The Balanced Scorecard:
Strategy and Performance for Academic Health Centers

Proceedings of the
2000 Forum on Emerging Issues

April 5-6, 2000
Gregg Conference Center, Bryn Mawr, PA

Hedwig van Ameringen
ELAM
EXECUTIVE
LEADERSHIP IN
ACADEMIC
MEDICINE
Program for Women

2000 ELAM Forum on Emerging Issues: Proceedings

December 2000

Authors

Stephen Rimar, MD, MBA
Medical Director, Yale Faculty Practice, School of Medicine
Director, Yale Management Program for Physicians, School of Management
Yale University

Page S. Morahan, PhD
Director, National Center of Leadership in Academic Medicine
Co-Director, ELAM Program
MCP Hahnemann University

Rosalyn C. Richman, MA
Co-Director, ELAM Program
Deputy Director, National Center of Leadership in Academic Medicine

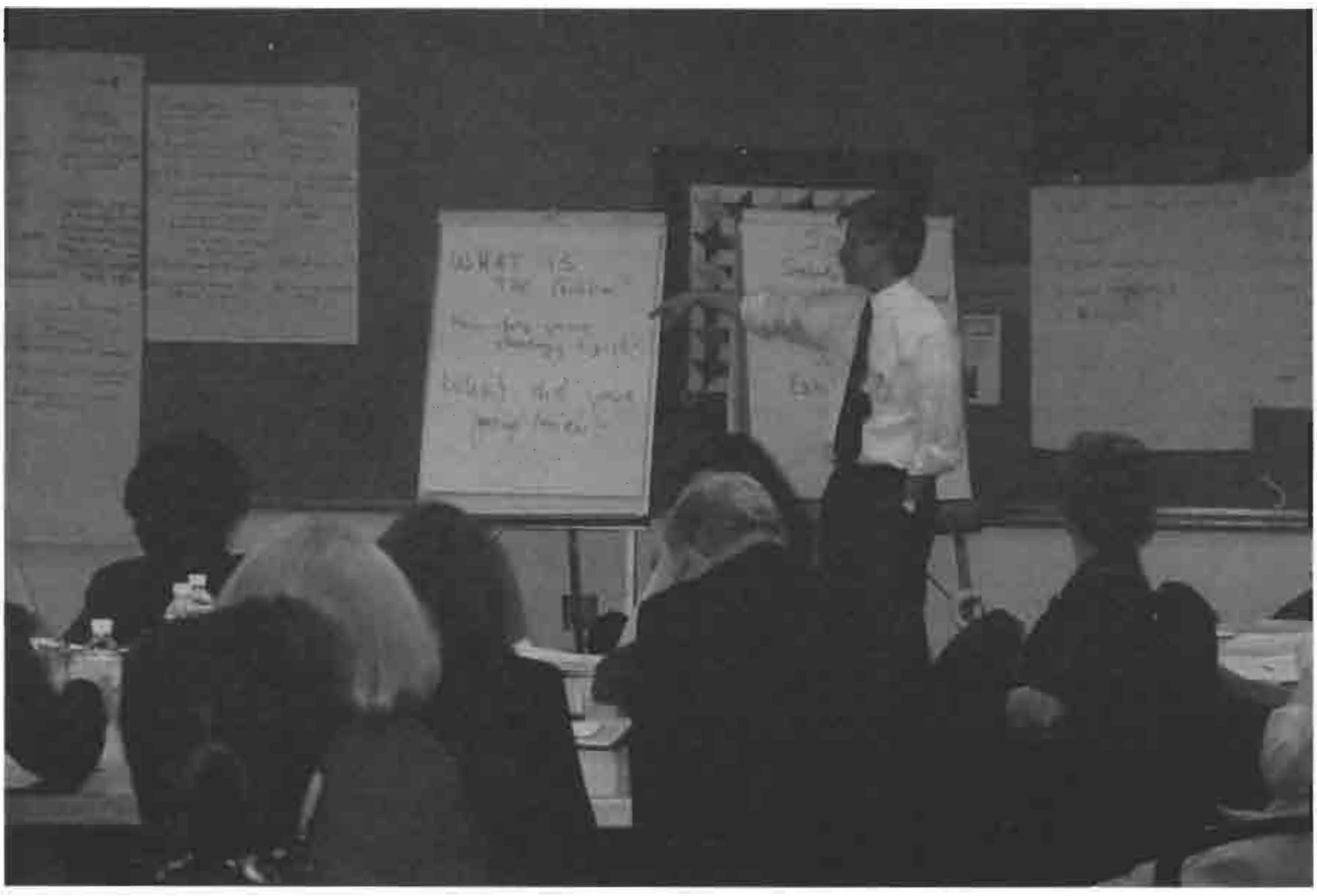
In Appreciation

The ELAM Program's 2000 Forum on Emerging Issues was underwritten by an educational grant of the **Colgate-Palmolive Company**. We are deeply grateful to Dr. Anthony Volpe, Dr. Yolanda Bonta and the Colgate-Palmolive Company for their generous support of the 2000 ELAM Forum. We also want to recognize Dr. D. Walter Cohen for his efforts in behalf of ELAM.

Introduction: The ELAM Program and the Forum on Emerging Issues

The *Hedwig van Ameringen* Executive Leadership in Academic Medicine (ELAM) *Program for Women* continues the legacy of the Medical College of Pennsylvania, founded in 1850 as the nation's first medical school for women. The goal of ELAM is to increase the number of women chairs, deans and other senior academic administrators in medical and dental schools in the U.S. and Canada, and ultimately to improve healthcare for women, children and families. The program provides Fellows with continuing executive education; participants learn about such topics as converging paradigms of corporate, government and academic leadership; financial management; strategic planning and organizational dynamics; emerging issues in academic medicine; communications; and personal dimensions of leadership and career advancement. The 42 senior women medical and dental school faculty who attended already were leaders at their institutions, seeking to improve their executive leadership skills. These ELAM Fellows held professional titles such as Chair, Vice Chair, Director, Department Head, Dean, or Associate Dean; they also were Professors or Associate Professors.

The **Forum on Emerging Issues** is the capstone event of the ELAM spring session, when Fellows are joined by senior delegates from their home institutions, most often the Deans, along with invited guests (see Appendix A for list of participants). Each year, the ELAM Forum provides a framework for focusing on the future of academic health centers (AHCs), exploring diverse perspectives of participants, and framing present efforts and future directions in healthcare education and delivery. The topic for the 2000 ELAM Forum was the Balanced Scorecard.



The Balanced Scorecard: An Overview

The year was 1985 and manufacturing in the United States was in trouble. The response to this competitive threat was to protect the bottom line by downsizing, cutting expenses, selling unprofitable businesses, and establishing competitive pricing. The challenge for these businesses was to preserve the bottom line without destroying the business—in other words, without compromising the quality of their products or their ability to delivery them.

The existing financial reporting systems prevented companies from knowing whether a specific cost cutting would result in a significant impact on their core business. These traditional financial reporting systems were designed for external reporting only and were based on complicated systems of general ledger codes. They were not designed for decision makers or decision-making.

Robin Cooper and Robert Kaplan introduced the concept of Activity Based Costing (ABC) in 1988 to correct this flaw in traditional financial reporting systems.[1] ABC was a method of linking specific costs to specific activities and assigning them, not to cryptic general ledger codes, but to categories determined by managers and useful in decision making. It allowed decision makers to make informed decisions about costs and activities and provided an opportunity to cut costs without jeopardizing the business. This led to the notion of Activity Based Management, in which managers use cost-activity information to make management decisions consistent with their mission. Essential to the concept of Activity Based Management is the need to use outcomes to test these decisions over time, and the need to incorporate non-financial outcomes into the performance evaluation. (Mission Based Management is a similar process for organizational decision-making based on timely, open and accurate information, designed specifically for Academic Health Centers.[2]

The application of Activity Based Management underscored the need for a tool to track both financial *and* non-financial outcomes and integrate them into the strategic planning of the business. In response to this need, Kaplan and David Norton developed the Balanced Scorecard in 1992. This model enabled businesses to measure their total performance—*financial and non-financial data, leading and lagging measures, and internal and external performance*. Businesses found the Balanced Scorecard useful not only for testing their strategic plans by tracking performance, but also for helping to plan this strategy[3] and translate it into specific objectives and performance measures.

Businesses discovered the Balanced Scorecard to be an extremely valuable tool for strategic planning and linking performance measurement to compensation. Several large corporations achieved distinct financial gains by using the Scorecard.[4] And the Balanced Scorecard model began to attract the attention of non-profit organizations.[5]

The year is now 2000 and manufacturing in the United States once again leads the world. Academic health centers (AHCs), however, are in serious trouble.[6,7,8] Plagued by inefficient operations, a bloated, slow-moving bureaucracy, complex organizational structures, and a complacency that prevents significant change,[9] the once-dominant industry finds itself in a state of turmoil.[10] Powerful external forces, including challenges from for-profit competitors and new technologies, for-profit and distance learning education initiatives, a decrease in government support in the face of growing regulatory oversight, and the advent of consumerism threaten to destroy the industry.

The predominant response to the turmoil and powerful forces impacting AHCs, as with manufacturing, has been to protect the bottom line by downsizing, cutting expenses, selling unprofitable businesses, and establishing competitive pricing.[11] The challenge, once again, is to preserve the bottom

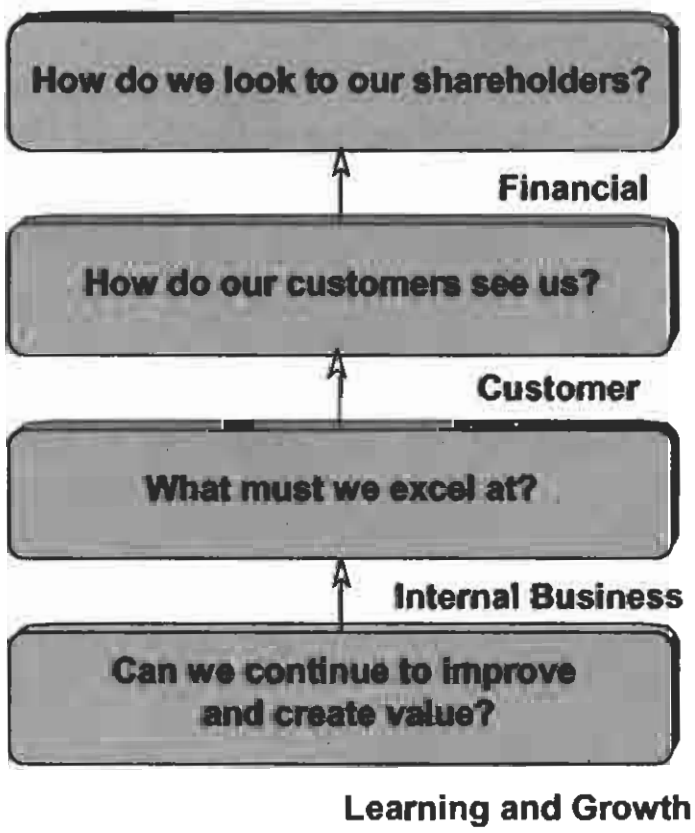
line without destroying the business – in other words, without compromising the quality of their products, their ability to delivery them, or their creativity and innovation in developing new products and services. Just as with manufacturing two decades earlier, however, existing management systems in academic health centers prevent leaders from making appropriate decisions.

The Balanced Scorecard: What is it? And can it help AHCs?

The Balanced Scorecard is a set of measures designed to examine an organization's performance from four perspectives and to answer the key question suggested by each perspective:

- The *learning and growth* perspective: Can we continue to improve and create value?
- The *internal business* perspective: What must we excel at?
- The *customer* perspective: How do our customers see us?
- The *financial* perspective: How do we look to our shareholders?

This approach leads to the development of a "Scorecard" consisting of objectives and measures of an organization's performance. The key feature of the scorecard is the balance between the financial and non-financial aspects, internal and external measures, leading (early) and lagging (late) indicators, and objective versus subjective outcomes. The goals and measures, as well as their relationship, are determined by the organization's strategic aims. In this manner, the Balanced Scorecard is designed to enable an organization to accomplish its mission.



Developing a Balanced Scorecard for a Simple Organization: Exercise 1

How to Develop a Scorecard

The following framework was presented to Forum participants in preparation for development of Balanced Scorecards specifically adapted for AHCs. The *Mission* of an organization is its self-determined purpose or task. It generally addresses what is being satisfied, who is being satisfied, how they're being satisfied. *Strategy*, on the other hand, is a plan or method of achieving this goal, or mission. It is a plan to strengthen the organization's position, satisfy customers, and improve performance. Strategy is the method of achieving the organization's Mission in a competitive environment.

1. Determine your Mission

- *Make it specific*
  The scorecard should address only those objectives *essential* to your mission. It should articulate clearly those objectives. Repeatedly asking, "What do we mean by this?" and then refining the Scorecard elements will help.

- *Make it realistic*
  The scorecard must be believable to an organization. Unrealistic objectives and imagined or vague performance measures will prove ineffective.

- *Make it happen*
  Each organization should ask, "How will we accomplish our strategy?" If developed correctly, the answer should be clearly contained in the scorecard.

2. Determine your objectives

- *Answer the question for each perspective*
  The scorecard objectives are the answers to the question posed by each perspective, e.g. how do our customers see us? Make these answers as *specific* as possible, and make them *realistic*.

3. Determine your measures

- *Design a measure for each objective*
  For the purpose of the scorecard, "if you can't measure it, it can't happen."

- *Do not seek perfect or absolutely comprehensive measures*
  Remember that measures are not perfect. Begin with existing measures and add to them over time.

4. Compare your Strategy to Mission

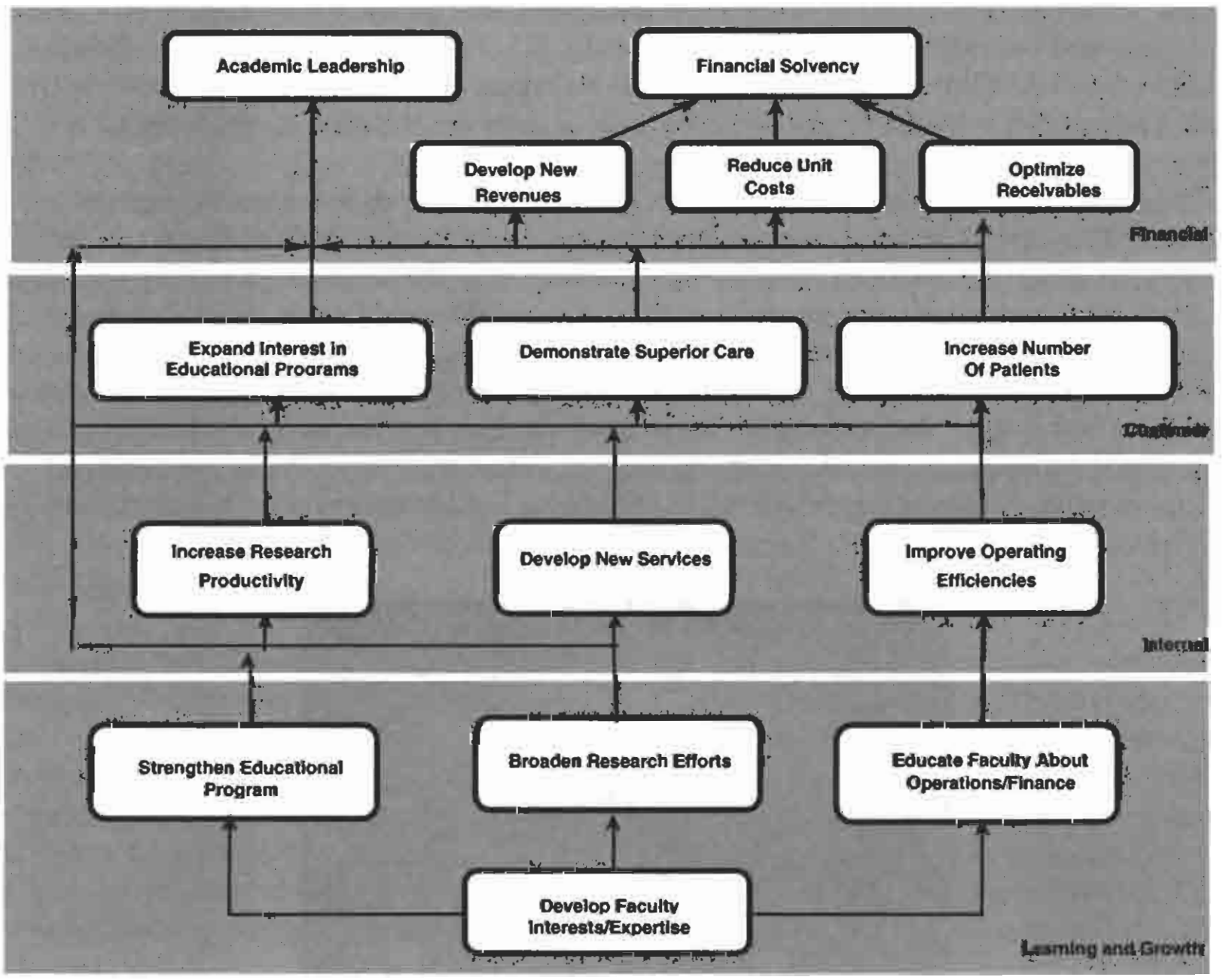
- *Diagram your objectives*
  Ask the following questions: Are the objectives linked? Do they support each other? Do they build to accomplish the mission? Is this really our mission?

Developing a Scorecard

Case studies of two simple organizations, one for-profit and the other non-profit, were distributed to ELAM Forum participants. [See Cases 1B and 2B, Kain's Bikes and St. Anne's Church, Appendix B.] Using the framework presented in the introduction, groups developed Balanced Scorecards (objectives and measures) for their assigned cases. Each group then presented its Scorecards to the entire ELAM Forum. The discussions centered on why specific objectives and measures were chosen, the underlying strategy that drove the selection of the objectives, and suggestions for implementation. The assumption within the Balanced Scorecard is that the people in the organization are probably in the best position to know if the scope of the Scorecard is realistic versus to broad.

From this experience, the ELAM Forum participants drew a number of conclusions:

- All four of the perspectives are very inter-relatable.
- You need broad based group—meaningful representation—to use the Scorecard effectively and it takes time to establish consensus on the mission, vision and strategy. On the other hand, having a limited period of time can help the group reach closure, providing a sense of urgency. One person commented, "Every person in the group brought a different perspective." Another noted, "One idea did not fly because there was little enthusiasm from the group as a whole."
- Although the cases studies were simple organizations, there are common components with academic health organizations.



The Balanced Scorecard for an Academic Health Center: Exercise 2

Overview: The Balanced Scorecard and Complex Organizations

Although no organization is "simple," certain organizations possess characteristics that qualify them as "complex." Large numbers of people, physically separated from each other, multiple missions, and an inevitable bureaucracy make it difficult for leaders to develop and accomplish organizational goals. Complex organizations are often influenced greatly by their history with individuals and groups "remembering" things that others cannot. In an effort to control expenses, most complex organizations have developed complicated budgeting processes. Controlling a complex organization requires some form of centralized administration, but operations must be controlled by decentralized units in order to function.[12,13,14]

The characteristics of complex organizations require special consideration when developing and implementing a Balanced Scorecard. Additional questions to be asked include: To which unit of the organization does this Scorecard apply? Which mission does the Scorecard address? And which strategy of the organization are we developing and implementing with the Scorecard? Once these issues are addressed, developing the Scorecard for a complex organization becomes manageable.

Developing a Balanced Scorecard for an Academic Health Center

Using the same framework in the previous exercise, groups developed a Scorecard for each of the fictional Academic Health Center cases presented. [See Cases 3B and 4B, Well-Known University Medical School and University Health System, Appendix B.] The groups then presented their Scorecards to the ELAM Forum participants. Sample Balanced Scorecards from the Well-Known University Medical School and University Health System cases are included in Appendix C.

The common theme for all Scorecards was the difficulty of addressing multiple missions at a time of intense financial pressure. This was illustrated by comparing the focus of the groups that dealt with the Medical School to the focus of the groups that dealt with the Health System. For the Medical School case, groups expressed a serious concern about the inability to maintain their educational mission. At the heart of the Scorecards were measures of faculty engagement, satisfaction and productivity. The overall strategy for these groups suggested that the faculty were the key to success of the school from both a fiscal and mission-based perspective. The Scorecards for the Health System, in contrast, stressed the difficulty, not of preserving medical school mission in the face of financial constraints, but rather of preserving excellence in clinical care. Measures of clinical productivity, patient satisfaction and benchmarking comparable institutions were common.

Implementing the Balanced Scorecard in Academic Health Centers: Exercise 3

Developing Specific Objectives and Measures for Your Academic Health Center

Groups from the previous exercise picked a specific objective that was applicable to their own organization from the ones developed for the hypothetical AHC cases. By answering the following questions, each group developed a specific set of measures for the objective:

- Does the measure address the objective?
- Can we obtain it in our organization?
- Does it have real meaning to our faculty and staff?
- If it doesn't exist, are there acceptable surrogates?
- Is the frequency of the measure realistic and adequate?

When selecting a specific objective most applicable to their organization, half of the groups chose the Learning and Growth perspective and the other half the Internal Business perspective. Interestingly, no group chose a financial or customer perspective. The Learning and Growth objectives focused on developing faculty through measurement of productivity (promotion rates, number of research funding applications submitted) and education and leadership in institutional issues (attendance at organizational learning seminars, number of faculty involved in school workgroups, committees, etc). The Internal Business perspective objectives focused on improving work efficiency through measurement of cost per RVU, cost per patient activity, time devoted to teaching, and external benchmarks. (A sample of a complete list of measures and considerations for a single objective is presented in Appendix C.)

It is interesting to note that faculty issues appear as Customer, Internal Business and Learning and Growth Perspectives. This apparent redundancy speaks to the arbitrary yet robust nature of the Balanced Scorecard. Since faculty might be simultaneously considered customers, part of the internal business process, and key participants in development opportunities in an academic health center, it is not surprising that they appear in all three perspectives. The Balanced Scorecard, after all, is a management tool to be used in whatever manner is best for the organization. There are no absolute rules for assigning objectives or measures to specific perspectives. If the objectives and measures make sense for the organization, they're appropriate.

All of the participants agreed that it was more difficult to focus on the complex cases, less fun when you knew the potential impact of your solutions, and difficult to keep up the energy.

Strategies for Implementation

Developing a Scorecard is easy compared to its implementation, particularly in a complex organization.[15,16] A number of barriers exist in academic health centers, including the existence of silos, or divisional separations of people and processes, often physically separated as well. Despite this decentralized system of operations, however, authority is centralized in a handful of offices, with limited mechanisms for sharing it. Academic health centers, like the great universities many stem from, wallow in a "cult of individualism," in which "academic freedom" and loyalty to biomedical and clinical disciplines often interfere with organizational accountability.[14] Finally, few academic health centers have a functioning performance measurement system, let alone a reward system that is closely linked to that system.

Academic health centers, however, do possess some substantial advantages over other complex organizations. They are charged with a truly noble mission, and most employees and staff have joined in pursuit of this. In addition, the workforce, including physicians, nurses, and other healthcare professionals constitute an extremely educated workforce. This combination of an educated workforce dedicated to a noble mission can provide the environment to accomplish much more than most other organizations. Finally, the times have created a need for leadership that is unparalleled in the history of health care, and many of these educated professionals are anxious to improve things.[17] This untapped energy has tremendous potential.

So how does one start the implementation process?

Establish support for the effort at the highest levels of the organization.
The nature of this support will vary from organization to organization, but it should be more than simply an institution-wide e-mail announcing the effort.

Find a champion and work group.
These are the people who will "live" the implementation and think about it every day. Without them, no level of support from the senior administration will make a difference. This group of "zealots" is analogous to the "skunk works" industry often uses to develop breakthroughs (e.g. the Saturn project).

Keep the process moving.
The Balanced Scorecard is only a tool for change in an organization – it is NOT an end in itself. Finally, remember that the Scorecard is primarily about communication. Articulating objectives, measures and strategy is of no value if the entire organization is unaware of it. Find ways to get the message out.

Previous efforts at developing and implementing the Balanced Scorecard in academic health centers have yielded the following lessons learned:[18,19,20,21,22]

- *Avoid business speak*: Some even have avoided the term "Balanced Scorecard."
- *Start with existing measures*: Valuable momentum has been lost in organizations where the major effort was focused on developing the "perfect" performance measures. The cost of measurement needs to be examined to determine what level is optimal.
- *Form an implementation focus group*: The champion and work group needs an impartial, reasonably sized group to test ideas and methods. Create or find this focus group and listen to it.
- *Get people involved with data*: The Balanced Scorecard works best in "open book" organizations. Unless everyone sees and understands the data, it cannot work. The best processes involve sharing data, acknowledging that it's not perfect, agreeing to work together to understand it, to start with 'best guesses' and go back and forth to refine the data needed.
- *Optimize your information system*: In order to get the most data in the most convenient form, use your current system – or consider this need if installing a new system.

In considering what they had learned from grappling with the complex cases of the Medical School and Health System, participants noted:

- There is so much overlap among missions and functions that it is difficult to decide where to put specific items – emphasizing the less than perfect information systems and lack of clear separation among functions that exist in AHCs.
- The key to a successful Scorecard effort (or any major change effort) is to build trust among participants with diverse viewpoints. Broad, diverse expertise and experience is required to counter the tendency to draw on one's own history, to focus on what might be lost or on what would not work based on history, and increases the possibility of creative thinking. As one participant said, "it's hard to think outside of the box when you're in it."
- "Obvious" solutions such as structural changes or developing a parallel structure (such as faculty senate and dean governance structures) don't always lead to improvement.
- The amount of effort spent on the internal processes should be equal to the effort on financial solvency.
- A useful strategy might be to pick the strategy with the greatest leverage at the moment, rather than identify the *perfect* strategy.

ELAM Forum participants were encouraged to take the objective and measures they had worked on back to their home institution as a start to developing a Balanced Scorecard for their organization or unit. A number noted that the Scorecard process could be a useful tool in such diverse areas as clarifying an organizational purpose and structure, preparing a grant application (because it forces consideration of the customer perspective), developing a departmental strategic plan, and providing a useful process for bringing people together who have nothing in common and must work on an issue together.

Comments on similarities and differences between the Balanced Scorecard and Mission Based Management (MBM)

Robert D'Alessandri, M.D., Dean of West Virginia University School of Medicine, commented from his experiences at the ELAM Forum and several years of experience with the MBM initiative with AAMC. He viewed the two approaches to be similar in that both provide a mechanism for:

- Culture change
- Data-supported decision-making
- Opening the books so that everyone sees the data
- Working toward an institutional goal versus individual silo (department) goals
- Sharing activities. The specific shared activities differ in that MBM focuses on data collection and organizational decision-making through re-allocation of resources around already agreed-upon shared goals, while the Balanced Scorecard provides a mechanism for developing and operationalizing a strategic plan and holding people accountable for it.

On balance, the Balanced Scorecard (BSC) and Mission-Based Management methodologies appear complementary, and both can be useful to AHCs. It is essential to tie MBM to planning (such as with BSC) and planning ultimately needs to be tied to a process that helps AHCs to allocate resources across units (such as with MBM). The decision will be for individual AHCs to determine which parts of each tool might be most useful for their specific situation.

Endnotes

[1] Cooper R and Kaplan RS. Measure costs right: Make the right decisions. Harvard Bus Rev Sept/Oct 1988;66(5):96-103.
[2] Mission based management resource material. Association of American Medical Colleges, 2000.
[3] Kaplan RS and Norton DP. Having trouble with your strategy? Then map it. Harvard Bus Rev Sept/Oct 2000;78(5):167-176.
[4] Kaplan RS and Norton DP. The balanced scorecard: Translating strategy into action. Harvard Business School Press, 1996.
[5] Inamdar SN, Kaplan RS, Jones MLH and Menitoff R. The balanced scorecard: A strategic management system for multi-sector collaboration and strategy implementation. Quality Management in Health Care 2000;8(4):21-39.
[6] Flower J. Watching the falling barometer. The Physician Executive Nov/Dec 1999:64-66.
[7] Burns LR, Cacciamani J, Clement J, and Aquino W. The fall of the house of AHERF: The Allegheny bankruptcy. Health Affairs Jan/Feb 2000:7-41.
[8] Blumenthal D, Weissman JS, Griner PF. Academic health centers on the front lines: Survival strategies in highly competitive markets. Acad Med 1999;74(9):1037-1049.
[9] Mehrtens SE. The law of the retarding lead. Perspectives on Business & Global Change June 2000;14(2):12-15.
[10] Christensen CM, Bohmer R, and Kenagy J. Will disruptive innovations cure health care? Harvard Bus Rev Sept/Oct 2000;78(5):102-112.
[11] Karpf M, Schultze RG, Levey G. The decade of the nineties at the UCLA medical center: Responses to dramatic marketplace changes. Acad Med 2000;75(8):781-792.
[12] Gilmore TN. Leading and planning in loosely coupled systems. Center for Applied Research, December 1994.
[13] Quinlan J, Blumenthal D, and Fishman M. An academic medical center reaches out. Health Forum Journal Jul/Aug 2000;43(4):39-42.
[14] The lattice and the ratchet. Knight Higher Education Collaborative/Policy Perspectives June 1990.
[15] Kotter JP. Winning at change. Leader to Leader Fall 1998;10:27-33.
[16] Pfeffer J and Sutton R. Bridging the knowing-doing gap. J Innovative Management 1999;5(1):64-74.
[17] Davidson SM, Hoffman AJ. Educating our future leaders. Health Forum J. Sept/Oct 2000:14-17.
[18] Rimar S, Garstka SJ. The balanced scorecard: Development and implementation in an academic clinical department. Acad Med 1999;74(2):114-122.
[19] Zelman W et al. Issues for academic health centers to consider before implementing a balanced scorecard effort. Acad Med 1999;74(12):1269-1277.
[20] Jones MLH and Filip SJ. Implementation and outcomes of a balanced scorecard model in women's services in an academic health care institution. Quality Management in Health Care 2000;8(4):40-51.
[21] Meliones J. Saving money, saving lives. Harvard Bus Rev Nov/Dec 2000;78(6):57-67.
[22] Curtright J, Stolp-Smith SC, and Edell ES. Strategic performance management: Development of a performance measurement system at the Mayo Clinic. J Healthcare Management Jan/Feb 2000;45:58-67.

Appendices

A. List of 2000 ELAM Forum Participants

B. Cases

1B. Kain's Bikes
2B. St. Anne's Church
3B. Well-Known University Medical School
4B. University Health System

C. Examples of Balanced Scorecards from Academic Health Centers

1C. Balanced Scorecard of Well-Known University Medical School
2C. Measures and Considerations of a Single Objective
3C. Balanced Scorecard for a University Health System

D. Bibliography

E. Forum Faculty

Appendix A: List of 2000 ELAM Forum Participants

Linda R. Adkison, Ph.D.
Professor
Genetics Coordinator
Mercer University School of Medicine
1550 College Street
Macon, GA 31207

Valerie A. Arkoosh, M.D.
Associate Professor of Anesthesiology, Obstetrics and Gynecology
Interim Chair, Department of Anesthesiology
MCP Hahnemann University School of Medicine
245 North 15th Street, Mail Stop 310
Philadelphia, PA 19102-1192

H. Verdain Barnes, M.D.
Associate Dean for Information Technologies
Eastern Virginia Medical School
825 Fairfax Avenue
Norfolk, VA 23507

George M. Bernier, Jr., M.D.
Vice President for Education
University of Texas Medical Branch at Galveston
School of Medicine
301 University Boulevard
116 Administration Building
Galveston, TX 77555-1390

Virginia C. Broudy, M.D.
Professor of Medicine
University of Washington School of Medicine
Division of Hematology, Box 357710
Seattle, WA 98195

Halina Brukner, M.D.
Associate Professor of Clinical Medicine
Vice Chair, Department of Medicine
University of Chicago Medical Center
5841 South Maryland MC 6092
Chicago, IL 60615

Patricia M. Butler, M.D.
Professor, Psychiatry & Behavioral Sciences
Associate Dean for Educational Programs
The University of Texas-Houston Medical School
6431 Fannin Street, MSB G. 024
Houston, TX 77030

Ellen Wright Clayton, M.D., J.D.
Professor of Pediatrics, Professor of Law
Vanderbilt University
Medical Center East 5028
Nashville, TN 37232-8555

Jannette Collins, M.D., M.Ed.
Associate Professor, Radiology
Assistant Dean, Graduate Medical Education
University of Wisconsin Medical School
E3/311 CSC 600 Highland Avenue
Madison, WI 53792-0599

Joseph Corless, M.D.
Vice Dean for Faculty and Academic Affairs
Duke University Medical Center
Box 3654
Durham, NC 27710

Kathryn A. Cunningham, Ph.D.
Professor
University of Texas Medical Branch at Galveston
School of Medicine
Department of Pharmacology and Toxicology
Galveston, TX 77555-1031

Simindokht Dadparvar, M.D.
Associate Professor of Nuclear Medicine
MCP Hahnemann University School of Medicine
Director of Nuclear Medicine
MCP Hahnemann University Hospital
Division of Nuclear Medicine
245 North Broad Street, Mail Stop 309
Philadelphia, PA 19102-1192

Robert M. D'Alessandri, MD
Vice President for Health Services and
Dean, School of Medicine
West Virginia University
P. O. Box 9000
Morgantown, WV 25506-9000

Bonnie J. Dattel, M.D.
Professor of Obstetrics and Gynecology
Assistant Dean for Women's Affairs
Assoc. Director, Division of Maternal-Fetal Medicine
Eastern Virginia Medical School
825 Fairfax Avenue, Suite 310
Norfolk, VA 23507

Kathleen B. Digre, M.D.
Associate Professor of Neurology & Ophthalmology
University of Utah School of Medicine
Director of Neuro-Ophthalmology
Director of Headache Clinic
University of Utah Health Sciences Center
John A. Moran Eye Center
50 North Medical Drive
Salt Lake City, UT 84132

R. Bruce Donoff, D.M.D, M.D.
Dean and Walter G. Guralnick Distinguished Professor of Oral and Maxillofacial Surgery
Harvard School of Dental Medicine
188 Longwood Avenue
Boston, MA 02115

Glenda D. Donoghue, MD, FACP
Betty A. Cohen Chair of Women's Health
Director, Institute for Women's Health
MCP Hahnemann University School of Medicine
The Gatehouse, 3300 Henry Avenue
Philadelphia, PA 19129-1191

Theola Douglas, D.D.S., M.B.A.
Associate Dean for Academic Affairs
Associate Dean for Administration
Howard University College of Dentistry
600 "W" Street, N.W.
Washington, DC 20059

Eva L. Feldman, M.D., Ph.D.
Associate Professor of Neurology
University of Michigan Medical School
4414 Kresge III
200 Zina Pitcher Place
Ann Arbor, MI 48109

Rosemarie L. L. Fisher, MD, FACG
Professor, Department of Medicine
Director, Graduate Medical Education
Yale University School of Medicine and Yale-New Haven Hospital
20 York Street, T236
New Haven, CT 06504

Jeanne K. Heard, M.D., Ph.D.
Associate Professor of Medicine
Assistant Dean for Graduate Medical Education
University of Arkansas for Medical Sciences
College of Medicine
4301 West Markham Street, Slot 735
Little Rock, AR 72205-7199

Florence N. Hutchison, M.D.
Professor of Medicine
Medical University of South Carolina
Chief, Medical Specialty Service
Ralph H. Johnson VAMC
109 Bee Street
Charleston, SC 29401-5799

John J. Hutton, M.D.
Christian R. Holmes Professor
Dean, College of Medicine
University of Cincinnati College of Medicine
231 Bethesda Avenue
Cincinnati, OH 45267-0555

Robert F. Jones, PhD
Associate Vice President, Institutional and Faculty Studies
Association of American Medical Colleges
2450 N Street NW
Washington, DC 20037-1126

Gerald Gotterer, M.D., Ph.D.
Senior Associate Dean for Faculty and Administrative Affairs
Vanderbilt University School of Medicine
201 Light Hall
Nashville, TN 37232-0685

Lisa G. Kaplowitz, M.D.
Associate Professor, Department of Medicine
Virginia Commonwealth University School of Medicine
Director, HIV/AIDS Center
Medical College of Virginia Hospitals
1001 East Broad Street, Old City Hall, Suite 125
P.O. Box 980147
Richmond, VA 23219-0147

Helen K. Li, M.D.
Associate Professor of Ophthalmology
Director of Vitreoretinal Diseases and Surgery
University of Texas Medical Branch at Galveston
School of Medicine
Room 340 Clinical Sciences Building
Galveston, TX 77555-0787

Allen S. Lichter, M.D.
Dean
University of Michigan Medical School
M7300 Medical Science Building I
Ann Arbor, MI 48109-0624

Brenda L. Lonsbury-Martin, Ph.D.
Chandler Professor, Otolaryngology
Director of Research
University of Miami School of Medicine
University of Miami Ear Institute (M805)
PO Box 016960
Miami, FL 33101-6960

Linda F. Lucas, M.D.
Associate Professor of Anesthesiology
University of Louisville School of Medicine
Director, One Day Surgery
University of Louisville Hospital
530 South Jackson Street, Room C2A03
Louisville, KY 40202

Noni Elizabeth MacDonald, M.D.
Dean, Faculty of Medicine
Dalhousie University
Room C-205, CRC Building
5849 University Avenue
Halifax, Nova Scotia B3H 4H7 CANADA

James Mandell, M.D.
Dean
Albany Medical College
47 New Scotland Avenue
Albany, NY 12208

Mary E. Martin, D.D.S., M.Ed.
Associate Professor
Assistant Dean for Clinical Affairs
The University of Oklahoma College of Dentistry
1001 Statler L. Young Boulevard
Oklahoma City, OK 73190-3044

John McCabe, M.D.
Vice Dean, Clinical Affairs
State University of New York Health Science Center at Syracuse
750 East Adams Street
Syracuse, NY 13210

Valerie A. Murrah, D.M.D., M.S.
Professor and Chair, Department of Diagnostic Sciences & General Dentistry
Director, Oral & Maxillofacial Pathology Laboratory
University of North Carolina School of Dentistry
195 Dental Office Building
Chapel Hill, NC 27599-7450

H.H. Newsome, Jr., M.D.
Senior Associate Dean
Virginia Commonwealth University
Box 980485
Richmond, VA 23298

Kathy B. Porter, M.D.
Professor and Chairman, Obstetrics and Gynecology
Texas Tech University Health Sciences Center
3601 Fourth Street
Lubbock, TX 79430

Deborah E. Powell, M.D.
Executive Dean and Vice Chancellor for Clinical Affairs
University of Kansas School of Medicine
3901 Rainbow Boulevard
Kansas City, KS 66160-7302

Marlene Rabinovitch, M.D.
HSFO Research Endowed Chair
Professor of Pediatrics, Laboratory Medicine & Pathobiology and Medicine
University of Toronto
Director, Cardiovascular Research
The Hospital for Sick Children
555 University Avenue
Toronto, Ontario, M5G 1X8 CANADA

Carolyn E. Reed, M.D.
Professor of Surgery
Alice Ruth Reeves Folk Chair of Clinical Oncology
Medical University of South Carolina
Associate Director for Clinical Affairs
Hillings Cancer Center
96 Jonathan Lucas Street, Suite 409
P.O. Box 250612
Charleston, SC 29425

Rial D. Rolfe, Ph.D.
Assistant Academic Dean
Texas Tech University Health Sciences Center
3601 4th Street
Lubbock, TX 79430

Henry Rosen, M.D.
Associate Chair and Professor
Department of Medicine
University of Washington School of Medicine
Box 356420
Seattle, WA 98195

Warren E. Ross, M.D.
Annenberg Dean
MCP Hahnemann University School of Medicine
245 North 15th Street, Mail Stop 400
Philadelphia, PA 19102-1192

Charles F. Sanders, Jr., D.D.S.
Dean
Howard University College of Dentistry
600 "W" Street NW
Washington, DC 20059

Sam E. Scully
Vice President, Academic and Research
Dalhousie University
5849 University Avenue
Halifax, Nova Scotia B3H 4H7 CANADA

Laura F. Schweitzer, Ph.D.
Professor, Department of Anatomical Sciences and Neurobiology
Associate Dean, Faculty Affairs; Associate Dean Student Affairs
Associate Vice President, Health Affairs/Faculty Affairs
University of Louisville School of Medicine
Abell Administration Center
323 East Chestnut Street
Louisville, KY 40202

W. Douglas Skelton, M.D.
Dean & Senior Vice President, University Research & Health Affairs
Mercer University School of Medicine
1400 Coleman Avenue
Macon, GA 31207

Sophia Socaris, M.D.
Associate Professor of Surgery and Anesthesiology
Director of Critical Care Medicine
Albany Medical Center
47 New Scotland Avenue, MC 162
Albany, NY 12208

Samuel J. Strada, Ph.D.
Senior Associate Dean
University of South Alabama, College of Medicine
CSAB 170
Mobile, AL 36688-0002

Marilyn J. Telen, M.D.
Professor of Medicine
Duke University School of Medicine
Chief, Division of Hematology
Director, Comprehensive Sickle Cell Center
Co-Director, Transfusion Service
Duke University Medical Center
Box 2615
Durham, NC 27710

Stephen Tomasovic, Ph.D., MSBS
Vice President, Educational Programs
University of Texas, M.D. Anderson Cancer Center
1515 Holcombe Boulevard; Box 113
Houston, TX 77030

Mary I. Townsley, Ph.D.
Professor of Physiology
University of South Alabama College of Medicine
Department of Physiology, MSB 3024
Mobile, AL 36688-0002

Cynthia M. Tracy, M.D.
Associate Professor of Medicine
Georgetown University School of Medicine
Director, Cardiac Arrhythmia Service
Georgetown University Hospital
3800 Reservoir Road
Cardiology 4N
Washington, DC 20007-2197

Elizabeth L. Travis, Ph.D.
Mattie Allen Fair Professor in Cancer Research
Director of Women Faculty Initiatives
The University of Texas M.D. Anderson Cancer Center
Department of Experimental Radiation Oncology
1515 Holcombe Boulevard, Box 066
Houston, TX 77030-4095

Margaret A. Turk, M.D.
Professor, Physical Medicine and Rehabilitation
SUNY Health Science Center at Syracuse
Medical Director of Rehabilitation Services
St. Camillus Health & Rehabilitation Center
750 East Adams Street
Syracuse, NY 13210

Norma E. Wagoner, Ph.D.
Dean of Students
University of Chicago
Pritzker School of Medicine
924 East 57th Street
Chicago, IL 60637

Kathleen B. Weatherstone, M.D.
Associate Professor of Pediatrics
Section Chief, Neonatology
University of Kansas School of Medicine
3901 Rainbow Boulevard, 3044 Wescoe
Kansas City, KS 66160

Laura Wexler, M.D.
Professor of Medicine
Chief, Division of Cardiology
University of Cincinnati College of Medicine
231 Bethesda Avenue
Cincinnati, OH 45267-0542

Leslie A. Will, D.M.D., MSD
Associate Professor and Chair, Dept. of Growth and Development
Harvard School of Dental Medicine
188 Longwood Avenue
Boston, MA 02115

Janet M. Williams, M.D.
Associate Professor, Emergency Medicine
Director, Center for Rural Emergency Medicine
Research Director, Department of Emergency Medicine
West Virginia University School of Medicine
P.O. Box 9151
Morgantown, WV 26506-9151

Sandra K. Willsie, D.O.
Professor of Medicine
Interim Chairperson, Department of Medicine
Assistant Dean
University of Missouri-Kansas City School of Medicine
2411 Holmes
Kansas City, MO 64108

I. Dodd Wilson, M.D.
Dean, College of Medicine
University of Arkansas for Medical Sciences
4301 W. Markham, Slot 550
Little Rock, AR 72205

Stephen K. Young, D.D.S., M.S.
Dean
University of Oklahoma College of Dentistry
1001 Stanton L. Young Boulevard
Oklahoma City, OK 73190

Case 1B: Kain's Bikes

There could never be another Joel Kain, the "father of the modern bicycle store." But his youngest daughter Sheila was determined to keep his ailing business alive. Although she often wondered what he would do, she knew that this was her problem to solve. To do it, she needed a very good plan and she needed it now.

History

Kain's Bikes is a privately owned small business that sells and repairs bicycles. Joel Kain, a returning Vietnam War veteran, purchased an old shoe-store with a loan and started the business in 1973. The store did well, and in 1980 he moved to a larger location in an expanding nearby suburban area. Much of his success in the first decade was due to word of mouth endorsements and supported by the growing interest in outdoor family recreation.

Joel Kain's philosophy was simple: "Lifetime guarantee on everything we sell". It was etched on every banner and paper that bore the name of Kain's Bikes. No matter what and no matter when you bought something from Joel Kain, if it no longer performed, he would fix it or replace – and everyone knew this wasn't an empty promise.

The business continued to grow and in 1985 Joel opened a second store in a new mall in the next town. His radio and television advertising spots were part of the popular culture of the area. He sponsored charity events and supported a variety of athletic teams. In 1989 the Mayor of Joel's hometown officially declared Joel Kain Day in recognition of his role in the community.

In 1992 Joel suffered a stroke, leaving him with slurred speech and weakness on the left side of his body. Doctors estimated that full recovery, if it every came, would follow several years of therapy. Joel's children, David and Sheila, decided to run the family business for their father. Although both of them had worked in the stores while they were students in high school, neither had any business experience and, in fact, had only recently graduated from college (with business majors). Yet they were committed to keeping their father's business running until he was well enough to take over again.

By 1997, however, the business was in trouble. The David and Sheila had little knowledge of how to purchase new bikes and, to make matters worse, their chief technician left to start his own bike shop nearby. They spent large amounts of money on advertising and sponsoring charity events, but the stores were no longer profitable. In order to raise money to pay debts they sold the original store. Their father's condition worsened and he died the next year. Mark soon sold his share of the business to his sister.

Current Organization Snapshot

Kain's Bikes employs 13 people, including a chief technician and two assistants as well as 5 full-time and 4 part-time sales associates. Sheila serves as the general manager and purchaser for the store and spends most of her time there. All of the employees have worked for Kain's for at least one year, and all of the full-time staff have worked there for at least three years.

The store has a five-year lease on its space, and all of Kain's inventory was purchased using credit. The busiest season is from March through October, with much of the rest of the year quiet except for the Christmas season. The store was closed Sundays, Mondays and Tuesdays in January and February. Kain had always been the exclusive dealer of Phillips Bikes in the area. While they sold a few other brands over the years, this was their top of the line bike. Joel Kain had a good relationship with the Phillips' owners over the years and he remained loyal to their products, despite the fact that Phillips was only the third most popular bike in the country based on sales.

Kain's lifetime guarantee was a boon to business in the early years, but as sales decreased it was not enough. Many customers brought their bikes with flat tires back to the store for a free change. In contrast, the sporting goods "superstores" in the area carried several brands, including the three most popular (including Phillips), but offered no repair services.

For several years Joel had resisted adding non-bicycle sporting equipment to their inventory, such as skateboards, roller blades, even skis, to keep the store active year-round. Each time the idea came up, he decided against it, concerned that these "fads" were not worth the risk.

Case 2B: St. Anne's Church

Father Santini knew this wouldn't be easy. While it's true he had turned around two churches on the brink of financial ruin, Saint Anne's was different. It was once the most famous church in the area; now he was asked by the Bishop keep it from closing. He'd need a very good plan to save this church.

History

Saint Anne's is a Roman Catholic Church founded in 1927 by Italian immigrants. It began as a natural outgrowth of the urban community that surrounded it, made up of immigrants from the same place in Europe now living within a few blocks of each other in the US. As in most immigrant communities the Church was the focal point of all activities, serving as a social, recreational, religious, and even political center.

The Church and the community grew, surviving the Great Depression and the Second World War and prospered in the subsequent economic boom of the post-war period. During this period the church grew from a congregation of 50 families in 1930 to 500 families in 1975, and from a single room church to a large church, parish center and elementary school complex completed in 1968.

By 1980, however, the number of adult members was beginning to decrease dramatically. Most of the baby boomers moved to the suburbs, taking their children to local schools and joining suburban churches. As more families moved out of the community, the number of students in the school fell dramatically, forcing the school to close in 1990. The community around the church had also changed from an active business district in 1970 to one of growing crime and unoccupied buildings in 1995. The church membership changed as well. Only 10% of its members now spoke Italian and more than 60% spoke Spanish as their primary language.

In the past 10 years the nature of the church's activities changed from social gatherings to social services. In 1995 a soup kitchen was established in response to the growing homeless population in the area, and there was great debate among church members about opening a homeless shelter. With higher income members leaving the church, and the loss of major revenue generating activities such as the school and its associated fund raising events, the church had been running at an operating loss for the past five years – supported by central reserves of the Archdiocese (the higher administrative structure of the Catholic Church).

In January 2000 Father Joseph Santini was appointed the new Pastor of Saint Anne's. His charge by the Bishop was to find the church's place in its community and make it financially solvent.

Current Organization Snapshot

The church community consists of 300 families with approximately 70% comprised of two adults and two or more children (English - Spanish speaking) and 20% over the age of 65 (English – Italian speaking). Approximately 80% of its members live within walking distance.

The Church is an independent non-profit entity, which supports and is supported by the Archdiocese, a local division of the American Catholic Church. The pastor is the chief executive and advised by the church council, which consists of 5 elected members (current membership 4 Hispanic 1 Italian).

The Church owns its building, as well as a community center, which includes a residence for the pastor and church business offices. All have been remortgaged to cover operating losses in the past five years. The adjacent school building is still owned by the Church, but used only for the Soup Kitchen, which is held on Saturdays, Sundays and holidays and staffed by church volunteers.

Case 3B: Well-Known University Medical School

Kathy Walker had to do something. While she believed that the newly signed agreement to join the Health System was good for the school in the long-term, she had to address the clinical faculty's concerns now. It was true that the research programs were the heart of the school's financial base, but it could hardly train doctors without a strong clinical faculty. These faculty members waited to hear from her, many acknowledging that their decision to stay or leave would be based on what she had to say.

History

Well-Known University Medical School is one of the best in the nation. Famous primarily for its research, the school also has an outstanding record of training clinicians through its clinical programs. Most of these are based at a large privately owned hospital with no corporate relationship to the university or the medical school. The financial relationship between the hospital and the school is based on a vaguely worded agreement over thirty years old, which set up a funds flow between the entities to pay jointly for certain clinical services.

The health care environment of the last decade led to the creation of a Health System by the hospital, which included an affiliation with three other hospitals and the development of a primary care physician network. One of these hospitals had residency programs associated with Well-Known University and another medical school, as well as attending physicians with appointments at the other school. Concerned that the other school would use this opportunity to threaten Well-Known's preeminence in the area, the medical school began talks with the hospital's Health System about becoming the sole affiliated medical school.

After a year of negotiations, Well-Known University announced its affiliation with the Health System, which secured its role as the exclusive medical school affiliate. In return, the system was assured that the clinical faculty of the university would undertake no outreach clinical initiatives without the system's approval. In addition, managed care contracting for clinical services with medical school faculty would be done by the central contracting office of the system (which contracted for all system hospitals). Finally, a joint clinical initiative fund of the school and the system was created to foster new clinical programs system-wide.

Dean Kathryn Walker was confident that she had succeeded in keeping the rival school from entering Well-Known's traditional market borders. Without this agreement, she feared that she would lose the access to patients that her educational, research and clinical programs demanded. The clinical faculty, however, were outraged by the agreement, arguing that it was made at their expense. They cited the need for system approval of all new clinical services and managed care contracts as a threat to their autonomy. In addition, they felt that the system hospitals would use this control to improve their financial position at the physicians' expense.

Current Organization Snapshot

The medical school has 700 full time clinical faculty members. Clinical revenue is collected through a centralized faculty practice plan, but distributed to faculty through the departments, whose budgets are controlled by their respective chairs. While many clinical departments receive most of their income from clinical activities, the school itself derives only 30% of its revenue from these, the remainder coming from research and patents. In recent years, departments have seen their clinical revenues decline significantly, requiring cuts in both the number and salaries of faculty. This has led to a reduction in some clinical services, primarily surgical. In addition, two clinical department chair positions remain unfilled.

Thirty percent of the clinical faculty are at the assistant professor level and are responsible for nearly forty percent of the clinical revenue. The average salary of an assistant professor is at the 40th percentile (AAMC survey)

while that of professors' are at the 60th percentile. Most of the junior faculty enjoy working at Well-Known, but are concerned that their clinical responsibilities leave them little time for academic pursuits, which are necessary for promotion.

Case 4B: University Health System

Mark Sutter had never faced a challenge like this. He had always believed that the biggest health care system would be the most successful. As he studied the financial reports from this system, however, he wondered whether it was possible for such a large organization to survive. The Board of Directors, as well as the press, anxiously waited to hear his plan.

History

The University Health System was created in 1990 in response to declining revenues and an increasingly hostile healthcare environment. The intention was to create an integrated delivery system that would succeed through economies of scale and market dominance. Fear of the future fueled the system's growth and the pace of expansion was the most rapid in the history of health care.

By 1992 University Health System was the largest academic medical center in the country. It included a health sciences university consisting of two medical schools, as well as schools of nursing, allied health professions, and public health, three university hospitals and two smaller community hospitals. In addition, a university faculty practice, a community-based primary care physician network and managed care company were part of its holdings.

A widespread reengineering effort was undertaken following the merger of the entities in the early 1990's, leading to the creation of a single medical school administrative structure and a consolidation of all the university and community hospitals into two entities. The hospital consolidation consisted of merging support functions (housekeeping, maintenance, communications, food services, security, inventory and purchasing) as well as establishing a system-wide information network.

By 1999, it became clear that the University Health System could not survive financially. The Board of Directors voted to sell the community hospitals as well as the primary care physician network to a large for-profit hospital network. It also demanded the resignation of the system's chief executive officer. Within two months the Board hired Doctor Mark Sutter, an outsider with over thirty years of health care management experience, as the new CEO. The Board was optimistic that the appointment of Dr. Sutter as well as the sale of the hospitals would stabilize the system.

Current Organization Snapshot

Annual net revenue for the System is over $1 billion, of which nearly 90% is from clinical services. The System subsidizes half of the cost of each medical student, and 20% of the cost of basic science research; hospital revenues support the medical schools and the primary care physician network.

A Board of Directors governs the system and on which a representative from each entity sits. The chief executive of the system answers to the Board and within each of the component organizations the Dean or President functions as its chief executive officer.

Each entity is credited with its own revenue and expenses, with system oversight and support. The system in return receives a portion of all revenues from each entity as well as investment and patent earnings from any system entity. Payment for patient care services is 25% capitated, 40% partial risk managed care, 30% state and federal programs and the remainder is discounted fee-for-service.

Appendix 1C:
Balanced Scorecard of Well Known University Medical School

[Note that the faculty pay is under customer perspective in this example, compared with the internal business perspective in Appendix 2C.]

Financial Perspective

Objectives	Measures
1. Develop faculty incentive system	• Productivity (RVU)
2. Financial solvency	• Operating expenses vs. revenue
3. Improve collection rate	• Net collection rate

Customer Perspective

Objectives	Measures
1. Communicate financial situation to faculty	• Feedback from focus sessions
2. Restructure salaries to merit based	• Percent change by faculty member
3. Faculty retention	• Faculty satisfaction survey

Internal Business Perspective

Objectives	Measures
1. Increase clinical faculty activity	• Increased patient visits/revenue
2. Establish service lines	• Margin/service • Reduction of FTE's

Learning and Growth Perspective

Objectives	Measures
1. Educate faculty about operations and finance	• Number of faculty members on committees • Number of hits to on-line educational units

Appendix 2C:
Measures and Considerations for a Single Objective in a Balanced Scorecard for the Well Known University Medical School

[Note that the faculty pay is under internal business perspective in this example; compared with the customer perspective in Appendix 1C.]

Internal Business Perspective

Objective: To restructure faculty salaries based on merit

Measures:

- AAMC faculty salary comparison percentiles
- Percent change per faculty (average and by section and/or department) before and after restructuring
- Faculty satisfaction
- Productivity (clinical and non-clinical)

Rationale:

- Salaries are not related to contributions
- We have the ability to track both clinical and non-clinical components of revenue
- These changes are needed to boost morale and provide incentives for increased productivity

Refinements:

- Decide on pilot areas – then develop full implementation
- Non-clinical "value" to be determined by chair, faculty, and peers

Potential problems to anticipate and plan for handling:

- Buy-in of faculty and chairs
- Possible back-lash of senior faculty (anticipate major changes)
- Performance review system not in place
- Individual versus section and department distribution –will not be the same for all groups
- Non-clinical measures of productivity need to be standardized

Appendix 3C:
Balanced Scorecard for University Health System

Financial Perspective

Objectives	Measures
1. Increase non-patient care revenues	• $ Amounts – grants, gifts
2. Improve operating margins	• Operating expenses vs revenue
3. Increase physician and service productivity	• RVU's, number of tests, services performed, # OR cases

Customer Perspective

Objectives	Measures
1. Improve patient satisfaction in key service areas	• Satisfaction survey results
2. Increase number of new patients	• Number of new patients, % new patients of total,

Internal Business Perspective

Objectives	Measures
1. Decrease operating expenses	• Cost per unit service
2. Demonstrate excellent care	• Key metrics by service area
3. Improve information systems	• Number of users, surveys of effectiveness

Learning and Growth

Objectives	Measures
1. Develop Centers of Excellence	• Number of funding applications, number of promotional initiatives, number of patients in service line
2. Improve relationship with faculty	• Faculty survey results, number of joint faculty/system initiatives

Appendix D: Bibliography

Blumenthal D, Weissman JS, Griner PF. Academic health centers on the front lines: Survival strategies in highly competitive markets. Academic Medicine 1999;74(9):1038-49.

Curtright JW, Stolp-Smith SC, Edell ES. Strategic performance management: Development of a performance measurement system at the Mayo Clinic. Journal of Healthcare Management Jan/Feb 2000;45:58-67.

D'Alessandri RM, Albertsen P, Atkinson BF et al. Measuring contributions to the clinical mission of medical schools and teaching hospitals. Academic Medicine 2000;75(12);1232-7.

Inamdar SN, Kaplan RS, Jones MLH and Menitoff R. The balanced scorecard: A strategic management system for multi-sector collaboration and strategy implementation. Quality Management in Health Care 2000;8(4):21-39.

Jones MLH and Filip SJ. Implementation and outcomes of a balanced scorecard model in women's services in an academic health care institution. Quality Management in Health Care 2000;8(4):40-51.

Kaplan RS and Norton DP. The balanced scorecard—measures that drive performance. Harvard Business Review. Jan/Feb 1992;70(1):71-9.

Kaplan RS and Norton DP. Using the balanced scorecard as a strategic management system. Harvard Business Review. Jan/Feb 1996;74(1):75-85.

Kaplan RS and Norton DP. The Balanced Scorecard. Boston, MA: Harvard Business School Press, 1996.

Kaplan RS and Norton DP. Having trouble with your strategy? Then map it. Harvard Business Review. Sept-Oct 2000;78(5):167-76.

Lawrence DM. Maintaining a mission: Lessons from the marketplace. Leader to Leader Fall 1999;36-42.

Meliones J. Saving money, saving lives. Harvard Business Review Nov/Dec 2000;78(6):57-67.

Rimar S, Garstka SJ. The balanced scorecard: Development and implementation in an academic clinical department. Academic Medicine 1999;74(2):114-22.

Rimar S. Strategic planning and the balanced scorecard for faculty practice plans. Academic Medicine 2000;75(12):1186-8.

Zelman W et al. Issues for academic health centers to consider before implementing a balanced scorecard effort. Academic Medicine 1999;74(12):1269-77.

Appendix E: Forum Faculty

Dr. Stephen Rimar is a recognized leader in the application of the Balanced Scorecard approach to academic medicine. As Vice-Chairman of the Department of Anesthesiology and Medical Director of the Faculty Practice Plan at the Yale University School of Medicine, he led two Balanced Scorecard development and implementation efforts. This experience with the Scorecard in an academic health center led him to develop an approach uniquely suited to the academic environment and designed specifically for faculty.

Board certified in Pediatrics and Anesthesiology, Dr. Rimar founded the Section of Pediatric Anesthesiology at Yale. After nearly a decade as an investigator in the field of pulmonary vascular pharmacology and a member of the research team which pioneered the use of inhaled nitric oxide as a life-saving therapy for infants, Dr Rimar entered business school and changed his career focus to finding ways to advance the leadership role of physicians in health care. He is founder and Director of the Yale Management Program for Physicians, an innovative educational program sponsored jointly by the Yale Schools of Management, Medicine and Public Health. Dr. Rimar holds faculty appointments at both the Schools of Medicine and Management at Yale.

A popular lecturer at both schools, Dr. Rimar is an engaging speaker and experienced facilitator. In addition to the Balanced Scorecard, Dr Rimar has taught seminars in organizational performance measurement, management accounting, project management and presentation techniques. His book, *The Yale Management Guide for Physicians*, will be published by Wiley and Sons in 2001.

Stephen Rimar, MD, MBA
Medical Director, Yale Faculty Practice
Yale University School of Medicine
P. O. Box 9805
New Haven, CT 06536-0805
Tel (203) 785-2140
Fax (203) 785-6975
E-mail stephen.rimar@yale.edu