COMMENTARY

Health Care Delivery Performance: Service, Outcomes, and Resource Stewardship

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Abstract

As competition intensifies within the health care industry, patient satisfaction and service quality are providing the evidentiary basis for patient outcomes. We propose a conceptual model of three interrelated areas, service, health outcomes, and resource stewardship, all affected by the clinician-patient relationship. Our model considers the perspectives of the health care organization, the clinician, and the patient to define a more comprehensive measure of health care delivery performance. Research and managerial aspects, including implementation, are discussed.

Introduction

Managed health care in the US, intended to reduce the cost of health benefits while improving the quality of care, has grown rapidly during the 21st century, leading to an increasingly competitive health care industry. As competition intensifies, patient satisfaction, service quality, and efficient resource management are providing the evidentiary basis for measuring patient, clinician, and organizational outcomes. With emphasis on "quality outcomes," it is becoming increasingly critical for health care organizations to develop and implement a sound strategy for providing effective care that is appealing to patients and focuses on controlling costs. Health care as a whole faces the challenges of attracting and retaining patients and talented employees while delivering consistently effective and efficient care.

To that end, we propose a conceptual model of three critical and interrelated outcomes of health care delivery: service, quality, and resource stewardship. The model explicitly recognizes the perspectives of the health care organization as well as the perspectives of the clinician and the patient, and it defines appropriate and comprehensive measures of health care delivery performance.

Although a growing body of evidence links a clinician-patient relationship defined by effective communication with improved patient outcomes, our model uniquely takes into account the psychosocial components of both the clinician and the patient while closely linking and integrating a business-management model of health care delivery for which there is a paucity of research in the current literature. Through the explicit recognition and eventual empirical examination of the relationships among these critical elements, the model will allow health care organizations to explore the impact of various operational improvement strategies.

Determinants of Health Care Performance

Assessing the *quality* of care is not new in health care; the rapid growth of the managed-care industry in the US has lead to a variety of definitions and perceptions of quality. Today, several well-established agencies and organizations address improving health care quality and patient safety through a process known as continuous quality improvement. Organizations such as the Agency for Healthcare Research and Quality,[1] the National Committee for Quality Assurance (NCQA),[2] and the Joint Commission, to name a few, have emerged with the specific intent to support quality, safety, efficiency, and effectiveness of health care in the US. These organizations define or assist in defining nationally derived measures or standards that are used to assess the quality of health care. The NCQA continues to raise the bar on health care quality. In early 2008, it launched a new version of its Physician

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Practice Connections program designed to assess how medical practices are functioning as patient-centered medical homes. The new Physician Practice Connections—Patient-Centered Medical Home emphasizes the systematic use of patient-centered, coordinated care-management processes. Although likely relevant to our proposed model, that new program[3] is beyond the scope of this article.

Clearly, as health care competitive dynamics continue to evolve, it is no longer sufficient to define health care performance in terms of clinical outcomes alone. The inclusion of patient satisfaction is fast becoming an important dimension because the notion of consumer-driven health care increasingly applies to patient choice in the health care industry.[4–7]

Figure 1 explicitly defines the broad determinants of performance necessary to adequately assess the multiple dimensions of health care delivery performance. Items listed in Box A of the figure are intended to capture those aspects of performance that are currently defined and emphasized in the industry as indicators of quality. These measures include the more technical and objective guidelines and standards used to assess clinical and health *outcomes*.

The items in Box B of the figure are concepts that represent an opportunity for the health care industry to more effectively integrate into the process or functional side of service quality. Relevant process-related determinants of quality include patient satisfaction and perception of service delivery (by patient and clinician). These are typically a function of subjective assessments that are based on the nature of interactions with staff, nature of communication with clinicians, degree of personalized care, accessibility of care, and responsiveness and timeliness of care. Although inherently more complex to define and measure, these concepts may play an essential role in measuring service quality in health care today. The challenge for health care organizations is to define and track comprehensive measures of health care delivery performance that include elements from both Box A and Box B.

As shown in Figure 1, Box A and Box B items are affected by the design of the health care delivery system. Typical design elements include how processes and procedures are developed and implemented; what clinical standards are in place and enforced; and clinic accessibility in terms of hours, location, available transportation, insurance, coverage/copays, the level at which the clinic is staffed, how staff are trained, and how staff are scheduled. In other words, a clinic can affect both its outcome and process measures of performance by changing its design elements. For example, patient satisfaction might increase if a clinic were staffed at a higher level. Of course, such a design change would have to be evaluated in conjunction with an assessment of the cost of such a change.

Figure 1 also depicts the important feedback between Box B process-related measures and Box A outcome measures. It is well documented that patients who perceive an encounter with their clinician to be patient-centered show better recovery and better emotional health and need fewer diagnostic tests and referrals up to two months after the baseline visit.[8] In general, if patients are satisfied with clinician-patient interaction, they are likely to be more compliant with their treatment plan, to understand their role in the recovery process, and to follow through with the recommended treatment. Subsequently, improved health outcomes are more likely. Thus, our model recognizes the interdependence of process and outcome measures.

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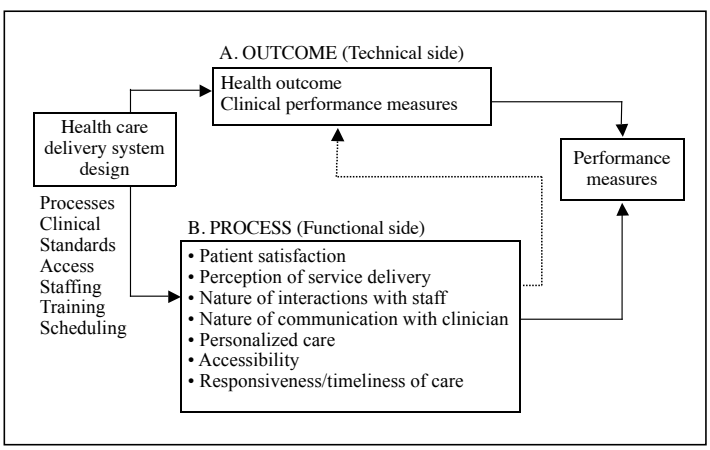

Figure 1. Determinants of health care performance. Box A represents indicators of performance quality currently used in the health care industry. Box B represents process-related determinants of quality.

Health Care Delivery Triad and Performance

To appropriately define and fully understand relevant performance measures in the health care industry, it is necessary to consider each of the three key players or entities in the service triad: the health care organization, the clinician (team of physicians, nurses, medical assistants, and office staff), and the patient. Each of these three entities has a unique but interrelated perspective on the needs associated with health care performance. Figure 2 defines each player in the health care encounter. By considering the perspectives and associated needs of each of these players, we can derive

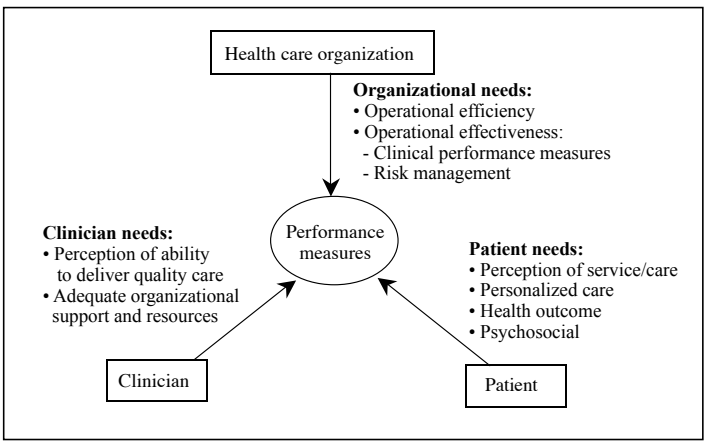

Figure 2: Perspectives in health care performance.

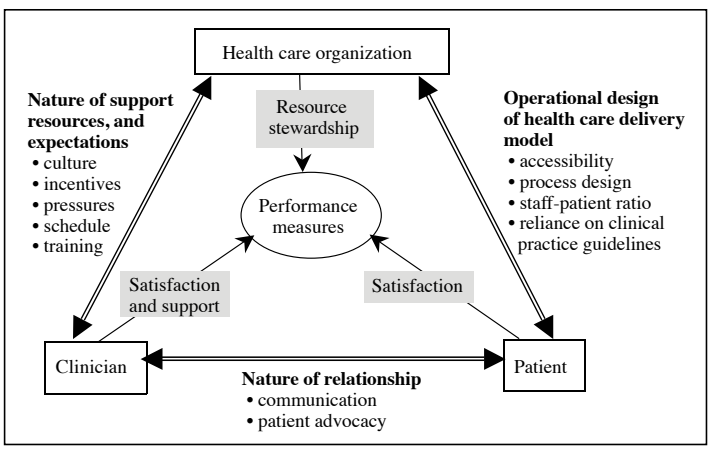

Figure 3. The interrelationship of the three major entities in the service triad: the health care organization, the clinicians (team of physicians, nurses, medical assistants, office staff), and the patient, as well as needs associated with health care performance.

a more comprehensive set of performance measures appropriate for evaluating health care.

The development and application of triads in health care is not a new concept. As pointed out by Glickman et al,[9] Avedis Donabedian's triad, with its structure-process-outcomes framework, provided a solid foundation in which to think about quality-improvement efforts, "… but his view of structure needs to be updated to account for current tools and management capabilities that drive quality improvement."[9] In their work, Glickman et al discuss key elements of organizational attributes from a management perspective in an effort to develop a definition of *structure* for transforming quality-improvement initiatives.

With respect to health care organizations, for example, a number of indicators related to responsible resource stewardship may be of primary concern. From the health care organization perspective, measures related to the effective and efficient use of its valuable and scarce resources are critical to assessing performance. Specific measures related to costs, times, and rates of service would define operational efficiency, whereas various clinical performance measures would indicate operational effectiveness. Risk-management costs and benefits would also fall under the organization's need for responsible resource stewardship.

From the patient's perspective, we are primarily interested in defining and capturing needs associated with both subjective and objective indicators of "satisfaction" with the care provided. As noted earlier in the "Determinants of Health Care Performance" section, patient satisfaction is based on a range of characteristics and experiences, including subjective perception of the service and care, the degree of personalization of care, the expectations and psychosocial needs of the patient, and the ultimate health outcome.

Because of the established link between patient satisfaction and clinician satisfaction,[10,11] our model explicitly includes clinician needs related to job satisfaction and organizational support. In fact, we believe that clinician satisfaction is also tied to the organizational need for resource stewardship. Clinician satisfaction is based on factors such as clinicians' subjective perception of their ability to deliver quality care and whether there are adequate organizational support and resources for them to effectively perform their jobs.

Conceptual Model of Health Care Delivery Performance

We now expand on the health care delivery triad by considering the interrelationships among the three members of the triad. Adapted from the general service management literature defining a service encounter triad,[12] we consider the possible ways in which the perspective or needs of each party supports or detracts from the needs of the other parties. In fact, the performance measures derived from each perspective are, in general, functions of the other perspectives and dimensions of performance. They are also dependent on the design of the health care delivery system and on other organizationwide factors. Figure 3 displays these interactions among the triad members and resulting performance and quality measures. We will discuss each of the three pairings or relationships in turn.

The primary consideration when evaluating the relationship between health care organization and patient is

the impact of the operational design of the health care delivery system. For example, the design defines issues of accessibility, process structures, procedures followed versus required, ratio of staff to patients, degree of reliance on clinical practice guidelines, etc. Clearly, the specification of these parameters is significant to the organization's measures of resource stewardship and also to the patient's measures of satisfaction. These measures of resource stewardship and patient satisfaction, then, are clearly not independent. It is, in fact, quite possible that they are at times in direct conflict. For example, a lower ratio of staff to patients would help the organization keep costs low (better operational efficiency), but it may result in longer patient wait times or less responsive service and therefore lower patient satisfaction. However, the reverse is also possible. Wanless[13] has identified a number of specific organizational benefits that can occur as the result of increased patient satisfaction, including specific operational, financial, and marketing benefits.

Consider next the relationship between the health care organization and the clinicians (team of physicians, nurses, assistants, and staff). We define the nature of this relationship in terms of the nature and degree of support and resources provided by the organization to clinicians and its expectations of the clinicians. These variables are, in general, set or defined by the organization (ie, the administration thereof) and have implications for the culture of the organization, incentives (formal or informal) for clinicians, degree of time or other resource pressures on medical staff, scheduling (level and pace), and training. These in turn affect clinician satisfaction as well as operational efficiency and effectiveness. As in the organization–patient relationship, how these resource and support variables are set may result in tradeoffs when viewed from the organization's perspective versus the clinician's perspective. Tight scheduling may improve the organization-level operational efficiency measures but may create conditions under which clinicians feel less able to deliver personalized care, which may in turn lower clinician satisfaction. To highlight this point, a 2009 article[14] in the journal *Academy of Management Perspectives* discussed health care innovations that often lead to implementation failure because of the perceived notion that the innovation is an "additional and distinct activity from their core task of patient care delivery."

Finally, we consider the clinician-patient relationship. We explore this relationship in terms of the nature and effectiveness of communication and level of patient advocacy (real or perceived). We know from empirical studies that the nature of this relationship and interaction is significant in determining patient satisfaction.[15–20]

Commonly cited reasons for quality of care complaints include the following:

- the clinician did not make eye contact
- the clinician did not sit down
- the clinician did not seem to listen
- the clinician seemed rushed and/or uncaring.

Empirical studies have shown that health care organizations offering higher levels of patient-centered care—that is, those in which interactions are characterized by better patient–clinician communication, such that the clinician showed more empathy and allowed for the patient's perspective—see better recovery rates, better emotional health, fewer follow-up tests and referrals, and fewer malpractice lawsuits.[8,21–26] Thus, it appears that there is a direct association between a patient's observation of poor verbal and nonverbal communication skills on the part of the clinician and the patient's negative assessment of the quality of care received. Conversely, more favorable personal interactions result in higher patient satisfaction and quality-of-care assessments.

The Clinician-Patient Relationship

Of the three dyadic relationships defined among our health care delivery triad, it is the definition of the clinician-patient relationship that we find particularly critical for understanding and improving the quality of health care delivery. This relationship, however, is perhaps the least well defined. Here we identify a number of characteristics that threaten the effectiveness of this relationship. Among a multitude of challenges faced by health care organizations, the ability to recognize and successfully manage barriers to effective clinician-patient interactions will ultimately serve as determinants of success.

By its very nature, the clinician-patient relationship is inherently complex and thus difficult to reliably measure. To begin with, the interaction is in real time and subjectively experienced. For example, factors such as expectations, personalities, anxieties, and external conditions, affect both patient and clinician perception in their assessment of whether or not a specific clinician-patient interaction resulted in effective communication and/or patient advocacy. Attempting to meaningfully measure and interpret results, then, will clearly be difficult.

The interaction can be further strained or constrained because of the nature of the subject of discussion

during the office visit. Health care and health-related concerns are inherently personal and are often coupled with patient uncertainty and anxiety. Thus, the subject may be difficult for the patient to talk about, resulting in uncomfortable communication or even insufficient information from which the clinician must try to make an appropriate diagnosis.

Studies have shown that patients may not express their chief physical complaint at the onset of the clinician-patient encounter. Use of open-ended questions, however, can help elicit the chief complaint and is a proven approach for drawing out the most pressing health issues or concerns.[26–29] The time for use of such questions may not be available in a routine visit.

It is also possible that at times, the clinician's agenda and the patient's agenda are at odds. For instance, the clinician needs to gather specific information from the patient (eg, current medications, most recent examinations and procedures), whereas the patient may have the need or desire to discuss a wide range of life and health concerns with the clinician. The resulting conversation would likely seem frustrating and unsatisfying to both clinician and patient.

Further compounding the challenges of this relationship is the fact that traditional clinician skills and competencies (ie, technical medical training) are often at odds with the personal skills and competencies required for sensitive, effective communication across a wide range of patients.

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Finally, it is conceivable that organizational requirements for efficiency, particularly important for financial viability in a highly competitive health care industry, may not be consistent with requirements for facilitating personalized, empathetic clinician-patient interactions.

Implications for Policy and Practice

As part of a highly competitive industry, health care organizations and their administrators must adopt a more comprehensive view of health care delivery quality. Initiatives to improve health care quality must address patient satisfaction in addition to more traditional quality indicators. Further, it is the clinician-patient relationship that is central to patient perception of quality and satisfaction with the care. Although this relationship is inherently complex, the recognition of the determinants of this complexity and the creation of strategies for effectively managing these are essential challenges for successful health care organizations. Health care organizations must also better define and track appropriate measures of patient satisfaction. It is possible that current survey tools are not adequate for effectively capturing the scope and nature of information necessary for identifying the underlying determinants of patient satisfaction and how elements of the health care delivery system impact these. Finally, it is likely that current models of health care delivery are not optimal for the new age of health care competition. Redesign of processes and organizations will be required to overcome barriers to service quality improvement and to allow for more balanced health care delivery.

Our work to date defines factors that are essential for a more comprehensive assessment of health care quality. It provides a conceptual framework from which to better understand the relevant determinants of quality, how they are interrelated, and how they relate to the process design characteristics. The need to demonstrate that these relationships are linked to operational aspects of the health care delivery system warrants further investigation that would combine both quantitative and qualitative dimensions.

Through empirical validation of our model of health care delivery performance, we intend to quantify the impact of alternative health care delivery-system design features on service quality and patient satisfaction. The resultant tool will allow health care organizations to systematically evaluate and implement a range of potential operational improvement strategies. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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Service

I have weighed in a nice and scrupulous balance whether it be better to serve men or be praised by them, and I prefer the former.

— Thomas Sydenham, 1624-1689, English physician, known as the "father of English medicine"