

## **COST MANAGEMENT IN AN ACADEMIC HEALTH CARE PRACTICE**

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### **Introduction**

Increasing competition for the health care dollar has made cost containment one of the most significant issues facing health care managers. This is particularly relevant in the United States where health care practices have been driven by Federal and local governments to control health care costs.

This paper discusses an accounting system developed for a health care practice which facilitates management decisions by allowing a detailed review of revenues and expenses for each center, division and the entire entity. Cost accounting techniques are applied to examine each academic center in order to classify each center into a profit center or a deficit producing center.

Profit center's revenues exceed direct and indirect "overhead" expenses. The resulting contribution or gain is used to finance deficits from other centers. Functionally, a profit center will receive a share of the gains from the program centers and a bonus. Physicians with well established practices generally fall into this category. Deficit producing centers are those in which direct and indirect expenses exceed revenues. New practicing physicians usually generate a deficit. There are also centers that will probably never break even, however the type of services provided by these centers is deemed to be essential and cannot be discontinued without compromising the quality of the health care delivery system. These centers are also classified as deficit centers.

### **Discussion**

Traditionally, cost accounting techniques have been used to cost products in order to include as product costs all of the direct material, direct labor and overhead incurred. Cost accounting students are expected to answer the following question: How much does it cost? Applying cost accounting techniques in a health care practice induces much more than cost

identification or the classification of these costs according to their behavior into fixed, variable or mixed. Furthermore, classifying these costs into direct or indirect depending on the reason or causes for the cost is not enough, as stated by Finkler<sup>1</sup>. Managers in a health care practice must consider not just calculation of costs, but also the incentives and motivations of the people working for the health care organization. Finkler<sup>2</sup> also indicates that the primary focus of cost accounting is first and foremost on people. This was the approach undertaken by this study.

The health care practice surveyed is affiliated with a major university located in Florida. For fiscal year 1994 it had 22,966 outpatient visits and 1,820 surgeries. Total revenues amounted to \$5,011,760. The practice consists of three divisions: the Ear Institute, a Central Division and the Head and Neck Division. It has thirteen faculty academic centers and one program academic center. There are 16 faculty members, a full-time administrator and 35 support personnel staff.

Early in 1990 it became apparent that the rapidly rising health care costs combined with decreasing financial resources and increasing consumer demand for available treatments required drastic changes in the management of this health care practice. The goal was to contain costs without compromising the quality of care. In fact, in 1990, Shortell et al.<sup>3</sup> stated that "The two major health policy issues in the 1990's will be (1) making tough choices based on value added (that is, greater perceived quality and improvement in health status for a given cost or lower cost for a given level of perceived quality and improvement in health status) and holding individuals, organizations and systems accountable for their choices." This second issue was addressed by implementing a cost management system.

Emphasizing the use of management accounting techniques in a health care practice is relatively new in the United States. The existing university financial (accounting) system had the capability to accumulate performance data for each practitioner but was not being utilized by this health care practice before this study. Therefore it was decided that setting up a separate management accounting system as other practices had done within the university community would require additional scarce personnel and capital resources. Consequently, this study would develop a management cost accounting system maximizing the use of the existing university financial fund accounting based system without incurring additional expenditures. This study resulted not only in accounting changes but also in cultural changes. Each individual physician is now viewed as a business unit. Revenues and expenses are traced to each unit enabling physicians to better understand their contribution to the practice and thus manage their resources more effectively and efficiently. As a result more realistic budgets are prepared for each center.

During the year actual results are compared with budgeted amounts and with the previous years budget in a performance report. This report shows the differences, if any, between actual and planned results, and explains the causes of these differences. Anthony et al.<sup>4</sup> classifies management reports into three categories: (1) information reports which enable the reader to detect whether or not something has happened that requires investigation, (2) performance reports which deal with the center's performance as an economic entity (these

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<sup>1</sup> Finkler, Steven A: *Essentials of Cost Accounting for Health Care Organizations*. Aspen Publishers, Inc. Gaithersburg, 1994, 9.

<sup>2</sup> *Ibid.*, 8.

<sup>3</sup> Shortell SM, Morrison EM, Friedman B: *Strategic Choices for America's Hospital: Managing Changes in Turbulent Times*. Josey-Bass publishers, San Francisco, 1990, 397.

<sup>4</sup> Anthony RN, Reece JS, Hertenstein JH: *Accounting: Text and Cases*. Irwin, Chicago, 1995, 878-880.

economic performance reports are derived from conventional accounting information), and (3) managerial performance reports or control reports. These reports show how well the manager did compared with some standard of performance. Also, they clearly identify noncontrollable items and exclude these items from the measures that are used as a basis for evaluating each center. The reports generated by this study follows Anthony's classification number three.

Incentive issues were also addressed by this study. The purpose of reward systems according to Davis et al.<sup>5</sup> are to: (1) link pay to performance, productivity and quality, (2) reduce compensation costs by improving efficiency, (3) improve employee commitment and involvement, and (4) increase teamwork. Although different types of incentives were considered including a suggestion system which, as stated by Schuler<sup>6</sup>, are designed to reward employees for money saving or revenue generating suggestions, it was decided that a bonus reward system was more appropriate in this particular practice setting.

Finkler<sup>7</sup> points out that a bonus approach provides an incentive for managers to use resources more efficiently by encouraging generating revenues above budgeted figures or keeping expenses below budgets. <sup>8</sup>He also indicates that opponents of these programs argue that quality may decline if health care providers cut corners to reduce expenses.

## Methodology

The methodology used in this study involves three identification steps and five implementation phases.

Step #1 - Determine cost/revenue academic centers. Centers were set up by individual faculty members and by programs. This determination was based on the direct impact that each practitioner had on revenues and expenditures. One program center was set up to identify revenues and expenses relating to the activity of purchasing and resealing of items, for example, hearing aids.

Step #2 - Classify revenues and expenses into Established and Non-established categories. In this step each center is assigned its Established revenues and expenses.

Established revenues and expenses are determined by the practice Chairman, the University, the Department, and/or by grants based on the effort incurred by each center. For example, Service Agreements, which are contracts to deliver health care for a pre-negotiated rate, are used by the Chairman to allot the contracted revenues to the center providing the services.

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<sup>5</sup> Davis K, Werther W. Jr: Human Resources and Personnel Management. McGraw-Hill, Inc., New York, 1989, 363.

<sup>6</sup> Schuler, RS: Personnel and Human Resources Management. West Publishing Company, St. Paul, 1981, 294-295.

<sup>7</sup> Finkler, Steven A: Budgeting Concepts for Nurse Managers, 2nd ed., Saunders Company, Philadelphia, 1992, 44.

<sup>8</sup> Finkler, Steven A: Issues in Cost Accounting for Health Care Organizations. Aspen Publishers Inc., Gaithersburg, 1994, 249.

Service agreements are usually entered with local hospitals. The University also provides Established revenues for Academic endeavors. In this case the center receives compensation from the University for academic services such as teaching. An additional source of Established revenues is the University/departmental function which consists of compensation for services performed for the University and/or department beyond those originally established. Grant support are funds related to specific research projects and can only be used for such purposes. The majority of these funds consist of Federal grants.

The overriding goal was to encourage academic centers to seek funding other than from clinical sources without jeopardizing the commitment to clinical services. Each center depends on the excess of Non-established revenues over Non-established expenditures to cover its remaining operating expenses.

Step #3 - Assign Non-established revenues and expenses to each center in five phases.

#### Phase #1

Non-established revenues were assigned to each center. In this phase a careful analysis of the clinical practice is undertaken. Potential volume of procedures (both clinical and surgical) are estimated by analyzing years in practice, payroll mix, and referral patters. This estimate is used to project gross revenues and collections percentage.

Gross revenues are decreased by institutional charges such as a practice tax and a Dean's tax. These charges relate to University functions such as purchasing, medical education, research, public relations, etc. and also to services provided directly by the University central financial (accounting) system to the health care practice.

#### Phase #2

Direct expenses were assigned to each center. The direct expenses consist of expenditures directly related to a specific center such as a secretary for a faculty member.

Faculty salaries and fringes

Direct support staff salaries and fringes

Direct operational expenditures

Malpractice

Discretionary

Travel and Entertainment

Dues and subscriptions

Portable phones

Gross operating income per academic center is determined at this point by deducting the direct expenses obtained in this phase from the Non-established revenues assigned in phase #1.

### Phase #3

Indirect expenses "overhead" were assigned to each academic center. In this phase an attempt was made to classify indirect expenses by its cost behavior into fixed, variable and mixed. These expenses consist of the following:

- Fixed costs (utilities)
- Variable costs (medical supplies)
- Mixed costs (non-direct support salaries)
- Academic Overhead
- Other Overhead

Gains or losses for each center are obtained by deducting the assigned indirect expenses (phase #3) from the gross operating income of each center (Phase #2).

### Phase #4

This phase focused on the academic profit centers. At this point "other center" gains or losses are added or deducted from the profit center gains obtained in Phase #3. The result of this phase is to obtain the net income per profit center.

### Phase #5

This final phase involved the computation of a bonus. In this phase 50% of the net income per profit center is retained for future use, and the difference becomes available for a bonus distribution.

## **Results**

This health care practice has been implementing the methodology developed by this study since 1993 and has continuously improved the reports presentation. These reports present valuable information to responsible individuals at each academic and the one program center. Table I shows a partial statement submitted to two academic centers. Note that one is a profit center while the other is a deficit producing center. The reports clearly identify the operating contribution of \$12,293 by profit center A and the operating deficit of \$1,273 of center B. These are the two most important numbers highlighted by the report because they provide managers with information that would allow them to better plan and control the operations of their academic center.

The \$747 allocated to indirect expenses are shown but not emphasized, thus not making the academic center responsible for costs that they cannot control. It is interesting to point

out that included in the (\$105) loss allocated to profit center A is its share of the deficit center. It could be argued that the profit center is receiving an unfair amount of indirect costs, but investigations have shown that making this information available to all centers involved has shown a dramatic improvement in teamwork. Faculty members have become more active in the management of costs, both direct and indirect - for instance, they have become more amenable to share resources such as secretaries and office equipment. Also, they actively seek ways to reduce travel expenses. It is interesting to note that the spread of indirect (overhead) expenses equally among centers has improved teamwork rather than creating friction.

Another important result of this study is the active participation of all physicians involved in the preparation of the budget (see Table II). Even though Center B had a net loss of \$14,998 they were encouraged and proud that their efforts yielded favorable variances compared to budget. The people in the profit centers have become more understanding of the concept of subsidizing certain services and are trying to become more cost efficient. Also, the deficit centers have become more appreciative and knowledgeable of the profit centers.

## **Conclusion**

Implementing this cost management system has allowed for more useful reports. It has helped the users of the information to make a variety of decisions such as seeking increases in Established revenue sources and decreasing costs. The system also has provided valuable cost data which is being presented in a manner to reflect current trends. Costs per procedure have been calculated and figures generated by the various reports have been used to negotiate capitation contracts. Cost-profit-volume techniques will be used in the near future.

Finally, and perhaps the most important accomplishment of this study, is the involvement of people at all levels of the health care practice. People are the most valuable resource of any organization and without their involvement this, or any other cost management system would be rendered meaningless.

**Table I (1993)**  
Actual Revenues and Expenses

<u>Center B</u>		<u>Center A</u>	
Established Revenues	-0-		-0-
Non-established Revenues	\$18,754		\$2,200
Dean Charges	<u>-2,719</u>		<u>-319</u>
Net Revenue	<u>\$16,035</u>		<u>\$1,881</u>
Direct Expenses			
Salaries			
Faculty		\$2,038	
\$1,096			
Support		117	
1,033			
Operating		<u>1,587</u>	
<u>1,025</u>			
Total		\$3,742	\$3,154
Gross Operating Income	<u>\$12,293</u>		<u>(\$1,273)</u>
Indirect Expenses	747		747
Net Operating Income	<u>\$11,546</u>		<u>(\$2,028)</u>
Gains/(Losses)			
from other centers	(105)		
Net Income	\$11,441		
Retained (50%)	\$5,720		
Amount Available for Bonus	<u>\$5,720</u>		

Table II  
Cost Accounting Report  
(6/1/94 to 4/30/95)

<u>Center B</u>		<u>Center A</u>	
Net Revenues (Established and Non-established)			
Actual	\$691,614		\$187,187
Budget	\$576,602		\$134,475
Variance Fav/(Unfav)	\$115,012		\$52,712
Total Direct Expenses			
Actual	\$378,180		\$113,095
Budget	\$324,436		\$105,040
Variance Fav/(Unfav)	(\$53,744)		(\$8,055)
Total Indirect Expenses			
Actual	\$177,981		\$88,990
Budget	\$173,095		\$86,547
Variance Fav/(Unfav)	(\$4,886)		(\$2,443)
		<u>NET INCOME</u>	
		<u>Actual</u>	<u>Budgeted</u>
Center A	\$135,453	\$79,071	\$56,382
Center B	(\$14,898)	(\$57,112)	\$42,214
			<u>Fav/(Unfav)</u>

## Bibliography

1. Anthony RN, Reece JS, Hertenstein JH. Accounting: Text and Cases. (Chicago: Irwin, 1995).
2. Berlin, Mark F. "Using Cost Accounting in a Medical Group Practice." MGM Journal. May/June, 1995.
3. Carpenter, Caryl E., Linda C. Weitzel, Nelda E Johnson, and David B. Nash, MD. "Cost Accounting Supports Clinical Evaluations." Healthcare Financial Management. April, 1994.
4. Davis K, and Werther William Jr. Human Resources and Personnel Management. (New York: McGraw-Hill, Inc., 1989)
5. Dawes, Elizabeth and A. Douglas Bender, PhD. "Understanding Practice Costs: A Critical Step to Negotiate Capitation." The Journal of Medical Practice Management. Sept/Oct, 1994.
6. Denning, Jeffrey J. "Best Tips For Splitting Practice Expenses." OBG Management. May, 1995.
7. Finkler, Steven A. Essentials of Cost Accounting for Health Care Organizations. (Gaithersburg, Maryland: Aspen Publishers, Inc. 1994).
8. Finkler, Steven A. Budgeting Concepts for Nurse Management. (Philadelphia: Saunders Company, 1992).
9. Finkler, Steven A. Issues in Cost Accounting for Health Care Organizations. (Gaithersburg, Maryland: Aspen Publishers, Inc. 1994).
10. Glennie, Scott C., and Patrick A Terhaar. "Activity-based Costing." MGM Journal. July/August, 1994.
11. Hoehne, David L. "Cost Analysis for Small Medical Practices." The Journal of Medical Practice Management. Nov/Dec, 1993.
12. Hutchens, G. Michael and Michael Pritchett. "Cost Accounting in Family Practice." Family Practice Management. June, 1994.
13. Maclaughlin, Susan B. "Development of an Income/cost Analysis System." MGM Journal. September/October, 1993.
14. Materson, Barry J. and Quintana, Olga. "El Costo De La Garantia De Calidad." Salud Publica De Mexico. May/June 1993.
15. Ramsey, Ralph H. IV. "Activity-Based Costing for Hospitals."

Hospital and Health Service Administration. Fall, 1994.

16. Schuler, RS. Personnel and Human Resources Management. (St. Paul: West Publishing Company, 1981).

17. Shortell SM, Morrison EM, Friedman B. Strategic Choices for America's Hospital: Managing Changes in Turbulent Times.

(San Francisco: Josey-Bass Publishers, 1990).