QUALITY

UNDERSTANDING PUBLICLY REPORTED HOSPITAL QUALITY MEASURES

INITIAL STEPS TOWARD ALIGNMENT, STANDARDIZATION, AND VALUE

CMS Hospital Compare

HealthGrades

The Joint Commission

Niagara Health
Quality Coalition

The Leapfrog Group

NYS Department of Health

Thomson Healthcare

U.S. News and World Report

HANYS

HANYS Quality Institute

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HANYS Quality Institute

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EXECUTIVE SUMMARY

Hospitals want reliable quality and comparative performance information to advance their quality improvement efforts. However, the unconstrained proliferation of publicly reported hospital quality measures is confusing to the public and a burden to health care providers. These hospital quality "report cards" are supported by payers and consumers who tout their transparency, competitive value, and ability to help people make educated choices. However, health care quality measures have not yet fully lived up to their promise of informing consumers and helping providers improve care. Problems with the accuracy, clarity, timeliness, and comparability of quality measures persist. These and other issues will continue to be addressed as quality measurement evolves.

Hospital quality reports contain useful information, but the reports are different in the way they examine quality data, and are at times contradictory. Hospitals are burdened with trying to figure out which reports might be useful for their own quality improvement and management efforts, how to respond to inquiries from the media and public, as well as identifying possible marketing opportunities. Hospitals that comply with duplicative quality reporting initiatives may divert limited staff and resources away from other clinical priorities.

Weaving data collection and quality improvement into an organization's work processes and technology is necessary, but it takes time and resources. The systems and measures should be well developed, reliable, and valuable to stakeholders. Despite the many problems associated with hospital report cards, hospitals continue to effectively integrate quality initiatives into their daily operations and continuous performance improvement initiatives.

This booklet was developed to help hospital leaders understand the attributes and shortcomings of these report cards, with a particular emphasis on the limitations of relying on administrative billing data.

The new link between quality reporting and Medicare reimbursement and the use of quality measures as the foundation for emerging pay-for-performance (P4P) systems further reinforce the growing importance of quality measures in health care.

HANYS and its members will continue to promote a federal and state agenda for the national alignment of quality measures and specifications that are evidence-based and endorsed by the National Quality Forum (NQF) and the Hospital Quality Alliance (HQA). HANYS will also work to build on the progress made in the successful alignment of measures between The Centers for Medicare and Medicaid Services (CMS), The Joint Commission, University HealthSystem Consortium, and the Institute for Healthcare Improvement (IHI) 5 Million Lives Campaign.

Report Card	Data Source Adm. Clinical	Measures Process Outcome	Participation	Risk or Severity Adjusted	Age of Data Released	Pay for Performance	Comment Period in Advance of Publication	Public Disclosure of Statistical Model	Common Uses and Attributes
Agency for Healthcare Research and Quality (AHRQ) Note: Database Only – Utilized by Various Report Cards	Adm.	Process Outcome	Voluntary	Yes	Dependent on organization using the data	No	No	Yes	■ Measures can be used for internal check and balance ■ One of a few systems that provide comparative: • complication rates for surgery and other clinical domains • pediatric measures • prevention measures (ambulatory sensitive) ■ Program from a federal agency ■ Free Software—inclusion of Present on Admission (POA) now available
HealthGrades	Adm.	Outcome	Externally Imposed	Yes	~ 24 mos. old	No	No	No	■ Marketing ■ Company has fee-for-service products
CMS Hospital Compare • IPRO	Adm. Clinical	Process Outcome	Voluntary Mortality (Mandatory)	Process: No Outcome: Yes	Process: < 12 mos. old Outcome: < 12 mos. old	Yes	Yes	Yes	■ Measures have been through review and endorsement organizations ■ Education and validation system available ■ Used for CMS marketbasket reimbursement (P4P) ■ Based on evidence-based practice protocols
The Joint Commission • Quality Check	Adm.	Clinical Process	Voluntary	No	< 12 mos. old	No	No	Yes	■ Aligned with many CMS measures ■ Education and guidance available ■ Based on evidence-based practice protocols
The Leapfrog Group	Adm.	Process Outcome	Voluntary	No Scoring Algorithm	Based on hospital's submission < 12 mos. old	Yes	No	Yes	■ Some access to P4P program ■ May be tied to preferred provider systems in certain employer areas ■ Utilizes national patient safety goals
Niagara Coalition (HealthGrades) • New York State Report Card	Adm.	Outcome	Imposed	Yes	~ 18 mos. old	No	Yes	Yes	■ Uses parts of the AHRQ system
New York State • Adult Cardiac Surgery Report • New York State Hospital Profile	Clinical	Outcome Process And Outcome	Mandatory	Cardiac: Yes Profile: No	Cardiac: Between 24-30 mos. old Profile: < 12 mos. old	No	No	Yes	■ Advanced statistical model built on significant amount of clinical information ■ Viewed as very credible and reliable ■ Significant data collection resources required
Thomson Healthcare	Adm.	Outcome	Externally Imposed	Yes	< 12 mos. old	No	No	No	■ Marketing ■ Company has fee-for-service products
U.S. News & World Report	Adm.	Survey Outcome	Externally Imposed	Based on Sampling and Survey Techniques	Survey: < 12 mos. old Hospital: ~ 24 mos. old	No	No	No	■ Marketing
HANYS' Comparative Hospital Report	Adm.	Outcome	Hospital-only Imposed	Yes	~ 18 mos. old	No	No	Yes	■ Uses parts of the AHRQ system ■ Access to blinded comparative results for hospital internal analysis, and check and balance
University HealthSystem Consortium Report	Adm. Clinical	Process Outcome	Voluntary	Process: No Outcome: Yes	Based on hospital submission < 12 mos. old	No	No	Yes	■ Academic hospital comparative data aligned with CMS, The Joint Commission, and other key measures

Adm. = Administrative Data

Introduction

Health care is facing a proliferation of publicly released quality measures, commonly known as report cards. These report cards are the result of governmental, regulatory, employer, insurer, consumer, voluntary, and commercial ventures.

These report cards vary in scope, accuracy, and clarity. It is vital for hospital leaders to understand report card fundamentals to determine how to react to and make use of them.

Most report cards are difficult to understand for the average person. The meaning and limitations of the data, as well as how the data can be used, are not readily apparent. Related to this is the ongoing debate about the relationship between health care process and outcome data, and which of these data types is most pertinent.

Some organizations, such as CMS, ensure their measures are endorsed by the National Quality Forum, a private-public, non-profit organization. Some report card-generating organizations use other due diligence and validation systems.

However, this is not true across all publicly reported quality data. A number of report cards are generated from proprietary blinded calculations, commonly known as "black box" methodologies, because they are not available to the public. This lack of transparency limits the degree to which hospitals or others can use the information or ensure that it is a fair representation of practices.

Report cards have been based primarily on administrative billing data, which does not adequately capture quality-sensitive data, and which are susceptible to variations in hospital or regional coding practices. An alternative is medical record chart abstraction by competent professionals, which is extremely resource-intensive and not generally feasible in an era of widespread financial constraints and workforce limitations.

HANYS continues to advocate for reasonableness and accountability in the system. HANYS is working with other organizations to align measures based on a foundation of science and standardization. The goal is to eliminate disparate report cards and use one agreed-upon methodology. This would be a positive step toward focusing providers and payers on evidence-based care and practices and would prevent the diffusion of health care provider efforts and the waste of resources with no added value.

This booklet serves as a primer on basic principles and information required for understanding and using report cards. It outlines factors necessary to understanding report cards and various stakeholders' perspectives. The chapters cover principles and models, methodology, report card elements, and stakeholder perspectives. The appendix includes a references sheet, glossary, ten New York State report card measure sets, and release dates.

CHAPTER ONE
ENVIRONMENT

Organizational Considerations

Reliable and pertinent report cards can provide hospital leaders with useful information for decision-making and priority-setting purposes, as well as for the tracking, trending, and continuous improvement of care processes.

Much growth has also been seen as the field advances into P4P or "value-based purchasing" programs. More payers are using quality measures and report cards in their reimbursement systems and contracts, adding importance to understanding the data, methodology, and financial implications.

However, report cards that have contradicting results, focus on low-volume and low-impact areas of the hospital, or lack explanatory power, create chaos and waste.

Some entities request that hospitals take on additional data submission tasks to participate in their report card projects. Communities cannot afford to have hospitals dedicate limited resources and workforce to address reports that have no additional fundamental benefit.

Report cards lead to a number of other business-related considerations. Hospitals need to upgrade technology, software, and equipment to respond to quality report card data submission requirements. These are not small investments. Consistent and reliable quality data systems will foster a better use of resources.

Yet, the media exposure, public pressure, and market share repercussions remain for hospitals contemplating participation in a report card project.

For the greater good, it is incumbent upon all of those involved to collaborate, align, and standardize quality measurement sets that are grounded in evidence-based medicine and statistical acumen.

Table 1-1

Report Card Advantages for Providers	
Principle	Examples
Report cards can be a catalyst to performance improvement.	■ Identification of opportunities for further improvements. ■ Assistance with decision making ■ Benchmarking, tracking, trending, and analysis. ■ Inspire creation of workgroups and performance improvement projects to improve care within and across institutions. ■ Provide organizations necessary actionable data. ■ Promote evidence-based practices. ■ Promote enthusiasm for clinical advancements.
Report cards can foster communication and teamwork.	■ Report cards encourage education, sharing, and networking. ■ Transparency can foster the development of more informed patients and families, or promote inquiry and dialogue.

Stakeholder Considerations

Individual report cards created by governmental, regulatory, or proprietary organizations vary in their data elements, methodologies, and purpose; however, collectively, they affect the same stakeholders.

These stakeholders each have different reasons for using the product. Initially, government and accreditation agencies used report cards for monitoring utilization and quality. However, the recent proliferation of quality report cards has been triggered by the following factors:

- Insurers want their members to use hospitals that provide the best outcomes at the most reasonable cost. Therefore, they seek hospital quality and price transparency to enable consumer choice.

- Government, health plans, and other payers believe that a competitive market will challenge hospitals to achieve greater success, and quality report cards are used as measurement tools in P4P programs.

Hospitals as Stakeholders

The fundamental reason hospitals are interested in comparative quality data is to assess and improve their performance. Some value comparative quality data for its potential to enhance a positive clinical reputation.

However, philosophical and practical differences of opinion continue to exist regarding the value of public reporting and its unintended consequences.

Tables 1-1 and 1-2 refer to the common provider concerns about the public reporting of quality measures.

Report cards can also be tools to help hospitals anticipate and leverage change to succeed in the environment. IHI promotes quality improvement as "a matter of will, ideas, and execution." Hospitals that integrate finance and quality to create a "win-win" situation and are able to effectively sustain improvements will be at an advantage.

Table 1-2: Provider Impact Concerns

Provider Concerns About Report Cards	
Factor	Examples
Reputation	■ Providers must be prepared to respond to media and patient questions about the report card. ■ Negative media could impact reputation, reducing market share and reimbursement.
Providers must be aware of the time lag in reporting.	■ The time lag in reporting is misleading because it does not reflect current practices. It can represent historical quality performance. ■ It could pressure providers to develop comparable "in-house" data reports to monitor current performance in unnecessary areas.
Report cards pose financial impacts.	■ Burden on time and resources; unfunded mandates. ■ Imposed without research and development dollars. ■ Accuracy and fairness of payment incentives come into question if hospitals are misrepresented. In addition, various incentive formats present different challenges. ■ There is no cap on data requests or reports. Private agencies can mix, match, and progressively add measures. ■ Hospital leaders will need to gain progressive expertise in merging financial and clinical staff as reimbursement is increasingly linked with quality performance.
Some report cards create a potential conflict of interest.	■ Private report card issuers could have conflicting interests. HealthGrades, for instance, describes its "sphere of influence" as one which includes providers, patients, payers and others, to all of whom it markets its services.[1]

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[1] *Hospital Report Card*, 2007

IMPACT OF OTHER STAKEHOLDERS

Consumers

Public reporting is intended to provide consumers with the necessary information to make informed decisions. The intent is for consumers to review quality report cards before choosing hospitals and physicians.

As consumers become more involved in decision making, managing out-of-pocket or health savings account expenses, and self-care, access to reliable information becomes crucial.

Reliable report cards also give hospitals opportunities to highlight their services and directly provide their communities with information, tools, and education.

Current challenges consumers face:

- Consumers may be misled by the findings of a report or by media interpretations.

- Lack of report card standardization and conflicting information.

- Report cards have clinical jargon and graphical interpretations of data that are difficult for the average consumer to comprehend; on the other hand, oversimplification of details can also be misleading.

- Consumers may not have the computer skills necessary to navigate Web-based reports and queries.

- Consumers may not be able to access information about the various methodologies and limitations of each report card.

Employers (Self-insured or Purchasers of Health Plans)

Although many employers use health care plans as the "middle man" to interpret findings from the provider system, major businesses have increasingly become more involved in quality and transparency. For example, The Leapfrog Group began with a consortium of businesses. Today, General Electric Corporation, Ford Motor Company, General Motors Corporation, and Wal-Mart-type retail organizations are involved in everything from providing care directly, to incentivizing best practices, to funding and working on quality projects in their regions.

Common themes related to employers as stakeholders:

- Employers will increasingly utilize information about cost and quality to make decisions and steer their employees and their business to preferred providers.

- Employers will begin to participate in various P4P programs.

- Employer/hospital partnerships may develop as a byproduct of these trends.

Government and Health Plans

Government, accreditation agencies, and health plans have significant influence over how hospitals allocate their quality improvement resources. It is incumbent upon these players to model an integrated and systematic approach to improving health care practices.

The Joint Commission, HQA, and federal and state governments took an early lead in the distribution and use of report cards. With Medicare being the predominant payer of medical and surgical care in most organizations across the country, CMS is well positioned to drive many health care improvement practices.

States tend to have very similar agendas with their Medicaid populations, despite some different focuses such as obstetrics, mental health, prevention, and chronic care. Aligning with the federal government to promulgate standards and quality measures would be beneficial.

Health plans' agendas are similar to government and employer groups. They have been promoting measures for quality, utilization, and efficiency in report cards for more than a decade and have become major players in P4P systems.

Physicians

Physicians are impacted by report cards and P4P programs directly, and indirectly—through hospitals. Successful physician practices in any health care setting are now more dependent on prescribed methods of communication, protocols, checklists, teamwork, and inter-disciplinary support. They need a nimble but disciplined approach to manage and sustain change and improvement.

Physicians as stakeholders:

- Physicians have a track record as effective champions for performance excellence.

- A physician's role in report card analysis and quality improvement efforts requires time and commitment. It should be viewed as an investment in building a reliable system that will ultimately save time and reduce patient risk.

- Physicians are challenged by the use and analysis of process and outcome data.

- Physicians are concerned with misrepresentation in public reporting.

- Negative publicity, accurate or misleading, can impact a physician's reputation.

- More physicians are being mandated or encouraged to enter into P4P programs. The long-term value is yet to be determined. A study on physician participation in P4P programs showed that while P4P changes behavior, it also increases competition and consequently creates winners and losers.[2] It is not clear, however, whether these behavioral changes are sustainable, or if they occur as a result of the increased focus on particular quality areas and measures.

Common Themes

- Further research and quality management education is needed, specifically on the use of process, outcome, and composite measures.

- The full impact of P4P is not clear; it is only in its early phases.

- It is important to emphasize that publicly reported measures provide only a snapshot of care and there is no "perfect" report card.

[2] Mehrotra, 2003

CHAPTER TWO
PRINCIPLES

Purpose

This chapter identifies important elements of hospital report cards and discusses a number of existing report card models that provide an overall perspective on the field of quality profiles and public reporting.

Why Hospital Report Cards?

Multiple factors contribute to the proliferation of report cards in the health care setting. The reasons vary with each stakeholder's needs and objectives. There is significant literature validating hospitals' need for accurate and consistent internal process and outcome measures. Although hospitals use their own data and methods to measure improvement over time, they need to understand and compare their performance to that of their peers. Hospitals participate in many programs to share data outside the context of public reporting.

Regulators, employers, and payers say that public reporting can encourage best practices.

Consumer advocate groups share a similar view with regulators and payers in regard to public reporting. They believe that public reporting enhances accountability and, therefore, performance.

Fundamental to all of the arguments is that regulators, employers, payers, and consumers should have access to the information necessary to make informed decisions about where they should go for medical care.

Although hospitals strive for accurate and meaningful quality measurements, they remain concerned about public reporting because:

- Hospitals want and need the best information to make decisions about care, services, and performance improvement.

- It is recognized that data utilized by such models is primarily administrative and billing information, and is subject to variation in hospital practices and coding practices.

- The time and financial expenditures necessary to provide the data required for public reporting is another concern, especially when the resources may not translate into real value for the consumer.

- Public reporting can become an entrepreneurial opportunity for proprietary organizations, which have begun to profit from the release of these report cards and their supplemental services.

Regardless of the strength of a report card, providers must be cautious about potential unintended consequences. Brent James, Vice President for Medical Research and Executive Director of the Institute for Healthcare Delivery Research, Intermountain Health Care, reviewed examples at the 4th Annual World Health Care Congress in April 2007. He discussed sub-optimization, where a provider works to make one area look better, at the expense of others that are unmeasured. Although risk adjustment will eliminate some variation, it cannot account for all. The attribution of outcomes is very difficult. Also discussed was avoiding certain patients, known as "cherry-picking."

The following criteria and definitions can be used to assess the value of report cards:

Definition of Populations

The report card must clearly define the populations being evaluated. Science suggests that a clear definition of report card populations need not be an exhaustive exercise. It should address at least the following parameters in a simple and direct manner.

- **Size of the Population**—including the number of patients or individuals upon which the data for each measure are based;

- **Location of the Population**—including the geographic area and the health care provider or group of providers serving each population;

- **Common Health Care Characteristics of the Population**—including the inpatient diagnosis, inpatient procedure, payer status, services available, or any other measures shared by all members of each population;

- **Common Demographic Characteristics of the Population**—including age, gender, resident location, culture, economic, or any other measures shared by all members of each population; and

- **Sources of the Population Data**—including the database, its limitations, and the organization responsible for the database from which the information was derived.

Types of Measures Reported

Measures need to be grounded in evidence-based science, reliable, clearly defined, reproducible, standardized, and useful. There is an infinite range of metrics, both narrow and broad, within the hospital and across the continuum or patient event. Comparison data add another dimension to the field. Measures should reflect what they are intended to measure and communicate, with an accurate representation of the facts. The first step is to understand the three types of measures commonly used in health care:

> **Structure measures** provide information on the organization, its type, and the characteristics of the hospital's processes and systems. Services provided by intensivists, hospitalists, nursing delivery models, and equipment, as well as policies and protocols are all examples of structures that impact results.

> **Process measures** provide information on the care being delivered, in addition to how well it is executed. The measures can range from very broad components of care, to small steps in a procedure. Within the science of quality improvement, appropriate process measures are necessary to understand the root causes or contributing factors. The real challenge in quality improvement is to ensure that the process measures are highly correlated to the outcome.

> It is important to utilize evidence-based models in which process and outcome relationships have been demonstrated. An example is the correlation between providing appropriate prophylactic antibiotics absorbed within one hour prior to surgical incision, and the reduction in Class I and II surgical infection rates utilized in CMS' Surgical Care Improvement Project.

> **Outcome measures** are measures designed to reflect the results of care, and ultimately measure overall success. This is not always simple, as multiple biological, environmental, structural, and process elements influence the outcome.

> It is important to note that outcome can be measured over time. An example would be a survival rate at one, ten, 30 or 90 days, or five years.

> Appendix C has examples from ten publicly reported measure sets reviewed in this booklet.

Sources of Report Card Data

Report cards often lack the data specificity needed to accurately evaluate provider performance. Most report cards are based on administrative data that were collected for billing purposes, rather than for the evaluation of performance. Administrative data do not include important clinical details that can help clarify the quality of care provided.

However, administrative data are easy to obtain and inexpensive, and the best value may be with enhancing these data. Consideration must be given to advocating for more fields to collect quality data in the current Medicare administrative database.

The continued evolution of electronic health care data will provide additional opportunities for the collection and dissemination of information. The development of electronic community networks of providers should make available ambulatory and primary care reports as well. As the speed with which this information can be provided to the public and health care organizations increases, so does its value.

Risk Adjustment of Data

For provider report cards to effectively serve the public and health care organizations, they must include risk adjustment for the patient populations upon which they are based. It is essential to make every attempt to account statistically for the wide differences in clinical and demographic characteristics among populations.

Historically, the risk adjustment of population data has been based on demographic factors such as age and gender. During the last two decades, algorithms for evaluation of population risk and severity of illness based on comorbidities, other clinical factors, and demographic measures have been developed. To be useful and accurate, report cards must include evaluation of and adjustment for all of these differences in the risk levels of populations. This is further discussed in the "Principles" chapter.

Future Opportunities

There is a crucial need for national consensus measures aligned across all report cards that includes common definitions of populations, measures, and other components. NQF and HQA are striving for this goal. We can look to countries, such as the Netherlands, where the Ministry of Health has such a project culminating in an annual Dutch Health Report. This commitment to alignment and standardization of quality measures is a top HANYS priority.

HANYS and its members, along with the American Hospital Association (AHA), the American Medical Association Physician's Consortium, and multiple specialty societies/organizations, continue to advocate strongly for evidence-based best practices.

CHAPTER THREE
METHODOLOGY

A report card is only as good as the data and methodology on which it is based. If the underlying data or methodologies used for the comparison of different providers are flawed or undisclosed, the damage to both the reputation and public perception of an organization can be severe.

Elements critical to evaluating and effectively using report cards are:

- source, characteristics, and validity of data;

- reason for collecting the data; and

- methods used to facilitate comparisons among providers (types of measures reported, selection of risk factors, type of risk adjustment).

Table 3-1: Sources of the Data

	Review of Report Card Sources	
	Administrative Data	Clinical Data
Data Elements	■ Detailed patient demographic information (age, sex, race, ethnicity, and ZIP Code) ■ Principal and secondary diagnoses, procedure codes ■ Admission source and type ■ Discharge status ■ Length of stay ■ Charges and costs	■ Clinical medical record information such as: • Patient's vital signs • Laboratory and diagnostic tests • Treatment and response • Adherence to policies and protocols
Common Sources	■ **MedPAR** (Medicare Provider Analysis and Review)—data come from claims for services provided to Medicare beneficiaries admitted to Medicare-certified inpatient hospitals and skilled nursing facilities[3] ■ **SPARCS** (Statewide Planning and Research Cooperative System)—data are collected on every discharge from an acute care facility in the state[4]	■ Abstraction of patient-level data either manually or through internal database systems
Advantages	■ Readily available ■ Relatively inexpensive ■ Widely used in reporting ■ Can include most payers	■ Ability to specify the exact clinical data to assess ■ Extremely useful in understanding the delivery of care ■ Clinical explanatory power
Limitations	■ Originally set up for reimbursement purposes ■ Data may be exclusive to the payer, state, or federal government ■ Limited clinical utility: does not include process-of-care information ■ International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes do not have clinical "richness" ■ Limited billing abstractions ■ Coding interpretations limit access to valuable factors such as the level of care proceeding or following the hospital stay ■ May not include other important aspects of care (example, transfers to/from other facilities) ■ Conditions present on admission, which differentiates between complications and comorbidities, have not been excluded nationally yet; planned implementation is January 2008; New York State has been coding in this manner for a number of years	■ Less frequently used in reporting, leaving limited ability to compare ■ Significant expenses associated with collecting data include the use of professional (nurse, coder, physician) time and/or information technology. ■ Subject to precision of specifications, inter-rater reliability, and collection. ■ Small sampling issues

[3] MedPar File, 2005

[4] SPARCS, 2007

Quality of the Data

The quality of data being used for the report card is paramount. The following questions should be considered related to data quality:

- What does the collector of the data do to ensure its quality and integrity?

> For example, SPARCS data submitted to the Department of Health (DOH) undergoes an extensive set of checks to ensure a minimum standard of quality. Data that fail these checks go back to the provider for correction and resubmission. Likewise, DOH reviews the data submitted for its cardiac surgery reporting program, cross-matches the data to other DOH databases (e.g., SPARCS), and reviews medical records based on a selected sample to ensure data accuracy and consistent interpretation of data elements across hospitals.[5]

- Before the data are used for model building and reporting, are there edits and/or inclusion and exclusion criteria applied to cases? Does the report card provider make any provision for the incompleteness of data submitted by an organization?

> **What Are Quality "Edits"?**
> Edits are manual or electronic audits that check to see if the data in the field make sense per a pre-defined guideline. An example would be a date of admission after a date of discharge, disqualifying a record.
>
> Inclusions and exclusions identify specific features of the population that determine whether the patient will be analyzed in the report card. An exclusive list is frequently necessary and warrants scrutiny since this is often the area where cases that skew the data need to be removed. Examples of typical exclusions would be hospice or "do not resuscitate" (DNR) patients in mortality review.

No administrative data are completely free of errors. Even data that have been subjected to a series of validity and quality checks from a reputable source such as SPARCS are not error-free. Hospitals with incomplete data should be eliminated from model building and reporting. It is important to understand why data elements are missing and take the necessary steps to explain or remedy a special cause or systemic problem. The degree to which a report card originator can demonstrate an understanding of the data used and its limitations can be a key to gauging the quality of the report itself.

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[5] SPARCS, 2007

Timeliness of the Data

Another factor for consideration is the age of the data used for report cards. Administrative data, such as SPARCS, are often not considered complete until nine months after the close of the calendar year. By the time a report card provider obtains data and publishes a report, the data may have aged anywhere from one year to 18 months. Results reported may not accurately reflect what is happening in an institution today.

In general, the older the data, the less actionable they are. Although not often offered, the hospital/provider should be given the opportunity to provide more recent data if it will help in public perception and accuracy, and if it can be replicated based on an open methodology.

Scope of the Data

The scope of the data is another factor to consider when evaluating a report card. A state database such as SPARCS includes all patient discharges including pediatrics and newborns; however, it is limited to a single state. On the other hand, MedPAR has the advantage of being a national database, making it more attractive for comparing and contrasting all hospitals. However, it only covers Medicare patients and excludes certain clinical service lines such as neonatology, pediatrics, and infectious diseases.

Some report cards compare data from a partial list of states and others compare MedPAR data along with state data—sometimes from different years.

Timeframes can be very important when attempting to understand those variables impacting quality data, as measures and information constantly change. The addition of a few older cases or the continued absence of updated cases can dramatically impact data sets such as SPARCS.

Analytic Approach

Another key element to be considered in any report card is the methods used to enable fair and accurate comparisons among hospitals. How risk adjustment is applied in a report card to control for differences among patient populations can greatly impact how well or poorly a hospital fares in the report card's comparison.

Whatever approach to risk adjustment is taken, hospitals benefit from complete transparency in the methodological approach to model building. Transparency is important not only for evaluating, understanding, and using a report card, but also in terms of others being able to replicate the results. A report card has limited, and perhaps no value to a hospital without the background detail for analysis.

Transparency extends to the following:

- how outcomes are specified;

- what risk factors are used to control for case-mix differences; and

- properties of statistical models.

Specificity of Measures

The specificity by which a measure is defined not only yields better comparisons, but enables hospitals to target cases for review and analysis. Process measures such as the percent of acute myocardial infarction (AMI) patients who received aspirin on arrival make the comparison of hospitals relatively straightforward since there is no need to control for differences among patients. That is, the age of an AMI patient should not affect the probability that he or she receives aspirin on arrival (after clinically-relevant exclusions to patient populations have been applied).

However, the age of a patient does impact a mortality outcome measure. How and what type of risk adjustment is used in a report card to control for those types of differences can greatly impact how a hospital fares in a report card comparison.

The boundaries of patient population should also be clear, including placing cases into coherent clinical groups with relevant, separate models as needed.

Table 3-2

Specificity Case Examples	
The new "present-on-admission" indicator will allow methodologies to separate out iatrogenic complications or events. This a positive leap forward in adding specificity. However, most of the methodologies are still dealing with the accuracy of when the event or complication occurred in relationship to procedures and diagnosis. Because of this specificity limitation, hospitals could be labeled with a higher post-operative complication rate (example: post-operative infection) when it is related to the procedure.	Hospitals should always evaluate internal variables such as sample size or unique and specialty populations. Risk-adjusted models should, but do not always, compensate for those specific variances. For example, a hospital with hospice or palliative care units may end up with high mortality rates if the methodology does not exclude or adequately adjust for that population.

Risk-Adjustment Models

Another critical component pertains to how the report card methodology statistically adjusts and/or controls for differences in case mix among providers. This process theoretically "levels the playing field," ensuring that hospitals with sicker patients are not unfairly represented.

Approaches to risk adjustment:

- **Severity adjustment** is a simple form of risk adjustment. It is typically accomplished using a system such as the All Patient Refined-Diagnosis Related Group (APR-DRG), whereby the expected outcome for a patient with a specific APR-DRG/severity level is simply the average outcome of all patients with that same APR-DRG/severity level, derived from a normative dataset.[6] This form of risk adjustment is largely based on comorbidities, with a level of severity and risk assigned to each ICD-9-CM code.

- **Multivariate regression models** are more complex forms of risk adjustment. The main advantage to a regression-based approach is that more specific expected values are calculated for each patient, based on his or her unique combination of risk factors.

Multivariate risk models use logistic models for dichotomous outcomes, i.e., mortality and linear models for continuous outcomes such as length of stay. A statistical technique that has gained favor in recent years has been the use of hierarchical models. These models also control for the clustering or nesting of patients within providers, which helps ameliorate the tendency for hospitals with small sample sizes to have out-of-range performance. The CMS 30-day AMI and heart failure mortality rates use this new risk-adjusted hierarchical model.

Risk-adjustment features include:*

- **Testing and calibration.**

- **A determination on how much variance observed among provider outcomes can be accounted for by the model.** Three common approaches are the R2 for linear model, the root means squared error for regression model, and the c-statistic for logistic model. For example, the higher R2 value, the better the predicted value, which should correspond to a more accurate leveling of the playing field.

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[6] APR-DRG Benchmarking

- **The beta weights for each risk factor are calculated for their contribution to the expected outcome.** They are partial standardized regression coefficients for each variable contribution to the model.

- **The sample size will impact some results.** The minimum required sample size varies among report cards. The most common sample size used is 30. Its origins come from the central limit theorem studies that demonstrate that as a rule at 30, a sample distribution will have a bell curve distribution regardless of the population distribution. Of note, the statistical power of research or more formal studies should be calculated specifically to minimize Type I (false positive) and Type II (false negative) errors.

- **Exclusions and inclusions cases should be identified and tested since linear and logistic models typically do not perform well at the extreme ends of the distribution.**

Risk Factors

How the risk factors are specified in any model is an important consideration.

Common risk-adjustment models should ideally include:

- **Demographics** (primary examples: age and sex); and

- **Clinical information** (primary examples: diagnoses, procedures, complications, and comorbidities).

Advanced risk adjustment includes more sophisticated administrative data, increasing the probability that the measure will accurately represent the hospital's care. Examples include:

- Transfers from and discharges to rehabilitative or long-term care facilities; and

- Surgical and sedation classification.

When collected, patient-level data elements such as admission, vital signs, and laboratory can exponentially increase the reliability of the risk adjustment.

The most difficult set of administrative risk factors for any model builder are comorbidities. AHRQ approaches comorbidities in its model by using the APR-DRG severity level combinations as proxies for comorbidities. AHRQ also has developed Comorbidity Software[7] that has been used by some report card providers; others use the Charlson index.[8]

[7] HCUP Comorbidity Software, 2007

[8] Glance et. al., 2006

*Note: Readers who lack technical expertise can ignore the technical aspects of these factors and still understand the basic concepts as described.

The key problem is distinguishing comorbidities (those diagnoses that were present on admission) from the complication (those diagnoses that were developed in the hospital). Only New York and California have had present-on-admission flags available for each secondary diagnosis in the state inpatient discharge databases. CMS will require the coding of present-on-admission status for each secondary diagnosis in 2008.

A related concern is with the varying number of secondary diagnoses captured in different data sources. For example, SPARCS records provide space for up to 14 secondary diagnoses, while California's Office of Statewide Health Planning and Development database allows for up to 25 secondary diagnoses.[9] The Medicare National Billing Standard now has 25 secondary diagnoses. The number of secondary diagnoses available in the data record can impact DRG assignments, risk of mortality or severity of illness assignment for APR-DRGs, or the count of complications and comorbidities.

Other serious data integrity issues are related to the ability to capture accurate and complete data-on-admission source and type, disposition, surgical classifications, American Society for Anesthesia codes, and so forth. Consistent application of those codes could further the specificity and value of the measures.

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[9] Wang et. al., 2007

Format and Statistical Presentations

RAND Corporation, which has sponsored studies related to the use of quality report cards, has stated that "cognitive psychologists have learned a great deal about how people acquire and use new information and about the effectiveness of various communication styles."[10] A number of report cards were reviewed to assess how they presented their information relative to what is known about effective communication styles.

According to RAND, "A key problem for many of these report cards appeared to be poor presentation of information. Because the use of health care report cards to help with decision making is a voluntary activity, users are not compelled to continue working with material that does not sustain their interest."[11]

The RAND Corporation publication, adapted from McGlynn, Adams, Hicks and Klein, provided tips for improving the effectiveness of report cards including establishing a clear framework and context for the type of information being presented. It is important to present the data in layman's terms, using consistent formats and intuitive, appropriate graphics.[12]

Understanding the statistical fundamentals necessary for a usable report card helps health care organizations to analyze the findings based on the data sources, measures, and methodology.

The next chapter will address the technical elements of report card functionality.

Table 3-3

Techniques to Increase the Effectiveness of Health Care Report Cards[13]

- Create the framework of the reporting system by identifying the general categories of information that are most important to consumers (that is, use the top-down approach).
- Provide a clear context up front for the information being presented and the reasons for its presentation, to enable consumers to assimilate the information into what they already know or believe.
- Organize the information that is presented to the consumer with a clear, consistent structure, and provide cues to that structure with headings.
- Choose a structure that allows consumers to access the information they want without having to read through the entire report.
- Present information in more than one way; if graphics are used, choose those most appropriate to the kind of information being presented (that is, those that make differences easy to perceive).

Source: Adapted from McGlynn, Adams, Hicks, and Klein, 1999.

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[10] RAND Health, 2002

[11] ibid.

[12] ibid.

[13] McGlynn, et. al., 1999

CHAPTER FOUR
ELEMENTS

Report Card Evaluation

In addition to methodology, other criteria related to report content and functionality should be considered when evaluating a report card. Tables are included in this chapter to provide a snapshot of report card attributes.

Table 4-1: Report Card Data Source and Presentation

Publicly Released Report Cards*					
	Clinical Data[A]	Administrative Data[B]	Process Measure[C]	Outcome Measure[D]	Comment/Correction Period in Advance of Publication[E]
AHRQ Quality Indicators Note: Database Only – Utilized by Various Report Cards	■	■		■	
HealthGrades		■		■	
CMS Hospital Compare • IPRO	■	■	■	■	■
The Joint Commission Quality Check	■	■	■	■	
The Leapfrog Group Hospital Ratings		■	■	■	
Niagara Coalition - New York State Hospital Report Card		■		■	■
New York State Adult Cardiac Surgery Report	■			■	
Thomson Healthcare		■		■	
U.S. News & World Report		■**survey		■	
Hospital-only Report Cards***					
HANYS' Comparative Hospital Report		■		■	
University HealthSystem Consortium	■	■	■	■	

Headers:

* Publicly released report cards are those comparative quality measures
 released in the public domain by publications or by basic or interactive Web sites.

** Measurement set available publicly through AHRQ.
 Numerous report cards use all or part of these measures.

*** Hospital-only report cards contain data not publicly reported, but
 released to hospitals. The comparative data are blinded.

Criteria description or reference:

A – Clinical Data: See Table 3-1 for full description

B – Administrative Data: See Table 3-1 for full description

C – Process Measure: See Chapter Two: Described under types of measures

D – Outcome Measure: See Chapter Two: Described under types of measures

E – Comment/Correction Period in Advance of Publication: Organizations that allow for a comment
 and/or correction period prior to the release of the data.

Report Card Logistics

As discussed in the "Environment" chapter, understanding the relationship between process and outcome, or cause and effect, is essential to quality management. The utilization of evidence-based models where these correlations have been scientifically proven to improve health status is vital. Major measurement sets and key national programs that endorse these measurement sets are outlined below.

Major Measurement Sets

CMS quality measures report on AMI, heart failure, pneumonia, and surgical care, and have begun to incorporate 30-day mortalities and patient satisfaction measures. CMS continuously revisits, expands, or modifies measures. CMS will rapidly expand its quality measures and add some complication measures under anticipated value-based purchasing models.

AHRQ measures are used by a growing number of organizations and report card vendors. AHRQ has developed an array of health care decision-making and research tools. One of these tools is the AHRQ Quality Indicators (QIs), comprised of the Inpatient Quality Indicators (IQIs), Prevention Quality Indicators (PQIs), Patient Safety Indicators (PSIs), and Pediatric Quality Indicators (PDIs). Some of the key highlights include:

- AHRQ measures are scientifically developed, transparent, and readily available. As a federal agency, AHRQ provides free software for hospitals to track, trend, and use internally for analysis and improvement activity.

- The PSIs are one of the few measurement sets that identifies and compares complication rates.

- The PQIs can be one source for the measurement of community health status or practice patterns.

- AHRQ will enhance its methodology by incorporating the present-on-admission indicator as it becomes a valid national measure.

- At the time of this writing, there are 17 New York State reports that have, or currently use, AHRQ indicators.[14]

Note: AHRQ has an online compendium with more than 200 reports nationwide that use AHRQ indicators.[15] AHRQ indicates that a report card's presence on its Web site does not equate to an endorsement.

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[14] Health Care Report Card Compendium, 2007

[15] Health Care Report Card Compendium, 2007

Other major quality measurement sets include:

- **The Joint Commission's ORYX®** initiative integrates outcomes and other performance measurement data into the accreditation process. ORYX measurement requirements are intended to support Joint Commission-accredited organizations in their quality improvement efforts. In 2004, The Joint Commission and CMS began working together to align measures common to both organizations. These standardized common measures, the "Hospital Quality Measures," are integral to improving the quality of care provided to hospital patients and bringing value to stakeholders by focusing on the actual results of care. Measure alignment benefits hospitals by making it easier and less costly to collect and report data because the same data set can be used to satisfy both CMS and Joint Commission requirements. All of the Hospital Quality Measures are endorsed by NQF.[16]

- **Institute for Healthcare Improvement (IHI) 5 Million Lives Campaign, American Heart Association/American College of Cardiology "Get with the Guidelines," University HealthSystem Consortium, and other society-based measures.** IHI, in particular, has ensured that its initiative measures are in total alignment with CMS specifications, some believe at the expense of limiting some AHRQ projects, but ultimately to support hospitals' ability to stay focused and make further improvements. University HealthSystem Consortium's measures are also aligned with CMS and AHRQ.

Endorsements

There are organizations that review and endorse quality measures, thus attesting to their credibility and value. Not only do these oversight agencies act to ensure the science, rationale, and clear definition of the best measurement models, but they also promote the standardization and alignment agenda.

National Quality Forum is a private, not-for-profit membership organization created to develop and implement a national strategy for health care quality measurement and reporting.[17] NQF:

- approves individual measures referred to as standards, but does not endorse report cards;

- uses an approved set of national voluntary consensus standards for measuring the quality of hospital care;

- endorses the majority of CMS and The Joint Commission measures; and

- endorses many AHRQ measures.

[16] The Joint Commission
[17] National Quality Forum

Hospital Quality Alliance[18]

- HQA is a voluntary alliance of the American Hospital Association, the Federation of American Hospitals, and the Association of American Medical Colleges, that collects data and reports on hospital quality performance.

- HQA is supported by NQF, CMS, and AHRQ in the endorsement of CMS and The Joint Commission's hospital measures.

Mandatory vs. Voluntary Participation

There are many reasons for hospitals to engage in the reporting of data for report cards including payer requirements, governmental regulations, P4P programs, and collaborative quality initiatives with organizations like the University HealthSystem Consortium and IHI. Refer to Table 4-2 for examples of report card participation requirements.

Table 4-2

Examples of Hospital Participation		
Type of Report Card	Source	Examples
Voluntary * May have secondary reasons or incentives	Self-reported data	CMS Hospital Compare, The Joint Commission Quality Check, The Leapfrog Group, University HealthSystem Consortium
Mandatory	Self-reported data	New York State Adult Cardiac Surgery
Provided externally, non-voluntary	Data obtained from secondary source	HANYS' Comparative Hospital Report, HealthGrades, Niagara Coalition, Thomson Healthcare, U.S. News & World Report

Provider Input Prior to Public Release

The usability and validity of report cards can be enhanced by provider input. Comment and review periods, demonstration projects, and pre-testing of measures are examples of various collaborative approaches. Table 4-1 displays report cards that incorporate provider feedback.

On the other hand, a number of organizations publicly release hospital quality report cards without collaboration with the hospital community. There may be ambiguity around their credibility and utility because of black box methodologies or based on conflict of interest concerns.

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[18] Hospital Quality Alliance

Advantages of provider input:

- Ongoing improvements can be in the report methodology (such as risk adjustment) and user understanding as evidenced by the work done by CMS;

- Enhanced report card use; and

- Increase in public information and understanding when some of the report cards publish the hospitals' explanations and rationale along with the data.

Disadvantages of little or no provider input:

- Limited pre-publication review and feedback is less useful since at that point in the report cycle there may be little time to complete an internal analysis;

- Concurrent media and hospital comment period is also of limited value because of time and pre-release media questions; and

- Hospitals do not have the ability to complete an internal analysis or prepare information in response to public inquiry.

Table 4-3

Criteria to Evaluate Functionality and Use						
	Publicly Available	Public Disclosure of Statistical Model	Interactive Web Site	Data Access Fee	Pay for Performance	Performance Based Purchasing
AHRQ	■	■	■			
Measurement Set Applicable to Numerous Report Cards*						
HealthGrades	■		■	■ –		
CMS Hospital Compare • IPRO	■	■	■		■	
The Joint Commission Quality Check	■	■	■			
The Leapfrog Group Hospital Ratings	■	■	■	■ –		■
Niagara Coalition - New York State Hospital Report Card	■	■	■			
New York State Adult Cardiac Surgery Report • Adult Cardiac Surgery Report • Hospital Profile	■	■	■			
Thomson Healthcare	■		■	■ –		
U.S. News & World Report	■	■				
Reported to the Hospitals Only - Not Public **						
HANYS' Comparative Hospital Report		■				
University HealthSystem Consortium		■	■	■		

Headers:

* Measurement set available publicly through the federal Agency for Healthcare Research and Quality. Numerous report cards utilize all or part of these measures.

** Hospital Only Report Cards are those where data is not publicly reported but released to the hospitals. The comparative data are blinded.

Criteria clarification:

■ – = Combination of free access and report specific fee(s)

■ = Yes

N/A = Not Applicable

APPENDIX A
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APPENDIX C
REPORT CARD MEASURES

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

Source: http://www.qualityindicators.ahrq.gov
2007

Inpatient Quality Indicators

Mortality Rates for Medical Conditions
- Acute Myocardial Infarction (AMI)
- AMI, Without Transfer Cases
- Congestive Heart Failure
- Gastrointestinal Hemorrhage
- Hip Fracture
- Pneumonia
- Stroke

Mortality Rates for Surgical Procedures
- Abdominal Aortic Aneurysm (AAA) Repair
- Carotid Endarterectomy
- Coronary Artery Bypass Graft (CABG)
- Craniotomy
- Esophageal Resection
- Hip Replacement
- Pancreatic Resection
- Percutaneous Transluminal Coronary Angioplasty (PTCA)

Hospital-level Procedure Utilization Rates
- Bi-lateral Cardiac Catheterization
- Cesarean Section Delivery
- Incidental Appendectomy in the Elderly
- Laparoscopic Cholecystectomy
- Primary Cesarean Delivery
- Vaginal Birth After Cesarean (VBAC), All
- VBAC, Uncomplicated

Area-level Utilization Rates
- CABG
- Hysterectomy
- Laminectomy or Spinal Fusion
- PTCA

Volume of Procedures
- AAA Repair
- Carotid Endarterectomy
- CABG
- Esophageal Resection
- Pancreatic Resection
- PTCA

Patient Safety Indicators

Hospital-level Indicators
- Accidental Puncture and Laceration
- Birth Trauma—Injury to Neonate
- Complications of Anesthesia
- Death in Low Mortality DRGs
- Decubitus Ulcer
- Failure to Rescue
- Foreign Body Left in During Procedure
- Iatrogenic Pneumothorax
- Obstetric Trauma—Cesarean Delivery
- Obstetric Trauma—Vaginal Delivery with Instrument
- Obstetric Trauma—Vaginal Delivery without Instrument
- Post-operative Hemorrhage or Hematoma
- Post-operative Hip Fracture
- Post-operative Physiologic and Metabolic Derangements
- Post-operative Pulmonary Embolism or Deep Vein Thrombosis
- Post-operative Respiratory Failure
- Post-operative Sepsis
- Post-operative Wound Dehiscence in Abdominopelvic Surgical Patients
- Selected Infections Due to Medical Care
- Transfusion Reaction

Area-level Indicators
- Accidental Puncture and Laceration
- Foreign Body Left in During Procedure
- Iatrogenic Pneumothorax
- Post-operative Hemorrhage or Hematoma
- Post-operative Wound Dehiscence in Abdominopelvic Surgical Patients
- Selected Infections Due to Medical Care
- Transfusion Reaction

CENTERS FOR MEDICARE AND MEDICAID SERVICES

Source: http://www.qualitynet.org
2007

Hospital Care Quality Measures

Acute Myocardial Infarction
AMI-1 Aspirin at Arrival
AMI-2 Aspirin Prescribed at Discharge
AMI-3 Angiotensin Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) for Patients with Left Ventricular Systolic Dysfunction (LVSD)
AMI-4 Adult Smoking Cessation Advice/Counseling
AMI-5 Beta Blocker Prescribed at Discharge
AMI-6 Beta Blocker at Arrival
AMI-7 Median Time to Thrombolysis
AMI-7a Thrombolytic Agent Received Within 30 Minutes of Hospital Arrival
AMI-8 Median Time to Percutaneous Transluminal Coronary Angioplasty (PTCA)
AMI-8a Primary Percutaneous Coronary Intervention (PCI) Received Within 90 Minutes of Hospital Arrival
AMI-9 Inpatient Mortality (Joint Commission Only)
AMI-T1a Low-density Lipoprotein (LDL) Cholesterol Assessment (Optional Test Measure)
AMI-T2 Lipid Lowering Therapy at Discharge (Optional Test Measure)

Heart Failure (HF)
HF-1 Discharge Instructions
HF-2 Evaluation of Left Ventricular Function (LVS) Function
HF-3 ACEI or ARB for LVSD
HF-4 Adult Smoking Cessation Advice/Counseling

Pneumonia (PN)
PN-1 Oxygenation Assessment
PN-2 Pneumococcal Screening and/or Vaccination
PN-3a Blood Cultures Performed Within 24 Hours Prior to, or 24 Hours After Hospital Arrival for Patients Who Were Transferred or Admitted to the Intensive Care Unit (ICU) Within 24 Hours of Hospital Arrival
PN-3b Blood Cultures Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital
PN-4 Adult Smoking Cessation Advice/Counseling

PN-5 Antibiotic Timing (Median)
PN-5a Initial Antibiotic Received Within Eight Hours of Hospital Arrival
PN-5b Initial Antibiotic Received Within Four Hours of Hospital Arrival
PN-5c Initial Antibiotic Received Within Six Hours of Hospital Arrival (Test Measure)
PN-6 Initial Antibiotic Selection for Community-acquired Pneumonia (CAP) in Immunocompetent Patient
PN-6a Initial Antibiotic Selection for CAP in Immunocompetent—ICU Patient
PN-6b Initial Antibiotic Selection for CAP in Immunocompetent—Non ICU Patient
PN-7 Influenza Vaccination

Surgical Care Improvement Project (SCIP)
SCIP-Inf-1a Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision—Overall Rate
SCIP-Inf-2a Prophylactic Antibiotic Selection for Surgical Patients-Overall Rate
SCIP-Inf-3a Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time—Overall Rate
SCIP-Inf-4 Cardiac Surgery Patients With Controlled 6 a.m. Post-operative Blood Glucose
SCIP-Inf-6 Surgery Patients with Appropriate Hair Removal
SCIP-Inf-7 Colorectal Surgery Patients with Immediate Post-operative Normothermia
SCIP-Card-2 Surgery Patients on Beta Blocker Therapy Prior to Admission Who Received a Beta Blocker During the Perioperative Period
SCIP-Venous Thromboembolism (VTE)-1 Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered
SCIP-VTE-2 Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

30-day Mortality Measures
AMI
Heart Failure

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

The HCAHPS survey is composed of 27 items: 18 substantive items that encompass critical aspects of the hospital experience (communication with doctors, communication with nurses, responsiveness of hospital staff, cleanliness and quietness of the hospital, pain control, communication about medicines, and discharge information); four items to screen patients to appropriate items; three items to adjust for the mix of patients across hospitals; and two items to support congressionally-mandated reports.

Patient Satisfaction Survey

Care from Nurses
1- During this hospital stay, how often did nurses treat you with courtesy and respect?
2- During this hospital stay, how often did nurses listen carefully to you?
3- During this hospital stay, how often did nurses explain things in a way you could understand?
4- During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?

Care from Doctors
5- During this hospital stay, how often did doctors treat you with courtesy and respect?
6- During this hospital stay, how often did doctors listen carefully to you?
7- During this hospital stay, how often did doctors explain things in a way you could understand?

Hospital Environment
8- During this hospital stay, how often were your room and bathroom kept clean?
9- During this hospital stay, how often was the area around your room quiet at night?

Your Experiences in this Hospital
10- During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
11- How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
12- During this hospital stay, did you need medicine for pain?
13- During this hospital stay, how often was your pain well controlled?
14- During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?
15- During this hospital stay, were you given any medicine that you had not taken before?

APU providers will be required to submit data for the HCAHPS initiative to receive their full marketbasket update for FFY 2008. The HCAHPS measures are effective with fourth quarter 2006 and forward discharges.

HCAHPS Ratings
Doctor Communication
Nurse Communication
Responsiveness of Hospital Staff
Cleanliness and Quiet of Hospital Environment
Pain Management
Communication about Medicines
Discharge Information

Overall Ratings
Rating of Hospital
Willingness to Recommend a Hospital

HEALTHGRADES

Source: http://www.healthgrades.com

2008

Service Lines

- Cardiac:
  - CABG Mortality
  - Valve Replacement Mortality
  - Coronary Interventional Procedure Mortality
  - Acute Myocardial Infarction with and without Angioplasty Mortality
  - Heart Failure—In-hospital and 180-day Mortality
  - Atrial Fibrillation Mortality

- Orthopedics:
  - Total Knee Replacement Major Complication
  - Total Hip Replacement Major Complication
  - Hip Fracture Repair Major Complication
  - Back/Neck Surgery with/without Spinal Fusion Major Complication
- Stroke Mortality
- Pulmonary:
  - COPD In-Hospital and 180-Day Mortality
  - Community-acquired Pneumonia Mortality
- Vascular:
  - Resection/Replacement of Abdominal Aorta Mortality
  - Carotid Endarctectomy Major Complication
  - Peripheral Vascular Bypass Major Complication
- Prostatectomy Major Complication
- Gastrointestinal:
  - Gastrointestinal Procedures and Surgeries Mortality
  - Gastrointestinal Bleed Mortality
  - Bowel Obstruction Mortality
  - Pancreatitis Mortality
  - Cholecystectomy Major Complication
- Critical Care:
  - Pulmonary Embolism Mortality
  - Respiratory Failure Mortality
  - Diabetic Acidosis and Coma In-Hospital and 30-day Mortality
  - Sepsis Mortality
- General Surgery:
  - Bowel Obstruction Mortality
  - Cholecystectomy Major Complication
  - Appendectomy Major Complication

- Bariatric Surgery Major Complication
- Maternity Care:
  - Obstetrics Major Complication
  - Vaginal Single Delivery Major Complication
  - Cesarean Section Delivery Major Complication
  - Elective Primary Cesarean Major Complication
  - Unspecified Elective Primary Cesarean Complication
- Women's Health:
  - CABG—Female Only Mortality
  - Valve Replacement Surgery—Female Only Mortality
  - Percutaneous Cardiac Intervention—Female Only Mortality
  - Acute Myocardial Infarction—Female Only Mortality
  - Congestive Heart Failure—Female Only Mortality
  - Stroke, Non Transfer Hospitals—Female Only Mortality

Patient Safety

(based on AHRQ Patient Safety Indicators)

Accidental Puncture or Laceration

Complications of Anesthesia

Death in Low Mortality DRGs

Decubitus Ulcer

Failure to Rescue

Foreign Body Left in During Procedure

Iatrogenic Pneumothorax

Post-operative Abdominal Wound Dehiscence

Post-operative Hemorrhage or Hematoma

Post-operative Hip Fracture

Post-operative Physiologic or Metabolic Derangement

Post-operative Pulmonary Embolism or Deep Vein Thrombosis

Post-operative Respiratory Failure

Post-operative Sepsis

Selected Infections Due to Medical Care

Transfusion Reaction

THE JOINT COMMISSION
Source: http://www.jointcommission.org
2007

Core Measures

Acute Myocardial Infarction
AMI-1 Aspirin at Arrival
AMI-2 Aspirin Prescribed at Discharge
AMI-3 ACEI or ARB for Patients with LVSD
AMI-4 Adult Smoking Cessation Advice/Counseling
AMI-5 Beta Blocker Prescribed at Discharge
AMI-6 Beta Blocker at Arrival
AMI-7 Median Time to Thrombolysis
AMI-7a Thrombolytic Agent Received Within 30 Minutes of Hospital Arrival
AMI-8 Median Time to PTCA
AMI-8a Primary PCI Received within 90 Minutes of Hospital Arrival
AMI-9 Inpatient Mortality (Joint Commission Only)

Heart Failure (HF)
HF-1 Discharge Instructions
HF-2 Evaluation of Left Ventricular Systolic (LVS) Function
HF-3 ACEI or ARB for LVSD
HF-4 Adult Smoking Cessation Advice/Counseling

Pregnancy and Related Conditions (PR)
PR-1 VBAC
PR-2 Inpatient Neonatal Mortality
PR-3 Third or Fourth Degree Laceration

Pneumonia (PN)
PN-1 Oxygenation Assessment
PN-2 Pneumococcal Screening and/or Vaccination
PN-3a Blood Cultures Performed Within 24 Hours Prior to, or 24 Hours After Hospital Arrival for Patients Who Were Transferred or Admitted to the ICU Within 24 Hours of Hospital Arrival
PN-3b Blood Cultures Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital

PN-4 Adult Smoking Cessation Advice/Counseling
PN-5 Antibiotic Timing (Median)
PN-5a Initial Antibiotic Received Within Eight Hours of Hospital Arrival
PN-5b Initial Antibiotic Received Within Four Hours of Hospital Arrival
PN-5c Initial Antibiotic Received Within Six Hours of Hospital Arrival (Test Measure)
PN-6 Initial Antibiotic Selection for CAP in Immunocompetent Patient
PN-6a Initial Antibiotic Selection for CAP in Immunocompetent—ICU Patient
PN-6b Initial Antibiotic Selection for CAP in Immunocompetent—Non ICU Patient
PN-7 Influenza Vaccination

Surgical Care Improvement Project (SCIP)
SCIP-Inf-1a Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision—Overall Rate
SCIP-Inf-2a Prophylactic Antibiotic Selection for Surgical Patients-Overall Rate
SCIP-Inf-3a Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time—Overall Rate
SCIP-Inf-4 Cardiac Surgery Patients With Controlled 6 a.m. Post-operative Blood Glucose
SCIP-Inf-6 Surgery Patients with Appropriate Hair Removal
SCIP-Inf-7 Colorectal Surgery Patients with Immediate Post-operative Normothermia
SCIP-Card-2 Surgery Patients on Beta Blocker Therapy Prior to Admission Who Received a Beta Blocker During the Perioperative Period
SCIP-VTE-1 Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered
SCIP-VTE-2 Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery, to 24 Hours After Surgery

THE LEAPFROG GROUP

Leapfrog Leaps

(National Quality Forum Endorsed 30 Safe Practices)

Leapfrog's Original Three Safe Practices:
ICU Physician Staffing (Safe Practice 7)
Safe Adoption of Computer Physician Order Entry
(Safe Practice 12)
Evidence-based Hospital Referral (Safe Practice 24)

Leapfrog Safe Practices Score (Remaining 27 Safe Practices):

1 - Create and sustain a culture of safety.

2 - Ask each patient or legal surrogate to "teach back," in his or her own words, key information about the proposed treatments or procedures for which he or she is being asked to provide informed consent.

3 - Ensure that written documentation of the patient's preferences for life-sustaining treatments is prominently displayed in his or her chart.

4 - Following serious unanticipated outcomes, including those that are clearly caused by systems failures, the patient and, as appropriate, family should receive timely and transparent clear communication concerning what is known about the event.

5 - Implement critical components of a well designed nursing workforce that mutually reinforce patient safeguards including:
- a nurse staffing plan with evidence that it is adequately resourced, actively managed, and the effectiveness regularly evaluated with respect to patient safety;
- senior administrative nursing leaders such as a chief nursing officer as part of the hospital senior management team;
- governance boards and senior administrative leaders that take accountability for reducing patient safety risks related to nurse staffing decisions and provision of financial resources for nursing services; and
- provision of budgetary resources to support nursing staff in ongoing acquisition and maintenance of professional knowledge and skills.

6 - Ensure that non-nursing direct care staffing levels are adequate, that the staff are competent, and that they have had adequate orientation, training, and education to perform their assigned direct care duties.

8 - Ensure that care information is transmitted and appropriately documented in a timely and clearly understandable form to patients, and to all of the patient's health care providers/professionals, within and between care settings, who need that information to provide continued care.

9 - For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test results by having the person receiving the information record and "read back" the complete order or test result.

10 - Implement standardized policies, processes, and systems to ensure accurate labeling of radiographs, laboratory specimens, or other diagnostic studies, so that the right study is labeled for the right patient at the right time.

11- A "discharge plan" must be prepared for each patient at the time of hospital discharge, and a concise discharge summary must be prepared for, and relayed to the clinical caregiver accepting responsibility for post-discharge care in a timely manner. Organizations must ensure that there is confirmation of receipt of the discharge information by the independent licensed practitioner who will assume the responsibility for care after discharge.

13 - Standardize a list of "Do Not Use" abbreviations, acronyms, and dose designations that cannot be used throughout the organization.

14 - The health care facility must develop, reconcile, and communicate an accurate medication list throughout the continuum of care.

15 - Pharmacists should actively participate in the medication management systems, including at a minimum, working with other health professionals to select and maintain a formulary of medications chosen for safety and effectiveness, and being available for consultation with prescribers on medication ordering and interpretation.

THE LEAPFROG GROUP

16 - Standardize methods of labeling and packaging medications.

17- Identify all "high alert" drugs and establish policies and procedures to minimize the risks associated with the use of these drugs. At a minimum, such drugs should include intravenous adrenergic agonists and antagonists, chemotherapy agents, anticoagulants and anti-thrombotics, concentrated parenteral electrolytes, general anesthetics, neuromuscular blockers, insulin and oral hypoglycemics, and opiates.

18 - Health care organizations should dispense medications, including parenterals, in unit-dose or, when appropriate, unit-of-use form, whenever possible.

19 - Aspiration and Ventilator-associated Pneumonia Prevention: Action should be taken to prevent ventilator-associated pneumonia by implementing bundle intervention practices.

20 - Central Venous Catheter-associated Bloodstream Infection Prevention: Adhere to effective methods of preventing central venous catheter-related blood stream infections and specify the requirements in explicit policies and procedures.

21 - Prevent surgical site infections by implementing four components of care:
- appropriate use of antibiotics;
- appropriate hair removal;
- maintenance of post-operative glucose control for patients undergoing major cardiac surgery; and
- establishment of post-operative normothermia for patients undergoing colorectal surgery.

22 - Comply with current Centers for Disease Control and Prevention (CDC) Hand Hygiene Guidelines.

23 - Immunize health care workers and patients who should be immunized against influenza annually.

25 - Implement the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™, for all invasive procedures.

26 - Evaluate each patient undergoing elective surgery for risk of an acute ischemic cardiac event during surgery, and consider prophylactic treatment with beta blockers for patients who (1) have required beta blockers to control symptoms of angina, or patients with symptomatic arrhythmias or hypertension, or (2) are at high risk owing to the finding of ischemia on preoperative testing and are undergoing vascular surgery.

27 - Evaluate each patient upon admission, and regularly thereafter, for the risk of developing pressure ulcers. This evaluation should be repeated at regular intervals during care. Clinically appropriate preventive methods should be implemented subsequent to this evaluation.

28 - Evaluate each patient upon admission, and periodically thereafter, for the risk of developing venous thromboembolism/deep vein thrombosis. Utilize clinically appropriate, evidence-based methods of thromboprophylaxis.

29 - Every patient on long-term oral anticoagulants should be monitored by a qualified health professional, using a careful strategy to ensure an appropriate intensity of supervision.

30 - Utilize validated protocols to evaluate patients who are at risk for contrast media-induced renal failure, and utilize a clinically appropriate method for reducing risk of renal injury based on the patient's kidney function evaluation.

NEW YORK STATE DEPARTMENT OF HEALTH

http://www.health.state.ny.us/nysdoh/heart/heart_disease.htm
2007

Cardiac Advisory

Cardiac Valve Procedures—Mortality Rate

Criteria Used in Reporting Significant Risk Factors:
Comorbidities
Hemodynamic State
Previous Open Heart Operations
Ventricular Function

Coronary Artery Bypass Graft Surgery—Mortality Rate

Criteria Used in Reporting Significant Risk Factors:
Comorbidities
Hemodynamic State
Previous Open Heart Operations
Ventricular Function

Pediatric Congenital Cardiac Surgery—Mortality Rate

Criteria Used in Reporting Significant Risk Factors:
Ventilator Dependence
Major Extra-Cardiac Anomalies
Pre-existing Neurologic Abnormality
Pneumonia at Time of Surgery

Percutaneous Coronary Interventions—Mortality Rate

Criteria Used in Reporting Significant Risk Factors:
Comorbidities
Hemodynamic State
Severity of Atherosclerotic Process
Ventricular Function
Vessels Diseased

THOMSON HEALTHCARE

http://www.100tophospitals.com/
2007

Thomson 100 Top Hospitals®: National Benchmarks for Success

A national balanced scorecard for five hospital categories. The ranked composite score is based on a set of weighted organization-wide performance measures representing the following domains: clinical outcomes, clinical process, patient safety, efficiency, financial stability, and responsiveness to the community:

Risk-adjusted Mortality Index
Risk-adjusted Complications Index
Risk-adjusted Patient Safety Index
Core Measures Score
Severity-adjusted Average Length of Stay
Expense per Adjusted Discharge, Case Mix- and Wage-adjusted
Profitability (Operating Profit Margin)
Cash to Total Debt Ratio
Growth in Patient Volume
HCAPHS—to be added in 2007/2008 studies

UNIVERSITY HEALTHSYSTEM CONSORTIUM

http://www.uhc.edu
(Membership Required)
2007

Quality and Safety Management
(AHRQ Adult Inpatient Quality and Patient Safety Indicators)

Post-Procedure Mortality (%)
AAA Repair
Carotid Endarterectomy
CABG
Craniotomy
Esophageal Resection
Hip Replacement
Pancreatic Resection
PTCA

In-Hospital Mortality (%)
AMI Inpatient Mortality
AMI Mortality without Transfers
Acute Stroke
Gastrointestinal Hemorrhage
Heart Failure
Hip Fracture
Pneumonia

Utilization Rates (%)
Cesarean Section (All Deliveries)
Cesarean Section (Primary)
VBAC, All
VBAC, Uncomplicated

Volumes
AAA Repair
Carotid Endarterectomy
CABG
Esophageal Resection
Pancreatic Resection
PTCA

Surgical (Rate per 1,000)
Complications of Anesthesia
Foreign Body Left in During Procedure
Post-operative Hemorrhage or Hematoma
Post-operative Hip Fracture
Post-operative Physiologic/Metabolic Derangement
Post-operative Pulmonary Embolism or Deep Vein Thrombosis
Post-operative Respiratory Failure
Post-operative Sepsis
Post-operative Wound Dehiscence

Obstetric (Rate per 1,000)
Birth Trauma
Obstetric (OB) Trauma—Cesarean Section
OB Trauma—Vaginal With Instrument
OB Trauma—Vaginal Without Instrument

Other (Rate per 1,000)
Accidental Puncture/Laceration
Death in Low Mortality DRGs
Decubitus Ulcer
Failure to Rescue
Iatrogenic Pneumothorax
Selected Infections Due to Medical Care
Transfusion Reaction

Hospital Quality Measures Report
Composite Measures
CMS Appropriate Care Measure (10 Metric)
CMS Appropriate Care Measure (21 Metric)
HQA AMI Composite
HQA HF Composite
HQA PN Composite
HQA SCIP Composite

UNIVERSITY HEALTHSYSTEM CONSORTIUM—CONTINUED
http://www.uhc.edu
(Membership Required)
2007

Acute Myocardial Infarction
AMI-1 Aspirin at Arrival
AMI-2 Aspirin Prescribed at Discharge
AMI-3 ACE or ARB for LVSD
AMI-4 Adult Smoking Cessation Advice/Counseling
AMI-5 Beta Blocker Prescribed at Discharge
AMI-6 Beta Blocker at Arrival
AMI-7a Fibrinolytic Therapy Received Within
    30 Mins of Arrival
AMI-8a Primary PCI Received Within 90 Mins. of Arrival
AMI-9 Inpatient Mortality

HF Heart Failure
HF-1 Discharge Instructions
HF-2 Evaluation of LVS Function
HF-3 ACEI or ARB for LVSD
HF-4 Adult Smoking Cessation Advice/Counseling

PN Pneumonia
PN-1 Oxygenation Assessment
PN-2 Pneumococcal Vaccination
PN-3a Blood Culture Within 24 Hours of Arrival for
    Patients Transferred/Admitted to ICU
PN-3b Blood Cultures in the ED Prior to Antibiotic
PN-4 Adult Smoking Cessation Advice/Counseling
PN-5b Time to First Dose of Antibiotic <= 4 Hours
PN-6a Antibiotic Selection for CAP in
    Immunocompetent ICU Patient
PN-6b Antibiotic Selections for CAP in Immunocompetent
    Non-ICU Patient

PR Pregnancy and Related Conditions
PR-1 VBAC
PR-2 Inpatient Neonatal Mortality
PR-3 3rd or 4th Degree Laceration

SCIP-Inf-1 Antibiotic Received One Hour
Prior to Surgical Incision
SCIP-Inf-1a Overall
SCIP-Inf-1b CABG
SCIP-Inf-1c Other Cardiac Surgery
SCIP-Inf-1d Hip Arthroplasty
SCIP-Inf-1e Knee Arthroplasty
SCIP-Inf-1f Colon Surgery
SCIP-Inf-1g Hysterectomy
SCIP-Inf-1h Vascular Surgery

SCIP-Inf-2 Antibiotic Selection for Surgical Patients
SCIP-Inf-2a Overall
SCIP-Inf-2b CABG
SCIP-Inf-2c Other Cardiac Surgery
SCIP-Inf-2d Hip Arthroplasty
SCIP-Inf-2e Knee Arthroplasty
SCIP-Inf-2f Colon Surgery
SCIP-Inf-2g Hysterectomy
SCIP-Inf-2h Vascular Surgery

SCIP-Inf-3 Antibiotics Discontinued
Within 24/48 Hours After Surgery End
SCIP-Inf-3a Overall
SCIP-Inf-3b CABG
SCIP-Inf-3c Other Cardiac Surgery
SCIP-Inf-3d Hip Arthroplasty
SCIP-Inf-3e Knee Arthroplasty
SCIP-Inf-3f Colon Surgery
SCIP-Inf-3g Hysterectomy
SCIP-Inf-3h Vascular Surgery

U.S. NEWS & WORLD REPORT

2007 America's Best Hospitals
– July 23-30, 2007

Index of Hospital Quality Scores by Specialty

Cancer
Digestive Disorders
Ear, Nose, and Throat
Endocrinology
Gynecology
Heart and Heart Surgery
Kidney Disease
Neurology and Neurosurgery
Orthopedics
Respiratory Disorders
Urology

Reputation-Only Rankings

Ophthalmology
Pediatrics
Psychiatry
Rehabilitation
Rheumatology

HANYS' REPORT CARD SUBCOMMITTEE

HANYS' REPORT CARD ON HOSPITAL QUALITY REPORT CARDS

MEASURE	DEFINITION	HEALTH GRADES	CMS HOSPITAL COMPARE	THE JOINT COMMISSION	THE LEAPFROG GROUP	NIAGARA COALITION	NYS DOH	SOLUCIENT	U.S. NEWS & WORLD REPORT
Complete Methodology Transparency	Is the complete methodology available, enabling hospitals to replicate and analyze internally?	◔	●	●	◔	●	●	◔	◔
Risk Adjustment	Is a statistical model applied to the data that adjusts for significant differences in patient illness severity?	●	●	◔	◔	●	●	●	◕
Structure or Process Measures	Are there measures that rate key process steps or contributions to the end result?	○	●	●	●	◔	●	◑	○
Outcome Measures	Do the data include measures of the end result of the patient care in addition to services provided?	●	●	●	●	●	●	●	●
Most Current Data (Current defined as ≤ 2 years old, includes reported and compared data)	Does the measure rely upon the most current data available?	◑	●	●	●	●	●	◑	●
Measures Aligned with Recognized and Major Programs	Are the measures NQF-approved and/or aligned with federal CMS measures such as HQA?*	○	●	●	◔	◕	●	○	○
Data Consistency	Were comparative data points gathered from the same sources and timeframes?	◑	●	●	◑	●	●	◑	◑
Hospital Review	Are hospitals allowed to review the report prior to release to correct potential uncontested errors?	◑	●	◑	◔	●	◔	○	○
FINAL GRADE		**D**	**A**	**B**	**C**	**C**	**A**	**D**	**D**

Healthcare Association of New York State — HANYS

KEY: LOWEST ← ○ ◔ ◑ ◕ ● → HIGHEST
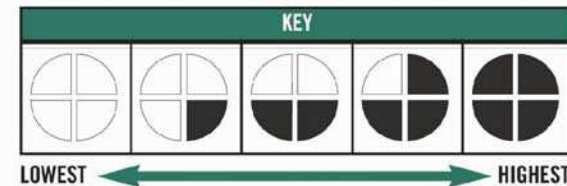
*NQF: National Quality Forum   CMS: Centers for Medicare and Medicaid Services   HQA: Hospital Quality Alliance

May 1, 2008