

Patient Care Transformation

The Plan and the Reality

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An explosion of new hospital building has created the opportunity for nurse leaders to transform the patient care experience with evidence-based architecture, technology innovations, and new patient care delivery models. The authors share the first-year results of the creation of a hospital of the future in which staff actively participated and addressed the challenges of transforming the patient care experience. Positive results include patient satisfaction at the 99th percentile, successful integration of 63 software applications, and energized nursing staff. **Key words:** *care transformation, clinical technology, computerized documentation, evidence-based design, hospital of the future, innovation, patient care delivery system*

FOUR YEARS ago, the leaders of Banner Estrella Medical Center (BEMC) began planning the hospital of the future, one that would transform the patient care experience. The goal was to systematically and purposefully transform the patient care experience from one that is fragmenting, isolating, and non-specific into one that is focused, value-based, and patient specific in the new facility. Ideally, this work would integrate the best evidence for the optimal healing environment and include the evidence-based architecture, state-of-the-art technology, and a patient care delivery model that supports excellent clinical service and patient safety.¹

The BEMC, now open for 1 year, has been successful in many areas. As anticipated, many issues have also arisen. Modifications to the original plans occur routinely to correct those less than successful outcomes. This article describes the leadership journey of holding the vision in the presence of both successes and

challenges of transformation, assuring operational effectiveness, and creating a team of resilient caregivers fully engaged and dedicated to vision. Highlights from the first year of operation, accomplishments, the unexpected challenges, next steps, and the work of the leader to hold the vision of revolutionizing healthcare are presented to assist other leaders on similar journeys. It is hoped that leaders will be able to repeat many of the successes of the BEMC and avoid the less than successful experiences.

PLANNING PAYS OFF

The planning, design, and preparation were intense and comprehensive for the BEMC team. Much work was necessary to realize the dream of opening a 172-bed acute care facility, successfully implement 63 IT applications, implement the total electronic medical record (EMR), including computerized physician order entry, and implement a “new” patient care delivery model. Numerous other innovations were embedded in the model including communication technologies, patient communication systems, and room service.

Involvement of associates early in the planning process facilitated team building and

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trust among the team. The planning consisted of

- evidence-based architectural design of the facility (creating a healing environment while utilizing information technology to enhance each caregiver's workflow),
- designing and testing the components of the EMR;
- recruiting leaders and staff;
- analyzing workflow and development of new work processes;
- design of the staff orientation in a fully wired, electronic environment;
- recruitment of physicians; and
- service line development.

Throughout the development of each of these components, holding the vision of creating a facility of the future was critical and challenging. Creating a future that was better than the current reality was continually remembered and reinforced. Three years of "dreaming" and planning was expected to result in an environment that was healing to our patients and families and energizing for associates. The opportunity to change what should be changed was in the hands of the direct caregiver associates and the results were apparent. The first significant achievement was the very positive and successful licensure and accreditation experiences. No plans of correction or recommendations were identified by either the Arizona Department of Health Services or Joint Commission on Accreditation of Healthcare Associations.

CELEBRATING AND COMMEMORATING

One week before the official opening, a commissioning ceremony was held to congratulate the associates, officially commission them as ambassadors for the future, and launch the work of the organization. It was a time to celebrate, excite, and inspire. Banner Estrella Medical Center was officially commissioned as the hospital of the future from which all other Banner facilities would learn. More than 700 associates gathered to celebrate accomplishments. The program in-

cluded associates from all Banner Health facilities and members of the community. The Banner Health president began the ceremony, reflecting on the symbolic commissioning ceremony, a unique way to memorialize the opening of the new facility. Much like the traditional commissioning of a new sailing vessel moving from the security of the ship yard to the open seas, BEMC associates were commissioned to embark on a special journey of transforming the healthcare experience and serving as the official learning laboratory for new innovations for the system.

The BEMC journey continued as the facility opened and associates moved slowly from the security of the planning work to the real environment. The incredible unpredictability of the healthcare environment challenged associates as they ventured from planning to reality, venturing from the predictable shore to unknown and unpredictable seas. The commissioning tradition, meaning, and spiritual overtones served to remind associates of not only their incredible challenge, but also the support and encouragement of the entire community.

COMMUNICATION

Monthly teamwork surveys, implemented 1 year prior to opening, were very helpful in staying in close touch with the associates (Table 1). The goal of the 10-item survey was 2-fold: to gain timely feedback from associates

Table 1. Sample items for Banner Estrella Medical Center (BEMC) teamwork survey

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| <ol style="list-style-type: none"> 1. I am clear about my goals and contributions to the mission of the BEMC. 2. I am able to obtain supplies and equipment to perform my job effectively. 3. My coworkers are dedicated to creating a world-class hospital. 4. I like to work at the BEMC. 5. Every day I have the opportunity to make a difference in people's lives. |
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Table 2. Sample comments from Banner Es-trella Medical Center teamwork survey

- I am glad to see the construction girl back on the dock. I think this will help get stuff moving better again. Service is slow in the cafeteria. I use up most of my lunch waiting for something to be prepared.
- There are always growing pains with new facilities but I think it is important to look to helping each other instead of constantly trying to do our own thing without care or responsibility to the other departments around us. Asking questions is as important as is sharing ideas.
- It seems to me that the process is too slow to resolve problems with our communication devices (pagers, vocera, cell phones, radios). I have yet to find a single device that works in all areas of the facility.
- The computer systems are so interrelated and complicated that a simple question can turn into a major event!

and to reinforce the expectation that in this new environment, on these uncertain seas, that frequent feedback was essential. Also, the electronic survey modeled the expectation for electronic communication in this new technologically advanced environment. In addition to the 10 survey questions, a Comments section was included. The comments proved to be incredibly valuable to understand what was occurring at the point of service level (Table 2). Associates were incredibly and often brutally honest with their feedback.

The first survey began with feedback from 35 associates and now includes feedback from more than 700 associates. From these survey data, associates were able to celebrate successes, identify issues, implement changes, and monitor results in a timely manner. The associate team addressed issue from signage, electronic dead space, orientation, challenges with electronic charting, sharing of information and updates, and the safety and security of associates. Recently, survey frequency was decreased from monthly to quarterly as com-

mon themes emerged and the overall chaos of settling in has decreased.

TECHNOLOGY

Together with the information technology staff, the BEMC team implemented 63 IT applications (Table 3) into a patient care system that includes technologically robust support from a fully functional EMR. The BEMC associates routinely share comments about how much they love having all of their patient information readily available and accessible to multiple caregivers. With the assistance of a physician informaticist, computerized physician order entry was successfully implemented and verbal orders remain at less than 10% of all orders.

MORE PLANNING NEEDED!

Amid the joy and celebration of the facility opening, unexpected challenges arose quickly.

The first challenge surfaced in the emergency department (ED) with an unexpected high volume and more than expected uninsured patients. Initial volumes were projected at 40 visits per day. Within the first week, more than 100 patients per day were seen in the ED. The high volume placed tremendous stress on the associates in the ED who were still learning to work together as a team, learning to document electronically and implementing redefined work processes.

The unexpected number of uninsured patients quickly challenged the capacity of the finance department. Incredible teamwork by all associates at the BEMC, each one drawing on their skills and flexibility, becomes indispensable to physicians and associates to provide timely and effective services. Staff from all areas of the facility (both clinical and support) worked in the ED, assisting in any manner that they could. Tremendous camaraderie among all staff emerged quickly. The ship was sailing and the seas were rough! This first major challenge to the vision of

Table 3. Partial BEMC application list: Living complexity!*

Clinical documentation	AMCOM (Call Center)
CPOE	InfoGenesis
EMPI	InsureNet
FirstNet	HUGS (Infant Abduction)
Inet	ICIMS (Recruiting Fortis—Human Resources)
Intellivue	Fortis—Physician Credentialing
Medication Integration	GetWellTV
MedSeries4	Kronos—Time & Attendance
MRP	Kronos—Staff Scheduling
PACS	Lawson—AP, Asset Management, GL, HR/PR, MM
PathNet	MediFax
PDI	MRS (Cancer Registry)
PharmNet	OB TraceVue
PowerChart Local Access	PARIS
PowerOrders	Pharmacy Packaging (Medpak)
Profile (Deficiency Management)	Philips EKG Management System
Pyxis	Service Request
RadNet	SMART
Scheduling	TSA
Softmed—Clinicals, Clinical Abstracting, HIMS	TSI
SurgiNet	Vision Pro
Integrated Downtime PlanningASIS	WALES productivity
ICU Database	WITT
POC Lab integrator	Visitor Tracking

*BEMC indicates Banner Estrella Medical Center; CPOE, computerized physician order entry; HUGS, the baby band of the abduction system [The program is called Hugs & Kisses, where Kisses indicate the monitor for the mother]; ICIMS, Human Resource online application process and tracking system; MRP, Medical Records Publishing; MRS, IMPAC/Medical Registry Systems (oncology registry); PARIS, Patient Account Relational Information System; TSI, Transition Systems Inc; PDI, Provision Document Imaging; ICU, intensive care unit; WITT, Witt Biomedical Corporation; EMPI, Enterprise master Patient Index; PACS, Picture Archiving & Communication System; and SMART, coding compliance system.

healing, patient-focused care challenged even the most dedicated to the vision. During this time of stress and uncertainty, many associates tended to revert to familiar methods: to complain about the shortage of help and place the facility on divert. Equally quickly, associates reminded themselves of the commitment they had made to welcome challenges, to embrace times of uncertainties, and to develop new and innovative strategies to get the work done in the manner that should be done. After much course correction in the ED, the patient turnaround time is now 90 minutes, and the patient satisfaction for emergency patients is at the 89th percentile.

The next unanticipated challenge(s) was less than expected inpatient and surgical vol-

ume. Although intense physician recruitment had occurred prior to the opening of the facility, the BEMC did not have an adequate number of facility-based physicians. These 2 components factored with the large amount of uninsured patients put tremendous financial constraints on the facility. Six months after the facility opened, there was no other choice but to reduce the workforce until the anticipated patient volume was realized. The reduction in workforce coupled along with the unexpected resignation of the CEO would have demoralized most traditional organizations. However, the core team grieved for the disappointments and loss of the CEO, but quickly realized that the vision was larger than the disappointment of the loss of one person

or the operational challenges of volume. The vision remained intact and care transformation was the right thing to do.

The BEMC associates were specifically selected for their resilience, creativity, and ability to address even the most difficult challenges and their commitment to the vision created the strength to survive and once again thrive. Associates reflected the work of Menkes² in that they were more than superficially dedicated to the vision of transformation; they were confident, knowledgeable, and able to think critically about situations. The reality was that during these times of turmoil, excellent patient care was being provided. Patients were ecstatic about the care they were receiving. Most notable in all of the achievements is the consistent overall patient satisfaction at the 99th percentile for the entire year.

The reduction in workforce resulted in modifications in the patient care delivery model; reductions that associated implemented with much angst and concern that the vision was being compromised. With lower numbers of admissions, the rapid admission unit was not cost-effective and closed temporarily. To compensate, the team of an advance practice nurse, registered nurses, licensed practical nurses, and nursing assistant was modified to address both staff dissatisfaction and low volume and assure patient quality. Specifically, the oversight team was decreased and the patient care team was increased (Fig 1). The core staffing model was changed from 1 RN-2 LPNs-1CNA for 12 patients to 1 RN-1 LPN-1CNA for 8 patients.

The team focused on successes and worked harder as a team to manage the volume fluctuations. Requests for facility tours from across the country not only reinforced the belief of the work of the BEMC but also served as a recruitment tool. Visitors were awed by the facility and the passion of the associates and their willingness to share experiences. The BEMC received numerous design awards in the first year, design awards that recognized and valued the emphasis on improving the patient care experience.

HOLDING THE VISION

During this time, the monthly teamwork surveys served to validate associate levels of satisfaction and to reflect the return to higher satisfaction when volume increased. Many associates worried that the vision of transforming healthcare would be lost and the facility would become like all other facilities. The organization was able to get through this by constant reinforcement of the vision, reflection on the commissioning ceremony and frequent communication in the form of leader rounding, town hall meetings, breakfast meetings, and staff meetings. To be sure, in times of stresses of innovation, the greatest leadership challenge is to recognize and managing regression from the vision. Human nature dictates that in times of stress, individuals revert to the most comfortable, familiar processes: processes that the BEMC intended to transform. Guardians of the vision emerged in many and various ways, continually reinforcing the vision and challenging processes when it appeared regressive.

Oftentimes it is like leading on a balance beam: balancing the vision to transform the healthcare experience with the reality of operational effectiveness. Retreating to the known paper-and-pencil strategies or traditional staffing models would be simple but betray the commitment. Associates were well aware of the need to be a living laboratory and to create the evidence for the transformed healthcare model. The physical evidence of the healing facility as well as the overwhelmingly positive comments from patients and their families served to sustain and motivate associates during the difficult time.

Whenever possible, evidence was identified to support the futuristic work and models. The orientation of all associates to the principles of evidence-based practice as a component of orientation also served as an effective reference point when regression from the vision occurred. Operational results, clinical outcomes, and satisfaction of patients and associates have been monitored during the first year to assure safety and quality.

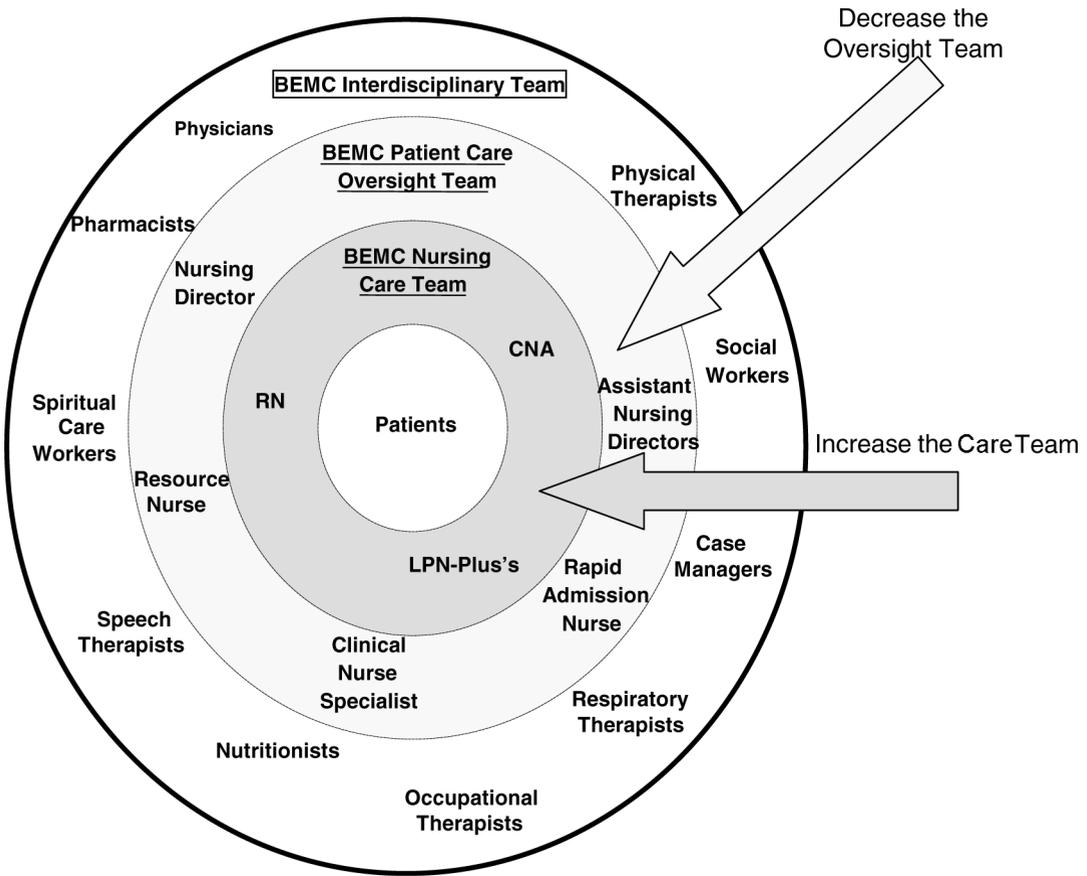


Figure 1. Downsizing redesign: Banner Estrella Medical Center (BEMC) patient care delivery model. RN indicates registered nurse; CNA, certified nursing assistant; and LPN, licensed practice nurse. Copyright 2004, Banner Health.

Staff turnover was challenging given that some turnover was due to associates not able to engage the vision and some due to the reduction in workforce. Fortunately, a strong and dedicated group of core associates has remained since the opening of the facility. These associates are dedicated and passionate about maintaining the vision of the BEMC (we selected the right people!). Physician leadership has been remarkable in demonstrating dedication and strong commitment to assure that all physicians followed through on their initial commitment to embrace the technology of the BEMC. Throughout the challenges, overall patient satisfaction remained exceptionally high. The average daily patient census

increased from 40 to 110 and ED daily visits increased from 70 to 200!

NEXT STEPS

With somewhat stabilized processes, the emphasis is on measurement to examine the relationship between the environment, technology, the patient care delivery model, and outcomes. The reality of the plan for a health-care facility dedicated to evidence-based practice further motivates and recruits associates. 2006 brings a new year for us! Patient care volumes continue to increase. New leaders and associates are once again

joining the organization. Upgrades to computer applications have occurred in several areas already—a process that is managed more

easily with each new upgrade. The BEMC is, indeed, the place to make a difference, the place to be heard and valued!

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