Building a Balanced Scorecard for a burn center

T.L. Wachtel,*, C.E. Hartford, J.A. Hughes

aCentura Health St Anthony Central Hospital, University of Colorado Health Sciences Center, Department of Surgery, Denver, Colorado, USA
bUniversity of Colorado Health Sciences Center, Department of Surgery, Denver, Colorado, USA
cTulane University Medical Center, New Orleans, Louisiana, USA

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Abstract

The Balanced Scorecard provides a model that can be adapted to the management of any burn center, burn service or burn program. This model enables an organization to translate its mission and vision into specific strategic objectives across the four perspectives: (1) the financial perspective; (2) the customer service perspective; (3) the internal business perspective; and (4) the growth and learning perspective. Once the appropriate objectives are identified, the Balanced Scorecard guides the organization to develop reasonable performance measures and establishes targets, initiatives and alternatives to meet programmatic goals and pursue longer-term visionary improvements. We used the burn center at the University of Colorado Health Sciences Center to test whether the Balanced Scorecard methodology was appropriate for the core business plan of a healthcare strategic business unit (i.e. a burn center). © 1999 Elsevier Science Ltd and ISBI. All rights reserved.

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1. Introduction

A Burn Center is a complex clinical service characterized by intensive resource utilization and broad professional manpower requirements, demanding a level of disciplined teamwork and exacting quality standards unmatched by other hospital tertiary services. Burn care is expensive and requires advanced management acumen to provide optimal quality in a cost-effective manner. The Balanced Scorecard [1–5] provides a model that can be adapted to the management of any burn center, burn service or burn program. The Balanced Scorecard (Fig. 1) can be used to express the burn center’s mission and strategy from four different aspects:

1. the financial perspective;
2. the customer service perspective;
3. the internal business perspective;
4. the growth and learning perspective.

The Balanced Scorecard approach enables an organization to translate its mission and vision into specific strategic objectives across the four perspectives. Once the appropriate objectives are identified, the Scorecard guides the organization to develop reasonable performance measures and establishes targets, initiatives and alternatives to meet programmatic goals. By not concentrating solely on short-term financial objectives, the Balanced Scorecard approach frees the organization’s leadership to pursue longer-term visionary improvements. This paper describes the nascent process used to develop a Balanced Scorecard for the University of Colorado Health Sciences Center Burn Center. The burn center’s management team arrived at specific objectives in each perspective, to select appropriate performance measures to be applied, identified ‘stretch’ targets for the individual and collective efforts of the burn team, and developed a dynamic plan to monitor progress toward our vision as a World Class Burn Center.
2. Methods

The University of Colorado, Health Sciences Center Burn Center has recently undergone a significant transformation. The facility, founded in 1978, was completely remodeled in June 1996. State-of-the-art equipment was made available as a result of foundation support. High-speed computers and a new information system, installed in summer 1998, completed the transition to a new and modern burn center. Along with the physical changes came restructures of service lines. The burn intensive care unit was combined with the general trauma service to allow more efficient utilization of personnel. This service consolidation, along with new policies for fluid resuscitation, central line changes and laboratory and X-ray utilization has effected significant cost savings. While cost savings have been the working imperative, the changes have led to some decrement in the burn team's prior spirit and philosophy. The unit's leadership felt that an initiative to strengthen customer service, market the burn service, improve internal clinical and business processes and establish an innovative investment in burn team members for future growth was needed. We set up a series of small group discussions with the leaders of the burn team and selected administrators. As a result, our burn center management team articulated a mission and vision for our burn center, developed a strategy to accomplish our vision, and translated the strategy into some initial, potentially measurable, action items using the Balanced Scorecard.

A characteristic and systematic development plan has been used to create effective Balanced Scorecards, encompassing a ten-task, four-step process [5]. While the timeline for a typical scorecard rollout project is up to sixteen weeks [5], the availability of key burn team members for interviews and meetings and the familiarity of the architect or facilitator with the burn center operation determine the true timeline. The initial task is to select an appropriate strategic business unit (SBU) within the organization. A burn center in a university hospital is an appropriate initial SBU to select. The burn center conducts activities across an entire value chain: innovation, operations, marketing, selling, and service [5] within the hierarchy of the Department of Surgery and the hospital. The second task is to identify the relationship of the burn center to other SBUs and to the divisional, departmental and corporate organization. Each burn center is unique and may wish to follow its own path for building a Balanced Scorecard.

The initial step is to clarify the burn center's vision and strategy. The cogent question is: What is our burn center's vision of the future? Our vision was determined by tailoring the mission of the institution to the expectations of the burn center director and the burn team. From these discussions general goals were defined. The next question we asked was: What is our burn center's strategy and how do we plan to accomplish this vision? Task three builds consensus around strategic objectives based on the background material obtained from internal documents of the burn center on the vision, mission and strategy, and from interviews with key stakeholders. Knowledge of the industry and competitive environment is essential, including trends in the market size and growth, competitors and competitors' offerings, customer preferences, and technological developments [5]. Our strategy included all areas that impacted on the burn service. General consensus held that the burn center operation worked reasonably well. Nevertheless, the SWOT (strengths, weaknesses, opportunities and threats) analysis showed areas for improvement. To accomplish this vision we decided that our strategy would be to use the Balanced Scorecard methodology to design incremental improvements.

Task four synthesizes the information, highlights issues and develops a tentative list of objectives and measures, listing and ranking the objectives in the four perspectives (Fig. 1). Task five reaches consensus on mission and strategy and asked the question: If we succeed with our vision and strategy, how will our performance differ for stakeholders, for customers, for internal business processes, and for our ability to grow and improve? [5]. A champion for each of the four perspectives is usually selected who then identifies three or four strategic objectives for that perspective with a priority. Each objective receives a detailed description and a list of potential measures is developed. During task six, unit leadership refines the wording of the strategic objectives and determines which of the proposed measures best capture and communicate the intention of the objective. Necessary additional in-
formation is then obtained, and the key linkages among the measures within the perspective are identified, as well as between this perspective and the other scorecard perspectives.

Task seven develops the communication tools and ‘stretch’ targets for each measure. The targets are based on benchmarking and rates of change and improvement, using timeframes of one, three and five years [5]. Task eight develops the implementation plan that provides a new executive information system linking top-level business unit metrics down through daily activities in the burn center and specific operational measures [5]. In task nine, the leadership comes to final consensus on the vision, objectives and measures and identifies preliminary action programs to achieve targets. The group then agrees on the implementation program to communicate the scorecard to the burn team, integrates the scorecard into the burn center’s management philosophy and develops the information system to support the scorecard. The last task is to finalize the implementation plan [5]. It is imperative that the burn management team initiate implementation quickly, using the Balanced Scorecard within 60 days [5]. A phase-in plan must be developed, focused on the management agenda consistent with the aims and priorities of the scorecard.

The process of building a Balanced Scorecard for a burn center concentrates on the initial seven tasks. These tasks are the substance of our initial effort to define a better business plan for our burn center and are the content on which we concentrated in this paper. The final three tasks are outlined to provide continuity for the more difficult task of implementing the good ideas and taking advantage of the scorecard as a complete business management tool for our burn center. Our greatest hope, however, is that this management tool which has been so successful in other corporate change management activities and business planning can be applied to any burn center. The methodology for consideration in each of the four perspectives is defined further.

It should be relatively easy to construct summary financial performance measures for a burn center without the arguments related to cost allocations and transfer prices of products and services from or to other organizational units. The challenge, of course, is doing this in the Burn Center’s current situation, with the functionality of general purpose intensive care units for burned patients being combined with other critically ill and injured patients in the same physical structure. Fortunately, we have hospital computer programs that allow unit specific evaluation of the crucial aspects of the scorecard perspectives. The overall financial perspective of the Balanced Scorecard for our burn center was addressed by the question: How do we look to our shareholders and/or other critical external stakeholders concerned with our financial performance? We identified hospital board members, community members, journalists, and the Internal Revenue Service as shareholders and others who may be critical external stakeholders. It was important that we make our goals specific, measurable, and time-delimited. Conveniently, the financial examples in the burn literature served as thoughtful background for our own objectives, measurements, targets and initiatives.

The next questions we addressed were: How do our customers see us? What factors matter most to them? What are the goals and measures? To achieve our mission and vision, how should we appear to our customers? These set the stage for defining a few initial goals from the universe of potential customer service objectives. Patient (or customer) satisfaction is paramount and their perception is the most important consideration in this perspective. This does not relieve us of the serious considerations such as early return to work or shortened rehabilitation which have wider economic implications than for the hospital alone. Nor is it acceptable to have patients who are satisfied, but who might be avoidably crippled for life. That is why the goals and tactical strategy must underpin and support each of the primary objectives, particularly those of the internal business perspective.

We then asked whether our critical internal business processes matched our burn center’s core competencies and strategic capabilities. If not, what mismatch do we perceive? Can we answer ‘exactly or nearly identically’ for each core competency or strategic capability? The care of critically injured and ill burned patients is the prime business of our burn center. It is a tertiary healthcare focus. There must be a match between ‘what we are good at’ and ‘what we have to be good at.’ In addition, there are the cost-effective requirements. We must determine whether we can clearly demonstrate an improvement over last year in patient satisfaction and decreased costs without decrement of patient care quality as ascertained by low mortality and morbidity rates. This was the driving force for instituting poignant internal process delimiters.

And finally, we asked questions pertaining to innovation, learning and growth. How can our burn center continue to improve and create value for our customers? Employee learning and growth measurement is extremely important and the key to future strategy.

3. Results

We established that: Our Vision is to be the World Class Level 1 Adult Burn Center in our region. The
### Table 1
The financial perspective of the Balanced Scorecard for our burn center showing the strategic objectives, applicable measures, ‘stretch’ targets and initiatives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Measures</th>
<th>Targets</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase market penetration</td>
<td>Census of referrals to the Burn Center from within Colorado</td>
<td>Increase by 10% overall &amp; by 20% in sub-markets in western &amp; northern Colorado</td>
<td>Quarterly marketing trips by burn team members and key leadership</td>
</tr>
<tr>
<td>Reduce supplies expense</td>
<td>Benchmark quarterly budget from 1998; highlight variance for supplies</td>
<td>10% reduction in quarterly expenses from 1998 baseline; earmark gauze &amp; bandages</td>
<td>Implement clinical pathway; review of alternative supplies</td>
</tr>
<tr>
<td>Improve cost of ICU care for burned patients</td>
<td>Utilize burn unit specific financial information</td>
<td>Decrease 20% during next year</td>
<td>Hospital-wide information system</td>
</tr>
</tbody>
</table>

### Table 2
The customer service perspective of the Balanced Scorecard for our burn center describing the strategic objectives, applicable measures, ‘stretch’ targets and initiatives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Measures</th>
<th>Targets</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create ‘raving’ patient satisfaction</td>
<td>Random discharge patient satisfaction survey</td>
<td>Obtain &gt; 72% very good and outstanding levels in 1 year</td>
<td>The superior patient care and case manager continuity and ombudsman programs</td>
</tr>
<tr>
<td>Instigate impressive staff satisfaction</td>
<td>McCluskey nurse satisfaction scale</td>
<td>Obtain &gt; 86% above average and excellent ratings in 1 year</td>
<td>Hospital-wide staff education &amp; incentive programs</td>
</tr>
<tr>
<td>Champion effective nurse autonomy</td>
<td>Schutzenhofer professional autonomy scale</td>
<td>Obtain &gt; 80% nearly autonomous and autonomous decision rating in 1 year</td>
<td>Consensus derived clinical pathways. Burn size driven order sheets.</td>
</tr>
</tbody>
</table>

### Table 3
The internal business perspective of the Balanced Scorecard for our burn center illustrating the strategic objectives, applicable measures, ‘stretch’ targets and initiatives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Measures</th>
<th>Targets</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease use of burn speciality beds</td>
<td>Monitor admission &amp; transfers to burn unit Mortality rate</td>
<td>10% reduction in utilization 10% decrease during next year</td>
<td>Clinical pathway with matching pre-printed orders New information system, intensive care unit and case manager</td>
</tr>
<tr>
<td>Increase survival in spite of increasing acuity</td>
<td>Number of research projects initiated and completed</td>
<td>Increase research projects initiated by 10% and completed by 10% by the end of 1999</td>
<td>NIH Grant renewed: alternate research effort initiated</td>
</tr>
<tr>
<td>Increase clinical research</td>
<td></td>
<td></td>
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</table>

### Table 4
The learning and growth perspective of the Balanced Scorecard for our burn center depicting the strategic objectives, applicable measures, ‘stretch’ targets and initiatives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Measures</th>
<th>Targets</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve burn team’s initial burn knowledge</td>
<td>ABLS Courses completed and % employees passing</td>
<td>Every burn unit and emergency department employee passes ABLS</td>
<td>Teach ABLS course more frequently</td>
</tr>
<tr>
<td>Increase pre-hospital provider’s initial burn knowledge</td>
<td>PHBLS Courses completed and % pre-hospital providers passing</td>
<td>Every pre-hospital person enrolled passes PHBLS &gt; 90% of burn team will complete the entire curriculum</td>
<td>Teach PHBLS course more frequently Twice weekly burn director’s teaching rounds</td>
</tr>
<tr>
<td>Institute regular continuing education for the whole burn team</td>
<td>Attendance for each burn subject covered</td>
<td></td>
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</table>
The principal dimension of any business strategy is embodied in the financial perspective of the Balanced Scorecard. Our introductory expectations are shown in Table 1. The customer perspective initiatives of the Balanced Scorecard for our burn center that emerged are shown in Table 2. The semblance of our internal business perspective of the Balanced Scorecard for our burn center is illustrated in Table 3. The learning and growth perspective of the Balanced Scorecard for the burn center are shown in Table 4.

4. Discussion

Background information for each of the four perspectives was used for creating the Balanced Scorecard for our burn center. Burn centers became more attentive to financial aspects of the care of burned patients after the Tax Equity and Fiscal Responsibility Act mandated in 1982 by Congress insisted on restructuring the payment system for Medicare patients [6]. The cornerstone of the revised reimbursement system was a prospective payment system based on diagnosis related groups (DRGs). Reimbursement was made on the basis of weights assigned to the DRG and a dollar value [6]. The DRG weight reflected the relative resources the burn center was expected to use to provide services to the burned patient with that diagnosis. The dollar rate was presumed to reflect the actual cost of providing service. Burn centers subsequently came under severe financial stress due to inadequate reimbursement for the actual cost for providing care for severely burned patients. Concerns about the cost of caring for burned patients had been voiced before in this country [7] and abroad [8–11]. The cost of burn care was considered to be among the highest and least well studied [12]. Burn care staff considered the cost of various components of burn care [13–24] and the impact of DRGs and healthcare reform on nursing care [25,26]. There were concerns about the effect of DRGs on the provision of burn care [27–32]. Pressure was exerted to change the payment schedules [33–35] and to become more cost effective [36–41]. The outlier payments were increased in 1987, which helped burn centers caring for the most severely burned patients [35]. Socioeconomic factors [42] and societal losses from burns were studied [43]. Multi-center resource utilization studies for burn centers and other facilities helped refine true costs [44] as did studies on statewide injury data [45]. The cost analysis of major burns in other countries was studied [46–51]. Burn center reimbursement analysis [52] and concern with the rising cost of burn care [53] led to improvement in the knowledge of the parameters and regulators of reimbursement and further modifications in the payment for burn care. Burn physician reimbursement changed with new and revised CPT codes [54]. Some burn centers closed and others downsized to meet the market forces and decreasing census [55]. Our burn center went from a dedicated burn unit to an integrated intensive care unit in response to both demographic and cost effectiveness factors.

Burn services have many internal and external customers. The internal customers are members of ‘the burn team’ and all the people who support the burn center. Patients, patient’s families and friends, referring physicians and agencies, ambulance drivers, paramedical personnel and pre-hospital providers in general, constitute some of the external customers. An additional question to ask is: At what must we excel in order to satisfy our customers’ needs? Survival and better cosmetic outcomes are very important. Qualitative and quantitative measures are required [56]. So is the length of stay [57]. But the sophistication about burn outcomes is much greater, today. For example, both patients and payers are concerned with outcomes. One such measure is quality of life which we have addressed in our burn center [58,59]. Another is return to work [60]. Reliable measures of functional assessment portend a better method of assessing rehabilitative measures [61]. Moreover, we must consider the goals and measures and make our goals specific, measurable, and time-delimited. Our burned patients are randomly sampled from discharge information and their satisfaction measured using a Picker scale survey. The internal customer satisfaction of nurses is measured with a survey tool [62,63] and an autonomy scale [64] in our burn center. Nursing scorecards are being introduced [65]. We are reminded that a satisfied customer is no longer a minimal goal. We are obligated to aim much higher and create something significantly better [66].

It is necessary to link internal business process measures to customer measures. The latest innovation...
in our internal processes is the development of clinical pathways in which prepared orders and, therefore, the care of burned patients is driven by the percentage of burn. The case manager provides continuity between inpatient care of the burned patient and outpatient care. Our burn center research concentrates on the demography and epidemiology of burns coming to our unit.

And finally, the basic educational program is the Advanced Burn Life Support Course (ABLS) for all the burn team members and the Pre-Hospital Burn Life Support Course (PHBLS) for the pre hospital members of the burn team [67]. Recently, we have begun twice weekly morning teaching rounds by the director to maintain an ongoing educational program for new burn team members and to augment the basic knowledge of all members of the burn team.

Perhaps the most important thing that you will derive from building a Balanced Scorecard for your burn center is the relative importance of each of the components in the Balance Scorecard as it relates to your burn business. This should give your management team a much broader look at the functional activity of each of the main components of the business as it impacts on your burn center. The Balanced Scorecard may eludicate any unarticulated activity that may be detrimental to your burn center business and enable your leadership team to address both present and the future problems including a plan for the year 2000 and beyond. Before your burn center actually builds a Balanced Scorecard you may not be fully aware of what ‘getting your act together’ means. It also may point out that the strategy of your parent hospital has been somewhat negligent of the burn service and develop a Balanced Scorecard will help them formulate better overall guidelines. The hospital can begin to develop a cogent strategy that will help redirect the activities of the burn service. This approach may allow export of some of the core competencies and people to sister services such as the trauma service, while identifying essential activities that impact on the overall burn strategy for your burn center. The Balanced Scorecard provides a different mindset for your key leadership to look at your organization in a global sense as well as your burn center, specifically.

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