

Perspectives

Culture, the built environment and healthcare organizational performance

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Abstract

Healthcare organization performance is a function of many variables. This study measured relationships among culture, the built environment, and outcome variables in a healthcare provider organization. A culture survey composed of existing scales and custom scales was used as the principal measurement instrument. Results supported culture strength's links with higher performance levels and identified the built environment's role as a moderating variable that can lead to improved processes and outcomes. Job satisfaction and patient satisfaction were found to be significantly and positively correlated with culture strength and with ratings of the built environment.

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Introduction

The aging population along with the aging healthcare infrastructure in the USA has created the need for many renovated and replacement hospitals over the next few decades. Traditional designs are being rethought to meet the changing needs of the populace. For example, do you really want another patient in the same room with you when you are in the hospital? Most people would say "no" and this drives the need for private rooms. Once considered a luxury, private rooms are now being designed into new construction as research shows they lead to higher levels of patient satisfaction and better patient outcomes, resulting in lower healthcare costs.

Healthcare is a values-driven profession, particularly in the patient care areas. These values of concern for the patient, working together as a team to serve the patient, and concern and support for employees influence the actions of nurses, physicians and hospital staff. But, to survive, hospitals need to act more like a business, which means attention to goals, competition, markets and the legal/regulatory environment. These competing values of concern for the patient and concern for the bottom line require a holistic approach to ensure a desirable level of quality while providing for organizational survival.

This is a case study of a US hospital that built a replacement hospital. The study's objective focuses on the effects of the built environment on the organization's culture and the relationship between culture and performance.

Cast a pebble

This study originated as a result of the client hospital's involvement as a "Pebble Partner." Led by the Center for Health Design (CHD), the Pebble Project seeks to advance the evidence relating to the built environment design while paying attention to culture, patient needs and current, relevant research on the design of healthcare environments.

The Pebble Project's mission is to study and implement evidence-based practices for improving healthcare environments for patients, staff, physicians and visitors. The Pebble Project's overarching hypothesis is that changes in the physical environment will



affect operations that enhance health and organizational outcomes (Sadler, 2001). An essential aspect of the Pebble partnership is to share research findings with each other and with the healthcare and architectural communities so future healthcare design/build projects can incorporate the latest evidence-based findings. The term “pebble” is used as a metaphor – when a pebble is tossed in a pond, it creates a ripple effect. Each Pebble Partner uses scientific methodologies to document the effect of the newly built environment on healthcare outcomes.

Previous research

Organizational culture, by definition, is specific to an organization or work unit. A rich cultural assessment involves more than collecting numerical responses on a survey. Indeed, if we can pre-specify the culture, then we limit the results to those items we have put on the survey. “Critical incident analysis allows for the emergence – rather than the imposition – of an evaluative schema and focuses on the events and dimensions of the patient experience that are most salient, memorable, and most likely to be retold to others” (Ruben, 1993). The use of bottom-up approaches such as critical incident technique (CIT) (Flanagan, 1954) allows for the identification of key cultural values as derived from “stories” offered by employees about their experiences with the culture. Flanagan (1954, p. 327) designed the CIT as a “set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles”.

Many researchers have used CIT to investigate various organizational phenomena. Only recently have researchers begun using CIT to investigate culture and some of these studies have been in healthcare organizations. Gundry and Rousseau (1994) used CIT to surface newcomer perceptions of behavioral norms in electronics manufacturers; they found team norms to be negatively related to role conflict and positively related to role clarity. Longo *et al.* (1993) used CIT to identify “standards of excellence” in hospital services, as defined by patients, physicians, hospital employees and payors. Their findings produced the most incidents in the categories of “administrative

policy” issues and “nurturing” incidents. Kemppainen (2000) used CIT to identify dimensions of nursing care quality; her work focused primarily on how to use CIT in a nursing setting rather than sharing the actual results of nursing care quality dimensions.

Incidents can be solicited several ways – through self-administered questionnaires, telephone interviews, workshops, group interviews, one-on-one interviews, systematic record keeping and direct observation (Kemppainen, 2000; Anderson and Wilson, 1997). For a critical incident report to be useful, at least three pieces of information must be collected:

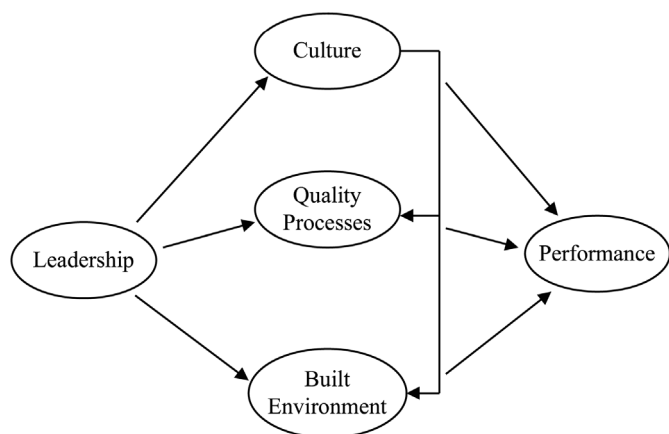
- (1) a description of the situation that led to the incident;
- (2) the actions of the focal person in the incident; and
- (3) the results or outcomes of the incident (Anderson and Wilson, 1997).

In addition, Anderson and Wilson (1997) include a Likert-type scale for respondents to indicate the level of effectiveness of the incident. This allows for qualitative analysis of the incident report along with quantitative analysis of the effectiveness data which, in turn, provides an avenue to produce summary information about how many incidents were positive, negative or neutral. We used a similar effectiveness item in this study for respondents to rate their incidents.

CIT is often integrated into a larger survey or measurement process. The underlying model in several recent studies of quality and healthcare is based on the Malcolm Baldrige National Quality Award (“the Baldrige”). Meyer and Collier (2001) used the healthcare pilot criteria of the Baldrige to design a structural equation model of the Baldrige criteria. In their work, they developed scales to measure each aspect of the healthcare criteria for the Baldrige; several of their scales have been used in this study. Essentially, the Baldrige model states that “leadership drives processes which produce results.”

Chow-Chua and Goh (2002) used the Singapore Quality Award (SQA) criteria to develop a framework for evaluating quality and performance in hospitals. The SQA is based on the Baldrige criteria and the balanced scorecard (Kaplan and Norton, 1992). We used a modified version of these models to conceptualize this study (Figure 1). The model shown in Figure 1 embodies the

Figure 1 Modified version of the Baldrige model



Baldrige relationships, but includes culture and the built environment. Leadership and culture drive the delivery (quality and built environment), which produces results (performance).

Culture and the built environment

The culture of a work organization drives the behavior of its employees. But what is culture? Culture is the set of values specific to a work unit (Mallak and Kurstedt, 1996). These values embody certain assumptions about work, working together, and how things should be done, given a specific context. These values, in turn, drive the behavior choices made by employees, particularly when time is short or when no formal policy exists to guide action.

The built environment refers to human-made spaces that we live and work in. A built environment is designed with a purpose, typically to meet some optimal set of organizational, customer, and employee needs. These needs often contradict each other and complicate decision making about the built environment. The built environment is the result of design – organization, employee, and customer needs are designed into the space. Because of the central role of design in the built environment, the designed environment may be a more useful term.

Studies relating to hospital built environments are rather limited. Many of these studies have been conducted by a select group of researchers associated with the CHD, a California-based organization dedicated to learning about, researching, and applying evidence-based designs for the improvement of organizational and clinical performance in the healthcare sector. This

study supports the contention that private rooms lead to lower nosocomial infection rates and are viewed by patient care staff as better for the patient. The use of light, windows and art promotes healing. One study found that patients in rooms with windows facing a natural scene used less pain relief medication and had shorter lengths of stay compared with similar patients with windows facing a brick building wall (Ulrich, 1984). Current research associated with CHD (which includes this study) is focusing on the impact of patient-centered designs and healing environments on organizational and clinical outcomes.

With foresight in design, the designed environment can act to shape certain behaviors. For example, the Steelcase “pyramid” in Grand Rapids (Michigan, USA) was designed with large, open staircases connecting each floor. Elevators were placed off to the side in a less accessible location. This was designed to prompt interaction as employees traversed the building. Norms associated with elevators often include neither looking at, nor conversing with, fellow elevator occupants. Thus, Steelcase designed its work environment to achieve a specific goal – increased employee interaction.

Design of the new hospital

The replacement hospital in this study designed its new environment to achieve specific goals associated with patient care. The hospital’s design features are not only aesthetically pleasing, but they are also evidence-based. The hospital is the product of many design sessions, focus groups and input into what would be needed to best meet patients’ needs. The focus on patient needs drove design decisions, even at the expense of employee convenience. For example, all patient rooms are private and most nursing units are arranged in a pod design. Given that rooms are designed with only one patient in mind means that caregivers walk further during the course of a shift to care for patients.

The design of the hospital was “pivoted” around the patient. Many other patient-focused features also played into design – use of light and art, classical music in public areas and intuitive wayfinding. The integration of natural elements such as light, plants and gardens as well as the open feel of an atrium provide a peaceful, comfortable setting for

patients and visitors. Vertical and horizontal adjacencies allow physician offices to be located in a medical office pavilion on the same floor as inpatient units.

By virtue of involving managers and employees in the design process, the hospital's ethos was re-crafted. In anthropological terms, the new hospital is an artifact of the organization's culture, meaning it is a physical manifestation of underlying values and assumptions. The value of concern for the patient drove decision-making processes relating to design features of the new hospital.

The organization's culture influences the built environment that, in turn, affects individual behavior. The organizational values are integrated into the design of the built environment and facilitate desired behaviors. In this case, designing to meet patient needs emphasizes the value of focusing on the patient, perhaps at the expense of hospital staff convenience. For example, with all private rooms, caregivers must walk further to care for the same number of patients.

The research questions driving this research were twofold:

- (1) What are the essential relationships driving outcomes improvement in an acute-care hospital concerning culture, the built environment, and Baldrige criteria?
- (2) What are the effects of the built environment on organizational culture?

The hypotheses presented later in this paper address these questions by focusing on specific relationships among culture, the built environment and outcomes.

Measuring the built environment and culture

Built environment

This project assessed staff perceptions of the hospital's built environment as part of the larger culture survey. The built environment scales used in this study were based on the PedsQL[™] (instrument developed by James Varni, PhD of the University of California at San Diego (UCSD) in conjunction with San Diego Children's Hospital. The PedsQL[™] (was modified with permission. First, items specific to the client hospital were added. Second, the instrument structure was

changed from listing the built environment features to having respondents rate extent of agreement with specific statements concerning the built environment. For example, PedsQL[™] (asks the respondent to rate "the lighting in the facility." The culture survey asked the respondent to rate extent of agreement with the following: "The amount of light coming in to patient rooms contributes to patient well-being." Similar treatment was given to other PedsQL[™] (items that had relevance to the built environment.

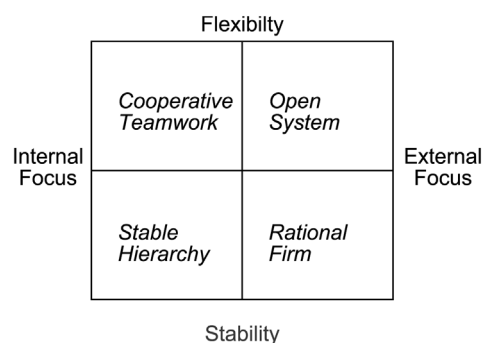
Competing values framework

The competing values framework (CVF) can be used to measure the culture of an organization. Pioneered by Quinn (1988) and used by many others since (see Brown and Dodd, 1998; Dunk and Lysons, 1997; Hooijberg and Petrock, 1993), the CVF produces a cultural profile covering four fundamental organizational types (see Figure 2). Starting in the upper left quadrant, the four CVF culture types are Cooperative Teamwork, Open System, Rational Firm, and Stable Hierarchy. The axes of flexibility-stability and internal focus-external focus determine the model's four quadrants.

The cooperative team culture type values flexibility and has an internal focus. This culture type is sometimes referred to as the human relations type because of its emphasis on commitment, cohesion and morale. The cooperative team "takes on a clanlike, team-oriented climate in which decision making is characterized by deep involvement" (Quinn *et al.*, 1990, p. 7).

The open system culture type values flexibility and has an external focus. This culture type is sometimes referred to as the adhocracy because of its ability to readily

Figure 2 The competing values framework



Source: Adapted from Quinn (1988)

adapt to its environment. The open system culture goes further – it seeks to dominate its environment. Leaders in the open system are innovators and risk takers; a commitment to experimentation and innovation is shared among employees of the open system (Hooijberg and Petrock, 1993).

The rational firm culture type values stability and has an external emphasis. This culture type is sometimes referred to as the market culture because of the emphasis on competing and interacting with external agents in the market. The rational firm is results-oriented, emphasizes winning, and is concerned long-term with competitive actions and achievement of defined goals and targets. Market share and market penetration are key measures of success; competitive pricing and market leadership characterize the rational firm (Hooijberg and Petrock, 1993).

The stable hierarchy culture type values stability and shares the internal focus of the cooperative team. This culture type is sometimes referred to as the internal process type because of its emphasis on stability and continuity. The stable hierarchy emphasizes definition of responsibilities, measurement, documentation and record-keeping. All decisions reflect the existing rules, structures and traditions.

The “competing” characteristic of this model concerns organizational values that are essentially opposites: flexibility-stability and internal-external focus. When one moves diagonally in the model – for example, from cooperative team to rational firm – the culture type is the polar opposite. These competing values emerge as conflict within the organization when working with individuals from two different culture types, particularly when they are polar opposites. Indeed, many classic conflicts between caregivers and the business components of the organization concern the cost of delivering care vs the level of care nursing caregivers would like to deliver.

Pre-tests of the scales to measure the CUF showed the need to improve the readability of the item wording. The Flesch-Kincaid reading level for the original CVF scales was 10.8. The reading level scale corresponds to reading levels associated with elementary and high school grades of 1-12. CVF statements were rewritten individually to reduce the reading level required for the statements. The outcome of this revision process was a set of CVF scales having a reading level of 6.4, a

reduction of over four grades. This means that a person with at least a sixth or seventh grade reading level should be able to answer the CVF items readily. The pre-tests also showed that nearly all respondents used multiples of ten in their responses for point allocation. To improve the validity of responses and to reduce the problem of points allocated not equaling 100 (as done in the original CVF instrument), we changed the point allocation total to ten points.

Culture strength

Culture strength refers to the extent of agreement with statements concerning the organization’s culture (Mallak and Kurstedt, 1996). The extent of agreement can be measured by the mean response to individual culture strength items (or to the entire scale). The higher the level of agreement, the stronger the culture.

The culture strength of the client organization was measured using a custom-designed scale. This scale was based on orientation materials and the pre-hire video, both obtained from the organization’s human resources department. This culture strength scale had 16 items dealing with respect, privacy, feedback, problem solving and conflict resolution, adherence to standards and service recovery, among others.

Culture strength is linked with positive organizational outcomes. In a 16-year longitudinal study of Standard and Poors 500 firms, culture strength was linked to higher financial performance (e.g. return on investment, stock price appreciation) (Deal and Kennedy, 1999). In fact, the strong culture firms had financial performance nearly twice that of their weak culture counterparts. Culture strength has also been shown in several high-profile incidents (e.g. Tylenol product tampering cases in the 1980s) to guide effective action in the face of crisis and in the absence of defined policies on how to deal with those crises. Data collected for this project also supported the links between culture strength and outcomes (Deal and Kennedy, 1999; Mallak and Kurstedt, 1996).

Methodology

Data collection

In this study, we administered the culture survey, held face-to-face interviews, and

integrated other organizational data to construct a description of the culture and organization. The main hospital and a satellite hospital were included in the survey for comparative purposes. The corporate group was included because of their integral role in managing the organization. We received 432 responses, allowing us to analyze the data by various breakouts such as company, work location, position and major department grouping (e.g. medical/surgical units, administration, radiology). Overall analyses and comparisons were also performed. One-on-one interviews with executive management and one board member provided insight to the culture and organizational style from a top management perspective.

Hypotheses

The review of the literature and our experience in working with industrial and healthcare organizations led to several hypotheses. These hypotheses concerned the types and directions of relationships we expected to find. This was an exploratory study, so we left open the possibility of serendipitous findings.

H1. Higher culture strength will be associated with higher scores for job satisfaction, patient satisfaction, comparative patient satisfaction, patient results, and executive leadership.

Given the research supporting the relationships between culture strength and financial performance, and the logic that those who agree more strongly with the culture's values should make for better employees and for better service experiences, we hypothesize that higher culture strength should be positively correlated with job satisfaction, patient satisfaction, comparative patient satisfaction, patient results and executive leadership.

H2. Those who work in the new facility will rate the built environment higher compared to those who work in the older facilities.

This hypothesis follows logically from the basis that those employees working most of their time in the patient-centered built environment will tend to rate the built environment higher than those who continue to work in the older facilities.

H3. The organization's overall CVF profile will have an internal focus.

This hypothesis follows from the client organization's tendency to act conservatively in the marketplace and from its practices of taking care of its employees through attractive compensation and reward schemes. The client organization has enjoyed many years of stable operations and a healthy financial condition, which has historically limited the need of employees to focus their energies on external issues.

H4. Higher job satisfaction will be associated with higher patient satisfaction.

"Take care of the employee and they'll take care of the customer" is a common philosophy in many organizations and the basis for successful consulting engagements in the healthcare sector (e.g. Quint Studer and the Baptist Health Care Leadership Institute). Given the prevalence of this philosophy among healthcare providers, we wished to provide a scientific test of its validity.

The culture survey was constructed using several existing tools and some new tools developed specifically for this study. The survey was piloted with representatives across the organization. Based on the pilot study, several items were revised to improve understanding. Demographic item responses were refined to ensure validity. The scales and items constituting the survey are enumerated later in this section.

The culture survey was sent to the home addresses of all employees of the case study organization, their corporate unit, and their satellite hospital located in a small town about ten miles away. The mailing contained a cover letter from the CEO, a human subjects consent form, the survey, a prepaid envelope for returned the survey, and a postage-paid postcard to return for a \$1 coupon which could be redeemed in the hospital food court.

The survey contained items and scales measuring the following:

- *Demographics.* These included department, work location, position and year hired.
- *Critical incidents.* This section solicited open-ended responses concerning events that supported or worked against the culture. These results will be reported in a separate publication.

- *Competing values framework.* This set of six items required the respondent to allocate ten points across four responses to identify the cultural type present in their work unit. This was based on the work of Quinn (1988).
- *Culture strength.* The culture strength scale was custom-designed for the participating organization. The scale was based on orientation materials and the pre-hire video. The items in the scale measure extent of agreement with the organization's stated culture.
- *Job satisfaction.* This was measured a subset of an existing scale by Babin and Boles (1998).
- *Built environment.* This was based on the PedsQL (inventory developed by James Varni of University of California-San Diego/Children's Hospital of San Diego. This scale measures employees' responses to various features of the built environment and contained a special set of five items for those involved in direct patient care.
- *Safety.* These four items were not intended as a scale but to measure important aspects of patient safety and safety processes.

The following were based on the healthcare criteria in the Malcolm Baldrige National Quality Award and were adapted from the work by Meyer and Collier (2001).

- *Delivery of patient care.* These items measured how well the delivery of patient care is monitored and practiced in the organization.
- *Executive leadership.* These items focused on the role of executive leadership in quality and improvement activities.
- *Strategy development.* These items focused on short- and long-term planning processes.
- *Work systems.* These items focused on job assignment and learning.
- *Patient satisfaction.* Perceptions of patient and stakeholder satisfaction were collected by this scale.
- *Patient results.* Perceptions of traditional measures compared to the organization's competitors were collected here, such as length of stay, readmissions, clinical outcomes, and functional status of patients.
- *Comparative patient satisfaction.* Perceptions of how satisfied the patients

were compared to its competitors are collected here.

In total, there were 103 items on the culture survey. Respondents took about 30 minutes to complete the survey. Responses were subjected to appropriate statistical analyses (e.g. descriptive statistics (means and standard deviations), correlation analyses (90 percent confidence level) and tests of significant differences (90 percent confidence level)). Known and hypothesized scales were analyzed for reliability using Cronbach's alpha.

Results

We analyzed reliabilities for the known and hypothesized scales in the culture survey. Cronbach's alpha was employed for this purpose. See the scale reliabilities in Table I.

All items on the survey were considered part of a scale except four safety items, demographics and the open-ended critical incident items. Except in the case of the CVF scales, items were dropped from scales when reliability analysis indicated higher reliability would result. CVF scales were kept intact to ensure comparability with the existing body of work that employs all six items for each scale. All subsequent analyses were performed using the scales as refined from the reliability analysis. Reliability analysis supported all scales used (except safety), although two of the scales showed reliability of 0.659 – traditional cutoffs use 0.70 to

Table I Reliabilities (Cronbach's alpha) for the culture survey scales

Scale	Cronbach's alpha
Built environment – direct patient care	0.753
Built environment – general	0.911
Comparative patient satisfaction	0.788
Competing values framework – cooperative team	0.764
Competing values framework – open system	0.659
Competing values framework – rational firm	0.716
Competing values framework – stable hierarchy	0.723
Culture strength	0.908
Delivery of patient care	0.759
Executive leadership	0.875
Job satisfaction	0.892
Patient results	0.846
Patient satisfaction	0.881
Safety	0.362
Strategy development	0.909
Work systems	0.659

identify a reliable scale. The safety items were not designed as a scale and the reliability results bore this out. This investigation is an exploratory study and we therefore did not exclude the two scales having reliability of 0.659.

Analysis of hypothesized relationships

H1. Higher culture strength will be associated with higher scores for job satisfaction, patient satisfaction, comparative patient satisfaction, patient results and executive leadership

Correlational analyses showed that culture strength has significant and positive correlations with job satisfaction, patient satisfaction, patient results and executive leadership. Although not hypothesized, the study surfaced a significant positive relationship between culture strength and ratings of the built environment. The correlation between culture strength and comparative patient satisfaction was insignificant. Although these are not causal findings, some desired changes in outcome variables occurred as the culture strength increased. *H1* was supported, with the exception of comparative patient satisfaction.

Culture strength correlated significantly and positively with job satisfaction. This finding reveals that work units with higher culture strength results are more likely to have higher job satisfaction results. This does not necessarily mean that stronger cultures lead to greater job satisfaction, but does provide a basis for formulating such a hypothesis for further investigation.

H2. Those who work in the new facility will rate the built environment higher compared to those who work in the older facilities

Comparison of means using Tukey's method showed the built environment ratings of those working in the older facilities were significantly higher than those in the new facility. This was a counterintuitive finding, but may be due to a general response bias found on the part of caregivers working in the new facility. These caregivers generally rated lower on most scales in the culture survey. *H2* was rejected.

H3. The organization's overall CVF profile will have an internal focus

Analysis of CVF scales showed the studied organization having its highest scores in the cooperative team quadrant and its next

highest scores in the stable hierarchy quadrant. These are both internally focused. *H3* was supported. This means the organizational culture focuses internally – on its processes and employees – rather than being overly concerned with external influences such as competition and the market for healthcare.

H4. Higher job satisfaction will be associated with higher patient satisfaction

Correlational analysis showed a significant and positive relationship between job satisfaction and patient satisfaction. This does provide some evidence for the contention that satisfied workers help create happy customers or, in this case, satisfied patients.

Alternatively, we can interpret this finding as satisfied patients help create workers with satisfying jobs. *H4* is supported.

Investigation of built environment results

Pearson coefficients of correlation were calculated to investigate how ratings of the built environment changed as other variables changed. Based on statistically significant findings ($p < 0.10$), built environment correlated positively and significantly with the following measures:

- culture strength;
- CVF-cooperative team;
- job satisfaction;
- executive leadership;
- patient satisfaction;
- patient care delivery;
- strategy development;
- work systems.

Analysis of CVF items showed the highest scores in the cooperative team quadrant and its next highest scores in the stable hierarchy quadrant. These are both internally focused. The organizational culture focuses internally – on its processes and employees – rather than being overly concerned with external influences such as competition and the market for healthcare.

These findings surfaced many relationships with the built environment that were not formally hypothesized. The correlation with job satisfaction and patient satisfaction provided firm grounding for future built environment projects. The correlation with the CVF-Cooperative Team scale supports the position of the built environment's role as a moderating variable; the built environment

appeared to moderate team culture through the careful design of the physical plant.

Built environment as a moderating variable

In this study, the built environment served as a moderating variable. The new facility alone was not entirely responsible for new behaviors and new patient experiences. The design feature of all private rooms enabled higher quality of care and reduced the chances for medical error, but humans (nurses, physicians and patient care staff) provide the care and handle orders for medications. The design feature of light and open design created a more aesthetically pleasing facility, but hospital staff must manifest the values of a “healing environment” through their actions toward patients, staff and visitors.

A healthcare organization is a complex entity, requiring the interaction and coordination of professionals and support staff who work in an environment designed with the patient in mind. The quality of the design of this environment has implications for the quality of care provided.

The physical environment shapes behaviors and experiences of those who occupy that environment by creating opportunities for interaction with that environment in the context of patient care delivery. For example, a patient in a private room will not be complaining about his or her roommate and their visitors. The patient will not share a bathroom with an unknown individual. In this hospital, patient care providers wash their hands in a separate sink, not in the patient’s bathroom sink. Design features of the newly-built environment facilitate these new behaviors and play a key role in the culture of the organization and the experiences of caregivers and patients.

Implications for healthcare management

This study has implications for management in the healthcare sector and for management in general. The healthcare sector-specific implications are followed by guidance for managers in other sectors on how to use these findings and implications in their organizations.

Strong cultures mean better performance

Even though correlations are not direct evidence of causality, strong cultures offer compelling benefits to organizations. Based on this research and previous research, organizations with stronger cultures tend to achieve higher performance and potentially improved clinical outcomes than those with weak cultures. This is analogous to health research where consumption of a certain food is found correlated with lower incidence of particular health problem. Just because we do not know with certainty the nature of the cause-effect relationship, we do know that those who consume the certain food are less likely to have the particular health problem. The action of increasing one’s intake of the food item is therefore prudent, given the evidence. Similarly, since a stronger culture is associated with many positive benefits, it is prudent for an organization to build a strong culture.

But how does culture become strong? Culture strength is certainly something we can observe in an organization by examining unwritten rules and how people deal with them. For example, clocking out of work while in the middle of a procedure with a patient would be unthinkable, unless someone else was able to step in and take over the procedure. Talking about a patient’s condition in a public setting is also taboo. On the positive side, when a person is lost on the hospital campus, the universal response is to ask the person where they wish to go, give directions, and then escort the person to the location. In a strong culture, nearly all employees would respond the same way – this was the case in the client organization. In a weak culture, only some of the employees would respond in the expected manner.

The results from this research and from others reported in the literature (Deal and Kennedy, 1999; Kotter and Heskett, 1992) make a compelling case for a strong culture. Strong cultures result from consistent, visible role modeling and leadership, consistent feedback on performance – positive and negative – to ensure people know what is allowed and what is not, constant communication about what is important in the organization, and sharing stories where the strength of the organization’s culture played a critical role in a patient’s, staff’s, or visitor’s experience. Strong cultures do not happen – they are the result of constant vigilance to the values of the organization.

Pay heed to the unwritten rules of the culture

A strong culture guides behavior in the absence of policies, procedures or advice from supervisors and managers. Often, particularly in the healthcare field, a decision must be made expediently to best serve the patient's needs. Employees who live the culture, who hold the organization's values dear, help form a strong culture in their department. When new people join the organization, they learn what to do and what not to do based on the examples of those employees who have been there awhile. Feedback that they receive on their behavior helps them learn the culture and its unwritten rules.

So, why not commit the unwritten rules to writing? That would seem logical and would reduce the uncertainty of knowing what to do and what not to do. However, many of the rules may be embarrassing to write down and many are formally denied, but forcefully practiced. Take the notion of the title "doctor" applied to physicians. Imagine a section in the orientation manual that says "You shall address all physicians by Dr [last name]." This is something people learn outside of formal settings – they do not need it written down and neither the organization nor the physicians would admit they expect the title to be used by caregivers.

Consider another unwritten rule: help your colleague when they need assistance. This sounds so basic that putting it into an orientation package would seem to be treating employees like children. However, one of the values of the organization in this study was "working together to serve the patient." Employees at this organization bear responsibility for helping patients. Several exemplary incidents from the studied organization include a person from finance who helped a patient walk down the hallway, a phlebotomist who helped provide information important to a diagnosis of a rare blood disease, and a patient care assistant who comforted a mother whose baby was born with Downs' syndrome by sharing her own experiences of raising a Downs baby.

Align the culture with the customer, employee and the business environment

In this case study, the organization's culture was aligned with the customer and the employee (internal focus), but scored lower

on the external focus. Analysis of the administrative unit showed a balance between internal and external focus, but this balance must be shared among the caregiver staff. Without support from caregivers, conflicts will emerge as more rational means (e.g. goal-setting, standards, benchmarking the competition, balancing care options with cost parameters) are considered and implemented. Correspondingly, for a healthcare provider to align its culture with its stakeholders (e.g. patients, physicians, regulators, payors), it must have an external focus. Increased pressure on costs, the increased use (and resulting cost) of new medical technologies, the US-based initiative to provide medical information electronically, managed care plans, Web-based hospital and physician ratings, and competition by many forms of healthcare providers for niches of the traditional hospital services demand that an effective healthcare organization take into account the external operating environment. By integrating an external focus into the existing culture, a more results-oriented framework augments the need to provide the care that patients need and the resources that employees need to provide appropriate levels of care. Indeed, the positive and significant relationship found between job satisfaction and patient satisfaction supports the alignment of internal values and actions against the expectations of patients.

A well-designed built environment brings many advantages

The many significant correlations between the built environment and outcome variables supports the use of effective design in new facilities, particularly design features that support patient care. Even though a patient-focused environment may mean some inconveniences on the part of caregivers, those caregivers support the new design, in general. Positive links between the built environment and both job satisfaction and patient satisfaction provide tangible evidence supporting the design. And, findings from others support some of the design features' impact on length of stay and use of pain medication (Ulrich, 1984) (and therefore, patient outcomes and the bottom line), bringing more compelling reasons to consider building new healthcare environments using evidence-based designs.

Lessons for management in general

The previous section discussed implications for healthcare managers based on this study. However, most of those implications bear relevance for managers in all sectors, especially given research findings by other authors in other sectors that support this study's findings:

- *Strong cultures offer compelling benefits to organizations.* Strong cultures are associated with higher levels of performance, have higher levels of employee commitment, and display nearly uniform responses to specific customer service interactions. Strengthening the culture results from consistent communication and reinforcement of the key cultural values of the organization.
- *The unwritten rules and assumptions of the culture must be surfaced and dealt with.* On the organizational level, these rules and assumptions become the culture as they are implemented over time. If there are flaws in these assumptions (e.g. do not point out problem areas to your boss), then the organization will suffer as a result. At the individual level, these assumptions lead to unconscious resistance to change because of the deeply-ingrained nature of the assumption (Kegan and Lahey, 2001). Surface these assumptions and rules to help develop effective culture change.
- *Develop support systems to reinforce the positive aspects of the culture.* Rewards should be aligned with the desired cultural values. Communications should constantly make reference to the organization's values and the role of those values in decision making and action. Actions of managers and executives should provide stable role models for the expectations of the culture. When employees see managers not working in teams, badmouthing the team efforts, or otherwise not supporting key cultural values, they get the message that they, too, should not support this value either.
- *A well-designed work environment is only one piece of the puzzle.* Employee behavior that embodies the cultural values is essential – the work environment merely allows better service to be provided. For example, the use of two windows at a

typical fast-food outlet allows employees to collect payment at the first window and deliver food at the second window. Based on this design, the customer should move through the system more quickly. However, if disgruntled employees handle these transactions and treat the customer poorly, no amount of investment in the building will rectify the poor service received. Align customer service goals with new facility design, as the client organization did in this case study by pivoting the design around the patient. Then, make sure employee behaviors align with customer service goals and the organization's values.

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