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Andra Gumbus

*Sacred Heart University*, [gumbusa@sacredheart.edu](mailto:gumbusa@sacredheart.edu)

Dorothy E. Bellhouse

Bridget Lyons

*Sacred Heart University*, [lyonsb@sacredheart.edu](mailto:lyonsb@sacredheart.edu)

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### **A Three Year Journey to Organizational and Financial Health Using the Balanced Scorecard: A Case Study at a Yale New Haven Health System Hospital**

*Andra Gumbus, Sacred Heart University  
Dorothy E. Bellhouse, Yale New Haven Health System  
Bridget Lyons, Sacred Heart University*

#### **Abstract**

Health care facilities are facing financial pressures as the federal government, managed care, and the shift to outpatient care forces downsizing and hospital closures across the nation. This financial pressure translates for many institutions into an increased emphasis on financial metrics to the exclusion of other parameters. Meaningful performance assessments must include other dimensions, specifically quality, patient satisfaction and staff retention, in addition to revenues and operating costs. This article explores the three year journey to organizational and financial health of Bridgeport Hospital, a member of the Yale New Haven Health System, using the balanced scorecard as a strategic tool. It details how the BSC was linked to the performance appraisal and capital budgeting processes. The challenge of engaging the medical staff is explored with the identification of ten major threats to the achievement of the hospital's goals.

#### **INTRODUCTION**

Health care facilities are facing financial pressures as the federal government, managed care and the shift to outpatient care forces downsizing and hospital closures across the nation. Operating margins at US Hospitals averaged 4.27% in 2001, up slightly from 2000 but still 20% lower than in 1997. The larger hospitals, with over 300 beds, produced operating margins of 3.71%.<sup>1</sup> This financial pressure translates for many institutions into an increased emphasis on financial metrics to the exclusion of other parameters. Meaningful performance assessments must include other dimensions, specifically quality, patient satisfaction and staff retention in addition to revenues and operating costs. The Balanced Scorecard ( BSC ) provides a framework for measuring performance in a complex and changing medical environment. While retaining the financial measures, the following drivers of financial success are incorporated into the card: quality clinical outcomes, expert clinical care providers, satisfied patients, doctors and staff, and volume and market share growth.

#### **PRACTITIONER APPLICATION**

The BSC plays to the well known management adage – if you want to manage it, you've got to measure it, and you get what you measure. Successful organizations use well designed measurement systems that are driven by strategy and reward behavior that contributes to success. The BSC helps managers to develop and articulate strategy more effectively. An important role of the BSC is the linking of results to operating activities, and to communicate them to operating managers. Managers can then help align employees to goals, facilitating change and innovation at all levels. The cascading process of creating employee metrics from those created at the managerial level captures the synergy and commitment of diverse employees, and focuses decision making to attain company strategy. Atkinson and Epstein (2002) note that when BSC's are properly done, the cards at each level align employee's efforts because the cards are

“relevant, understandable, and controllable at the local level”. The BSC also serves as a communication vehicle to important stakeholders in the community by representing and communicating strategy. “As managers learn to manage with a dashboard of new dials, they will align themselves, and their organizations, behind their organization –wide strategies with a precision they have never before experienced. They will position themselves to generate the profitability and demonstrate the accountability demanded by customers, shareholders, employees, and the communities around them.” (Atkinson and Epstein 2002)

Practicing health care managers can learn from the evolution of the BSC at Yale New Haven Health System and benefit from learning about the changes made over a three year period of using the card. Enhancements such as the application of the card to the performance appraisal process and the linkage to capital budgeting are future iterations of a BSC that practicing managers can consider as they modify and grow in their use of the BSC as a performance management system.

## **THE BALANCED SCORECARD**

The Balanced Scorecard was first introduced by David Kaplan and Robert Norton (1992) after a one year study of twelve companies. The authors proposed that financial metrics alone were not sufficient to measure performance. Other factors in the new economy such as competence and knowledge, customer focus, and operational efficiency were missing from traditional financial reporting. These dimensions do not replace the financial measures; they complement the traditional financial indicators with a long term approach to managing the business. Those using the BSC report that non – financial metrics enable problems to be identified earlier and solved, while they remain manageable. However, the use of too many measures can lead to resistance from employees. Performance measures must be complete, measurable, and controllable. If any of these criteria are absent, the measures will not link to employee’s daily operations (Inamdar, Kaplan, Helfrich Jones, Menitoff 2000 ).

The BSC is a long term strategic tool that supports organizational change. Common reactions to change can surface during the implementation of a BSC. The Duke University Hospital surgical BSC team experienced conflict, dysfunctional team behavior, fear and resistance (McLean & Mahaffey 2000). Companies don’t cope well with change, people don’t like to be judged or measured, and the BSC requires managers to part with proprietary information and distribute it to the lowest levels in the organization (Schatz 2000).

The success of the BSC is dependent upon a well – developed organizational structure, an understanding of the role of the customer, and ownership by top and middle management. Companies today are using the BSC as the foundation of an integrated strategic management system that provides a framework for implementing strategy according to Kaplan and Norton (1996). They list the following uses of a BSC

- To clarify and update strategy
- To communicate strategy in the company
- To align unit and individual goals to strategy
- To link objectives to long term targets and budgets
- To conduct performance reviews to improve strategy

## **EVOLUTION OF THE BALANCED SCORECARD AT BRIDGEPORT HOSPITAL, MEMBER OF YNHHS**

Bridgeport Hospital in Bridgeport, CT is a 425 bed, community teaching hospital that is part of the Yale New Haven Health System (YNHHS). Though fully capitated, the hospital had been experiencing losses. All management groups, including clinical leadership, came together for the process of mapping the course to attain strategic goals that would put the hospital in a financially healthy position. The leadership of the hospital, the Board of Directors, and the medical staff worked in parallel with administrative staff to craft a scenario for a successful future. Community physicians were selected to participate in refining and establishing clinical priorities. The groups considered three possible scenarios that were eventually merged into a common future scenario.

In order to reach the strategic goals a plan was created with the four most important strategic dimensions to drive the change. These became the dimensions on the BSC that drove the critical success factors, supported the hospital's objectives, and translated into measures on the card. Organizational Health, Quality and Process Improvement, Volume and Market Share Growth and Financial Health are the names of the four dimensions.

### **BALANCED SCORECARD: LINKAGE TO PERFORMANCE APPRAISAL**

A refinement to the BSC took place in 2001 when the hospital expanded the emphasis of the BSC from strategic planning to human resource development. The Organizational Health quadrant of the card was an important aspect of the performance measurement system at the hospital, but the linkage to compensation and appraisal had not been institutionalized in the initial roll out of the card. The hospital charged an employee team of high performing Employee of the Month Award winners to craft the linkage and design the accountability system. Employees espoused excellent customer service, but what did that mean in terms of day to day behavior with patients and colleagues?

Hospital management notes that historically, the performance appraisal system placed a high emphasis on customer service with competencies that accounted for 40% of the merit increase dependent on excellent customer service. The design team created a new component called the Service Contract that delineated specific behaviors that were required of all staff in order to deliver excellent service to customers including:

- I will introduce myself to patients 100% of the time.
- I will knock when entering a patient room or coworker office.
- I will provide and assure assistance to patients and guests.
- I will anticipate the needs of patients, guests and colleagues.
- I will be sensitive and aware of cultural diversity.
- I will keep patients and families informed.
- I will say hello to those I pass in the hallways.

Employees are held accountable to the Service Contract and are evaluated against the behaviors at least annually. Employees conduct a self - assessment using the contract which enables two way dialogs with their manager regarding fulfillment of the contract. The service standards are grouped into four sections on the self-evaluation form: welcome and treat all as

guests, present a positive and professional image, communicate in a professional manner, and provide a safe and clean environment. The contract accounts for 50% of the merit increase available to the employee. By making excellent customer service a contingency for performance rewards, the hospital has placed new emphasis on the linkage of the Organizational Health quadrant of the BSC to evaluation and compensation of employees. The link to appraisal through the Service Contract has given clear behavioral expectations to each staff member and specified ways that Bridgeport Hospital can distinguish itself in the eyes of its customers.

**BALANCED SCORECARD: LINKAGE TO CAPITAL BUDGETING**

As organizations mature in their use of the BSC, a logical application is the linkage of the card to the capital budgeting process. For two years the capital budget at Bridgeport Hospital has been set using the priorities as determined in the BSC metrics. The process is a highly participatory one that allows senior management as well as clinical chairmen to provide input into a numeric matrix that assigns weights to the three major areas of capital expenditures. The three major categories of capital projects are: Clinical, Non-clinical, and Information Systems. When the hospital first used the matrix approach to allocating capital they did not assign weights to these three categories. The second year iteration used a more sophisticated approach and weights were assigned out of a possible 100 points to the four quadrants of the BSC to determine the relative importance of each area for capital budgeting. The five areas and their link to the BSC quadrants are listed below:

<u>Capital Budget Criteria</u>	<u>BSC Quadrant</u>
Ensure Financial Health	Financial Health
Increase Volume & Market Share	Volume & Market Share Growth
Improve Quality & Process ( Cycle Times, Productivity, Clinical Outcome, Patient satisfaction )	Quality &Process Improvement
Ensure Patient & Employee Health and Safety	Organizational Health

The capital budget committee members weight criteria in the three areas and assign a relative importance of weak, medium, or strong impact on goal achievement. For example, in the Information Systems area the criteria *improve process* received a high weight, while in the Clinical area the criteria *improve quality* received the higher score. The capital budget matrix score dictates what gets funded based on availability of capital. Projects with higher scores are given higher priority for funding. Projects are discussed that do not make the funding cut and adjustments are made based on mandatory projects. The matrix is a standard quality improvement tool that allows for objectification of subjective data in order to make a decision (Lyons, Gumbus, Bellhouse, 2003).

The hospital has used the matrix approach for two years and will continue to use this approach based on the success of the process. The consensus building process has been a positive learning experience for clinicians and senior management to increase understanding of the clinical and other dimensions of care. It has generated much conversation about projects and

has made a political process more team oriented. The approach is more scientific and is well received by the physicians. The time allocated to the process is also greatly reduced from the prior methods used. Consensus is achieved in a meeting with all present as opposed to the assigning of resources by the finance department behind closed doors. Another positive aspect to the matrix is that it forces tradeoffs among the clinicians and lay managers that are historically conflict laden. The matrix approach forces the organization to look at how it allocates the capital budget and aligns it to strategy.

A challenge to this approach is the critical need for weights to be as accurate as possible in order to reflect the relative importance of each project. Although the weights are averaged based on individual input from each committee member, they revisit the weights to make adjustments if needed before the matrix is completed and scores are calculated. The facilitation process is also the key to the success of the matrix and a strong, knowledgeable facilitator is required in order to combat groupthink and politics during the meeting. The group must be willing to reach consensus and think of the entire organization and not just their departmental specific concerns. Potential gaming is kept to a minimum with good meeting facilitation and peer pressure.

## **A SUCCESS STORY**

The Balanced Scorecard has enabled the hospital to focus on its number one priority – the patient. In the past it was common for financial metrics to overshadow all others – the “no margin, no mission” dilemma easily monopolized performance discussions. The card has broadened the clinicians’ perspective to include financial issues and has educated the non-clinicians to clinical measures of care. It has given all staff a common language and increased their confidence level knowing that they impact aspects of running the hospital beyond their job function. The monthly review of the performance measures at the senior leadership meeting aligns all disciplines around the card (Gumbus, Lyons, Bellhouse 2002 ). Managers, supervisors, and employees are updated quarterly on progress toward achieving organization-wide measures.

In order to effectively include an emphasis on patient satisfaction as part of the balanced scorecard, the Hospital management began to work with Press Gamey, an organization specializing in satisfaction measurement, to benchmark nationally to other private community teaching hospitals. Another successful result of the card is the individual manager’s ability to take the four dimensions and apply them directly to their business unit. This enables a manager to work with the staff in the development of critical success factors that contribute to the success of the institution. A key success from the planning perspective is the reduced time it takes to do formal planning because of the implementation of the card. The strategic planning process does not start from ground zero each year, only the metrics change to encourage continued performance improvement and therefore reduces the time spent in reinventing the plan.

The greatest challenge posed by the card is automation of the process. Data is entered from various sources and is not easily automated. Capturing indicators and easily inputting and retrieving data pose challenges to easy use of the card.

## **ONE YEAR LATER: AN UPDATE ON RESULTS ACHIEVED IN 2001**

The BSC was developed in 2000 with specific landmarks to be achieved in 2001. The following is a status update on how the hospital performed against those specified goals in each of the five BSC quadrants.

### **Organizational Health**

Organizational health was defined as exquisite customer service, teamwork, open communication, opportunities for growth and advancement, healthy physical environment, employer of choice, engaged and committed staff, community involvement, and learning organization. Metrics used to measure organizational health were: percent of employee development plans in place, employee survey action plans and vacancy rates and turnover rates. In this quadrant results reported were: employee survey action plans implemented, leadership group development plans in place, an interdepartmental survey conducted, and RN and overall turnover rates were lower than targets.

### **Quality and Process Improvement**

Quality improvement was defined as patient satisfaction, optimize patient outcomes, develop leading edge clinical programs, and receive external recognition for quality. Metrics used to measure quality are patient satisfaction survey scores, patient safety, establishment of a minimally invasive surgery program and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accreditation. Results achieved were: patient satisfaction and customer preference increased, and patient safety plan and clinical pathways implemented. Process improvement was defined as optimizing cycle and turnaround times, eliminating unnecessary work, streamlining processes and maximize technology to enhance efficiency. Metrics are operating room turnaround time and the number of physicians connected to hospital clinical information systems. Hospital management reported successful results in this quadrant as follows: Emergency Department to Admission time decreased, the hours on Emergency Department diversion fell below target (positive), the Medical Surgical Registered Nurse to patient ratio exceeded the target, and 50 physicians linked to hospital clinical information systems.

### **Volume and Market Share Growth**

Volume and market share growth translates to being the market leader of health care services, increased ambulatory presence, and promoting health and wellness. These were measured by expanded clinical services, coordinated clinical care centers, and increased ambulatory volume. Metrics in this quadrant are medical/surgical volume, urgent care visits, primary care visits and home care visits. Results for 2001 were overall volume and market share at goal, and cardiovascular surgery and diagnostic cardiac catheterizations above goal. Visiting Nurse Association private duty volume and hospice volume were also reported above goal.

### **Financial Health**

Financial health means maximizing revenue, managing costs, leveraging YNHHS efficiencies, and generating positive financial outcomes. Goals are increased coordination with YNHHS to achieve economies of scale, program development funds, and revenue enhancement strategies. Metrics to measure financial health include group purchasing, funded programs, managed care price increases and cost per discharge. Hospital management reported the following results in 2001: achievement of managed care price increases, the number of full time

equivalent employees was below budget, the costs per case for Visiting Nurse Association were below goals, supply chain savings of \$750,000 were achieved in excess and the hospital participated fully in the YNHHS legislative initiatives.

The hospital communicated these year-end results to all staff through written employee communications and at departmental meetings. The results were disseminated in order to instill pride in the accomplishment of goals, to motivate the staff to continue to reach objectives, and to recognize staff accomplishments.

## **MEDICAL STAFF ENGAGEMENT IN PLANNING AND MEASURING RESULTS**

Many health care organizations face the challenge of engaging the medical staff in their planning and performance measurement systems. In order to engage the medical staff in the strategic goal setting and measurement process a Medical Advisory Panel of thirteen doctors from all major specialties of the hospital was established. Their initial charge was to identify issues of concern as they analyzed the major threats to the achievement of the hospital's goals. The advisory panel generated 10 major areas that were critical to the hospital's success:

- Patient Service
- Perception of Nursing Care
- Marketing
- Cost Efficiency
- Clinical Quality and Patient safety
- Patient Flow
- Main Operating Room
- Outpatient Services
- Minimally Invasive Care
- Coordinated Diagnostics

In each of these critical areas, the panel was asked to identify problem areas that existed in 1999 and were given the following status update at the end of 2001. By continually monitoring the status of key indicators and making progress toward goals, the medical staff engaged in the identification and resolution of issues critical to the success of both the hospital and their practice.

### **Patient Service**

In the area of Patient Service, the panel identified issues such as the need for a positive increase in the perception of care delivery, a nursing shortage, and the need to identify and correct patient service problems. Progress after 18 months included the adoption of a new patient satisfaction measurement system developed with Press Gamey. Hospital management reports that overall patient satisfaction scores moved from 81.9 to 82.4 from the first to the fourth quarters of 2000. Patient satisfaction scores for the Emergency Department moved from 72.1 to 72.8 during the same time frame and the Medical Surgical Registered Nurse to patient ratio improved to 1:6.

### **Perception of Nursing Care**

The Perception of Nursing Care category indicated a need to hire more nurses and retain existing RN's with scholarships and team building efforts. The panel also indicated the need to



involve all employees in the resolution of service problems experienced by patients by adopting a proactive patient relations program. Eighteen months later nursing scholarships are offered, the CEO/COO conduct weekly patient satisfaction meetings, an employee level team has been created to recommend improvements to customer service and the service level provided to patients has an organization - wide emphasis through the creation of a Service Contract signed by all employees.

### **Marketing**

In the area of Marketing the physicians identified the need to improve physician – marketing communication as well as marketing to the community. A Physician Marketing Committee has been established, communication from marketing occurs at quarterly staff meetings, and an emphasis on cardiovascular services was launched in a community marketing campaign in January 2002.

### **Cost Efficiency**

In 1999, the hospital was not cost efficient. It experienced an overall \$1 million / year operating loss, laboratory test costs were well above the benchmark for teaching hospitals, protocols were needed to increase cost efficiency, and synergy with the parent YNHHS needed to increase. At the close of 2001, lab tests per discharge costs were the same as FY00, technology assessments with the parent corporation YNHHS were conducted for possible efficiency and economy of scale enhancements, and the hospital saved over \$750,000 in supply management costs in collaboration with YNHHS.

### **Clinical Quality and Patient Safety**

In the area of Clinical Quality and Patient Safety the panel identified the need for protocols and the use of clinical outcome data. They also identified the need for a computerized order entry system and active involvement of physicians in quality and patient safety. Pharmacy protocols led to lowered rates of drug administration, and a computerized order entry system was slated for late 2002.

### **Patient Flow**

Other concerns were lack of timely patient discharge and staff shortages. In 2002 overnight stays in the post acute area were down to an average of 7.9 per month from 11.7 in FY00. Emergency department admissions showed improvements as well. Discharge before noon improved from less than 10% in 1999 to 28%. Staff shortages are still being addressed and will be a long term issue not easily rectified.

### **Operating Room**

The main Operating Room had experienced the problem of not being able to book elective cases or add-on cases. Today, the OR block time is improved and add- on rooms have been added to the main OR.

### **Outpatient Services**

In the area of Outpatient Services the need for a remote site for care was identified as well as the need for a wellness center and complementary medicine. An urgent care center has been opened in a neighboring town and a Department of Medicine complementary medicine work group has been established. Finally, a partnership with a local area fitness center is being explored.

### **Minimally Invasive Care**

It was identified that the Minimally Invasive Care Unit needed to expand in endovascular, cardiac, and laparoscopic surgery. New cardiac surgery expertise has increased the number of minimally invasive valves performed each year. In addition, physicians are receiving advanced laparoscopic surgery training.

### **Coordinated Diagnostics**

The last of the ten improvement areas was the need for coordinated cancer screening and diagnostic centers. Capacity was added to the GI/Digestive disease center in order to meet demand. In order to maintain physician engagement in the strategic planning and performance measurement processes, the Medical Advisory Panel meets regularly with the senior managers and department chairmen. Bridgeport Hospital has achieved what many health care organizations strive for but rarely experience, i.e. the active involvement of the medical staff in the attainment of mutual goals.

### **OWNERSHIP IS KEY**

Lessons learned by the hospital are summarized in the word *ownership*. The card was used as a planing tool, and the entire leadership team, physicians, and employees created the plan. Today, the clinical chairmen own the plan through the creation of eight teams consisting of a senior management liason, the department chair, and a key staff person. These Clinical Program Teams review the metrics on the card and meet monthly with the CEO to review progress. In our discussions with him, CEO, Robert Trefry reported favorable operating margins and a positive bottom line at the close of fiscal year 2001 – results attributable to monitoring and measuring key metrics that drive the business. The hospital also reported that it received the highest level of accreditation from the nation’s leading healthcare accrediting body, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and is among the top 5% of nearly 4800 hospitals nationwide.

Another key lesson was learning that the BSC card cannot be owned by one person. It is neither the job of the CEO, nor the job of the VP for Planning. The card is a dynamic document that is continually refined and changed. However, one thing that has not changed over the three years is the commitment from the top of the organization. Senior management has endorsed and driven the card with support from all relevant stakeholders plus support from the Board of Directors.

Finally, the alignment of goals and metrics in each of the quadrants is important in order to balance goals equally across the measures. The quadrants are equally important according to the Chief Medical Director at Duke Children’s Hospital. “If you sacrifice too much in one quadrant to satisfy another, your organization as a whole is thrown out of balance. We could, for example cut costs to improve the financial quadrant by firing half the staff, but that would hurt quality of service, and the customer quadrant would fall out of balance. Our vision was to provide patients and families with high quality, compassionate care within an efficient organization” (McLean & Mahaffey 2000).

### **FUTURE DIRECTIONS**

The BSC is a permanent part of the strategic planning process at Bridgeport Hospital and its parent corporation Yale New Haven Health because it represents good management and

sound strategy. Currently at Yale - New Haven Hospital performance is measured by tracking the objectives of the business plan quarterly with the management group. The group recommends actions for objectives that are not meeting their target. Also tied to the business plan are corporate objectives that cascade from senior management to middle management that are also measured quarterly. Yale - New Haven Hospital has a Performance Improvement Program that has business plan measures shared with all employees around financial and patient satisfaction performance. Employees are rewarded financially with results tied to payouts at the end of the year on a percentage of salary basis!

In the healthcare industry, the balanced scorecard is a way of life. According to planning and marketing personnel, in order to compete and survive in a competitive marketplace an organization must align its strategy to the mission. (Meliones 2000) Increasingly companies are using the BSC to link strategy and drive business results. A survey by Bain & Co. indicates that about 50% of *Fortune 1000* companies in North America and 40% in Europe are using a balanced scorecard. (Kaplan & Norton 2001) In many instances, the BSC has changed the focus on what gets measured and merits managerial attention. Because of the information the BSC can supply, the nature of monthly financial meetings changed from a focus on the five areas the company was doing well to the three areas they need to improve, with an emphasis on an appropriate action plan (Green, Garrity, Gumbus, Lyons 2002). This emphasis on continuous improvement and outcomes measurement guarantees that the Balanced Scorecard is here for the long term at YNHHS. Future directions include the development of a system - wide dashboard that will include performance indicators for all system hospitals - Bridgeport Hospital, Greenwich Hospital and Yale - New Haven Hospital.

## **ENDNOTES**

<sup>1</sup> Statistics from the *Health Care Strategic Management* September 2002. Volume 20, Issue 9 page 15 report on Hospital Operating Margins in 2001.

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