

FACTORS INFLUENCING FOODSERVICE COSTS
IN ADULT CARE HOMES

by 1050 710

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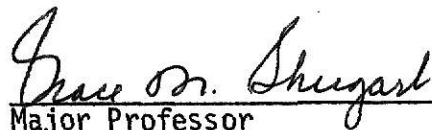
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INTRODUCTION

Food and labor costs are the two major operating expenditures of an adult care home operation. Controlling food costs and at the same time providing attractive, nutritionally adequate meals are goals of any dietary department (1-4). Regardless of the size of operation there are certain basic management techniques related to control of foodservice costs (5). Policies and procedures for control of cost must be established for effective financial management. The objective of this project was to study foodservice costs and related management practices of adult care homes in Kansas. Of particular interest to the study was the influence of certain management policies and procedures on the financial management of the foodservice department.

Foodservice systems of adult care homes vary from home kitchen-type operations to quite sophisticated organizations. For most homes, it is a common practice to employ a local homemaker to manage the dietary department because of her reputation as a good cook. Often she has had no opportunity for special training and little thought is given to her management competencies (6-8).

Sound managerial decisions that control food costs should be made in a systematic way from well kept, meaningful records. Adequate planning must be done to meet the needs of the residents and those of the facility. Judicious purchasing procedures and efficient food production are essential for controlling food costs. These aspects of adult care home foodservice management were studied within the context of this study. Literature reviewed relevant to the study included the following topics: cost control, food and labor cost, menu planning, and purchasing and production policies and procedures.

REVIEW OF LITERATURE

Cost Control

Food Cost Control and Cost Control Systems

Success of a foodservice operation depends largely on the ability of the manager to control costs (8). Raw food costs are a major expense in the dietary department budget of a health care facility (8,9). These costs must be controlled from the time the supplies are received until the food is prepared and served (9).

Martency et al. (11) estimated that ten to fifteen per cent of the budget of a fifty bed nursing home is spent for food. For example, if a resident pays \$400 per month in a 100-bed home, the total income is \$480,000 and the budget for food is \$48,000.

According to Lane (12), administrators need to realize that managing the foodservice of an adult care home is a substantial business and needs to be managed with the finesse of a commercial operation. When revenues fail to cover expenditures, it may not be possible to increase the residents' cost of care to provide funds for the additional expenses (5). A number of authorities stressed that costs must be managed, not merely reacted to when over-expenditures occur (12,13). Effective systems provide current cost information and procedures for necessary corrective measures (14).

An adequate and accurate record keeping system is the acknowledged beginning point for effective management of food costs (5,15-17). Records should include raw food costs, labor and maintenance costs, planned menus and modifications, purchase orders, inventories, meals served, and production records. Brodner, Carlson, and Maschal (18) stated that a complete food cost

control system includes controls in all functional areas: purchasing, receiving, storing, issuing, production, inventory, and sales. Written records enable management to assign costs to certain periods of time, denote responsibility, and facilitate comparisons. Powell (5) emphasized that cost control is achieved by effective controls in daily operations. She considered cycle menus, standardized recipes, daily forecast of number to be fed, cost of food issued to preparation centers, potential budgeted cost for the day, and actual daily costs as the essential statistics, tools, and records.

Parks (8) listed five reasons for daily food cost accounting: to furnish information to management concerning daily operations, to arrive at accurate costs to be used in establishing the price of meals, to standardize the cost of recipes, to give data for preparing budgets, and to secure better financial reports. If substantial deviation from expected operations occur, the reasons can be traced through adequate written records (5,15-17). Califano (14) stated that there is no foodservice operation that cannot benefit in some way from a standard system of records for food cost control.

A survey of hospitals, which represented all areas of the United States, indicated a general lack of cost control in foodservice departments (19). Results demonstrated that little is known about the actual operating costs other than raw food costs. In some hospitals the payroll amount was known, but in others the foodservice statistics were not maintained separately from the hospitals' entire payroll. Inadequate record-keeping systems for cost control have been noted in other hospitals and adult care homes (7,20-22).

Food Costs in Hospitals and Adult Care Homes

Reported information indicates there is considerable variation in the raw food cost per patient day. Raw food costs varied from \$0.90 to \$1.05 per patient day in a survey in 1970 of several nursing homes and a large hospital in Minnesota (23). A big-city hospital had average raw food costs of \$1.75-\$1.85 per patient day in 1972 (24). Gavazzi and McGuire (25) reported that the total cost per meal in a Veterans Administration Hospital in Washington, D.C., was \$1.30 in May, 1971, and \$1.32 in October, 1970. A nursing home in Illinois had total foodservice costs of \$2.85 per patient day in 1969 (26). The John F. Kennedy Memorial Hospital in Philadelphia reported a total per meal cost of \$1.21 in 1970 (27). The 1970 average raw food cost per person per day for adult care homes in New York state was \$1.07 (28). In 1972, Peddersen (29) reported that a 201-bed New York hospital had an average daily per person cost of \$1.83 for raw food and \$2.20 for labor, or a total of \$4.03 per patient day. In 1970-1971, St. John's Hospital, St. Paul, Minnesota, had a total cost per patient day of \$5.50 (30).

Data from a study of midwestern hospitals revealed food costs were generally lower in institutions with a patient census in excess of 1000 per day (19). Improved accuracy and consistency in cost accounting systems were recommendations of this survey.

An administrator of an 800 bed hospital in New York estimated that the total foodservice budget in 1972 was approximately \$3 million annually and accounted for five to six per cent of the total hospital budget (31). Compared to a commercial operation of comparable size, this amount would equal a sales volume of over \$188,000 per month. Regional variations, geographic location, institutional size and type of services are among

factors affecting costs; however, management effectiveness is also a key factor in foodservice cost control.

The continued rapid increase of costs in recent years places an even greater emphasis on cost and quality control of the foodservice. In view of rapidly changing markets and increasing prices of food products, management and cost control of foodservice operations in all health care facilities is crucial. For example, the United States Department of Agriculture (32) stated that the all-food wholesale price index during the third quarter of 1973 averaged twenty-five per cent higher than 1972. Wholesale farm prices in 1973 were almost fifty-three per cent above 1972 and grocery store food prices of 1973 averaged 15-17 per cent above those of 1972 (32).

Labor Costs, Staffing Patterns, and Productivity

The number of employees needed in a dietary department is dependent on several factors (33). Differences in productivity rates are influenced by the number of people served, where they are served (dining room or rooms), kind of equipment used, and type of food used (33). Forty to fifty per cent efficiency ratings are recorded for typical foodservice employees (34). Research on labor time in hospitals since 1955 has not indicated a trend toward an increase in productivity (35).

To serve 130-145 meals three times a day, Rodenborn (36) found that fourteen full-time and eight part-time employees were needed. The full-time employees worked 672 hours a week and a total of 788.5 hours were worked by all employees. A similar number of workers were reported by other authors. Pieper (37) stated that thirteen full-time equivalents were needed for a 100-bed nursing home. One part-time and thirteen full-time employees served

eighty-three residents in a dining room setting and seventeen residents requiring room service in an adult care facility studied by Stamm (38). Meal service required twelve minutes of total labor per meal served in the dining room, or five meals per man hour. From a survey of 118 hospitals in 1969, Kotschevar, Owens, and Saylor (38) determined that the productivity rate varied from 3.9-25.3 meals per man hour with an average of 11.6 meals. In a later study, Kotschevar (40) estimated that five meals were produced per labor hour in nursing homes and related facilities and hospital foodservice produced slightly less than three meals per man hour.

The U.S. Public Health service has prepared the following estimates in regard to dietary personnel required in small hospitals (100 beds or less) (41):

<u>Beds</u>	<u>25</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>75</u>	<u>90</u>	<u>100</u>
Employees	4	5	6	7	8	10	11	12

Staffing patterns varied widely in small institutions surveyed by Hagwood (42) and Vaden (7). Vaden's (7) results showed the following staffing ranges for small hospitals in West Texas:

<u>Beds</u>	<u>18-25</u>	<u>30-40</u>	<u>46-50</u>	<u>51-60</u>	<u>61-75</u>	<u>76-90</u>
Employees (Full-time equivalents)	2.7-6.0	5.2-9.1	6.0-10.8	7.1-12.5	7.1-8.0	7.0

Small hospitals and nursing homes in Kansas reported the number of persons employed in institutions of 40 beds or less varied from one to ten; whereas, in the institution with forty-sixty beds, the number ranged from four to fifteen (42).

Supervision of Foodservices

Cabot (43) expressed the opinion that the most pressing problem of the dietary department of adult care homes is employment and retention of a capable foodservice supervisor or cook-manager. A capable manager is needed to provide quality food at an acceptable cost. Getty and Hollensworth (44) stated approximately seventy per cent of the hospitals with more than 100 beds and forty per cent of the hospitals with less than 100 beds employ foodservice supervisors to augment the services of a full time, part-time, or consultant dietitian. In adult care homes of less than 100 beds, supervisors usually have been designated as responsible for the supervision of the foodservice and often are directly responsible to the administrator (45). In many nursing homes the use of a foodservice supervisor in combination with the regularly scheduled consultation of a dietitian has fulfilled the requirements of Health Insurance for the Aged Program, Title XVIII, popularly called Medicare, and has provided professional dietary management within feasible budget limits (46).

Reports indicate more qualified dietitians are being employed to supervise the foodservice of health care facilities today than in previous years. Only three of 410 nursing homes used the services of a qualified dietitian in a 1960 study in Indiana (22). Sixteen of the homes were participating in a nutrition consultation program. Less than five per cent of the foodservices were being supervised by a qualified person. A 1957-1958 survey of 152 hospitals in Minnesota showed that twenty-two per cent employed dietitians (20). Results of a 1964 survey conducted by The American Dietetic Association indicated that 12.9 per cent of the hospitals under fifty beds had dietitians directing the foodservice (47). Dietitians supervised the

dietary department in 36.0 per cent of the 50-99 bed hospitals. Institutions located in areas of low population density have difficulty in securing services of a professional dietitian. For example, Vaden (7) found that only four per cent of the qualified dietitians lived in the thirty-nine counties of 10,000 or less which were included in her survey of dietitians in sixty-five West Texas counties. Two of the twenty-three small hospitals in her interview survey hired a dietitian.

After the adoption of Medicare, forty-three of the sixty-four responding facilities (64.6 per cent) surveyed by Hagwood (42) in 1971, stated that they hired a full-time, part-time, or a consulting dietitian. The following supervisory patterns of hospitals and nursing homes were reported in 1972 (48).

<u>Beds</u>	<u>49 or less</u>	<u>50-99</u>	<u>100-199</u>	<u>Total</u>
Foodservice managed by:				
Cook-Manager	10	3	0	13
ADA Dietitian	30	35	47	179

Direction of the dietary department of 104 Kansas hospitals was studied by Biggs (49) in 1973. Institutional size was a significant factor in employment of professional dietitians. Dietitians were employed more often in larger institutions. Overall, fifty per cent of the foodservices were managed by an ADA dietitian (31.7 per cent) or a home economics graduate (18.3 per cent).

Menu Planning

Meal Plan

The menu is the basic management tool for any foodservice organization (1,50). Cost control of purchasing, labor, and equipment needs are influenced by the menu (50).

For several years much interest has been shown in the five meal a day plan as contrasted to the traditional three meals a day. The five meal plan consists of two full meals, a brunch and dinner, and three lighter meals or snacks (51). These lighter meals are served about 7 A.M., 1 P.M., and 8 or 9 P.M. Some institutions have changed to the five meal a day plan in an effort to reduce labor costs. Reports varied concerning the cost of the three meal plan in comparison with the five meals a day plan. Lane (52) suggested that there was no difference in cost, if both were well managed. Hagberg (53) cited slightly less per meal cost with the five meal a day plan at a 195-bed facility which adopted the plan in 1967. Comparative per meal costs listed were \$0.3417 for the five meal plan and \$0.3447 for the three meal plan.

A hospital in New York reported disposable expense increased by about 20 per cent for the five meal plan (54). Rapp (55) found that salaries and wage expenses decreased with the five meal plan; paper goods, general supplies, and miscellaneous expenses increased. Raw food costs increased slightly. He stated that when all factors were considered the five meal plan was costing the hospital considerably more than the three meal plan. According to a survey conducted by The Modern Hospital less than five per cent of the reporting institutions had changed from the three meal to five meal plan (55).

Cycle Menus

The trend in institutional meal planning has been the increased use of cycle or rotating menus because of their many advantages (1). Hubbard, Sharp, and Grant (56) define cycle menus as a set of carefully planned menus which are rotated according to a definite pattern. Many factors influence the length of the cycle, but three to five weeks usually appear to be the most satisfactory (1).

The use of cycle menus can contribute to foodservice cost management through standardization which is facilitated in purchasing, production, and staff controls (5,57,58). Training is easier with a cycle menu system because employees can become more familiar with the work to be done than with constantly changing menus (56,57). Cycle menus can be more costly, however, if not changed to incorporate seasonal foods (56). Stinnett (59) suggested a shorter cycle menu helps to control costs more effectively than a longer cycle because lower inventories are required.

Employment of professionally trained dietitians to direct the foodservice in a health care facility appears to influence the use of cycle menus. Little or no advanced menu planning was done in almost half of the hospitals surveyed in Minnesota (20). Menus were planned by the week in one-fourth of the hospitals. In hospitals where dietitians or home economists were employed menus were planned two weeks in advance or cycle menus were used. Length of menu cycles varied from two to seven weeks. Jolin and McKinley (6) reported cycle menus were used in fifty-nine per cent of the hospitals they studied. Eighteen per cent of the small hospitals in West Texas used cycle menus (7).

An increased number of hospitals and adult care homes used a cycle menu system in recent studies by Hagwood (42) and Biggs (49). Hagwood (42)

found that 86.2 per cent of the facilities surveyed used cycle menus. Most of the cycle menus (fifty-eight per cent) were two to three weeks in length. One-third were from four to five weeks. In Bigg's (49) study 85.2 per cent of the hospitals indicated they were using cycle menus. A majority of the hospitals (51.1 per cent) were using the two to three week cycle length. The four to five week cycle was used by 35.9 per cent of the hospitals.

Frequent review of menus is recommended to correlate the current cycle with price fluctuations and to take advantage of lower market prices (15). Nutritionally similar items that are currently lower in price can be substituted for the planned more expensive ones.

Modified Diets

Statistics indicate the ratio of modified diets to total meals served in nursing homes varies widely (from seventeen per cent to fifty per cent) (60,61). Most modified diets can be prepared from regular inventory items. Special foods which are more expensive may have to be purchased for sodium restricted diets. Concepts in the diet therapy for diabetes have changed considerably in the last few years. Planning of diabetic diets from regularly stocked food items is recommended (62). Caso (62) emphasized that speciality foods are not required for diabetic patients. These foods often are expensive and the information on the package may be misleading (62).

Purchasing, Inventory, and Production Controls

Policies and Procedures Related to Cost Control

Purchasing policies affect both food and labor costs (10,63). Proper purchasing procedures provide an operation with the products most suited to the needs of the nursing home at the most economical price possible (64).

Responsibility for purchasing in adult care homes and small hospitals varies with local conditions. Basic factors that influence operational purchasing policies and procedures are location of the facility, number of residents, number and skill of the employees, and type and quality of food needed (15,64,65). Purchasing procedures and policies also are controlled by present inventory and available storage space (66,67). Major conditions that affect purchasing decisions are the availability and price of foods, state of the economy, and reliability of vendors in regard to services and products (15,63,65,67).

Several authorities stressed the importance of price and quality comparisons between vendors as a cost control factor (15,17,63,67). The American Hospital Association (15) recommends obtaining bids from at least three vendors for small orders and more, if possible, for larger ones. Unless a nursing home is very small, Proud (66) suggested procurement of meat, eggs, and fresh produce from at least two vendors. Brodner, Carlson, and Maschal (18) emphasized the importance of competitive buying and standard specification for purchase of non-perishable stock items. These controls contribute not only to quality assurance but also to effective financial management (15,17,65,66).

Establishment of regular schedules for purchases has been recommended for nursing home food and supply procurement (66,67). Both wholesalers and

retailers often provide better service and sometimes lower prices when orders are placed at definite times and deliveries can be scheduled in advance (66). Written records and charts facilitate cost and quality comparisons (15,17, 65,66).

Sources of Supply

Major sources of supplies available to nursing homes are: wholesale food houses, manufacturers and packers, local farmers and producers, municipal markets, cooperative associations, and retail food stores (64). Wholesale food houses are the most common purveyors of food for most operations. Baltz (68) suggested that small nursing homes can benefit also by quantity buying from wholesalers. Many manufacturers and packers, such as ice cream plants, bakeries, or meat packers will sell directly to the user (64). Although some buyers believe prices will be lower if purchases are made directly from the dealer to eliminate the middleman, this is not always true. The alert buyer should obtain prices from all sources available and compare costs of individual food items. Local markets may provide a source for eggs and for seasonal fresh fruits and vegetables at reasonable prices for some operations. Within recent years cooperative associations have become increasingly important in the wholesale field. Competitive prices on farm and dairy products may be available from these distributors (64).

Retail food stores generally are not recommended for institutional buying, except for emergencies. They are geared to sell to the retail trade; and even though some stores offer price reductions to institutions the food buyer usually can obtain better prices elsewhere (64). Small institutions often are located in fairly non-competitive market areas and as a result the buyer may have relatively few sources of supply. This situation requires

that he be knowledgeable and alert to quality, prices, and services available to select the best purveyor (57). Lofquist et al. (20) found that hospitals with less than thirty beds purchased most of their food from the retail market in the local community. The administrators realized it would be possible to purchase food more economically, but purchases were made from area retail merchants to satisfy local interests and to maintain good public relations. In her West Texas study of small hospitals, Vaden (7) found that the good will approach of local retail purchasing to promote community relations was quite common. Respondents indicated that thirty-eight per cent of the hospitals purchased food and supplies from retail markets in the local community (7).

Baltz (68) stressed that buying from local sources is advisable only if the prices are competitive. Zaccarelli (63) warned that buying on the basis of friendship is one of the common purchasing faults. Lofquist's et al. (20) survey also indicated that meat was purchased from retail stores by sixty-three per cent of the hospitals. Almost one-third of the hospitals bought meat by the whole carcass or other primal cuts (20). Reports from a survey of adult care homes in New York State showed that three-fourths of the respondents purchased meat from the local butcher (66). The remaining one-fourth bought meat from a wholesaler (66). Vaden (7) stated that fifty-five per cent of the hospitals in her study bought carcass beef or other primal cuts and had the meat fabricated for use.

Cabot (69) advises against purchase of carcass beef unless the buyer carefully specifies the finished retail cuts. If the home has meat fabricated for use, a comparison of the cost per pound and serving should be made with other available sources (69).

An experienced purchase may be able to negotiate year-end discounts and special rates (68). The American Hospital Association recommends that institutions investigate the merits and accessibility of discount purchasing available through some vendors (15).

Purchasing Responsibility

According to the American Hospital Association, purchasing is more efficient and economical when it is done by the person managing the food service department who is familiar with the market conditions (15,64). Food purchasing was the responsibility of the cook-manager or foodservice supervisor in forty-five per cent (68 out of 152) of the hospitals surveyed in Minnesota (20). Dietitians purchased food in one-half (17 of 34) of the hospitals that hired a dietitian (20). The foodservice supervisor or the cook-manager in charge of foodservice purchased food in thirteen of the twenty-two small hospitals studied in West Texas (7). Spears (21), a former consultant for small hospitals and nursing homes, related that quite often the purchasing for these institutions is done by someone unfamiliar with the dietary department.

Projection of Inventory Requirements

Several authors emphasized the importance of planning and then buying only according to those needs (15,16,63). Baltz (68) and Kelley (57) recommended that procurement time be correlated with the cycle menu. If ample storage space is available, substantial savings may be possible when staple goods are purchased by case lots (68). Although the price reduction per case is nominal, sizeable total savings can result (63). Jose (70), a California nursing home administrator, believes purchasing through quantity buying is one of the two principal factors in saving money.

Computation of the correct quantities of food to be purchased for planned menus is determined by the number and size of serving portions required for each item on the menu (15). The food purchaser should also be familiar with the number of servings or yield from standard purchase units (15).

Without adequate planning and a system of records, purchasing can become haphazard and wasteful. Spears (21) found that purchasing was usually done first and then the menus were planned from the available inventory. Routine purchase orders need to be periodically checked and updated.

Type and Quality of Food Purchased

Food may be purchased in many stages of preparation (71). The buyer can select from a variety of fresh ingredients, frozen ingredients, frozen mixtures of ingredients, dried or canned ingredients, or chilled finished products ready for heat reconstitution (71). The challenge for the planner is to select the combination of available food to yield a high quality product within the budget limitations (71). For economy, Proud (66) urges selecting the grade of food purchased according to its use. Both Cabot (69) and Zaccarelli (63) stated that purchasing only top items is unnecessary and extravagant.

Although price often is a good indicator of the best buy, other considerations such as quality and quantity must be made (17,21,63). Sometimes the item that costs the least is actually the most expensive (17,21,63).

Grade differences of canned fruits and vegetables are based primarily on appearance (66). For fruit sauces, fruit cups, gelatin mixtures, pies and puddings, grades lower than top grades are usually acceptable (66). Vegetables in the lower grades are more mature and less uniform in size, color,

and tenderness (66). These products may be acceptable for some uses, however, such as soups or stews. In general frozen vegetables and fruits are more expensive than canned ones (66).

Lane (12) has observed in her consulting work that many cooks prefer whole milk for cooking when non-fat dry milk could be used equally as well. Non-fat dry milk supplies basically the same nutrients as whole milk at a much lower cost (12). Lane (12) also recommends that non-fat dry milk be used as a substitution for whole milk in hot cocoa. Besides being more economical, non-fat, dry milk solids can be stored at room temperature (66).

Cabot (72) recommended that the homes buy food in the largest container that can reasonably be used without waste. She suggests purchasing such items as Worcestershire sauce, catsup, pickles, jellies, olives, and relishes in large quantities and refill them into smaller containers as needed.

Use of Convenience Foods

Cabot (72) and Lane (73), both consultants for adult care homes, believe labor saving concepts should be held in proper perspective. According to their experiences, there is a tendency in nursing home food-service departments to overemphasize the value of convenience food products as cost controllers. Convenience food products may not be economical products unless their purchase has been justified by reduced labor or food cost (72,73). Because most nursing homes maintain at least a basic staff of foodservice employees, it is essential that they make the best possible use of their working time (73). Many nursing home consultants realize that often there are a few hours of foodservice labor time not effectively utilized (73).

Hartman (74) stated that if productive labor hours are being wasted in the dietary department then consideration should be given to utilizing the skills of these employees to prepare individual servings rather than purchasing portion ready foods. Because many foodservice employees work straight shifts, there may be an overlap of several hours in the early afternoon when employees can preportion jellies, catsup, salad dressings and condiments (74).

Harder (75) reported disappointing results of a total system of convenience foods in a Minneapolis hospital. Cost analysis showed that convenience entrees, salads, and desserts were increasing the cost per meal from \$0.37-\$0.43 (75). To justify use, five full-time equivalent cook positions would have to be eliminated. Kotschevar (40) has found that the use of new market forms of foods, which reduce considerably the preparation and production time, has caused an average increase of five per cent in food costs and an average of ten per cent lower labor costs.

Marshall (10) a nursing home consultant, stated that some convenience food items cost less than the same item made from a recipe and yield a good product; for example, some soups or dehydrated potatoes. She stressed the importance of comparative evaluations of cost per serving and quality among the different food items. To simplify accurate food cost analysis, Cabot (76) urges use of cost per ounce in relation to the ratio of meat to total volume in assessment of convenience entrees.

Storage Space

The amount of storage space needed depends upon the type of operation, menus, volume of business, purchasing policies, frequency of deliveries, distance from markets, and other similar factors (77). A universal complaint

about food supply storerooms is that the area or space is too small (31). Birchfield (78) recommended, however, that storeroom space and refrigeration space be kept to a minimum. Limited storage areas can aid in control of accumulation of food in primary production areas (78). Smith (79) suggested that a nursing home storeroom should maintain an inventory of staple goods for a minimum of one week and supplies of perishable foods for a minimum of two days.

Production Control

Brodner, Carlson, and Maschal (18) stated that left-over items or over-production often means the difference between profit and loss in a commercial foodservice operation. Lane (80) estimated that four or five servings are a permissible margin of safety per 100 servings of food produced.

Substantial costs are associated with both under- and over-production (18,81). Powell (5) and Reel (17) advised that food production records, including the amount of left-overs, be kept on all food items produced. According to Powell (5) this procedure establishes responsibility for food production, minimizes under- or over-production, and serves as an aid to cost control.

A judgment by management must be made to determine the standards of foodservice in relation to costs (82). This policy may necessitate a compromise between costs and service which can only be made if management is knowledgeable about the cost of its foodservice and the acceptance of those being served (82). However, Marshall (10) believes the administration of health care homes can save more money by proper purchasing and management than by planning "low cost" menus.

METHODOLOGY

Two instruments were developed for distribution to adult care homes in Kansas (N=455) to collect data concerning record-keeping, foodservice expenses, and related management practices (Appendixes A and B). The executive secretary of the Kansas Nursing Home Association and a nursing home administrator were consulted in the design of the research. They advised that the use of two short questionnaires written in lay terminology would elicit better responses than one longer questionnaire. The letterhead stationery of the Kansas Nursing Home Association was used for the cover letters which accompanied the instruments to encourage reply (Appendix C). The study was presented as a project which would provide useful information for nursing homes in Kansas and it was emphasized that the researcher was not an inspector.

The first instrument relating to costs and staffing patterns was developed with the assistance of a graduate accountant who had had experience with nursing home surveys and financial management. The second instrument pertained to foodservice management techniques and procedures which might affect food costs. Purchasing practices were of particular interest. Before mailing, questionnaires and correspondence were reviewed by three Kansas State University faculty from the Department of Institutional Management and the two nursing home representatives.

The cover letter accompanying the cost instrument included a brief discussion of the study, instructions for completing the survey, and a statement encouraging response. The second questionnaire inquiring about management techniques was mailed two weeks following the initial mailing.

Correspondence with this mailing was designed to serve as a follow-up of the initial questionnaire.

Questionnaires were mailed from and returned to the Kansas Nursing Home Association office. A stamped, self-addressed envelope was included in each mailing to encourage response. Forty-one per cent of the management surveys (N=187) and 20.9 per cent of the cost questionnaires (N=95) were returned (Appendix D). All questionnaires were used in data analysis; however, responses were incomplete on some items. Returns from the cost questionnaires indicated that 91.6 per cent (87 of 95) had been completed by the administrator of the home. Co-administrators, dietitians, or foodservice supervisors completed the remaining 8.5 per cent.

In-depth interviews were conducted at eleven homes in northeast Kansas to provide an on-site evaluation of foodservices. The adult care homes for inclusion in the interview survey were selected with the assistance of the nursing home association executive to provide contrasts in size and in management techniques. Interviews were conducted during a two month period in the spring of 1972 at the convenience of the home. A copy of the interview guide is included in Appendix E.

Interviews were conducted with two administrators and one supervisor of three personal care homes, a 17-bed, a 24-bed, and a 90-bed facility. Skilled nursing homes included three facilities, 48-, 50-, and 54-beds; two homes had 100-beds. Two of the three extended care facilities were 100-bed facilities and the other, 91-beds. Homes were located in cities and rural areas. Three homes were in a city with a population of 125,000; three homes were in towns with populations of 28,000 and 46,000; three homes were in towns with populations of 2500 and 4300. Two of the homes were in small towns with populations of 700 and 1200.

Responses from the two mail questionnaires were coded and punched on computer cards for analysis by electronic data processing (Appendix F). A summary of comments and responses to open ended questions is included in Appendix G. Frequency distributions and means were computed and the chi square test of independence was used to study relationships. Analysis of variance was used to analyze effects of various factors on per patient raw food costs and per patient total costs.

RESULTS AND DISCUSSION

General Information

The adult care homes were grouped by size and by the classification terminology¹ at the time of the surveys. Classifications were (83): boarding home, personal care home, skilled nursing home, and federal skilled nursing home (extended care facility). A boarding home provided meals and living-in facilities with no nursing care. Personal care homes provided simple nursing care, not necessarily by a professional person. Skilled nursing care performed by a professional person was provided by skilled nursing homes. Federal skilled nursing homes or extended care facilities were those receiving federal monies under Health Insurance for the Aged programs, Title XVIII, Medicare, and Title XIX, Medicaid (83). Size was determined by the number of beds: 1- to 25-beds, 26- to 50-beds, 51- to 75-beds, 76- to 100-beds, and 101-beds and over. Because of the small number of homes over 100 beds, the latter two categories were collapsed for analysis of data. Table 1 details distribution of homes among the size and type categories for both phases of the mail survey.

Adult Care Home Staffing Patterns

Forty-three per cent (40 of 94) of the homes responding employed a dietitian, either full-time, part-time, or as a consultant. Hours worked per week by the dietitian varied from one to twelve hours; the mean was 2.8. Conditions of participation for federal skilled homes indicate a dietitian

¹Classifications for types of adult care homes were redefined in 1972, effective July 1, 1973 (84).

Table 1: Sizes and types of adult care homes in the study

size of home	number of homes	per cent of homes by size	type of home			
			boarding home (N=5)	personal care home (N=96)	skilled nursing home (N=88)	federal skilled home (N=10)
			%	%	%	%
all homes	199	100	2.5	48.2	44.2	5.0
25 beds or less	42	21.1	9.5	81.0	9.5	0.0
26-50 beds	89	44.7	1.1	44.9	51.7	2.2
51-75 beds	30	15.1	0.0	63.3	33.3	3.3
76-100 beds	28	14.1	0.0	7.1	82.1	10.7
101 beds and over	10	5.0	0.0	10.0	50.0	40.0

should be employed at least eight hours per month (46). Sixteen of the dietitians (61.5 per cent) were paid on an hourly basis; ten (38.5 per cent) on a monthly basis. The mean hourly rate was \$11.23.

The number of foodservice employees in relation to the size of the home was studied (Table 2). Part-time employees were designated as those who worked thirty hours or less per week. A significant relationship was found between the number of full-time employees and size of home. The wide variations in staffing patterns were notable; for example, the number of full-time foodservice workers in the large homes varied from two to fourteen.

There was a small variation in hourly wage rates for part-time and full-time employees. Mean hourly wage for part-time employees was \$1.64 and for full-time employees, \$1.73. Most of the part-time and full-time workers were paid on an hourly basis.

Experience, background, and training of foodservice employees were investigated during the interviews. Five of the eleven homes hired workers who had had previous experience. Most of these employees had worked in

school foodservices; some for restaurants or college foodservices. In three of the homes the administrator or the wife of the administrator assisted with or supervised meal preparation. Seven of the eleven homes reported limited employee turnover, except for retirement or movement from the community. The other four homes indicated employee turnover was a problem.

Table 2: Number of employees in relation to size of home

size of home	number of homes	number of part-time employees		
		minimum	maximum	mean ¹
25 beds or less	10	1.0	3.0	1.6 ± 0.7
26-50 beds	31	1.0	8.0	2.7 ± 1.7
51-75 beds	12	1.0	10.0	3.8 ± 2.7
76 beds and over	21	1.0	9.0	3.8 ± 2.4

size of home	number of homes	number of full-time employees		
		minimum	maximum	mean ¹
25 beds or less	15	1.0	3.0	1.8 ± 0.8
26-50 beds	37	1.0	6.0	3.2 ± 1.5
51-75 beds	15	1.0	6.0	3.2 ± 1.4
76 beds and over	23	2.0	14.0	6.4 ± 2.8

¹Mean and standard deviation

Foodservice workers employed in homes in the interview sample were largely from rural backgrounds (9 of 11 homes). Only one home employed dietary workers with primarily urban backgrounds. The other home employed personnel from both urban and rural areas.

In homes employing a dietitian inservice sessions were the primary mode of training, although four homes reported personnel had attended outside

training programs. Because all personnel were needed for meal preparation, administrators found it difficult to arrange for them to attend meetings for several days.

A dietitian was employed in six of the eleven homes; however, dietitians were not employed in three skilled nursing homes. Two personal care homes did not have the services of a dietitian. The smallest personal care home (17 beds) was a family operation and the dietitian was one of the family members.

Record Systems and Foodservice Costs

Record Systems

Complete cost records were reported by 70.5 per cent (67 of 95) of the nursing homes. Fairly adequate records were maintained by 27.4 per cent (26 of 95) of the homes. Records were an in- and out-cash flow for the remaining 2.1 per cent (2 of 95).

Administrators of two of the eleven homes interviewed used monthly records as a management control tool. At one, the administrator was a graduate accountant; and at the other home, a full-time bookkeeper was employed. Records were maintained primarily for tax purposes in the remaining nine homes. In four homes a bookkeeper recorded income and expenses on an up-to-date basis; however, no feedback was provided for operational adjustments. The administrator was also the owner in three of the homes, but records were not used as a control measure. The type of record system was not a significant factor in per patient food cost or per patient total cost.

Foodservice Costs

Costs varied widely for food, labor, and supplies in all the size categories of homes (Table 3). Differences in recording procedures may explain some of the data; however, management practices also would be probable causes.

Table 3: Foodservice costs by size of home

type of cost	size of home			
	25 beds or less (N=13)	26-50 beds (N=30)	51-75 beds (N=13)	76 beds or over (N=20)
raw food cost				
minimum	\$ 150.00	\$ 720.00	\$1007.00	\$2114.00
maximum	1026.00	2047.00	1877.00	4652.00
mean	495.31	1222.30	1519.31	2963.30
labor cost				
minimum	289.00	471.00	846.00	1497.00
maximum	1440.00	3053.00	2203.00	6089.00
mean	735.00	1326.47	1371.08	2940.78
supply cost				
minimum	15.00	9.00	10.00	36.00
maximum	100.00	974.00	191.00	451.00
mean	39.50	105.82	66.00	169.75
total cost				
minimum	636.00	1316.00	1899.00	2864.00
maximum	2110.00	6944.00	4272.00	10978.00
mean	1311.40	2702.27	2955.33	5943.31

As expected, a significant relationship was found between size of home and total raw food costs ($P < 0.001$). Middle-sized homes with bed sizes of 26- to 50 beds and 51- to 75 beds had significantly higher mean raw food costs than homes with 25 beds or less. Homes with 76 beds and over had

significantly higher mean raw food costs than the two middle-sized categories. Interestingly, there was no significant difference in the mean total raw food cost in the 26- to 50 beds and 51- to 75 beds categories.

Labor costs were significantly higher for the largest size homes (76 beds and over) than for the smaller categories ($P < 0.001$). Supply costs varied more widely than food or labor costs; however, items included in the supply category may have differed greatly from home to home. Mean supply costs did not differ significantly among the four size categories.

To provide a common base for analysis of costs among size and type of home categories, per patient total foodservice costs and per patient raw food costs were computed (Table 4). The small homes (25 beds or less) had a significantly higher mean per patient raw food cost than the middle sized homes (26- to 50 beds or 51- to 75 beds). Mean per patient total foodservice costs were significantly higher for small homes (25 beds or less) than for any other size groupings. The type of home significantly influenced per patient total cost, although there was no significant difference in per patient raw food cost. Boarding homes reported the highest mean per patient total cost; however, these homes were primarily in the small size category also (Table 1). Employment of a dietitian did not significantly affect per patient foodservice costs.

Meal Plan and Type of Diets

The three meal plan was used by 93.3 per cent (166 of 178) of the homes; only 6.0 per cent of the homes reported using the five meal plan. there was no significant relationship between the type of meal plan and per patient foodservice costs.

Table 4: Per patient foodservice costs by size and type of home

breakdown of data	N	per patient raw food cost			per patient total foodservice cost		
		minimum	maximum	mean ¹	minimum	maximum	mean
all homes	80	\$0.65	\$1.51	\$0.96 ± 0.20	\$1.12	\$4.06	\$1.97 ± 0.52
size of home							
25 beds or less	13	0.71	1.51	1.13 ± 0.25	1.88	4.06	2.76 ± 0.70
26-50 beds	31	0.65	1.39	0.94 ± 0.19*	1.30	2.50	1.84 ± 0.29*
51-75 beds	15	0.70	1.38	0.88 ± 0.17	1.33	3.10	1.78 ± 0.43*
76 beds and over	21	0.70	1.36	0.95 ± 0.16	1.12	2.79	1.88 ± 0.39
type of home							
boarding home	2	\$0.83	\$1.40	\$1.12 ± 0.40	\$2.73	\$3.42	\$3.08 ± 0.49*
personal care home	34	0.65	1.51	0.97 ± 0.23	1.12	4.06	2.02 ± 0.64*
skilled nursing home	36	0.70	1.39	0.95 ± 0.18	1.29	2.79	1.87 ± 0.35
federal skilled home	8	0.78	1.04	0.93 ± 0.10	1.60	2.47	1.94 ± 0.35

¹Mean and standard deviation

*Significant at or beyond the .05 level

The small homes (25 beds or less) tended to use shorter cycle menus than the larger homes (Table 5). A one-week repeating menu was the most frequently reported length of menu plan used in these homes.

Table 5: Length of cycle menu

	N	1 week	10 days- 2 weeks	3-4 weeks	other	chi square
		%	%	%	%	
size of home						
25 beds or less	37	51.4	8.1	24.3	16.2	
26-50 beds	82	25.6	1.2	63.4	9.8	
51-75 beds	25	36.0	12.0	44.0	8.0	
76 beds and over	32	15.6	3.1	53.1	28.1	28.92***
dietitian on staff						
yes	30	6.7	6.7	60.0	26.7	
no	42	35.7	4.8	47.6	11.9	8.99*

***Significant at or beyond the .001 level

*Significant at or beyond the .05 level

Homes employing a dietitian tended to use longer cycle menus than those not employing a dietitian (Table 5). Responses classified as other were tabulated manually. Of these, four homes indicated menus from nursing home periodicals were used; fourteen used a five- or six week cycle or longer; and seven indicated cycle menus were not being used. Length of cycle menu did not significantly affect per patient food or per patient total food-service costs.

Respondents were asked to indicate the ratio of residents on modified diets. Approximately half of the homes (50.6 per cent) reported that 10 per cent or less of the residents were on modified diets. Almost

one-third (30.1 per cent) of the homes served modified diets to 11 to 20 per cent of the residents. Sixteen homes (9.6 per cent) served 21 to 30 per cent modified diets; and the remaining homes, over 30 per cent. However, the ratio of modified diets to the total diets served was not significantly related to costs.

In the homes selected for interviews, mechanical soft or blended, sodium restricted, fiber restricted, calorie restricted, bland, and diabetic diets were the most commonly served. One of the personal care homes reported no modified diets. Restricted fat, restricted cholesterol, and liquid diets were among other types of modified diets served in homes in this group.

Although 64.2 per cent (113 of 176) of the homes responding to the management survey always used special diet items and 21.0 per cent purchased special items for modified diets on occasion, use of these items did not significantly increase per patient foodservice costs. Special diet items were not purchased for use with modified diets in 14.8 per cent of the homes.

Purchasing, Inventory, and Production Controls

Purchasing Responsibility

Purchasing responsibility was significantly related to size of home (Table 6). In the small homes (25 beds or less), administrators were either responsible for or assisted with the food purchasing in 97.1 per cent of the homes; whereas, in homes of 76 beds or more, administrators purchased food or assisted with food purchasing in only 35.5 per cent of the homes. Per patient food or per patient total foodservice costs were not significantly related to purchasing responsibility.

Table 6: Person responsible for purchasing food by size of home

size of home	N	cook-manager	foodservice supervisors	admin-istrator	joint responsibility	chi square
		%	%	%	%	
25 beds or less	35	0.0	2.9	80.0	17.1	
26-50 beds	80	32.5	7.5	33.8	26.3	
51-75 beds	26	11.5	23.1	34.6	30.8	
76 beds and over	31	38.7	25.8	9.7	25.8	
all homes	172	23.8	12.2	39.0	25.0	50.47***

***Significant at or beyond the .001 level

Sources of Supply

Sources of supply were studied because many of the adult care homes were in rural or low population areas and may have limited availability of suppliers. It was postulated also that many of the small homes buy a large portion of food from retail outlets and this practice was presumed to adversely affect costs. Food was purchased from retail outlets in 34.7 per cent of the homes (Table 7). Eight homes indicated they purchased no food items from wholesalers. Homes purchasing from retailers reported the following buying patterns: once a week, 30.9 per cent; two or three times a week, 51.9 per cent; three or four times per week, 10.7 per cent; and five or six times per week, 6.9 per cent.

Frequency of retail purchasing was not significantly related to either purchasing responsibility or size of the home. Size of home, however, was significantly related to source of supplies (Table 7). Almost 60 per cent of the small homes purchased over one-half of their food supplies from a local

retailer; whereas, only 18.2 per cent of the large homes (76 beds and over) purchased over 50 per cent of their food from retail sources. Source of the food supply or frequency of purchasing did not significantly affect costs nor was there a significant relationship between the person responsible for purchasing and the source of supplies (retail or wholesale).

Table 7: Size of home and extent of retail purchasing

size of home	N	purchase over 50% from retail	purchase less than 50% from retail	chi square
		%	%	
25 beds or less	37	59.5	40.5	
26-50 beds	80	35.0	65.0	
51-75 beds	26	19.2	80.8	
76 beds and over	33	18.2	81.8	
all homes	176	34.7	65.3	16.74***

***Significant at or beyond the .001 level

About half of the homes (50.3 per cent) used the services of one or two wholesale suppliers; one-third (59 of 177) purchased items from three or four wholesale houses. More than four wholesalers were used by 11.9 per cent of the homes.

Frequency of wholesale purchase was studied also. Once a week orders to wholesalers were placed by 25.8 per cent (42 of 163) of the homes. Purchases were made two or three-times a week by 51.5 per cent of the homes. Orders were placed more than four times a week by four homes. Food was purchased only once or twice a month from wholesalers in the remaining 20.2 per cent of the homes.

Frequency of wholesale purchases was not significantly affected by the size of the homes; whereas, the food purchaser did have a significant effect on the frequency of wholesale purchases (Table 8). The administrators purchased supplies more frequently when purchasing responsibility was shared with a foodservice employee than when working independently.

Table 8: Frequency of wholesale purchases and purchasing responsibility

frequency of purchases	N	cook- manager	foodservice supervisors	admin- istrator	joint responsibility	chi square
		%	%	%	%	
2 or 3 times a week	82	53.8	52.4	40.0	72.2	
4 or 5 times a week	74	46.2	47.6	60.0	27.8	9.40*

*Significant at or beyond the .05 level

Respondents were asked to indicate the source of supplies for canned goods and staples, milk and dairy products, bread, frozen foods, and eggs (Table 9). Wholesalers supplied canned goods and staples, milk and dairy products, bread, and frozen foods in most homes; whereas, eggs were purchased directly from an individual in 62.2 per cent of the homes. Suppliers for canned goods and staples and frozen foods were significantly related to the size of home (Table 10). More small homes (25 beds or less) purchased staples or frozen foods from a retail supplier than did any of the other categories of homes. This finding substantiates the results discussed previously regarding the overall extent of retail and wholesale purchase.

Table 9: Sources of food supplies

type of food	N	wholesale	retail	local individual	2 or more sources
		%	%	%	%
canned goods and staples	169	59.8	10.7	1.2	28.4
milk and dairy products	166	48.2	24.1	11.4	16.3
bread	166	66.9	22.3	8.4	2.4
frozen foods	158	74.1	19.0	2.5	4.4
eggs	164	29.3	6.7	62.2	1.8

Table 10: Source of canned goods, staples, and frozen foods

source of canned good and staples	size of home				chi square
	25 beds or less (N=37)	26-50 beds (N=82)	51-75 beds (N=26)	76 beds and over (N=24)	
	%	%	%	%	
wholesale	27.0	65.9	76.9	70.8	
retail	37.8	7.3	0.0	0.0	
more than 2 sources	35.1	26.8	23.1	29.2	38.32***

source of frozen foods	size of home				chi square
	25 beds or less (N=31)	26-50 beds (N=71)	51-75 beds (N=23)	76 beds and over (N=22)	
	%	%	%	%	
wholesale	48.4	84.5	95.7	90.9	
retail	51.6	15.5	4.3	9.1	25.03***

***Significant at or beyond the .001 level

Type and Quality of Food Purchased

Purchase of food for intended use is a recommended foodservice management practice (63,66,69). In this study only 35.4 per cent (63 of 178) of the homes reported preparation plans were considered when purchasing foods. Fifty-eight of the homes (32.6 per cent) indicated food was purchased according to its use at least sometimes; the remaining homes (32.0 per cent) indicated method of food preparation was never considered when purchasing. Purchasing for intended use did not significantly affect per patient food costs or per patient total foodservice costs. Also, there was no significant relationship between the person responsible for purchasing and buying food for intended use.

Most homes bought foods marketed at reduced sales prices ("specials") at least on occasion; 71.9 per cent (128 of 178) of the homes indicated they always took advantage of special sale items. Only two homes (1.1 per cent) reported they did not buy "specials". Purchasing "specials" did not significantly reduce per patient foodservice costs.

Purchasing responsibility was significantly related to the practice of buying "specials", however. Administrators or administrators and dietary supervisors, jointly, purchased "specials" more frequently than when other personnel were independently responsible for procurement of food (Table 11). All homes reported purchase of food in season at least on occasion. All the homes interviewed purchased both "specials" and seasonal foods.

As indicated previously, many of the nursing homes were located in rural areas and it was supposed sources of supplies were limited. Form of meat purchased was of particular interest because of the possible lack of availability of portion-ready cuts. Homes were asked to report whether

carcass beef was purchased. Seventy-two of the 172 homes reporting (39.6 per cent) indicated carcass beef was purchased regularly and fabricated according to specifications. There was no significant relationship between the practice of purchasing carcass beef and per patient foodservice costs.

Table 11: Purchasing "specials" as related to the person responsible for purchasing

frequency of purchasing "specials"	N	cook- manager	foodservice supervisors	admin- istrator	joint responsibility	chi square
		%	%	%	%	
yes	120	57.5	60.0	79.1	76.2	
sometimes	32	32.5	30.0	7.5	19.0	
not too often	15	7.5	10.0	13.4	2.4	
no	2	2.5	0.0	0.0	2.4	17.79*

*Significant at or beyond the .05 level

Nursing homes were asked to indicate the extent of use of a list of convenience food items frequently used in institutional foodservices (Table 12). Mixes, dehydrated potatoes, prepared salad dressings, powdered nonfat dry milk, individual margarine patties, and fruit juice granules were the most frequently used items.

In the interview survey of the eleven homes, whether or not cost was considered when trying a new product was of interest. Three homes computed costs and six homes sometimes determined costs of new products. One administrator said that he depended on the salesman of the primary supplier. Generally, reordering and purchasing were based on experience of the purchaser.

Table 12: Percentage of adult care homes using selected convenience food items

food items		food items	
	%		%
mixes (cake, bread, other)	84.6	frozen fruit juice	48.9
salad dressings	80.2	instant cereals	44.0
dehydrated potatoes	70.3	canned potatoes	34.1
powdered nonfat dry milk	64.6	individual jellies	29.7
individual margarine		frozen pies	29.7
patties	59.3	canned puddings	24.7
fruit juice granules	56.0	ice cream cups	23.1
		canned stew	10.4

N = 182

Inventory Control

Adequacy of storage was studied in relation to foodservice costs, frequency of wholesale purchase, and extent of retail purchase. Storage was considered completely inadequate in 13 per cent (N = 177) of the homes; 35.6 per cent reported storage was adequate but required planning. Storage was considered adequate or not a problem in 51.4 per cent of the homes. There was no significant relationship between adequacy of storage and per patient foodservice costs. Also, there was no significant relationship between adequacy of storage space and source of supply (over 50 per cent of purchases from retail sources).

Two of the eleven homes in the interview sample did not keep physical inventory records. Both were small homes, 17 beds and 24 beds. Only one home, a 100 bed extended care facility, maintained a perpetual inventory record. Homes were asked to estimate average inventory value. Three could

not provide estimates. Personal care homes tended to have a larger inventory value per patient than skilled nursing homes or federal skilled homes.

Production Control

Correct forecasting and control of food production should be more exact for adult care homes than for some other types of foodservices because the number to be served is almost always known. Of the homes reporting, 55.0 per cent (99 of 180) had no difficulty with overproduction; 35.6 per cent had a normal amount of leftovers; however, overproduction was a problem for 8.9 per cent of the homes. When queried about use of overproduction, 53.6 per cent (97 of 181) of the homes had no problem with utilization, 43.1 per cent of the homes sometimes had difficulty using leftovers; and use of leftovers was difficult for six homes (3.3 per cent). Overproduction did not significantly affect costs.

During the interviews, the dietary supervisors were asked how they managed portion control to prevent overproduction. Six of the homes used Food for Fifty (1) as a guide. Others indicated they had learned from experience. Pan sizes generally seemed to be correct for the number being served. Breaded dishes, stews, and fruits in gelatin were usual methods of utilizing overproduction. One foodservice supervisor said that she was careful to consider the yield of servings for the type of food preparation; for example, from her experience she had learned twenty pounds of potatoes yield more servings when creamed or scalloped than when baked. One administrator said the home never purchased pre-packaged or some types of food items, such as margarine patties, individual jellies, or ice cream cups because the employees were there and individual servings were prepared from bulk items during slack times. Four homes had milk and fruit juice dispensers. Two of

these homes were federal skilled homes, and one was a 100 bed home and one had a milk dispenser serviced by a local dairy.

SUMMARY AND CONCLUSIONS

Food and labor costs are two of the major operating expenditures of an adult care home operation. Controlling food costs and at the same time providing attractive, nutritionally adequate meals are goals of any dietary department. Regardless of the size of operation there are certain basic management techniques related to control of foodservice costs. The purpose of this project was to study foodservice costs and related management practices and procedures which might affect these costs in adult care homes in Kansas. Two questionnaires were mailed to all the 455 nursing home facilities in the state. Forty-one per cent of the management surveys (N = 187) and 20.9 per cent of the cost questionnaires (N = 95) were returned. In addition, in-depth interviews were conducted at eleven homes to provide an on-site evaluation of foodservices.

A variety of factors were studied in relation to per patient food costs and per patient total foodservice costs. These factors included: size of home, type of home, system of bookkeeping, dietitian on the staff, length of cycle menu, type of meal plan, person responsible for purchasing, sources of food supplies (wholesale vs retail purchasing), ratio of modified diets, purchase of special items for modified diets, adequacy of storage facilities, control of overproduction, purchase of food for intended use, and purchase of carcass beef. Size of the home was the only factor significantly related to per patient food cost; however, a significant relationship was found between the size and type of home and the per patient total foodservice costs. However, response to the cost questionnaire was much smaller than response to the management questionnaire (20.9 per cent vs 41.0 per cent). If complete

data were available from all homes studied or if total sample size were larger, additional significant relationships may have been found.

The study indicated that the smaller homes (25 beds or less) had significantly higher per patient raw food costs and per patient total foodservice costs. Those facilities classified as boarding homes had higher per patient total foodservice costs; however, these homes were primarily in the small size category also. Ranges were large for total raw food costs, supply costs, and labor costs within the same category in all size groupings of homes. Differences in recording procedures may explain some of the data; however, management practices also would be probable causes.

Wide variations in staffing patterns were notable; for example, the number of full-time foodservice personnel in the large homes ranged from two to fourteen. Forty-three per cent of the homes responding employed a dietitian, either full-time, part-time or as a consultant.

Length of cycle menu, person responsible for ordering food, frequency of wholesale and retail purchasing, source of food supplies (wholesale vs retail purchasing), and principle source of supplies for major types of food were among management practices studied. Relationships among selected factors also were investigated.

A large percentage of the homes 76 beds and over used a three week or longer menu cycle than did the smaller homes. The small homes used one-week cycle menus most frequently. Cycle menus were used more frequently when a dietitian was on the staff and the cycles tended to be longer than when the home did not retain the services of a dietitian. The three meal plan was the predominant pattern followed; only a small number of homes (6 per cent) used the five meal plan.

Administrators were either responsible for or assisted with the food purchasing in 97.1 per cent of the homes 25 beds or less. Almost 60 per cent of these small homes purchased over one-half of their food supplies from a local retailer; whereas, the large homes (76 beds and over) purchased 81.8 per cent of their supplies from a wholesaler. The small homes also purchased similar proportions of staples and frozen foods from retail merchants and wholesale houses.

Frequency of wholesale purchases was related significantly to responsibility for purchasing. Administrators purchased supplies more frequently when working jointly with a foodservice employee than when working independently. Administrators, or administrators and dietary supervisors jointly, tended to purchase special sale items more frequently than did other personnel responsible for procurement working independently.

In approximately two-thirds of the homes the intended use of the food was considered at least sometimes when purchasing. Carcass beef was purchased regularly in about 40 per cent of the homes. Mixes, dehydrated potatoes, prepared salad dressings, powdered nonfat dry milk, individual margarine patties, and fruit juice granules were the most frequently used convenience items.

Adequate storage was reported by approximately 50 per cent of the homes; whereas, storage was considered completely inadequate in 13 per cent of the homes. Frequency of wholesale purchases or the source of supplies (wholesale vs retail purchasing) was not significantly influenced, however, by the adequacy of storage space. Overproduction generally was not perceived to be a problem in the homes studied.

Results of the project indicate the foodservices in the larger adult care homes generally were managed more efficiently and effectively than those

of the smaller homes in the survey. This was reflected by lower per patient foodservice costs as well as by employment of better management practices. The study also provides some additional evidence of the desirability of professional consultation for nursing home foodservices.

Continuing education concerned with foodservice management should be directed to nursing home foodservice supervisors in an effort to improve functioning of dietary services. In addition, because of the extensiveness of involvement of many administrators, strengthening the foodservice background of these key organizational personnel should be a primary concern of the professional nursing home association. This recommendation is reinforced by the preeminent role of provision of adequate food to the health and well-being of nursing home residents. Finally, it is recommended that additional research related to nursing home foodservices be undertaken to provide a broader data base for making recommendations to the industry.

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APPENDIXES

APPENDIX A
Questionnaire
Expenses and Staffing Patterns

SURVEY OF EXPENSES AND STAFFING PATTERNS
IN KANSAS ADULT CARE HOMES

KITCHEN COST SURVEY

I. Please indicate the size and kind of your Adult Care Home:

1. No. of Beds	Boarding Home	Personal Care Home	Skilled Nursing Home	Federal Skilled Nursing Home
1-25				
26-50				
51-75				
76-100				
100-over				

2. What is position of person filling in questionnaire?

- ☐ administrator
☐ dietitian
☐ food service supervisor or cook-manager
☐ other

3. Which of the following best describes your bookkeeping?

- ☐ complete records by auditor or accounting firm
☐ fairly adequate bookkeeping, primarily for tax purposes
☐ in and out cash flow without detailed accounts

II. KITCHEN COSTS

1. Do you have a dietitian on your staff? Yes _____ No _____.
 If yes; how many hours per week _____.
 Salary for your dietitian per hour _____; or _____.

2. Number of kitchen staff other than dietitian:

- Part time (under 30 hours per week) _____.
 Full time (over 30 hours per week) _____.
 Part time average wage _____ per hour or per month.
 Full time average wage _____ per hour or per month.

3. Number of patient days used in figuring daily raw food costs

For a 10 bed home if all the beds were filled: Total patient days for January would be 310 days.

For Example: If there were 7 patients for 31 days = 217 days and
 Patient A Adm. Jan. 1 = 31 patient days (Jan. 1 through Jan. 31)
 Patient B Adm. Jan. 10 = 22 patient days (Jan. 10 - Jan. 31)
 Patient C Adm. Jan. 11 = 21 patient days (Jan. 11 - Jan. 31)

To get number of patient days: add total days that each patient is in nursing home

Total patient days for example home is 291.

$$217 + (31 + 22 + 21) = 291$$

TOTAL PATIENT DAYS _____.

4. Raw food costs for average month

Raw Food - use only food cost--not supplies, such as soap, dishes, silverware, etc. or labor or utilities.

TOTAL RAW FOOD COSTS \$ _____.

Raw Food Costs divided by total patient days = average food cost per patient per day.

AVERAGE RAW FOOD COSTS \$ _____.
 (Raw food costs/patient days)

5. Kitchen labor and supplies for average month

Salaries \$ _____
 Payroll Tax \$ _____
 Kitchen Supplies \$ _____
 (Soap, dishes, etc.)

TOTAL LABOR AND SUPPLIES \$ _____

6. Total Kitchen Costs for average month

Total raw food cost (No. 4) \$ _____

Total labor and supplies (No. 5) \$ _____

TOTAL KITCHEN COSTS \$ _____

AVERAGE KITCHEN COST PER PATIENT DAY \$ _____
 (Total kitchen costs/no. patient days)

REMARKS:

 Name of Facility

 Person completing survey

APPENDIX B

Questionnaire

Management Practices and Procedures

SURVEY OF MANAGEMENT PRACTICES AND
PROCEDURES IN KANSAS ADULT CARE HOMES

KITCHEN MANAGEMENT SURVEY

Please indicate the answer that best describes your home.

1. The cycle menus we use are for:
☐ 1 week
☐ 10 days to 2 weeks
☐ 3 to 4 weeks
☐ other, please explain
2. What type meal plan do you use?
☐ 3 meal a day
☐ 5 meal a day
3. Who usually plans and orders groceries?
☐ cook-manager (kitchen manager)
☐ food service supervisor
☐ administrator
☐ dietitian
☐ other, please explain
4. About how many times a week do you buy groceries (canned goods, frozen foods, staples) other than bread and dairy products?
From wholesalers: From retailers:
☐ 2 or 3 times a week ☐ 2 or 3 times a week
☐ 4 or 5 times a week ☐ 3 or 4 times a week
☐ more than 5 times a week ☐ 5 or 6 times a week
☐ other, please explain ☐ other, please explain
5. From how many wholesalers do you buy groceries?
☐ none
☐ one
☐ two
☐ three
☐ four
☐ more than four
6. Are over half your groceries purchased from a local retail dealer?
☐ yes
☐ no
7. What per cent of your residents are on special diets?
☐ 1% to 10% (1 in 10 persons)
☐ 11% to 20%
☐ 21% to 30%
☐ over 30%

8. Do you buy some food items that are specially prepared for your diets?
Example: D-zerta, diabetic ice milk, or other foods from grocery dietetic shelf. Please do not include items necessary for sodium restricted (low salt) diets or artificial sweeteners for diabetic diets.
 _____ yes
 _____ no
 _____ sometimes
9. Do you consider your storeroom space
 _____ completely inadequate
 _____ adequate, but takes planning to manage
 _____ adequate
 _____ plenty of space, storage no problem
10. Please check where you buy the following items:
- | | Wholesale | Retail | Local Individual |
|---|-----------|--------|------------------|
| canned goods | _____ | _____ | _____ |
| staples (flour, sugar, cereals, mixes, etc) | _____ | _____ | _____ |
| milk | _____ | _____ | _____ |
| other dairy products | _____ | _____ | _____ |
| bread | _____ | _____ | _____ |
| frozen foods | _____ | _____ | _____ |
| eggs | _____ | _____ | _____ |
11. Please check those convenience foods purchased regularly:
- | | |
|--------------------------------|---|
| _____ dehydrated potatoes | _____ concentrated frozen juice |
| _____ canned potatoes | _____ ice cream cups |
| _____ instant cereals | _____ canned puddings |
| _____ stew | _____ mixes such as cake, cornbread, roll, etc. |
| _____ margarine or butter pats | _____ frozen pies |
| _____ individual jellies | _____ powdered skim milk |
| _____ fruit juice granules | |
| _____ salad dressings | |
12. In your preparation of food do you have a minimum of left-overs?
 _____ yes
 _____ normal amount
 _____ left-overs become a problem sometimes
 _____ other, please explain
13. Is it difficult for you to use most left-overs?
 _____ yes
 _____ sometimes
 _____ not too often
 _____ no
14. Do you select the food purchased according to the purpose for which it will be used? Example: Cheaper apples for cooked desserts than eating raw; or Grade B chickens instead of Grade A for chicken and noodles.
 _____ yes _____ sometimes _____ no

15. Do you watch for and buy: "Specials" Foods in season

yes

sometimes

not too often

no

16. Do you buy a side of beef or more and have it processed according to your specifications?

_____ yes

_____ no

17. Do you have any special way to save on food costs that you would like to share? Please tell briefly in space below.

Name of Facility _____

Person completing survey _____

THANK YOU

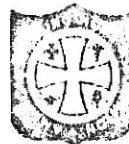
APPENDIX C
Correspondence



Kansas Nursing Home Association Inc.

59

MEMBER OF



TELEPHONE (913) 233-3343

1301 TOPEKA BOULEVARD

TOPEKA, KANSAS 66612

CORRESPONDENCE WITH COST QUESTIONNAIRE

Topeka, Kansas
May 5, 1972

Greetings:

Food costs vary in the different Adult Care Homes and they can be quite a problem. Mr. Richard Brown, the executive secretary of the Kansas Nursing Home Association, suggested that a study in the area of food costs could be most helpful to your Adult Care Homes. To complete my master's degree in Institutional Management, my study will be an attempt to survey food costs and evaluate the management techniques that control them. Many good ideas should be obtained and it is hoped that they will be especially helpful in controlling your food costs. Results of my study may be available from the state Nursing Home Association Office in Topeka.

The enclosed questionnaire is the first of two that will be sent to you to secure information for the study. Please answer the questions carefully. If you have any additional information or remarks you would like to add, please feel free to do so. The information from your survey will be coded and your name and the name of your facility will not be used. Your information will be kept confidential. It would be greatly appreciated if you could complete the questionnaire and return by May 17. Even if you do not have the information available for section II, please check and return section I of the questionnaire. Enclosed for your convenience is a self-addressed stamped envelope.

Thank you for your time and consideration in answering the questionnaire.

Sincerely,

(Mrs.) Grace M. Shugart
Head, Department of
Institutional Management
College of Home Economics
Kansas State University

(Mrs.) Carrol D. Niles
Graduate Student



Kansas Nursing Home Association Inc.

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TELEPHONE (913) 233-3343
1301 TOPEKA BOULEVARD
TOPEKA, KANSAS 66612

MEMBER OF



CORRESPONDENCE WITH MANAGEMENT QUESTIONNAIRE

Topeka, Kansas
May 19, 1972

Greetings:

The response from the food cost survey of two weeks ago was gratifying. Sixty responses thus far received from that questionnaire indicate that the raw food costs per patient per day ranged from \$0.65 to \$1.51 with the average for all homes being \$0.95. Part of my study will attempt to determine the factors most affecting this variance.

This questionnaire concerns kitchen management practices that could influence your food costs. Please answer these questions thoughtfully and check the answer most nearly correct. Your name and the name of your home will be kept confidential. If you have not yet had time to answer the previous questionnaire, please do so at your earliest convenience and return both questionnaires by May 31. A brief explanation of any practice not mentioned on the survey that you have found to be effective in reducing food costs would be greatly appreciated.

Your questionnaires cannot be used unless both are returned.
Thank you for your time and cooperation.

Sincerely,

(Mrs.) Grace Shugart
Head, Department of
Institutional Management
College of Home Economics
Kansas State University

(Mrs.) Carrol D. Niles
Graduate Student

APPENDIX D
Responses to the Questionnaire

 Responses to questionnaires

	questionnaires mailed			
	first questionnaire		second questionnaire	
	number	per cent	and follow-up mailing	number per cent
questionnaires mailed responses	455 95	20.9	455 187	41.0
questionnaires useable and analyzed (complete or partial information)	95	20.9	187	41.0
questionnaires mailed to boarding homes responses	25 2	0.08	25 4	0.16
questionnaires mailed to personal care homes responses	262 42	16.0	262 89	30.2
questionnaires mailed to skilled nursing homes responses	133 43	32.5	133 82	61.7
questionnaires mailed to federal skilled nursing homes responses	35 9	26.3	35 6	17.1

APPENDIX E

Questionnaire Guide for Interviews

INTERVIEW GUIDE

I. Menus and Food Production

How many special diets do you have?

- restricted sodium
- diabetic
- bland
- mechanical soft
- liquid
- fiber restricted
- fat restricted

What special things do you do to save money?

- Costing for introducing new food items
- Prepare certain dishes that serve to better advantage

How do you control leftovers?

- Importance of opening correct number of cans or packages
- How do you know the recipe is the right size?
- Do your pans "cut" to the best advantage?

How do you use leftovers?

- Preparation of certain dishes

Do you have milk and fruit juice dispensers?

II. Records and bookkeeping

- Method of keeping record
- Records as a control tool

III. Purchasing and Inventories

- What determines when you reorder?
- What is the size of your inventory?
- How do you determine whether or not to try a new product?
- Purchasing convenience foods vs labor involved
- Use of "specials"
- Use of foods in season

IV. Staffing and Personnel

- Do your foodservice workers have experience before hiring?
- Would you consider most of the kitchen employees have a "city" or "farm" background?
- Is your rate of employee turnover low, high, or average?
- Do your kitchen employees attend training lessons of any kind?

APPENDIX F
Coding Categories

CARD I

Col. No.		Categories	
		Code	Description
1-3	ID No.		
4	Card No. 1		
5	Ques I, 1a (size of home)	1	1-25 beds
		2	26-50 beds
		3	51-75 beds
		4	76-100 beds
		5	over 100 beds
6	Ques I, 1b (type of home)	1	Boarding home
		2	Personal care home
		3	Skilled home
		4	Federally skilled home
7	Ques I, 2		
	person completing ques	1	administrator
		2	dietitian
		3	food service supervisor or
			cook manager
		4	other
		5	two of the above
8	Ques I, 3		
	Bookkeeping system	1	complete records
		2	fairly adequate records
		3	in and out cash flow
9	Ques II, 1a		
	Dietitian on Staff	1	yes
		2	no
10,11	Ques II, 1b		enter no. 01-99
	hrs. per. week		
	(Dietitian)		
12	Ques II, 1c		
	Basis of payment	1	hourly
	(Dietitian)	2	monthly
13,14,15	Ques II, 1d		enter amount
	Amt. of payment		ex: hourly 400
	(Dietitian)		monthly 090
16,17	Ques II, 2a		enter no.
	No. of part-time		01-99
	employees		

CARD I

Col. No.		Code	Categories Description
18,19	Ques II, 2b No. of full time employees		enter no. 01-99
20	Ques II, 2c Basis of payment (part-time)	1 2	hourly monthly
21,22,23	Ques II, 2d Part-time aver wage		enter amount ex: hourly 160 monthly 300
24	Ques II, 2e Basis of payment	1 2	hourly monthly
25,26,27	Ques II, 2f Full-time aver. wage		enter amount ex: hourly 160 monthly 300
28,29,30, 31	Ques II, 3 Patient Days		enter no. 0001-9999
32,33,34, 35	Ques II, 4a Total Raw Food Cost		enter whole dollar amt. (no decimal) 0001-9999 (round up if 50¢ or more; down if less than 50¢)
36,37,38	Ques II, 4b Per Patient Food Cost		enter Dollar & Cents Amt. ex: 082 (82¢) or 1.02 (\$1.02)
39,40,41, 42	Ques II, 5a Total Payroll Cost		enter whole dollar amount (round up if 50¢ or more; down if less than 50¢) 0001-9999

CARD I

Col. No.		Code	Categories	Description
43,44,45	Ques II, 5b Supply Cost			enter whole dollar amount 001-999
46,47,48, 49,50	Ques II, 6a Total Cost			enter whole dollar amount 0001-999
51,52,53	Ques II, 6b Per Patient Total Cost			enter Dollar and Cents amt. ex: 095 = (95¢) 160 = (\$1.60)
54	Ques III, 1 Cycle Menu Length	1 2 3 4		1 week 10 days - 2 weeks 3-4 weeks other
55	Ques III, 2 Type of Meal Plan	1 2		3 meal 5 meal
56	Ques III, 3 Who Orders Food	1 2 3 4 5 6		cook-manager food service supervisor administrator dietitian other 2 of the above
57	Ques III, 4a Frequency of Wholesale Purchase	1 2 3 4		2x or 3x week 4x or 5x week more than 5x week other
58	Ques III, 4b Frequency of retail purchase	1 2 3 4		2x or 3x week 3x or 4x week 5x or 6x week other

CARD I

Col. No.

Categories

Code

Description

59	Ques III, 5 No. of Wholesalers	1	none
		2	1 or 2
		3	3 or 4
		4	more than 4
60	Ques III, 6 Over 50% of Food From Retailer?	1	yes
		2	no
61	Ques III, 7 % Modified Diets	1	1-10%
		2	11-20%
		3	21-30%
		4	over 30%
62	Ques III, 8 Use Special Diet Items?	1	yes
		2	no
		3	sometimes
63	Ques III, 9 Adequacy of Stores	1	completely inadequate
		2	adequate, takes planning
		3	adequate
		4	storage no problem
64	Ques III, 10a Source for Canned Goods & Staples	1	wholesale
		2	retail
		3	local individual
		4	2 or more sources
65	Ques III, 10b Milk and Dairy Products	1	wholesale
		2	retail
		3	local individual
		4	2 or more sources
66	Ques III, 10c Bread	1	wholesale
		2	retail
		3	local individual
		4	2 or more sources

CARD I

Col. No.

Categories

Code

Description

67

Ques III, 10d
Frozen Foods

1

wholesale

2

retail

3

local individual

4

2 or more sources

68

Ques III, 10e
Eggs

1

wholesale

2

retail

3

local individual

4

2 or more sources

CARD II

Col. No.

Categories

Code Description

1-3	ID No.		
4	Card No. 2		
	Ques III, 11		
	Use Of Convenience Items		
5	Dehydropotatoes	1 2	yes no
6	Canned Potatoes	1 2	yes no
7	Instant Cereals	1 2	yes no
8	Stew	1 2	yes no
9	Margarine or Butter Pat	1 2	yes no
10	Individual Jellies	1 2	yes no
11	Fr. Juice Granules	1 2	yes no
12	Salad Dressings	1 2	yes no
13	Con. Frozen Juice	1 2	yes no
14	Ice Cream Cups	1 2	yes no
15	Canned Puddings	1 2	yes no
16	Mixes	1 2	yes no
17	Frozen Pies	1 2	yes no
18	Pow. Skim Milk	1 2	yes no

CARD II

Col. No.

Categories

Code Description

19 Ques III, 12
 Amount of Leftovers

1 yes
 2 normal amount
 3 left-overs become problem
 4 other

20 Ques III, 13
 Use Leftovers?

1 yes
 2 sometimes
 3 not too often
 4 no

21 Ques III, 14
 Buy for Purpose

1 yes
 2 sometimes
 3 no

22 Ques III, 15a
 Buy Specials

1 yes
 2 sometimes
 3 not too often
 4 no

23 Ques III, 15b
 Buy Foods in Season

1 yes
 2 sometimes
 3 not too often
 4 no

24 Ques III, 16
 Buy Carcass Beef

1 yes
 2 no

APPENDIX G
Summary of Comments

SUMMARY OF COMMENTS

Control left-overs - we have none. Local grocers compete, one adds ten per cent to his cost. Another adds \$0.50 per case to his cost. By comparison we believe this beats the so-called wholesaler.

I keep purchasing strictly within the need of the menus. I do not like to tie too much money in inventory. I prefer to move the supplies regularly, to cut down on spoilage.

Purchase frozen food items and staples weekly, canned goods on monthly basis.

Once a month, at various times, plate waste is verified to determine if the portion serving is right, especially vegetables. We follow the practice of knowing each resident and his normal amount of food intake per meal. If there is a certain vegetable or item the individual doesn't like or will not eat, another substitute is given. It doesn't cost additional expense. In fact it is required that each meal has two vegetables served to meet diet requirements. We use mostly all frozen vegetables, buying in twenty pound bulk packs. This has proven to be cheaper than buying canned vegetables. Portion control - I have found that the normal basting or serving spoon gives too large a serving. I use a small ice cream scoop to serve the vegetables. Each resident knows they can have more food if they want it. The other residents (confused) are asked by the aides if they want more. Leftovers are used by being pureed and used for the ones that must be on complete soft diets. This gives a variety and eliminates serving baby food. There is no baby food served in this home.

We make our own jellies from fruit (leftover) juices, spiced fruit juices also syrup, bread-rolls. We usually make all our cakes etc. from ingredients in kitchen - use fresh potatoes, carrots, etc. The labor cost is higher but food is more palatable to our residents.

We avoid "convenience" foods wherever possible.

Do Not buy from salesmen. Keep constant tab on wholesale price variations. Know that different wholesale houses price the same items differently and those change from month to month.

I find it cheaper to go to the processing plant and buy pork roast, pork steak, hamburger, and rolled beef roasts than to buy 1/2 beef and have all of the bone to dispose of. We figured our cost per person by the person on an eleven month basis and came out \$1.11-3/4¢ per day. This included milk, oleo, bread, etc.

When the wholesalers have special buys - stock up.

We are fortunate to have a real good lady that is an ideal cook and manager of the kitchen. I don't have to worry about any waste.

We have a garden and strawberry patch.

Buy meat from wholesaler by the cut.

We buy from retailers only when we run out when we cannot wait for wholesaler every two weeks - this might happen two times a month. Leftovers are pureed in blender for those requiring this consistency.

Use protein meat stretcher. TVP Textured vegetable protein (Soy bean).

On five meal plan snacks help. Use up leftovers.

Hire competent personnel as kitchen supervisors and utilize services of a good dietitian at least on consultant or part-time basis.

Cooks make pies from scratch, much of our bread is home-made, all soups are home made, we order only what is on menu and keep extras to a minimum, make our own butter pats from bulk, make puddings from scratch.

Mostly buy in quantity - using leftovers is a big problem.

We use special meat for certain days - Tuesday baked or fried chicken; Friday fish; Saturday poultry - turkey or chicken; Sunday roasts. As a non-profit home we receive food commodities. We use them all. We bake three times a week our own bread, use powdered milk for all cooking and mix with two per cent milk for drinking. We purchase fresh foods in season, especially apples, peaches, potatoes; use left overs for blended (mechanical) diets and sometimes on feeder trays (spoon fed residents); left over vegetable juices, chicken bones etc. are used to make soup; we serve soups every supper as most of our people like them.

I don't know all these answers as we really don't break our food cost down this way. I also do not make out the payroll so don't know average salaries or the payroll tax.

We have minimum left-overs so what little is left is usually used by employees next meal. My meat suppliers and I figured it out and it was cheaper to buy hamburger, roasts and stew meat than to buy whole half. We use powdered milk to add protein to our meat loaves, puddings, homemade rolls etc. We also use vegetable protein (soybean) to add to our meatloaves and other meat dishes. We use a lot of chicken and turkey - we can buy parts missing. Turkeys for \$0.29 a pound we boil these and use for turkey and dressing, turkey and noodles, etc. Heels of bread and ends of loaves that may become a little dry are used in dressing or bread pudding. Excess juice from canned fruit is used to make gelatine desserts or added to other fruit juices to drink. We use precooked bacon and sausage - feel this is cheaper in long run because of shrinkage, labor and cooking costs. Roasts are put in the oven (frozen) at night, set oven at 250° and cook all night. Do not cover nor use any moisture. Less shrinkage - more tender meat. We also use this method to roast turkeys. We cook our dressing separately. My only problem in kitchen is having cooks prepare food too far ahead of time or cooking at too high temp. I finally got them convinced on the roasts - if I can only get it across that vegetables are just as important not to cook too long. We have electric stoves.

No individually packed jellies. Much more expensive and are inconvenient for elderly persons to open and use, also unhandy for arthritic hands to handle. We select those brands or labels of canned and frozen foods which have the best quality and suits our choice and more or less don't change for different labels, and we find fruits and vegetables more satisfactory. In trying so many different labels, you find more water and juices, so when we find good quality packed foods we stay by the label.

We plan to use leftovers as side dishes for supper for people who need extra food or have good appetites. Administrator supervises and checks the refrigerators.

Prepare foods that are liked and enjoyed by residents.

Administrator plans the meals and the head cook does the ordering.

Bulger - a wheat product can be used in ground beef for meat loaf. Adding fruits to cottage cheese, not only is attractive but delicious.

Buy one-half carcass - place in locker - approximately \$0.65 to \$0.68. Do your own pie and cake baking. Make your own rolls, cornbread, biscuits, puddings, cook old fashioned cereal. I find the above items much more economical than prepared foods.

I cook in Waterless Stainless Steel Saladmaster Cookware. (I don't sell it). It is quite expensive. It has saved or reduced my expense approximately fifteen to twenty-five per cent. How? Waterless cookware and stainless steel preserves vitamins and flavor, reducing consumption. Example: Cooked in water (potatoes). Vitamins are lost in steam and water. Actual nourishment - almost nil. Cooked in Stainless Steel Waterless Saladmaster (for the same number of people as above). Vitamins retained, nothing lost in steam or water. Nourishment almost 100 per cent. Takes less to satisfy. I know families of five who save 35 dollars per month by this method. Also the food is cooked at low temp. Sometimes on pilot light, which reduces gas or electrical expense.

Our cooking is all home style cooking. This saves on groceries but costs more in labor. Our residents prefer it this way. Our latest cost is \$0.78 per day per resident for all groceries.

Due to storage problem cannot buy ahead more than 1 week. We save bread crusts - these are dried and ground and used for buttered crunch topping; also used for bread pudding.

We use cycle menus six weeks in summer. Otherwise menu is planned weekly 12 weeks in advance. We keep a perpetual inventory on all food items. This enables us to compare costs when buying and thus we do get the best possible values for our food dollar. We freeze any leftover meat immediately after the meal and utilize it for sandwiches and casseroles. Frozen broccoli is split into small long slices instead of serving it in larger stalks. This goes farther and is consumed by the resident whereas much was often left when the pieces were served larger. At a two weeks institute I attended at

Kansas State University last summer our menus for two weeks cycle were evaluated by other students. My menus were judged to represent high cost meals as we do serve lots of meat and fruit but they aren't high cost. We do receive commodities of flour, meal, rice and dry milk enough for our needs and some other items such as butter occasionally and oatmeal and salad oil that help but do not supply total use of these items.

A little trouble but I shop for rates - for instance eggs year round \$0.30, whole milk \$0.70 per gal, sugar \$11.70, Folgers coffee \$0.59 50 \$0.66 per pound, Compound \$0.19, flour and other staples.

My home in your previous survey had a low food cost for that month. Do not know why. Now in April it ran \$0.84 per day per person.

Utilities are not figured in these costs. Our nursing home is connected to the hospital by a corridor so our kitchen serves both facilities. As we divide the kitchen costs, these figures are for the nursing home after they are divided. Dietitian is paid by the hospital.

Keep the costs by weighing special serving container and having good cooks.

We take a weekly inventory of food stock, and check it against the menu for the coming weeks usage. We order only those items that will be needed. This process keeps our stock at a minimum and also we are certain to have on hand all that is needed. Our menus are on six-week cycle and most items ordered come in quantities of six to a case. The menus are planned beginning with average cuts of beef we receive in a side of beef so that we will not be over stocked or have been in freezer for long periods. Our head cook is now taking the weekly inventory (previously done by the assistant administrator) which takes no more than two hours per week to complete inventory, usage, and order. We use an inventory control sheet which gives us a constant record of cost on each item.

I always compare costs. Employees eat the left-overs.

Buy catsup in gallon cans and put in small containers; always buy dehydrated potatoes; always use dry beans and fix from scratch; always bake hams; never buy stews, puddings, canned potatoes; slice own oleo - take jelly out in little dishes; cut own ice cream.

Order preportioned meat by count; use standard recipes; we use two per cent milk instead of whole milk for drinking purposes; reconstructed dry skim milk for cooking purposes; we have two meals per day in which we serve meat and serve only two ounces cooked meat per meal. If person wishes more meat we offer egg, peanut butter, cheese or cottage cheese instead of more meat. The exception to this is for persons on calculated diets.

I believe the use of fewer convenience foods, more things made from scratch saves on food costs, but may not save on labor costs. We do serve tasty, nutritional meals.

Under labor these figures do not include time spent by the Administrator in the kitchen, which varies and a set salary is not drawn by her.

Every three months have the food weighed as it comes back to the kitchen--liquid and solid separate, for three days--every meal. By the end of three days we have decided if we are filling plates too full or if we need to adjust in any way.

This is a small care home. Yes, we serve raw food in some way or other daily. We do not have special labor for kitchen, just one for night duties.

Mostly buy large quantity for less than buying a small amount.

Use your computer. I sent rough average, this mish mosh is a joke as prices vary so much by the time you get these computed they'll be all haywire. In saving food costs - by cooking foods we know they can and will eat.

My husband and I do the work without hiring help.

We save all cookie and cake crumbs and put in a jar in the refrigerator for use as a base or topping for our ice box desserts.

I use any extra fruit juice and make my own jelly. My cooks are very careful about left-overs and use them wisely.

I do a lot of working with left-overs to produce tempting casseroles. These are well received, and I effect a worthwhile saving this way.

We find by buying 303 and 2-1/2 cans of vegetables and fruit by the case is more saving than by the gallon.

Foods in season and week-end specials.

We raise our own beef.

My care home bills are mostly bought at the same time raw vegetables, fruits, meats and other groceries - it would be unfair for me to give a bill that I'm not sure of.

Our home is small so I do my own meal planning and cooking. Purchase fresh food once a week. But we have our own garden.

One way I find is buying in large quantities, gallon cans, vegetables, fruit and jelly, also 100 pounds of instant Irish potatoes--it is always cheaper in large amounts.

FACTORS INFLUENCING FOODSERVICE COSTS
IN ADULT CARE HOMES

by

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B. S., Kansas State University, 1948

AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

Food and labor costs are two of the major operating expenditures of an adult care home operation. Regardless of the size of operation there are certain basic management techniques related to control of foodservice costs. The purpose of this project was to study foodservice costs and related management practices and procedures which might affect these costs in adult care homes in Kansas. Two questionnaires were mailed to all the 455 nursing home facilities in the state. Forty-one per cent of the management surveys (N = 187) and 20.9 per cent of the cost questionnaires (N = 95) were returned. In addition, in-depth interviews were conducted at eleven homes to provide an on-site evaluation of foodservices.

Size of the home was the only factor significantly related to per patient food cost; however, a significant relationship was found between the size and type of home and the per patient total foodservice costs. The study indicated that the smaller homes had significantly higher per patient raw food costs and per patient total foodservice costs than the larger homes. Those facilities classified as boarding homes had higher per patient total foodservice costs; however, these homes were primarily in the small size category also. Ranges were large for total raw food costs, supply costs, and labor costs within the same category in all size groupings of homes.

Wide variations in staffing patterns were notable. Forty-three per cent of the homes responding employed a dietitian, either full-time, part-time or as a consultant.

A large percentage of the homes 76 beds and over used a three week or longer menu cycle; whereas, the small homes used one-week cycle menus most frequently. Cycle menus were used more frequently and were longer length

when a dietitian was on the staff. The three meal plan was the predominant pattern followed; only a small number of homes used the five meal plan.

Administrators often were either responsible for or assisted with the food purchasing, especially in the small homes. Many small homes purchased food from local retailers; whereas, the large homes purchased primarily from wholesalers.

Frequency of wholesale purchases was related significantly to responsibility for purchasing. Administrators purchased supplies more frequently when working jointly with a foodservice employee than when working independently. Administrators, or administrators and dietary supervisors jointly, tended to purchase special sale items more frequently than did other personnel responsible for procurement.

In approximately two-thirds of the homes the intended use of the food was considered at least sometimes when purchasing. Carcass beef was purchased regularly in about 40 per cent of the homes. Mixes, dehydrated potatoes, prepared salad dressings, powdered nonfat dry milk, individual margarine patties, and fruit juice granules were the most frequently used convenience items.

Adequate storage was reported by approximately one half of the homes; whereas, storage was considered completely inadequate in 13 per cent of the homes. Overproduction generally was not perceived to be a problem in the homes studied.

Results of the project indicate the foodservices in the larger adult care homes generally were managed more efficiently and effectively than those in the smaller homes in the survey. This was reflected by lower per patient foodservice costs as well as by employment of better management practices.