Quality Check: An Overview of Quality Measures and Their Uses

By Chris Dimick

Meaningful use and pay-for-performance are shining a spotlight on quality measures. There are hundreds of measures in use, but most fall within three broad categories.

Just performing a healthcare service may not be enough to receive payment anymore. Increasingly, payers are tying reimbursement to the quality of the services rendered.

Pay-for-performance and other quality-based payment initiatives have heightened the importance of collecting quality measures, used to gauge how well an individual physician or entire facility provides care. The recent ARRA legislation is full of quality measure requirements, built into health IT incentive programs to track how effective EHRs and other technology are at improving healthcare.

Most quality measures reporting is voluntary, but several private payers and accrediting organizations, including the Joint Commission, require healthcare facilities to report quality measures. These measures are then tied to reimbursement levels and accreditation status. The Centers for Medicare and Medicaid Services (CMS) does not require mandatory quality reporting at this time, but does tie quality measures to reimbursement levels. CMS will withhold a hospital's annual payment update, currently at 2 percent of Medicare reimbursement, if the hospital does not submit core measure data.

"CMS is very concerned with value-based purchasing and pay-for-performance," says Maggie Foley, PhD, RHIA, CCS, clinical associate professor in the HIM department at Temple University. She says CMS is asking, "Are we rewarding good care and penalizing poor care?"

CMS does not hoard the data it collects. It uses the measures to create hospital report cards, which it makes available to the public. Private organizations such as the Leapfrog Group also grade providers based on quality measurement data.

Further, facilities use the data to grade themselves, comparing their performance against internal and external benchmarks to focus their quality improvement efforts.

The task of abstracting, organizing, sending, and analyzing quality measures is usually managed by HIM professionals. As more payment is tied to quality, hospital executives will look to HIM to devise solutions for accurately capturing not just the services rendered but how well they are rendered.

Even professionals not directly involved with collecting quality measures increasingly require a basic understanding of them, because collecting quality measures can affect the way health information is recorded and stored.

While there are hundreds of quality measures used to evaluate care, nearly all measures fall into one of three measurement types-structure, outcome, and process.

Structural Measures

HIM professionals involved in the selection and implementation of health IT should have a fundamental knowledge of the required structural measures in the industry. These measures can require organizations to capture and report how their health IT systems are being used in clinical care. Setting up that reporting system will fall partly to HIM.

Donabedian defined structural quality measures as the professional and organizational resources associated with the provision of care, such as staff credentials and facility operating capacities (see sidebar at right).

Simply put, structural measures look at the environment in which healthcare is being provided, according to Stephen Horner, vice president of clinical analytics, clinical services group, at HCA, based in Nashville, TN. Horner is also an adjunct professor in the HIM department at Tennessee State University.

"A lot of times we think of the credentialing and privileging process as totally separate from the quality world and quality activities," Horner says. "But if we are allowing individuals, like physicians for example, to practice in our hospital and provide care that they have not been adequately trained in and show competency in, they are going to end up with poor quality results."

Structural measures gauge the care attributes of the healthcare setting, including material resources (e.g., electronic health records), human resources (e.g., staff expertise), and organizational structure (e.g., hospitals or clinics). For example, the number of nursing hours provided per patient per day could be tracked with a structural measure. A structural measure also could examine the number of surgical cases that are delayed beyond the scheduled start time.

The Medicare Inpatient Prospective Payment System proposed rule for FY 2011, released in April 2010, added a requirement that hospitals must successfully participate in CMS's hospital quality reporting program in order to receive the full inflationary payment update. As part of that proposed revision, several structural quality measures are included that relate to RN staffing levels and the number of hours nurses work in a day.

In an example of structural measures evaluating technology, the CMS proposed rule also would require hospitals report whether they are using various registries, such as a cardiac registry, to improve patient care.

Structural measures have come into the spotlight recently due to the HITECH Act's proposed stage 1 meaningful use requirements. While there are also process, outcome, and other clinical quality measures included in stage 1 requirements, the structural measures centering on the implementation of health IT have caught the attention of HIM professionals because many call for yet undetermined methods for capturing and reporting data.

Structural quality measures proposed for stage 1 meaningful use include:

- Using computerized physician order entry
- Providing patients with an electronic copy of their health record upon request
- Providing patients with timely electronic access to their health records
- Possessing the capacity to electronically exchange key clinical information with providers and other entities

Providers must meet benchmarks on each of these structural measures to fulfill the requirement and receive government incentives. For example, at least half of all patients who request an electronic copy of their health information must be provided a specific set of information within three business days to meet the measure.

A big question looming in the industry is just how to collect and report IT structural measures. The National Quality Forum has formed a committee with HIM representation to address these challenges, says Crystal Kallem, RHIT, CPHQ, a director of practice leadership at AHIMA and the association's liaison to the forum.

For example, some objectives require that the technology be used in providing a service or care to a given percentage of patients. In that situtation, "How do you identify metadata or create metadata fields within the EHR to track that a physician used the technology to care for the patient?" Kallem asks. Conversely, "How do you know which patients the technology was not used for?"

The goal, she notes, is to find a way to capture and report the data automatically rather than manually.

Though meaningful use requires organizations to collect and report structural measures as an indication of having fulfilled the program's requirements, the data in time can help determine if the technology actually improves health outcomes. In the future, Kallem says, structural measures will help lead to the answer.

The Quality Paradigm

In 1966 physician and researcher Avedis Donabedian introduced the structure/process/outcome (SPO) model, the foundation for modern healthcare quality measurement. While there are many different types of quality measurements, nearly all quality measures fall into one of the three categories in the Donabedian model.

In order to be effective, Donabedian wrote, quality measures should be developed with a sort of flow, keeping in mind the three prongs of the quality model. Good organizational structure leads to improved processes, which lead to better patient outcomes.

Structure refers to a healthcare facility's organization and resources, such as nursing staff levels. Process refers to the actual techniques used to treat patients, such as surgery. **Outcome** refers to the consequences of a patient's interaction with the healthcare system or the desired result, such as reduced patient death.

While there are some in healthcare who feel the static Donabedian model may need revision, the paradigm continues to help guide quality measure developers and users to improved healthcare outcomes, according to Kallem.

Process Measures

Process quality measures evaluate the method by which healthcare is provided. The measures reflect the procedures, tests, surgeries, and other actions provided for the patient during the course of treatment. These measures focus on the ability of a person or facility to screen for, diagnose, and manage disease. They can also capture the timeliness and accuracy of a diagnosis, the appropriateness of therapy, and complications or mishaps that occurred during treatment.

For example, a process measure could require a hospital to track whether eligible acute myocardial infarction patients are given an angiotensin-converting enzyme inhibitor like aspirin upon arrival at the hospital. This measure, if followed, can greatly improve patient treatment.

Another process measure, required by CMS, calls for facilities to track how often pneumonia patients receive blood cultures before receiving doses of antibiotic. This process prevents the antibiotic from distorting the culture and can improve patient outcomes.

Process of care measures are some of the most common quality measures in use. The measures are routinely compiled by healthcare providers and reported to organizations including private payers, CMS, and third-party quality groups such as the Leapfrog Group to create report cards based on the results of quality measures. Consumers can use the report cards to compare the quality of physicians, facilities, and even health plans in order to make an informed decision on the best place to receive care.

While some are mandatory, CMS routinely ties participation in the voluntary quality initiatives to the annual reimbursement update.

Composite Measures Growing in Use

As quality measures become more sophisticated, new categories are emerging outside of the structure, process, and outcome paradigm. One fast-developing measure type is the composite measure.

Sometimes the true picture of quality care cannot be seen in individual, specific quality measures. Composite measures are useful in distilling multiple measures into a single score. They allow providers, patients, and researchers the ability to take a step back and look at the entire range of patient care. A composite measure is similar to a college student's grade point average, the summary of the student's academic achievement across many different courses.

For example, a composite quality measure for optimal management of coronary artery disease could contain four independent measures:

- Is the patient's cholesterol level under 100?
- Has patient smoking cessation begun?
- Is the patient's blood pressure below a certain score?
- If appropriate, is aspirin being prescribed?

A physician might score 100 percent on two of those four measures. At first glance, his or her quality of care for coronary artery disease would seem very high. But a composite view of all four measures could present a lower overall score if the physician scored only 33 percent on the other two measures.

Composite measures are routinely reported to insurers, who use the information to publicly promote high-scoring facilities and physicians as their "preferred" healthcare providers, Foley says. The measures are also used frequently in pay-for-performance programs, since they can determine a simple "thumbs up/thumbs down" on the quality of care provided.

Composite measures represent one way that quality measurement is evolving from the Donabedian model. Though it is a new way of thinking about quality, it still leverages the principles of the Donabedian model by compiling individual structure, process, and outcome measures.

Outcome Measures

Outcome measures are quickly becoming the main focus of developers, regulatory groups, and researchers. Many of the health IT measures produced today are structural measures, but researchers will begin shifting to outcome measurements to see just how much impact health IT implementations have on patient care.

Outcome measures track the desired states resulting from care processes and demonstrate the effect structure and process measure types have on the patient. They measure the result of the entire care process.

"You could consider [outcomes] to be the consequence of the healthcare being provided," Horner says. "The structure and process measures really end up leading to outcome measures."

An outcome measure frequently conducted by hospitals for internal quality improvement purposes is the rate of post-operative infections or pneumonia in surgery patients. Other common outcome measures look at how various hospital structures and processes reduce morbidity and mortality in patients, Horner notes.

CMS collects and publishes online data from outcome measures, including mortality rates for heart failure, pneumonia outcomes, acute myocardial infarction patient outcomes, as well as readmission rates for those categories. The data are culled from administrative claims sent to CMS, and participation is tied to receiving the CMS annual payment update. Consumers can access the information and compare the care quality of all the healthcare facilities in their area.

CMS also uses outcome measures to track patient satisfaction with their care. Recently CMS began asking hospitals to give their patients the CMS HCAHPS survey about their care experiences and report the survey information back to the government.

While participation in the survey quality program is voluntary, hospitals that fail to do so have their annual CMS payment update for Medicare reimbursements reduced by 2 percent, Horner says.

What Gets Measured Gets Managed

The relation between quality measures and reimbursement is only going to grow with time. CMS has indicated that as part of the recent federal effort to overhaul healthcare, it will soon change its reimbursement model to a value-based purchasing program, which ties a part of hospital reimbursement to various quality measures, Horner says. Private insurers including WellPoint and United Health Care are also beginning to directly tie quality to reimbursement.

The roles of quality measurement abstractors and analysts, which many HIM professionals hold, will only increase in importance with these developments.

Quality measures provide the best way for healthcare facilities to track their levels of service in the marketplace and improve upon the care delivered to patients, Horner says. Most hospitals, nursing homes, clinics, and other providers include a line in their mission statements that they strive to deliver the highest quality of care.

"Then the question becomes, 'Well, how do you know that?'" Horner says. "The only way you know that is to measure what you do."

Quality measurement does lead to improved quality. Since the core quality measurement requirements were instituted by the Joint Commission in 2002 and CMS in 2003, significant improvement in performance on those measures has been seen, Horner says.

Horner's clinical analytics department collects, tracks, and analyzes various quality measures at HCA and uses the data to compare against other HCA hospitals, as well as external quality benchmarks. The goal is to use the quality measures to improve facility performance in key areas and ultimately improve the quality of care patients receive, he says.

Usually the quality measures evaluated are those required to be reported to regulatory bodies. But HCA also collects and analyzes quality measures beyond those required, which typically focus on a specialty of the hospital. Horner's team uses the data to determine what quality areas HCA facilities are excelling or lacking in and then push for improvements.

Though sometimes difficult to accomplish, quality measures are essential to healthcare. The end goal is to use these measures not to receive the gold star for excellence, but to create evidence-based care for patients, Horner says.

"There is the old adage of 'what gets measured gets managed,'" he says. "If we think back to our days in school, how do I know if I am doing well if I don't get grades?"

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