May 2005

Support Department Cost Allocations in the Georgia Healthcare Industry

Timothy Cairney
Georgia Southern University

Kevin Bennett
Georgia Southern University

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ABSTRACT

This study examines support department cost allocations in the Healthcare Industry. The topic is of current interest to both accountants and to healthcare administrators because of recent innovations in the design of management accounting systems. Using a survey of Georgian healthcare firms, the results indicate that sophisticated support cost methods are used less than may be expected given the complexity of the healthcare firms' operations. This result is documented despite the historical presence of support cost allocations through such industry practice as Medicare cost reports. Respondents indicate that the employment of cost allocation methods is determined internally by the financial management.

INTRODUCTION

This paper presents results of a survey of Georgia healthcare firms about their accounting systems' support department cost allocations. We use "Support Department" to mean "Nonrevenue Centers", the term often used in the healthcare field to include such services as Chaplaincy, Dietary, and Housekeeping services, all of which support the Revenue Centers. Revenue Centers (RC) can be differentiated from other Cost Centers because RC charge patients (or their insurers) for provision of health services (see Finkler and Ward, 1999). We seek to document the extent to which healthcare firms currently use support cost allocations.

Allocation systems assign the cost of support services, such as Laundry, to users of those services, such as the Operating Room (OR). By doing this, the cost of running the OR reflects all costs including those costs not incurred directly in the OR. Whether or not allocations are beneficial to a firm has proponents (see Kaplan and Cooper, 1998) and opponents (Corbett, 1998), and Finkler and Ward (1999) summarize these positions in healthcare settings. According to Finkler and Ward (FW), prior to the 1970s, departmental managers were not as accountable for costs as they are today. With the increased cost consciousness brought on by burgeoning healthcare costs, Medicare introduced the Institutional Cost Report that emphasized allocations to help understand the total costs of organizations. But, as FW point out, when service costs are allocated to one user or another inequitably, the allocations can result in poor decision-making.

Let us provide an example. Say, the cost of running the Laundry department is $100,000 ($40,000 in equipment expenses and $60,000 in operating expenses). Outpatient Services uses 10% of the total pounds of Laundry while OR uses 40% and Intensive Care uses 50%. A decision by Intensive Care to outsource their laundry services will not reduce the Laundry department costs by 50% because the equipment costs are likely to be fixed in nature so that only

50% of the operating costs, or $30,000 might be reduced. Thus, the hospital's total expenses will go up if the cost of the outsourced laundry is greater than $30,000. Further, the fixed costs will be allocated to the remaining two users of the laundry department services, increasing their costs and thereby potentially causing these users to make decisions based on the now inequitable laundry cost allocations. Kohn (1989) studies cost allocations in emergency rooms and finds that allocations can hinder decision-making about resource usage. As FW state, the ultimate question is "whether the cost allocation system in place causes individual department managers to make decisions that are in the best interest of the health care organization" (FW, p. 134).

Ashby (1992) examines 18 "state-of-the-art" firms' systems to evaluate the accuracy of the cost accumulations for their diagnostic related groups (DRGs). He concludes that accuracy can be improved by such micro-analyses as the detailed tracing of costs to the user level (DRG), which can be performed by the more modern systems. Ashby then notes the increased adoptions of modern sophisticated accounting systems by healthcare firms. FW also recognize the trend to more sophisticated systems such as Activity Based Costing (ABC) allocations. Also, in the healthcare industry, ABC has recently been suggested as a method for reporting costs (see references: Centers for Medicare and Medicaid Services-ABC). ABC methods provide a strong link between the cost of a resource and what causes the cost (the "cost driver"). By tracing the cost to the healthcare service through the cost driver, more accurate costing of services is achieved. To date, ABC reporting has been implemented for financial claims and billings intermediaries. For now, it appears that contractor (for example hospitals) reports will not be required to adopt ABC methods. As demonstrated in this Introduction section, healthcare studies include proponents and opponents of allocations. However, criticisms of the usefulness of support cost allocations and of the potentially higher costs of implementing and maintaining these allocation systems abound (e.g. Corbett, 1998). Consequently, this survey provides a timely documentation of the use of support cost allocations in healthcare industry practice. Can accounting systems be used to more accurately determine the cost of healthcare service?

The survey responses indicate that support allocation in practice is far from universal. Indeed, it is much less than expected. The overall results indicate that the use of allocations is not driven by firm size, accounting system sophistication, or the complexity of support activities. Rather, whether or not support costs are allocated depends on the attitude of the firm's financial personnel. Those who believe allocations are useful will allocate support costs, despite claims by such authors as Metzger (1992) that sophisticated allocations enhance decision-making. The study's results are inconsistent with historical place that allocation systems have in such cost-and-claim reporting procedures as Medicare, which suggest the use of the "step-down" method to allocate support costs (see references: Centers for Medicare and Medicaid Services – HCFA, p.1900.1). One conclusion may be that support allocations have not been well explained in accounting education. While Finkler and Ward (1999), for example, explain these topics, alternatives to allocations are also emphasized so that financial professionals may not be convinced of the benefits from allocation. It is hoped that healthcare administrators will find this study's results useful because when comparing the cost reports from various firms, it may be beneficial to know which entities use cost allocations.

INSTRUMENT AND SUBJECTS

The survey was sent out by mail at the beginning of September, 2004, to 70 hospitals and clinics in Georgia, and a second request using postcards went out on October 1. See the Appendix for the survey questions. Addresses, names of financial officers, and revenues were gathered from the ReferenceUSA database, accessed online on June 29, 2004. The original request went to the financial officers of firms with between $50 million and $1 billion in revenues and included a stamped return envelope and $1 for consideration. The first mailing resulted in 14 completed responses (3 returned were not completed) and the second mailing resulted in 5 "late" responses, for a net response rate of 27%. A comparison of late and early responses reveals that the late responses tend to have slightly more experience (questions 1 and 2 - see the Appendix) and tend to assign greater budgetary authority to their support department managers (question 9). There were no other significant differences between early and late responses, so we believe that non-respondents are not misrepresented by the results presented herein.

The survey sought information about three areas: the respondent profile, the complexity of the support department activities, and the cost accounting allocation system. Prior to mailing, the survey was read by an independent party for clarity. Respondents were assured of anonymity, although some returned contact information in order to receive summary results.

Twelve (63%) of the respondents were senior officers (Chief Financial Officers or Vice Presidents). The remaining seven (37%) were in accounting positions (Controller, Assistant Controller, or Cost Accountant). The respondents have an average of 17.6 years' healthcare experience (later respondents averaged 22 years) and 24 years in accounting. These profiles indicate that the participants have sufficient experience and knowledge so that the responses can be relied upon.

COMPLEXITY OF SERVICE DEPARTMENT ACTIVITIES

The sample of healthcare firms had approximately $140 million in revenues on average (the minimum was under $50 million and the maximum was greater than $400 million). They also averaged 38 revenue centers (the minimum was 1 and the maximum was 160; standard deviation was 8) and 23 support departments (the minimum was 1 and the maximum was 160; the standard deviation was 9). Of the sample responses, 5% were from long-term care facilities, 26% were from outpatient facilities, and 68% were from hospitals. Overall, these measures indicate a sample of companies with significant investment in support activities and, because these firms' accounting policies likely are consistent with Medicare-type practices, we expect the firms will also employ support cost allocation methods.

Besides the large average number of service departments, the sample also exhibited significant usage of service departments' outputs by both Revenue centers and other Service departments (questions 6 and 7). If support department services were not used by a variety of users, then the support activities would be either dedicated to a single user or not used by any users, therefore, allocations of support costs to various users would not be needed. Overall, these

responses indicate complex service department activities, on average. Table 1 presents a detailed analysis of the responses to these questions.

TABLE 1
Complexity of Service Department Activities
Number of responses

Survey Question (see Appendix)	NONE	LITTLE	MODER.	SIGNIF.	EXTENS.
To what extent are the Support service departments' outputs used by the Revenue centers?	0	2	1	12	4
To what extent are the Support service departments' outputs used by other Support service departments?	2	2	5	9	1
	NONE	LITTLE	SOME	MOST	ALL
What is the approximate amount of your Support service costs that are recorded in their own separate ledger accounts?	0	0	1	6	12
	LARGE DECR.	MODER. DECR.	NO CHANGE	MODER. INCR.	LARGE INCR.
Over recent years, how has the size of the Support service departments changed relative to the Revenue centers?	0	5	4	9	1

In the above table, MODER., SIGNIF. EXTENS.. DECR., and INCR. are abbreviations for moderate, significant, extensive, decrease, and increase, respectively, and refer to the question response cells presented in the Appendix.

From Table 1, many health facilities (84%) estimated that the use of service department outputs by Revenue centers was at least significant. Although the similar level of usage by other support departments (52%) was not as pronounced, the significant usage by both types of departments and the number of departments in these firms indicated a complexity of usage that would require a system of support cost allocations to trace costs to Revenue Centers. In other words, to estimate the total cost of running the Revenue Centers, healthcare administrators would need to include the allocations from support service departments.

ACCOUNTING SYSTEM DESCRIPTION

Respondents also indicated that the firms have separate general ledger accounts for Support departments (question 10 – also see detail in Table 1). This initial accumulation of support costs is a necessary condition for an allocation system. For instance, if Support services were housed in Revenue centers then no separate ledger accounts would be needed. Further, firms were asked about their accounting software (The survey question is: What software is used for your health facility's accounting?). We compared the software used by firms that do allocate support costs to the software used by the firms that did not allocate, and found no obvious differences. For instance, MEDITECH and MCKESSON are systems used by both firms that allocate and firms that do not.

Given that the sample firms appeared to have accounting systems capable of supporting cost allocations, we next examined the extent of allocation, which is the central purpose of the study. Table 2 provides detailed summaries of the responses. In contrast to Table 1, a pronounced grouping of responses appears to be at the lower end of the scales. A large percentage of firms (58%) indicated that there was little or no support department cost allocations to Revenue Centers (compared to 84% with significant usage, as reported in Table 1); similarly 74% indicate little or no allocations to other Support departments. We investigated whether those firms that do not allocate tend to have fewer support departments or less complex support service usage. Nonparametric statistical comparisons (Wilcoxon Z-scores) did not indicate any significant differences in terms of firm revenues (question 3), number of Revenue Centers (question 4), or number of support departments (question 5). Comparisons also indicated no difference in terms of support service usage by Revenue Centers (question 6), or usage by other Support departments (question 7).

TABLE 2
Accounting for Support Departments
Number of Responses

Survey Question (see Appendix)	NONE	LITTLE	SOME	MOST	ALL
What is the approximate amount of your Support service department <u>costs</u> allocated to Revenue Departments through the accounting system?	6	5	2	2	4
What is the approximate amount of your Support service department <u>costs</u> allocated to other Support departments through the accounting system?	7	7	3	1	1
	0%	25%	50%	75%	100%
What approximate % of the total Support costs is allocated only to Revenue centers (the DIRECT METHOD)?	9	2	1	4	3
What approximate % of the total Support costs is allocated first to other Support departments (the STEP/SEQUENTIAL METHOD)?	11	5	1	1	1
What approximate % of the total Support costs is allocated simultaneously to the other Service departments (the RECIPROCAL METHOD)?	15	4	0	0	0

In a further attempt to identify if other cost allocations are performed, the survey asked if allocations were made informally, on an ad hoc basis. Of the 11 firms that indicated little or no allocations, only 2 indicated that they did allocate on an ad hoc basis (outside the accounting system). Altogether, these results provided the surprising conclusion that despite the fact that reports suggested by Medicare-type users, and despite the extent of support service usage, many firms do not attempt to track the support cost allocations through the accounting systems.

Some detail on the allocation methods is also interesting. Ten (52%) of the responding firms used the direct method, in which support costs are only allocated directly to revenue centers. Eight firms employed the sequential method and 4 firms used the reciprocal method (this adds to more than 19 firms because some respondents indicated they use more than one method). These latter two methods also recognize the use of support services by other support departments (for instance the use of Maintenance services by the Laundry department), thus the more comprehensive allocation methods are not well used. Of the firms that do utilize allocations, there was a statistically significant positive association between those who used the more

sophisticated sequential or reciprocal allocations (questions 15 and 16) and those that exhibited higher levels of support service usage (questions 6 and 7). Also, based on survey information, the allocation bases used by these firms were typically logical cost drivers; only 2 firms used direct labor hours and the others used support service output measures. Thus, it appears that of the firms that do allocate, the allocations were performed at a fairly sophisticated level. However, the overall use is less than expected.

BELIEFS ABOUT THE USEFULNESS OF ALLOCATIONS

In the previous section, we highlighted the inconsistency between the support usage complexity and the lack of systematic cost allocations. In this section, user beliefs were examined to see if this inconsistency was important to management. This section of the survey sought to assess attitudes towards allocation systems by asking the respondents whether they think that support costs should be allocated (question 13). Responses to this question revealed marked differences and form the basis of conclusions to this study. The survey responses to this question can be divided into those who found allocations useful (63%), and those who did not (37%).

Table 3 illustrates the differences between the two groups. The responses indicated that those who believe the information to be useful also utilized allocations to a greater extent than those who did not believe the allocations to be useful. Those who believed allocations are informative, tend to allocate support costs to revenue centers (mean response of 3.36 vs. 1.42) and to other support departments (mean response of 2.45 vs. 1.28). These differences are statistically significant. Also, those who believe allocations are informative also employ the direct method (mean response 3.45 vs. 1.14) and the sequential method (2.44 vs. 2.18) more than those who do not believe allocations are useful.

TABLE 3
Usefulness of Allocation Information - Mean response

Survey Question (see Appendix)	Uninformative Group	Informative Group	t-statistic	Wilcoxon Z-statistic
Support costs allocated to Revenue centers (q12)	1.42	3.36	3.47	2.58
Support costs allocated to used by Support services (q13)	1.28	2.45	1.89	2.31
Use of Direct Method (q15)	1.14	3.45	4.85	2.82
Use of Sequential Method (q16)	1.14	2.18	2.44	2.01
Use of Reciprocal Method (q17)	1.14	1.27	0.62	0.56

In this table, the mean response is calculated by assigning a value of 1 to the lowest measure and 5 to the highest measure. Uninformative are those participants who indicated they do not believe allocations to be useful by answering No to question 13, in the Appendix. Informative are those participants who indicated they do believe allocations to be useful by answering Yes to question 13, in the Appendix.

CONCLUSIONS

The purpose of this study was to document the extent to which healthcare firms utilize accounting systems that allocate Support department costs to other Support departments and to Revenue centers. It is recognized that support allocations are encouraged by such administrator analyses as Medicare. Finkler and Ward (1999) note the necessity of full cost allocations to better determine insurer charge-out rates. Despite these apparent external user needs, the results presented herein indicate that internal financial managers' information uses dominate the decision to adopt support cost allocation systems.

To some, such extreme differences in cost management exhibited by this sample may be troubling. On the one hand, it may be asked whether those firms that allocate also report more success in support department cost control. The participants indicate that recent changes in the sizes of the support departments (question 8 –Appendix, and detail in Table 1) for both these groups were no different. The respondents who indicated they do not allocate costs also indicated that they use such alternatives as benchmarking, productivity measures, or the budget process for controlling costs and evaluating performance. Thus, the control of support costs is an important objective. On the other hand, the lack of use of allocations does not support the determination of the full cost of running the Revenue Centers.

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ABOUT THE AUTHORS

Timothy Cairney, PhD, is an assistant professor of accountancy at Georgia Southern University and has an interest in cost and management accounting. He has published in such

journals as the American Business Review, Journal of Business, Finance & Accounting, and the Review of Accounting and Finance.

Kevin J. Bennett, PhD, is an assistant professor of health services administration in the Jiann-Ping Hsu School of Public Health within Georgia Southern University. His interests include health care policy, health care system reform, health disparities, and underserved populations. He has publishes in such journals as the Southern Medical Journal and the Journal of Rural Health.

APPENDIX
SUPPORT SERVICE COST SURVEY

FOR THIS SURVEY, PLEASE THINK OF THE MANY TYPES OF SERVICES LIKE DIETARY, LAUNDRY, MAINTENANCE, ETC., AS **SUPPORT SERVICES**.

REVENUE CENTERS INCLUDE SUCH DEPARTMENTS AS LABORATORY, X-RAY, SURGERY, AND OTHERS THAT HAVE CHARGE-OUT FEES THAT ARE COLLECTED FROM THE CUSTOMER OR FROM AN INSURANCE PROVIDER.

Part A. Information about your healthcare firm.

1. How many years have you been with the health industry?

2. How many years experience have you had in the accounting field?

3. What is the annual Revenues of your health firm?

4. What is the approximate number of Revenue centers in your health facility?

5. What is the approximate number of Support service departments in your health facility?

Part B. Information about Charge-out and Support service departments in your healthcare firm.

6. In general, to what extent are the Support service departments' outputs used by the Revenue centers?

7. In general, to what extent are the Support service departments' outputs used by other Support service departments? (i.e., inter-support service department usage)

8. Over recent years, how has the size of the Support service departments changed relative to the Revenue centers?

9. In general, to what extent do Support service department managers have budgetary authority over the size of their department?

Part C. Information about your accounting system.

10. What is the approximate amount of your Support service costs that are recorded in their own separate ledger accounts?

11. What is the approximate amount of your Support service department costs allocated to Revenue Departments through the accounting system?

12. What approximate amount of your Support departments' costs are allocated to other Support departments through your accounting system?

13. Do you think your company should allocate Support service department costs?

14. What approximate % of the total Support costs is allocated only to Revenue centers (the DIRECT METHOD)?

15. What approximate % of the total Support costs is allocated first to other Support departments (the STEP/SEQUENTIAL METHOD)?

16. What approximate % of the total Support costs is allocated simultaneously to the other Service departments (the RECIPROCAL METHOD)?