IMPACT OF THE 1983 MEDICARE REGULATIONS ON TEN FOODSERVICE FACILITIES IN KENTUCKY

by

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Thesis submitted to the faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment for the degree of

MASTER OF SCIENCE

in

Human Nutrition and Foods

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August, 1987

Blacksburg, Virginia

IMPACT OF THE PROSPECTIVE PAYMENT SYSTEM ON HOSPITAL FOODSERVICE FACILITIES IN KENTUCKY

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(ABSTRACT)

Five areas of hospital foodservice management, including; Inpatient Services, Cafeteria Services, Special Foodservices, Out-of-Hospital Services and Consolidation of Services, were studied to determine the impact of the 1983 Medicare Prospective Payment System. Ten Kentucky hospital foodservice directors were surveyed by phone.

The Prospective Payment System had an impact on all areas of foodservice management, especially in the Inpatient Services. Foodservice directors developed cost containment and revenue generating programs in response to the DRG's.

A description of the investigation, the survey utilized and data analysis are included.

ACKNOWLEDGEMENTS

The author wishes to express her gratitude to Michael Olsen for his guidance and support throughout her graduate studies, and in the preparation of this thesis. She also wishes to thank Michael Evans and Brian Ann Arnett for their constructive comments in the development of this thesis. The author would like to express appreciation to the foodservice directors for disrupting their busy schedules to provide assistance in procuring information necessary in the preparation of this thesis.

The author would also like to express her gratitude to her family and friends for their encouragement and support throughout her graduate studies.

Finally, the author wishes to express her sincere gratitude to her husband, Scott, for his patience, confidence and encouragement throughout her graduate studies. This thesis is dedicated to Scott.

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CHAPTER 1

Research Objectives

INTRODUCTION

This chapter presents a brief review of the 1983 Medicare Regulations and the Prospective Payment System, and their potential impact on nutrition services within the hospital setting. The justification and objectives of this research project are defined in this chapter.

BACKGROUND

On October 1, 1983 the new Medicare Prospective Payment System went into effect. This was the most significant change in healthcare delivery since the enactment of Medicare into law in 1965. The new payment system changed Medicare from a cost-based retrospective system, where the hospital was reimbursed based on their costs for providing service; to a prospective payment system, with a specific rate set for each patient's diagnosis. There are 467 diagnosis related groups (DRG's) for each patient classification (Anderson, 1986). Each diagnosis is assigned a dollar limit for hospital services. This provides incentive to the hosptial to keep their costs at, or below, the DRG limit in order to make a profit. Costs exceeding the limit must be absorbed by the

hospital. The method of allocating costs within the hospital, including the Dietary Department may be altered due to the implementation of the DRG's.

Under the Prospective Payment System, the predetermined specific rate for inpatient hospital care includes both general, routine services and ancillary services. Dietary costs and services are included under the bed and board portion of routine inpatient services (Parver, 1984).

The hospital is paid a set rate per diagnosis, regardless of the services provided under the Prospective Payment System. This provides an incentive to the hospital and physician to increase their efficiency while decreasing the patient average length of stay and use of ancillary services (Crawford, 1985).

Of the 467 DRG's, only three specifically identify nutrition disorders as a primary diagnosis. Nutrition therapy provided under these diaganoses would be reimbursed directly. Six out of the ten most common primary diagnoses made on inpatients include nutrition intervention in the DRG description. The reimbursement for any nutrition services provided under these DRG's is built into the specific payment for each diagnosis (Parver, 1984).

Consequently, these changes are likely to have a

significant impact upon the extent and scope of services offered by dietary departments. It therefore is the primary purpose of this research to determine what that impact is.

JUSTIFICATION

Although not all hospitals are subject to the new reimbursement system, the 1983 Medicare Regulations will effect all aspects of healthcare management, including foodservice management. Foodservice managers' efforts to maintain quality food and inpatient nutrition services will be increasingly challenged by the parameters inherent in these new regulations.

The rationale of the Prospective Payment System is that "everthing that happens to a patient in the hospital can be attributed, directly or indirectly, to medical diagnosis and treatment" (Halloran, 1985). Foodservice managers must demonstrate the contribution of nutrition services to improved patient care.

Nutrition services such as dietary counseling and nutritional assessment are often critical to the treatment of hospitalized patients. The costs of these services must be born either by the hospital or the patient, and must be documented and justified according to the American Dietetic Association

(Manual, 1985). The Medicare Regulations should not force a reduction or elimination of these services, by limiting the financial or human resources devoted to these tasks. However, at present it is not known whether this has been the impact of these regulations.

Although the final impact of the DRG's will not be apparent for several years, healthcare providers are currently studying the impact on the following areas and the services they provide; nutrition, nursing and pharmacy. Each research study will be briefly examined in the following paragraphs to support justification of this research project.

The studies on the impact of the DRG's on nutrition services, although few in number, have included studies on specialized nutrition support, clinical dietetic staffing, third-party payment and hospital foodservice management. Seltzer (1984) predicted that the 1983 regulations would affect patient care by decreasing the use of specialized nutrition support materials, such as pumps and special solutions, and nutrition support teams, including registered dietitians. He also stated that there would be a decrease in the number and frequency of laboratory testing, and shortened nutrition intravenous therapy. Seltzer identified the need for

controlled "studies to prove the cost effectiveness of nutrition support teams and the use of specialized nutrition support" therapies. He concluded that the DRG's would have a negative impact on patient care, and would result in a lesser quality of care (Seltzer, 1984).

Anderson (1986) stated that the Prospective Payment System did not recognize the use of specialized nutrition support in the development of the DRG rates, therefore, those that required this type of support would have hospital costs above the DRG allowance. He concluded that this type of patient would present a financial loss for the hospital and that the hospital would be reluctant to use specialized nutrition support in the care of this patient. He called for a reform in the Prospective Payment System to allow for these increased costs. Clearly both these studies identify a potential negative impact of the DRG's on nutrition services for the inpatient (Anderson, 1986).

MacInnis stated that the September 3, 1986 issue of the Federal Register included code numbers for parenteral and enteral nutrition (MacInnis, 1987). This was an important effort to update the DRG system. These code numbers became effective late in 1986 and data on their usage is not available.

Since these codes deal specifically with nutrition services it is anticipated they will have an impact on the dietary department.

Gobberdiel (1986) linked patients' requirements for nutrition services to clinical dietetic labor needs, according to major diagnostic categories. She evaluated and made recommendations on total minutes of nutrition care provided per patient diagnosis. She concluded that further studies were needed to define the most cost-effective nutrition services within the DRG system (Gobberdiel, 1986). Her study identifies the impact of clinical nutrition services within the DRG System, and that these services can be cost-effective under the new Medicare regulations.

Parver (1984) conducted a survey of the major medical insurers such as Medicare, Medicaid and Blue Cross/Blue Shield and others to determine how each defines nutrition care services and which services are covered for reimbursement. He stated that any patient care service provided would either be cost reducing or cost increasing for the hospital. He concluded that each department in the hospital would be competing for their percentage of the DRG payment to the hospital, therefore, all healthcare professionals should validate the medical cost and value of their services

(Parver, 1984). This is especially true for nutrition professionals, since their services may not be recognized as necessary in the treatment of patients. The DRG's will impact reimbursement and will force cost-accountability for coverage under all medical insurers.

Other areas in the hospital whose services have been affected by the DRG's include both pharmacy and nursing. Several authors have studied the impact of the Prospective Payment System on their services and these will be reviewed briefly.

The pharmacy department provides parenteral nutrition products for inpatients. Secter (1984) identified four areas for cost-containment, under the Prospective Payment System, for nutrition support services. These included; product selection, product delivery, computer application and home nutritional support (Secter, 1984).

Wolf (1986) collected data on patient length of stay, acuity and nursing care costs and compared this to primary versus the team approach to nursing. She concluded that primary nursing care resulted in a $1.30 daily savings for each DRG (Wolf, 1986). There are several other studies in the Nursing literature linking DRG payments and nursing costs.

Clearly the DRG's have had an impact on all aspects of healthcare management. Literature in both pharmacy and nursing areas identified changes affected since the implementation of the DRG's.

Based on preliminary research conducted for HNF 5970, " Defining the Hospital Meal for Reimbursement Purposes," this author developed a basis for the present study. From the literature and research reported, the following areas have been identified for specific measurement of the impact of the DRG's on foodservice management:

I. INPATIENT SERVICES
   1. average patient length of stay
   2. changing food costs
   3. alteration in patient case mix
   4. alteration in inpatient menu selections
   5. requests for luxury food items
   6. requests for nutrition services

II. CAFETERIA SERVICES
   1. increase in labor saving techniques
   2. requirement for increasing productivity
   3. changing food cost accounting methods

III. SPECIAL FOODSERVICES
   1. expansion of revenue producing areas

IV. OUT OF HOSPITAL SERVICES

1. increased specialization of services

2. increase in labor saving techniques

V. CONSOLIDATION OF SERVICES

1. increased cost containment measures

The Medicare regulations should not force a reduction or elimination of these services, however, the impact on these foodservice functions has not been clearly defined.

OBJECTIVES

The primary objective of this research is to define the impact of the Prospective Payment System on hospital foodservice facilities in Kentucky. The perceived effects of the Medicare regulations on inpatient foodservices in ten local hospitals will be examined.

The following objectives have been developed based on the identified impact areas for study.

I. INPATIENT SERVICES

1. Identify the difference in the average patient length of stay, from 1982 to 1987, since the DRG's went into effect.

2. Identify changes in food costs that have occurred since the DRG's were implemented.

3. Identify alterations in patient case mix

since the DRG's went into effect.

4. Identify alterations in inpatient menu selections since the DRG's were implemented.

5. Identify changes in requests for luxury food items since the DRG's were implemented.

6. Identify changes in requests for nutrition services since the DRG's went into effect.

II. CAFETERIA SERVICES

1. Define changes that have occurred in labor saving techniques since the implementation of the DRG's.

2. Identify changes in requirements for increased productivity since the DRG's went into effect.

3. Identify changes made in administrative management since the DRG's went into effect.

III. SPECIAL FOODSERVICES

1. Define changes in revenue producing areas, either expansion or elimination of services, that have occurred since the implementation of the DRG's.

IV. OUT OF HOSPITAL SERVICES

1. Identify areas of specialization that have been developed since the DRG's went into effect.

2. Define changes that have occurred in labor saving techniques since the implementation of the DRG's.

V. CONSOLIDATION OF SERVICES

1. Identify changes that have occurred in cost containment measures since the DRG's went into effect.

These research objectives represent four major areas of foodservice management, including; inpatient nutrition services, administration, specialized foodservices and revenue-generating services. Each area will be examined for the impact of the DRG's on the service provided in each area.

This chapter provided background information on the 1983 Medicare regulations, and presented the justification and objectives of this research project.

CHAPTER 2

Review of Literature

INTRODUCTION

This chapter examines the Prospective Payment System, and the impact on foodservice management, as documented in the literature. Additionally, two research studies on the impact of the DRG's in foodservice establishments are examined and critiqued in depth.

BACKGROUND

"The ultimate objective of a prospective payment system is to set a reasonable price for a known product," stated Senator Shweiker in his report to Congress (Schuster, 1983). Medicare pays forty-five percent of healthcare costs for 29 million elderly and disabled Americans; and according to the Congressional Budget Office, it will go broke by 1989 (Donosky, 1984).

Healthcare costs rose dramatically during the past fifteen years, federal expenditures for Medicare increased more than 600% (Smith, 1985). The costs for the two basic parts of Medicare, hospital insurance and supplementary medical insurance, have been rising at an annual rate of 17.7%, far outweighing the income from payroll taxes and insurance premiums. Severe

financial pressures are being exerted on all third-party payers for hospital reimbursement (Newman, 1983). Title VI of Public Law 98-21, which created the Medicare Prospective Payment System, became effective on October 1, 1983, in an effort to contain rising healthcare costs (Mathieu, 1984).

The previous cost-based structure for healthcare reimbursement kept the costs for medical care very high. The Prospective Payment System of 1983 and the current payment ceilings for Medicare patients forces hospitals to manage their resources efficiently to survive (Schuster, 1985).

In addition to increasing rational expenditures for healthcare, other factors have been identified as contributing to rising healthcare costs. The first factor is the increase in hospital admissions, which increases hospital costs without a parallel increase in a hospitals' fee for service. Hospital admissions rose at an annual rate of 2.3% over the past twelve years. The second factor is an increase in hospital costs due to the increased medical technology and services provided to patients. This includes improved technologies for both diagnosis and treatment of patients, such as specialized nutritional support.

Other factors which increased hospital costs include changes in productivity, case mix and age of the patients admitted (Seltzer, 1984). All these factors highlight the importance of more efficient foodservice management of patient volume and healthcare services.

MEDICARE

Third-party reimbursement is defined as payment by a party other than the patient (first party) or the care provider (second party). Insurance coverage or similar programs provide the third-party payment for healthcare costs incurred by beneficiaries. The third-party payers include: the federal and state Medicare and Medicaid programs, commercial insurance companies, such as Blue Cross-Blue Shield, and self-insured programs (Parver, 1984).

The coverage provided through each of these programs, including the percentage of costs paid, the services covered, and authorized healthcare providers are different for each program. Each healthcare insurance policy is tailored to suit the requirements of an individual beneficiary or group policy, which has made healthcare more available to individuals (Parver, 1984).

DRG's

Diagnosis-related groups (DRG's) were developed at Yale University in the 1960's and were originally designed to measure patients' length of stay.

Categories were formed for similar illnesses which required similar treatment and hospital's resources. This system is used as a basis for reimbursement in the prospective payment system and is a predictor for hospital resource usage (Ashworth, 1983).

The DRG's rates were set based on 1979 costs, with an allowance for annual cost of living increases. However, provisions for the addition of new technologies since 1979 were not included (Seltzer, 1984).

Of the 467 DRG's, one hundred and four are classified according to a comorbidity factor. A patient may have several diagnoses during an admission; such as gall bladder cancer which required surgery and resulted in cardiac arrest prior to discharge. The comorbidity factor allows for increased payment for these diagnoses and procedures in which a patient has concurrent illnesses. There would be an increased length of stay since the patient would be in serious condition, and the hospital would

be reimbursed for the longer hospitalization (MacInnis, 1987).

The advantages of the DRG`s include; one, a reduction in the patient length of stay due to limits imposed by each DRG, and two, monitoring physicians' care patterns due to utilization review. These care patterns include ancillary service usage such as nutrition assessment, radiologic testing and labwork.

Since there would be a reduction in the use of ancillary services, a sharing service capacity within a group of hospitals may be developed. Sharing specialized services would better utilize resources without duplication, and lead to cost-containment (Sasser, 1978).

The new regulations promote more effective management of hospital resources, both in Medical Records and Finance; and may result in a reduction of the work force. Improved communication between hospital departments can increase cost containment by decreasing duplication of services. Another advantage of the prospective payment system is, if the hospital can keep its costs at, or below, the reimbursement rate, it can keep the difference (Schuster, 1985).

Quality Control is assured by the Department of

Health and Human Services. In the past, hospitals could tolerate inaccurate patient diagnoses, since payment was not tied to their diagnosis. The DRG's will force the hospital to have accurate diagnoses for maximum reimbursement. (Johnson, 1983).

IMPACT OF DRG'S IN FOODSERVICES MANAGEMENT

The new regulations have a profound effect on the dietetics profession and hospital foodservice management. This change in the external environment requires prompt strategic planning by those in hospital foodservice management. This section will provide a review of the literature for each impact area defined in Chapter 1.

IMPACT OF PRODUCTIVITY AND COST CONTAINMENT

The DRG`s force each service within the hospital to be responsible for cost containment and increased productivity. Each department defines productivity in terms of their service. Examples in foodservice are: meals served per patient day, food usage, and clinical nutrition caseload (Cayan, 1985).

The prospective payment system maintains incentives to promote the most efficient use of resources for inpatients, according to the Federal Register in 1983. Foodservice management must identify food costs and maintain a budget within their

resources. The service portion of foodservice is more difficult to identify and budget.

Foodservice managers must increase productivity without an increase in staffing. Computers can increase productivity by forecasting food and labor requirements, and by printing patient menus (Faulkner, 1986). Another labor-saving measure is to return to the centralized kitchen where food production is completed in the main kitchen. The added expense of labor on the patient wards to rethermalize food is eliminated.

IMPACT ON LABOR SAVING TECHNIQUES

Approximately 25% of hospital foodservice operations have adopted labor-saving productions systems such as cook-chill or cook-freeze, and use computers. These labor-saving techniques will decrease costs within the operation (Seltzer, 1984).

Specialized technology in healthcare delivery will have to be justified under the new regulations. Nutrition Support Teams are relatively new, and must identify their patient caseload, services usage and fee for service. The costs for these teams and the special enteral and parenteral products used were not built into the original DRG's reimbusement schedule. This can result in a higher cost to the hospital and

there may be resistance due to financial constraints to the use of this specialized service (Anderson, 1986). Robinson (1987) also concluded that malnourished patients incur higher hospital costs than normal patients with similar admitting diagnoses (Robinson, 1987).

IMPACT ON NUTRITION SERVICES

Dietitians providing nutrition counseling to inpatients must document their productivity. Accurate records of inpatient caseload, staffing patterns, cost-benefit analysis, nutrition screening, routine and specialized care, and quality assurance must be documented. Since the DRG's will force a reduction in patient length of stay, the dietitian must intervene with nutritional assessment and counseling during the first days of admission, and will have to rely on less expensive tools, such as weight check, since less money will be available for labwork (Escott, 1985). Each department in the hospital will be competing for the healthcare dollar. Therefore dietitians should develop revenue-generating schemes to gain recognition by hospital administration, according to the American Dietetics Association (Courier, 1985).

Competition may also come from other healthcare providers, such as nurses and pharmacists (Seltzer, 1984). Both groups have begun to deliver nutrition

services to inpatients, including nutrition assessment and counseling. Dietitians have the training for this service, and it is critical to market and justify this inpatient service. Dietitians are the qualified nutrition professionals who are most capable of shortening the patient's length of stay with this service (Smith, 1985).

Third-party reimbursement for inpatient nutrition counseling and profitable outpatient counseling are possible sources of revenue. This will present a challenge, however, since third-party reimbursement for nutrition services is difficult to obtain. This is because it is difficult to prove a direct cause-effect relationship between nutrition, disease and health.

Dietitians may diversify to other departments within the hospital, such as pharmacy or directly under physicians, to justify their services (McCarthy, 1985). New technology has led physicians and pharmacists to develop Nutrition Support Teams, with specialized dietitians and a variety of enteral and parenteral nutrition support products. These factors may also increase costs; the nutrition support specialist must certify the need for such services to justify their costs (Anderson, 1986).

IMPACT ON FOOD COST ACCOUNTING

Foodservice managers in hospitals will be required to document food costs and nutrition services according to diagnosis. These costs are related to patients' length of stay, and would be increased with a longer than expected inpatient admission. Services and food items that are not essential to quality care may be eliminated by foodservice directors as a cost containment measure (Mathieu, 1983).

Foodservice managers will be required to develop cost accounting systems to relate food costs with volume and patient mix. This includes an itemized list of services provided for each diagnosis and a detailed description of each service. Historically, foodservice managers have kept detailed food item reports of their entrees, and few records on production labor (Boss, 1983). Each step in the production-line assembly of the patient meal must be identified, such as storage costs, processing, production and meal service costs. The patient case mix is very important to an accurate prediction of food costs. A cardiac patient may have a length of stay of ten days and eating off a regular menu for seven days. An uncomplicated pregnancy/delivery patient may have a length of stay of three days and

have only one meal from the regular menu (Schuster, 1983).

IMPACT ON LUXURY ITEMS

Luxury items are defined in the Federal Register as a "service that is more expensive than is medically required and is required for the personal comfort of the beneficiary." The provider may charge the patients for excess costs involved with luxury items, for example, modified diets, expensive supplements and expensive menu additions. Room and board charges are included under routine services in the Federal Register, and separate charges for these would not be allowed.

IMPACT OF THE DRG'S ON SPECIALIZATION OF SERVICES

The Medicare regulations will encourage increased specialization. A hospital may promote a service which is profitable under the DRG's, and may eliminate services which carry a cost greater than the limit. An item that is profitable for the foodservice department is catering, and an unprofitable item can be the employee cafeteria (Schuster, 1985).

IMPACT ON REVENUE-PRODUCING AREAS

Hospital foodservice operations may expand into revenue-producing areas, such as meals-on-wheels, and contract food production to nursing homes and adult-care centers. This expansion requires

strategic planning and accurate forecasting. Catering to both inside and outside the medical complex can generate money for the foodservice department (Schuster, 1985).

Hospitals are expanding their outpatient operations due to the decreasing patient length of stay, and thus, home care services may be the alternative provided. Another opportunity to raise funds is to provide a catered meal to the community to collect contributions for the purchase of new equipment for the department (Schuster, 1985).

IMPACT ON MENU SELECTIONS

Some foodservice managers are considering a two-tier menu system for inpatients in order to contain costs. The system would include a selective menu for those with private insurance, since these patients could afford expensive menu additions (Rose, 1985).

Other hospitals provide special meal service as a marketing tool. Special services include 24-hour meal service, gourmet food items, fruit baskets and gift packets to new parents. These services increase food and labor costs, however, these may be off-set by an increase in private patient volume (Faulkner, 1986). One disadvantage to this scheme is that these services

are not included under the DRG system, and would represent an out-of-pocket expense for those on Medicare.

IMPACT ON PATIENT LENGTH OF STAY

Paul Gelb, foodservice director at St. Peter's Medical Center in New Jersey, summarized the potential impact of the DRG`s, "each hospital bed will be like a rental car. The rent-a-car companies' profits depends on how many times it can turn over that car--how many different people can rent it" (Schuster, 1983). This means the hospitals will push for a shorter length of stay for the Medicare patient in order to assure full payment for the services provided.

RESEARCH

In an unpublished study, Farah Walters, M.S., R.D., examined the effects of the DRG's on the behavior of the Chief Executive Officers (CEO) of six hospitals, resource utilization and patient length of stay. She interviewed six CEO's of major hospitals in the Cleveland area in April, 1983, with the agreement that all sensitive hospital statistics would be kept confidential. A questionnaire was developed to assess the overall strategy of hospital administration, usage of software in management decision-making,and marketing strategies. Mrs. Walters evaluated the

responses given with patient billing statistics on Medicare patients. In her conclusions, Mrs. Walters stated that there were a variety of perceptions and overall strategic planning ranged from well-planned to confused plans. Based on confidential cost/charge ratios and reimbursement rates from the DRG's, Mrs. Walters calculated which hospitals had made a profit. She concluded that the length of stay had a greater effect than resource utilization on increasing hospitals' operating costs (F. Walters, personal communication, April 13, 1985).

Schuster (1984) published a survey of thirteen foodservice directors and dietitians on their perceptions of the effect of the DRG's on their foodservice operation. She found that the approaches and attitudes varied among the hospitals. Some directors had cost containment as a priority, while others were adopting methods to increase revenue within the department. The following paragraphs will present an indepth review of this survey and results.

Ms. Schuster identified five main areas within the hospital foodservice operation for study. These areas are: patient service, cafeteria service, special foodservice, out-of-hospital services, and consolidation. Each of these categories will be

examined, including an analysis of the services provided in each area.

Inpatient services examined includes menu alterations, changing patient length of stay, alteration in clinical dietetics services and quality of paper goods for inpatient meal service. Of the thirteen respondents, six directors identified a decreased patient length of stay as having a significant impact on their foodservice operation. Four directors indicated that changes in the inpatient menu had been made and three stated that there were changes in the clinical nutrition services they provided. Two directors purchase lesser quality paper products to contain costs. Most directors were costing out their services provided to inpatients to determine the potential impact that the DRG's may have on their operation.

The second area of hospital foodservice analyzed for the imapct of the DRG's was cafeteria service. This category includes employee training and scheduling, workforce reduction, and decreasing food costs. Six directors responded that their department had a decreased workforce, while three others identified increased employee cross-training and revised employee scheduling as methods to contain

costs in the foodservice department. Others stated that cafeteria services were no longer considered an employee benefit, this area was required to generate income to cover their expenses. Although the cafeteria is not directly related to inpatient care, this area has also felt an impact from the advent of the DRG's.

Special foodservices, including catering, gourmet menu items and computerization of services, were also studied. Only four of the thirteen respondents identified increased catering services as a method to increase revenue. One hospital was diversifying their menu to include gourmet items, while another offered carry-out meals for employees. Three directors had implemented the use of computers within their operation to increase cost containment. Although not all hospital foodservice departments have special functions such as these, this area has been indirectly impacted by the implementation of the DRG's and overall hospital cost containment measures.

The fourth category of study was out-of-hospital services, this includes outpatient nutrition clinics, contract foodservice, and research. Five directors stated that outpatient nutrition services were expanded as a direct result of the DRG's. Early patient discharges forced the outpatient department to

have closer follow-up of the recovering patient. Three directors stated that they had contracted food production to other facilities to increase revenue. One director responded that the clinical dietitians were expanding their services to participate in research studies. Clearly this is an area that has grown more complex as hospital foodservice directors diversify their services under the Prospective Payment System.

Consolidation of services outside the hospital such as group purchasing, and centralized production, were identified as action taken in response to the DRG's. One hospital became involved in group purchasing in order to contain costs, and benefited from lower prices. Another director responded that centralized kitchen production had decreased production and labor costs. Consolidation of services and production is an area least identified by directors as having felt an impact from the DRG's.

Karolyn Schuster published the results of this survey on the impact, both immediate and expected, of the DRG's on thirteen foodservice establishments in the nation, in the March, 1984 issue of Food Management. The survey format presented in her study formed the basis of the research method to be

presented in the next chapter.

Sector (1984) identified four areas for cost containment for nutrition support services. These included; product selection, product delivery, computer application and home nutrition support (Sector, 1984). These categories were adapted for use in the present study.

The literature seems to point to the following major areas of impact resulting from the initiation of the use of DRG's. These are: inpatient services, cafeteria services, special foodservices, out-of-hospital services, and consolidation of services.

CHAPTER 3

Design of Study

INTRODUCTION

In this chapter there is a description of the population, research method, data collection procedure, data analysis, and research questions. The instrument is included in the appendix of this text.

OBJECTIVE OF STUDY

The primary objective of this research is to determine the impact of the 1983 Medicare regulations on hospital foodservice facilities in Kentucky. The following areas have been identified for specific measurement of the impact of the DRG's on foodservice management:

I. INPATIENT SERVICES
   1. average patient length of stay
   2. changing food costs
   3. alteration in patient case mix
   4. alteration in inpatient menu selections
   5. requests for luxury food items
   6. requests for nutrition services

II. CAFETERIA SERVICES
   1. increase in labor saving techniques
   2. requirement for increased productivity

3. changing food cost accounting methods

III. SPECIAL FOODSERVICES

1. expansion of revenue producing areas

IV. OUT-OF-HOSPITAL SERVICES

1. increased specialization of services

2. increase in labor saving techniques

V. CONSOLIDATION OF SERVICES

1. increased cost containment measures

POPULATION SAMPLE

Ten foodservice directors from the Kentucky area hospitals were interviewed for a prospectus of the effects of the Medicare regulations on their facility. The population base included hospitals in the local Lexington and Louisville areas for convenience of this author.

RESEARCH METHOD

A survey research method with a limited case study sample was used in this study to provide indepth, descriptive data. Due to the exploratory nature of this research, the number of respondents was limited to allow evaluation of all perceptions on the impact of the implementaion of the DRG's. The instrument used to obtain the data was based on a smaller questionnaire developed for an independent study completed at Virginia Polytechnic Institute, entitled, "Defining the Hospital Meal for

Reimbursement Purposes," by this author.

The procedure used was an open-ended interview, to elicit information on foodservice directors perceptions of the effects that the Medicare regulations have had on their foodservice operation, covering a period from 1982 to 1987. A telephone survey was employed, since this avoided a non-response bias.

DATA COLLECTION PROCEDURE

Starting in April, 1987 this researcher mailed a letter, explaining the research objectives to ten Lexington area foodservice directors. A stamped post card was included; those that did not wish to participate in the study were asked to return the post card. After allowing time for negative responses, a phone appointment for the interview was made with the foodservice director. Based upon the 100% participation in the survey for HNF 5970, and preliminary phone calls made to ascertain interest in this study, it was expected that the foodservice directors contacted would cooperate fully with this study. During the phone interview, directors were asked to present both 1982 and 1987 data, and were questioned on what they felt had caused the changes

cited.

DATA ANALYSIS

All responses were coded after all interviews had been completed, and were analyzed qualitatively. Since this was designed to be an exploratory study the data analysis was designed to be qualitative. The results of this analysis of the changes that have occurred from 1982 to the present are presented in Chapter 4. Chapter 5 presents a discussion of the results obtained from this study.

The following specific research questions were developed to accomplish the research objectives.

I. INPATIENT SERVICES

1. What happened to the average patient length of stay since the DRG's went into effect in 1983.

2. What were the changes in food costs that have occurred since the DRG's were implemented.

3. What alterations in patient case mix occurred since the DRG's went into effect.

4. What alterations in inpatient menu selections occurred since the DRG's were implemented.

5. What changes in requests for luxury food items occurred since the DRG's were implemented.

6. What changes in requests for nutrition

services occurred since the DRG's went into effect.

II. CAFETERIA SERVICES

1. Define changes that have occurred in labor saving techniques since the implementation of the DRG's.

2. Identify changes in requirements for increased productivity since the DRG's went into effect.

3. Identify changes made in administrative management since the DRG's went into effect.

III. SPECIAL FOODSERVICES

1. Define changes in revenue producing areas, either expansion or elimination of services, that have occurred since the implementation of the DRG's

IV. OUT-OF-HOSPITAL SERVICES

1. Identify areas of specialization that have been developed since the DRG's went into effect.

2. Define changes that have occurred in labor saving techniques since the implementation of the DRG's.

V. CONSOLIDATION OF SERVICES

1. Identify changes that have occurred in cost containment measures since the DRG's went into effect.

These research questions formed the basis of the survey used in this study.

CHAPTER 4

Survey Results

INTRODUCTION

The purpose of this chapter is to present the results of the interviews with ten hospital foodservice directors in Kentucky. The primary objective of this study was to determine the impact of the Prospective Payment System on hospital foodservice facilities.

The questions were grouped into five main areas of management; inpatient services, cafeteria services, special foodservices, out-of-hospital services, and consolidation of services. The results will be presented according to these groups.

The population sample included ten foodservice directors from local Kentucky hospitals. The directors were first contacted by mail to ascertain interest in the survey, and then contacted by phone for the interview.

After all ten interviews were completed, the responses were coded and grouped for frequency of distribution. Due to the small sample size and types of responses given, frequency of distribution was used. Highlights of the responses were also analyzed

and presented.

The purpose of each question was two-fold; first, to identify a change in a specific area of foodservice management. And second, to determine if that change was related to the 1983 Medicare regulations. The impact perception to both questions will be presented according to the five main areas of management in separate sections to follow.

INPATIENT SERVICES

Inpatient services included average patient length of stay, average daily meal costs, patient diagnosis case mix, inpatient menu alterations, and clinical nutrition management. This area comprised 40% of the survey questions, since these variables are directly impacted by the Prospective Payment System. The foodservice directors were questioned about changes in each of the areas, and the possible effects of the DRG's on these changes.

Each foodservice director was asked the number of beds in the hospital and the average percent of Medicare patients admitted. The number of beds ranged from 150-539, (m = 362) and the percent Medicare patients ranged from 19-60%, (m = 38%). All hospitals represented middle-class America and all treated Medicare patients; the purpose of this study was to determine the extent of the impact of the Medicare

regulations. The results are presented in Table 1.

Research Question Number One

The purpose of this question was to determine the average length of stay and changes associated with the 1983 Medicare regulations. Table 2 presents data on the average length of stay for 1982 and 1987, and the mean difference between the years. The goal of this question was to determine the change from 1982 to 1987, not to compare each hosptial's length of stay with another. Therefore, the mean difference was used. Eight respondents indicated a decrease in the average length of stay from 1982 to 1987, which is indicative of the national trend during this time period. Of the ten respondents, only one hospital had an increased average length stay. This hospital went from an average of 4.9 days to 5.3 days in 1987, a .08% increase. One director reported no change in the length of stay from 1982 to 1987.

Three directors stated there was a decreased length of stay from 1982 to 1987, but provided actual figures for only 1987. These three were not included in the 1982 data. The average length of stay in 1982 was 7.3 days and for 1987 was 5.8 days. The mean difference for the average length of stay from 1982 to 1987 was 1.2 days. Seven hospitals were used in this

TABLE 1

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

POPULATION DEMOGRAPHICS

	HOSPITAL	LOCATION	# OF BEDS	%MEDICARE PTS.
	1	Lexington, KY	385	30%
	2	Winchester, KY	150	45%
	3	Louisville, KY	265	30%
	4	Louisville, KY	539	60%
	5	Lexington, KY	436	19%
^	6	Louisville, KY	484	50%
*	7	Louisville, KY	222	60%
*	8	Paducah, KY	350	30%
*	9	Lexington, KY	305	30%
	10	Bowling Green, KY	330	30%

Symbols Defined:

* Denotes Company A Contract for management

^ Denotes Company B Contract for management

TABLE 2

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

AVERAGE PATIENT LENGTH OF STAY

1982	1987	MEAN DIFFERENCE 1982-1987
7.3 days	5.8 days	1.2 days
(n = 7)	(n = 10)	(n = 7)

calculation since they had paired data.

When asked what caused this change in average patient length of stay, nine out of ten reported the DRG's. It was anticipated that the average patient length of stay would decrease with the advent of the DRG's, since each admission was allotted a limited number of inpatient days. One director responded that the DRG's did not affect their average patient length of stay.

Research Question Number Two

The purpose of these questions was to identify the average daily meal cost and identify any changes associated with the 1983 Medicare regulations. The results are shown in Table 3.

Of the ten respondents, nine reported an increased average daily meal cost, and one reported no change. Although all provided 1987 costs, only five provided the 1982 costs. As shown in Table 2, average daily meal costs rose from a range of $1.34 - $10.84 in 1982 to $1.45 - $12.56 in 1987 (m= $.55). Comparison of cost changes, for example, mean difference in meal cost from 1982 to 1987, provides information on overall trends. These overall trends reflect increases in both food and labor costs from 1982 to 1987.

TABLE 3

Survey on the Effect of 1983 Medicare Regulations on Hospital Foodservice Management

AVERAGE DAILY MEAL COST

1982	1987	1982 to 1987 MEAN DIFFERENCE
$1.34 to $10.87 (n = 5)	$1.45 to $12.56 (n = 10)	+ $.55 (n = 5)

Nine of the ten repondents associated the increased average daily meal costs to increased food and labor costs. Of these nine respondents, five reported that inflation was another reason for increased meal costs. This reflects the national trend, the rate of inflation increased 14% from 1982 to 1987. They did not indicate that this increase was a direct result of the new cost system under the DRG's. One director responded that the DRG's had an effect on increasing the average daily meal cost for the hospital.

Research Question Number Three

Identifying any changes in the patient case mix since the 1983 Medicare regulations went into effect was the purpose of this question. Nine of ten respondents identified a change in their patient case mix; one stated that there had been no change.

When asked how the case mix had changed, nine responded that in 1987 patients were admitted in poorer health status and required more nursing care than in 1982. Three of the nine reported that the patients were also older since the 1983 Medicare regulations went into effect. All nine indicated that the implementation of the DRG's had caused the change.

Research Question Number Four

The purpose of the questions in this category was

to identify changes in the inpatient menu since the 1983 Medicare regulations went into effect. The questions included a comparison of five items that changed from 1982 to 1987. They included menu cycle length, number of menu selections, number of luxury items, number of modified diets served, and total number of meals served. The respondents were also asked what caused the changes in the inpatient menu from 1982 to 1987.

Of the ten respondents, seven identified a decrease in menu cycle length, and two noted no change from 1982 to 1987. Only nine provided data for both years, these responses were included in Table 4. Only one respondent noted an increase in menu cycle length, from ten days in 1982 to twenty-one days in 1987.

Table 5 indicates the number of inpatient menu selections increased in five and stayed the same in four hospitals. The number of luxury items increased in six and stayed the same in three hospitals; only one respondent indicated a decrease in this number. Nine out of ten noted an increase in modified diets served. Half of the respondents noted a decrease in total meals served, two remained the same, and three noted an increase in total meals served.

When asked what caused the changes indicated in Table 5, eight of ten respondents identified the DRG's

TABLE 4

Survey on the Effect of 1983 Medicare Regulations on Hospital Foodservice Management

INPATIENT MENU CYCLE LENGTH

	1982	1987
Average Menu Cycle Length	16 days	10.22 days

(n = 9)

TABLE 5

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

INPATIENT MENU ALTERATIONS

1. Number of Inpatient Menu Selections	
Increased	5
Decreased	1
Same	4
2. Number of Inpatient Luxury Items	
Increased	6
Decreased	1
Same	3
3. Number of Modified Diets Served	
Increased	9
Decreased	0
Same	1
4. Number of Inpatient Meals Served	
Increased	3
Decreased	5
Same	2

as having an impact on their inpatient menu. The specific reasons included: patients in critical condition that required more modified diets and more supplemental enteral feedings due to the change in patient case mix, and an increase in gourmet menu items to attract private insurance patients. Two respondents identified a decreased occupancy rate as the major impact on their inpatient menu.

Research Question Number Five

The purpose of these questions was to identify changes in the clinical nutrition management of inpatients since the 1983 Medicare regulations went into effect. The questions included a comparison of six measurements of clinical nutrition management, which are included in Table 6.

They included patient/dietitian ratio, number of diet instructions, number of nutritional assessments, clinical staff scheduling and training, and availability of a nutrition support team. The respondents were also asked what caused the changes in the clinical nutrition management of inpatients from 1982 to 1987. This information was summarized in Table 6.

Eight of the ten respondents indicated that the DRG's impacted a change in the clinical nutrition

TABLE 6

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

1987 CLINICAL NUTRITION MANAGEMENT

1. Patient/Dietitian Ratio	
Increased	1
Decreased	3
Same	6
2. Number of Diet Instructions	
Increased	6
Decreased	0
Same	4
3. Number of Nutritional Assessments	
Increased	7
Decreased	0
Same	2
None	1
4. Clinical Staff Scheduled Hours	
Increased	5
Decreased	1
Same	4

TABLE 6 continued

1987 CLINICAL NUTRITION MANAGEMENT

5. Clinical Staff Training	
Increased	6
Decreased	0
Same	4
6. Nutrition Support Team	
Available	3
Not Available	7

management of patients; there were expansion and development of new services. The remaining two respondents did not feel that the DRG's had an impact on their clinical management of patients. Other comments included; three hospitals were required to justify the dietitians' services. Three directors responded that they had increased specialization of services for specialty units, such as diabetes and oncology.

CAFETERIA SERVICES

The second area of foodservice management included in this survey was cafeteria services. Questions were related to employee scheduling and training, the cafeteria menu and food production. This area comprises about 25% of the survey questions. It was expected that the DRG's would have an indirect impact on this area.

Research Question Number Six

The purpose of these questions was to determine the requirement for increased productivity within cafeteria services since the 1983 Medicare regulations went into effect. It was anticipated that hospitals would decrease the overall workforce, including the foodservice department workforce. This would result in an increased productivity by the existing staff.

The cafeteria menu and hours of operation can be altered to maximize profitability. The areas studied included menu selections and hours of operation. Table 7 includes these results.

Eight of ten respondents indicated that the DRG's had an impact on cafeteria services; they changed the menu, hours of operation, and introduced ethnic themes. The remaining two respondents stated that the DRG's did not have an impact in this area. Comments included: six directors stated that the cafeteria was an area to generate revenue for the hospital, and other respondents stated that cost containment was essential in this area. Four directors had developed special promotions on the cafeteria menu to increase patronage and serve as public relations for the hospital. Cheaper menu selections were used in one hospital to decrease costs; while another cited a decrease in staff which forced a decrease in hours of operation.

Research Question Number Seven

Defining changes in labor-saving techniques since the 1983 Medicare regulations went into effect was the purpose of these questions. Areas of study included employee scheduling and training, and food production. The respondents were questioned about the

TABLE 7

Survey on the Effect of 1983 Medicare Regulations on Hospital Foodservice Management

1987 CAFETERIA SERVICES

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1. Cafeteria Menu Changed Since DRG's Implemented

Yes	9
No	1

2. Number of Menu Selections

Increased	6
Decreased	1
Same	3

3. Number of Hours of Operation

Increased	3
Decreased	3
Same	4

impact of the DRG's in this area. The results are presented in Table 8.

The changes in employee scheduling included; seven directors noted a decrease in staff, one noted an increase in staff and two had no change. All ten respondents stated that they had increased training for the kitchen employees to cross-cover areas. Directors stated the reasons for cross training employees were; one, a staff reduction, due to attrition, resulted in fewer employees completing the same amount of work. For example, a baker was now required to bake and grill instead of only baking. Another reason for cross training employees was due to a change in food production. Ethnic promotions and catering require the entire staff to be competent in all areas of food production. Several directors had gone to convenience foods or cook/chill systems to accommodate a decrease in staff.

All ten directors identified a change in food production which included more specialized meal production, such as ethnic and weight control promotions in the cafeteria and more modified diets. Nine of ten respondents noted that the DRG's had an impact on cafeteria management. The reasons cited included overall hospital staff reduction, lower

TABLE 8

Survey on the Effect of 1983 Medicare Regulations on Hospital Foodservice Management

1987 CHANGES IN CAFETERIA MANAGEMENT

---

1. Number of Cafeteria Employees

Increased	1
Decreased	7
Same	2

2. Cafeteria Employee Training

Increased	10
Decreased	0

3. Change in Food Production Methods

Yes	10
No	0

hospital occupancy rates and a requirement for increased productivity with available staff. One respondent did not feel the DRG's had an impact on this area.

Research Question Number Eight

The purpose of this question was to determine changes made in administrative management since the Medicare regulations went into effect in 1983. The directors were asked if they had made changes in their food cost accounting methods in response to the new Medicare regulations. Four of ten foodservice directors stated that their food cost accounting methods had changed in response to the DRGs. The reasons cited included that they were now required to now give a more detailed report to hospital administration, and were required to forecast and justify a budget. Six directors stated that the DRG's had not caused a change in their food cost accounting methods. Several of these hospitals were required to report on their management company's report forms.

SPECIAL FOODSERVICES

Special foodservices included revenue-generating areas; catering, vending, gourmet menus and specialty gift items. Although this is not a direct patient care area, directors were questioned on the impact of

the DRG's in this area.

Research Question Number Nine

Table 9 presents the results of this research question; the purpose was to identify any changes in revenue producing areas since the 1983 Medicare regulations went into effect.

All ten respondents offered catering functions; one caters weddings and showers outside the hospital. Several directors noted that vending machines were leased out to contract food companies, and did not affect their department. The directors stated that they offered gourmet menus to attract paying patients and visitors. Three directors offer fruit baskets through the hospital's Gift Shop, and one also offered gourmet meal ticket purchases through the Gift Shop.

Three of the ten respondents stated that the DRG's had no effect on their special foodservice functions. Seven directors stated that the impact of the DRG's had been a new requirement to develop schemes for revenue production. Others noted that specialty items added to the hospital's public image.

OUT-OF-HOSPITAL SERVICES

This area included outpatient education and counseling, and computerization of services. Approximately 20% of the survey questions were

TABLE 9

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

SPECIAL FOODSERVICES

---

1. Foodservice Provides Catering Functions

	1982	1987
Yes	10	10
No	0	0

2. Foodservice Provides Vending Machines

	1982	1987
Yes	0	3
No	10	7

3. Foodservice Provides Gourmet Menu

	1982	1987
Yes	0	7
No	10	3

4. Foodservice Provides Items Through Gift Shop

	1982	1987
Yes	0	3
No	10	7

included in this area. It was expected that the DRG's would have an impact on this area, although it is not a direct patient care area.

Research Question Number Ten

Defining any changes in specialization of nutrition services since the 1983 Medicare regulations went into effect was the purpose of this question. This area included outpatient nutrition counseling, clinical nutrition research and marketing services within the community. The results are presented in Table 10. All ten respondents indicated that the DRG's had an effect on these out-of-hospital services. Seven indicated that they were new services developed in 1987 to generate revenue for the hospital and improve its public image. Others noted that they were now charging for outpatient nutrition counseling and for enteral supplements to generate revenue.

Research Question Number Eleven

The purpose of these questions was to determine any changes in labor-saving techniques since the 1983 Medicare regulations went into effect. The questions related to computerization within the department, for menu writing, purchasing or clinical nutrition management. The results are presented in Table 11.

TABLE 10

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

OUT-OF-HOSPITAL SERVICES

---

1. Foodservice Provides Outpatient Nutrition Counseling

	1982	1987
Yes	7	10
No	3	0

2. Foodservice Participates in Research

	1982	1987
Yes	2	4
No	8	6

3. Foodservice Markets Dietitians Outside the Hospital

	1982	1987
Yes	5	6
No	5	4

4. DRG's Affected Availabilty of These Services

Yes	7
No	3

TABLE 11

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

COMPUTERIZATION IN FOODSERVICE

---

1. Foodservice Department has Computerization

	1982	1987
Yes	3	5
No	7	5

2. Computer Functions Reported

Quality Assurance	1
Cash Flow Tracking	1
Generate P & L Statements	1
Inventory	1
Patient Census	1

Only two of the ten foodservice directors stated that the use of computers within their department was in response to the DRG's. Three had been using computers prior to 1983 and noted that computerization occurred throughout the hospital to update services.

CONSOLIDATION OF SERVICES

This section included cost containment measures within the hospital, in purchasing and production. Although not directly related to patient care, it was felt that these areas would be indirectly affected by the DRG's.

Research Question Number Twelve

Determining any changes in cost containment measures since the Medicare regulations went into effect in 1983 was the purpose of this question. The cost containment activities included group purchasing and centralized food production. The respondents were also asked to comment if participation in these activities was related to the DRG's. The results are presented in Table 12.

TABLE 12

Survey on the Effects of 1983 Medicare Regulations on Hospital Foodservice Management

CONSOLIDATION OF SERVICES

---

1. Participate in Group Purchasing

	1982	1987
Yes	7	9
No	3	1

2. Participate in Centralized Food Production

	1982	1987
Yes	10	10
No	0	0

3. Participate in Group Purchasing in Response to DRG's Implementation

Yes	4
No	6

4. Participate in Centralized Food Production in Response to DRG's Implementation

Yes	0
No	10

Four of the ten respondents indicated that participation in these cost containment activities was due to their management contracts, and did not relate to the DRG's. Four indicated that they participated in group purchasing since the hospital required all departments to become cost efficient. All departments had centralized food production prior to 1983, this was not affected by the implementation of the DRG's.

CONCLUSION

This chapter presented the results of the survey conducted on ten foodservice directors in Kentucky on the impact of the DRG's of their facility. The results were grouped into five main areas of management; inpatient services, cafeteria services, special foodservices, out-of-hospital services and consolidation of services.

The next chapter provides an interpretation of these results, and an assessment of the research objectives.

CHAPTER 5

Discussion of Results

INTRODUCTION

The purpose of this chapter is to provide an interpretation of the results presented in Chapter 4, and to assess whether the research objectives were met. The discussion will follow the same format presented in Chapter 4. The five main areas of foodservice management investigated in this research are: inpatient services, cafeteria services, special foodservices, out-of-hospital services, and consolidation of services.

The primary objective of this study was to determine the impact of the Prospective Payment System on hospital foodservice facilities in Kentucky. The primary objective was met since all ten respondents indicated an impact of the DRG's on their foodservice management. Detailed descriptions of each of the twelve research objectives, reviewed in Chapter 1, are presented.

INPATIENT SERVICES

Inpatient services included average patient length of stay, average daily meal cost, patient diagnosis case mix, inpatient menu alterations and clinical nutrition management. Each of the ten foodservice

directors indicated changes in one or more of these areas related to the implementation of the DRG's.

Every hospital surveyed admitted Medicare patients to their hospital, and were affected by the 1983 Medicare changes. This section will examine the impact of these regulations.

Research Question Number One

The purpose of these questions was to determine the average length of stay and changes associated with the 1983 Medicare regulations. According to the data presented in Chapter 4, a majority of hospitals had a decreased patient length of stay from 1982 to 1987.

The results also indicated that the DRG's had an effect on decreasing the average length of stay. This decreased patient length of stay affects all departments in the hospital, including foodservice management. The hospital makes a profit when Medicare patients have a shorter length of stay than their allotment under the DRG's.

Length of stay was affected by the addition of money making services such as a Chemical Dependency Unit and an increased number of transplant operations performed. These increased the overall length of stay. However, the majority of patients had a decreased length of stay, due to the early discharge

requirement of private and public insurance companies.

It was anticipated from the review of literature that the average length of stay would decrease in response to the implementation of the DRG's, since reimbursement is tied to the number of days spent in the hospital. The development of specialty operations and services within the hospital was expected, however the potential impact on lengthening the patient length of stay was not anticipated.

The first research objective was met, the average patient length of stay was determined for 1982 and 1987. It decreased primarily due to the implementation of the DRG's, which appears to be the national trend.

Research Question Number Two

The purpose of these questions was to identify the average daily meal cost and identify any changes in it associated with the 1983 Medicare regulations. According to the data presented in Chapter 4, a majority of foodservice directors indicated an increased average daily meal cost from 1982 to 1987.

The results indicated that increasing food and labor costs were the cause for the increased average daily meal costs. A majority of the respondents did not associate average daily meal cost with the DRG's. This author feels that the average daily meal costs

are related to the DRG's. A trend towards more complicated medical cases will require more specialized treatment, including specialized food products. Patients in critical condition require more modified diets and specialized food products. These products are more expensive and require additional labor to prepare; this would increase average daily meal costs. The number of modified diets increased in nine of the hospitals surveyed.

Changes in food costs, reflected by the average daily meal cost, were identified by this research question. These changes were not associated with the 1983 Medicare regulations; they were associated with inflation, and rising food and labor costs, according to the respondents.

RESEARCH QUESTION NUMBER THREE

The purpose of these questions was to identify any changes in patient case mix since the 1983 Medicare regulations went into effect. According to the data presented in Chapter 4, a majority responded that the patient case mix had changed from 1982 to 1987. The patients are admitted to the hospital in more critical condition now, according to the repondents.

This type of patient requires more modified diets and specialized care. The respondents indicated that since the DRG's were implemented, the patients had a shorter length of stay, required more medical attention as inpatients, and more modified diets were implemented.

Research Question Number Four

The purpose of these questions was to identify alterations in the inpatient menu since the 1983 Medicare regulations went into effect. The questions included a comparison of five items that changed from 1982 to 1987. They included menu cycle length, number of menu selections, number of luxury items, number of modified diets served, and total number of meals served.

Tables 4 and 5 presented the results from these questions. According to the data presented in Table 4, the average menu cycle length decreased in a majority of the hospitals. This may be related to the decreased average length of stay. Generally, with a shorter cycle, the menu can offer more selections. An example of this is the one-day cycle for a restaurant style menu.

Data on patient menu selections, luxury items, modified diets and total meals served, were presented

in Table 5. The number of inpatient menu selections had basically increased or stayed the same from 1982 to 1987.

Luxury items were defined, for this study, to include modified diets, expensive supplements and expensive menu additions. Table 5 indicated that a majority of hospitals had an increase in the number of requests for luxury items. This question was then broken down to include only modified diets. Nine out of ten indicated that the number of modified diets had increased. These results indicate a trend towards sicker patients requiring specialized meals and supplements, from 1982 to 1987.

Total number of meals served data was also included in Table 5. The results provided inconclusive data. The total number of meals served may have decreased due to a decrease in occupancy rate, or, may be due to an increased number of patients in critical condition who are not able to eat inpatient meals.

Two weaknesses identified when reviewing the responses to this research question were one, additional information on occupancy rate changes from 1982 to 1987 would have been useful in correlating the responses, and two, charges for modified diets and enteral supplements would have provided more

information on actual food costs.

A majority of repondents indicated that the DRG's had affected a change in the inpatient menu. The changes that occurred were: one, shorter menu cycle length, two, more specialized meal service such as gourmet menus, three, more modified diets served, and four, an overall decrease in meals served due to a decreased patient census.

Although the individual responses varied with respect to the actual changes, most directors indicated that the DRG's had caused the change in their inpatient menu cycle length, number and type of menu selections and modified diets served .

Research Question Number Five

The purpose of these questions was to identify changes in the clinical management of inpatients since the 1983 Medicare regulations went into effect. The questions included a comparison of six measurements of clinical nutrition management. They included patient/dietitian ratio, number of diet instructions, number of nutritional assessments, clinical staff scheduling and training, and nutrition support team.

According to Table 6, the patient/dietitian ratio stayed the same from 1982 to 1987, in a majority of hospitals. This may reflect, first, a decrease in

occupancy rate with a concurrent decrease in dietitian staffing. Second, several hospitals had added specialty units, such as cancer and diabetes, with a dietitian assigned only to these units. These additions could keep the overall patient/dietitian ratio the same, or decrease it slightly.

Table 6 indicated that a majority of hospitals had an increased number of diet instructions from 1982 to 1987. This may reflect, one, an increased number of patients requiring instructions, two, an increased level of productivity by the dietitians, three, a shorter patient length of stay, and four an increase in the number of sicker patients. The remainder of the respondents indicated that the actual number of diet instructions had not changed from 1982 to 1987. This may reflect a decreased occupancy rate over the years.

The number of nutritional assessments on critically ill patients increased or stayed the same in a majority of hospitals, as indicated in Table 6. Clearly this is an important function of the dietitian under the DRG's. The addition of malnutrition as a comorbity factor for a patient diagnosis will increase hospital reimbursement under the DRG's. Only one hospital indicated that no nutritional assessments were done on their patients.

Clinical staff scheduling and training had increased or stayed the same in a majority of the hospitals surveyed, as shown in Table 6. The increased scheduled hours for several hospitals reflected the addition of dietitians to the staff. Only one hospital indicated the loss of a dietitian from the staff. All of the hospitals had increased or maintained the same training for the clinical staff. This reflects support of the dietitian's critical services.

It was anticipated that dietitians would be required to document their productivity; by documenting number of diet instructions and nutritional assessments. It was also anticipated that the implementation of the DRG's would have a negative impact on these services. The results of this study indicated an increase in the productivity parameters and in overall clinical staffing.

A majority of hospitals did not have a nutrition support team as indicated in Table 6. It was anticipated that dietitians would diversify to this specialty area to justify their services under the Prospective Payment System. The results of this study indicated that dietitians had not diversified into this specialty area at this time.

The implementation of the DRG's had an impact on the majority of hospitals' clinical nutrition management of patients, as shown in Chapter 4. The DRG's had an impact on the number of nutritional assessments, and clinical staff scheduling and training. These had increased from 1982 to 1987, although it had been anticipated that these services would be greatly reduced with overall hospital budget cuts.

CAFETERIA SERVICES

The second area of foodservice management included in this study was cafeteria services. Questions were related to employee scheduling and training, cafeteria menu, and food production activity. Each of the ten directors indicated a change in one or more of these areas. The changes are examined in this section.

Research Question Number Six

The purpose of these questions was to determine the requirement for increased productivity within cafeteria services since the 1983 Medicare regulations went into effect. The areas studied included menu selections and hours of operation.

Table 7 in Chapter 4 indicated that a majority of the cafeteria menus had changed since the DRG's went into effect. The number of menu selections increased

for most, and remained the same for a few, due to item substitutions. Several directors indicated that they had added special promotions to increase patronage. Others had substituted new items for unpopular menu items, essentially keeping the number of menu selections the same. Other reasons for altering the cafeteria menu were; one, the cafeteria had to accommodate changes from an overall decrease in hospital staffing and decreased employee patronage, two, the addition of a senior citizen discount mandated a change in the menu to softer foods, and three, the acquisition of equipment and personnel from a contract vendor forced a change in the cafeteria menu.

Table 7 indicated a variety of responses for hours of operation in the cafeteria, without a central tendency. Some were forced to reduce hours due to a staff reduction. Several kept the same hours of operation; open during the peak meal hours that are most profitable. Others expanded their hours of operation to accommodate third shift employees, and increased volume for special promotions.

A majority of directors indicated that the implementation of the DRG's had an impact on cafeteria services, as presented in Chapter 4. Several noted

that the cafeteria had become a revenue generating area for the hospital, since the hospital anticipated losing money under the Prospective Payment System. In order to contain costs some had changed to lower quality food products. Others had changed their menus to accommodate new patronage and attract the paying public. The overall impact indicated from this study was an expansion of cafeteria services to generate funds; in the past the cafeteria had often been an outlet for excesses in inpatient food production.

The requirement for increased productivity was determined for the cafeteria, as defined in research question number six. This was defined in terms of food usage and measured by number of menu selections and hours of operation. Most indicated that the cafeteria had become a revenue producing area in order to increase productivity. Others resorted to cost containment activities, with a decrease in staffing, to increase productivity.

Research Question Number Seven

The purpose of these questions was to determine changes in labor-saving techniques since the 1983 Medicare regulations went into effect. Areas of study included employee scheduling and training, and food production.

According to the information in Table 8, cafeteria employee staffing had decreased in a majority of hospitals, this was related to an overall decrease in hospital workforce. Only one hospital increased staffing due to Joint Commission of American Hospitals (JCAH) recommendations.

All hospitals had increased employee training, according to Table 8. Most were cross-training employees due to staff reductions, this resulted in fewer employees completing the same amount of work, this was due to attrition, as opposed to an actual reduction in employment. Also, there were fewer employees to cover for vacation and sick leave within the department. Food production had become more specialized with the increase in modified diets and special meal promotions, which required additional employee training. All hospitals noted a change in food production according to Table 8. Changes in food production included the addition of convenience foods and the cook/chill system, and the addition of special promotions such as ethnic foods and dessert bars.

A majority of hospitals indicated that the implementation of the DRG's had an impact on cafeteria management. This was mainly due to an overall hospital workforce reduction when the DRG's were

implemented.

Research Question Number Eight

The purpose of this question was to determine changes made in administrative management since the DRG's went into effect.

The data in Chapter 4 was inconclusive with respect to changing methods of food cost accounting. Those under food management contracts already prepared detailed reports and the format did not change under the DRG's. The independent hospital foodservices did change to a more detailed food cost accounting report.

A large percentage of the respondents were under contract management and stated that they had not changed their methods of reporting to the contract companies. It is not known whether the contract companies were required to alter their food cost accounting reporting to the hospital administration.

SPECIAL FOODSERVICES

Special foodservices included revenue generating areas; catering, vending, gourmet menus and specialty food gifts.

Research Question Number Nine

The purpose of these questions was to determine any changes in revenue producing areas since the 1983 Medicare regulations went into effect.

Table 9 indicates that all hospitals offered the catering function, in 1982 and 1987. The extent of this service ranged from physician meals only, to catering weddings and showers. Most foodservice departments did not offer vending machines as reported in Table 9. Many directors responded that vending was leased to a contract company; and did not come under their department.

A majority of foodservice directors indicated that they offered a gourmet menu, as shown in Table 9. Responses ranged from new parents candlelight dinners, to a separate gourmet menu for inpatients. Many indicated that this was a new service to attract paying patients, and served as public relations for the hospital.

Table 9 indicated that a majority of hospitals did not offer items through the Gift Shop. Those that did have Gift Shop items, indicated that the reason was to generate revenue for their department.

The data presented in Chapter 4 on the DRG's impact on special foodservices was inconclusive. Several indicated that the DRG's had no effect. Others indicated that they had developed new ways to generate revenue since the DRG's were implemented.

OUT-OF-HOSPITAL SERVICES

The fourth area of study included out-of-hospital services. The area included outpatient education and counseling, and computerization of services.

Research Question Number Ten

The purpose of these questions was to determine any changes in specialization of nutrition services, including, outpatient nutrition counseling, participation in research, and marketing dietitians services outside the hospital, since the 1983 Medicare regulations went into effect.

Table 10 shows that all hospitals offered outpatient nutrition counseling. The data in Table 10 for research related areas was inconclusive. Of those that had research related activities, the areas of speciality included diabetes, feeding disorders, artificial heart recipients and osteoporosis. The size of the hospital and university affiliation may be the cause for the varied responses.

The data in Table 10 for marketing dietitian services outside the hospital was varied. Several of the respondents offered community education services at no charge, to improve the hospitals' public image. Others offered a Speakers Bureau and educational classes for diabetes, weight control and osteoporosis

in order to generate revenue.

Table 10 showed that a majority of respondents felt that the DRG's had impacted the availability of these services. Several indicated that these were new services to generate revenue or to improve the hospital's public image to attract more paying patients.

Research Question Number Eleven

The purpose of this question was to determine any changes in labor-saving techniques since the 1983 Medicare regulations went into effect. The questions related to computerization of any of the following areas: menu writing, purchasing and clinical nutrition management.

Table 11 provided varied data on the use of computers within the foodservice department. It was anticipated that hospitals would develop computerization within their department as a labor-saving technique with a decreased workforce in the hospital. Of the hospitals having computers, the responses varied from usage in the clinical area for patient census, to the kitchen for inventory, and to the administrative area for cash flow statements. Four had computerization within their department prior to 1983, and the impact of the implementation of the

DRG's was not apparent. The respondents indicated that their hospitals did not develop computerization in response to the implementation of the DRG's.

CONSOLIDATION OF SERVICES

The final area of study included consolidation of services. This area included cost containment measures within the hospital in the purchasing and production areas.

Research Question Number Twelve

The purpose of these questions was to determine any changes in cost containment activities from 1982 to 1987. Table 12 indicated that a majority of respondents participated in group purchasing and centralized food production.

The relationship to the DRG's is not apparent. Three hospitals had Company A management contracts, and one was under Company B management; none related their cost containment activities to the DRG's. These hospitals had participated in group purchasing under their contracts prior to 1983. The hospitals without a management contract indicated that the DRG's had forced all departments in the hospital to become more cost efficient, and that was the reason their department participated in these activities.

Although they indicated otherwise, this author feels that the food contract companies have been impacted by the implementation of the DRG's. The advantages these companies provide to the hospital are cost containment and improved food quality. These are two impacts of the DRG's that were mentioned by the respondents who were not under management contract.

SUMMARY

This chapter presented an assessment of the survey results reported in Chapter 4, on the impact of the DRG's in Kentucky hosptial foodservice facilities. The assessments were grouped into five main areas of foodservice management; inpatient services, cafeteria services, special foodservices, out-of-hospital services, and consolidation of services.

All results and objectives of the research questions were interpreted and examined. The research objectives presented in Chapter 1 were met.

The final conclusions of this study, weaknesses identified, and future research questions will be presented in Chapter 6.

CHAPTER 6

Conclusions

INTRODUCTION

This chapter will present the final conclusions of this study, according to the five main areas of foodservice management. There will also be a discussion of the weaknesses identified and further research questions will be presented.

INPATIENT SERVICES

The DRG's impacted the following areas of inpatient service; patient length of stay and patient diagnosis case mix. This impact resulted in changes in the inpatient menu and clinical nutrition management.

Generally, there was a decreased length of stay and patients were admitted in a more critical condition, since the implementation of the DRG's. In response to this impact, foodservice directors developed a shorter inpatient menu cycle, served more modified diets, and increased the number of menu selections. Clinical nutrition management services changed to include a greater number of diet instructions and nutritional assessments. This was due to the decreased length of stay, and the fact

that patients required more medical care due to their more critical condition.

CAFETERIA SERVICES

The DRG's indirectly impacted cafeteria services in the following ways: different menu selections, decreased number of employees, and increased employee training. Many indicated an emphasis on the cafeteria as a revenue producing area; which was a change since 1982.

SPECIAL FOODSERVICES

Special foodservices included revenue generating areas such as catering, vending, gourmet menus and specialty food gifts. The impact of the DRG's on this area was unclear, approximately half of the respondents felt that the DRG's were related to this area. The impact included the development of gourmet menus, specialty food items in the Gift Shop, and catering outside the department to generate revenue. Of those that identified an impact, many new special foodservices were developed to generate revenue and market the hospital's image.

OUT-OF-HOSPITAL SERVICES

Out-of-hospital services included outpatient counseling and education, and computerization. The DRG's impacted the availability of these services.

Many hospitals are charging for outpatient counseling and several provided community education services to attract paying patients to the hospital and to offset possible financial losses due to the DRG's.

CONSOLIDATION OF SERVICES

This area included cost containment measures in purchasing and production. The impact of the DRG's on this area is unclear, approximately half felt that the DRG's had an impact on this area. Most cited the hospital's emphasis on cost efficiency as a priority since the DRG's were implemented.

CONCLUSION

Government intervention, through the 1983 Medicare regulations, has forced a change in the healthcare industry. Foodservice directors were forced to develop cost containment and revenue producing programs in order to survive under the DRG's. Although it was anticipated that the greater the percentage of Medicare patients would have a greater impact on foodservice management, this was not the case for this study. Quality of care within a limited budget remains the goal for the hospital foodservice industry.

WEAKNESSES IDENTIFIED

The first weakness identified was the sample size, it was too small to provide statistical data. A larger population would have provided more data to reach valid conclusions. With a population of ten directors, it was difficult to draw significant conclusions on many responses.

The second area of potential weakness was possible nonresponse bias. All directors were notified of the study by mail and had the choice of whether to participate in this study. Only respondents that agreed to participate were interviewed by phone.

The reasons cited for non-participation included; one, the Veteran's Administration Hospital was not under the DRG's, two, the hospital opened after 1983, three, the foodservice director had been in the position less than three years, and four, the information was unavailable.

Other weaknesses identified by this author were included in the text of Chapter 5, in the corresponding section of foodservice management.

LIMITATIONS

This study was limited to foodservice directors in Kentucky in acute-care hospitals. No psychiatric or long-term hospitals were included, as they are not

covered by the same Medicare regulations. One possible weakness is that the data is subjective in nature. The open-ended survey allowed for a variety of responses; some respondents may have been more willing to share information due to their familiarity and interest in the subject matter. It was felt the advantage of the telephone survey outweighed the limitations.

FURTHER RESEARCH QUESTIONS

Additional information on the impact of the DRG's in the inpatient area is needed. Fees for service for nutritional counseling, nutritional assessments and charging for enteral products would be valuable to further define the impact of the DRG's.

Although it was beyond the scope of this study, correlation of the occupancy rate, with percent Medicare patients and length of stay would provide further information on the impact of the DRG's on patient census.

This study was limited to foodservice directors in Kentucky. A larger study conducted nationwide would provide information on the overall impact of the DRG's. A larger study would also provide data on the extent of the impact of DRG's of university-based hospitals compared to privately funded hospitals.

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SURVEY ON THE EFFECTS OF THE 1983 MEDICARE REGULATIONS ON HOSPITAL FOODSERVICE MANAGEMENT

STATEMENT OF PURPOSE

The purpose of this research is to identify the effects of the 1983 Medicare regulations and DRG's on hospital foodservice management. This survey includes a basic inquiry into foodservice directors attitudes and any changes associated with the DRG's in their facility.

NAME:
HOSPITAL:
NUMBER OF BEDS:
PERCENT OF MEDICARE PATIENTS:

There are five areas of foodservice management that will be examined in this survey. They include Inpatient Services, Cafeteria Services, Special Foodservices, Out-of-Hospital Foodservices, and Consolidation of Services.

I. INPATIENT SERVICES

A. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE THE AVERAGE LENGTH OF STAY AND ANY CHANGES ASSOCIATED WITH THE 1983 MEDICARE REGULATIONS.

1. What was the average patient length of stay in your hospital?
   a. in 1982
   b. today
2. What do you think caused this change?

B. THE PURPOSE OF THESE QUESTIONS IS TO IDENTIFY THE AVERAGE DAILY MEAL COST AND IDENTIFY ANY CHANGES ASSOCIATED WITH THE 1983 MEDICARE REGULATIONS.

1. What was the average daily meal cost in your hospital?
   a. in 1982
   b. today
2. What do you think caused this change?

C. THE PURPOSE OF THIS QUESTION IS TO IDENTIFY ANY CHANGES IN THE PATIENT CASE MIX SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Has your patient diagnosis case mix changed since the 1983 Medicare regulations went into effect?

D. THE PURPOSE OF THESE QUESTIONS IS TO IDENTIFY CHANGES IN THE INPATIENT MENU SELECTIONS, INCLUDING LUXURY ITEMS, SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Has the inpatient menu changed since the 1983 Medicare regulations went into effect?
2. Identify the following:

	1982	Today
a. menu cycle length		
b. number of menu selections		
c. number of luxury items		
d. number of modified diets served		
e. total number of meals served		

3. What do you think caused this change?

E. THE PURPOSE OF THESE QUESTIONS IS TO IDENTIFY CHANGES IN THE CLINICAL NUTRITION MANAGEMENT OF INPATIENTS SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT, IN THE FOLLOWING AREAS:

1. Identify the following:

	1982	Today
a. patient/dietitian ratio		
b. number of diet instructions		
c. number of nutritional assessments		

2. Were there changes in the following areas?
   a. clinical staff scheduling
   b. clinical staff training
   c. nutrition support team
3. What do you think caused this change?

II. CAFETERIA SERVICES

A. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE THE REQUIREMENT FOR INCREASED PRODUCTIVITY WITHIN THIS AREA SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Has your cafeteria menu changed since the 1983 Medicare regulations went into effect?
2. Were there changes in the following areas:

	1982	Today
a. menu selections		
b. hours of operation		

3. What do you think caused this change?

B. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE CHANGES IN LABOR-SAVING TECHNIQUES SINCE THE 1983 MEDCIARE REGULATIONS WENT INTO EFFECT

1. Have there been changes in any of the following areas since the 1983 Medicare regulations went into effect:
   a. employee scheduling
   b. employee training
   c. food production
2. Did the 1983 Medicare regulations bring about this change?

C. THE PURPOSE OF THIS QUESTION IS TO DETERMINE CHANGES MADE IN THE ADMINISTRATIVE MANAGEMENT SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Has your department changed methods of food cost accounting in response to the 1983 Medicare regulations?

III. SPECIAL FOODSERVICES

A. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE CHANGES IN THE SERVICE PROVIDED BY THESE REVENUE-PRODUCING AREAS SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Did you offer any of the following services:
    1. catering functions, such as conferences and meetings
    2. vending machines, including sandwiches and hot food
    3. gourmet menu items on either the inpatient or cafeteria menu
    4. special products through the Gift Shop
2. Were these new services implemented since the 1983 Medicare regulations went into effect?

IV. OUT-OF-HOSPITAL SERVICES

A. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE ANY CHANGES IN SPECIALIZATION OF NUTRITION SERVICES SINCE THE 1983 MEDICARE REGULATIONS WENT INTO EFFECT.

1. Does your department offer outpatient nutrition counseling?
2. Does your department participate in research in nutrition-related areas such as diabetes, or feeding disorders?
3. Does your department market registered dietitian services outside the hospital?
4. Did the 1983 Medicare regulations affect the availability of these services?

B. THE PURPOSE OF THIS QUESTION IS TO DETERMINE ANY CHANGES IN LABOR-SAVING TECHNIQUES SINCE THE MEDICARE REGULATIONS WENT INTO EFFECT IN 1983.

1. Does your department have computerization of services in any area, including purchasing, menu writing, or clinical nutrition assessment?
2. Does your department have computerization of services in response to the 1983 Medicare regulations?

V. CONSOLIDATION OF SERVICES

A. THE PURPOSE OF THESE QUESTIONS IS TO DETERMINE ANY CHANGES IN COST-CONTAINMENT MEASURES SINCE THE MEDICARE REGULATIONS WENT INTO EFFECT IN 1983.

1. Does your department participate in any of the following cost-containment activities?
   a. group purchasing
   b. centralized food production

2. Does your department participate in these activities in response to the 1983 Medicare regulations?

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March 30, 1987

Joan Sechrist is a graduate student at Virginia Polytechnic Institute and is conducting research in partial fulfillment of the Master's Degree Program. She will be studying the effect of the 1983 Medicare regulations on hospital foodservice operations.

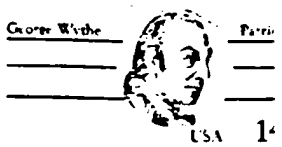
We would appreciate your participation in this project. Joan will be conducting a phone survey of local hospital foodservice directors to determine your experience under the 1983 Medicare regulations. Her goals are to collect data on possible changes in costs, staffing or management of your operation as a result of these regulations.

We have included the questionnaire that she will be using for the phone survey. She will be contacting you during the early part of March to set up a phone conference appointment. If you do not wish to participate in this research, please return the enclosed postcard, and you will not be contacted.

In advance, thank you for your cooperation in this research project. Your input is critical in the assessment of the impact of the 1983 Medicare regulations on the hospital foodservice industry.

Sincerely,

Michael D. Olsen, Ph.D
Professor and Director



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___No, I do not wish to participate in this study