Linking Performance Evaluation to Care Delivery

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The recent change in healthcare's economic forces—transferring the financial risk of care provision from insurance entities to providers of care—has sparked the development of a variety of reimbursement methodologies. They were constructed out of building blocks such as discounted fees, bonuses, withholds and capitation rates. Organizations use a melange of these financial incentives to obtain one particular economic and quality outcome. Irrespective of what method is used to compensate a provider, various performance metrics provide the basis for determining the level of compensation.

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Utilization of services drives the financial success of any healthcare organization. Therefore, initial compensation plans utilized numerical measures such as average lengths of stay, total cost per case and inpatient rates per thousand to determine compensation. As is often the case, the availability of data drove the use of specific measures. Although easy to collect and collate, these measures lack a defensible methodological basis. For example, these measures were often applied without risk adjustment, thereby making any comparisons suspect. In the absence of risk adjustment, many providers defended their rates by claiming their patient panels represented sicker patients.

Recent advances in information technology offer an opportunity to construct large, broad-based clinical data repositories. These repositories can provide sufficient data for establishing statistically meaningful provider norms and benchmarks across a large number of disease processes. Taking advantage of these improvements, many innovative organizations are moving beyond simple performance measures toward more clinically based, methodologically sound measures.

In developing any compensation matrix, an organization must link the performance measures to the overall strategic goals of the organization. For example, if an organization wants to decrease the costs associated with treatment of pediatric asthma, performance measures such as asthma emergency room visits and inpatient admissions need to be part of the compensation formula. In addition, providers need to receive regular reports on their performance so they can change behavior as required. Without such a feedback loop, providers have no means of gauging how they are performing in relation to compensation measures. For these

reasons, managed care organizations continue to expand the implementation of provider profiling strategies.

Provider profiling tools allow plans to analyze the quality of care delivered, using transactional claims data and feedback metrics on quality, utilization, appropriateness, cost and preventive services. Compensation is then directly connected to the profiling results.

Data Sources

Available data sources for provider profiling are generally limited to common data sets readily available through transactional systems that process and collect data as part of the normal course of doing business. The most common types of transactional data sets are claims data.

Transactional systems provide tremendous advantages when performing provider profiling. Not to be overlooked — indeed the most valuable — is the relatively low cost of obtaining the data. For example, claims constitute a routine and necessary part of the healthcare process. Without claims, there is no reimbursement, so providers possess a strong motivation to complete and submit claims forms. Claims often include patient demographic information, as well as limited clinical information such as ICD-9 diagnosis and CPT-4 procedure codes. In addition, the data are widespread and readily available in a standardized format, perfect for analysis.

The lack of inexpensive, readily available alternative data sets promotes the use of claims data for profiling. The significant advantages of using claims sometimes mask the limitations inherent in the data. While the availability of advanced technology (i.e., computer systems, client-server arrangements, data cleansing) has increased the use of claims data for profiling, this increased ease of use must not influence or add undo validity to any generated performance measures.

Much of what is wrong with claims data is fairly obvious to anyone who has completed a claim form or worked with the data sets. The data collected on claims is there for only one purpose—to generate a reimbursement payment. The data are not submitted for quality improvement, risk management or provider profiling. Therefore, the information provided in a claim is often skewed, thereby making the clinical information suspect.

Because coding is an inexact science, questions concerning reliability and errors must be considered. There are difficulties in identifying accurate codes to reflect the documentation of the care processes as described in the medical record. Patients with multiple concurrent disease processes present a formidable challenge in recording accurate codes. Finally, claims data sets contain numerous duplications and omissions, which must be corrected before analysis.

Epidemiologists and other clinical researchers yearn to develop customized analytical databases. This offers control over the data set, including the data elements and the data collection process. Unfortunately, customized data sets require processes outside

normal business operations. This presents significant obstacles to successful implementation, including increased costs coupled with a lack of additional revenue and a negative impact on productivity. Organizations focused on the bottom line have difficulty with data collection initiatives that do not provide immediate benefits or generate savings. As providers are asked to see more patients in less time, there will be little participation by those already overburdened.

By contrast, if the unique data set is integrated with the ongoing business of care delivery, it has a significantly greater chance of being both accepted and supplying quality data. It is important to evaluate and advertise the benefits of a new data collection process to obtain buy-in by those providing the data. If the participants understand the value to them and the organization, they are more likely to actively participate.

Unique data sets can be constructed from encounter forms. For managed care organizations that have eliminated claims (i.e., capitated providers), encounter forms help track services provided. Even under a capitated arrangement, collection of data on staff activities is necessary to allow for operational planning (e.g., staff schedules, capital improvements).

Although some of the transactional data sets have been around long enough to be tested for validity and reliability, a new unique data set, by definition, has not. Face validity—whether the data set, on the face of it, appears to capture the data it claims to capture—can be used to evaluate a unique data set, but care must be taken in reaching any far-ranging conclusions. Although face validity is not a rigorous concept, its importance cannot be ignored. Absence of face validity can be a serious barrier to overall confidence in the data, especially by physicians. Beyond face validity is testing the data sets for validity and reliability as a provider profiling data source, something most organizations do not have the staff available to perform.

Epidemiology–Risk Adjustment, Outcomes

Epidemiological principles and methods can be applied to a wide range of problems in many fields. These principles and methods relate to the description of human populations, to the investigation of the processes underlying their present state, to the interpretation and analysis of such information, and to the uses to which these data can be put. In the health field, epidemiology has three main uses: etiological, clinical and administrative. These aims relate to and, in fact, become intertwined in the pursuit of health policy's ultimate goal: the promotion and preservation of the population's health.

Choosing a data source for profiling requires a researcher to do the following:

- Set goals for collecting the data (e.g., increasing appropriate mammography screening);
- Develop a hypothesis (e.g., *acceptable* mammography screening for our network providers is 95%);
- Evaluate the data sources (e.g., claims data are readily available); and

- Understand the availability and impact of potential interventions (e.g., computer generated follow-up letters to members as reminders).

When planning to do provider profiling, you will never be able to devote enough time to planning the study. The data sources are so voluminous and the areas to examine so vast, a researcher can spend fantastic amounts of time analyzing the data and yet never reach a conclusion. Local experience combined with reports from distant colleagues and the literature provides clues as to what behaviors to profile. These sources can often lead to the identification of those areas that will bear the greatest results.

Expected results are a reflection of local knowledge and can impact greatly the data sources that are used. Investigations must match potential interventions, so that the results can be used to improve processes. Willingness to act is critical; there is no reason to study an issue if no intervention can reasonably occur to impact the finding. For example, a community hospital and a payer enter into a risk-sharing arrangement for all inpatient surgical care. Although all of the admitting surgeons are part of the risk-sharing arrangement, the cardiac surgeons refuse to participate, expecting to generate higher fees for themselves by accepting reimbursement on only an unlimited fee-for-service basis. Subsequent analysis of surgical profiling data revealed lengths of stay for the cardiac surgeons for coronary artery bypass graft surgery to be 35 percent greater than the norms for the region. The cardiac surgery program is a prestigious service that the hospital believes is critical to attracting and keeping lucrative employer contracts. The cardiac surgeons retain admitting privileges at both this community hospital and a second hospital across town. Although it is appropriate for the hospital to intervene to reduce the lengths of stay for coronary artery bypass grafts performed by these cardiac surgeons, the hospital is unwilling to act for fear that the surgeons will send their patients to the hospital across town. In this instance, the hospital benefits more from studying the lengths of stay for the surgeons that are sharing risk than this group of surgeons, over which it has little leverage.

In many instances the profiling effort must produce benefits, both monetary and otherwise, to substantiate the resources expended to perform the profiling. It makes great sense to choose goals that deliver a benefit—through implementation of an acceptable intervention—that is soon realized.

Statistics are a necessary skill to perform provider profiling. It is unreasonable to expect someone who does not work with the discipline on a regular basis to maintain an effective command of the concepts and techniques. On the other hand, there is no excuse for not obtaining the appropriate help from an epidemiologist or biostatistician to perform meaningful provider profiling.

As no two physicians see the same patients, adjustments need to be made to account for patient differences (e.g., diagnosis, age, comorbidity). Risk adjustment was conceived to enable practitioners and others to compare outcomes and costs associated with the care of patients, even though different, and to permit inferences about the relative effectiveness and efficiency of individual practitioners through

practice patterns. Risk adjustment can be understood as a correction for the degree of difficulty in caring for a group of patients. These adjustments are made in the following manner:

Case Mix. Case mix adjustment utilizes age, sex and diagnosis to account for differences among patients. This methodology explains only a small amount of the variation seen among patients;

Episodes of Care. Episodes of care utilize age, sex, diagnosis, comorbidities and surgeries to construct categories that allow the grouping together of similar disease processes. These categories are then used to risk-adjust the data to allow comparisons among providers; and

Severity. Severity adjustment measures try to quantify the risks of the short-term outcomes for hospitalized patients. Severity includes measures that implicitly or explicitly define severity of resource use (e.g., cost, length of stay) and those that focus on more clinical definitions (e.g., risk of death, treatment difficulty, clinical instability).

Outcomes are defined as states or conditions of individuals and populations attributed or attributable to antecedent healthcare. They include changes in health status, changes in knowledge or behavior pertinent to future health status and satisfaction with healthcare (expressed as opinion or inferred from behavior).

Key issues in the use of outcomes in provider profiles include:

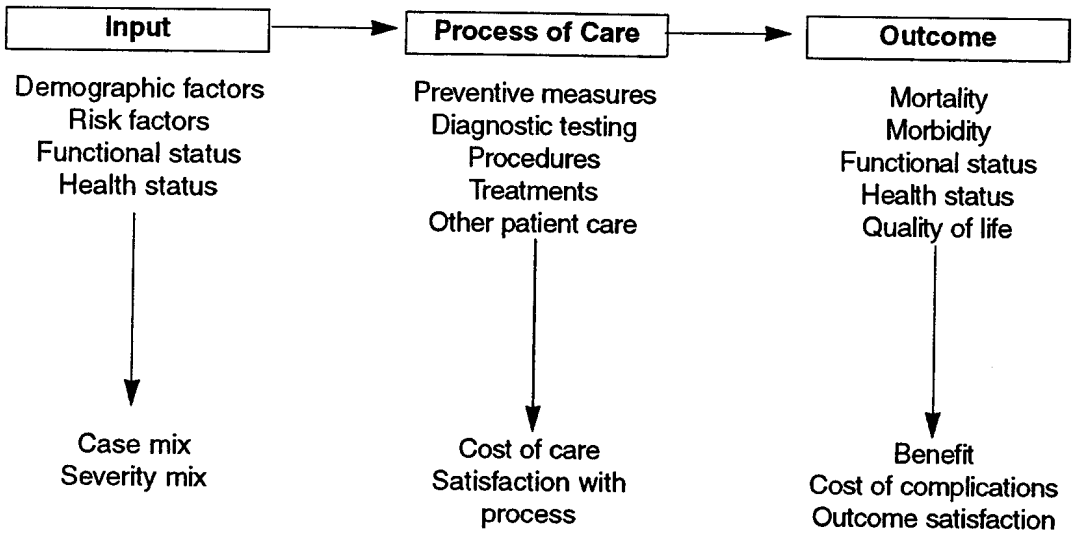
- Outcomes do not directly assess quality of performance. They only permit an inference about quality of the process and structure of care;
- The degree of confidence in that inference depends on the strength of the predetermined causal relationship between process and outcome (and structure and process). For example, clinicians know that the treatment of an otherwise healthy patient with community acquired bacterial pneumonia with a 10-day course of an antibiotic that the causative agent is sensitive to (i.e., process), generates an improved health status in the patient (i.e., outcome); and
- Because that causal relationship is modified by factors other than healthcare, corrections must be made for the effects of these factors, by risk adjustment, so that like can be compared with like.

Much of healthcare quality work in the past has focused on structure and process. *(See Figure 1 on page 90.)* Outcomes, although an important part of the quality triad, have lagged behind because of problems in methodology and data collection. Outcomes, when combined with process measures, offer an additional and important snapshot of provider performance.

Planning and Obtaining Value

In utilizing profiling tools for performance evaluation and provider compensation, both the profiling reports and compensation plan incentives must be linked. Key factors in any successful program include:

FIGURE 1: THE QUALITY TRIAD: INPUT, PROCESS OF CARE AND OUTCOMES



Source: Using Practice Guidelines to Evaluate Quality of Care, Volume 1, 1995, USDHHS, PHS, AHCPR, pub. No. 95-0045.

Addressing the Organizational Plan. Profiling reports and financial incentives need to parallel other organizational initiatives. In addition, these initiatives should contribute to the overall goals and objectives of the organization. For example, if a managed care company wants to demonstrate for marketing purposes that preventive services for women are at a high level, providers should receive profiling reports on their mammography screening activities;

Ease of Use. Profiling reports must be short, easily read, focused and make use of simplistic and easily understandable graphics. Summary data offers a quick view of current trends and should support whether any changes in behaviors are required; and

An Explanation of Methodology. All profiling tools contain limitations. To obtain credibility (not to mention being perceived as ethical), it is important to explain clearly the limitations of profiling reports and compensation formulas. Paradoxically, this approach only adds power to the results reported, because credibility is the key to successful profiling.

Changes in the economic factors driving healthcare move risk from payers to providers. Managers of this risk utilize profiling tools to measure physician performance and link results to levels of compensation. Choosing the right performance measures, measurement tools and compensation formula can lead to the delivery of high quality healthcare while managing the associated costs and financial risks.

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