus on heart attack, heart failure, pneumonia, asthma (children only) and surgical care improvement/surgical infection prevention. Each rate calculation is based on the hospital's relevant discharges.

The data collection approach is primarily retrospective. Secondary data analysis is completed using administrative and clinical data aggregated from patient records. Specifically, data sources for required data elements include administrative data, medical record documents and results of Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospital Surveys. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service.

However, complete documentation includes the principal and other ICD-9-CM diagnosis and procedure codes, which require retrospective data entry.

Data is submitted to the QIO Clinical Data Warehouse either directly, using the CMS Abstraction and Reporting Tool (CART) at [www.QnetExchange.org](http://www.QnetExchange.org), or through a vendor. ORYX vendors and CART data submissions include auditing processes and edit checks, which assess whether data submitted is consistent with defined parameters for sample size, outliers and missing data. CMS intends to validate data submitted to the Warehouse for the HQA initiative. The validation process provides assurance that the hospital, or its designated agent, can accurately abstract medical records and accurately submit data to the QIO Clinical Data Warehouse.

Rates are calculated for individual hospitals, and national and state averages are calculated for comparison and benchmarking.

***Risk adjustment / Statistical procedures to adjust data***

CMS does a “patient-mix” adjustment and specifies the following in the modeling of HCAHPS data for reporting: age; education attainment; self-reported health; service line; emergency department admission; percentile response order; language other than English; and age by service line interaction.

***Limitations***

Although data submission to Hospital Compare is subject to auditing procedures and edit checks, only a random sample of five medical records across all topics from each quarter of data submitted are selected for each hospital for review, regardless of the number of cases submitted. This small sample size may be insufficient for validation of the data. In addition, due to the nature of data collection processes on Hospital Compare, some concerns have been reported on its data consistency and accuracy, as reported rates vary based on how the hospital had submitted the data. A rate may be based on the total number of cases treated by a hospital, or may be based on a random sample of the treated cases for a facility with a large caseload.

Furthermore, Hospital Compare reports only acute care and critical access hospital data; long-term acute and acute rehabilitation hospitals are not eligible to report data. However, unlike acute care hospitals, critical access hospitals do not receive any financial incentive to report data. They, therefore, have the option to submit data for any or all of the measures and can elect to withhold the data from display on Hospital Compare. This may create additional inconsistency in the collected data and reported rates. Variation may also exist in the assignment of ICD-9 CM codes; therefore coding practices may require additional evaluation to ensure consistency.

Furthermore, please note the HCAHPS is a relatively new survey and hospitals across the U.S. are not yet completely on board with all data collection requirements and therefore may not have achieved very high scores across all of the questions. The HCAHPS data collected in 2009 and 2010 may reflect hospital experience of patients more objectively and accurately.

## **U.S. Department of Health and Human Services Measure Inventory**

### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

The U.S. Department of Health and Human Services (HHS) Measure Inventory tool provides the public an inventory of the measures that are currently used for reporting, payment or quality improvement by the Divisions in HHS. This inventory includes a comprehensive list of numerous quality measures used by the Department. The inventory, posted in a single location, is intended to help providers, patients, clinicians and others navigate the growing list of report cards and other quality measures.

The inventory is available at the National Quality Measures Clearinghouse, a Web site of the Agency for Healthcare Research and Quality designed as a public repository of evidence-based quality measures and measure sets. Ten different HHS agencies provide data reports to the effort, including: Administration on Aging, AHRQ, Centers for Disease Control and Prevention, Centers for Medicare and Medicaid Services, Health Resources and Services Administration, Indian Health Service, Office of Public Health and Science, National Institutes of Health, Substance Abuse and Mental Health Services Administration and Office of the National Coordinator for Health Information Technology.

The measures can be sorted by agency or operating division, condition, setting or measure domain and can be downloaded in their entirety.

**WHEN DID THEY START?** November 2008.

Please check AHRQ Web site at [www.qualitymeasures.ahrq.gov](http://www.qualitymeasures.ahrq.gov) for quality measures inventory and see Appendix 4 for a comprehensive list of quality measures from agencies and divisions that provide data reports relevant to hospitals. The list of measures and divisions that are not directly related to hospital performance were excluded from this appendix.

## 2. STATE GOVERNMENT QUALITY REPORTING

### New Jersey Department of Health and Senior Services

#### *Health Care Quality Assessment – Hospital Performance Report*

##### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

*The New Jersey Hospital Performance Report* was created to provide hospital quality information to patients, their families and healthcare professionals. The information is designed to help consumers choose a hospital and make other decisions about their healthcare. The report includes four overall scores for how each hospital treats patients diagnosed with heart attack, pneumonia or heart failure and patients having surgery. Scores for individual measures are also provided.

The score for each measure reflects the percentage of eligible patients who received the correct treatment. Patients who should not receive the treatments due to their specific conditions are excluded from the measures.

The Report provides information on 23 measures within four categories – acute myocardial infarction (AMI or heart attack), pneumonia, heart failure and surgical care improvement (SCIP) – and include:

- Acute myocardial infarction (AMI)
  - Aspirin at arrival
  - Aspirin prescribed at discharge
  - Beta blocker at arrival \*
  - Beta blocker prescribed at discharge
  - ACEI/ARB for LVSD
  - Smoking cessation advice
  - PCI received within 90 minutes of hospital arrival
- Pneumonia
  - Oxygenation assessment
  - Pneumococcal vaccination
  - Initial antibiotic received within 6 hours of arrival
  - Initial antibiotic selection for PN immunocompetent ICU patient
  - Initial antibiotic selection for PN immunocompetent non-ICU patient
  - Blood cultures in emergency department
  - Smoking cessation advice
  - Influenza vaccination
- Surgical care improvement
  - Preventive antibiotic started
  - Appropriate antibiotic received
  - Preventive antibiotic stopped

- Venous thromboembolism (VTE) prophylaxis ordered
- VTE prophylaxis received
- Heart failure
  - LSV assessment
  - ACEI/ARB for LVSD
  - Discharge instructions
  - Smoking cessation advice

These measures were originally identified by the Joint Commission and the Centers for Medicare and Medicaid Services for reporting hospital quality.

**WHEN DID THEY START?** 2004 (earliest available online).

**FREQUENCY OF REPORT.** Annually.

## **METHODOLOGY**

### ***Sources of data***

All New Jersey general acute care hospitals and one specialized heart hospital are required to submit data on these measures to the Department through their Joint Commission vendors on a quarterly basis. Hospitals collect the basic information for each record by abstracting data from patient medical records and administrative databases. The data are transmitted to Joint Commission vendors, who process the data according to algorithms established by the Joint Commission to produce scores for each measure. Joint Commission vendors then transmit both the individual patient files and the hospital-level information to the Department. The Department summarizes the quarterly data and provides a summary report to each hospital for review. The Department also provides each hospital with a summary report for the full 12 months for review.

The rate for each quality measure represents the proportion of times that the hospital provided the appropriate care. The overall AMI, pneumonia, SCIP and heart failure scores for each hospital are summary measures of how frequently the hospital provided recommended care based on seven AMI measures, seven pneumonia measures, four SCIP measures and four heart failure measures, respectively.

### ***Risk adjustment / Statistical procedures to adjust data***

Each rate was calculated following methodology used by the Joint Commission. Each measure included only those patients who were eligible for that treatment or test. For example, patients with contraindications for aspirin were excluded from the aspirin at arrival and aspirin prescribed at discharge measures.

### ***Limitations***

See the description of the Joint Commission reporting, included under Professional Organizations section (page 28), for the limitations associated with the methodology utilized to collect and report these data. Because of the inclusion of new measures or changes in measure definitions, overall scores are not necessarily comparable to the overall scores from previous years. Caution should also be applied so that process measures are compared with process

measures and not with outcomes measures. In addition, analysis of the data should incorporate the proper distribution of the data and relevant statistical procedures. Using the wrong distribution will yield incorrect inferences about a hospital's level of care.

**New Jersey Department of Health and Senior Services**  
***Health Care Quality Assessment – Cardiac Surgery in New Jersey***

**WHAT IS IT? WHAT MEASURES ARE REPORTED?**

This report is developed by the DHSS' Office of Quality Assessment for patients and families of patients facing the possibility of coronary artery bypass graft (CABG) surgery. It provides mortality rates for the 17 New Jersey hospitals that perform cardiac surgery and the physicians performing this common cardiac surgical procedure. All data are risk-adjusted to give extra credit to hospitals and surgeons treating sicker patients. As part of the Department's continued effort to provide information to consumers, this report also includes – for the first time – information on hospital length of stay. The report provides risk-adjusted length of initial hospital stay for CABG surgery patients, by hospital and by eligible surgeon. Each year the findings are published in a cardiac surgery consumer report, which is available both in print and on the Web.

An important goal of this analysis is to give hospitals data they can use in assessing quality of care related to bypass surgery. There is strong evidence, from the handful of states with similar reports, that this information encourages hospitals to examine their procedures and make changes that can improve quality of care and, ultimately, save lives. Another goal of the report is to give patients and physicians information to use in discussing questions and issues related to bypass surgery.

**WHEN DID THEY START?** 1994.

**FREQUENCY OF REPORT.** Annually.

**METHODOLOGY**

***Sources of data***

New Jersey's 17 cardiac surgery hospitals are required to report data on each patient undergoing open heart surgery. Hospitals report demographic data on patients -- such as age, sex and zip code – as well as information on insurance coverage, name of hospital and surgeon. They also provide information on medical history and risk factors known to affect a patient's chance of surviving the operation. The DHSS uses this data to create risk-adjusted mortality rates for each hospital and surgeon performing CABG, one common type of open heart surgery.

The department's Open Heart Surgery Registry contains this patient-level data from 1994 to the present. In 2004, for example, the DHSS collected data on the 6,177 patients who had bypass surgery with no other major surgery during the same admission. This is the most recent year for which a complete, audited data set is available.

***Risk adjustment / Statistical procedures to adjust data***

All data have been “risk-adjusted,” which means that data were adjusted to take into account the patient’s health condition before surgery. This risk-adjustment allows for fair comparisons among hospitals and surgeons treating diverse patient populations.

***Limitations***

Surgeon-specific data are limited in most current public reports, mainly because detailed data about the care process and patient outcomes are difficult to collect from administrative data and billing systems. Most meaningful surgical data reflect the system in which care is delivered. Although this service has somewhat overcome this limitation through an additional separate patient-level data collection mechanism, it still does not have access to all detailed surgical data on each patient. In addition, the process for comprehensive cleanup and editing of collected data is very long and takes about two years. As a result, the reported data are relatively old.

In general and similar to other studies nationally and in other states, hospitals and surgeons that perform bypass surgery more frequently have lower patient mortality rates. New Jersey’s data also confirm this trend.

As an effort to reduce disparities in cardiac care, this report includes provision of cardiac services by minority populations. However, these data are limited, as they only cover African American/Black populations, while during recent years significant disparities have also been documented for other minority groups and specifically the Hispanic populations.

Given all these limitations, the users of the report should be cautioned that the data presented is not recommended to be used as the sole factor in making choices about hospitals.

### 3. BUSINESS GROUPS ON HEALTH AND PURCHASER COALITIONS

#### The Leapfrog Group

##### WHAT IS IT? WHAT MEASURES ARE REPORTED ON?

The Leapfrog Group is a consortium of Fortune 500 companies and other large private and public healthcare purchasers aimed at supporting informed healthcare decisions by those who use and pay for healthcare; and promoting high-value healthcare through incentives and rewards. Leapfrog is supported by the Business Roundtable, The Robert Wood Johnson Foundation, Leapfrog members and others. Leapfrog works to achieve its mission by publishing the results of its Hospital Survey, which assesses more than 1,300 hospitals' efforts to improve the safety, quality and efficiency of their care. The group also helps employer members either directly or through their health plans to provide incentives and rewards to best performing hospitals; and collaborates with other organizations to improve healthcare.

The Leapfrog Hospital Survey was designed to encourage transparency and easy access to healthcare information. Endorsed by the National Quality Forum, the survey rates hospitals across the country on a range of quality and safety practices, focusing in four critical areas:

- *Computer Physician Order Entry* - prescriptions and other physician orders are entered into computers and linked to medication error prevention software. The software is properly tested.
- *Evidence-Based Hospital Referral* – hospital sustains a good track record in performing high-risk deliveries and seven complex high-risk procedures, including coronary artery bypass graft, percutaneous coronary intervention, abdominal aortic aneurysm repair, aortic valve replacement, pancreatic resection, esophagectomy and bariatric surgery.
- *ICU Physician Staffing* – Specialists in the hospital intensive care units hold appropriate qualifications.
- *Leapfrog Safe Practices Score* - hospital implements 13 safety practices and policies established by the National Quality Forum to reduce harm and errors. The 13 safe practices include:
  - Creating and Sustaining a Culture of Safety (including leadership structures and systems, culture measurement for performance, teamwork training and skill building, and identification and mitigation of risks and hazards)
  - Informed Consent
  - Life-sustaining Treatment
  - Nursing Workforce
  - Communication of Critical Information
  - Labeling of Diagnostic Studies
  - Discharge Systems
  - Medication Reconciliation
  - Prevention of Aspiration and Ventilator-associated Pneumonia

- Central Venous Catheter-related Bloodstream Infection Prevention
- Hand Hygiene
- DVT/VTE Prevention
- Anticoagulation Therapy

Beginning in 2008, Leapfrog required hospitals to report their performance on process and resource utilization measures for acute myocardial infarction (AMI) and pneumonia and rates of two hospital-acquired conditions. Leapfrog ratings are posted on the Web site and are free to the public to aid them in their decisions about where to receive care.

Leapfrog uses the survey responses not only to educate and inform members about quality performance of their providers, but also as the primary data collection tool for the Leapfrog Hospital Rewards Program. This program measures hospital performance on a national scale to recognize and reward providers that have demonstrated excellence and maintained a record of high quality care. The Rewards Program focuses on several key clinical areas and care delivery components in the Hospital Survey for quality and resource utilization measures:

- Quality indicators show the extent to which hospital care matches evidence-based guidelines and achieves the desired outcomes.
- Resource Utilization indicators show the hospital's average length of stay, adjusted for risk and readmission rate, for selected clinical areas and procedures.
- Efficiency is denoted by a hospital's Quality score and Resource Utilization score. The efficiency score represents the intersection of Quality and Resource Utilization and is used to determine a hospital's reward level (*attainment category* – reserved for hospitals considered “top performers,” and *improvement category* – for hospitals that have not attained top-tier performance).

**WHEN DID THEY START?** The Leapfrog Group was founded in November 2000. The group began collecting data via the Leapfrog Hospital Survey in June 2001 and launched its Hospital Rewards Program in 2005.

**FREQUENCY OF REPORT.** Annually.

## **METHODOLOGY**

### ***Sources of data***

Leapfrog provides reports on hospital performance data collected through the Leapfrog Hospital Survey. This survey includes four quality and safety practices that are proven to reduce preventable medical mistakes and are endorsed by the National Quality Forum. The Hospital Survey is a self-administered online instrument offered to designated regions around the country, referred to as “regional roll-out” areas, with special focus on acute-care facilities. These regions include: Alabama; Indiana; Northeast Ohio; Atlanta, Ga.; Iowa; Raleigh/Durham/Chapel Hill, N.C.; California; Kansas City, Mo.; St. Louis, Mo.; Central Florida; Maine; Savannah, Ga.; Cincinnati, Ohio; Massachusetts; Seattle, Wash.; Colorado; Memphis, Tenn.; Southeast Ohio; Columbus, Ohio; Metro New York City; Toledo, Ohio; Dallas-Fort Worth, Texas; Michigan; upstate South Carolina; Washington, DC/Baltimore; Minnesota; Virginia; East/Mid-Tennessee;

Nevada; western North Carolina; Greater Wash.; New Jersey; Western Oregon; Illinois; New York state; Wichita, Kan.; and Wisconsin. Other hospitals nationwide are also welcome to participate.

***Risk adjustment / Statistical procedures to adjust data***

The Leapfrog Hospital Survey data is risk-adjusted to account for patient comorbidities and patient demographics that cause systematic variation in the length of stay for that specific procedure or condition. Leapfrog uses risk-adjustment models to adjust length of stay developed by the Center for Health Systems Research and Analysis at the University of Wisconsin.

***Limitations***

The data is collected through hospital surveys and therefore is subject to all limitations of surveys as a means of data collection. The scoring algorithms to determine the hospital score on Leapfrog's four areas of focus for quality and safety practices, resource utilization and overall efficiency scores (fully meets standards, substantial progress, some progress, willing to report or declined to respond) are mainly based on self-reported responses to corresponding questions that may vary based on who completes the survey. Additional criteria may be needed for different hospital units that complete each section of the survey to ensure consistency and uniformity of responses across all units and hospitals around the country.

## 4. HEALTH INSURANCE COMPANIES

### Blue Cross Blue Shield Association

#### WHAT IS IT? WHAT MEASURES ARE REPORTED ON?

The Blue Cross and Blue Shield Association (BCBSA) is a national federation of 39 independent, community-based and locally operated Blue Cross and Blue Shield companies. BCBSA has a series of quality improvement programs that encourage research on best practice models, change incentives to improve quality of care and promote health and wellness.

#### Blue Distinction

Blue Distinction is a national program that designates and awards best practice models as a way to help consumers find quality specialty care on a consistent basis, while enabling and encouraging healthcare professionals to improve the overall quality and delivery of care nationwide. At the core of the Blue Distinction effort are the Blue Distinction Centers for Specialty Care. These centers are comprised of hospitals and medical facilities that have demonstrated expertise in delivering quality healthcare in the areas of bariatric surgery, cardiac care, complex and rare cancers and transplants. The designation is based on objective, evidence-based thresholds for clinical quality, developed in collaboration with expert physicians and medical organizations. This recognition provides credible means of identifying hospitals that meet their individual healthcare needs for select procedures and conditions.

Selection is based on the following criteria categories:

- Patient Results (or Patient Outcomes)
  - Complication rates
  - Readmission rates
  - Mortality rates
- Treatment Expertise
  - Physician credentials
  - Dedicated team focused on providing the particular area of specialty care
  - Length of time a facility has performed a procedure
- Procedure Volume
  - Number of times a particular procedure has been completed
- Structure
  - Type of services provided (ER, diagnostic testing abilities)
  - Supporting departments (radiology, nutrition, social services, rehabilitation, etc.)
  - Use of clinical registry data systems
- Process
  - Use of evidence-based care (e.g. use of beta blockers or aspirin for cardiac patients, which typically results in better outcomes)
  - Systematic follow-up of patient results after procedures
  - Quality improvement processes

To date BCBSA has successfully identified more than 800 centers across the nation that meet the criteria – 416 cardiac centers, 236 bariatric surgery centers, 82 transplant centers and 90 complex and rare cancers centers. BCBSA recently launched its Blue Distinction Center Finder, a consumer-friendly tool for searching recognized specialty centers by geographical location.

BCBSA also developed the Blue Distinction Hospital Measurement and Improvement Program, designed to encourage the use of publicly available hospital performance data. This program was formed in partnership with participating Blue plans as a way to provide quality performance reports to hospitals and employers nationwide. Through this program the BCBSA integrates 27 hospital performance criteria from two public sources: clinical measures focusing on heart attacks, heart failure, pneumonia and surgical infection prevention from the Centers for Medicare and Medicaid Services (CMS) and patient safety indicator measures from the Agency for Healthcare Research and Quality (AHRQ). As part of this program, BCBSA contracted with WebMD Quality Services (formerly HealthShare Technology) to develop a flexible and user-friendly Web application integrating these measures for participating plans on a quarterly basis for use with their network hospitals and plans' accounts. The performance data provided through this program are not intended for use with consumers at this time.

#### Horizon Blue Cross Blue Shield of New Jersey Hospital Recognition Program

In addition to BCBSA's national efforts, state independent branches of Blue Cross Blue Shield have also developed their own programs for improving the quality of care and patient outcomes. Horizon's Hospitals Recognition Program is New Jersey's quality improvement program, designed for hospitals participating in the Horizon BCBSNJ network as a way to acknowledge best practices in the areas of patient safety, clinical outcomes and patient satisfaction. Through this program, hospitals in New Jersey with both high quality and safe patient outcomes may receive financial and public recognition from Horizon BCBSNJ on an annual basis. Hospitals can choose to participate in this program through one of two options: the Leapfrog Hospital Rewards Program (LHRP) or the Horizon Program Option.

In general, the Horizon BCBSNJ Hospital Recognition Program uses nationally recognized data sets for patient safety and clinical outcomes. Patient safety criteria are based on The Joint Commission national patient safety goals and the Institute for Healthcare Improvement's (IHI) 5 Million Lives Campaign. Clinical criteria are dependent on the option for submission. If submitting through the Horizon Program Option, data is based on the Centers for Medicare and Medicaid Services' process measures for heart attack, heart failure, community-acquired pneumonia and the prevention of surgical-site infections. If submitting through Leapfrog, data is based on their Hospital Rewards Program surveys and include process measures for coronary artery bypass graft, percutaneous coronary intervention, acute myocardial infarction, community-acquired pneumonia and deliveries/newborn care. The program also evaluates hospitals on patient satisfaction and administrative measures. Patient satisfaction is based on survey tools used by hospitals to comply with TJC measurement criteria. For each reporting period, participating hospitals receive detailed reports of their performance scores.

**WHEN DID THEY START?** The Blue Distinction Hospital Measurement and Improvement Program was launched in 2005, and the Blue Distinction Centers for Specialty Care began

recognizing hospitals as of 2006. In 2007, Horizon Blue Cross Blue Shield of New Jersey inaugurated its Hospital Recognition Program in New Jersey.

**FREQUENCY OF REPORT.** The Blue Distinction Hospital Measurement and Improvement Program reports are updated and provided to hospitals on a quarterly basis. The Horizon BCBSNJ Hospital Recognition Program report on hospital performance data annually.

## **METHODOLOGY**

### ***Sources of data***

To designate Blue Distinction centers, data is collected through the Blue Distinction Centers detailed clinical request for information (RFI) survey that examines structure, process and outcome measures for each type of targeted service. Facilities earning the Blue Distinction designation must reapply on a regular basis (typically every 18-36 months.)

The Blue Distinction Hospital Measurement and Improvement Program integrates 27 hospital performance criteria from two public sources: clinical measures focusing on heart attacks, heart failure, pneumonia and surgical infection prevention from the Centers for Medicare and Medicaid Services and patient safety indicator measures from the Agency for Healthcare Research and Quality.

Horizon BCBSNJ collects and evaluates data for its Hospital Recognition Program through two options, the Leapfrog Hospital Rewards Program and the Horizon Program Option. If submitting through LHRP, data is collected through a combination of the Leapfrog Hospital Quality and Safety Survey and the TJC ORYX Survey. Additional data for the LHRP “resource-use” measure are collected through UB-92 (recently updated to UB-04) forms. Hospitals performing at the top 25 percent for quality and resource-use measures will receive recognition. If submitting through the Horizon Program Option, patient safety and clinical data are collected through TJC, CMS, the New Jersey Infection Prevention Partnership, as well as hospitals that release IHI 5 Million Lives Campaign data and reports on internal patient satisfaction surveys. Hospitals’ performance on clinical indicators is compared against New Jersey and national averages. Hospitals performing above average receive recognition. Data is collected semi-annually, and hospital scores are based on two quarters of data.

### ***Risk adjustment / Statistical procedures to adjust data***

For risk adjustment information about Horizon’s BCBSNJ Hospital Recognition Program please see the description of Leapfrog reporting, included under Business Groups and Purchaser Coalitions section (page 22).

### ***Limitations***

The data on 27 process and patient safety indicators obtained from the CMS and AHRQ programs or those obtained from Leapfrog have the same limitations as the original data sources. These limitations have been described under the corresponding type of organization for each of these services.

## 5. PROFESSIONAL ORGANIZATIONS

### **The Joint Commission – *Improving America’s Hospitals: The Joint Commission’s Annual Report on Quality and Safety***

#### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

The Joint Commission has been working closely with clinicians, healthcare providers, hospital associations, performance measurement experts and healthcare consumers across the nation to identify the quality measures. This collaborative process has identified measures that reflect the best “evidence-based” treatments for heart attack, heart failure, pneumonia and surgical care patients. 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 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) initiative.

This report presents reliable information on how America’s accredited hospitals performed against evidence-based quality measures relating to the care of heart attack, heart failure, pneumonia and surgical patients. These measures include:

- Heart attack care composite
  - Providing aspirin at arrival
  - Prescribing aspirin at discharge
  - Prescribing ACE inhibitor/ARB at discharge
  - Providing smoking cessation advice
  - Prescribing a beta blocker at discharge
  - Prescribing a beta blocker at arrival \*
  - Providing fibrinolytic
- Heart failure care composite
  - Providing discharge instructions
  - Providing left ventricular function assessment
  - Providing smoking cessation advice
  - Prescribing ACE inhibitor/ARB at discharge
- Pneumonia care composite
  - Measuring oxygen in the bloodstream
  - Providing pneumococcal screening and vaccination
  - Taking a blood test before giving antibiotics
  - Taking a blood test before giving antibiotics in ICU

- Taking a blood test before giving antibiotics in ED
- Providing smoking cessation advice

Most of the measures of heart attack, heart failure and pneumonia care included in this report have been tracked since 2001, while the surgical care measures have been tracked since 2004. This report also includes performance results regarding compliance with the National Patient Safety Goals (NPSGs), portrays NPSG performance trends for the latest available years, identifies the top standards compliance issues and presents information about sentinel events. Sentinel events are preventable adverse events that result in serious injury or death. The report also includes a section that describes how to compare local hospital performance to national and state performance benchmarks at the Joint Commission's Quality Check Web site ([www.qualitycheck.org](http://www.qualitycheck.org)).

Quality Check data includes national rates, state rates and hospital rates at the measure level. Data can be analyzed in many ways. Comparisons can be made from the hospital to national/state level. Comparisons between hospitals can be made. Hospitals with known similar characteristics can have their rates combined and compared to various benchmarks, either provided by the Joint Commission data download or to an outside credible source. Valid comparisons must be consistent using the same measures.

**WHEN DID THEY START?** In 1994, The Joint Commission first published organization-specific Performance Reports. In 1996, Quality Check®, a directory of Joint Commission-accredited organizations and performance reports, became available on the Web site. In 2004, Quality Reports replaced Performance Reports, although historical Performance Reports are still available. In 2007, organizations not accredited by The Joint Commission were added to the Quality Check Web site. Most recently in April 2008, Quality Reports® for Joint Commission-certified disease-specific care programs and certified healthcare staffing firms were made available on Quality Check.

**FREQUENCY OF REPORT.** Annually.

## **METHODOLOGY**

### ***Sources of data***

The Joint Commission requires most hospitals to select three 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.

For each of the three measure sets tracked annually (heart attack care, heart failure care and pneumonia care), a composite measure is 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.

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.

***Risk adjustment / Statistical procedures to adjust data***

This report only includes data about patients considered “eligible” for one of the evidence-based treatments or measures. This information describes the kinds of patients whose results are excluded from this report’s data. Not every patient gets – or should get – a treatment. Often, patients have healthcare 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.

***Limitations***

Proper care needs to be taken into consideration when analyzing Quality Check data. Analysis of the data should incorporate the proper distribution of the data and relevant statistical procedures. Using the wrong distribution will yield incorrect inferences about a hospital’s level of care. Another source of error is to use different measures in making comparisons from one hospital to another. Caution should be applied so that process measures are compared with process measures and not with outcomes measures.

## 6. CONSUMER-ORIENTED ORGANIZATIONS AND FOUNDATIONS

### The Commonwealth Fund - *Why Not the Best?*

#### WHAT IS IT? WHAT MEASURES ARE REPORTED ON?

WhyNotTheBest.org is a free online resource for healthcare providers, researchers and professionals interested in tracking performance of hospitals across the country on various measures of healthcare quality. This site was created by the Commonwealth Fund and offers its audience the opportunity to conduct side-by-side comparisons of more than 4,500 hospitals nationwide, track performance over time against numerous benchmarks and download case studies and tools used by the nation's top performing hospitals to improve the delivery of healthcare and increase patient satisfaction. WhyNotTheBest.org uses performance data reported publicly on the Centers for Medicare and Medicaid Services Web site, Hospital Compare. This performance data is stratified by a number of hospitals characteristics, including type of facility (safety net hospitals, teaching hospitals and academic health centers), region, ownership and size (number of beds) and measures performance against top performers, state and national averages.

This online resource reports on summary performance scores for 24 Hospital Quality Alliance measures that identify how often hospitals delivered recommended care processes for the following conditions: heart attack, heart failure, pneumonia and surgical care improvement. In addition, the site also reports on summary scores for 10 measures from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). These measures include:

- Heart Attack Care
  - Heart attack patients given aspirin at arrival
  - Heart attack patients given aspirin at discharge
  - Heart attack patients given ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)
  - Heart attack patients given smoking cessation advice/counseling
  - Heart attack patients given beta blocker at discharge
  - Heart attack patients given beta blocker at arrival \*
  - Heart attack patients given fibrinolytic medication within 30 minutes of arrival
  - Heart attack patients given PCI within 90 minutes of arrival
- Pneumonia Care
  - Pneumonia patients given oxygenation assessment
  - Pneumonia patients assessed and given pneumococcal vaccination
  - Pneumonia patients whose initial emergency room blood culture was performed prior to the administration of the first hospital dose of antibiotics
  - Pneumonia patients given smoking cessation advice/counseling
  - Pneumonia patients given initial antibiotics within 4 hours after arrival
  - Pneumonia patients given initial antibiotics within 6 hours after arrival
  - Pneumonia patients given the most appropriate initial antibiotics
  - Pneumonia patients assessed and given influenza vaccination

- Heart Failure Care
  - Heart failure patients given discharge instructions
  - Heart failure patients given an evaluation of left ventricular systolic (LVS) function
  - Heart failure patients given ACE inhibitor or ARB for left ventricular systolic dysfunction
  - Heart failure patients given smoking cessation advice/counseling
- Surgical Care Improvement
  - Surgery patients who received preventative antibiotics one hour before incision
  - Surgery patients who received the appropriate preventative antibiotics for their surgery
  - Surgery patients whose preventive antibiotics are stopped within 24 hours after surgery
  - Surgery patients whose doctors ordered treatments to prevent blood clots (venous thromboembolism) for certain types of surgeries
  - Surgery patients who received treatment to prevent blood clots within 24 hours before or after selected surgeries to prevent blood clots
- Hospital Patient Satisfaction (HCAHPS)

WhyNotTheBest.org uses top performing hospitals as a benchmark for comparing the performance of other hospitals nationwide. Top performers are identified as hospitals obtaining a high summary score on their reported data for all measures and ranking on the top 1 percent of performers. These hospitals must have recorded data on at least 30 patients for each of the four conditions. In addition, they must have achieved a composite score of 9 or 10 on the HCAHPS survey question of overall hospital care. The site uses the results of the following question as a measure of patients' overall satisfaction: *"Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?"* The site also includes other benchmarks including the top 10 percent, top 25 percent, middle 50 percent, and bottom 25 percent hospital performers.

**WHEN DID THEY START?** December 11, 2008.

**FREQUENCY OF REPORT.** Quarterly (updated four times a year).

## **METHODOLOGY**

### ***Sources of data***

WhyNotTheBest.org uses performance data reported on the Centers for Medicare and Medicaid Services Web site, Hospital Compare. Hospital Compare includes information about 4,500 hospitals nationwide on different process-of-care measures. Specifically, WhyNotTheBest.org reports on summary scores of 24 Hospitals Quality Alliance measures and 10 measures from HCAHPS, a survey that asks a random sample of recently discharged patients about important aspects of their hospital experience. To create summary scores for each condition, the site uses a methodology prescribed by the Joint Commission. The summary score was based on the number of times a hospital performed the appropriate action across all measures for that condition, divided by the number of opportunities the hospital had to provide appropriate care for that

condition. Summary scores are not calculated if a hospital did not report on all the measures for each condition and did not have at least 30 patients for at least one of the measures for each condition. The site does not apply any exclusion criteria to create performance rankings based on HCAHPS data. All hospitals are included in these calculations.

***Risk adjustment / Statistical procedures to adjust data***

This online resource does not use any process to weigh scores or risk-adjust its reported measures, since reports are of process measures versus outcome measures. Higher-occurring cases contribute more weight to the calculation of the mean for that measure.

***Limitations***

The data on process and patient safety indicators and patient satisfaction measures have been obtained from the CMS' HOA and the HCAHPS programs. The same limitations are, therefore, applied to the data reported from these sources by the Commonwealth Fund. These limitations have been described under the corresponding type of organization for each of these services. Please note the HCAHPS is a relatively new survey and hospitals across the United States are not yet completely on board with all data collection requirements and therefore may not have achieved very high scores across all of the questions. The HCAHPS data collected in 2009 and 2010 may reflect hospital experience of patients more objectively and accurately.

## 7. HEALTHCARE TRADE ASSOCIATIONS

### **New Jersey Hospital Association / Health Research and Educational Trust of New Jersey *Comparative Clinical Outcomes Report***

#### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

The *Comparative Clinical Outcomes Report* was developed by the Health Research and Educational Trust of New Jersey (HRET), a nonprofit affiliate of NJHA, as a performance improvement tool to assist New Jersey hospitals in identifying opportunities to improve the quality of care rendered to their communities, as well as helping them in overall outcome measures reporting and statewide benchmarking. Specifically, hospitals can use this report to: identify and target areas needing improvement in the quality of care provided or the process through which the care is delivered; benchmark their performance and outcomes compared to statewide rates, as well as rates for the various peer groups of hospitals; use examples of especially good processes of care as a model to improve other processes; and highlight areas needing improvement in coding procedures and development of consistent coding and documentation guidelines.

This report provides hospital process and outcomes rates on the following topics:

- Primary Cesarean Sections
- Vaginal Births After Cesarean Section (VBACs)
- Myocardial Infarction (MI) Mortality
- Heart Failure Mortality
- Pneumonia Mortality
- Postoperative Infections for Surgical Inpatients

The topics are selected from a variety of sources, including the National Hospital Quality Measures (NHQM) – the Centers for Medicare and Medicaid Services (CMS) and The Joint Commission (TJC's) required surgical infection prevention measures, the Agency for Healthcare Research and Quality (AHRQ's) Inpatient Quality Indicators and Patient Safety Indicators and the QuadraMed performance measures.

The report provides data only for NJHA member acute care hospitals and includes actual rates on each topic for three to five years of data, as well as risk-adjusted predicted rates for the most current year. This allows examination of rate variation across time for each hospital as well as across hospitals at each point in time.

The report is distributed to hospital CEOs and directors of quality. NJHA/HRET's Boards of Trustees also have approved plans for public reporting of N.J. hospitals' performance data. Starting 2007, NJHA hosted a Web site for this purpose with initial posting of hospital data on measures reported through CCOR. Other indicators will be added as identified and needed.

**WHEN DID THEY START?** Following recommendations from NJHA's Data Task Force of the Committee on Managed Care in 1994, NJHA convened a group with representatives from member hospitals to begin work on the production of a report card. The report card concept turned into a performance improvement tool, *Hospital Performance Research Initiative: Clinical Outcomes Reports*, produced by HRET in April of 1995 and was initially provided in confidential format.

**FREQUENCY OF REPORT.** Annually.

## **METHODOLOGY**

### ***Sources of data***

The data presented in this report are derived from the UB-92 data collected by the New Jersey Discharge Data Collection System (NJDDCS), which contains all patient demographics and clinical and financial/billing information uniformly collected by all N.J. acute care hospitals on all inpatient discharges and sent to the New Jersey Department of Health Senior Services (NJDHSS).

To meaningfully analyze the data for patients treated in N.J. hospitals, HRET utilizes a subset of data available from the *QuanTIM Performance Measurement System* (formerly marketed as *CORE Plus*), a clinical outcome evaluation system developed jointly by QuadraMed and NJHA. The *QuanTIM Performance Measurement System* meets all current and future criteria for inclusion on the list of measurement systems acceptable to meet ORYX requirements of TJC. *QuanTIM Performance Measurement System* is committed to developing and embedding core measures for ORYX once they are identified.

### ***Risk adjustment / Statistical procedures to adjust data***

Statistical risk-adjustment is used to account and control for situations that different patients with the same diagnosis may have additional conditions or characteristics that impact how they respond to treatment. Using risk-adjustment methods, mostly a stepwise logistic regression procedure, analysts can more accurately compare patient outcomes. To maximize the consistency of data reported with existing nationally reported data, TJC's risk-adjustment models were used for two indicators: MI Mortality and VBAC. These models are updated as TJC updates its models.

### ***Limitations***

It should be emphasized that the rates must be interpreted with caution, particularly in comparative analyses, due to the sensitivity of the data to coding variations within and between hospitals as well as the possibility of some methodological flaws. The methodology used to define clinical study topics is updated constantly and routinely improved based on changes in clinical technology and practice.

## 8. FOR-PROFIT BUSINESSES

### **HealthGrades: *Hospital Quality in America Study***

#### **WHAT IS IT? WHAT MEASURES ARE REPORTED?**

HealthGrades is a healthcare ratings organization, providing ratings and profiles of hospitals, nursing homes and physicians to consumers, corporations, health plans and hospitals. HealthGrades has studied and measured the quality of care at the nation's 5,000 plus hospitals and published the results of its annual research on the Web to assist consumers in choosing a hospital. The *Ninth Annual HealthGrades Hospital Quality in America Study* objective is to identify, quantify and report trends in the quality of more than 5,000 hospitals nationwide.

HealthGrades uses a two-part study: The first analyzed more than 41 million Medicare discharges from every U.S. hospital from 2005 through 2007 associated with 27 diagnoses and procedures by using a star rating system that can be easily interpreted by users. The diagnoses and procedures covered by this study include:

- Bowel obstruction
- Chronic obstructive pulmonary disease
- Coronary bypass surgery
- Coronary interventional procedures (angioplasty/stent)
- Diabetic acidosis and coma
- Gastrointestinal bleed
- Gastrointestinal surgeries and procedures
- Heart attack (acute myocardial infarction)
- Heart failure
- Pancreatitis
- Pneumonia
- Pulmonary embolism
- Resection/replacement abdominal aorta
- Respiratory failure
- Sepsis
- Stroke
- Valve replacement surgery

The second part of the study assessed quality differences between 1-, 3- and 5-star rated hospitals by analyzing the in-hospital mortality rates for more than 11 million Medicare discharges associated with 17 diagnoses and procedures. The study also evaluated the performance of individual states and regions across eight service areas: cardiac surgery, coronary interventional procedures, critical care, gastrointestinal services, heart attack treatment, heart failure, pulmonary care and stroke care. State and regional performance was benchmarked against the national average and against the best-performing hospitals.

**WHEN DID THEY START?** 1998.

**FREQUENCY OF REPORT.** Annually.

## **METHODOLOGY**

### ***Sources of data***

Ideal measures will demonstrate a strong link to outcomes; provide actionable information; target those populations at high risk for poor quality of care; allow for patient exceptions that do not reflect differences in quality; include adequate risk adjustment; and be feasible to implement.

HealthGrades analyzes patient outcomes data for virtually every hospital in the country using initial data purchased from the Centers for Medicare and Medicaid Services. The Medicare data (MedPAR file) from CMS contains the inpatient records for Medicare patients and analyzed inpatient data provided by 17 states that provide all-payer data (Arizona, California, Florida, Iowa, Massachusetts, Maryland, Maine, New Jersey, Nevada, Oregon, Pennsylvania, Texas, Utah, Virginia, Washington and Wisconsin). Specifically:

- MedPAR includes virtually every hospital in the country with the exception of military and Veteran Administration hospitals;
- Hospitals were required by law to submit complete and accurate information with substantial penalties for those that report inaccurate or incomplete data; and,
- The Medicare population represented a majority of the patients for almost all of the clinical categories studied.

Data excludes a limited number of cases because they were inappropriate for inclusion in the database or miscoded. Patient records were excluded for the following reasons:

- Under the age of 65;
- Left the hospital against medical advice or who were transferred to another acute care hospital;
- Discharged alive with a length-of-stay that is inconsistent with the reasons for admission;
- Still in the hospital when the Medicare claim was filed; and,
- Invalid gender.

### ***Risk adjustment / Statistical procedures to adjust data***

The risk-adjustment methodology considers important differences in patient demographic and clinical characteristics. The risk adjustment methodology used by HealthGrades defines risk factors as those clinical and demographic variables that influence patient outcomes in significant and systematic ways. Risk factors may include age, gender, source of admission, specific procedure performed and co-morbid conditions such as hypertension, chronic renal failure, heart failure and diabetes.

Developing the HealthGrades ratings involved four steps for each cohort (e.g., coronary bypass surgery) and quality measure (e.g., in-hospital mortality).

- First, the predicted value (predicted number of deaths or complications at each hospital) was obtained using logistic regression models discussed in the next section.

- Second, the predicted value was compared with the actual, or observed, value (actual number of deaths or complications at each hospital). Any hospital that did not have at least 30 cases across three years of data was removed, and any hospital that did not have at least five cases in the most current year was removed.
- Third, a test was conducted to determine whether the difference between the predicted and actual values was statistically significant. This test was performed to make sure that differences were very unlikely to be caused by chance alone.
- Fourth, a star rating was assigned based on the outcome of the statistical test.

### ***Limitations***

The models are limited by the following factors:

- Cases may have been coded incorrectly or incompletely by the hospital.
- The models can only account for risk factors that are coded into the billing data - if a particular risk factor was not coded into the billing data, such as a patient's socioeconomic status and health behavior, then it was not accounted for with these models.
- Although HealthGrades has taken steps to carefully compile these data using its methodology, no techniques are infallible, and therefore some information may be missing, outdated or incorrect.

Please note that a high ranking for a particular hospital is not a recommendation or endorsement by HealthGrades of a particular hospital; it means that the data associated with a particular hospital has met the foregoing qualifications. Only individual patients can decide whether a particular hospital is suited for their unique needs.

Also note that if more than one hospital reported to CMS under a single provider ID, HealthGrades analyzed patient outcome data for those hospitals as a single unit. Throughout this document, therefore, "hospital" refers to one hospital or a group of hospitals reporting under a single provider ID.

# **APPENDICES**

APPENDIX 1.

Table 1: Major Public Reporting Systems in Healthcare, by Measures Reported  
PROCESS MEASURES

INDICATOR	REPORTING SYSTEM *						
	AHRQ	CMS-HQA	NJDHS-HCQA	Horizon BCBS	Joint Comm	CMWF	NJHA/HRET
<b>Acute myocardial infarction (AMI) - Inpatient</b>							
Aspirin at arrival		✓	✓	✓	✓	✓	
Aspirin at discharge		✓	✓	✓	✓	✓	
Beta blocker at arrival **		✓	✓	✓	✓	✓	
Beta blocker at discharge		✓	✓		✓	✓	
ACE inhibitor or ARB for LVSD		✓	✓	✓	✓	✓	
Thrombolytic med. received within 30 minutes of arrival		✓		✓	✓	✓	
PCI received within 90 minutes of arrival		✓	✓	✓		✓	
Smoking cessation advice/counseling		✓	✓	✓	✓	✓	
<b>Acute myocardial infarction (AMI) - Outpatient (Patients treated in ED, then transferred)</b>							
Aspirin at arrival		✓					
Median time from arrival to fibrinolysis		✓					
Fibrinolytic therapy received within 30 minutes of arrival		✓					
Median time from arrival to ECG		✓					
Median time from ED arrival to transfer for PCI		✓					
<b>Heart failure - Inpatient</b>							
Left ventricular systolic function evaluation		✓	✓	✓	✓	✓	
ACE inhibitor or ARB for LVSD		✓	✓	✓	✓	✓	
Discharge instructions received		✓	✓	✓	✓	✓	
Smoking cessation advice/counseling		✓	✓	✓	✓	✓	
<b>Pneumonia - Inpatient</b>							
Oxygenation assessment		✓	✓	✓	✓	✓	
Pneumococcal vaccination		✓	✓	✓	✓	✓	
Blood culture performed prior to admin. of first antibiotic(s)		✓	✓	✓	✓	✓	
Initial antibiotic(s) received within 6 hours of arrival				✓		✓	
Initial antibiotic(s) received within 6 hours of arrival		✓	✓			✓	
Received most appropriate antibiotic		✓		✓		✓	
Initial antibiotic(s) selection for PN immunocompetent ICU patient			✓				
Initial antibiotic(s) selection for PN immunocompetent non-ICU patient			✓				
Smoking cessation advice/counseling		✓	✓	✓	✓	✓	
Influenza vaccination		✓	✓	✓		✓	
<b>Surgical care (improvement) - Inpatient</b>							
Prophylactic antibiotic(s) one hour before incision		✓	✓	✓		✓	
Prophylactic antibiotic(s) stopped w/in 24 hrs. after surgery		✓	✓	✓		✓	
Selection of (appropriate) antibiotic received		✓	✓	✓		✓	
Prophylaxis to prevent venous thromboembolism ordered		✓	✓			✓	
Prophylaxis to prevent venous thromboembolism received		✓	✓			✓	
Appropriate hair removal		✓					
Cardiac surgery patients with controlled 6 a.m. postoperative serum glucose		✓					
<b>Surgical care (improvement) - Outpatient</b>							
Timing of antibiotic prophylaxis		✓					
Selection of prophylactic antibiotic - first or second generation cephalosporin		✓					
<b>Pediatric Asthma - Inpatient</b>							
Use of relievers for inpatient asthma care		✓					
Use of systemic corticosteroids for inpatient asthma care		✓					
<b>Other Procedure Utilization Rates</b>							
Cesarean section delivery	✓						
Primary Cesarean delivery	✓						✓
Vaginal Birth After Cesarean (VBAC), Uncomplicated	✓						
VBAC, All	✓						✓
Laparoscopic cholecystectomy	✓						
Incidental appendectomy in the elderly	✓						
Bi-lateral cardiac catheterization	✓						
<b>HCAHPS - Inpatient Experience</b>							
		✓				✓	

\* The Leapfrog Group and Health Grades measures are not included due to their unique nature as ratings-based systems.

\*\* AMI Beta Blocker at Arrival measure will be excluded from CMS and Joint Commission public reports and data submission requirements as of April 1, 2009 due to evidence-based research findings indicating contraindications with this practice.

**Table 2: Major Public Reporting Systems in Healthcare, by Measures Reported  
OUTCOME MEASURES**

INDICATOR	REPORTING SYSTEM *						
	AHRQ	CMS-HQA	NJDHS-HCQA	Horizon BCBS	Joint Comm	CMWF	NJHA/HRET
<b>Medical Conditions - Mortality</b>							
Acute myocardial infarction (AMI)	✓	✓ †		✓			✓
AMI, without transfer cases	✓						
Congestive heart failure	✓	✓ †					✓
Gastrointestinal hemorrhage	✓						
Hip fracture	✓						
Pneumonia	✓	✓ †					✓
Stroke	✓						
<b>Surgical Procedures - Mortality</b>							
Esophageal resection	✓						
Pancreatic resection	✓						
Abdominal aortic aneurysm repair	✓						
Coronary artery bypass graft	✓						
Percutaneous transluminal coronary angioplasty	✓						
Carotid endarterectomy	✓						
Craniotomy	✓						
Hip replacement	✓						
<b>Iatrogenic Events</b>							
Accidental puncture or laceration **	✓						
Complications of anesthesia	✓						
Death in low-mortality DRGs	✓						
Decubitus ulcer **	✓						
Failure to rescue	✓						
Foreign body left during procedure **	✓						
Iatrogenic pneumothorax **	✓						
Postoperative hip fracture **	✓						
Postoperative hemorrhage or hematoma ** derangements **	✓						
Postoperative respiratory failure **	✓						
Postoperative pulmonary embolism or DVT **	✓			✓			
Postoperative sepsis **	✓			✓			✓
Postoperative wound dehiscence **	✓						
Selected infections due to medical care **	✓			✓			
Transfusion reaction **	✓						
Birth trauma - injury to neonate	✓						
Obstetric trauma - vaginal with instrument	✓						
Obstetric trauma - vaginal without instrument	✓			✓			
Obstetric trauma - cesarean delivery	✓						

\* The Leapfrog Group and Health Grades measures are not included due to their unique nature as ratings-based systems.

\*\* These measures are also reported separately as Pediatric Quality Indicators.

† Tracks and reports 30-day mortality rate.

## APPENDIX 2.

### NATIONAL QUALITY FORUM QUALITY STANDARDS AND MEASURES

In 1998, a Presidential Commission recommended the creation of a national forum in which healthcare's many stakeholders could, together, find ways to improve the quality and safety of American healthcare. This recommendation led to the creation of National Quality Forum, a private, not-for-profit, public benefit corporation established in 1999 to standardize healthcare quality measurement and reporting, using a formal consensus development process to review and endorse performance measures. By 2005, NQF had endorsed more than 200 consensus standards. The NQF publication, "Compendium 2000-2005," presents in one document all NQF-endorsed™ consensus standards in an easy-to-use sourcebook.

[\[http://www.qualityforum.org/publications/reports/compendium.asp\]](http://www.qualityforum.org/publications/reports/compendium.asp)

Of particular note is the 2002 National Quality Forum publication, *Serious Reportable Events in Healthcare: A Consensus Report*, and its 2006 update. In 2002, only a handful of states required the reporting of some types of healthcare errors, and no standardized list of reportable events existed. Today, numerous healthcare reporting systems are in operation, and a sizable number of states and governmental entities – collectively covering about 80 million lives – use the NQF-endorsed™ list of 28 serious reportable events as the backbone of their incident reporting systems. New Jersey requires the collection and reporting of these measures from all licensed healthcare facilities as part of its Patient Safety Act 2004 legislation. With the passage of the Patient Safety and Quality Improvement Act of 2005, there has been even greater emphasis on establishing reporting systems to enable national learning and patient safety improvement.

*Serious Reportable Events in Healthcare: A Consensus Report* is intended to identify a standardized list of events for mandatory public reporting, enhance systematic learning across healthcare organizations and systems and drive systematic national improvements in patient safety, based on what is learned both about the events and how to prevent their recurrence. The list includes 28 serious reportable events indicators, grouped into six categories as follows:

- Surgical
  - Surgery performed on the wrong body part
  - Surgery performed on the wrong patient
  - Wrong surgical procedure performed on a patient
  - Unintended retention of a foreign object in a patient after surgery or other procedure
  - Intraoperative or immediately postoperative death in an ASA Class I patient
- Product or device events
  - Patient death or serious disability associated with the use of contaminated drugs, devices or biologics provided by the healthcare facility
  - Patient death or serious disability associated with the use or function of a device in patient care in which the device is used or functions other than as intended
  - Patient death or serious disability associated with intravascular air embolism that occurs while being cared for in a healthcare facility

- Patient protection events
  - Infant discharged to the wrong person
  - Patient death or serious disability associated with patient elopement (disappearance)
  - Patient suicide, or attempted suicide, resulting in serious disability while being cared for in a healthcare facility
- Care management events
  - Patient death or serious disability associated with a medication error (e.g., errors involving the wrong drug, wrong dose, wrong patient, wrong time, wrong rate, wrong preparation or wrong route of administration)
  - Patient death or serious disability associated with a hemolytic reaction due to the administration of ABO/HLA-incompatible blood or blood products
  - Maternal death or serious disability associated with labor or delivery in a low-risk pregnancy while being cared for in a healthcare facility
  - Patient death or serious disability associated with hypoglycemia, the onset of which occurs while the patient is being cared for in a healthcare facility
  - Death or serious disability (kernicterus) associated with failure to identify and treat hyperbilirubinemia in neonates
  - Stage 3 or 4 pressure ulcers acquired after admission to a healthcare facility
  - Patient death or serious disability due to spinal manipulative therapy
  - Artificial insemination with the wrong donor sperm or wrong egg
- Environmental events
  - Patient death or serious disability associated with an electric shock while being cared for in a healthcare facility
  - Any incident in which a line designated for oxygen or other gas to be delivered to a patient contains the wrong gas or is contaminated by toxic substances
  - Patient death or serious disability associated with a burn incurred from any source while being cared for in a healthcare facility
  - Patient death or serious disability associated with a fall while being cared for in a healthcare facility
  - Patient death or serious disability associated with the use of restraints or bedrails while being cared for in a healthcare facility
- Criminal events
  - Any instance of care ordered by or provided by someone impersonating a physician, nurse, pharmacist or other licensed healthcare provider
  - Abduction of a patient of any age
  - Sexual assault on a patient within or on the grounds of a healthcare facility
  - Death or significant injury of a patient or staff member resulting from a physical assault (i.e., battery) that occurs within or on the grounds of a healthcare facility.

These indicators have been endorsed by NQF's voluntary consensus standards and were included in the list of events because they are:

- Of concern to both the public and healthcare professionals and providers;
- Identifiable, measurable and feasible to include in a reporting system;

- Of a nature such that the risk of occurrence is significantly influenced by the policies and procedures of the healthcare facility; and,
- Unambiguous, usually preventable, serious and any of the following:
  - Adverse; and/or
  - Indicative of a problem in a healthcare facility's safety system; and/or
  - Important for public credibility or public accountability.

NQF also has National Voluntary Consensus Standards publications recommending Performance Measures in more than 20 specific health issues or areas of care, as well as best practices and action plans.

The current NQF measures also were extensively reviewed and evaluated for their sustainability based on four sets of standardized criteria:

- Importance to measure and report – extent to which the specific measure focus is important to making significant gains in healthcare quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is a variation in or overall poor performance.
- Scientific acceptability of measure properties – extent to which the measure produces consistent (reliable) and credible (valid) results about the quality of care when implemented.
- Usability – extent to which the intended audience can understand the results of the measure and is likely to find them useful for decision making.
- Feasibility – extent to which the required data are readily available, retrievable and can be implemented for performance measurement.

The following is a list of NQF completed projects to date:

- National Voluntary Consensus Standards for Prevention and Care of Venous Thromboembolism (VTE)
- National Voluntary Consensus Standards for the Reporting of Therapeutic Drug Management Quality
- Home Health Care Patient Experience of Care Measures
- National Voluntary Consensus Standards for Hospital Care: Specialty Clinician Performance Measures
- Identifying Opportunities to Improve Transparency and Quality in Laboratory Medicine
- National Framework and Preferred Practices for Palliative and Hospice Care
- National Voluntary Consensus Standards for Hospital Care: Two Additional Priority Areas, 2005
- Standardizing a Patient Safety Taxonomy
- Hospital CAHPS®
- Pay for Performance Programs: Guiding Principles and Design Strategies - A National Summit
- Evidence-based Substance Abuse Treatment Practices - Workshop

- Voluntary Consensus Standards for Home Health Care
- Improving Patient Safety in Medication Use – Special Emphasis for Limited English Proficiency (LEP) and Low Literacy Populations
- Improving Patient Safety through Informed Consent for Patients with Limited Health Literacy
- Behavioral Healthcare Performance Measures Throughout Healthcare—Workshop
- Voluntary Consensus Standards for Cardiac Surgery
- ACE Inhibitors vs. ARBs Performance Measure - Workshop
- National Voluntary Consensus Standards for Ambulatory Care Quality: Measurement and Reporting – Phase I.

**APPENDIX 3.**  
**RESOURCES**

*Web Sites*

U.S. Department of Health and Human Services ..... [www.hhs.gov](http://www.hhs.gov)  
*Measure Inventory* ..... [www.qualitymeasures.ahrq.gov](http://www.qualitymeasures.ahrq.gov)

U.S. DHHS Agency for Healthcare Research and Quality.....[www.ahrq.gov/qual](http://www.ahrq.gov/qual)  
*Quality Indicators* ..... [www.qualityindicators.ahrq.gov](http://www.qualityindicators.ahrq.gov)

Hospital Quality Alliance ..... [www.hospitalqualityalliance.org](http://www.hospitalqualityalliance.org)  
*Hospital Compare*..... [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov)

New Jersey Department of Health and Senior Services ..... [www.state.nj.us/health](http://www.state.nj.us/health)  
*Hospital Performance Report* ..... <http://web.doh.state.nj.us/hpr>  
*Cardiac Surgery in  
New Jersey* ..... [www.state.nj.us/health/healthcarequality/cardiacsurgery.shtml](http://www.state.nj.us/health/healthcarequality/cardiacsurgery.shtml)

The Joint Commission ..... [www.jointcommission.org](http://www.jointcommission.org)  
*Improving America’s Hospitals* ..... [www.jointcommissionreport.org](http://www.jointcommissionreport.org)

The Commonwealth Fund.....[www.commonwealthfund.org](http://www.commonwealthfund.org)  
*Why Not the Best?*..... [www.whynotthebest.org](http://www.whynotthebest.org)

New Jersey Hospital Association..... [www.njha.com](http://www.njha.com)  
*Comparative Clinical Outcomes Report*.....[www.njha.com/research/clinicaloutcome.aspx](http://www.njha.com/research/clinicaloutcome.aspx)

HealthGrades.....[www.healthgrades.com](http://www.healthgrades.com)  
*Hospital Quality in America Study*.....  
[www.healthgrades.com/media/dms/pdf/HealthGradesEleventhAnnualHospitalQualityStudy2008.pdf](http://www.healthgrades.com/media/dms/pdf/HealthGradesEleventhAnnualHospitalQualityStudy2008.pdf)

National Quality Forum ..... [www.qualityforum.org](http://www.qualityforum.org)

**APPENDIX 4.**

**HHS Measure Inventory \***

*\* Measures not publicly reported by each division and not related to hospitals are excluded from this appendix.*