Taming the Measurement Monster

Patrice L. Spath

SUMMARY • The healthcare performance measurement landscape continues to evolve. Despite questions about the value of performance data, healthcare organizations are being challenged to meet the data demands of a growing number of mandatory and voluntary measurement projects. Standardization of measure specifications and definitions is months (if not years) away. For healthcare organizations, the measurement "monster" may seem impossible to tame. Although the measurement capabilities of healthcare organizations are being stretched, there are some solutions. First, senior executives must be actively involved in promoting a meaningful measurement system that is compatible with the organization's quality goals and meets regulatory, purchaser, and accreditation requirements. Next, efficiency improvements in the way of systemwide collaboration and expanded information technology support can help reduce the administrative burdens. There is no denying that the focus on measurement has advanced the quality of patient care. Healthcare organizations must create the systems necessary to sustain these gains and move forward toward ever better patient care.

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FEATURE

Perhaps it has become a cliché, all this talk about change as a constant in the healthcare industry and the need to stay ahead of the curve. But clichés develop for a reason—usually because they have a ring of truth. In the case of performance measurement, and particularly publicly available performance data, the pace-of-change platitudes are meaningful. Performance measurement was relatively static until the 1990s. For the most part, healthcare organizations used to have considerable latitude in selecting performance indicators and establishing quality standards. All that began to change in the 1980s, and the rate of change has rapidly accelerated in recent years.

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It seems that hardly a month goes by without some new voluntary or mandatory initiative aimed at evaluating another aspect of the quality or safety of healthcare services. Like kids in a candy store, everyone—purchasers, regulators, accrediting bodies, researchers, and clinicians—wants more and more data with seemingly little regard to the provider's financial burden of capturing that information. According to one study, a hospital can spend up to $100,000 annually to collect, report, and analyze data for just three of the Joint Commission's Core Measure sets (heart attack, heart failure, and pneumonia) (Anderson and Sinclair 2006). Even when the data can be gathered from existing information systems, the cost of linking different data sets, cleaning the data, doing the calculations, and writing the reports is still quite high. Although the burden of data collection is one of the considerations the Institute of Medicine (2001) uses to select measures for the National Health Care Report Card and one of the attributes of the Joint Commission's Core Measures (Joint Commission, no date), increasingly external groups seem to place little weight on this criterion when endorsing measures.

Most would agree that having a publicly available, standardized set of healthcare performance measures would be a good thing. Yet there is still little consensus on what that measurement set should look like. If the maxim "what gets measured, gets done" is true, then measures that make the approved list should encourage practices that result in improved patient outcomes. Yet after hospitals spent several years (and several thousands of dollars) collecting data that evaluate the process of care for patients with acute myocardial infarction, heart failure, and pneumonia, researchers recently reported that the measures are not clearly linked to reductions in patient mortality (Fonarow et al. 2007; Werner and Bradlow 2006).

Does this mean performance measurement and public reporting of results data should be abandoned? Definitely not. The value of such reporting goes well beyond its intended use to help consumers make wise healthcare choices. In the past few years more providers are placing a higher priority on quality and patient safety. By knowing how other organizations perform on various measures, senior executives and clinicians are becoming aware of long-standing improvement opportunities. Teamwork among caregivers who seek to improve performance rates has greatly improved. Sharing of best practices and collaboration between healthcare organizations is unprecedented. The performance measures we have now are not perfect (and probably never will be) but the mere threat of transparency has had a

positive impact on the quality culture of healthcare organizations. The near mandatory nature of some performance measurement systems has stimulated active involvement in quality and safety improvement initiatives, even by organizations that have not engaged in such activities in the past. Although healthcare transparency and the requisite measurement activities are onerous for providers, most would agree that the resulting quality improvements are good for healthcare consumers.

For all of the apparent flaws in measurement data, the marketplace is not delaying performance measurement initiatives in hopes that better evaluation tools will come along (Gosfield 2005). Healthcare organizations are increasingly expected to provide clinical performance information to purchasers, accrediting bodies, and the public. It is estimated that hospitals now have more than 300 external reporting requirements—and very little private or public funding to help defray the administrative burden. Many healthcare facilities are scrambling to meet current reporting requirements and are seeking new or upgraded information technology (IT) solutions in anticipation of even more reporting requirements in the future (Pham, Coughlan, and O'Malley 2006). Within the limits of organizational resources, senior executives are being challenged to find ways to tame this "measurement monster" without jeopardizing quality, market share, and financial viability.

To strategically plan for the effect of performance measurement and publicly reported data on their organizations, administrative leaders must first understand the measurement evolution and driving forces. Next, leaders must be personally involved in identifying appropriate measures to gauge individual and organizational practices and supporting efforts to develop and sustain organizational capacity for continual performance improvement.

HOW WE GOT HERE

The notion of using performance data for comparative purposes can probably be traced back to the population-based studies of utilization conducted by Wennberg and Gittelsohn in the late 1960s. These studies, called small area analyses, revealed enormous variations in the use of surgical procedures among different hospital service areas within individual states (Wennberg and Gittelsohn 1973). The seemingly unexplained practice variations sparked the interest of purchasers and health policy analysts, but the findings were largely discounted or ignored by the provider community. At the same time, healthcare expenditures were growing at an increasing rate. Seeking opportunities to hold these costs in check, payers and regulators began in earnest to promote comparative measurement initiatives, many of which included public disclosure of the results.

Once it became apparent that the Pandora's box of healthcare data could in fact be opened, voluntary and mandatory performance measurement projects began springing up at local, state, and national levels. For the sake of brevity, only the national initiatives that influenced the measurement evolution are described in the following section.

Initial Measurement Efforts

In 1986 the Centers for Medicare and Medicaid Services (CMS)—then known as the Health Care Financing Administration—calculated raw death rates for Medicare

patients at all hospitals and allowed this information to be made public (U.S. Department of Health and Human Services 1987). Instead of embracing the results as an opportunity to investigate the cause of variations, some healthcare leaders and clinicians cried "foul" and attacked the validity of the methodology used to calculate actual versus expected mortality rates.

At the same time researchers were experimenting with various methodologies for risk-adjusting patient outcome data, the measurement focus began to shift from patient outcomes to healthcare processes.

Not to be dissuaded, CMS developed a more statistically sophisticated model that not only examined in-hospital deaths but also any death that occurred within 30 days of admission. These hospital-specific mortality data were publicly reported by CMS for another few years, although consumer and provider interest in the data seemed to quickly subside after the initial release.

Plans are now underway by CMS to revive the use of mortality data for hospital comparison purposes. Soon the CMS Hospital Compare web site (http://www.hospitalcompare.hhs.gov/) will include provider-specific mortality rates for conditions such as heart attack and heart failure.

The Joint Commission's attempts to gather performance data for comparative purposes met with similar misgivings by the healthcare community. In 1987 the Joint Commission began plans to require accredited facilities to collect and report clinical indicator data that could be used for performance comparison purposes. The indicators the Joint Commission suggested as part of its "Agenda for Change" initiative would be used to measure care processes, clinical events, complications, and other outcomes. The intended purpose of sharing comparative data, according to the Joint Commission, was to help surveyed organizations continuously assess where they stand and where they need to improve relative to comparable organizations (Couch 1989). After testing five sets of indicators at more than 450 volunteer hospitals from 1987 to 1993, the complexities of measuring hospital performance became increasingly apparent. Differences in patient populations, data collection methods, and definitions distracted from the goal of collecting valid comparative data for quality improvement.

Although many of the challenges identified during the initial testing of the measures remained unanswered, the Joint Commission did not abandon its original goal of comparing performance at surveyed organizations. In 1995 the Joint Commission embarked on its ORYX initiative, which eventually led to the development of standardized Core Measure sets and mandatory reporting of measurement data.

Focus on Processes of Care

At the same time researchers were experimenting with various methodologies for risk-adjusting patient outcome data, the measurement focus began to shift from patient outcomes to healthcare processes. Purchasers were already familiar with the process measures found in the Health Plan Employer Data and Information Set (HEDIS), a core set of performance measures for managed care organizations. Many of the HEDIS process measures were based on guidelines first published by the U.S. Clinical Preventive Services Task Force in 1989 (U.S. CPSTF, 1989).

It seemed reasonable to assume that process measures could also be used to determine whether individual practitioners and organizations were providing

appropriate patient care. But before this issue could be satisfactorily addressed the medical community needed to establish more nationally recognized definitions of best practice based on scientific evidence and expert opinion. To jump-start the effort, in 1991 the Agency for Healthcare Research and Quality—then known as the Agency for Health Care Policy and Research—published an organized, rigorous, and explicit methodology for guideline development and began sponsoring clinical practice guideline development task groups. Within a few years, medical, nursing, and allied health professional groups took up the challenge of developing practice guidelines, and the federally sponsored task groups were phased out. Even before guidelines were translated into performance measures, organizations began using them to improve the quality of patient care (Grimshaw and Russell 1993; Makulovich 1995).

Once rigorously developed clinical practice guidelines became available, conformance to the recommendations could be measured for populations of patients, and the average rate of conformance could be compared among practitioners and organizations. However, guideline recommendations are not created equal. For measurement purposes purchasers and accrediting bodies focused on evaluating those recommendations derived from strong evidence—meaning that failure to perform such actions appears to reduce the likelihood that optimal patient outcomes will occur.

Consumer Ratings of Quality

An initial purpose of comparative outcome and process measurement data was to help consumers make informed healthcare choices. Yet numerous studies suggest that the performance rates purchasers and even the healthcare industry view as being important are not necessarily evaluating what consumers view as significant (Pelling and Spath 1999). According to Crawford and Sena (1999), some of the most common factors considered to be important by healthcare consumers include

- interpersonal aspects of care,
- communication or information giving,
- timeliness of services,
- access and availability of services, and
- physical environment.

Publicly reported measures of health plan performance have included enrollee satisfaction indicators since the early 1990s, and for several years providers have gathered some type of patient satisfaction data for internal evaluation purposes. Measures of consumer satisfaction with healthcare services have now been incorporated into the Medicare and Medicaid performance evaluation requirements with the intention of making comparative reports available to the public.

Measurement Evolution Implications

What providers face today is an ever-changing kaleidoscope of performance measures that may be used to evaluate resource use, patient outcomes, compliance with important processes, and consumer satisfaction. The politics of measure development and varying priorities among developers caused the efforts to be siloed; there was little coordination among the competing interested parties. The result is that providers are being pulled in many different directions to meet the disparate and sometimes conflicting requirements of accrediting, quality, and purchasing groups (Denham 2005).

Recently, national organizations began harmonizing efforts to standardize, as much as possible, measure specifications and definitions. This work could take several years, and in the meantime, providers must contend with reporting data to dozens of different national, state, and local entities that may require slightly different measures. This represents an incredible duplication of efforts, which, from the providers' perspective, translates into waste and inefficiencies (Kusterbeck 2006).

Despite the challenges, the staying power of efforts to measure healthcare performance is clearly evident. When providers and clinicians questioned the validity of outcome measures, more sophisticated severity-adjustment methodologies were created. When there was a scarcity of evidence-based patient care recommendations, development of clinical practice guidelines was encouraged and eventually embraced by the medical community. When consumers voiced the importance of measuring interpersonal quality and amenities, these dimensions of performance were incorporated into healthcare report cards. And when providers balked at gathering and reporting additional data to external groups, financial reimbursement and accreditation decisions were linked to participation in the measurement systems. It's clear that the measurement monster can't be stopped, but there are ways for senior leaders to tame its pervasive influence.

To be meaningful, an organization's performance measurement activities must provide intelligent information for decision makers, not just compile data.

TAKING CONTROL

All healthcare organizations are, and must be, interested in developing and deploying effective performance measurement systems. It is only through such systems that organizations can see how they are progressing, what isn't working, and what still needs improving. The goal for senior leaders should be to create a meaningful and efficient performance measurement system that complements the quality mission of the organization and meets the expectations of purchasers, accrediting bodies, and consumers.

Meaningful Measurement System

To be meaningful, an organization's performance measurement activities must provide intelligent information for decision makers, not just compile data. Ideally, measures should flow from strategic goals and objectives developed by the board of trustees and senior leaders (Spath 2005). This ideal is being compromised by the growing number of measures that organizations must track to satisfy data requests from external groups. Healthcare organizations often discover that the measures requested by purchasers, regulators, and accrediting bodies differ somewhat from internally established performance management priorities. Thus, senior executives are faced with a decision: Should we modify our strategic quality goals and performance measures to more closely align with the priorities established by external groups? Or should we continue to strive toward achieving our improvement priorities plus work to improve the aspects of care that external groups are measuring?

This question is easier to answer when the measurement data are not made public. Transparency and the fear of being labeled a "low performer" are causing some organizations to shift attention and resources away from what trustees and senior leaders might view as more important clinical or

Figure 1 Resources for Healthcare Performance Measures

• Centers for Disease Control and Prevention:	http://www.cdc.gov
• Commission on Accreditation of Rehabilitation Facilities:	http://www.carf.org
• Institute for Healthcare Improvement:	http://www.ihi.org
• The Joint Commission:	http://www.jointcommission.org
• National Association of Children's Hospitals and Related Institutions:	http://www.childrenshospitals.net
• National Association of Health Data Organizations:	http://www.nahdo.org
• National Committee for Quality Assurance:	http://www.ncqa.org
• National Quality Forum:	http://www.qualityforum.org
• National Quality Measures Clearinghouse:	http://www.qualitymeasures.ahrq.gov
• The Guide to Quality Measures: A Compendium published by CMS:	http:// www.cms.hhs.gov/MedicaidSCHIPQualPrac/Downloads/pmfinalaugust06.pdf
• AQA Alliance:	http://www.aqaalliance.org
• The Leapfrog Group:	http://www.leapfroggroup.org

service topics (Pham, Coughlin, and O'Malley 2006). Once comparative performance data are presented to the public, there is strong evidence that hospitals are more likely to initiate improvement efforts in those areas affected by the measures (Hibbard, Stockard, and Tusler 2003).

This is not to suggest that national priorities such as reducing surgical wound infections or improving the care provided to patients who suffer a heart attack are not good things to do, but healthcare organizations often have local problems that deserve just as much attention as national priorities. It would be unfortunate for patients if an organization did not attempt to resolve a significant quality concern just because the issue is not an improvement priority for external groups.

Pay-for-performance initiatives will most likely place further pressure on organizations to link public reporting of measurement results and internally set improvement priorities. Whether purchasers and accrediting bodies should be wielding such power—the power to influence the quality goals of individual healthcare facilities—is a subject that merits further consideration by senior executives.

Stay informed

To effectively integrate externally defined measures with the organization's measurement priorities, senior executives must be kept apprised of what external

FIGURE 2 Questions for Evaluating Performance Measures

- Is reporting of the data currently mandatory?
- It is likely that reporting of the data will soon become mandatory?
- Are we financially rewarded for reporting the data?
- Are we financially rewarded for good performance in this measure?
- Is it likely that reporting of the data and/or good performance in this measure will be financially rewarded in the future?
- Is our performance in this measure currently reported publicly?
- It is it likely that our performance in this measure will soon be reported publicly?
- Does this measure evaluate an aspect of care that represents a strategic objective for our organization?
- Does this measure evaluate an aspect of care that represents an improvement opportunity in our organization?
- Would we benefit from knowing the performance rates at other organizations for this measure?
- Is it likely that affected caregivers will be supportive of initiatives aimed at improving performance in this measure?
- What resources will it take both in time and money to collect, report, and analyze the measurement results?

groups are currently measuring and what they might add or subtract in the future. The quality department should be responsible for maintaining an up-to-date list of externally defined measures. Resources for these measures are listed in Figure 1. Ideally, the list should be updated at least quarterly, although some organizations, such as Sisters of Mercy Health System in St. Louis, Missouri, choose to make weekly updates (Anderson and Sinclair 2006).

Efficiencies can be realized if physicians and staff document needed information as part of routine patient care.

Just because an external group endorses measurement of a particular aspect of healthcare performance, it does not mean organizations should automatically start gathering data for those measures. Data collection, reporting, and analysis are costly, and measurement resources are limited. Try to save your resources for measures that appropriately focus the organization's attention on the right priorities.

Choose wisely

Senior executives, with input from medical staff leadership, should periodically review the existing measures and the newest additions to the list to determine which are currently relevant to the organization's strategic goals and patient populations. For each measure, a set of questions needs to be answered using your best judgment whenever the answers are not readily available. The questions are listed in Figure 2.

How many performance measures are sufficient to meet externally imposed requirements and support your organization's quality objectives? There is no simple answer; the decision is influenced by many factors. A rule of thumb is found in the 2007 Baldrige Health Care Criteria for Performance Excellence

(National Institute of Standards and Technology 2007):

> *An effective health care service and administrative management system depends on the measurement and analysis of performance. Such measurements should derive from health care service needs and strategy, and they should provide critical data and information about key processes, outputs, and results.*

Efficient Measurement System

Cost is major consider in maintaining a meaningful performance measurement system. Based on a survey of its customers, CareScience found that it takes 50 to 90 hours per month to collect data for just three of the Joint Commission Core Measure sets (heart attack, heart failure, and pneumonia) and another 23 hours per month to analyze the data (Anderson and Sinclair 2006). Often organizations must add fulltime-equivalent employees to keep up with the growing demand for detailed clinical information that can only be obtained through a review of patient records. Even in organizations with an electronic medical record staff may need to access separate data systems (electronic or paper based) to get complete information (Pham, Coughlan, and O'Malley 2006). In addition, it may be necessary to dedicate additional staff time to documentation enhancement activities to ensure that needed information is recorded in patient records.

The resources necessary to support a meaningful performance measurement system can sometimes seem endless. These resources include the following (Spath and Stewart 2002):

- Facility-specific capital costs
- Data collection costs for
  - recruiting/training data collectors/record reviewers;
  - sampling/screening/selecting cases for review;
  - retrieving records or database;
  - abstracting records and/or downloading data;
  - implementing data quality control and supervision measures;
  - providing clerical and administrative support; and
  - performing data entry.
- Data processing and analysis costs
- Costs related to support staff and professional time devoted to interpreting data, providing feedback, and using the findings for improvement activities

With the potential for continuing cost increases associated with performance measurement activities, the need for efficient data collection and analysis is paramount. Following are some steps senior leaders can take to maximize the capabilities of the organization's performance measurement system.

Encourage systemwide solutions

Efficiencies can be realized if physicians and staff document needed information as part of routine patient care. For example, at one hospital the bedside nurse and physician complete a checklist after inserting a central venous catheter. This checklist primarily serves as a point-of-care reminder of best-practice guidelines for this intervention. Once completed, the checklist is sent to the quality department where it is used to gather data for measuring compliance with the guidelines. Without the checklist, the quality staff would need to search through patient records to look for evidence of guideline compliance. Using the checklist as a data source is much more efficient.

Even if patient care staffing has been cut to the bare minimum, there are often

opportunities for point-of-service data collection. Tapping into these opportunities can relieve some of the pressure on an already overburdened quality department. A multidisciplinary approach is needed to achieve systemwide performance measurement solutions. As new measures are introduced, the departments affected by the measures should jointly develop a plan for gathering the data. Some organizations have established a performance data management committee with members from key clinical areas, as well as representatives from the IT and health information management departments. In addition to creating data collection plans for new performance measures, the group maintains an inventory of existing data sources; resolves issues surrounding data integrity; and oversees process improvement on data collection/entry, interrater reliability, and data definitions. This last issue—data reliability (accuracy and completeness)—is the focal point of increased scrutiny by CMS, the Joint Commission, and other external groups (U.S. GAO 2006).

For providers to survive and flourish in this era of expanded performance measurement, administrative leaders must deal with a host of strategic, technical, and resource issues

Expand IT support

Many of the inefficiencies in performance measurement systems can be traced to inadequacies of the organization's existing IT system (Pham, Coughlan, and O'Malley). Some healthcare facilities still rely solely on paper records, while others have a patchwork of IT systems that are poorly linked. Even those few organizations with advanced integrated systems find it challenging to create data warehouses with flexible reporting capabilities that can keep up with ever-changing performance measurement requirements.

Given the large costs associated with IT, organizations must begin planning now for short- and long-term solutions. It may be necessary to

- modify existing information systems to include data elements required for particular performance measures;
- write programs to calculate performance measures based on data elements included in the existing information systems; and
- upgrade existing information systems to enable efficient downloading and transmittal of data to a central location for analysis and reporting.

When selecting new IT systems, the potential for gathering reliable performance measurement data should be one of the considerations. Ideally, the technology chosen to support patient care and administrative functions will also support realization of the organization's performance measurement goals.

Prevent measurement creep

Efficiencies gained through systemwide solutions and better IT support can quickly slip away if senior leaders do not actively manage the organization's measurement system. Requests for new measure sets can come from a variety of sources. Some health plans want to create a unique measurement database. Regulators or accrediting bodies often seek volunteers for measure validation projects or other performance-related experiments. National or state medical professional associations actively solicit members to become involved in evaluating topics of professional importance. Physicians and

staff within your organization may have areas of special interest for which measurement data are requested.

Although the additional information gained from new measure sets may ultimately prove worthwhile, senior leaders must save the organization's limited resources for high-priority measurement activities. Even if the data appear easy to gather and report, the quality department staff can be quickly overwhelmed by multiple requests for unique data elements.

Use the measure evaluation questions found in Figure 2 to determine whether new measure sets should be added to your performance measurement system. If you have a performance data management committee, use this group to evaluate requests and endorse new measurement sets. If no such committee exists, the responsibility should be given to the quality council or other group with senior executive and quality department representation. Rather than turn down requests for performance data, senior executives can often work with the requesting group to suggest comparable measures already in use by the organization.

CONCLUSION

Strategies for measuring health care performance are in constant flux, and newly introduced financial incentives have upped the ante. For providers to survive and flourish in this era of expanded performance measurement, administrative leaders must deal with a host of strategic, technical, and resource issues. The problem healthcare organizations face is the ever-evolving nature of performance measurement. The solution is for senior leaders to actively support an ever-evolving structure that can tame the measurement monster. This will only be achieved by creating a meaningful and efficient measurement system that has sufficient flexibility to meet current and future requirements.

Of course, the results are the real test of your measurement system's value. It's not just about gathering data or looking good in publicly available comparative reports. It's not about gaining financial rewards when your organization's performance exceeds some externally defined threshold. The real value of your measurement system is knowing where improvements are needed in your organization and acting on that information.

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