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Healthcare Leadership

Evidence-Based Design Resources
for Healthcare Executives

WHITE PAPER SERIES

2 of 5

CULTURE CHANGE
AND FACILITY DESIGN:
A MODEL FOR
JOINT OPTIMIZATION



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EXECUTIVE SUMMARY

Successful stewardship of a healthcare organization is without a doubt challenging in a world full of change and where human environments forever need attention. In this context, stewards of the transformation process must be open to the innovations available when facility and culture-change agents engage in continuous conversation. They must also consider the possibilities afforded by joint optimization of facility design and the process of culture change.

This paper presents inspirational examples of the exponential value of proactively engaging multiple disciplines in creating safe and effective environments for care. More importantly, the stories address the benefits of productive dialogue between agents of culture change and those involved with facility design. And, ultimately, illustrate how evidence-based design now validates what many of us have intuitively known—that organizations will only thrive if they create a culture of engagement and dialogue.

Culture Change and Facility Design: A Model for Joint Optimization

This paper is adapted from a full-length article, “Organizational Transformation: A Model for Joint Optimization of Culture Change and Evidence-Based Design” by D. Kirk Hamilton, Robin Diane Orr, and W. Ellen Raboin, originally published in the spring 2008 issue of HERD (Health Environments Research and Design Journal), Vol. 1, No. 3. For more information about HERD, visit the Web site at www.herdjournal.com.

Imagine you are the chief executive officer (CEO) of a hospital in innercity Baltimore in the midst of the following situation. You have received two votes of no confidence from the medical staff frustrated with the chaos—chaos that can only be described as dysfunction at the unsafe and inefficient hospital. Morale among staff is not much better. The physical plant is old, dark, hazardous, and depressing. A newly hired architect is asked to plan renovation of the decaying facilities. This will not be the most desirable project. At the first planning meeting, the chief of the medical staff says with deep sincerity, “We should not spend one dime doing ‘cosmetic surgery’ on this physical environment, because what we need is a ‘heart transplant.’” Powerful and insightful words needed to be spoken to challenge the status quo. What then emerged was an opportunity. It was an opportunity to dig deeply into the very soul of the organization and engage in realigning all aspects of what makes organizations not only survive, but thrive.

This is a real case; an open-minded architect and a well-respected pioneer of organizational change came together to collaborate on the implementation of what is described in this paper as the joint optimization model for culture and facility change. The collaboration between architect and organizational consultant extended from the earliest master planning and project definition through construction and staff training related to occupancy. The architect became involved in designing

the setting for a new culture, and the consultant became involved in specifying a culturally supportive physical environment. Each believed the outcome could be superior if their complementary skills were jointly brought to bear on the client’s situation. They knew something would be lacking if they worked independently in silos. The hospital experienced a successful turnaround, the CEO’s reputation as a respected leader was recovered, and the organization has since prospered.

Although this Baltimore hospital was an extreme example of an organization in chaos (Copeland, Johnson, & Orr, 1997), it illustrates the importance of looking for opportunities to leverage organizational change through coordinated efforts. Whether you are building a new facility, renovating existing facilities, or engaging in organizational-change initiatives, such efforts can be enhanced when a joint optimization approach is implemented.

INTRODUCTION

Continuous change is the context for most healthcare organizations as they respond to technological and clinical advances, economic and reimbursement constraints, regulatory limits, consumerism, demographic pressure, unsatisfied patients and families, recruiting and retention of skilled personnel, and the crisis of safety and quality. In the context of a healthcare system that countless describe

as broken, many organizations are involved with change initiatives, such as those that focus on safety and quality, economy and cost control, or patient- and family-centered models of care delivery. For many healthcare organizations, the response has been to develop new cultures, such as a culture of safety, a culture of efficiency, or a culture of family-centered care.

The popular definition of culture is “the way we do things around here.” When a new member joins the organization, there are both formal and informal ways in which he or she is indoctrinated into the culture. Culture is more formally defined as a powerful set of norms, habits, policies, procedures, artifacts, symbols, and rituals that govern behavior in an organization. Based on deep underlying assumptions and shared beliefs, much of culture is unstated (Schein, 1992). The physical environment is, of course, one tangible and pervasive artifact with which the organization’s members continuously interact. The environment is at once the context for behavior and an influence on behavior. Culture is powerful and persistent. Another popular observation is that “culture eats strategy for lunch.” Planning for changes in culture is complex and requires a deep understanding of the organization’s shared assumptions, values, and beliefs.

In the 1980s, the nonprofit Planetree organization challenged the healthcare system to move from the prevailing physician-centric approach to a patient-centered model of care delivery. Patients would be empowered to play a role in directing their course of care, have access to clinical information about their condition, be encouraged to read their medical record and make their own notes in it, and have family participate in the caregiving process.

It became obvious that the physical environment would need to reflect the new culture, including pleasant, homelike surroundings, with the warmth of wood and carpeting. Positive distractions such as music and patient choice of artwork in the room were considered part of the treatment. Spaces for resource centers and family accommodations were added, including kitchens where family members could prepare a favorite meal or learn to cook for healthy postdischarge diets. The extraordinary

transformation associated with the Planetree care model required both culture change and facility change. This small organization, conceived by consumer activists in California, is now an international alliance of more than 90 affiliates dedicated to the delivery of patient-centered care based on the Planetree philosophy (Orr, 1992).

The Intermountain Healthcare (IH) system faced a facility challenge in the 1990s. A decision to replace or close the Valley View Medical Center in Cedar City, UT, was forced because the largely obsolete facility did not meet the seismic protection standards for earthquake risk. The challenge came because the margin at the small, rural hospital was so thin that the capital cost of a replacement could not be supported unless there was a dramatic improvement in financial performance. The facility planning thus required very tight space programming, a frugal capital budget for construction and equipment, shared services within new departmental combinations, and extreme efficiency. Operation of this efficient facility design was not possible within the framework of the existing organizational structure. Thirty-five departments became 12 departments or multimodality centers.

Change of such magnitude could not have been accomplished in the old building; modern facilities were required to make it possible. A new model of care delivery based on private rooms, technology investments, and decentralized staff locations resulted from the physical changes. An overarching culture of efficiency was required to deliver the updated model of care in the new setting, and IH was rewarded by a 13.8% improvement in the ratio of full-time equivalent staff to adjusted occupied beds. The coordinated

efforts of organizational restructuring that required facility change and led to inevitable culture change, produced dramatic results that transformed a losing operation into one of the top financial performers in the IH system based on operating margin.

More recently, the board and CEO of St. Joseph's Community Hospital in West Bend, WI, made a commitment to design and build "the safest hospital in America." The transformation required thoughtful study, careful planning of the new building, and the coordinated development of a powerful culture of safety (Reiling, Breckbill, Murphy, McCullough, & Chernos, 2003). Leadership invited an interdisciplinary group of national safety experts to analyze hospital safety. The group produced 10 recommendations for ways in which design might enhance safety and introduced the hospital to failure modes and effects analysis (FMEA) methods used by high-reliability organizations.

The staff used the FMEA process as part of its shift to a culture of safety and coordinated with the design team as it reviewed proposed plans. The facility innovations, among many, included hypotheses that safety would be improved by standardization of patient rooms including elimination of the typical back-to-back configurations (making all rooms single-handed) and placement of the patient toilet on the headwall (instead of across the room) so that there would be a continuous handrail from the bed to the toilet. St. Joseph's simultaneously created a culture of safety through social engineering practices. They were successful at creating a learning culture that encouraged reporting and feedback used to continuously improve processes and facilities (Reiling, 2005).

In each of these examples from the past three decades, executive leadership engaged in collaborative efforts to coordinate facility design and construction with organizational and culture change. Each demonstrates that the combination can produce transformative results. The examples above produced positive results in market share, patient and employee satisfaction, staff morale and turnover, and, importantly, financial performance. Data remains to be collected that will confirm additional positive clinical and safety outcomes. (*For more on the business case, see "The Business Case*

for Building Better Hospitals Through Evidence-Based Design" by Blair L. Sadler, Jennifer R. DuBose, Eileen B. Malone, and Craig M. Zimring.)

Healthcare organizations are investing in strategies to reform a complex web of variables that impact the quality and business of care delivery. As organizations respond, they engage with a variety of partners. If, for example, there is an initiative to address new services, image, or capacity, the organization might contract separately with care delivery experts, culture-change consultants, and facility design firms.

This paper addresses the moment in time when an organization has decided to intentionally engage in either or both facility and culture change. We argue there is an intrinsic link between the physical and social environment that actively enables or constrains the effectiveness of either. Planned change is in itself a risky, unpredictable process. The joint optimization model presented here is offered as a route to optimizing the effectiveness of both facility and culture-change efforts, as well as to increase the likelihood of sustained change.

SIGNIFICANCE

Recent estimates reveal a continuing increase in construction spending, exceeding \$62 billion per year for reconstructing U.S. hospitals by 2012 (FMI, 2008). In 2004, Ulrich, Zimring, Quan, and Joseph (2004) conducted a literature review to access research that connects the built environment to overall qualities of patient and provider care and concluded "improved physical settings can be an important tool in making hospitals" (p. 3).

Ulrich et al. (2008) updated the review with almost twice as many citations. In this article and in many others, evidence-based design has clearly been articulated as a path to patient safety and outcomes such as length of stay (Sadler, Hamilton, Parker, & Berry, 2006; Rollins, 2004), patient satisfaction (Press, 2002), and provider well-being and satisfaction (Huw, 2004). *(For an in-depth review of the available research, see “A Review of the Research Literature on Evidence-Based Healthcare Design” by Roger S. Ulrich, Craig Zimring, Xuemei Zhu, Jennifer DuBose, Hyun-Bo Seo, Young-Seon Choi, Xiaobo Quan, and Anjali Joseph.)*

At the same time, research regarding implementation of patient-safety initiatives and new practice models such as patient-centered care has called for a movement toward cultures of safety, as well as developing teamwork cultures (Frampton, Gilpin, & Charmel, 2003; Gemmill, 2003; Orr & Lee, 2007). However, the advantage of linking facility design and culture-change processes has remained largely unrecognized. A comprehensive, compatible marriage in the planning and implementation of evidence-based design and cultural initiatives is not only an opportunity, but can be a risk if left unattended. *(For more on the environment’s impact on the work force and patient care, see “Maximizing the Impact of Nursing Care Quality: A Closer Look at the Hospital Work Environment and Nurse’s Impact on Patient-Care Quality” by Ann Hendrich and Marilyn Chow.)*

BRIDGING CULTURE AND FACILITY DESIGN

The opportunity to jointly optimize the work of design and culture teams starts with recognizing the obvious intersections. We have identified four of many possible situations that commonly trigger transformation initiatives. Independently, facility design teams and culture-change consultants might evaluate these opportunities and create reasonable solutions based upon their particular expertise. However, each would start with assumptions about the other that may unnecessarily limit the alternative designs and interventions.

For example, if culture-change efforts initiate policy changes aimed at family involvement, the architectural firm may be unaware of the policy changes

leading to design decisions based on outdated assumptions. If the two teams work together during the design process, they can broaden the possibilities.

Changes in Care Delivery Models

Efforts to improve the patient experience and care delivery model are examples of the intersection of culture and facility design. Rutherford, Lee, and Greiner (2004) completed a study on patient-centered care in which they pointed out that “learning to think more systemically about care processes... [including] redesigning physical space... are key steps in changing the system” (p. 13).

We can see this from three perspectives. From a provider perspective, the location of workstations and supplies impact the daily routine of the frontline provider. Introducing decentralized nursing positions might look like a good idea from a design or workflow perspective, but might be underutilized if it is inconsistent with the social aspects of the culture. From a patient perspective, a new care model might call for patient education. Successful patient education requires it to be a priority in the culture and that an appropriate location be available for materials and counseling. From a family perspective, the benefit of single-patient room design with physical accommodations can only be helpful if the visiting hours and staff culture also accommodate inclusion of the family.

Increases in Capacity

As demographics shift and the care utilization of a population evolves, hospitals have an opportunity to reevaluate physical locations and services offered. Memorial Hermann The Woodlands Hospital in Texas

had a need to grow its birthing center. As plans developed for expanding the facility in new construction, it engaged the community through focus groups. Fundamental values of the community culture emerged that encouraged the move to patient- and family-centered care and resulted in a new labor/delivery/recovery/postpartum (LDRP) care model. The LDRP required a shift in the routines and culture of the care providers as well as facility changes. The common vision of the LDRP enabled collaboration between the necessary culture-change efforts and facility design.

Improvement in Patient Safety

Technologies and innovations to improve patient care are now a part of the continuous change in hospitals. It is clear that the successful implementation of these innovations depends on contextual factors, including culture and physical environment (Kitson et al., 2008). For example, in order for infections to be reduced by handwashing, both the physical presence of alcohol-gel dispensers and the *use* of the dispensers need to be taken seriously. Strategic location of sinks and marking of alcohol dispensers make it possible for the patients to observe staff members washing their hands and also allow visiting family members to participate in the process of infection control.

Medication error is another important target of current patient-safety initiatives. Clarion Health's Methodist Hospital in Indianapolis, IN, initiated a plan to reduce patient transport in its Cardiac Comprehensive Critical Care unit. The hospital built acuity-adaptable patient rooms to minimize the physical transfer from critical care to step-down units (Hendrich, Fay, & Sorrells, 2004). However, this change also meant the nursing staff had to adjust to having both critical-care and step-down patients on the same unit, and effort was required to resolve the issues raised by the need for a new culture. Malkin (2008) reported the initial success was not sustained, illustrating how new facility accommodations do not guarantee a shift in care routines that require dramatic changes by staff members.

Hiring and Retention

Improvement to the work environment is a winning strategy for attracting talent and employee satisfaction. Research has demonstrated that the physical environment impacts the provider experience

(Mroczek, Mikitarian, Vieira, & Rotarius, 2005). Bronson Methodist Hospital in Kalamazoo, MI, experienced a reduction in registered nurse turnover from 20% to 5% after the move to a new facility and now has a waiting list (Nelson, 2006). Bronson's CEO, Frank Sardone, made a commitment to rethink culture including the implementation of a hiring strategy based on values and creating a healing environment conducive to a healthy place to work. The social and cultural aspects of the work environment are part of a successful hiring and retention strategy.

The Woodwinds Health Campus in Woodbury, MN, is a new suburban satellite facility for the HealthEast Care System. The planners set out to create the "ultimate patient experience" (McKahan & Hamilton, 2006). Their hard work to intentionally plan the supportive organizational culture, create a warm and attractive design, and leverage the assets of the natural environment was rewarded with a flood of applicants. While other Minneapolis-area hospitals were experiencing notable shortages, Woodwinds had so many applicants that it was able to work with the University of Chicago to develop an interview instrument to screen for the more caring candidates. Facility design can support efforts that build the organization's image, provide space for social interaction, and build community.

In summary, regardless of the situation that triggers the change initiative, social structures and physical structures are intimately interdependent. Given the influence that the built environment and cultural elements have on each other, it is imperative that planned changes in either prompt an evaluation of the other.

THEORETICAL BASIS FOR JOINT OPTIMIZATION

The theoretical basis for joint optimization was introduced at London's Tavistock Institute in the early 1950s and has achieved status as an accepted strategic intervention for organizational change (Cummings & Worley, 2001). Sociotechnical theory focuses on the interface of the worker and the technology of the work. In its simplest form, it states that joint optimization of the social and technical aspects of the organization will produce better results than if either is separately optimized. There is synergy available in the collaborative and cooperative process. Appelbaum (1997) further explains that:

Because the social and technical elements must work together to accomplish tasks, work systems produce both physical products and social/psychological outcomes. The key issue is to design work so that the two parts yield positive outcomes; this is called joint optimization. (p. 453)

Achieving joint optimization is complicated, due to the simultaneous need to address multiple systems within the organization, and delicate, due to the dynamic interrelationship of these systems (Appelbaum, 1997). Despite the challenges, achieving joint optimization is important. Joint optimization offers the organization more robust interventions that have higher probabilities of success. Further, change supported by efforts in both the social and technical aspects of work seems more likely to be sustained (Appelbaum, 1997).

In this paper, we consider the tangible physical attributes of the facility, including its architecture, interior design, equipment, logistic systems, communications infrastructure, and information systems to be an integral part of the work technology. For example, the care provider interacts with the equipment that is on the headwall in the patient's room or experiences the layout of the floor plan as efficient or inefficient. The intangible social aspects of the organization include the social roles of humans as they interact with work technology, as well as the organizational culture, norms, structure, governance, teamwork, policies and procedures, along with reward systems. Norms

associated with working teams of care providers will powerfully influence performance. The joint optimization model we propose goes beyond compatibility to explore the opportunities for potential synergy when joint optimization is a priority in the design process. In the following section we introduce the model for intentional integration of these planning processes.

A MODEL FOR JOINT OPTIMIZATION OF DESIGN AND CULTURE

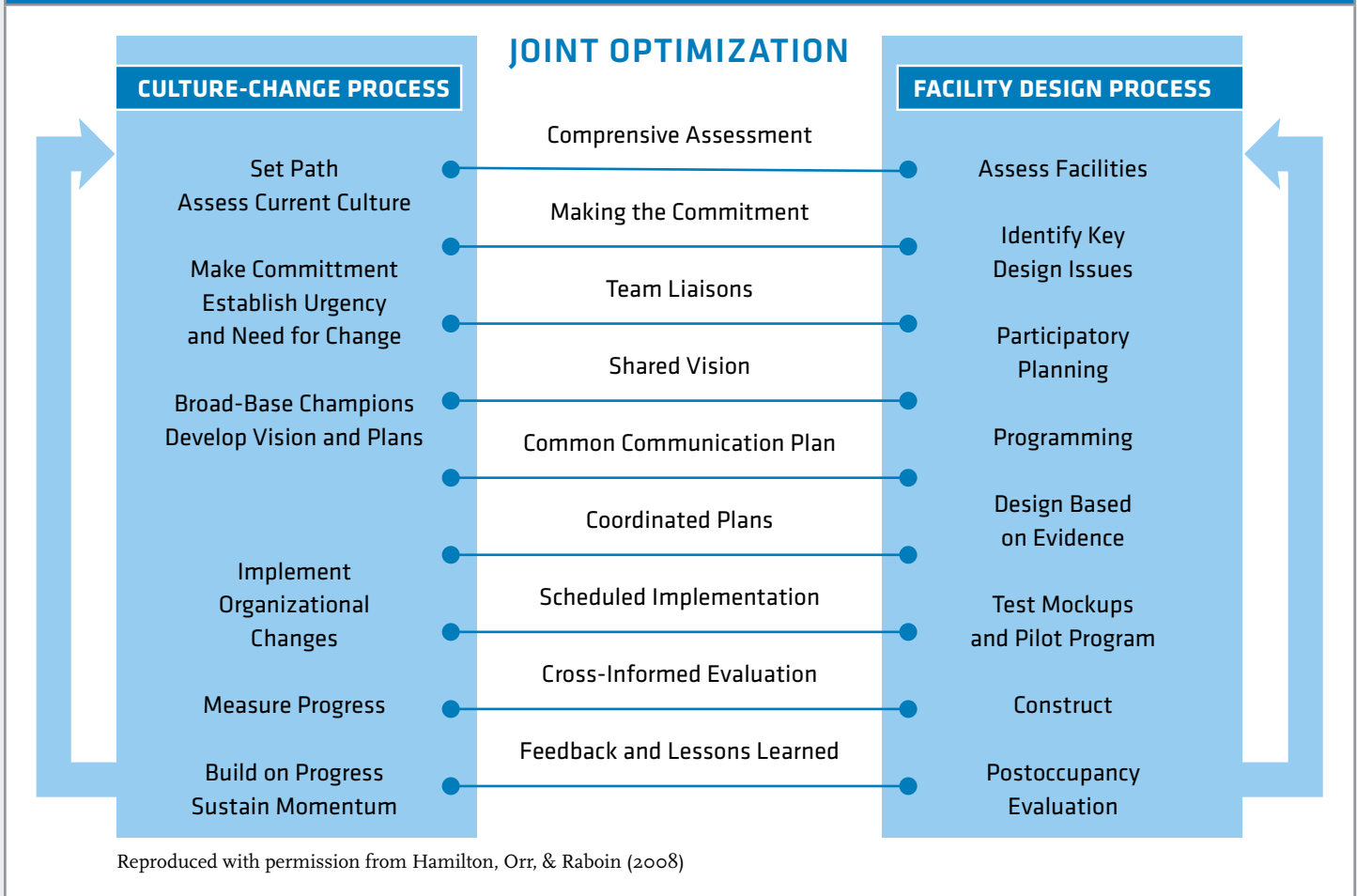
Figure 1 illustrates a conceptual model for joint optimization. The left and right columns are intended to reflect the traditional processes for culture-change and facility design initiatives. The focus of the joint optimization model is on the center column. The central actions are not intended to be precise or totally linear. Rather, they illustrate productive points of interaction where the two traditional processes may find synergy through collaboration.

What follows are some key considerations when implementing an integrated joint optimization approach. There are many issues and areas to cover when engaging in any change effort or major project—these are some of the basic activities and issues to illustrate the intersections where optimization occurs and the intentions of the joint optimization model.

Comprehensive Assessment

It is highly recommended that an honest assessment of the existing culture take place at the beginning of the process. Research has shown that executives and leaders may assume they understand their culture(s), but when honest and direct dialog occurs throughout an organization, misperceptions

**FIGURE 1:
JOINT OPTIMIZATION MODEL: CULTURE AND FACILITY CHANGE**



are revealed (Huw, 2004). Just as an executive may lack understanding of specific methods and procedures within a portion of the organization, leadership may miss the unstated currents of opinion and assumptions shared by many members of the organization. There are various quantitative tools to assess an organization's culture. However, the data should be used to prompt engagement in serious discussions and reflection. In addition to standard surveys, listening tours, focus groups, and one-on-one discussions can inform honest and direct conversations required to understand the underlying culture(s) in an organization.

It is equally important to have an assessment and understanding of the organization's facilities; not just an inventory of space, equipment, and technical assets, but an understanding of how assets and the physical environment support or is a barrier to human interaction, healing, safety, and the effective delivery of care.

Benchmarking visits to other organizations by multidisciplinary teams can allow them to see firsthand

how others have approached facility change and culture change. Observations of the culture, alternative care delivery models, operational patterns, facilities, equipment, and technology of other organizations can lead to valuable insights. The benchmarking team should have a clear agenda and immediately debrief the visit to maximize learning from the experience and uncover specific new applications. Nonhealthcare organizations can provide insights into areas such as process improvement and maintaining a strong culture. For example, observing preflight preparation on any flight line at any U.S. Air Force base can provide a wealth of information relevant to the surgical preoperative process.

Making the Commitment

The design of a facility is itself a social process. Creating the commitment to move through a transformation is a significant moment in the social process and bound by the cultural dynamics of the environment. Similarly, changes in the organizational practices require tenacity and persistence that comes from a commitment to a vision.

The executive team at Harbor Hospital in Baltimore, MD, recognized during renovations of patient-care units that results were not possible without a commitment to an integrated effort between the architectural design and organizational changes. This commitment enabled otherwise separate efforts to be coordinated leading to significant improvements in interprofessional relationships and improved position in the community (Copeland et al., 1997). It was impossible to redesign the way caregiver stations would operate in a new, decentralized fashion closer to the bedside without effective communication and interaction between the architects, organizational consultant, and staff user groups.

Team Liaisons

A routine and ongoing conversation between the processes can be managed with team members who have dedicated liaison roles and are able to cross lines of expertise with ease. This way of engaging in change requires a concerted effort to understand the intention of interventions designed by another field. That is to say, an architect will have to be clear about why it is important to a practice model to place workstations in particular

locations. Likewise, the organization consultants will have to be in tune with the cultural shifts required to leverage a newly designed built environment.

Team liaisons also play an important role in enabling broad-based participation. “The planning process is... influenced by an organization’s underling values, affecting the degree of user participation, how information is to be gathered, and even how design decisions are made” (Groat & Stern, 2000, p. 20). Engaging executives and frontline providers in both the physical and social construction of the environment of healthcare delivery is a key component of the model. *(For more on the role of the CEO, see “Implementing Healthcare Excellence: The Vital Role of the CEO in Evidence-Based Design” by Craig Zimring, Godfried L. Augenbroe, Eileen B. Malone, and Blair L. Sadler.)*

Shared Vision

Visioning has become a common occurrence in most organizations leading to the creation of a common language and collective understanding of a desired future state. The shared vision can become a guide for decision making in both the facility and cultural-change processes. However, to effect transformational change, leadership and staff must dig deeply into themselves and, thus, resist thinking of culture as an ‘it.’ James O’Toole, the Pulitzer Prize winning author on change has said, “...to talk about culture as an ‘it’ is absurd: culture is ‘us.’ To talk about a vision for the future and changing culture is to talk about people changing themselves, not changing some ‘it’ or ‘them’ outside the doors to the executive suite” (O’Toole, 1996, p. 74).

The vision process within the joint optimization model encourages involving all members of the organization at the level of personal commitment. Broad

participation encouraged and led by the CEO and organizational leadership will invite members to join in the process as positive agents of change.

Common Communication Plan

There are more methods of communication than at any time in history. Yet despite this, the most common failure in transforming culture is communication. John Kotter contends that one of the common errors is “under communicating the vision by a factor 10 (or 100 or even 1,000)” (Kotter, 1996, p. 9).

One of the reasons we emphasize the importance of a common or joint communication plan is because it is an opportunity, commonly missed, to clearly state why new facilities or renovation projects are important to clinical outcomes, more effective work environments, and a reflection of the organization’s values. A communication plan that truly integrates the key message of facility design and cultural transformation can paint a unique picture of the significant investment and the rationale behind it.

Communication is not one way. It is also an opportunity to listen to all of the stakeholders, identify the multiple stories and perspectives, and model participative management. Executives can support communication forums that allow people to discuss and make meaning of the changes. Anxiety about the impact of change is natural; open dialogue is one way to defuse negative perceptions. A particularly effective facility design process for projects associated with culture change is the participatory process; an approach that includes interaction with all stakeholders and design of a meaningful process to gain input and feedback from patients, family members, and the community. Information gained in such a personal way can provide valuable insight to inform the culture change and architectural processes.

Coordinated Plans

A participatory planning model will enable both teams to hear directly from all stakeholders. The respective plans can then form around the same priorities and anticipate high-impact opportunities. Both teams

can participate in the balancing act of planning efficiently and effectively. Decisions regarding the best use of current resources can be more informed by joint planning sessions that align the focus and energies of the design and culture interventions. When a cultural design team and facility design team are performing at their collaborative peak, it becomes hard to tell which initiated an idea. Thus, coordinated plans lead to a sense of shared ownership and full involvement that can enhance the decision-making process to better inform architectural design and culture change.

Scheduled Implementation

Change, and especially transformational change, can be unpredictable and nonlinear. Regular synchronization of schedules between the activities will ensure support when it is needed and encourage innovation as plans change. Although separate planning occurs unique to each initiative—both culture change and architectural change—there needs to be a commitment to a synchronized schedule. This is a timeframe in which facility changes are happening simultaneously with culture-change initiatives. It is at this point in the joint optimization model approach that the individuals designated as team liaisons will assure real-time decisions are timely and consistent.

For instance, securing places for families during renovation or ensuring patient-education materials are available during construction are simple examples of things that are not part of a traditional construction project. This is an opportunity to reinforce a collective commitment to keep intact those components that demonstrate the values aspired to in the vision and values for cultural

transformation. Both cultural initiatives and the building must be designed and executed as intended...something that does not happen without an integrated approach.

Cross-Informed Evaluation

Evaluation of the joint optimization model requires addressing each of the main thrusts of change initiatives and cross informing so that each is aware of the other. It requires a commitment to a continuous cycle of evaluation rather than a linear process. Providing ongoing checks and balances for the design is essential, so that it is possible to intervene when design decisions are getting off track with cultural values and vice versa. A new building will challenge comfortable behaviors and interrupt old routines. There will be a level of adjustment that requires dialogue about response to change. To effectively strategize, plan, and adjust, an organization needs feedback on whether the difficult work of culture change and environmental change is working. There are many methods to gain feedback, and a climate survey should be considered. Keeping a finger on the pulse of the organization at all times is essential and even more important during change.

Feedback and Lessons Learned

Understanding how the changes are being perceived will require some unique approaches. Storytelling is one powerful way for stakeholders at all levels to express in everyday language, not necessarily clinical terms, how change is effecting them, co-workers, and patients. Using a storytelling format of issue, action, results, lessons learned, and challenges going forward, is an effective way to collectively celebrate successes and learn from story and actions. As soon as the facility is built and the change team thinks it is done, further change has already begun. Lessons from recent experience can help make sense of what worked and why, as can lessons from missteps in the process.

The most important issue to be addressed is how to sustain momentum after the excitement of initial change. Planning to sustain change in any organization is essential, but transforming a culture requires a unique set of actions. The following actions are recommended:

- Make sure policies, procedures, and systems are aligned with the vision of the culture you are striving to create.
- Align or realign strategy with culture, organization design, and facility design, and vice versa.
- Make sure changes have sufficient funding, so they will survive.
- Celebrate, reward, and reinforce the value of changes made.
- Ensure that programs and ideas have more than one champion, so support is well-distributed in the organization.
- Make storytelling that reinforces desired behaviors part of every meeting, memo, and publication.
- Proactively maintain the facilities that are a visual statement of what you value and the stage for the organization's behavior, constantly sending clues about the organization to all observers.

CLOSING COMMENTS

Successful stewardship of a healthcare organization is without a doubt challenging in a world full of change and where human environments forever need attention. This paper is an invitation to stewards of healthcare organizations to consider the possibilities afforded by joint optimization of facility design and the process of culture change. The stories told here are presented as inspirational examples of the exponential value of proactively engaging multiple disciplines in creating safe and effective environments for care. More importantly, the stories address the benefits of productive dialogue between agents of culture change and those involved with facility design.

Every healthcare institution has well-meaning staff members who lead change efforts because they care

about the future of the organization. It's no longer enough to get the right people in the room. The evolving and emerging evidence now driving many major design decisions makes the process much more complex. Evidence-based design now validates what many of us have intuitively known—that organizations will only thrive if they create a culture of engagement and dialogue. The dialogue associated with the joint optimization model is one of learning, sharing, and probing. As stewards of the transformation process, be open to the innovations available when facility and culture-change agents engage in continuous conversation. Until we are willing to probe into the very soul of our organizations, at obvious and not so obvious junctures, we may miss the opportunity to build a robust culture adaptable to change.

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