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Healthcare Quality Improvement and Organizational Culture

Authors: David Boan and Frank Funderburk

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Healthcare Quality Improvement and Organizational Culture: Executive Summary

Organizational culture is the term used to describe the shared beliefs, perceptions, and expectations of individuals in organizations. Because of its shared nature and implicit understanding about organizational norms and values, culture can have a dramatic effect on efforts to change specific procedures or processes. For better or worse, organizational culture affects any effort to implement change. Characteristics of organizational culture have also been linked in the literature to various aspects of organizational performance: financial performance, customer and employee satisfaction, and innovation. In the healthcare environment, organizational culture has been associated with several elements of organizational experience that contribute to quality, such as nursing care, job satisfaction, and patient safety.

With these observations about organizational culture in mind, it is evident that the Medicare Quality Improvement Organization (QIO) mission can be aided or impeded by the culture in place at provider organizations, and by the larger healthcare industry culture that induces certain characteristics in healthcare organizations. Is it possible to influence culture in a way that harnesses its power to speed the spread of quality improvement? This paper addresses that question by examining key aspects of organizational culture in light of their relevance to the QIO program.

Though the literature on organizational culture has been largely conceptual, there are recent developments of more applied models of organizational culture. Examples of these include the Transtheoretical Model used in assessing an organization's readiness for change. Modifying interventions in the hospital setting based on this assessment has shown to improve and accelerate change. Karl Weick's work on high-reliability organizations has been applied to hospital settings and shown the ability to identify and intervene in cultural norms that impair performance. The work of Daniel Denison has also shown the importance of leadership modifying the basic norms of an organization as a prerequisite for quality performance. These and other approaches have related assessment tools and practical application to healthcare that make them candidates for the development of a program of interventions.

Organizations using culture as a lever to increase the impact of interventions need to guard against the simplistic notion that they can teach providers the right culture. Multi-level interventions, starting with leadership, then spreading through the organization, must impact the norms for "how we do business here" that are not under the direct control of leadership. Further, intervention efforts must recognize the larger industry culture that both elicits certain characteristics and constrains the development of other characteristics. Creating a program for modifying culture is a complex undertaking, but there is evidence that the effort is both necessary and feasible.

Healthcare Quality Improvement and Organizational Culture: Literature Review

Organizational culture is a multidimensional concept that developed independently in several disciplines ranging from social anthropology to organizational psychology. The concept encompasses a variety of social domains and perspectives, and is important for understanding the behavior of individuals in organizations as they manage external demands and internal social challenges. Models of organizational culture and its relationship to quality are still in the early phases of development. Likewise, the treatment of organizational culture in the literature is complex and varied.

A supportive organizational culture is often cited as a key component of successful quality improvement initiatives in a variety of industries, including healthcare. Measures of organizational culture are related to an organization's ability to adapt to rapidly changing business demands, to remain competitive, and to sustain high levels of performance. Such models portray organizational culture as central to the operation and function of the organization, providing a shared vision that can serve as an effective guide to appropriate and goal-directed social and individual behaviors. This vision places workers within a consistent framework that sets the stage for the quality improvement envisioned in the recent Institute of Medicine report, *Crossing the Quality Chasm* (2001).

However, a substantial body of work portrays a less positive view of organizational culture. In these models, organizational culture is viewed as a barrier to change and often invoked as a reason for the failure of a change initiative. For example, Kotter (1995) cites the inability to anchor change initiatives in the organization's culture as one of the primary reasons that change efforts are not maintained. Macleod and Baxter (2001) note the difficulty in implementing successful total quality management (TQM) initiatives; four of five initiatives fail — despite the consensus that such efforts are essential to long-term organizational success. Aspects of organizational culture (e.g., resistance to change, ingrained attitudes, lack of understanding, poor communication) are often mentioned in the discussion of these failures. Culture, from this vantage point, is seen as a force for organizational constancy and stabilization that counters efforts to change.

Although the concept of organizational culture currently found in the literature is extremely broad, we believe that it can be integrated in a manner that will help to inform efforts to improve healthcare quality. We consider several theoretical frameworks, including those discussing the relationship between organizational culture and organizational learning (e.g., Argyris, 1993; Huber, 1991; Rheem, 1995; Schein, 1996; Senge, 1990; Senge & Sterman, 1992), readiness to change (e.g., Ferlie & Shortell, 2001;

Hodges & Hernandez, 1999; Levesque et al., 1999, 2001), sensemaking[1] (e.g., Weick, 1995), and continuous quality improvement and innovation (Irani & Sharp, 1997).

What Is Organizational Culture?

Organizational culture is used to describe the shared beliefs, perceptions, and expectations of individuals in organizations. It is an anthropological paradigm that received attention in the late 1980s and early 1990s as management scholars were exploring how and why the culture of the United States impeded its ability to compete with Japan. The concept of a national culture was not a sufficient explanation. Instead, a model was needed that allowed for differentiation between organizations within a culture (Schein, 1990). Over time, the concept of organizational culture became more normative and descriptive as consultants sought to leverage organizational culture in their organizational interventions (Schein, 1990).

Organizational culture has been variously described as institutional excellence, climate, empowerment, and total quality and human resource management. Because there is such variation in descriptions of organizational culture, some authors argue the usefulness of the concept is limited (Beil-Hildebrand, 2002; Bright & Cooper, 1993). This is a concern when considering a systematic program to impact organizational culture. Which model of culture should be applied? However, there is general agreement that culture embodies the norms and expectations for behavior within an organization that are related to organizational behavior in general and organizational success in particular.

Organizational culture does not automatically occur when an organization is created. A group must have stability, shared experience, and history to form a culture. Over time, especially if the organization competes successfully, the staff learns how to cope with external demands and maintain internal stability. A set of persistent norms, values, and assumptions are developed and taught to new employees. The greater the success of the organization, the greater the reinforcement of its norms, and the more enduring the culture.

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[1]Sensemaking is a methodology presented by Weick, Carter, Dervin, and others as the process behind the knowledge-sharing concepts described by Dixon (2000). Knowledge sharing has been advocated by the Centers for Medicare & Medicaid Services as an important component for progress in QIO improvement efforts. Although the relationship between knowledge sharing and organizational culture is relevant to this topic, it is not within the scope of this discussion and will be considered in a future paper.

The stabilizing role of culture means that it acts as a counter to efforts to change, even when the change is constructive. Culture is the medium through which interventions must impact the organization, and as such, it has the power to mediate intervention efforts. Interventions undertaken without a clear understanding of the norms of the organization's culture will fail to capitalize on organizational strengths or fail to recognize where the change efforts may be at odds with organizational culture. For instance, the failure to understand organizational culture is seen as the root cause for the modest success of TQM programs. TQM makes a number of assumptions about organizational quality. Many organizations implement these prescriptions without a clear understanding of the cultural implications and how they may or may not be consistent with the organization they are attempting to influence (Bright & Cooper, 1993).

Industries are also seen as inducing certain cultural characteristics that are believed to be necessary for organizational survival, though not sufficient for superior performance. For example, organizations in industries that are subject to government regulation learn to devote many resources to documenting and justifying their activities (Christensen & Gordon, 1999). These practices affect the companies' performance within an industry and are perpetuated by the development of industry-specific expertise by management. Knowledge of the cultural norms of an industry allows people to move across organizations within an industry with greater success. Experienced managers leverage cultural knowledge for success.

Several authors (Chenoweth & Kilstoff, 2002; Weick & Sutcliffe, 2001) assert that quality improvement generally has had modest success because of the failure to address organizational culture. The problem is not simply a lack of attention. Definitions of culture tend to be very abstract and academic, creating a challenge for the organization seeking to change its culture. Organizational culture has been largely a matter of qualitative understanding that challenged any link to quantifiable results (Fisher & Alford, 2000). Senior managers are often reluctant to act on a concept that defies clear operationalization. As we will discuss, a few authors have addressed this problem by translating organizational culture into organizational behavior and developing creative approaches to measuring culture.

Does Organizational Culture Impact the Quality of Healthcare?

Regardless of the size, industry, or age of the organization, organizational culture affects many aspects of organizational performance (Fisher & Alford, 2000), including financial performance, customer and employee satisfaction, and innovation. In the healthcare environment, organizational culture has been associated with elements of organizational performance that impact quality, such as nursing care, job satisfaction, and patient safety. Glisson and Hemmelgarn (1998) showed that improving the work climate significantly

improved the quality of services in a children's healthcare organization. In addition, numerous studies relate nursing care to organizational culture and quality. For instance, hospitals known to be "good places to work" have a lower Medicare mortality rate (Aiken, Smith, & Lake, 1994). Organizational support for staff is known to affect job satisfaction and burnout, which impact quality of care (Aiken, Clarke, & Sloane, 2002; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). This has led to a call for a better understanding of organizational context and its relationship to quality (Aiken, Sochalski, & Lake, 1997). Organizational culture has also been linked to safety, and the creation of a safety culture is a key part of improving patient and staff safety (Clark, 2002; Clarke, Sloane, & Aiken, 2002; Firth-Cozens, 2001; Gillies, Shortell, Casalino, Robinson, & Rundall, 2003; Mawji et al., 2002).

Several studies have shown the link between a company's culture and financial performance (Barney, 1986; Fisher & Alford, 2000; Rotemberg & Saloner, 1993). Sustained superior financial performance is associated with cultural qualities that foster innovation and flexibility (Barney, 1986). Other studies have described a dynamic connection between CEO performance, management team behavior, and organizational culture that relates to financial performance as well as customer satisfaction, employee satisfaction, innovation, and adaptability. "Organizational culture is correlated with financial performance. Financially successful companies are rated higher in training and development, recognizing performance, customer satisfaction, downward communications, openness to change, job satisfaction, job design, performance facilitation, planning, and work group performance" (Corporate Board, 1997).

The evidence that culture is related to both quality and financial performance is substantial. However, can systematic culture change be used as an approach to quality improvement?

Can Organizational Culture Be Changed?

Although certain qualities of organizational culture are associated with positive performance, improvement is not simply a matter of having a company adopt the "right" culture. When an organization has breakthrough success, it usually means it has distinguished itself from the culture more typical of its industry. The challenge of changing organizational culture contributes to the competitive advantage of companies with a more effective culture. Competitors that want to change their culture to imitate that of a more successful company may find themselves facing numerous difficulties. The interdependent aspects of subcultures within a large organization make them resist planned change. Furthermore, groups of companies within an industry are seen as having similar cultures, creating environmental factors that reinforce certain cultural values and further resist change. The company seeking breakthrough performance must work with

its' own management team and staff that have been enculturated in an industry and find ways to work with that culture to achieve superior performance. There is no single formula for achieving such culture change. However, certain programs do address aspects of culture that may be changed.

Denison (1996) and Fisher (1997, 2000) developed four dimensions of organizational culture with sub-elements that are related to specific organizational behaviors. Attaching culture to behavior provides a practical means to measure culture. Denison identifies four cultural traits — mission, adaptability, involvement, and consistency — with a set of actions for each trait. Building on Denison, Fisher (1997, 2000) found that mission as a single cultural trait affects the greatest number of bottom-line performance factors in a company. This is followed by the traits of involvement, then adaptability and consistency. Thus, when leaders seek to actively improve revenue by cultural change they are simultaneously improving other dimensions of the organization, such as job satisfaction and value.

Mission and Leadership. Mission is seen as a fundamental unit of culture, and as such, the failure to address mission impedes quality improvement efforts. To achieve breakthrough results, one must look to motivating leadership to enhance fundamental units of culture such as mission and involvement (Fisher & Alford, 2000). The key to this approach is that leaders are not asked to generally exhort people to quality, nor are they enticed to attempt to control the quality of staff work. Instead, leadership is asked to do what leadership does best — define the core values and mission of the company so that staff can see that quality and related actions are a fundamental component of the company, i.e., inherent in its culture. The literature suggests that this is a requirement for success but not the full scope of the task.

Large healthcare organizations are inherently multicultural with leaders operating within many teams and departments. By focusing on mission and vision, leaders may facilitate the dissemination of quality-oriented values throughout an organization. However, any attempts by corporate leaders to dictate quality will meet with poor results. For example, a traditional TQM approach assumes that culture can be directed from the top and changed by management, and therefore a leader can direct an organization to improve. This is a misunderstanding of control and the role of leadership. Culture emerges from social interactions in the entire organization. Managers can influence culture but cannot create or direct it because they lack control over the interactive and interpretive processes that create culture at all levels of the organization. Supporting this viewpoint, some authors note that there is little evidence to show that implementing TQM changes an organization's culture (Hodges & Hernandez, 1998). In fact, the uneven results of TQM are seen as stemming from the failure to address organizational culture (Shortell, 1995;

Weick & Sutcliffe, 2001). Simply providing outcome information and directing certain actions is not sufficient to ensure that the information becomes part of organizational decision-making (Hodges & Hernandez, 1999).

Culture and leadership also relate to what Weick and Sutcliffe (2001) describe as a "high-reliability" organization, i.e., one with a culture that emphasizes quality by attending to the small signs of the quality of operational performance. Sensemaking is a process described by Weick and Sutcliffe (1995, 2001) and others as the way people come to understand and learn from their experiences. Weick and Sutcliffe (2001) applied the concept of sensemaking to high-reliability organizations to learn how they maintain quality. Their work led Weick and Sutcliffe to propose the concept of "mindfulness," which is characterized by:

- Preoccupation with failure.
- Reluctance to simplify interpretations.
- Sensitivity to operations.
- Commitment to resilience.
- Deference to frontline expertise.

These characteristics may be seen as aspects of a quality-oriented culture in that they are norms for communication, analysis, and decision-making that directly impact quality. They are not limited to leadership, but they must be articulated and supported by leadership. This view is supported by Reason (2001) who contrasts these positive elements with three self-perpetuating elements of culture that run counter to quality:

- Blaming frontline individuals,
- Denying the existence of systemic error-provoking weakness, and
- Blindly pursuing productivity and financial indicators.

The approach of Weick and Reason may be seen as promoting certain values in an organization and working to modify cultural norms. Other authors (Ferlie and Shortell, 2001) describe the need to develop a "quality culture that emphasizes learning, teamwork, and customer focus." These may be necessary core properties for healthcare organizations to adopt if they are to make significant progress in quality improvement.

Once leadership embraces the role of advancing a quality culture through mission and vision, this can be disseminated through the multiple levels of the organization. Ferlie and Shortell (2001) discuss four levels of intervention to influence organizational culture: individual, team or micro-system, organization, and environmental levels of intervention. In the landmark work, *Crossing the Quality Chasm* (2001), the Institute of Medicine asserts that all interventions must address these four dimensions. This approach is echoed by such authors as Ennis and Harrington (1999).

Teams. In addition to leadership, teams are also a focus for generating change in organizations. Creation of quality-oriented teams or micro-systems is associated with quality (Institute of Medicine, 2001), and more effective teams are associated with higher quality care (Aiken, Sochalski, & Lake, 1997). Cohen and Bailey (1997) note that team behavior and structure are associated with quality of work, but also state that teams operate in a larger social context and their performance at one level does not mean they are effective at all levels. Firth-Cozens (2001) asserts that improvements in patient safety come largely from team and organizational learning and describes teams and team leaders as an effective unit of intervention for driving improvement. Similar to Cohen and Bailey (1997), Fontaine, Vinceneux, Traversat, and Catala (1997) describe improvement through work with teams that had limited impact on the rest of the organization because of the need to affect other levels of the organization. Sexton, Thomas, and Helmreich (2000) applied aviation industry work on teams and safety to medical teams in surgical and intensive care units and found many cultural similarities. Team training similar to that developed for the airline industry was proposed as a means for improvement. In general, teams are a useful and effective unit of focus for quality improvement but their impact can be limited without senior leadership championing the cause.

To summarize, organizational culture is clearly related to quality in general and quality healthcare in particular. Organizational culture affects several organizational dimensions, including job satisfaction, attention to error, learning, and overall quality of performance. There are a number of methods for promoting a quality culture, but they all start with leadership embracing the promotion of quality through the articulation of the organization's mission and vision, engagement of people throughout the organization in quality, and attention to learning.

Can Organizational Culture Be Measured?

Measurement is an important consideration if multiple organizations (QIOs) are to conduct coordinated interventions and assess impact. There are a variety of qualitative and quantitative approaches to measuring organizational change, making the choice of methods a matter of the goals and purpose of the particular investigation (Scott et al., 2003). In some cases, qualitative measures may have an advantage in the assessment of

organizational culture. For example, organizational climate (e.g., attitudes, satisfaction with the workplace) can be measured using a variety of questionnaires, though such an approach does not capture the depth of the concept of organizational culture as we have defined it. Some researchers have stressed the value of system dynamic modeling and simulations to understand how complex interactions can affect organizational behavior (e.g., Bryant & Darwin, 2003; Senge & Sterman, 1992). These approaches share the view of culture as a characteristic that emerges from the interactions among individuals and various organizational sub-systems over time. Culture is not a single isolated state or behavioral characteristic that can be observed independently of the organizational context.

This holistic view of organizational culture is a challenge for measurement aimed at guiding interventions. Fortunately, a variety of quantitative instruments are available (Scott et al., 2003) that can supplement simple descriptive or qualitative approaches. There are also guidelines that can facilitate the selection of an instrument. For example, an effective measurement strategy must capture the core characteristics of culture (e.g., as discussed by Schein, 1992) that have the broadest influence on the organization and suggest actions for promoting cultural changes in support of quality. This suggests that a tool for classifying various organizational types, along with associated strategies for implementation, would be most valuable. Only a few of the instruments discussed by Scott et al. (2003) appear to have been designed to assess the core values of various sub-groups within a larger organization, an issue that has been shown to be essential in understanding cultural shifts in healthcare organizations (e.g., Institute of Medicine, 2001; Marshall et al., 2003).

Measurement Tools. One promising approach is the Competing Values Framework. Under this approach, organizations (and their sub-groups) are described in terms of two major dimensions (relationship vs. mechanistic process orientation and internal vs. external focus). Four primary organizational culture types are thus defined: clan, adhocracy, hierarchy, and market. Comparisons of the strengths of each of these cultural types can be made across various sub-groups within the overall organization, and overall measures of organizational congruence can be developed. Shortell et al. (2000) extended this approach to study the relationship between culture and adoption of TQM procedures in hospital settings. These approaches, while promising, have not yet been subjected to rigorous psychometric evaluation.

The Organizational Culture Inventory (Cooke & Lafferty, 1987; Seago, 1997) evaluates styles within organizational groups to characterize the overall organizational culture along three dimensions (constructive, passive/defensive, or aggressive/defensive orientations). This instrument has been subjected to rigorous psychometric evaluation in a variety of contexts. Similar dimensional measures have also been developed and validated for specific sub-cultures within healthcare settings (e.g., the Nursing Unit Cultural Assessment Tool). Other tools focus on particular aspects of the organizational culture. For example, Sexton, Thomas, and Helmreich (2000) describe an instrument (the Safety Climate Survey) that assesses staff attitudes and perceptions related to safety and team functioning. This instrument has been validated across occupational settings (e.g., aviation crews vs. surgical teams) and has been shown to be sensitive enough to highlight some of the cultural barriers that can interfere with efforts to improve quality and safety in medical settings. Work is currently underway to further evaluate the responsiveness of this instrument to interventions designed to enhance the safety culture in medical settings.[2]

The Denison Organizational Culture Survey is another instrument for which evidence of sensitivity to organizational change has been presented. This tool assesses organizational focus (internal and external focus) and organizational flexibility (flexible and stable). As discussed previously, organizations are also assessed along the four basic cultural traits of adaptability, mission, involvement, and consistency. Denison argues that this approach allows for assessment of the ways in which organizations (or sub-groups within organizations) deal with seemingly contradictory or paradoxical goals and demands. Denison regards the understanding of such conflicts as essential to developing sustainable adaptive organizational behavior, and a number of studies have reported that the pattern of cultural traits of high-performance organizations can be clearly distinguished from those with lower performance (Denison, 1984; Denison & Mishra, 1995; Fisher & Alford, 2000). Organizational culture, under such a model, might be viewed as the system that permits organizations to make coordinated adaptive responses to the myriad competing and even paradoxical demands.

Finally, Weick & Sutcliffe (2001) also provide a survey instrument to guide the qualitative assessment of organizational culture as it pertains to the norms associated with "high reliability." There is no known validation of this tool at this time.

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[2]The Safety Climate Survey and the related work of Sexton can be found at the Institute for Healthcare Improvement's website www.QualityHealthcare.Org.

Table 1 provides an overview of some of the major tools that have proven useful in efforts to understand organizational culture.

Table 1. Examples of Tools Used to Characterize Organizational Culture

Tool	Distinctive Characteristics	To Learn More
Process Consultation Approach	Qualitative, theory based examination of artifacts, espoused values, and shared basic assumptions using a variety of semi-structured procedures and observational techniques. Evaluates "fit" between people and organization.	Extensive literature available on this approach. A good summary is Schein (1992). For more information, go to http://web.mit.edu/scheine/www/home.html
Competing Values Framework	Quantitative theory-based tool. Organizations profiled based on strength of 4 different culture types.	Cameron and Freeman (1991) discuss development. Gerowitz and colleagues (1996, 1998) discuss results in hospital settings.
Quality Improvement Implementation Survey	Quantitative theory-based tool. Companies profiled based on strength of 4 different culture types. Extension of Competing Values Framework tool.	Shortell et al. (2000) describe the absence of strong relationships between organizational climate and TQM multiple endpoints of care for CABG patients.
Organizational Culture Inventory	Empirically developed tool. Analysis of 12 individual "thinking styles" results in 3 organizational factors: constructive, passive/defensive, and aggressive/defensive.	Cooke and Lafferty (1987) provide information on the initial development of the instrument. Cooke and Szumal (2000) provide an overview of how the tool can be applied. Seago (1997) discusses implementation in a healthcare context. More information available at: http://www.hscar.com/oci.htm.
Nursing Unit Cultural Assessment Tool	Quantitative comparison of preferred vs. actual behaviors within a nursing unit. Focus on professional culture at micro-organizational level.	Coeling and Simms (1993) describe the use of this tool in assessing nursing unit cultural barriers to innovation. Seago (1997) provides a comparative review of similar instruments.
Safety Climate Survey	Quantitative assessment of perceptions and attitudes related to	Sexton et al. (2000) compare cultural differences between medical and aviation frontline staff. Tool and instructions for use

Tool	Distinctive Characteristics	To Learn More
	safety and team functioning. Has been applied across disciplines and departments and used to monitor effect of interventions.	are available for free download at http://www.QualityHealthCare.org.
Denison Organizational Culture Survey	Quantitative multi-dimensional assessment of 4 cultural traits: involvement, consistency, adaptability, and mission. Has been correlated with organizational performance measures.	Denison (1984) describes initial development. Denison and Mishra (1995) discuss theoretical underpinnings. Fisher and Alford (2000) discuss practical applications. More information available at: http://www.denisonculture.com/culture/culture_main.html
High-reliability Survey Tools	A series of tools that guide an organization in assessing cultural features related to sustaining high-reliability.	See Weick and Sutcliffe (2001).

Best practice would seem to involve a combination of qualitative and quantitative approaches customized for the research questions under investigation. A broad range of methods may be appropriate, ranging from participant observation and in-depth and semi-structured interviews to some of the more recently validated culture assessment tools. This is clearly a fertile area for future research. Results to date, however, suggest that useful measures of organizational culture are feasible, even if no one measurement strategy can yet be considered the "gold standard."

Conclusions

There is substantial evidence that the concept of organizational culture can account for a significant portion of the variability in quality improvement efforts. The concepts of learning organization, leadership development, high-reliability, high-performance teams, readiness for change, and organizational climate all describe aspects of organizational culture. There is evidence associated with all of these concepts showing that they contribute to the development of skills and organizational behaviors that impact patient safety and quality improvement in general along with most other aspects of organizational functioning.

Some authors argue that the failure to address organizational culture accounts for the modest impact of current quality improvement programs. Failing to address organizational culture constrains quality improvement efforts, limiting them to modest impact and making it unlikely they will achieve breakthrough results.

Several characteristics of organizational culture act to inhibit change. By definition, organizational culture seeks to stabilize organizational behavior. Organizational culture develops within a larger industry culture that induces certain characteristics in an organization. Organizational culture is not under the direct control of leadership and therefore cannot be dictated from the top. Efforts to change organizational culture must address these complexities if they are to avoid the simplistic (and failed) approaches seen in the past.

The benefits of impacting organizational culture are significant and encourage making the effort to promote change. It is seen as the key to breakthrough performance, it translates directly to overall organizational performance, including financial performance, and is essential to sustained high performance.

Several approaches hold promise as a basis for interventions, such as Denison's operationalization of organizational culture and Weick's formulation of high-reliability organizations. Denison presents four dimensions of organizational culture and related actions starting with leadership as the necessary element for effecting change. Leadership must do more than exhort or direct quality; it must make explicit how quality is related to the mission and vision of the company and thereby influence the actions of people throughout the organization. Denison has been well received in part because the approach is easily translated into business practices.

Like Denison, Weick also focuses on operations. Studying high-reliability organizations, Weick identifies a set of practices, grouped into the concept of mindfulness, that reflect the social and organizational norms behind reliability. These practices are clearly as applicable to healthcare as any other industry.

Our conclusion is that there are measurable aspects of organizational culture that are related to healthcare improvement and patient safety, and can be facilitated by an outside agent (such as a QIO). Further, it is imperative that change agents integrate organizational culture into their quality improvement programs in order to achieve significant impact. The effective use of these tools is largely the domain of skilled consultants. If these models are going to be applied systematically and on a large scale they must be developed into a program that can be taught to and implemented by QIOs in a manner that produces consistent results.

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