



SPECIAL REPORT

MANAGEMENT AUDIT

SELECTED SUPPORT SERVICES

AT THE UNIVERSITY OF KANSAS

MEDICAL CENTER

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January 21, 1976

STATE OF KANSAS

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LEGISLATIVE DIVISION OF POST AUDIT

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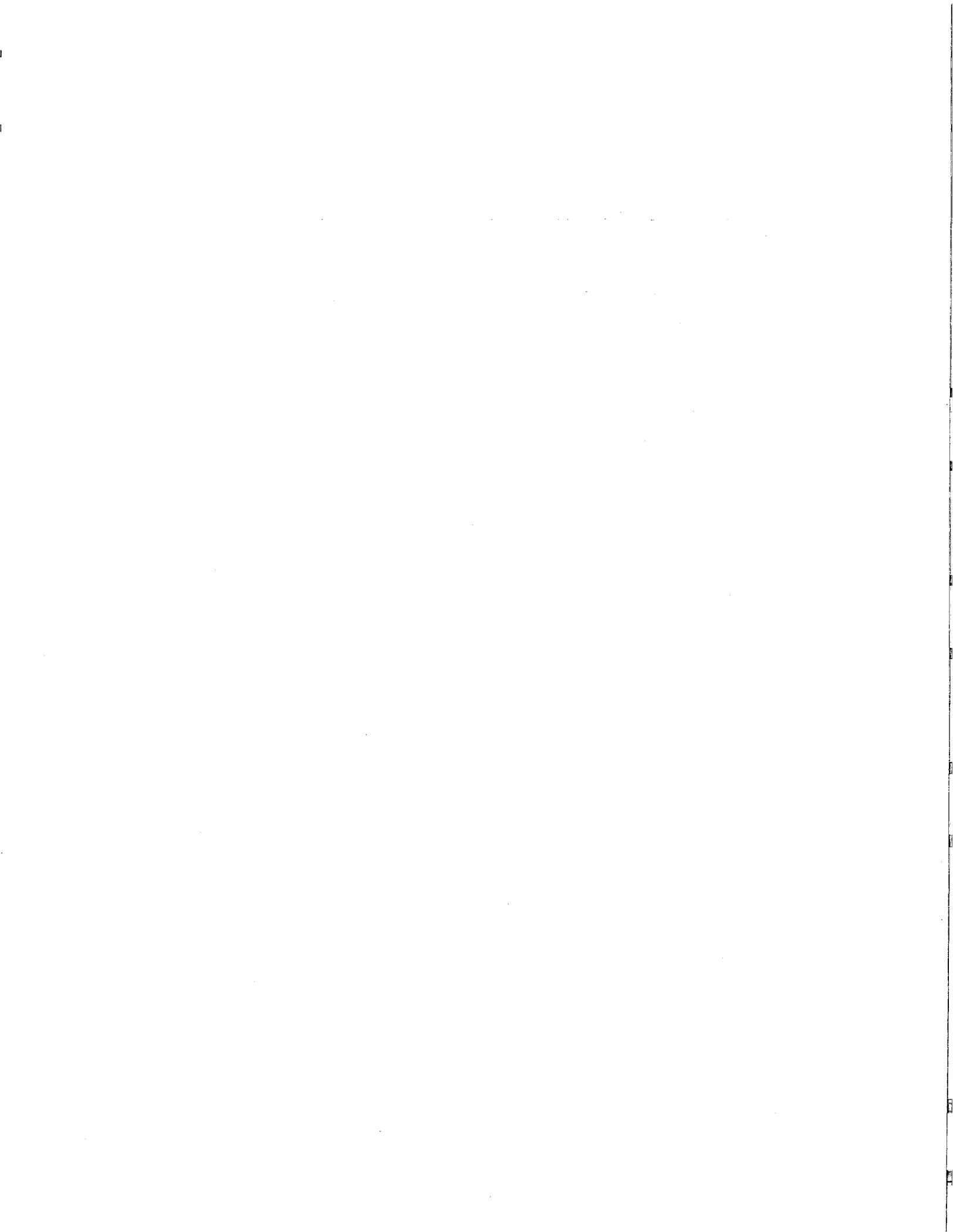
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FOREWORD

This management audit covering several support service areas at the University of Kansas Medical Center was selected by the Legislative Post Audit Committee as one of several priority audits to be conducted during fiscal year 1976. It was performed pursuant to K.S.A. 46-1108 which provides for program efficiency and effectiveness evaluations as a basis for necessary changes for improvement. The present audit was originally intended to be the first part of a two-part review of the Medical Center. Still pending is a possible evaluation of all or part of the Medical Center's geographic full-time (corporate) system.

Emphasis was given in the audit to seeking out and reviewing management objectives and control systems and matching performance with stated and implied objectives in the areas of dietetics, physical plant, housekeeping, laundry, and purchasing--activities accounting for expenditures of over \$7 million in fiscal year 1975. To gather information on performance a variety of audit techniques were employed, including extensive interviewing, statistical sampling, reviewing and analyzing available financial and management data, comparisons with similar institutions, and surveying the professional staff and patients at the Medical Center.

The thrust of the audit findings indicates that, in general, none of the departments audited had given adequate attention to setting clear objectives and developing measures of performance in meeting those objectives. Collectively, the evidence suggests a lack of management control for all activities audited. Although all the organizational units audited kept various types of records, these records were all deficient to some degree and frequently not useful for management purposes. Policies and procedures promulgated by management were, in most cases, insufficient for proper direction of the department. The report contains seventeen recommendations covering specific problems in the five audited service areas.

Not to be overlooked is the fact that some of the findings and recommendations detailed in the audit report point up the possibilities for significant dollar savings to the Medical Center and, in turn, to the State. For example, in the area of cafeteria management, a better pricing policy and cost reduction program could reduce or eliminate the annual losses in that operation. These losses have occurred annually since fiscal year 1970 and reached a high of \$388,000 in fiscal year 1975. While it is not possible to place a specific dollar value on the potential savings in the laundry operation there also appear to be opportunities for substantial cost reductions in this area.

Problems were also noted in the areas of housekeeping and physical plant maintenance, and a number of audit techniques were used to verify these problems. Among these techniques was use of a faculty and professional medical staff survey. Approximately 400 staff members responded to the survey questionnaire and 168 of these included written comments. These comments were overwhelmingly critical of housekeeping and physical plant maintenance activities at the Medical Center--88 percent were negative

(unfavorable), about 8 percent were positive (favorable), and the remainder were neutral. This information is presented in Appendix B.

It is important to point out that the audit does not directly address or attempt to assess the key programmatic activities of the Medical Center: patient care, medical education, and medical research. However, it is likely that those programs are adversely affected to some degree by the deficiencies noted in the support service areas. As a minimum, if remedial action is not taken the problems identified could tend to undermine continued confidence and support from the taxpayers and state executive and legislative officials.

It should be stressed here that University and Medical Center officials have been most helpful during the course of this audit and they themselves are most interested in identifying and improving the problems discussed. The problems noted and possible solutions were discussed on four occasions when Legislative Post Audit staff met with the Chancellor and other key officials of the University Medical Center. The Chancellor has also made available to Legislative Post Audit a series of recent internal memoranda in which he implements a number of specific actions which address problems discussed in the audit report. Agency comments on the report are contained in Appendix C.

It is hoped that the audit itself, with the agency comments, will result in actions that will attain the audit purposes--that of aiding executive and legislative officials to improve government operations to better serve the State's taxpayers.



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MANAGEMENT AUDIT
SELECTED SUPPORT SERVICES AT THE
UNIVERSITY OF KANSAS MEDICAL CENTER

SUMMARY

Reasons For The Audit

This audit, a management audit of selected support services at the University of Kansas Medical Center, was conducted pursuant to K.S.A. 46-1108 which provides for the evaluation of State agencies to determine whether operations are efficient and effective, and for the recommendation of necessary changes for improvement. The audit focuses on the following five selected service activities: dietetics, physical plant, housekeeping, laundry and purchasing.

At a meeting of the Legislative Post Audit Committee the Medical Center was selected as one of several priority areas for review during fiscal year 1976. The area of support services was chosen because it is essential to the operation of the Medical Center and represents a significant expenditure -- more than \$12.6 million for all support services in fiscal year 1975, and over \$7 million for the five audited areas. Further, it was felt that the resolution of questions and the correction of problems, if any, would be especially beneficial prior to the occupation of the new Basic Science Facility and Clinical Facility scheduled for 1976 and 1977, respectively. Finally, it was hoped that the audit would provide important information for officials at the University and the Medical Center.

Audit methods included extensive interviews (face-to-face or telephone) with patients and officials at the Medical Center and at five Kansas City area and six regional university teaching hospitals; on-site auditor inspections; a review of relevant financial data, budgets, records, memorandums, files, and other documents; comparisons with a number of other hospitals; and survey questionnaires completed by hospital patients, faculty, professional staff and patrons of the hospital cafeteria.

Findings and Conclusions

Dietetics (See pp. 5-15)

Analysis of the Medical Center's budget and cost accounting data for the Dietetics Department indicates that the budget information is inaccurate and that internal costs are not properly allocated. For example, some staff members working part-time in the Dietetics Department are being paid from another department's budget. Further, some costs are being allocated internally to the Dietetics Department which might more appropriately be allocated to another department.

To analyze costs in the Dietetics Department, comparisons were made with other local and regional hospitals. The comparisons indicate that the total direct expense per meal was consistently higher at the Medical Center than at these other institutions. It was also found that the higher costs were due to lower levels of productivity (meals served per man-hour), rather than high salary levels, personnel turnover, and raw food expense. A review of the Department's operations revealed that this situation results from activities which are costly and may be

unnecessary such as the decentralized tray facility, the distribution of trays by dietary personnel, long cafeteria hours, and the limited usage of convenience foods and part-time staff. For example, the cafeteria is open 22 hours a day while most cafeterias surveyed were open only an average of 12 hours daily.

The revenues and expenses of the cafeteria at the Medical Center were compared to determine whether the cost of employee food service was being recovered as required by K.A.R. 1-19-4. The comparison indicated that the cafeteria had an estimated loss of over \$388,000 in fiscal year 1975 (see Table II-3, page 12), and that there had been sizable losses for several previous years. The high Department costs account, in part, for the cafeteria losses. Food pricing is also a factor -- a comparison of the prices of food items between the Medical Center and four other area hospital cafeterias shows the Medical Center's prices to be somewhat lower.

Three surveys were used to measure departmental effectiveness. The results indicate that the Dietetics Department has been generally effective in providing quality food service in the opinion of patients, medical staff and students. More specifically, responses were generally favorable on the food served, the cleanliness of the surroundings, the efficiency of the cafeteria staff, and the pricing policies.

Physical Plant Services (See pp. 16-29)

A review of the internal reports and other aspects of the management system in the Physical Plant Department indicates that most reports are incomplete or inaccurate and that control procedures for work requests, materials and supplies, and employees are inadequate. Monthly cost reports were found to have some inaccurate data as the result of incorrect information being submitted by employees. For example, several project reports overstated work project costs by many thousands of dollars. A report designed to

compare estimated to actual manhours worked on a job showed only the actual manhour figures. Many of the work requests listed as outstanding had in fact been completed. No inventory records were maintained for materials and supplies on hand at the plumbing, construction, electrical and key shops. There were no written work schedules for individual employees.

A review of the management control system in the Housekeeping Department indicates that there is inadequate supervision and an absence of cleanliness standards. A room inspection checklist is available to supervisors, but no evidence was found to indicate that it was used on a frequent and systematic basis.

Housekeeping performance at the Medical Center was compared to selected regional teaching hospitals and national averages. Both manhours and costs were analyzed and the Housekeeping Department compared favorably. However, when similar comparisons were made for physical plant employees, the data indicated that the Medical Center recorded more manhours worked per 1,000 square feet of space.

Surveys were conducted during the audit asking Medical Center staff members to respond to questions about the adequacy of physical plant and housekeeping services. Also, a systematic inspection procedure was utilized by the auditors to check hospital rooms. Both the surveys and the room inspections point out that there are problems of effectiveness in these two support services:

- Lighting was judged to be generally adequate by only 60 percent of the respondents
- About 70 percent of the respondents indicated that there were problems with temperature control

-Only 25 percent of the staff surveyed stated that surroundings are generally attractive.

-Only 44 percent felt that patient rooms are always or usually clean

-Hallways, stairwells, utility and storage rooms were rated always clean by only four percent of the respondents.

Systematic room inspections by auditors revealed that there was a high incidence of unsatisfactory conditions with floors, washbowls, mirrors, light fixtures and walls.

Laundry Services (See pp. 30-39)

In 1974 a contract for linen service began between Hospital Linen Service Inc. and the Medical Center because the Center's laundry facility was crowded, costs and productivity were out of line with accepted norms, and capital equipment was obsolete or worn out. Moreover, a management consultant's report in 1970 projected large savings in direct expenses if laundry service was contracted out.

A cost comparison between the actual operating expense with the contract service and the projected operating expense without the contract was developed by Legislative Post Audit to evaluate the decision to contract. The actual operating expense exceeded the projected expense by \$88,758 -- in short, the anticipated savings were not realized. This occurred largely because Medical Center costs did not decline as projected. Only 85 percent of the laundry was contracted out instead of 100 percent, and 37 employees remain on the payroll rather than the six suggested in the consulting report. Moreover, direct laundry expense (per pound) is significantly higher at the Medical Center than at six other hospitals used for comparison.

Surveys of patients and professional staff indicate that there are also problems with the Laundry's goal of having clean linen for patients at all times.

Better record keeping and control procedures could help identify and solve specific problems. Only limited information was available in the Laundry Department concerning departmental costs, manhours and other possible productivity measures. The information was insufficient to accurately measure either employee or departmental performance.

Purchasing (See pp. 40-51)

The Purchasing Department at the Medical Center participated in purchasing decisions representing over \$13.5 million in materials, supplies and equipment in fiscal year 1975. Analysis of the operation of the purchasing system at the Medical Center revealed that it is being managed without benefit of reports or information necessary for effective management. The reliability of the budget for planning and controlling the system was tested by comparing actual expenditures to budgeted amounts for equipment and other operating expenditures. It was found that the budget mirrored actual expenditures only if wide tolerances for accuracy were accepted. For example, in 29 of 35 instances (83 percent) actual expenditures for equipment deviated by 20 percent from budgeted amounts.

To assess, in part, the efficiency and effectiveness of the purchasing system, samples of payment vouchers and supporting documentation were selected, reviewed and analyzed.

The existing system appears to call for a considerable amount of time and effort for the processing of relatively small dollar amounts (over 22 percent of the vouchers were for amounts under \$25). These cost increases and workload problems are increased, and errors introduced, by procedures that are time consuming and unduly repetitive.

The Medical Center's participation in making recommendations to award purchase contracts was reviewed as was the purchase requisition process that requires all items over \$200 and not on State contract to be requisitioned through the State Division of Purchases. Analysis of samples of contract awards and purchase requisitions revealed several weaknesses such as the emphasis on brand specifications instead of performance specifications, some inadequacies in quality review, and procedural weaknesses in solicitation of bids.

Tests of the inventory system for property control of equipment, furniture and fixtures were conducted. It was found that many equipment purchases were not recorded on the inventory records, especially purchases made with Endowment Association funds.

Recommendations

Dietetics

1. The Dietetics Department should improve its management and control by establishing measurable objectives and maintaining adequate performance records for the Department; for each cost center, and for employees, and by budgeting and allocating expenses to appropriate departments and cost centers.
2. The Medical Center should reduce expenditures in the Dietetics Department. A program of cost reductions should be initiated with consideration given to the following possibilities: installation of centralized tray service or "freeze" food concept in the existing facility; greater use of part-time personnel; use of nursing service personnel for patient tray distribution; greater use of convenience food items; and shortened cafeteria hours.

3. The Medical Center should take the actions necessary to recover costs in the cafeteria as directed by K.A.R. 1-19-4, including a combination of price adjustments and cost reductions.

Physical Plant Services

4. Physical Plant management should develop and utilize adequate records, reports and other information to support management planning, control and operations.
5. The Physical Plant Department should initiate policies and procedures which will efficiently and effectively control the activities of the Department including: establishing work schedules; developing performance measures for employees; improving control over work requests and shop materials; and improving project supervision.
6. Management of the Housekeeping Department should initiate several changes in control practices including: establishing measurable objectives and written records of performance; preparing a housekeeping manual; and improving supervision by establishing standards of cleanliness for all areas of the Medical Center and providing a systematic way to evaluate cleanliness.

Laundry Services

7. Formal management control practices should be instituted in the Laundry Department. These should include: establishing measurable objectives and accurate records of performance for all employees; and preparing a laundry policy and procedure manual.
8. Work should begin immediately on identifying the best alternative for handling laundry in the future. A primary concern should be to determine the staff requirements for each alternative developed, including the current one. This should be completed well in advance of the expiration date of the current laundry contract (November 30, 1977). The basic alternatives include: contracting for all laundry services; doing all laundry "in-house"; or contracting for a portion of laundry services with the balance being done "in-house".
9. The Laundry Department should maintain accurate records of linen distribution to each nursing station. This record should be used to develop a true usage standard for major linen items.
10. Action should be taken by Medical Center administration to ensure that linen is properly laundered and available in adequate amounts.

Purchasing

11. The Purchasing Department should take the initiative in setting operational objectives, developing performance measures and generating information useful to management and operating departments regarding the purchasing function.
12. The Medical Center purchasing officials should endeavor to reduce the number of small dollar amount purchases through consideration of the following alternatives: increasing the number of items on state contract; encouraging departments to order in larger quantities; and seeking to raise the \$200 limit for direct purchases, especially for research expenditures.
13. The Purchasing Department should review purchase order processing with special attention devoted to adopting labor saving methods for routine tasks.
14. Procedures should be improved for formal quality review of all products prior to the making of an award.
15. The Purchasing Department should expand its efforts to improve competitiveness and lower prices by actively seeking substitute products, new supply sources and promoting the use of performance specifications.
16. A system should be established to ensure that bids are sought on direct purchases and the results documented in a regular fashion.
17. The property inventory system should be completely reviewed and modified to assure timely and accurate recording of all acquisitions at the Medical Center. This should be accomplished prior to occupying the new Basic Science Facility and Clinical Facility.

CHAPTER I

INTRODUCTION

This audit, a management audit of selected support service activities at the University of Kansas Medical Center, was conducted at the direction of the Legislative Post Audit Committee pursuant to the provisions of K.S.A. 46-1108. These provisions apply to performance evaluations of agency programs including their effectiveness and efficiency, and whether programs, as authorized, are being implemented in accordance with legislative intent.

Purpose, Scope and Objectives

The University of Kansas Medical Center is one of the largest institutions supported by the State. The operating budget for fiscal year 1976 is \$67.9 million to provide the resources for achievement of the Medical Center's goals of education, medical care and organized research. To assist in reaching its program goals, the Medical Center conducts a variety of support service activities ranging from accounting to waste disposal. These services represent significant expenditures in themselves, more than \$12.6 million in fiscal 1975, and are essential to the operation of the Medical Center.

In general, the audit focused on five selected support service activities which included the following departments: dietetics, physical plant, housekeeping, laundry and purchasing. These activities take on special importance for several reasons. First, they are major components which contribute to all three of the Medical Center's program goals.

Over \$7.0 million were expended and over 660 positions were authorized for these activities in fiscal year 1975. Second, identification and correction of any problems in these support service activities would be especially beneficial prior to occupation of the new Basic Science Facility and Clinical Facility. Third, several sources, including University and Medical Center administrators, agreed that more information about these support activities would help answer certain unresolved questions.

The audit reviewed the management practices in these support areas and examined their operations to determine efficiency and effectiveness. More specifically, the objectives of the audit were:

1. To evaluate the effectiveness of the administration and management of these activities in meeting the needs of patients, medical personnel, faculty, staff and students at the Medical Center;
2. To determine how efficiently these services are provided; and
3. To recommend changes to achieve greater operational efficiency and effectiveness.

Audit Methods

The essential elements of management and control systems include measurable objectives, an information network, systematic policies and procedures, and performance indicators. The audit emphasized different elements of the management and control system in each department depending on the degree of significance of each element to that department, the data available, and departmental responsibilities. Efficiency was frequently measured by comparing the Medical Center with other university teaching

hospitals or hospitals in the Kansas City area. Surveys, auditor inspections and a review of records were used in determining effectiveness. Where specific causes of problems or deficiencies were discernible, the auditors recommended changes in policies or procedures.

The field work and data analysis for this audit included interviews with patients, Medical Center administrative personnel and administrators at five Kansas City area and six regional university teaching hospitals. Schedules were developed to guide the course of the interviews. The Kansas City area and university teaching hospital administrators were provided with copies of the interview schedule several days in advance of the actual interview to allow them time to collect or compile the desired data. Face-to-face interviews were then conducted with the Kansas City area hospital administrators and telephone interviews were conducted with the university teaching hospital administrators.

Survey questionnaires were developed in order to collect additional information from patients, professional medical staff, faculty and students at the Medical Center. The following three surveys were used in evaluating the effectiveness of the support services:

1. The "Patient Survey", responded to by 313 patients, contained questions pertaining to food characteristics and other factors of interest in the Dietetics Department, as well as questions about patient rooms relating to the Housekeeping, Physical Plant and Laundry Departments.
2. The "Cafeteria Survey", containing questions concerning the Dietetics Department similar to those on the "Patient Survey", was responded to by 372 cafeteria patrons.

3. The "Faculty and Professional Medical Staff Survey" contained several questions relating to all of the support service activities audited, except purchasing. Four hundred faculty and medical staff members responded to this survey.

The audit team also conducted numerous physical inspections and examined financial data, budgets, records, memorandums, files and other documents. The information obtained was compiled, organized and analyzed using such techniques as comparative analysis where appropriate. The resulting conclusions, findings and recommendations are presented in the chapters that follow.

Any criticisms are intended to be constructive and useful to University and Medical Center officials, leading to improvements that will increase both the efficiency and effectiveness of the University of Kansas Medical Center.

CHAPTER II

DIETETICS

The Dietetics Department is responsible for most food service activities at the University of Kansas Medical Center. Fifty-seven percent of the meals served in fiscal year 1975 were to patients. The remaining 43 percent were served in the cafeteria to staff and students. Authorized positions for the Department in fiscal year 1975 totaled 200.5 most of which were filled throughout the year. Total expenses in fiscal year 1975 were \$2,304,507.

Findings

In general, the findings are:

- 1. There are few measurable objectives and performance indicators used by management in assessing departmental performance.*
- 2. Management has made inadequate effort to facilitate accurate reporting of budgetary and expense information.*
- 3. Dietary costs at the Medical Center are greater than other comparable institutions due in part to lower productivity.*
- 4. The cafeteria is continuing to lose substantial amounts of money in violation of K.A.R. 1-19-4.*
- 5. Patients, staff and students are generally satisfied with the Department's performance in providing food service.*

Management and Control

Objectives and Performance Measures

A well-developed set of formal goals, measurable objectives and records of performance are necessary to manage and control department

activities. There is one primary goal for the Department: "To achieve excellence in food service, (with) consideration given to nutrition, quality of food, and efficiency of service".¹ However, specific objectives and performance measures for meeting this goal were lacking. Examples of objectives and performance measures found in other hospitals surveyed include: (1) 2.75 meals will be produced per departmental manhour; (2) the food production staff will produce 45 meals per manhour; (3) a level of four patrons per minute will be maintained during the peak cafeteria hours; (4) cold food will be served at a maximum of 45° and hot food at a minimum of 140°; and (5) each employee will receive a minimum of 24 hours of training. Establishing a comprehensive set of objectives and performance measures would assist the Department and the Medical Center administration in evaluating each service the Department provides.

Budget Information

The Department of Dietetics, a hospital department, is closely tied to the Department of Nutrition, an educational department. The two departments should provide for differentiation between the patient care goal and the educational goal of the Medical Center. However, some staff members being paid from the Nutrition budget are working part-time in Dietetics, while some staff paid from the Dietetics' budget work part-time in Nutrition. The budget for each department should be constructed to accurately reflect the time staff members spend in each activity. If the budgets are to be useful for planning and controlling resources, careful distinction should be made between the educational work and the patient care work of the two departments.

Cost Allocation

A cost allocation technique used at the Medical Center involves subdividing departments into identifiable activities (cost centers). There are six cost centers in the Dietetics Department including: (1) food production, (2) personnel food service, (3) patient food service, (4) dietary administration, (5) dietary education, and (6) unallocated salaries. The last two cost centers, dietary education and unallocated salaries, serve no useful purpose for the Dietetics Department. Dietary education, used to allocate costs attributable to Nutrition Department activities in the cafeteria, should more appropriately be a Nutrition Department cost center. The unallocated salaries cost center consisting of salaries for nonfood handling kitchen help should be allocated among the other four cost centers. If the concept of cost centers is to provide meaningful managerial information, it must be kept current and reflect actual departmental activities.

Recommendation

The Dietetics Department should improve its management and control by: (1) establishing measurable objectives and maintaining adequate performance records for the Department, for each cost center and for employees; and (2) budgeting and allocating expenses to appropriate departments and cost centers.

Dietary Costs

In order to analyze departmental costs two sets of comparisons were made. The first of the comparisons is with other Hospital Administrative Services (HAS) institutions. HAS, a service provided by the American

Hospital Association, provides monthly comparative reports to all hospitals which submit data and pay a nominal fee. Institutions are compared by state, census division and size. Another comparison grouping, teaching hospitals, is also available. The second set of comparisons is with other Kansas City hospitals and another university teaching hospital in the Midwest.

HAS Comparisons

Hospital Administrative Services has established several measures of efficiency and productivity in the dietary area. In the latest HAS six month report available (December 1974), the Medical Center compared unfavorably in several categories as shown in Table II-1.

Table II-1

Hospital Administrative Services Comparisons of
Dietetic Efficiency and Productivity
(July-December, 1974)

	<u>Total Direct Expense Per Meal</u>	<u>Total Salary Expense Per Meal</u>	<u>Total Meals Per Manhour</u>
University of Kansas Medical Center	\$2.55	\$1.62	2.15
Midwestern Hospitals of 400 Beds or More ^a	1.74	.87	3.52
National Teaching Hospitals ^b	2.03	1.05	3.30
Western Teaching Hospitals ^c	1.72	.76	3.82

a, b, c: The number of hospitals surveyed were (a) 28, (b) 136 and (c) 18.

Source: Hospital Administrative Services, General Services Report HAS Comparative Group Medians, American Hospital Association.

These comparisons indicate that at the Medical Center meal costs are high, particularly in the salary expense area, while productivity is low.

Comparison With Other Regional Hospitals

As shown in Table II-2, comparisons were made with other regional hospitals.

Table II-2

Efficiency and Productivity Comparison of
the University of Kansas Medical Center Dietetics Department
with Kansas City Area and University Teaching Hospitals
(Fiscal Year 1975)

	<u>Total Salary Expense Per Meal</u>	<u>Raw Food Expense Per Meal</u>	<u>Total Direct Expense Per Meal</u>	<u>Total Meals Per Manhour</u>
University of Kansas Medical Center	\$1.65	\$.79	\$2.44	1.99
Hospital A	1.22	.74	1.96	2.78
Hospital B	1.16	1.03	2.19	2.75
Hospital C	.86	.99	1.85	3.40
Hospital D	1.06	.67	1.73	3.32
Hospital E	.97	.86	1.83	2.95

Note: The hospitals surveyed provided data to Legislative Post Audit on the condition that they would not be identified in the audit report.

Source: Legislative Post Audit survey, Cost and Manhour Survey, November 1975.

The table indicates that raw food expense per meal is close to the average (median) and therefore is probably not a factor in explaining the high departmental costs. The departmental costs are higher at the Medical Center because of the higher salary expense and the lower number of meals produced per manhour (productivity). If the direct expense per meal at

the Medical Center was reduced to that of Hospital B (the hospital with the second highest total direct expense per meal), the resulting savings for fiscal year 1975 would have been \$197,109.²

Two factors which could increase salary expense are high turnover and salary levels. However, turnover and salaries at the Medical Center were found to be comparable with other area hospitals.

There are several reasons why salary costs in the Dietetics Department are high and productivity is low. First, the Department operates a decentralized tray facility where food is prepared in the kitchen and delivered in bulk to patient areas where trays are assembled. Other Kansas City area hospitals assemble trays in the kitchen before moving them to the patient areas. A centralized tray service requires fewer people and therefore is more economical. Department management claims that given the present physical layout of the patient areas, it would be impossible to centralize the tray service. However, other hospitals with similar problems have centralized their tray service through the use of insulated trays or a "freeze" food concept. In the freeze food concept, food trays are prepared and frozen in a centralized kitchen and are later reheated in microwave ovens located in the patient areas.

Second, all trays at the Medical Center are distributed to patients by Dietary personnel. At some hospitals surveyed, patient trays were distributed by nursing services. Under these circumstances, increases in nursing services costs were reported to be more than offset by decreases in dietary costs.

Third, the Dietetics Department does not have many part-time staff members. By employing more part-time help during the breakfast and dinner meals, the Department could avoid the low productivity that occurs during slack periods.

Fourth, the Department uses fewer convenience food items than most hospitals surveyed. For example, a survey showed that most institutions do not make salad dressing or mayonnaise. The use of convenience food items can increase raw food expenses, but can significantly reduce manhours and salary expense.

Fifth, the cafeteria is open 22 hours a day. Most cafeterias surveyed, even at large medical schools, were open only an average of 12 hours a day. Some reduction of cafeteria hours would help to reduce operating costs.

The preceding analysis substantiates that the Dietetics Department costs are excessive due to low productivity and the resulting high salary expense. This analysis also suggests that productivity can be increased and significant cost reductions made which will lead to a more cost effective department.

Recommendation

The Medical Center should reduce expenditures in the Dietetics Department. A program of cost reductions should be initiated with consideration given to the following possibilities: (1) installation of centralized tray service or "freeze" food concept in the existing facility, (2) greater use of part-time personnel, (3) use of nursing service personnel for patient tray distribution, (4) greater use of convenience food items and (5) shortened cafeteria hours.

Cafeteria Expenditures and Revenues

Kansas Administrative Regulation 1-19-4(3), effective since August 1974, states that "where an agency operates its dining facility on the basis of the selection of individual food items, the agency will establish rates for each item based upon a recovery to the state of cost". In

implementing this regulation, the Division of Accounts and Reports of the Department of Administration has developed the following cost per meal formula:

$$\text{cost per meal} = \frac{110\% (\text{direct raw food} + \text{direct labor})}{\text{number of meals}}$$

Applying this formula to cafeteria operations for fiscal year 1975 indicates that the cost per meal in fiscal year 1975 was approximately \$2.394. However, as the price of an average meal was only \$1.325 the cafeteria sustained an estimated loss of \$388,114.³ Further, as shown in Table II-3 it appears that the cafeteria has been operating at a loss for several years.

Table II-3

Cafeteria Revenues, Expenses
(per Accounts and Reports Formula) and Losses
(Fiscal Years 1970-75)

	<u>Revenue</u>	<u>Expense</u>	<u>Loss^a</u>
FY 1975	\$481,058	\$869,172	(\$388,114)
FY 1974	392,437	707,299	(\$314,862)
FY 1973	351,338	528,349	(\$177,011)
FY 1972	326,447	535,351	(\$208,904)
FY 1971	250,257	511,467	(\$261,210)
FY 1970	263,343	525,401	(\$262,058)

^aAll of the estimated losses are not actual losses of cash to the Medical Center. Revenues received from third party sources such as Medicare and Medicaid offset a part of the estimated losses. For example, in fiscal year 1974, the estimated cash loss to the Medical Center would have been approximately \$153,451 less than the estimated loss shown in the table.

Source: Calculated by Legislative Post Audit staff from Medicare Cost Report data, FY 1970-74 and Medical Center "Detail Expenditure Reports", FY 1975.

Cafeteria Pricing

In the section "Dietary Costs", it was determined that costs in the Dietetics Department were excessive. Some of the reasons for the high Department costs could help to account, at least in part, for the cafeteria losses. It is also possible that the cafeteria pricing policy has contributed to the cafeteria losses.

In order to determine the significance of this policy, a price survey was conducted at four other area hospital cafeterias. Each of the other hospital cafeterias served comparable quantity and variety of food items and had a stated pricing objective of recovering direct labor and raw food costs. The pricing of cafeteria food items at the Medical Center differs somewhat from these other hospitals in the Kansas City area. The average (median) price of a cafeteria meal at the Medical Center was found to be \$1.325 while the average (median) price of a cafeteria meal at the other hospitals was \$1.393. Therefore, the pricing of food items in the Medical Center cafeteria is also a factor in explaining the loss,

The Medical Center cafeteria is operating at a substantial loss in violation of K.A.R. 1-19-4. Future cafeteria losses can be eliminated through a combination of price adjustments and cost reductions.

Recommendation

The Medical Center should take the actions necessary to recover costs in the cafeteria as directed by K.A.R. 1-19-4.

Effectiveness of the Dietetics Department

Three surveys, as described in Chapter I, were used to measure departmental effectiveness. The surveys included cafeteria patrons, patients and medical personnel. Table II-4 presents the responses of

patients and cafeteria patrons to questions regarding food characteristics. While cafeteria patrons had a lower level of satisfaction than patients, it was still generally favorable.

Table II-4

Patient and Cafeteria Patron
Ratings of Food Characteristics

Survey Questions	Number Responding	Response Category Percents			
		Excellent	Good	Fair	Poor
<u>Patients</u>					
Taste	131	34%	50%	14%	2%
Temperature	130	24	48	24	4
Quantity	127	41	47	9	3
Variety	128	44	43	8	5
Appearance	130	40	51	8	1
<u>Cafeteria Patrons</u>					
Taste	258	6%	51%	35%	8%
Temperature	260	8	45	35	12
Quantity	256	6	37	36	21
Variety	257	9	35	35	21
Appearance	255	8	50	35	7

Source: Legislative Post Audit survey, Cafeteria Survey and Patient Survey, October 1975.

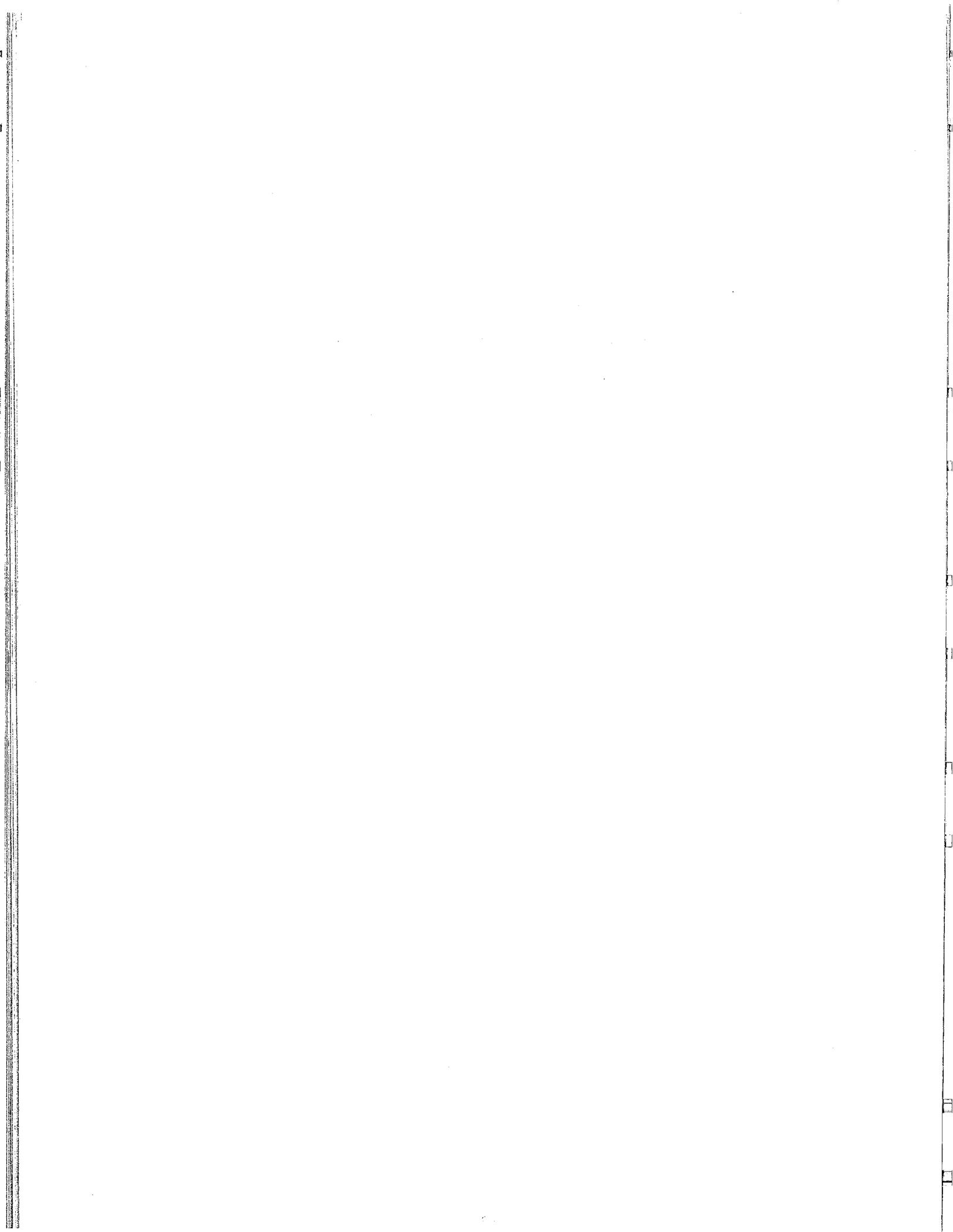
The review of other survey results concerning the effectiveness of the Dietetics Department revealed that:

-93 percent of the patients responding to the survey felt the staff was efficient while only 68 percent of the cafeteria patrons and 59 percent of the medical personnel thought the same.

-Cleanliness of the cafeteria facility, trays and utensils was satisfactory.

-51 percent of the cafeteria patrons felt that the existing prices charged in the cafeteria were "about right".

Thus, despite significant problems in the Dietetics Department with respect to inadequate management information, high departmental costs and a sizable gap between cafeteria costs and revenues the Department has been generally effective in the opinion of patients, medical staff and students in providing food service.



CHAPTER III

PHYSICAL PLANT SERVICES

Physical Plant Services is responsible for the operation and maintenance of facilities at the University of Kansas Medical Center. Three departments are included within this activity: the Physical Plant Department, the Housekeeping Department and the Laundry Department. The Physical Plant Department and the Housekeeping Department are included in this chapter. The next chapter discusses the Laundry Department.

Findings

In the review of the Physical Plant Department and the Housekeeping Department, a number of shortcomings and deficiencies were detected in the management practices of these two Departments. In general, these findings are as follows:

- 1. The information systems of both departments are inadequate for effective management decision making.*
- 2. In the Physical Plant Department there is a lack of control over work requests, manpower resources and shop materials and supplies.*
- 3. There is inadequate supervision over employees in the Housekeeping Department.*
- 4. The Physical Plant Department and the Housekeeping Department have not been totally effective in the performance of support services.*

The Physical Plant Department

The Physical Plant Department is responsible for parking and security, the operation of the power plant and the maintenance and renovation of Medical Center facilities. Major crafts employed by the Physical Plant Department include painters, plumbers, welders, electricians, air conditioning mechanics and carpenters. In fiscal year 1975 departmental expenditures were \$2,569,324 with 162 positions authorized, most of which were filled throughout the year.

Management Information

A review of the principal reports prepared for the Physical Plant Department indicates that the information is inadequate for effectively controlling costs and evaluating performance. The "New Work Cost Summary" and the "Maintenance Cost Summary" are monthly computer runs which contain labor, materials and overhead cost data and allocates these costs to a specific department or project. A review of these cost reports revealed major errors which had not been corrected:

1. Project Number H095, November 1974 - Installation of a door frame for \$95,393 was actually \$488.
2. Project Number H236, December 1974 - Installation of a deep fat fryer for \$249,409 should have been \$72.
3. Job Cost Number 9924, December 1974 - General maintenance of unassigned building interiors for \$102,920 was actually \$3,512.

These errors were caused by inaccurate data submitted on the material job cards completed by the Physical Plant employees. While some improvements have been made in correcting the cost reports, management should ensure that manhour and material job cards are completed accurately.

The Physical Plant Department also has a monthly computer report which purports to show a comparison of estimated and actual manhours worked by each trade on a project. The actual manhours worked on a particular project are summarized in this report, but no comparison to estimated manhours is made even though the estimated manhours are listed on another report. Management stated that the manhour estimates were not accurate enough to make a valid comparison. The Department also does not estimate the costs of materials and supplies for a project even though the foreman completes a purchase request for estimated materials needed for the project. The comparison of actual costs to estimated costs for manhours and materials would be an effective means of controlling the projects, especially if the Department developed some work standards. There are references available which would assist management in developing accurate estimates and work standards applicable to physical plant-type operations. Good estimates would facilitate work scheduling and planning, provide management with a performance measure, and assist management in more effectively directing the Department's activities.

The preceding shortcomings and deficiencies, taken together, lead to the conclusion that the information system has not provided management with the necessary data to facilitate planning and to control the activities of this Department.

Recommendation

Physical Plant management should develop and utilize adequate records, reports and other information to support management planning, control and operations.

Physical Plant Department Policies and Procedures

Control of Work Requests

Physical Plant management maintains a work request file to determine which jobs have not been completed. A copy of the written work request is kept in the file until the request has been completed. However, the file has not been kept up-to-date. Most of the written work requests outstanding result from the failure of the foremen to return the written work requests to the central Physical Plant office when the job is completed. A sample of 20 work requests in the file indicated that 18 requests had actually been completed and two requests were still outstanding. An up-to-date work request file would provide management with the information necessary to assess whether a backlog of work requests exists.

In addition to the written work requests, the Department receives telephone requests for miscellaneous repairs. One copy of the telephone work request is completed by a Physical Plant secretary and given to the appropriate foreman. The telephone request is also recorded on a control ledger. No reconciliation of the foremen's work requests and the control ledger is made and management does not know if the work has been completed unless there is a second request. Several of the telephone work requests on the control ledger were repeat requests for jobs which had not been completed.

A survey of faculty and professional medical staff concerning the prompt completion of work requests indicates that 21 percent of the respondents felt that the work requests were never completed promptly and over 57 percent of the respondents stated that the requests were sometimes completed promptly. Management should keep an up-to-date work request file and reconcile the telephone requests to the control ledger to enable management to ascertain the status of these reports.

Control of Materials and Supplies

The Physical Plant Department maintains an inventory of materials and supplies in a centralized storeroom and at the shop level. Most of the materials and supplies are located at the central storeroom which is under the control of two storekeepers. The shop foremen requisition merchandise from the central storeroom as it is needed for a project by using a material job card. A review of the central storeroom procedures and a test check of the perpetual inventory records indicates control over materials and supplies is adequate. However, there is a lack of control over materials and supplies at the shop level. No inventory records are maintained at the plumbing, construction, electrical and key shops. However, considerable quantities of material are on hand at these shops and apparently it accumulates over time since excess supplies are not returned to the central storeroom. While it was not possible to determine the dollar value of these supplies due to the lack of records, shop materials and supplies should be kept at a minimum in order to maintain control and to accurately allocate material costs to a project. The Physical Plant Department should take a complete inventory of shop materials and supplies and initiate procedures which would effectively control these stocks.

Control of Employees

The Physical Plant Department maintains a large work staff and proper utilization of this staff is central to efficient and effective departmental activity. However, management has not evaluated the efficiency of its staff because the Department has not utilized the project manhour estimates in the weekly status reports or established performance measures for the various tasks normally assigned. In addition, control over employees is very decentralized which accentuates the need for performance measures.

The Department should develop some means to determine if jobs have been satisfactorily completed. Examples are as follows: include the employee's name on the work request; evaluate the time reports submitted by the employees; and establish written work schedules for all departmental personnel.

There is a problem of supervision at the project level. The Physical Plant Department is organized functionally according to the major trades and crafts. No individual at the project site is directly responsible for all of the project activities. A foreman may be responsible for personnel working at several job sites; therefore, adequate supervision is difficult.

There are shortcomings in the planning and scheduling of departmental activities which may lead to inefficient use of employees. For example, completion dates have not been determined on the weekly job status reports and several projects which were started are now waiting for the delivery of materials.

The proper utilization of manpower is the major determinant of the Department's productivity. The following statistics of Hospital Administrative Services (HAS) indicate that manhours per 1000 square feet for the Medical Center Physical Plant are higher than other comparable institutions.

	<u>Kansas University Medical Center</u>	<u>National Teaching Hospitals</u>	<u>Midwest Region 400 Bed Hospitals</u>	<u>Western Teaching Hospitals</u>
Manhours Worked by Physical Plant Employees Per 1000 Square Feet (July - December 1974)	21.76	19.37	14.93	20.04

To indicate the magnitude of this problem, the difference in annual staffing requirements between the Medical Center and the average Western Teaching Hospital (the next highest manhour statistic) would be eleven full-time employees. The HAS manhours per 1000 square feet is an indicator that productivity could be improved and management should make a conscientious effort to establish work schedules, develop performance measures and improve project supervision.

Recommendation

The Physical Plant Department should initiate policies and procedures which will efficiently and effectively control the activities of the Department. These should include: (1) establishing work schedules; (2) developing performance measures for employees; (3) improving control over work requests and shop materials; and (4) improving project supervision.

The Housekeeping Department

The Housekeeping Department is responsible for cleaning patient and nonpatient areas, making beds, moving furniture and washing walls and windows. There were 229 authorized positions for the Department in fiscal year 1975 and most positions were filled throughout the year. Total expenses for fiscal year 1975 were \$1,326,225.

Comparative Analysis

In the efficiency evaluation of the Housekeeping Department, comparative data was collected by surveying administrators from five university

teaching hospitals. Table III-1 shows the comparisons of manhours per 1000 square feet and salary expense per 1000 square feet.

Table III-1

Efficiency and Productivity Comparison of
the University of Kansas Medical Center Housekeeping
Department with University Teaching Hospitals
(Fiscal Year 1975)

	<u>Salary Expenses</u> <u>Per 1000 Square Feet</u>	<u>Manhours</u> <u>Per 1000 Square Feet</u>
University of Kansas Medical Center	\$1,175	409
Hospital A	1,422	605
Hospital B	1,460	748
Hospital C	2,275	446
Hospital D	819	261
Hospital E	2,040	601

Note: The hospitals surveyed provided data to Legislative Post Audit on the condition that they would not be identified in the audit report.

Source: Legislative Post Audit Survey of University Teaching Hospitals in the Midwest Region, October 1975.

At the Medical Center 409 hours were required to maintain 1000 square feet in fiscal year 1975. The manhour usage at the Medical Center was 123 hours less than the average manhour usage per 1000 square feet at the other institutions. Information gathered by Hospital Administrative Services (HAS) also shows that between June and December 1974 the manhours per 1000 square feet at the Medical Center was lower than other national teaching hospitals. In order to determine if the Medical Center Housekeeping Department had more square feet assigned per employee, another

comparison was made with the five university teaching hospitals. The Medical Center Housekeeping Department has an average of 4,714 square feet assigned per employee while the five university teaching hospitals ranged from 3,133 to 7,408 square feet assigned per employee. This indicates that square feet assigned per employee at the Medical Center is comparable with the other hospitals.

In fiscal year 1975 a total of \$1,052,579 was paid to Housekeeping personnel to maintain 895,500 square feet. This amounts to a salary expense of \$1,175 per 1000 square feet which is \$428 less than the average expense at other hospitals surveyed. In addition, the latest six month Hospital Administrative Services (HAS) statistics indicate that the Medical Center's direct cost per 1000 square feet is less than other national teaching hospitals. To ascertain if low salary levels were affecting this efficiency measure, additional comparisons were made. In October 1975 a salary survey was sponsored by the Greater Kansas City Area Personnel Directors Association. The salary levels at the Medical Center were found to be competitive with the other 26 hospitals (the Medical Center ranked 9th in weighted average salary).

The performance measures reviewed would seem to indicate that the Housekeeping Department is operating efficiently relative to the five university teaching hospitals. However, these measures do not take into account other factors such as cleanliness at the Medical Center.

Management and Control Practices

To properly manage a housekeeping department, it is necessary to establish goals, objectives, procedures and performance measures. According to the American Hospital Association, "it is necessary to have written procedures and standards of performance prepared for every housekeeping job.

Then, if a worker is not complying with the methods taught, his irregularity can be tangibly proved. If supervision becomes lax, it will quickly be reflected in negligence and a concomitant drop in standards of cleanliness."¹

The stated goal of the Housekeeping Department is to "provide as clean an environment as possible for all patient and nonpatient areas".² However, no measurable objectives exist in the Housekeeping Department for this goal. In addition, procedures are inadequate because there is no departmental housekeeping manual which documents the activities and information needed to operate the Department. A housekeeping manual should contain instructions for supervisory personnel; job descriptions; responsibilities of the Department; standards of performance; and a time schedule for the performance of various tasks.

Performance measures necessary to assess the efficiency and effectiveness of the Housekeeping Department are not used by management. First, the Department does not maintain records which detail the amount of time required to clean different types of areas such as: occupied patient rooms, dismissal rooms, walls and corridors. Examples of performance measures found in other hospitals surveyed include: (1) daily cleaning of occupied patient rooms will be at the rate of 850 square feet per hour; (2) public areas will be tidied three times daily between 7:00 a.m. and 3:30 p.m.; (3) monthly turnover will not exceed 2.7 percent; and (4) special requests for housekeeping services will be filled within one hour. Second, an inspection checklist for patient and nonpatient rooms is available to supervisors in the Housekeeping Department, but no evidence was presented to indicate that it was used on a frequent and systematic basis. All other hospitals contacted during the audit had regularly scheduled room inspections and routine bacterial counts.

The review of the management control system in the Housekeeping Department indicates that there is a lack of measurable objectives, procedures and performance measures; inadequate supervision; insufficient room inspections; and an absence of cleanliness standards.

Recommendation

Management should initiate several changes in control practices including: (1) establishing measurable objectives and written records of performance; (2) preparing a housekeeping manual; and (3) improving supervision by establishing standards of cleanliness for all areas of the Medical Center and providing a systematic way to evaluate cleanliness.

Effectiveness of the Physical Plant Department and the Housekeeping Department

Several surveys, as described in Chapter I, were conducted during the audit to determine the effectiveness of the Physical Plant Department and the Housekeeping Department as support services. The effectiveness evaluation of these two departments is combined because many of the areas of responsibility overlap. For example, the attractiveness of a room may be determined by how well the walls are washed, a Housekeeping responsibility, or whether or not the walls need painting, a Physical Plant responsibility.

Table III-2 presents the responses of faculty and professional medical staff to specific questions concerning the effectiveness of these two departments.

Table III-2

Faculty and Professional Medical Staff Survey
 Effectiveness of the University of Kansas Medical Center
 Physical Plant Department and Housekeeping Department

Survey Questions	Number Responding	Response Category Percents			
		Always	Usually	Sometimes	Never
Lighting is adequate	373	12%	48%	30%	10%
A proper temperature is evenly maintained	378	2	29	50	19
The surroundings are generally attractive	375	2	23	47	28
Maintenance and work requests are completed promptly	351	2	20	57	21

Source: Legislative Post Audit survey, Faculty and Professional Medical Staff Survey, October 1975.

The review of the survey results leads to the following observations:

- Lighting was judged to be generally adequate by 60 percent of the respondents.
- 69 percent of the survey respondents indicated that a proper temperature is only sometimes or never maintained.
- 75 percent of the faculty and medical staff stated that the surroundings are generally unattractive. Only 25 percent say surroundings are attractive.
- 22 percent of the faculty and medical staff indicated that maintenance and work requests are always or usually completed promptly.
- Most of the comments on the Faculty and Professional Medical Staff Survey indicated that maintenance of the Medical Center facilities needs improvement.

In addition to specific questions concerning the responsibilities of the Housekeeping and Physical Plant departments, the faculty and professional medical staff rated the cleanliness of certain areas in the Medical Center. Table III-3 presents the ratings of these areas.

Table III-3

Faculty and Professional Medical Staff Survey
Ratings of Cleanliness in
the University of Kansas Medical Center

Medical Center Areas	Number Responding	Response Category Percents			
		Always	Usually	Sometimes	Never
Patient Rooms/ Rest Rooms	315	3%	41%	48%	8%
Operating Rooms/ Emergency Rooms	185	25	56	18	1
Offices/Classrooms/ Conference Rooms	352	7	48	40	5
Utility/ Storage Rooms	263	4	30	51	15
Hallways/ Stairwells	365	4	35	44	17

Source: Legislative Post Audit survey, Faculty and Professional Medical Staff Survey, October 1975.

The survey of faculty and medical staff indicates:

- 44 percent feel that patient rooms are always or usually clean, while 56 percent felt that the rooms are only sometimes or never clean.
- Hallways, stairwells, utility rooms and storage rooms are rated as always or usually clean by over one-third of all respondents. However, roughly two-thirds of the respondents stated that these areas were only sometimes or never clean.

- While 55 percent of the respondents stated that offices, classrooms, and conference rooms are always or usually clean, 45 percent stated that these areas are only sometimes or never clean.
- Operating and emergency rooms were judged always or usually clean by 81 percent of the respondents. Still, 18 percent stated that the operating and emergency rooms are only sometimes clean.

Room inspections were made by the auditors of 19 patient rooms selected at random. Each of these rooms was checked three times throughout a three-week period using an inspection checklist obtained from the Housekeeping Department. Items in the patient rooms were rated either satisfactory or unsatisfactory. Those items which were found to be unsatisfactory during 30 percent or more of the inspections were floors, washbowls, mirrors, light fixtures and walls. Nine of the 19 rooms inspected by the auditors needed painting (47 percent), and the floors were dirty on 58 percent of the inspections.

The survey and inspection results indicate that the Physical Plant Department and the Housekeeping Department have not been totally effective in performing their respective support services. Specific problem areas are pinpointed which management should consider in setting priorities, developing future plans and evaluating the performance of these Departments. A definite improvement in the effectiveness of these Departments' operations and the performance of their responsibilities is warranted and necessary.

CHAPTER IV

LAUNDRY SERVICES

The primary responsibility of the Laundry Department is to see that 2.7 million pounds of linen are cleaned each year. Eighty-five percent of this total is laundered by a private cooperative laundry, Hospital Linen Services Inc. (HLS). The remaining 15 percent is laundered at the Medical Center and consists primarily of employee and student uniforms and miscellaneous linen items. Additional responsibilities of the Laundry Department include gathering and sorting soiled linen, delivering clean linen, making special linen items and altering uniforms. Thirty-four positions are authorized for this Department in fiscal year 1976. Total expenses in fiscal year 1975 were \$502,896.

Findings

In general, the findings are as follows:

- 1. There is lack of management controls in the Laundry Department.*
- 2. The decision to contract out a portion of the linen services alleviated some problems, but other alternatives may exist which would produce better results.*
- 3. The Laundry Department does not meet its goal of "having clean linen for patients at all times".*

Management Control System

No measurable objectives exist for the Laundry Department. During interviews, Laundry Department personnel and Medical Center administrators stated that the goal of the Department was to have clean linen for patients at all times.¹ Another goal should be to provide clean linen

at the lowest possible cost. Objectives should relate to measures of tensile strength (resistance to tearing), whiteness retention, bacteria buildup, linen usage and loss, linen replacement costs and productivity.

Few formal policies and procedures exist in the Laundry Department. Some areas in which policies and procedures could be established for the Laundry Department include: (1) delineating functions and responsibilities of the Laundry Department; (2) repairing and replacing linen; (3) handling and weighing clean and soiled linen; (4) distributing clean linen; (5) using detergents and cleaning agents; and (6) training new personnel.

Only limited information was available concerning departmental costs, manhours and other possible performance measures. This information was insufficient to accurately measure either employee or departmental performance. For example, information was available on the number of uniforms pressed in the Laundry Department, but this information did not include actual manhours worked. Basic performance measures should include (1) output per manhour and (2) cost per unit.

Recommendation

Formal management control practices should be instituted in the Laundry Department. These should include: (1) establishing measurable objectives and accurate records of performance for all employees; and (2) preparing a laundry policy and procedure manual.

Contracted Linen Services

On October 23, 1974, implementation of a contract for linen service began between Hospital Linen Services Inc. (HLS) and the Medical Center. The decision to contract involved only regular hospital linen (which constitutes 85 percent of all linen) and necessitated maintaining an "in-house" laundry capability to do uniforms and miscellaneous linen items. Management has indicated that they plan to continue handling laundry in this manner for an indefinite period.

Short-Term Propriety of the Decision to Contract

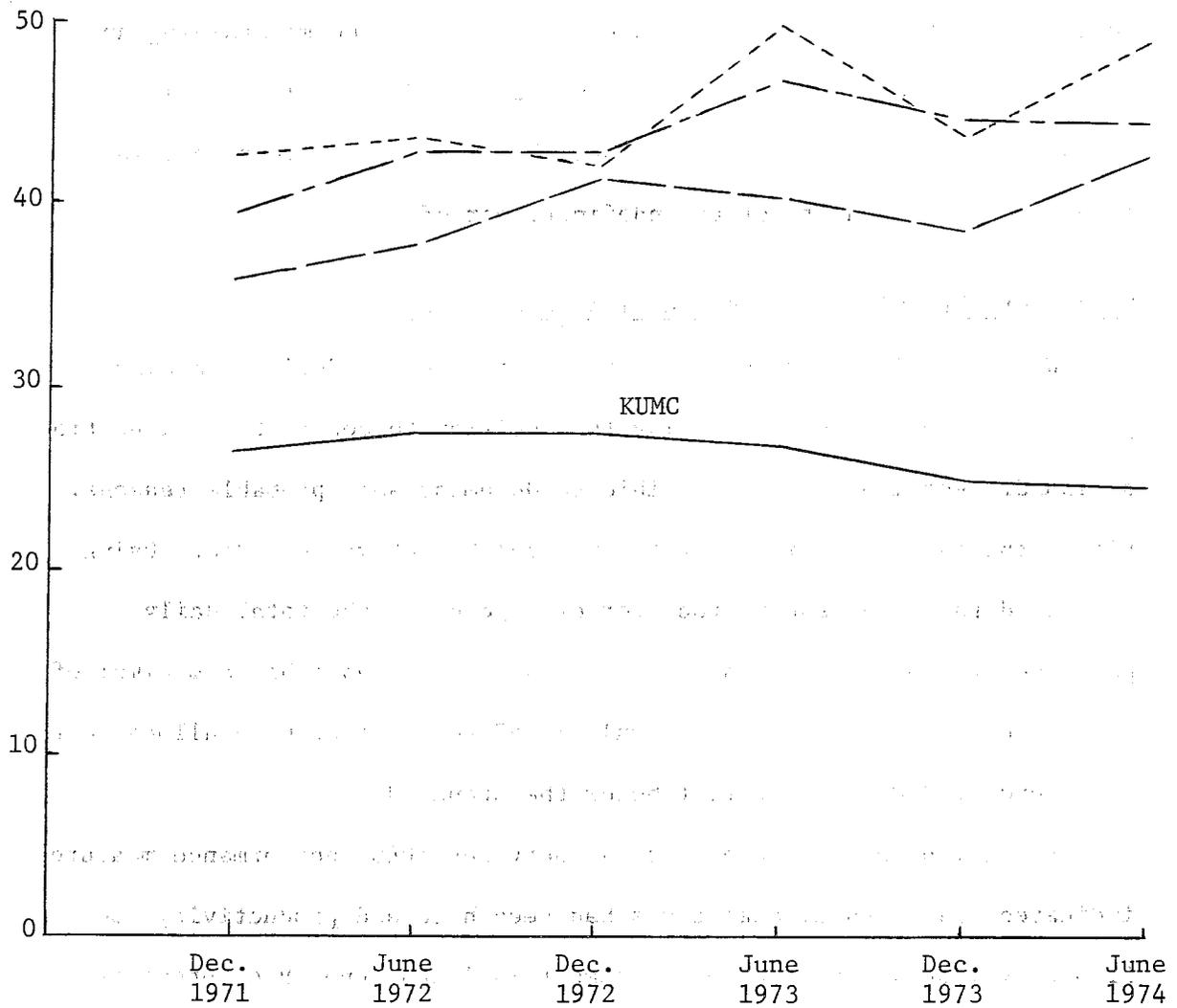
While no direct evidence exists describing the decision making process or the reasons underlying the decision to contract for a portion of laundry services, it is possible to document some probable reasons. First, the laundry facility at the Medical Center was crowded. Using the standard of one square foot for each pound of the total daily poundage of laundry processed, the laundry should have had a minimum of 11,250 square feet available.² Only 8,187 square feet were allocated to the laundry, 3,063 square feet below the standard.

Second, Hospital Administrative Services (HAS) performance measures indicated that departmental costs had been high and productivity low. Figure IV-1 shows that between December 1971 and June 1974 output, as measured by the pounds of laundry processed per manhour, was significantly lower than the average (median) of each of the three comparison groups.

Figure IV-2 indicates that the laundry expense per 100 pounds had been consistently higher at the Medical Center than the average (median) of the comparison groups.

Figure IV-1

Laundry Pounds Per Manhour
 The Medical Center Compared to Averages (Medians) for
 National Teaching Hospitals, Midwestern Hospitals
 of 400 Beds or More and Western Teaching Hospitals

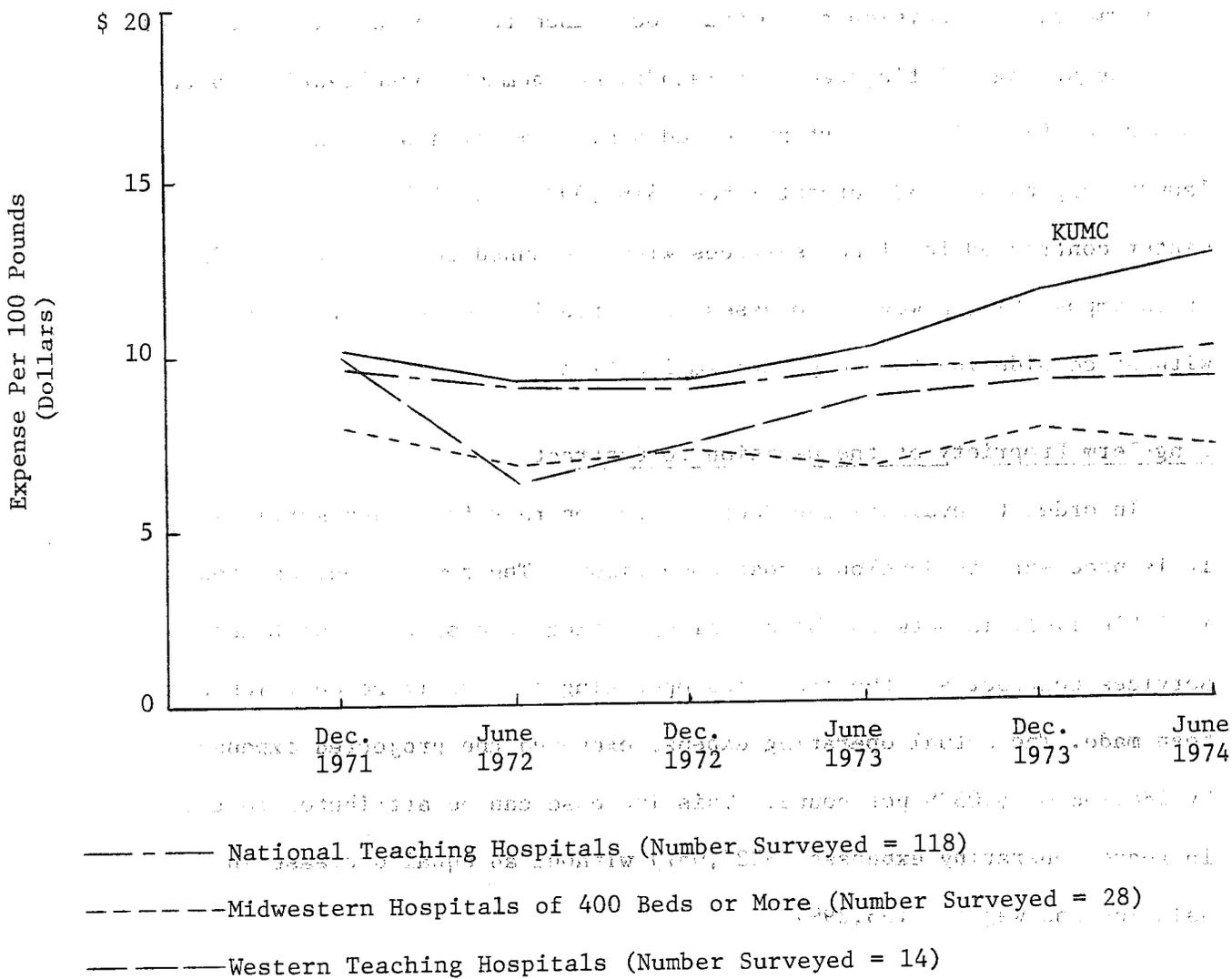


- — — National Teaching Hospitals (Number Surveyed = 118)
- Midwestern Hospitals of 400 Beds or More (Number Surveyed = 28)
- Western Teaching Hospitals (Number Surveyed = 14)

Source: Hospital Administrative Services, General Services Report HAS Comparative Group Medians, American Hospital Association.

Figure IV-2

Laundry Expense Per 100 Pounds
 The Medical Center Compared to Averages (Medians) for
 National Teaching Hospitals, Midwestern Hospitals
 of 400 Beds or More and Western Teaching Hospitals



Source: Hospital Administrative Services, General Services Report HAS Comparative Group Medians, American Hospital Association.

A third probable reason for the decision to contract might have related to the condition of the equipment in the Laundry Department. Inventory records and auditor inspections indicated that equipment was outdated and in need of repair or replacement. This would have required additional capital outlay expenditures.

Thus, due to inadequate space, inefficiency in the Laundry Department and the need to repair or replace equipment, it appears management took a course of action to alleviate some or all of the problems. Furthermore, the decision to contract out linen to Hospital Linen Services Inc. was strongly influenced by a laundry management consultant's report issued in 1970. This report projected a minimum savings in direct laundry expenses of 33 percent (about \$165,000 annually) if the Medical Center contracted for linen services with a planned cooperative laundry.³ It is impossible, however, to assess the propriety of the actual decision without considering the long-term implications.

Long-Term Propriety of the Decision to Contract

In order to evaluate the decision to contract for linen services, it is necessary to develop a cost comparison. The comparison, as shown in Table IV-1, is between the actual operating expense with the Linen Services contract and the projected operating expense if no decision had been made. The actual operating expense exceeded the projected expense by \$88,758 or \$.0328 per pound. This increase can be attributed to the increased operating expenses (\$222,057) without an equal decrease in salaries and wages (\$133,299).

Table IV-1

Projected Operating Expense of Laundry Department
Compared to Actual Operating Expense
(November 1, 1974 through October 31, 1975)

	Actual Operating Expense	Projected Operating Expense (No Decision)	Increase or (Decrease)
Salaries and Wages	\$ 305,983	\$ 439,282	\$(133,299)
Other Operating Expenses	<u>255,494</u>	<u>33,437</u>	<u>222,057</u>
Total Direct Expense	<u>\$ 561,477</u>	<u>\$ 472,719</u>	<u>\$ 88,758</u>
Direct Expense per Pound	\$.2091	\$.1763	\$.0328

Note: Projected operating expense is based upon expenditures for the 12 month period from November 1, 1973 to October 31, 1974 with salaries and wages increased in an amount equal to average increase of other classified employees in State service for the following 12 month period (approximately 10 percent). Other operating expenses were increased by 15 percent, an amount roughly equivalent to the rate of inflation experienced between the two time periods. The contract for linen services was implemented between October and November of 1974.

Source: Calculated by Legislative Post Audit from information contained in Medical Center reports including monthly management reports, Hospital Administrative Services report working papers and detailed expenditure reports.

According to the consultant's report of 1970, the cost to the Medical Center of contracting for linen services should have been more than offset by a decrease in salaries and wages as the result of a substantial staff reduction in the Laundry Department. The report stated that only six employees, instead of the 69 on the January 1970 payroll, would be necessary. However, the validity of the report's predicted staff reduction and resulting cost savings rests in part on the assumption that 100 percent of laundry services would be contracted

out. Since only 85 percent of the laundry was contracted out additional staffing was retained in the Laundry Department (37 employees were on the October 1975 payroll). The impact of this new assumption (that 85 percent instead of 100 percent be contracted out) should have been carefully analyzed by Medical Center management. This suggests that the direct laundry expense at the Medical Center will continue to exceed the direct laundry expense at comparable institutions. In October 1975, the direct laundry expense per pound at the Medical Center exceeded \$.20. The direct expense per pound at six other hospitals sampled (non-HLS hospitals), including four university teaching hospitals, was less than \$.16 per pound regardless of whether laundry service was contracted or provided "in-house".

This analysis indicates that while the decision to contract for a portion of linen services has alleviated some problems, other alternatives may exist which would produce better results at a lower cost.

Recommendation

Work should begin immediately on identifying the best alternative for handling laundry in the future. A primary concern should be to determine the staff requirements for each alternative developed, including the current one. This should be completed well in advance of the expiration date of the current laundry contract (November 30, 1977).

The basic alternatives include:

- 1. Contracting for all (100 percent) laundry services,*
- 2. Doing all laundry "in-house", or*
- 3. Contracting for a portion of laundry services with the balance being done "in-house".*

Effectiveness of the Laundry Department

In order to determine departmental effectiveness in providing clean linen to patients, the auditors conducted a survey of patients and professional medical staff.

Survey results indicated that:

-22 percent of the patients felt that the bedsheets and pillow cases were not always clean.

-Only 56 percent of the professional medical staff felt clean linen was always or usually available.

These results indicate that the Laundry Department is not attaining its goal of having clean linen for patients at all times. The underlying reason for the ineffectiveness in this area is the lack of adequate management controls. This can be illustrated by describing the distribution of clean linen to nursing stations. All nursing stations are to receive a certain number of pounds of linen based on past usage patterns. Linen carts are supposed to be loaded with the appropriate linen. However, since no record is maintained of the actual number of specific linen items placed on the cart, shortages and surpluses occur at the nursing stations. Therefore, the actual use of specific linen items by nursing station is not known. A control system would pinpoint such possible problem areas as excessive linen usage, late delivery of linen from HLS, pilferage, incorrect linen distribution, and inadequate supplies of various linen items. Once the problems are identified, corrective action can be implemented.

Recommendations

1. *The Laundry Department should maintain accurate records of linen distribution to each nursing station. This record should be used to develop a true usage standard for all major linen items.*
2. *Action should be taken by Medical Center administration to ensure that linen is properly laundered and available in adequate amounts.*

CHAPTER V

PURCHASING

The University of Kansas Medical Center conducts its purchasing activities within the state-wide system established by statute and by the State Director of Purchases.¹ It is emphasized that the scope of this audit pertains to the purchasing system at the Medical Center only and does not directly address the operations of the State Division of Purchases. The Purchasing Department at the Medical Center is involved in order processing, pre-contract activities, buying and correspondence. In fiscal year 1975, the Medical Center expended \$28.9 million for contractual services, materials, supplies and equipment. The Purchasing Department was involved in about 47 percent of the dollars expended, \$13.5 million. The Department was not involved in the remaining 53 percent, which was for noncompetitive items, such as utilities. The Purchasing Department is staffed by 41 people with an annual operating expenditure of \$369,192 in fiscal year 1975.

Findings

1. *There is a lack of formal goals, objectives, policies and regular, systematized information adequate for managerial control and evaluation of the purchasing system.*
2. *The purchasing system at the Medical Center requires a considerable amount of time and effort to process relatively small-dollar amount purchases.*
3. *For those contracts administered by the Medical Center, the standards for quality review and price competitiveness are not strictly adhered to in making awards.*

4. *For noncontract purchases put out for bid, neither quality review nor price competitiveness appear to be fully adequate.*
5. *There is no evidence to indicate that the internal Medical Center directive to seek competitive bids on direct purchases is followed.*
6. *The property control system at the Medical Center is inadequate, especially when purchases are made with Endowment Association funds.*

Management and Control

Goals, Objectives, Policies and Procedures

There are few formal goals, objectives, or policies within the Purchasing Department at the Medical Center. Despite the volume and dollar magnitude of the purchasing function, the goal of the Department seems to be to simply adhere to the State system and to serve the Medical Center by the routine processing of paperwork. The system as it presently exists is largely informal. The objectives and policies pertaining to purchasing decisions appear to be communicated directly to the various departments by Medical Center management during the budget process and through continuous informal discussions with responsible staff. While the Purchasing Department has prepared a detailed procedures manual which communicates to the other departments the steps to follow in preparing and processing official purchasing documents and describes the organization and role of the Purchasing Department, this manual should also contain statements of the goals, operational objectives and policies of the Medical Center with regard to the purchasing function.

Management Information

The purchasing system at the Medical Center is being managed largely without the benefit of reports or systemized information relevant to basic

decision making. The information necessary for effective management should be developed and reported on a regular basis.

The only financial reports available and utilized regularly are the "Monthly Management Report" and the "Departmental Budget and Expenditure Report." While these reports allow for comparison of actual expenditures to budget allocations, neither can be considered adequate for evaluating the efficiency or effectiveness of the purchasing system.

With the possible exception of inventory control, the records compiled and maintained by the Purchasing Department are simply activity logs and therefore are of limited usefulness to management. Two examples illustrate the point. The record of orders processed is useful as a measure of workload, but not as a measure of performance unless a standard is established for the number of orders that should be processed. Likewise, the yearly price comparisons on contract items provides some information, but are not timely, meaningful or useful, unless they are compared to price indexes, long term price trends, the cost of substitute materials or price movements classified by suppliers and/or manufacturers.

The budget process is often cited by Medical Center administrators as the primary tool used to plan and control purchasing activities. To determine, in part, the adequacy of the budget process in this regard, the following analysis was made. For fiscal years 1973, 1974 and 1975, actual expenditures by 12 of the largest departments, comprising almost 90 percent of the Medical Center's totals for equipment expenditures and other expenses (excludes salaries and wages) were compared to budgeted amounts. (See Appendix A for details.) Adopting a standard that expenditures should not deviate by more than 10 percent from budget, it was found that equipment expenditures exceeded the standard 91 percent of the time (32 of 35 instances).

Further, operating expenditures exceeded the standard 60 percent of the time (21 of 35 instances). If the standard was raised to a 20 percent deviation for equipment, expenditures exceeded the standard 83 percent of the time (29 of 35 instances). For other operating expenditures, a standard of 15 percent still shows almost half the cases outside that limit. The analysis indicates that the budgeted figures are not good predictors of actual expenditures unless wide tolerances for accuracy are accepted.

Recommendation

The Purchasing Department should take the initiative in setting operational objectives, developing performance measures and generating information useful to management and operating departments regarding the purchasing function.

Output of the System

Voucher Characteristics and Processing

Once a purchase decision has been made, a department sends a purchase request to the Purchasing Department. The Purchasing Department types either an agency purchase order for direct purchases or a purchase requisition which goes to the State Division of Purchases for further action. The culmination of the purchase cycle is the payment voucher.

The number of payment vouchers initiated in connection with Medical Center activities in fiscal year 1975 was 52,384. According to Legislative Post Audit estimates, the Purchasing Department participated in the processing of 41,300 of these vouchers. The remaining 11,084 vouchers were for such noncompetitive purchases as utilities and the Purchasing Department does not participate in the processing of them.

A statistically valid sample of vouchers was selected for analysis; the results are summarized in Table V-1.

Table V-1
Selected Characteristics of Vouchers
for Competitive Purchases
Processed by Medical Center Accounting
(FY 1975)

	General Accounting ^a	Research Accounting ^a
Total number of vouchers (all purchases)	40,748	10,933
Sample Size	311	200
Average dollar amount per voucher		
Total sample	\$257.27	\$ 91.22
Under \$200	82.89	49.45
Over \$200	713.47	745.55
Percent of total vouchers		
Under \$200	72.3%	94.0%
Over \$200	27.7	6.0
Percent of total dollar amount		
Under \$200	23.3%	51.0%
Over \$200	76.7	49.0
Percent of total vouchers		
On contract	35.4%	3.5%
Off contract	64.6	96.5
Percent of total dollar amount		
On contract	54.2%	2.3%
Off contract	45.8	97.7

^aResearch Accounting includes only sponsored research. General Accounting includes all other accounting functions.

Source: Legislative Post Audit samples drawn from fiscal year 1975 paid vouchers in Medical Center files.

The table illustrates several major points. First, the majority of vouchers are for amounts under \$200; 72.3 percent in the case of general accounting and 94.0 percent for research accounting. Second, most of the

vouchers are for off-contract items. Third, in general accounting, vouchers under \$200 (72.3 percent) account for only 23.3 percent of the total dollar amount, in research accounting 94 percent of vouchers under \$200 account for 51 percent of the total amount. Finally, more than half of the expenditures in the general accounting area are for contract items, while only 2.3 percent of the expenditures in research accounting are for contract items.

The existing system results in a considerable amount of time and effort being applied to processing vouchers for relatively small dollar amounts. Based on a sample of 511 vouchers, over 22 percent (an estimated 11,500 vouchers) were for amounts under \$25. As the average cost per voucher processed is increasing as determined by Legislative Post Audit, every effort should be made to reduce the number of purchases, especially those for small dollar amounts.

Presently, the State Division of Purchases has a \$200 limit on direct purchases. The Director of the Purchases Division has statutory authority to extend this limit to \$500, but has done so only for pharmaceutical purchases. Of five other state teaching hospitals contacted during the audit, four had a higher dollar limit than the Medical Center. In one instance the allowable limit was more than ten times higher. Alternatives for reducing the number of small dollar amount purchases could include raising the dollar limitation, placing more items on contract, and ordering in larger quantities.

The time and effort applied to voucher processing is also increased by purchasing department procedures. A complete retyping of the information on the purchase requests submitted by a department is performed which increases required staff time and creates additional problems. Questionnaire responses and interviews with Medical Center department chairmen revealed that mistakes

are made in specifications when the Purchasing Department condenses and retypes purchase requests. Another complaint was the long time required for the purchasing process. Every effort should be made to streamline the voucher processing cycle by using labor saving methods where possible and by testing vouchers moving through the purchasing system to identify areas where time delays occur.

Recommendations

1. The Medical Center purchasing officials should endeavor to reduce the number of small dollar amount purchases through consideration of the following alternatives: encourage departments to order in larger quantities; increase the number of items on contract; and seek to raise the \$200 limit on direct purchases, especially for research expenditures.
2. The Purchasing Department should review order processing procedures with special attention devoted to adopting labor saving methods for routine tasks.

Purchasing Options

This section first reviews the participation of the Medical Center in establishing contracts. Next, the processing of purchase requisitions going to the Division of Purchases are examined, and some basic quantitative information is developed. Finally, processes used at the Medical Center to purchase materials for amounts under \$200 are explored.

Contract Purchases

Preparation for solicitation of bids and making recommendations for awarding contracts are important functions of the Medical Center's Purchasing Department. In order to review contract purchases, 88 items were selected from nine state-wide contracts. Awards were granted to the firm as recommended by the medical and purchasing staff. Recommendations by the staff are to be based on compliance with bid specifications, experience with the firm, and bid price.

Quality and price are key considerations in making awards. Acceptable quality is defined as satisfactory experience with the product either as a previous contract item or as a tested sample. Despite this, almost 10 percent of the awards received no quality review.

Deviation from the policy of granting awards to the lowest bidder must be supported by written justification. Analysis of the sample revealed that 29.8 percent of the awards were made to other than the lowest bidder and that all had a written justification for not accepting the lowest bid. (Legislative Post Audit did not attempt to analyze the nature or adequacy of the justifications.)

The significance of accepting other than the low bid is demonstrated by the following estimate. Awards made to other than the lowest bidder resulted in an increased State expenditure of \$165,000. Of this amount, \$75,000 was due to bids that were rejected because of a lack of an adequate sample for testing for suitability by the Medical Center. More effort to acquire a product sample might be in order in these instances.

Even though most of the awards were made to the lowest bidder (70.2 percent), less than maximum competition might have been elicited. Every

contract item had written specifications, but only 19 percent were performance or descriptive specifications. Seventy-three percent were brand specifications which contained a manufacturer's description and one or more acceptable brand name products. Despite the disclaimer that equivalent products are also acceptable, a potential bidder might not know the extent of product deviation allowable. Therefore, the use of brand names can discourage active bidding and thus, competition.

Purchase Requisitions

All items over \$200 and not already on State contract must be requisitioned through the State Division of Purchases in Topeka. Prior to preparing a purchase requisition, the Purchasing Department coordinates with the requesting Medical Center department, confirms specifications and assures that the name of at least one supplier is listed on the requisition. Once the requisition is sent to Topeka, the Purchasing Department provides liaison between the State Division of Purchases and the Medical Center department which initiated the requisition.

A sample of 105 requisitions in amounts over \$1,000 was selected and examined. As with items purchased from state-wide contracts, the principal considerations here were quality and price. For audit purposes, quality review is defined as an item which was in the Medical Center storeroom catalog, an item used previously at the Medical Center, or an item on which there had been a comparison made to alternative products as evidenced in the bid file folder. When no documentation was found in the State Division of Purchasing files, it was assumed no quality review had occurred. Based on the above criteria, 38.1 percent of the Medical Center purchase requisitions had not received a quality review.

Awards were made by the State Division of Purchases for 80 out of 105 purchase requisitions or 76.2 percent. The remaining 23.8 percent were cancelled. Of the 80 awards, 81.2 percent were to the low bidder.

All of the bids had written specifications, but as with contract items at the Medical Center, only slightly more than half, 53.8 percent, had performance or descriptive specifications. Another 36 percent had brand specifications and then cited brand names. As with items purchased on contract, the use of brand specifications probably discourages active bidding and thus, competition.

Direct Purchases

Agencies are permitted to make direct purchases for items under \$200. The Medical Center has further stipulated that all direct purchases can be made only after the "Medical Center Purchasing Department has sought competitive quotations where and when possible."² The Purchasing Department indicated that telephone bids are taken in order to obtain the best price, but no record was maintained. Therefore, Legislative Post Audit was unable to ascertain compliance with this policy.

Recommendations

1. *Procedures for formal quality review of all products prior to a contract award should assure complete coverage and the review of noncontract items should be improved.*
2. *The Purchasing Department should expand its efforts to improve competitiveness and lower prices by actively seeking substitute products, new supply sources and promoting the use of performance specifications.*

3. *A system should be established whereby it is assured that bids are sought on direct purchases and the results documented in a regular fashion.*

Equipment Purchases and Property Control

A test of the inventory system for property control of equipment, furniture and fixtures purchases was conducted during the audit. Attention was focused on the procurement of these items from both Endowment funds and State funds.

Equipment, furniture and fixtures bought with Endowment funds comprised 19.8 percent of the total acquired at the Medical Center (excluding sponsored research) in 1973, 12.4 percent in 1974 and 23.6 percent in 1975. These figures, calculated from Property Accounting inventory records, understate the actual expenditures because some acquisitions are not recorded under the present system. An example is illustrative.

Endowment Development Fund³ expenditures for two departments totaled \$40,028 during fiscal year 1975. Only two items totaling \$382 were recorded on the Medical Center inventory. A physical inspection, enlisting the assistance of departmental personnel, located the other items which ranged in value up to \$9,906. The items did not have Medical Center property numbers affixed.

Failure of these items to appear on inventory records occurs because Property Accounting has no assured way of knowing that something has been purchased. Periodically, the Endowment Association sends copies of the vouchers for equipment purchased to the Medical Center's Purchasing Department for inclusion in the inventory records, but the present system is unreliable.

When purchases are processed through the Purchasing Department, all deliveries from vendors are made to the receiving dock. Receiving personnel are instructed to tag the equipment items and prepare a property card which is sent to Property Accounting. These cards are then matched to copies of the purchase orders, and the acquisition is entered into the inventory records. However, property cards are made up for only an estimated 50-60 percent of the property items coming across the receiving dock. The remaining 40-50 percent consists of goods which were assumed by receiving dock personnel to be consumable supplies, but are actually property items.

Property Accounting reconciles the capital outlay expenditures from the monthly reports generated by the Division of Accounts and Reports to the Medical Center records. All unrecorded items are then to be traced by Property Accounting, property numbers affixed and additions made to the inventory.

The property control system is cumbersome, time consuming and open to serious omissions. Many weeks or months may go by without equipment items getting into inventory records, if they ever do.

Recommendation

The property inventory system should be completely reviewed and modified to assure timely and accurate recording of all acquisitions at the Medical Center. This should be accomplished prior to occupying the new Basic Science Facility and Clinical Facility.

FOOTNOTES

Chapter II. Dietetics

1. "Goals of the Departments of Dietetics and Nutrition", Department of Dietetics and Nutrition Procedure Manual, p. 1.
2. The cost savings was derived by multiplying the difference in cost per meal between the Medical Center and Hospital B (\$.25) times the total number of meals served at the Medical Center in fiscal year 1975 (788,436).
3. Several approximations were made to derive the average cost of a cafeteria meal and the estimated cafeteria loss. First, a cafeteria meal was defined as an entrée, vegetable, salad, dessert and beverage. Second, a price check conducted by the Legislative Post Audit staff established that the average (median) price per cafeteria meal at the Medical Center was \$1.325. Third, the average price per cafeteria meal (\$1.325) was divided into total cafeteria revenue for fiscal year 1975 (\$481,058) to determine the total number of cafeteria meals served (363,063). Fourth, cafeteria direct raw food cost (\$286,750) was derived by multiplying total raw food cost (\$622,714) for the Dietetics Department by the proportion (.460485) that cafeteria meals represent of total meals (788,436). (The number of total meals was determined by adding patient meals to cafeteria meals. The number of patient meals (425,373) was obtained by multiplying hospital census days times the Hospital Administrative Services standard of 2.8 meals per patient day.) Fifth, cafeteria direct labor costs (\$503,449), were calculated by Legislative Post Audit staff from the Medical Center "Detail Expenditure Reports" and included all salary and fringe benefit costs

in the personnel food service cost center plus the proportion (.460485) that cafeteria meals represent in the remaining cost centers. The patient food service cost center was excluded. Finally, using the Accounts and Reports formula, the cost per cafeteria meal was determined to be \$2.394. This represents a loss per meal of \$1.069 ($\$2.394 - \1.325) which when multiplied by the total number of cafeteria meals served in fiscal year 1975 (363,063) produces an estimated loss of \$388,114.

Chapter III. Physical Plant Services

1. American Hospital Association, Manual of Hospital Housekeeping (Chicago American Hospital Association, 1952), p. 24.
2. Interview with Wayne Shaffer, Director of Housekeeping and Georgia Zemmer, Assistant Director of Housekeeping, University of Kansas Medical Center, Kansas City, Kansas, August 7, 1975.

Chapter IV. Laundry Services

1. Interview with Mary Nielsen, Director of the Laundry Department and Gerald Geise, Director of Physical Plant Services, University of Kansas Medical Center, Kansas City, Kansas, August 14, 1975.
2. International Fabricare Institute, Planning and Improving an Institutional Laundry, Vol. 1, No. 2-2B (Joliet, Illinois: International Fabricare Institute), May 1974, p.
3. Victor Kramer Co. Inc., University of Kansas Medical Center - Laundry Linen Cost Comparison - Hospital vs. Central (New York: Victor Kramer Co. Inc., 1969), p. 2.

Chapter V. Purchasing

1. State purchasing procedures are set out in Information Circular number 428 and Policy and Procedures filing number 3,605. Policy and Procedures Manual filing number 3,605 concerns direct or local purchase authority. Within the document is a listing of the expenditure object codes for contractual services, commodities and capital outlay items. The object codes are keyed to procurement methods "A" through "E". These methods are explained below:

Procurement Method	
A	Regardless of costs, the items must be obtained through the Department of Administration, Division of Purchases. Examples are cars, trucks, building and improvements.
B	Agency officials may make direct or local purchases up to \$200. Agencies are requested to seek competition on all local or direct purchases whenever possible, and are expected to establish internal procurement policies which insure compliance with, and avoid abuse of, local or direct purchase limitations. Note: The Director of the Division of Purchases, Department of Administration has received legislative authority to extend this limit to \$500. The Director has granted authority to use the new limit for Medical Center purchases of pharmaceuticals, but had not granted blanket authority at the time of the audit.
C	Agency officials may make direct or local purchases up to \$200.
D	Educational institution officials may make direct or local purchases up to \$2,000 for items used on sponsored research projects, provided the use of this authority is limited to emergency situations where normal purchasing procedures would unduly delay the progress of the research project.
E	No dollar limitation applied (noncompetitive items).

Procurement method "B" relates to such commodities as clothing, food for human consumption, stationery and office supplies and power plant materials and parts. Also involved are several capital outlay object codes, including office furniture and fixtures, professional and scientific equipment and

shop and plant maintenance equipment. Items under method "C" are costs for repairs and servicing, maintenance and construction materials and professional, scientific and research supplies and materials. Noncompetitive items include many contractual services such as communications, rents, utilities and professional fees.

2. Memorandum of November 20, 1973 from Russell H. Miller, Dean for Medical Center Administration, to Chairmen and Heads of Departments.
3. Endowment Development Funds represent those monies held in trust by the Endowment Association. The Medical Center's Physicians Accounting Corporations maintain these funds through deposits of a percentage of their annual income. The use of the funds is restricted to expenditures to upgrade the Medical Center department with which the corporation is associated. Expenditures from these funds must be authorized by both the Executive Vice-Chancellor and the department head.

APPENDIX A

University of Kansas Medical Center
 Expenditure Deviation from Budget for Major Departments
 For Other Expenses and Equipment in Fiscal Years 1973, 1974, 1975

Department	Other Expenses ^a						Equipment Expense		
	Budgeted	Expended	Deviation From Budget ^b		Budgeted	Expended	Deviation From Budget ^b	Dollars	%
			Dollars	%					
1084 Physical Plant	1973	\$ 966,851	\$ 992,184	\$ 25,333	2.6%	\$ 18,300	\$ 33,721	\$ 15,421	84.3%
	1974	1,104,000	1,221,969	117,969	10.7	25,300	62,702	37,402	147.8
	1975	1,089,000	1,261,465	172,465	15.8	10,000	25,050	15,050	150.5
0760 Hospital Professional	1973	962,000	1,005,938	43,938	4.6	100,000	603,087	503,087	503.1
	1974	1,063,000	1,028,769	(34,231)	3.2	110,000	121,425	11,425	10.4
	1975	1,139,037	1,319,532	180,495	15.8	220,000	150,623	(69,379)	31.5
0766 Pharmacy	1973	900,251	948,294	48,043	5.3	10,000	9,885	(115)	1.2
	1974	1,045,100	1,044,947	(153)	0.0	11,000	11,902	902	8.2
	1975	1,024,500	1,114,085	89,585	8.7	10,000	9,940	(60)	.6
0758 Dietary	1973	558,900	532,329	(26,571)	4.8	20,000	10,326	(9,674)	48.4
	1974	584,900	686,208	101,308	17.3	20,000	23,814	3,814	19.1
	1975	643,900	792,684	148,784	23.1	15,000	9,709	(5,291)	35.3
1089 General Services	1973	387,650	330,433	(57,217)	14.8	1,500	90	(1,410)	94.0
	1974	417,650	502,319	84,669	20.3	1,500	0	(1,500)	100.0
	1975	421,000	558,282	137,282	32.6	0	170	170	u
0423 Medical Education - Wichita	1973	14,562	318,058	303,496	2084.2	0	135,579	135,579	u
	1974	469,000	422,560	(46,440)	9.9	0	43,632	43,632	u
	1975								
0876 Clinical Laboratory	1973	281,500	259,401	(22,099)	7.9	195,000	82,934	(112,066)	57.5
	1974	281,200	370,778	89,578	31.9	100,000	69,501	(30,499)	30.5
	1975	338,200	498,277	160,077	47.3	50,000	86,541	36,541	73.1

APPENDIX A (cont.)

Department	Other Expenses ^a				Equipment Expense				
	Budgeted	Expended	Deviation From Budget ^b		Budgeted	Expended	Deviation From Budget ^b		
			Dollars	%			Dollars	%	
0880 X-Ray	1973	\$ 354,139	\$ 344,333	\$ (9,806)	2.8%	\$195,000	\$139,008	\$(55,992)	28.7%
	1974	309,250	393,972	84,722	27.4	15,000	18,053	3,053	20.4
	1975	299,250	467,909	168,659	56.4	85,000	100,162	15,162	17.8
0865 Anesthesia Services	1973	170,000	163,955	(6,045)	3.6	20,000	45,217	25,217	126.1
	1974	157,000	170,266	13,266	8.4	0	14,051	14,051	u
	1975	157,600	205,779	48,179	30.6	10,000	17,085	7,085	70.9
0872 Cardiovascular	1973	3,000	2,203	(797)	26.6	15,000	11,667	(3,333)	22.2
	1974	100,000	112,029	12,029	12.0	50,000	17,175	(32,825)	65.7
	1975	137,600	116,358	(21,242)	15.4	30,000	3,539	(26,461)	88.2
0542 Library	1973	73,200	67,644	(5,556)	7.6	13,780	17,157	3,377	24.5
	1974	60,200	78,244	18,044	30.0	16,329	27,087	10,758	65.9
	1975	89,545	24,326	(65,219)	72.8	0	21,621	21,621	u
1086 House-keeping	1973	73,000	72,030	(970)	1.3	8,000	13,852	5,852	73.2
	1974	78,500	67,993	(10,507)	13.4	12,000	8,207	(3,793)	31.6
	1975	84,500	117,144	32,644	38.6	10,000	2,587	(7,413)	74.1

^aOther expense items include: In-State Travel, Telephone and Communications, Printing and Advertising, Rent and Utilities, Repairs and Service, Journals and Subscriptions, Official Hospitality, Fees and Other Contractual Services, Clothing, Food, Maintenance Materials, Professional Supplies, Office Supplies, Miscellaneous Supplies, Building Improvements and Capital Outlays, and Non-expense Items.

^bDeviation from Budget: The dollar deviation from budget is the difference between the amount budgeted, the planned expenditure and the amount actually expended; expressed as either a (positive) or negative amount. The percent deviation from budget was computed by dividing the dollar deviation by the amount budgeted. A "u" indicates a situation where there is division by zero resulting in a percent deviation which is infinitely large.

Source: Medical Center "Departmental Expenditure Reports" for the months ending June 30, 1973, 1974 and 1975.

APPENDIX B

Analysis of Comments Made on the Faculty and Professional Medical Staff Survey

Over 800 faculty and professional medical staff were asked to respond to specific questions on a survey questionnaire pertaining to selected support services at the Medical Center. Approximately 400 staff members responded to the questionnaire and their responses are presented in the appropriate chapters of this report. However, 168 of the respondents (42%) also provided written comments usually intended to either elaborate on their response to one or more of the survey questions or to provide information on related subjects not mentioned in the questionnaire. To make use of this additional information, the comments were content analyzed. This technique allows each comment or part thereof to be categorized by its subject and to be described as having a positive (favorable), negative (unfavorable) or neutral connotation about that subject.

The results of the content analysis are presented in Table B-1 on the following page. Of a total of 256 classifiable comments and parts of comments, 225 (87.9%) were negative, 20 (7.8%) were positive and 11 (4.3%) were neutral. The table is followed by examples of the actual comments made by Medical Center staff. These examples were chosen as being representative of all the comments and reflect the relative proportion of negative, positive and neutral comments as determined in the content analysis.

Table B-1

Content Analysis of Comments from the
Faculty and Professional Medical Staff Survey

<u>Support Service</u>	<u>Negative</u>	<u>Positive</u>	<u>Neutral</u>	<u>Total</u>
1. <u>Dietary</u>				
a. Efficient delivery of food services	3	4	1	8
b. Food quality/price	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
	5	4	1	10
2. <u>Housekeeping</u>				
a. Work performance of staff	68	10	3	81
b. Attitudes and behavior of personnel	6	0	0	6
c. Providing adequate supplies (e.g. bedpans, soap)	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
	77	10	3	90
3. <u>Laundry</u>				
a. Condition of linens	7	0	0	7
b. Adequacy of linen supplies	8	0	0	8
c. Late delivery of linens	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
	18	0	0	18
4. <u>Physical Plant</u>				
a. Supervision of staff	2	0	0	2
b. Timely processing of work requests	10	1	0	11
c. Work performance of staff	38	3	0	41
d. Temperature control	<u>12</u>	<u>0</u>	<u>0</u>	<u>12</u>
	62	4	0	66
5. <u>General</u>				
a. Physical plant operations requiring administrative action (e.g. remodeling, insufficient storage space)	20	1	2	23
b. Personnel (e.g. staff size, training, general quality of work)	20	0	1	21
c. Miscellaneous comments (e.g. nursing services, general condition of hospital)	<u>23</u>	<u>1</u>	<u>4</u>	<u>28</u>
	63	2	7	72
Grand Total - All Classifiable Comments	225	20	11	256
Percent of Total	87.9%	7.8%	4.3%	

Source: Legislative Post Audit, Faculty and Professional Medical Staff Survey, October 1975.

Sample Comments from
Faculty and Professional Medical Staff Survey

1. I have all too often seen housekeeping people enter a room and regardless of patient or medical activities - ie. breastfeeding, physical exam, emotional discussion, etc. - begin disruptive duties - deafening sweeping, shaking blinds (I've yet to see anyone do more than jiggle the blinds with a dust mop, never actually attempt to clean them).
2. Patients complain quite often of the peeling paint & unattractive rooms. 4B has no storage area so wheel chairs, carts, extra clean linen, & dirty linen are stored in the hallways. Linen comes from the laundry dirty looking, always arrives late in the day & quite often is not adequate. Some rooms still have incandescent lighting which is inadequate for proper patient care and assessment.
3. The patient's rooms are dismal - paint [sic] falling off walls - the housestaff "call rooms" are terrible - their sinks don't all have faucet handles. Most of the patient areas are so run down I wouldn't want my parents there - paint is falling off the walls. The hospital's policy of as close to 100% occupancy at all times makes patients late getting into their rooms, then the rooms aren't always completely fixed up and we have to do many of our histories & physicals in the treatment rooms, which makes it too late in the day to get any laboratory or x-ray tests done.
4. Maintenance at this place is terrible!! Most of the janitorial staff try very hard to keep the mess cleaned up, but the building and grounds repair personnel defeat the efforts of the housekeepers by letter [sic] stools run over, pipets leaks [sic], drains plug, windows break, elevators stop, traffic snarls, and what they do is done painfully slowly. The buildings and grounds needs better supervision from the top!
5. Hospital proper seems to be cleaner than buildings used for teaching. I object strongly to the inconvenience caused by not being told when a work request cannot be fulfilled or will be delayed. To know this is almost as important to our plans and schedules as having the work done promptly.
6. Elevators seldom clean. Linen quality is poor and often is not mended. Physician coats (white?) are poorly cleaned - usually look like ready for discard by the time they are 6 mos. old.
7. One of the biggest problems is the lack of adequate linens, bedding, and patient supplies. Some patients have complained of inadequate cleaning in the rooms.
8. Food service area reasonable good. Personnel are a chronic problem. Building & grounds and housekeeping are often marginal to poor.

9. The hospital linens are being returned stained from the commercial laundry.
10. Family Practice Building is above average in maintenance compared to rest of hospital.
11. Considerable difficulty keeping proper patient room, examining room temperature - frequently too hot or too cold.
12. Dietary - super slow - ex: when a new pt. comes in and a tray is phone ordered, the pt. is lucky to get the tray an hour or so later -- while the pt. is starving ---
13. Lighting in patient rooms is critically poor in some areas. Sleeping areas for housestaff are abysmal in emergency room and bathroom there is frequently not usable.
14. One of the worse physical plants; depressing surroundings and maintenance nearly nonexistent on day to day basis. May take 1 yr. or more before work requests are acted upon.
15. In general this is a dirty hospital especially when compared to other facilities in town. Cockroaches are frequently seen in rest rooms and areas where snack food is eaten.
16. Major complaint about KUMC is that the staff cafeteria is a sub-standard operation.
17. The physical plant services are very poor indeed: In 11 years on the faculty I have never seen a check on any work done by maintenance (what are the supervisors for?). Inadequate salary for qualified people is an excuse - doing nothing should cost nothing!
18. Public restrooms are filthy, I think about the worst @ KUMC. Need to put in brighter light bulbs - it really makes a difference in rooms and bathrooms. Linen supply seems to always be short especially in Pediatrics. Many times no clean linen until 2 p.m. The next time the state buys paint how about some brighter, attractive colors. They really improve an area. More housekeeping people are needed on Saturdays and Sundays. I have worked on floors with four or five empty beds that need to be scrubbed down because a patient left Saturday and it is already Sunday and new patients are waiting for the bed in the waiting room.
19. In general, lighting is substandard - especially in patient rooms. It is usually too hot in the winter in most areas - that is when they finally decide to turn the heat on (which seems like Dec.).
20. The patient facilities at KUMC, particularly rooms, are shabby, dirty, and a shame to the State of Kansas. Maintenance here is shoddy, sporadic and workmanship slipshod. I am personally ashamed that my patients have to be housed in such miserable surroundings.

A little planning and some simple changes in administration could change all of this. I worked for two years at a teaching hospital in Africa which was cleaner and better run than this one.

I would welcome a chance to assist you in any way in your investigation of maintenance and housekeeping here at KUMC.

21. Having worked in two other large medical centers, I feel K.U. is definitely below average in general cleanliness. The housekeeping department appears to work with the most "antiquated" equipment. Restroom facilities are disgusting, not only for patients but for visitors and staff alike. Food facilities are desperately needed for out-patients and visitors.
22. I have just recently joined the staff of the Medical Center so my impressions are based on a rather short time exposure. I usually travel through some of the hospital corridors on my way to lunch in the cafeteria. These corridors are usually crowded with patients on beds or in wheel chairs. Many of the patients appear to be receiving medication (I.V.'s attached); some are apparently either asleep or comatose. I realize that this situation is the reason for construction of the new clinical facility, however, something needs to be done for these patients in the interim; perhaps they could be diverted to other area hospitals which are less crowded.

In the basic science building in which I am located, maintenance on the whole appears to be fairly adequate. However, on occasion we are almost overwhelmed with odors presumably originating from the animal quarters on the floor above. I do not know whether this is due to a defect in the design of the building (a common ventilation system) or lack of maintenance of animal quarters.

23. Food service personnel as efficient as possible considering number of employees in department.

Appendix C

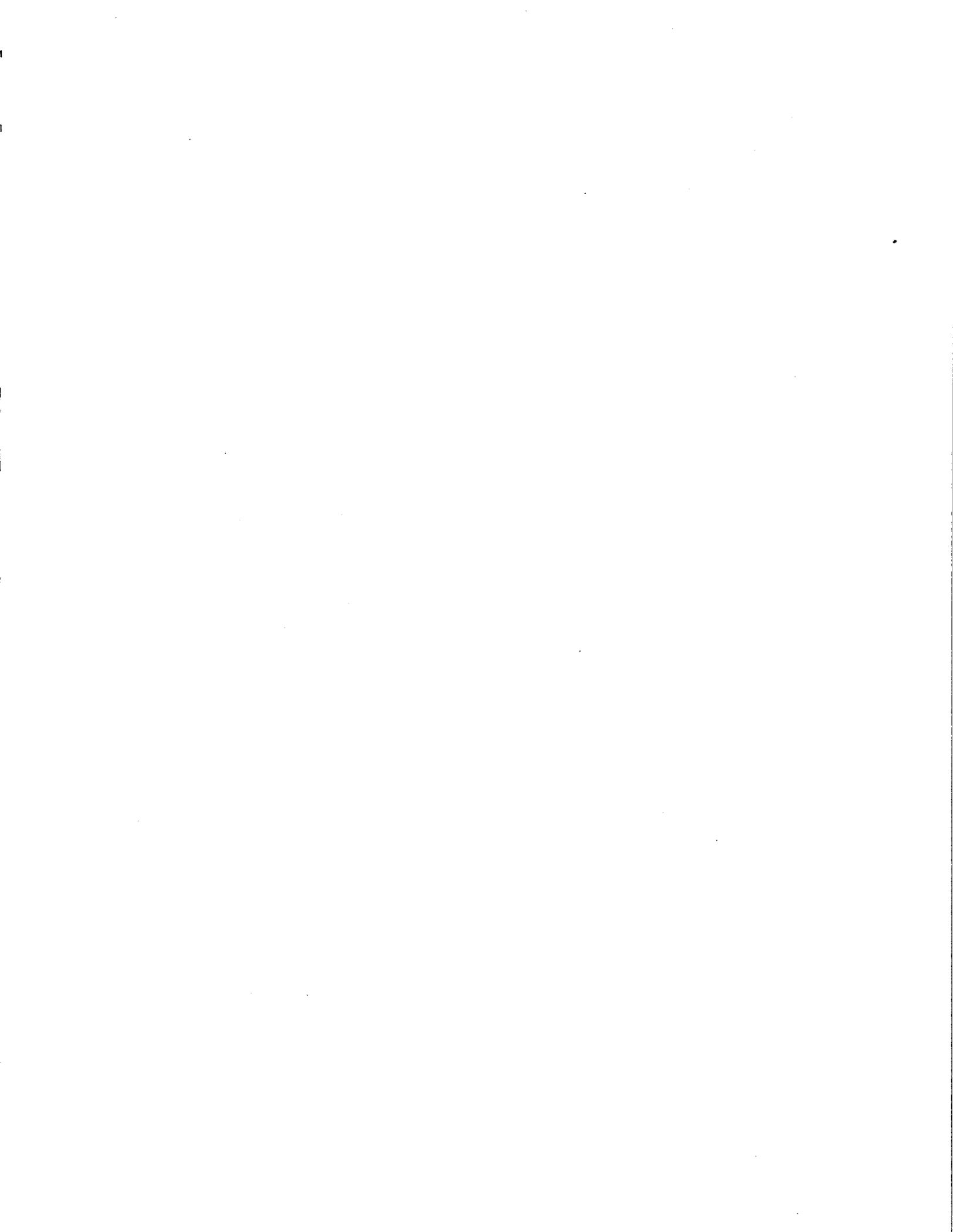
Responses to
Audit Recommendations

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January 19, 1976 C-1

Letter from the Director of Purchases,
Department of Administration, to the
Legislative Post Auditor, subject
Special Report - Selected Support
Services - KUMC, dated January 21,
1976 C-24





THE UNIVERSITY OF KANSAS

Office of the Chancellor
223 Strong Hall, Lawrence, Kansas 66045
(913) 864-3131

January 19, 1976

Dr. Richard Brown
Legislative Post Auditor
The Mills Building
Topeka, Kansas 66612

Dear Dick:

I write to thank you and Doug Vogel for taking time from your schedules to visit with us on two occasions about the Management Audit of Selected Support Services at the University of Kansas Medical Center. Your comments and suggestions about a format for the response to the audit were exceedingly helpful.

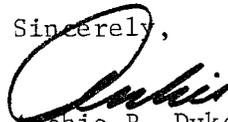
With this letter, I am transmitting three copies of the Medical Center's response to the audit. The format of the response follows the outline you suggested. After reading it, if there should be additional information which you might want, just let me know and we will provide it.

We appreciate the effort and thought which went into the management audit. Recommendations contained in the report are constructive, and steps are being taken to implement them. Of particular importance is the need to improve control systems and supervision in a number of areas. As I reported to you when we met last week, we have just completed a realignment of administrative responsibilities within the University which brings control of fiscal matters directly into my office and which centralizes control of support services under one administrator who reports directly to the Chancellor. We will also be seeking reclassification of a number of positions so that we might strengthen supervisory capabilities. These measures, along with other steps we are taking, will enable us to expedite and assure the improvements recommended in the management audit.

As I'm sure you know, the problems cited in the audit constitute a problem about which I have been and continue to be greatly concerned. Consequently, I should like to emphasize my wish to meet with the Legislative Post-Audit Committee to describe what steps are being taken to improve the management of support services at the Medical Center and of all programs throughout the University.

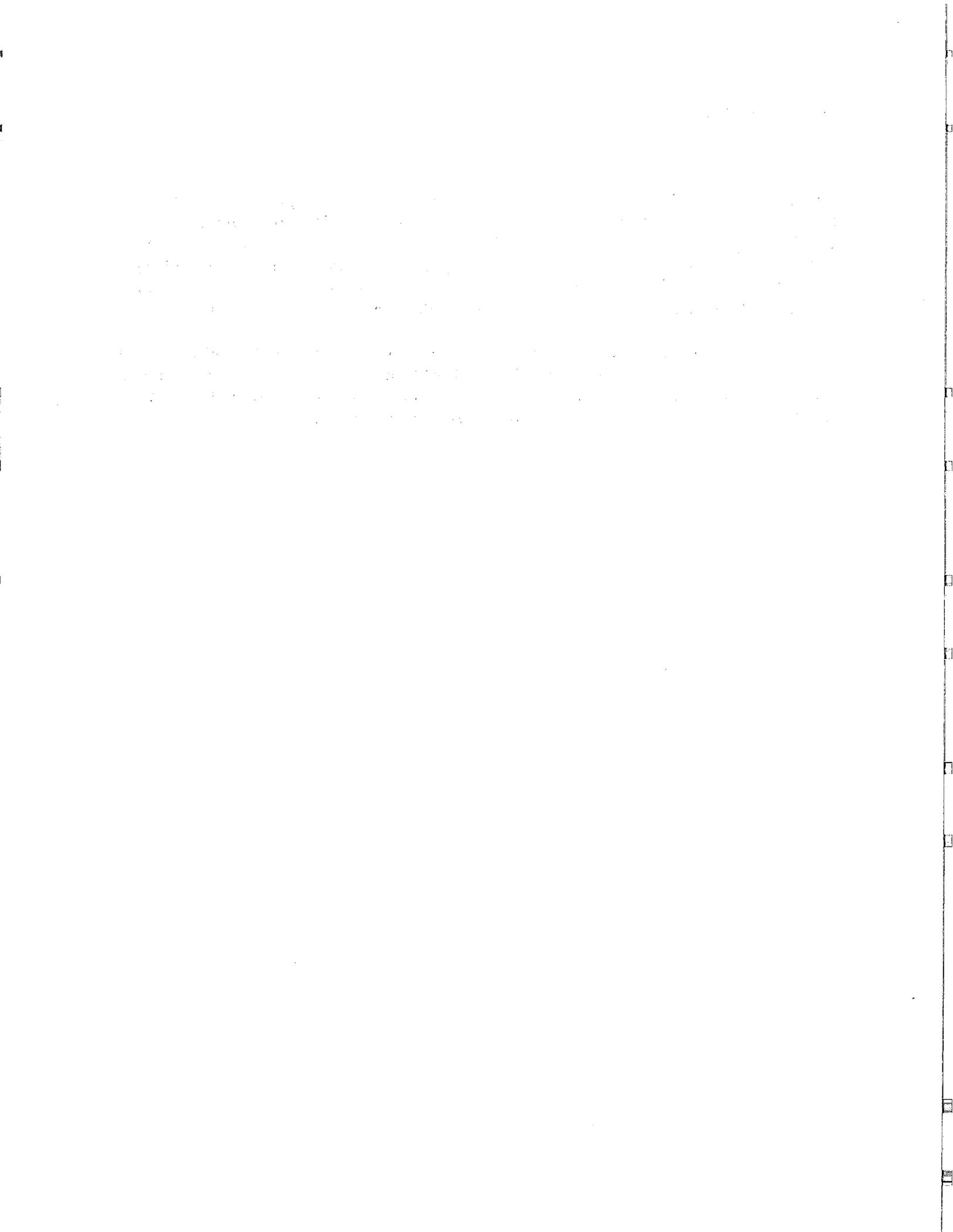
Again, we appreciate the assistance which you and your staff have given.

Sincerely,


Archie R. Dykes
Chancellor

Enclosures

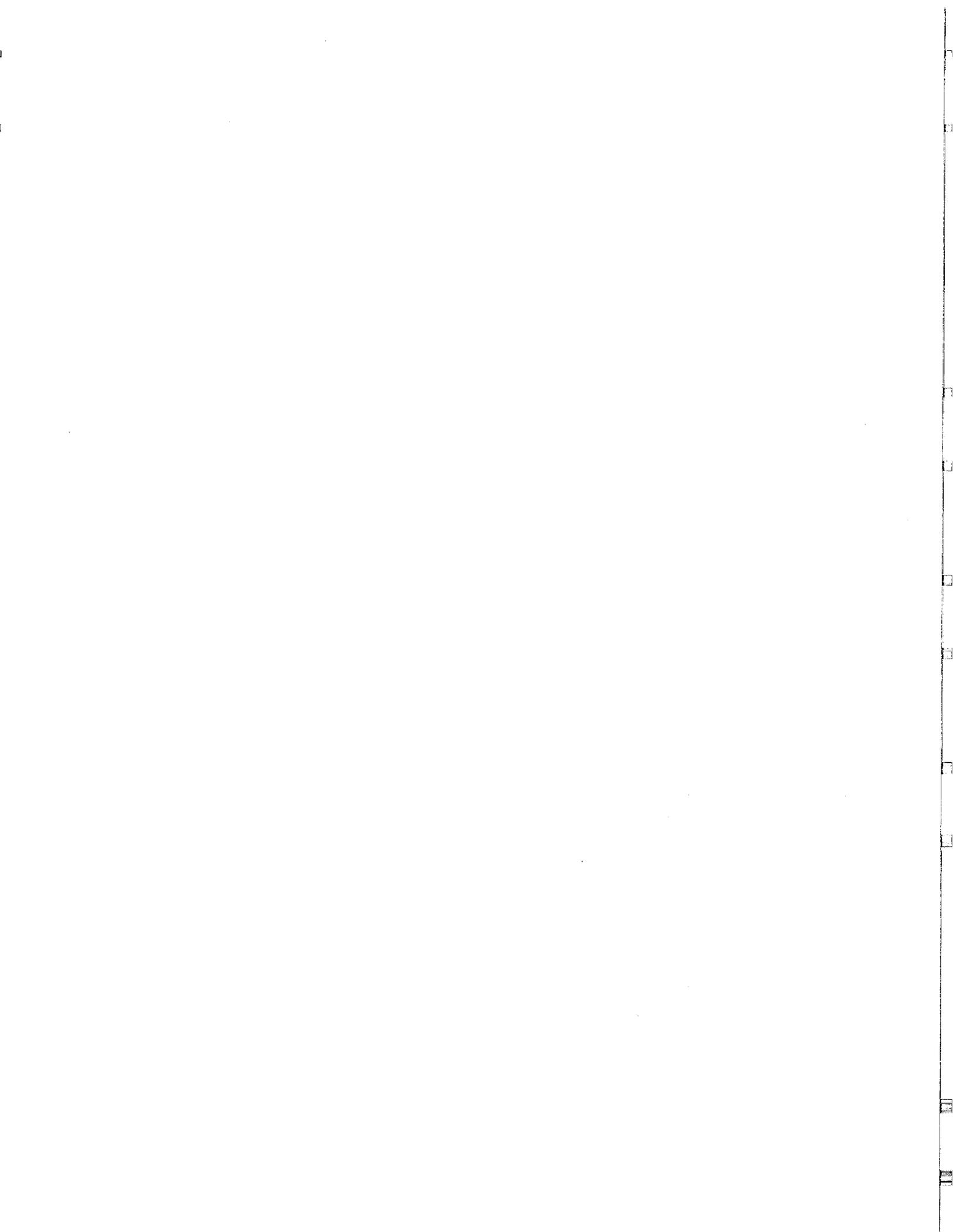
Main Campus, Lawrence
College of Health Sciences and Hospital, Kansas City and Wichita



University of Kansas
College of Health Sciences and
Hospital

RESPONSE TO MANAGEMENT AUDIT -
Selected Support Services at the
University of Kansas Medical Center

Submitted to
State of Kansas
Legislative Division of Post Audit
January 19, 1976



INTRODUCTION

The administrative staff of the University of Kansas Medical Center, under the direction of the Chancellor of the University, has carefully reviewed the Management Audit draft of Selected Support Services at the University of Kansas Medical Center, submitted on December 31, 1975. We view this report as a propitious effort on behalf of the Legislative Post Audit Committee's audit staff and wish to express our appreciation for their valuable observations and constructive recommendations.

In an effort to provide the most effective management procedures and control, the Chancellor of the University of Kansas has instituted a reorganization of administrative responsibilities at the University of Kansas, including the University of Kansas Medical Center, established a Budget Review Committee, and is considering retaining the services of a nationally known, certified public accounting firm to conduct a management study at the University of Kansas Medical Center.

The reorganization was developed to draw a closer association between the administrative staffs of both the University of Kansas and the University of Kansas Medical Center, and by this measure to provide for a more unified administrative operation and control. Primary among the several units involved in this reorganization are the support services which are now consolidated for both campuses under one administrator.

The Budget Review Committee has a threefold role:

1. It is the sole point of input for real or potential financial problems.
2. It is the sole decision making body relating to change in the budget, subject to the Chancellor's approval.
3. It is the sole point of disseminating solutions to budget problems.

Committee membership includes the Chancellor and those administrative officials of the University and the College of Health Sciences and Hospital whose duties and responsibilities involve faculty, students, patient services, and all related financing. The Committee meets regularly, with formal sessions on a weekly basis to assure the tightest control possible on Medical Center expenditures.

The proposed management study by an outside consulting firm will include analysis and evaluation of organization, systems, and administration throughout the hospital and its supporting services. Special attention will be given to program effectiveness, as well as efficiency and suggestions for improvements will be made.

The Chancellor's reorganization, our implementation of the Management Audit recommendations, the proposed outside management survey, and the Budget Review Committee's activities are all evidence of our dedication to improving the management of the University of Kansas Medical Center. However, it must be emphasized that meaningful results can only be achieved through well-planned and deliberate processes. The recommendations of the Legislative Post Audit Staff have reinforced our commitment to excellence and it is in this spirit that we submit our response to the Management Audit.

DIETARY

RECOMMENDATION #1 - "The Dietetics Department should improve its management and control by establishing measurable objectives and maintaining adequate performance records for the Departments, for each Cost Center, and for employees, and by budgeting and allocating expenses to appropriate departments and Cost Center."

The need for a sound set of formal goals and measurable objectives is recognized. The benefits of planning and controlling a department through the use of goals and objectives can be enormous. For this reason, the delineation of measurable goals and objectives will be a high priority assignment for the Dietetics and Nutrition management staff during 1976.

The reference to "maintaining adequate performance records for the department, for each Cost Center, and for employees", was discussed during our initial contact with the Audit Team. Admittedly, we have a number of departmental performance standards that have not been reduced to writing and others that can be found in various departmental manuals. The recommendation has obvious value to the department and we shall prepare a departmental performance document by collecting pertinent standards in existing manuals and writing additional new ones.

The brief reference to maintaining adequate employee performance records is not entirely clear. If the recommendation refers to maintaining and documenting employee performance on a periodic basis, it is already met. We have in the past, and continue to document this information on each employee, i.e., performance evaluations, changes in status, promotions, records of warning and disciplinary action. Currently, the Dietary Inservice Director is developing a more detailed performance evaluation form to supplement the existing Personnel Evaluation Form (DA 226).

The recommendation to budget and allocate expenses to appropriate departments is theoretically a valid point. The Department of Dietetics and Nutrition has a separate cost number for dietetics and a separate number for nutrition. However, these numbers are not used for the purpose of separating the department into two (2) departments, but rather they are used to identify department sections. The cost allocation system was designed as a management tool. The six (6) cost centers identified in the Management Audit were developed to attach budget responsibility for section

supervisors in the Department of Dietetics and Nutrition. We agree that costs are ultimately identified as personnel food service and patient food service, but the responsibility for food production, dietary administration, dietary education, and support services (unallocated salaries) can be controlled internally if they are segregated into individual cost centers.

The attempt to isolate service from education is theoretically sound, however, service and education are closely integrated in this department, so that the isolation of these two (2) functions is impractical if not impossible. For example, it is not feasible to identify the portion of time that an individual dietician is providing to education while she is writing the master menu and instructing a student at the same time. Further, the portion of service provided by a student while learning to adopt the master menu to an individual patient's needs cannot be separated as an educational cost.

RECOMMENDATION #2 - "The Medical Center should reduce expenditures in the Dietetics Department. A program of cost reductions should be initiated with consideration given to the following possibilities: installation of centralized tray service or 'freeze' food concept in the existing facility; greater use of part-time personnel; use of nursing service personnel for patient tray distribution; greater use of convenience food items; and shortened cafeteria hours."

In the plans for the new clinical facility, a centralized food service department and frozen food concept has been planned and will be implemented. At this time, it is not feasible to develop such a concept in the existing facility. We realize that a centralized system may reduce staffing requirements and improve productivity, but with the impending completion of the new clinical facility, it is not logical to make the additional capital investments to convert the system in the existing facility. To make a conversion to this system the initial capital investment, not including construction costs, would be approximately \$290,600.

One Blast Freezer	\$120,000
One Roll-In Refrigerator	18,000
One Conveyor Belt	7,600
Twenty-five Patient Tray Carts	25,000
Ten Galleys (to reconstitute the food on the patient units)	<u>120,000</u>
TOTAL	\$290,600

Use of more part-time people is an appropriate recommendation. Plans for this were developed two (2) years ago and implementation is proceeding as attrition occurs.

The use of nursing service personnel to deliver trays is a solution that some other institutions have elected to use, but it really only transfers a dietary responsibility onto another department. Further, the state job descriptions for nursing personnel do not include the passing of dietary trays to the patient, nor does it seem logical that the salary cost of delivering the tray to the patient would be reduced if the responsibility were delegated to nursing service personnel. Most importantly, our nursing services are critically understaffed and all available nursing personnel are fully occupied in patient care activities.

The use of convenience foods is a method of shifting labor costs to materials costs. The practice has been considered and implemented where units of labor could be replaced by foods of known nutritional content and the buying system could assure maintenance of nutritional quality. We will continue and expand the use of convenience foods.

From time to time an adjustment in the cafeteria hours has been discussed. The Medical Center administration has considered the hours of the cafeteria to be a benefit for employees. Because of the lack of a wage differential, the evening employees are provided with this benefit to make the benefits to the evening employee equal to those of the day employees. During the night shift, the cafeteria is staffed by only one employee.

RECOMMENDATION #3 - "The Medical Center should take the actions necessary to recover costs in the cafeteria as directed by K.A.R. 1-19-4, including combination of price adjustments and cost reductions."

In calculating the expense data for the Management Audit, the auditors used the same methodology that was used in the Medicare Cost Reports, which were prepared by the financial staff of the Medical Center. The common food and salary costs were separated by this methodology and were used as a base for calculating the ratios of meals served to cafeteria patrons and to patients. This method of allocation was also used by the financial staff of the Medical Center in the Medicare Cost Reports for the period July 1, 1966 through June 30, 1974.

It must be remembered that the Medicare Cost Report is a report of significant dollar magnitude. In its preparation, the Medical Center uses

PHYSICAL PLANT SERVICES

Physical Plant Department

Of the 162 authorized positions in the Physical Plant Department, an average of 10% were unfilled throughout fiscal year 1975.

The new hospital facility presently under construction will provide 338 new hospital beds, total replacement of intensive care patient units surgical operating rooms, maternity delivery rooms, central sterile supply department, and emergency care unit. The administrative staff of the Medical Center fully concurs in the audit findings of inadequate temperature control, unattractive and inadequate lighting, inadequate ventilation, and general dingy conditions of many patient care areas. The new hospital facilities (to be available in two (2) years) will alleviate most of these conditions. One significant element which has contributed to the unattractive and dingy wall paint conditions is a result of the required use of Kansas prison industry paint at the Medical Center. There have been improvements in the quality of the products during the last two (2) years.

Management Information

AUDIT RECOMMENDATION - "Physical Plant Management should develop and utilize adequate records, reports, and other information to support management planning, control and operations."

The "New Work Cost Summary" and "The Maintenance Cost Summary" reports currently in use by the Physical Plant Management definitely require further refinement with tighter controls for accurate input. As reported by the auditors, the manpower and material job cards must and will be completed more accurately in the future. This procedure will receive priority attention. Additional training of the section foremen and clerks must be accomplished to assure the reliability of these reports.

A facility planning section within the Physical Plant Department has been reidentified and the staff has been consolidated under a Planning Division for the total University of Kansas. This reorganization will consolidate the resources for this important function of facility use and planning and increase the capabilities for service.

Physical Plant Department Policies and Procedures

AUDIT RECOMMENDATION - "The Physical Plant Department should initiate policies and procedures which will efficiently and effectively control the activities of the Department. These should include: 1) establishing work schedules; 2) developing performance measures for employees; 3) improving control over work requests and shop materials; and 4) improving project supervision."

Control of Work Requests

As recommended, additional and prompt attention will be given to the control of work requests and records of completion. Limitations of office staff and the competence of foremen for record keeping has caused special difficulties in these efforts. The work request file will be redesigned to maintain an up-to-date work request file and telephone work requests will be reconciled to the control ledger.

Control of Materials and Supplies

As recommended, the shop levels of materials and supplies will be promptly evaluated to reduce these inventories to bare minimums. A complete inventory of shop materials will be included and effective control measures will be strengthened.

Control of Employees

Adequate supervision of manpower at the work project level is a serious deficiency which will receive immediate and continuing attention. Efforts have been made to more effectively assign supervisory responsibilities with only limited success. The day to day supervisory functions at the work project level are primarily conducted by the several section foremen. This is not adequate. Efforts to upgrade several classifications of supervisory personnel to attract more capable supervisory personnel have not been successful to date. Only one Building Construction Superintendent is available for overall project supervision.

Weekly work project status reports will be improved to reflect performance measurements of the various tasks in comparison with the project cost estimates and time allocations.

The establishment of more rigid work schedules will be given serious attention. Procedures for inspection of the completion status of work assignment will be reinforced with more reliable documentation.

In making comparisons with other hospitals through statistical data such as physical plant service manhours per 1000 square feet of space, it is important to evaluate the scope of physical plant services provided. Many hospitals contract with commercial contractors for remodeling and improvements to the physical plant. At the Medical Center, this type of work is generally accomplished through physical plant personnel. The decision to provide this scope of work with Medical Center personnel has been

based upon careful consideration for expediting the required work and special concern for economy of costs. Our labor costs are substantially less than commercial contractor rates.

HOUSEKEEPING DEPARTMENT

Comparative Analysis

The audit findings confirm that the housekeeping manhours and costs at the Medical Center compared favorably with other hospitals. According to five (5) other compared university hospitals, only one reported less salary expenses per 1000 square feet than the Medical Center. Only one compared hospital (the same hospital) reported less manhours per 1000 square feet of floor space than the Medical Center. The audit findings revealed that the Medical Center salary expense per 1000 square feet of floor space is \$428 less than the average expense at other hospitals surveyed. The manhour usage at the Medical Center is 123 hours less than the average manhour usage per 1000 square feet at other institutions. Further, the audit findings reveal that the average manhour usage per 1000 square feet is generally less than the average of other national teaching hospitals. The square feet assigned per worker compared favorably with other hospitals. The performance measures reviewed seemed to indicate that the Housekeeping Department of the Medical Center is operating efficiently relative to the five (5) compared teaching hospitals.

The question is respectfully raised whether the audit findings truly reflect favorable circumstances. It more likely reveals inadequate manpower levels to maintain quality housekeeping services at the Medical Center.

Management and Control Practices

AUDIT RECOMMENDATION - "Management should initiate several changes in control practices: 1) establishing measurable objectives and written records of performance; 2) preparing a housekeeping manual; and 3) improving supervision by establishing standards of cleanliness for all areas of the Medical Center and providing a systematic way to evaluate cleanliness."

Performance measures necessary to assess the efficiency and effectiveness of the Housekeeping Department will be fully developed and utilized. Check lists for supervisory inspection will be more fully utilized. Regularly scheduled room inspections will be increased in frequency and thoroughness.

Inadequate supervisory capability is the most serious deficiency in the management of housekeeping services at the Medical Center. One Executive Housekeeper II, three Custodial Supervisors II, and eighteen Custodial Supervisors I provide the total day to day custodial worker supervision.

These are inadequate in number. Further, the classifications are so extremely limited in qualification requirements and salary levels that qualified supervisory personnel cannot be successfully recruited or retained. The Custodial Supervisor I salary range is only 15% higher than the Custodial Worker. The Custodial Supervisor II salary range is 20% higher than the Custodial Supervisor I. More Custodial Worker II classifications are urgently required to enable recruitment of more qualified first line supervisory personnel. Housekeeping service of almost one million square feet of building space requires a scattered assignment of Custodial Workers. Continuous supervision is required to insure work performance and thoroughness of cleaning procedures.

A housekeeping technique instruction manual is utilized for training workers. First line supervisory training sessions are conducted periodically throughout each year. Excessive turnover of housekeeping personnel due to inadequate salary opportunities, physical disabilities and advanced age are continuous handicaps to successful training accomplishments.

A departmental manual which includes instructions for supervisory personnel, standards of performance, and responsibilities of the department will be more fully developed. A time schedule for performance of various tasks will also be undertaken.

Systematic and regular bacteriological cultures are taken in patient care areas, operating and treatment rooms on a periodic basis to evaluate the levels of sanitation and cleanliness at the Medical Center. An Infection Control Committee of the Medical Staff, Nursing and Housekeeping members continually monitor these findings. We believe these evaluation procedures do provide a basis for measuring compliance with cleanliness standards.

LAUNDRY SERVICE

Management Control System

AUDIT RECOMMENDATION - "Formal management control practices should be instituted in the Laundry Department. These should include: 1) establishing measurable objectives and accurate records of performance for all employees; and 2) preparing a laundry policy and procedure manual."

— The above recommendations are carefully noted. More formal management control practices will be developed and implemented. Currently, all employees are evaluated on an annual basis through the Kansas Personnel Division Employee Evaluation procedure. If an employee is probationary or is performing in a marginal manner, special evaluations are made at 60 day intervals until the status of the employee is improved or terminated. Required levels of performance are considered when assigning personnel to specific duties. Such examples of measurements of performance as pounds of linen washed per hour and the number of linen items pressed per hour are utilized.

The preparation of a laundry policy and procedure manual will be carefully considered and undertaken.

Contracted Linen Services

AUDIT RECOMMENDATION - "Work should begin immediately on identifying the best alternative for handling laundry in the future. A primary concern should be to determine staff requirements for each alternative developed, including the current one. This should be completed well in advance of the expiration date of the current laundry contract (November 30, 1977)."

The basic alternatives include:

- 1. Contracting for all (100 percent) laundry services.*
- 2. Doing all laundry "in-house", or*
- 3. Contracting for a portion of laundry services with the balance done "in-house".*

All three basic alternatives were carefully considered by the management of the Medical Center. Alternate No. 3 seemed to have the greatest number of advantages and the least significant disadvantages.

As reported in the audit, laundry service is the first major Medical Center support service for which a contract has been established. Since the laundry service contract is with a modern facility owned and operated by Kansas City area hospitals as a non-profit organization, it appeared advantageous in terms of quality and cost. The Medical Center laundry facility is crowded, obsolete and inadequate to meet the Medical Center

requirements as they presently exist and hopelessly inadequate for the new expanding Medical Center facilities.

To convert a major service such as laundry for the Medical Center from an "in-house" service to a contract service requires a transition period of approximately 12 months. The authorized laundry staff of 69 positions had to be evaluated, transferred and/or terminated. The costs considered by the audit staff included the costs during this termination period. The cost reductions associated with personnel reductions had not yet been realized.

Careful analysis of the manpower requirements to meet the laundry service functions within the Medical Center following the transition to contract service shows a need for 32 positions. These employees are required to receive and distribute the clean linen throughout the Medical Center; collect, transport, weigh and ship the soiled linen; maintain a daily inventory of clean linen; maintain records of linen utilization; repair and replace linen; and monitor and control use and loss of linen. The complement of 32 positions is also considered to be adequate for the expanded hospital facilities if the improved linen transportation system becomes available.

The auditors took special note of a laundry management consultant's report which was issued in 1970. This consultant's study was conducted without cost to the Medical Center; was a study that was not thorough or comprehensive and was performed by a consultant to the community hospital laundry which was then under consideration for development and construction. We believe the consultant's findings were particularly slanted to favor the recommendation that a community hospital joint laundry would produce economies and efficiencies for all hospitals in this community. The consultant's findings were further based on the presumption that the Medical Center would be an incorporating member of the community hospital laundry, instead of a contracting hospital. Due to these circumstances, we feel the auditors placed undue and unwarranted significance to this laundry management consultant's report of 1970. As an example, it is clearly unrealistic to presume that 6 employees could ever provide the above listed functions which are essential to provide linen service within the Medical Center.

We do not concur that providing all laundry services "in-house" at the Medical Center is a viable basic alternative unless there is a willingness to invest an estimated \$1,800,000 in capital expenditures for a new laundry. We do not recommend this because it is excessively costly and unnecessary. Neither do we concur that contracting for 100% (all) laundry support services is a viable basic alternative. The risk of work stoppage or temporary shut-down of the community hospital is too great to rely upon this source for total laundry service.

Because of the highly sophisticated nature of our tertiary care programs, we have special surgical drapes and other operating room linens which require separate laundering here. These special items are not accepted by the contract laundry. We feel that it is economically sound, more reliable, and essential that the Medical Center continue a very limited laundry facility for the above reasons. Further, it is highly desirable, if not essential, for the Medical Center to continue to provide laundry service of work uniforms for certain categories of its employees to maintain standards of cleanliness and appearance. We feel this can best be provided by "in-house" service and more economically as well.

Effectiveness of the Laundry Department

AUDIT RECOMMENDATION - "The Laundry Department should maintain records of linen distribution to each nursing station. This record should be used to develop a true usage standard for all major linen items. 2. Action should be taken by Medical Center administration to insure that linen is properly laundered and available in adequate amounts."

The above two audit recommendations are carefully noted. A standard of major linen items is being developed for each using station. A portable linen cart is being provided to each using station to transport this daily issue of linen items. An exchange cart procedure is being implemented to expedite delivery to the patient areas.

Because of variable demand requirements for clean linen on nights and weekends, we are providing sufficient inventory of clean linen to maintain a one day supply available in storage for immediate use as necessary.

The quality of the laundering service is being monitored daily to identify improperly laundered sheets. Measures are being taken by the contract laundry to eliminate this circumstance.

PURCHASING

Management and Control

AUDIT RECOMMENDATION - "The Purchasing Department should take the initiative in setting operational objectives, developing performance measures, and generating information useful to management and operating departments regarding the purchasing function."

We recognize the need to set operational objectives, to develop performance measures, and to generate useful management information. Currently, two university staff auditors are assisting the Purchasing Department staff in the development of inventory control procedures and management reports.

Our efforts to develop management information systems and performance measures have been limited because of the State salary classification levels for Purchasing Department personnel and the use of computer applications in processing purchasing information. The State salary levels limit our abilities to recruit and retain qualified personnel. Further, we are currently in the process of developing computer applications to increase our effectiveness in reporting management information for the Purchasing Department.

AUDIT RECOMMENDATION - "The Medical Center purchasing officials should endeavor to reduce the number of small dollar amount purchases through consideration of the following alternatives: encourage departments to order in large quantities; increase the number of items on contract; and seek to raise the \$200 limit on direct purchases, especially for research expenditures."

We concur with this recommendation and believe that we can reduce the volume of small dollar purchases significantly. However, because of the nature of the items purchased for patients and research activities, there will continue to be a sizeable number of one-time, small dollar purchases. For example, the Medical Center administers approximately 500 active research and training grants annually. Because each of these grants are individually awarded and controlled, it is impractical to assume that much consolidation can occur in the purchasing function. Each grant is administered by individual staff personnel who are individually responsible for that particular grant.

Further, for the past two years, unstable market prices have resulted in reductions in the number of purchases under contract. The State Purchasing Division has discontinued renewal of contracts in many areas and has reduced the terms of other contracts from one year to six or three months. Many

supplemental contracts have been awarded when no acceptable bids were received for one "major" contract. We have dedicated ourselves to doing everything possible to reduce the number of small dollar purchases.

AUDIT RECOMMENDATION - "The Purchasing Department should review order processing procedures with special attention devoted to adopting labor saving methods for routine tasks."

We concur with the Audit Team's recommendations and will study the order processing procedures to adopt any labor saving methods that we can perform.

Purchasing Options

AUDIT RECOMMENDATION #1 - "Procedures for formal quality review of all products prior to a contract award should assure complete coverage and the review of non-contract items should be improved."

AUDIT RECOMMENDATION #2 - "The Purchasing Department should expand its efforts to improve competitiveness and lower prices by actively seeking substitute products, new supply sources and promoting the use of performance specifications."

AUDIT RECOMMENDATION #3 - "A system should be established whereby it is assured that bids are sought on direct purchases and the results documented in a regular fashion."

The comments and recommendations made by the Audit Team regarding purchasing options and contracts coincide with the standards and quality assurance measures established and maintained by the Medical Center's Material Standards Committee. Specifications are described for all contract items and catalog-type descriptions are used on all orders with less than 20% of the order descriptions specifying proprietary (brand) names. In some cases, the item description is followed by one or more manufacturers' names and product identification numbers. Normally, a manufacturer's name and/or brand is specified to insure quality type and identification. In the bidding instructions, it is explained that the brands listed are those which have been used previously or approved for use at the Medical Center. Invitations for alternates are solicited, however, alternates must be comparable (equal or superior) to the item specified and the manufacturer is required to provide samples of the alternate product(s).

Orders from departments are, in fact, rejected by the Medical Center's Purchasing Department if the description of the item is too restrictive to elicit competition.

AUDIT RECOMMENDATION - "The property inventory system should be completely reviewed and modified to assure timely and accurate recording of all acquisitions at the Medical Center. This should be accomplished prior to occupying the new Basic Science Facility and Clinical Facility.

We concur with the comments regarding inventory control. Efforts are currently underway to obtain all necessary documentation from the Kansas University Endowment Association to physically inventory and account for equipment purchased from funds administered by that Association.

In addition, we are in the process of reviewing and modifying the inventory control system to assure timely and accurate recording of all acquisitions.

Currently, the Property Accounting Office is staffed by one Accountant I and one Clerk II. We will be seeking additional support personnel for this office through appropriate channels as soon as possible.

A P P E N D I C E S

Exhibit A - Reclassification of Dietary Expense

Exhibit B - Revised Table II-3, Cafeteria Revenue and Expense

PERIOD FROM 7/01/74 TO 6/30/75

PROVIDER NO.: HOSPITAL 17-0040

RECLASSIFICATION OF DIETARY EXPENSE

PART I - RECLASSIFICATION OF EXPENSES

DESCRIPTION	TOTAL EXPENSES (FROM WKST A, COL 3 LINE AS INDICATED)	ANALYSIS OF DIETARY EXPENSES	TOTAL (SUM OF COLS 1 & 2)	ALLOCATION OF TOTAL UNIDENTIFIED DIETARY EXPENSES	
				RATIO	AMOUNT
1 Dietary From Worksheet A, col 3, line 10		\$ 2,304,507			
2 Identified Expenses (1)					
3 Cafeteria	(line 1)	\$ 663,443	\$ 663,443	.7247	COL 3, LINE 2 * COL 3, LINE 6 COL 4, LINE 2 * COL 2, LINE 7 \$ 994,705
4 Nursery	(line 5)	252,134	252,134	.2753	COL 3, LINE 3 * COL 3, LINE 6 COL 4, LINE 3 * COL 2, LINE 7 377,869
5 TOTAL (Sum of lines 2-5)		\$ 915,577	\$ 915,577	1.0000	\$ 915,577
6 Unidentified Dietary Expenses (line 1 minus line 6)		\$ 1,372,574			

PART II - TRANSFER OF RECLASSIFIED EXPENSES

ITEM	AMOUNT
1 Cafeteria (line 3, sum of columns 2 and 5) (Add on Worksheet A, column 4, line 11)	\$ 630,003
2 Nursery (line 4, sum of columns 2 and 5) (Add on Worksheet A, column 4, line 51)	N/A
3 (line 5, sum of columns 2 and 5) (Add on Worksheet A, column 4, line as appropriate)	
4 TOTAL (Sum of lines 1-3) (Deduct on Worksheet A, column 4, line 10)	\$ 630,003

These amounts must be specifically identifiable in the accounting records or by analysis.

Include in the dietary cost center all activities served directly from the dietary department; e.g., hospital inpatients, skilled nursing facility inpatients. If no cafeteria exists and employees and student nurses are served meals directly from the dietary department, costs for these items should be included in the dietary cost center and allocated to the proper departments on Worksheet B.

THE UNIVERSITY OF KANSAS COLLEGE OF HEALTH SCIENCES AND HOSPITAL

Revised Table II-3
Cafeteria Revenue & Expense

	<u>Revenue</u>	<u>Expense</u>	<u>Estimated Loss (a)</u>
FY 1975	\$ 481,058	\$630,003	\$148,945
FY 1974	392,437	515,269	122,832
FY 1973	351,338	448,804	97,466
FY 1972	326,447	426,930	100,483
FY 1971	250,257	407,850	157,593
FY 1970	263,343	383,184	119,841

Note (a) - The estimated losses in this table correspond to the estimated losses reflected in Table II-3 page 12 of the Management Audit Report. The losses reflected in this table do not include revenues received from third party sources which, if applied, would offset a part or all of the losses. For example, in fiscal year 1974, the estimated loss would have been offset by approximately \$153,500 received from third party sources.

Source - Calculated by Medical Center accounting staff from the fiscal year 1975 Medicare Cost Report using the accumulated cost basis as prescribed by Federal Cost Reporting Regulation.

STATE OF KANSAS

Department of  Administration

Division of Purchases

STATE OFFICE BUILDING—TOPEKA 66612

M E M O

TO: Mr. Richard E. Brown, Legislative Post Auditor

FROM: Henry H. Knouft, Director of Purchases

DATE: January 21, 1976

RE: Special Report - Selected Support Services - KUMC

The Division of Purchases respectfully acknowledges the considerable effort which obviously went into preparation of the Legislative Post-Audit of the University of Kansas Medical Center for fiscal year 1975. The tone and quality of findings in the report indicate a very professional endeavor.

We do feel, however, that certain portions of Section V in the report, and more particularly that portion of Section V entitled "Contract Purchases", represents perhaps an unintentional oversimplification of what is in fact a very, very complicated problem.

Writing of specifications (and item descriptions) is at best an imprecise science, even for those who engage in it as a profession. To adequately describe in written form that with which one is intimately familiar, sufficient to afford commercial purchase, is often difficult if not impossible for the uninitiated. The description of a scalpel, for instance, has many facets. Is it steel or alloy? How long is it in centimeters? What does it weigh in grams? Is it silver, chrome or stainless? What is the technical name for its particular cutting edge? What type grip is to be specified, etc.?

In the absence of such technical information (and such is not normally immediately available to the user of products), the surgeon must turn to a time-honored method of describing the item by "brand name or other approved". This method of purchase is used extensively in the Federal Government and all of the fifty states, even though the Federal Government maintains item description cards on more than a million individual items. While a technical item description would no doubt assure the greatest possible competitive environment, the use of commercial brand names to establish desired characteristics has long been recognized as the best alternative method.

In the various annual contracts bid each year for the Medical Center, there are 2,900 different or differing items. Many of the items contained in these contracts have community usage in other agencies and institutions. Responsibility for the evolution of these products for suitability rests with the Standards Committee at the Medical Center--comprised of physicians, purchasing people, administrators and nursing staff. Since the availability of warehousing space is severely limited, often the unit of packaging determines the suitability of a given item. If this consideration tends to limit or restrict competition, the obvious alternative is the investment in more adequate storage space.

Even the purchase of an item as simply described as a blood dispersion kit sometimes defies the rules of competition. For many years the Blood Banks in Kansas have used Fenwall Laboratory (a division of Travenal, Inc.) blood collection kits. While there are a number of competitive manufacturers of blood dispersion kits, only the orifice of the Fenwall dispersion kit will fit the Fenwall collection kit and thus the Medical Center is in fact tied to the Fenwall product. Repeated attempts by the Medical Center personnel, at the request of the Division of Purchases, to negotiate a change of product with the Blood Bank personnel have met with failure. The Blood Banks are satisfied with their product and are not bound to the same competitive rules as the Medical Center.

Although classic techniques of purchasing be employed--item descriptions used and performance specified, competition sought and achieved and award made to the low, responsible, responsive bidder--many factors can come into play which make repurchase of the item somewhat less than classic. If the item is, for example, x-ray film and the low bidder is Kodak, when bids are let in a subsequent year and 3M film is the low bid, it may be unacceptable for very valid reasons even though it is in every respect a technical "equal" to the Kodak product. Training will have been brought to bear on use of the Kodak product in the ensuing period and the radiologist and technicians will have become "used" to reading that particular product. Had 3M been low bidder on the initial purchase, it would have proven equally acceptable; i. e., the people working with it would have learned to use it. However, there is a difference in resolution between various brands of x-ray pictures and change of brands dictates a certain amount of relearning. Unfortunately, this relearning is often accomplished to the endangerment of the patient. For chronic cases, progress of the disease is frequently a matter of comparing the subtle differences in subsequent series of studies. Often, when film brands are changed, the difference in resolution is just enough that the radiologist isn't "sure". He does not take a chance that all is well, so he orders another series of x-ray, possibly, though necessarily, exposing his patient to additional radiation hazard that might not have otherwise occurred had he continued with a familiar product.

Ultimately, whether it be x-ray film, auto sutures, scalpels, pulse generators, lung oxygenators--whatever--the decision of what product to use on what patient must rest heavily with the person directly responsible for the patient's care and well being. How many of us would be willing to undergo open-heart surgery knowing the pulse generator to be installed was purchased from the lowest bidder but with which the doctor was not familiar?

This is a rather lengthy discussion of a point we are trying to make; namely, performance specifications are always highly desirable and we write many but when medical problems and lives are involved, many times the best method we can use is a brand name or other approved.