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TECHNICAL REPORT

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A SURVEY OF HOSPITALS USING A RESTAURANT MENU APPROACH IN PATIENT TRAY FEEDING

by

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January 1982

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Food Engineering Laboratory

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A survey of 17 hospitals using a restaurant type menu has been conducted to determine the acceptability of this type of menu. Fifteen of the 17 hospitals were satisfied with their menus. Sample menus were obtained and reviewed. Prototype restaurant menus for WRAMC were developed for regular and modified diets. Information was also collected from nine hospitals using a cook/freeze or frozen convenience foods systems. Recommendations for using a restaurant menu in a cook/freeze system at WRAMC are given.

PREFACE

This project was completed at the US Army Natick Research and Development Laboratories (NLABS) at the request of the Walter Reed Army Medical Center (WRAMC) and was funded under O&MA.19 account. This report details the findings of a survey of hospitals using a restaurant type of menu and gives recommendations for its use at WRAMC. It also contains information on hospitals using a cook/freeze or convenience system.

The authors wish to thank the members of the Audio-Visual Branch, especially Mr. Michael Downes, Ms. Diane Ballord and Ms. Clara Kontos, for the design of prototype menus.

The following hospitals and food service contractors provided information contained in this report.

A R A Services, Inc. Philadelphia, PA
Beth Israel Hospital, Boston, MA
Brooklyn Hospital and Medical Center, Brooklyn, NY
Buffalo General Hospital, Buffalo, NY
Eliot Hospital, Manchester, NH
Emerson Hospital, Concord, MA
Goddard Hospital, Brockton, MA
Harper Grace Hospital, Detroit, MI
Hennipen County Medical Center, Minneapolis, MN
Herman Hospital, Houston, TX
Leonard Morse Hospital, Natick, MA
Lutheran Medical Center, Denver, CO
Mercy Hospital, Des Moines, IA
Mt. Auburn Hospital, Cambridge, MA
Norfolk General Hospital, Norfolk, VA
Riverside General Hospital, Newport News, VA
Seiler's Corporation, Waltham, MA
Service Direction, Minneapolis, MN
Sinai Hospital of Baltimore, Baltimore, MD
St Charles Hospital, Toledo, OR
St Vincent's Hospital, Worcester, MA
The Tulane Medical Center Hospital, New Orleans, LA
United Hospitals, St. Paul, MN
University of Colorado Medical Center, Denver, CO
West Jersey Hospital, Camden, NJ

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A SURVEY OF HOSPITALS USING A RESTAURANT MENU

APPROACH IN PATIENT TRAY FEEDING

Introduction

The type of menu used in hospital feeding has a great influence on the quality of food served and the acceptability of the food by the patients. It has long been known that offering choices in a menu is an important factor in increasing the patient food acceptability. The most common menu used in hospital patient feeding today is one in which patients are offered a choice of two or three items for appetizers, entrees, vegetables, starches and desserts. After a specific time period, which may be as short as three or four days or as long as four weeks or more, the choices repeat themselves, rotating in the same cycle. The menu is then described with the cycle time specified, such as a "seven-day cycle menu" or a "fifteen-day cycle menu".

Many hospitals are investigating alternatives to a cycle menu, and many are changing to what is termed a "restaurant or hotel menu". With a restaurant or hotel menu, the patient is given one all-inclusive menu for the duration of his hospital stay. Each day the patient selects his choices for breakfast, lunch, and dinner as if he were staying in a hotel and selecting from a room service or restaurant menu. The cafeterias in these hospitals usually retain a cycle menu incorporating some items from the patient menu.

The Walter Reed Army Medical Center (WRAMC) in Washington, DC for which the U.S. Army Research and Development Laboratories (NLABS) has rendered much technical assistance, asked the Natick Laboratories to investigate the possibility of changing to a restaurant type menu for patient feeding. WRAMC is a 1280-bed hospital that opened in December 1978 and uses many innovative approaches and much innovative equipment. The system was designed to be a cook/freeze system; however, a cook/chill system was used for the first 16 months of operation. A 42-day menu cycle is used, and 88 types of diet modifications are available. This long menu cycle, compounded by a large percentage (over 40%) of patients on modified diets, results in a large number of different products that must be prepared each day. Effective quality control over such a large number of items is extremely difficult. It was theorized that the use of a hotel menu would significantly reduce the number of items requiring preparation each day and would allow for a smoother transition to a cook/freeze system.

Procedures

Twenty-two hospitals as listed below were contacted in this survey.

Beth Israel Hospital, Boston, MA
Brooklyn Hospital and Medical Center, Brooklyn, NY
Buffalo General Hospital, Buffalo, NY
Eliot Hospital, Manchester, NH
Emerson Hospital, Concord, MA

Goddard Hospital, Brockton, MA
Harper Grace Hospital, Detroit, MI
Hennipen County Medical Center, Minneapolis, MN
Herman Hospital, Houston, TX
Leonard Morse Hospital, Natick, MA
Lutheran Medical Center, Denver, CO
Mercy Hospital, Des Moines, IA
Mt. Auburn Hospital, Cambridge, MA
Norfolk General Hospital, Norfolk, VA
Riverside General Hospital, Newport News, VA
Sinai Hospital of Baltimore, Baltimore, MD
St Charles Hospital, Toledo, OR
St Vincent's Hospital, Worcester, MA
The Tulane Medical Center Hospital, New Orleans, LA
United Hospitals, St Paul, MN
University of Colorado Medical Center, Denver, CO
West Jersey Hospital, Camden, NJ

Sixteen of these hospitals currently use a restaurant menu and one formerly used such a menu. Seven of the hospitals use a cook/freeze system and two a frozen, convenience-food system. The hospitals contacted were selected from those mentioned in the literature or from personal reference. Five hospitals, Beth Israel, Boston, MA, Mt. Auburn Hospital, Cambridge, MA, Emerson Hospital, Concord, MA, Lutheran Medical Center and University of Colorado Medical Center, Denver, CO, were visited personally to observe operations and discuss menus; the remainder were interviewed by telephone. A food service company (Seiler's Corp) that provides hospital food service to several hospitals using restaurant menus was also contacted and visited. Representatives of two other food service companies (ARA and Service Direction) were also consulted. In all but one instance the person contacted was the food service director or the chief dietitian. Specific information sought included the number of beds in the hospitals, the type of food system used, the number and types of selections offered on the restaurant menu, and the advantages and disadvantages of such a system. Hospitals were requested to send samples of their menus to NLABS. Fourteen hospitals sent their regular diet, restaurant-type menus, and ten also forwarded their special diet menus. In addition to questions about menus, nine hospitals using cook/freeze systems or frozen convenience foods systems answered questions pertaining to the operation of these systems.

Prototype restaurant menus were designed at NLABS for a regular diet, consolidated modified diets, a pureed bland diet, a dental liquid diet, and a full liquid diet. Recommendations were made for the use of a restaurant menu at WRAMC.

Results

Of seventeen hospitals evaluating the use of a restaurant-type menu, twelve (70%) were very enthusiastic; three (18%) also expressed satisfaction, but in actuality were using a modified restaurant menu in which the hot entrees, vegetables and starches were rotated on a seven-day basis; while the remainder

of the menu remained constant; and two hopsitals did not like the restaurant-type menu. Both hospitals not liking the menu felt that too many items had been added, patient tray assembly had become unwieldy, and patients had difficulty in selecting from a large number of items. One of these had discontinued its use.

These findings are summarized as follows:

Hospitals Contacted with Present or Past Use of Restaurant Menu	17
Number of Beds	
Mean	502
Range:	234-1200
Type of System Used	
Conventional	10
Cook/Freeze	4
Cook/Chill	2
Frozen Convenience Foods	1
Like Restaurant Menu	12
Like Modified Restaurant Menu	3
Do not like Restaurant Menu	2*

*One has discontinued its use; the other plans discontinuance.

Advantages and disadvantages of the restaurant menu as expressed by the food personnel interviewed are listed in Table 1. With this menu patients may make selections for a variety of categories. A compilation of the numbers of selections offered by fourteen hospitals is made in Table 2. The mean number of selections and the range of selections differed considerably. The St. Charles Hospital was so atypical in its large number of offerings that it was not included in the compilation of food items offered, nor were the lunch-dinner totals in those hospitals offering different selections for lunch and dinner (Table 3).

Most hospitals offered choices for sodium-controlled, calorie-controlled, and fat-controlled diets. Eight hospitals combined two or more restrictions which usually involved the consolidation, in some manner, of fat, calorie, sodium, and cholesterol restrictions or fiber, residue, and bland restrictions. Three hospitals had diets listed as "special restricted" which included items found on few types of diets. The modified diet menu restrictions offered by ten hospitals are summarized in Table 4.

TABLE 1. ADVANTAGES AND DISADVANTAGES OF USING A RESTAURANT MENU

Advantages	Disadvantages
decreases number of items to be prepared	possible boredom factor for long-term patients
gives high patient acceptability	increased number of items to be assembled at patient tray assembly
offers more efficient use of cook/freeze production type system	difficult to completely interface with cafeteria
offers increased variety with daily specials	tendency to add too many items to menu
allows patient tray assembly personnel to select from the same items each day	
provides variety for modified diet patients	
decreases number of products needing monitoring for quality control purposes	
simplifies forecasting	
provides opportunity for larger lot purchases	
simplifies inventory control	

TABLE 2 - SELECTIONS OFFERED ON RESTAURANT-USED MENUS USED BY VARIOUS HOSPITALS

Hospital	Harper Grace	St. Charles	Sinai	Emerson	Goddard	Eliot	Leonard Morse
Operator	In-House	In-House	In-House	Food Service Contractor	Food Service Contractor	Food Service Contractor	Food Service Contractor
Location	Detroit, MI	Toledo, OR	Baltimore, MD	Concord, MA	Brockton, MA	Manchester, NH	Natick, MA
No. of Beds	999	350	600	350	236	234	250
Type of System	Ready Foods	Cook/Freeze	Cook/Freeze	Conventional	Conventional	Conventional	Conventional
Breakfast							
Appetizers	12	18	12	8	7	11	9
Entrees							
Eggs	4	2	3	4[f]	5[f,g]	5[f,g]	4[f]
Others	3	4	4	2	3	4	3
Hot cereals	3	2	2	3	3	3	2
Cold cereals	7	7	11	7	7	8	6
Starches	2	0	1	0	1	1	1
Meats	4	3[a]	3[a]	3	3	3	3
Breads							
Toast	2	1	0	4	3	3	2
Others	4	2	4	3	6	8	4
Lunch-Dinner							
Appetizers	12	14[c]	15	9	10	10	8
Hot Entrees	4	44	21[d]	16	14[c]	17	12
Hot Sandwiches	5	0	3	1	2	2	1
Cold Plates	4	8	8	3	6	3	2
Cold Sandwiches	4	9	4	3	5	4	2
Starches	4[a,b]		4[d]				
Potatoes		9[a]	7[a]	3	3	3	3
Others		9[a]	5[a]	1	1	1	1
Vegetables	4[a,b]	13[a]	9[a,d]	1	6	6	7
Salads	10	14	10	5	4	5	5
Breads	3[h]	4[h]	6[h]	-[i]	-[i]	-[i]	5[h]
Desserts	16	63	18	17	17[c]	27[c]	13

a - not separate, plated with entree
b - on a 7-day rotational schedule
c - plus 1 daily special
d - plus 4 daily specials
e. - have 5-meal-a-day plan. Figures represent brunch and dinner. Also have "eye-opener", midday snack, bedtime snack.
f. - includes omelet of the day
g. - includes cholesterol-free egg substitute
h. - on order sheet only
i. - not available

TABLE 2 - SELECTIONS OFFERED ON RESTAURANT-USED MENUS USED BY VARIOUS HOSPITALS
(Continued)

Hospital	St. Vincent	Mt. Auburn	Herman	Hennipin County	Beth Israel	Buffalo General		Tulane
Operator	Food Service Contractor	Food Service Contractor	In-House	Food Service Contractor	Food Service Contractor	In-House		In-House
Location	Worcester, MA.	Cambridge, MA	Houston, TX	Minneapolis, MN	Boston, MA	Buffalo, NY		New Orleans, LA
No. of Beds	600	300	700	200	452	700		300
Types of System	Conventional	Conventional	Cook/Chill	Cook/Chill	Conventional	Conventional		Conventional
Breakfast								
Appetizers	10	9[e]	7	8	13	9		13
Entrees								
Eggs	3[f]	5[f,g]	2	2	4[g]	3		4
Others	3	2	2	2	2	2		3
Hot cereals	2	2	2	3	4	1		2
Cold cereals	8	11	8	8	8	6		7
Starches	1	0	0	0	0	0		2
Meats	2	2	2	2	1	3		3
Breads								
Toast	3	3	1	3	3	0		0
Others	12	6	3	2	9	7		3
Lunch-Dinner				Lunch / Dinner		Lunch	Dinner	
Appetizers	9	8[c]	3	12 / 12	11	2[c]	4[c]	13
Hot Entrees	13[c]	13[c]	9	3[c] / 4[c]	13	4[b,c]	3[b,c]	2[b]
Hot Sandwiches	3	1	0	1 / 0	2	0	0	5
Cold Plates	7	4	3	2 / 1	3	0	1	4
Cold Sandwiches	5	3	0	0 / 1	3	1[c]	0[c]	1
Starches						4[a,b,c]	4[a,b,c]	2[b]
Potatoes	3	2	1	2[a] / 3[a]	4			
Others	1	1	1	2 / 0	1			
Vegetables	6	9	10[c]	3[a] / 4[a]	6	2[a,b,c]	2[a,b,c]	2[b]
Salads	7	4	10	6 / 6	9	0	3	15
Breads	-[i]	5[h]	4	4 / 4	4[h]	3	3	2[h]
Desserts	11[c]	18	9	15[c] / 15[c]	19	9[c]	8[c]	27

a - not separate, plated with entree
b - on a 7-day rotational schedule
c - plus 1 daily special
d - plus 4 daily specials
e - have 5-meal-a-day plan. Figures represent brunch and dinner. Also have "eye-opener", midday snack, bedtime snack
f - includes omelet of the day
g - includes cholesterol-free egg substitute
h - on order sheet only
i - not available

TABLE 3. NUMBERS OF FOOD ITEMS OFFERED PATIENTS

ON HOSPITAL RESTAURANT-TYPE MENUS

Breakfast	Mean	Range
Appetizers	10	7-18
Entrees (total)	6	4- 9
Eggs	3	2- 5
Others	3	2- 5
Cereals (total)	10	5-13
Hot	2	2- 4
Cold	8	6-11
Starches	1	0- 2
Meats	3	1- 4
Breads (total)	7	3-15
Toasts	2	0- 4
Others	7	3-15
Supper-Dinner[1]		
Appetizers	10	3-15
Hot Entrees	15	10-25
Hot Sandwiches	2	0- 5
Cold Plates	5	2- 8
Cold Sandwiches	4	0- 9
Starches[2]	4	2- 5
Vegetables[2]	7	6- 9
Salads	8	4-15
Breads	4	2- 6
Desserts	16	9-27

[1]not including those with a separate lunch and dinner menu

[2]including only those with a separate selection

TABLE 4. TYPES OF SELECTED DIETS AT VARIOUS HOSPITALS

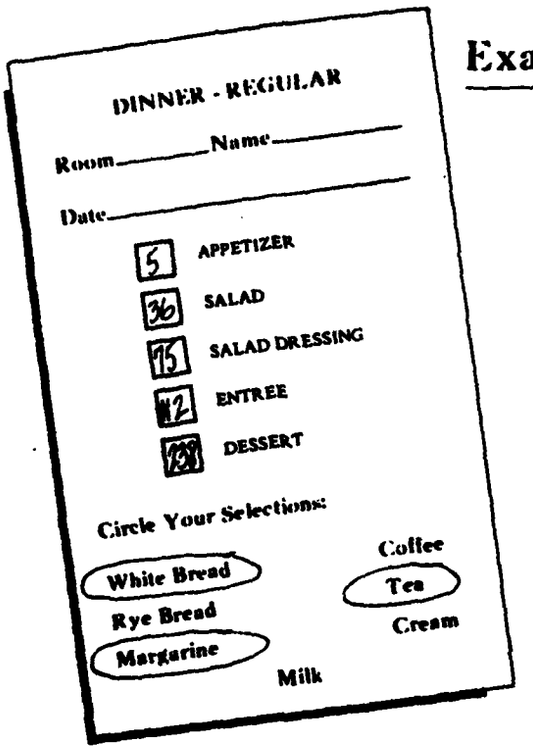
Hospital	Harper Grace	St. Charles	Mt. Sinai	Leonard Morse	Mt. Auburn	Norfolk General	Herman	Hennipin County	Beth Israel	Buffalo General
Single Restrictions										
Children's		X					X	X		
Kosher			X						X	
Sodium/R	X	X	X		X	X	X	X	X	X
Calorie/R		X	X	X	X	X	X	X	X	X
Fat/R		X	X		X		X	X	X	X
Cholesterol/R	X									X
Renal						X		X		
Protein/R								X		
Soft		X					X	X	X	X
Mech. Soft								X		
Fiber/R										
Residue/R	X		X				X			X
Pureed								X		
Liquid					X			X	X	
Bland		X								X
Combination Restrictions										
Fat/R, Salt/R Cholesterol/R	X									
Soft Bland, Ulcer	X									
Soft, Bland, Residue/R		X	X							
Sodium/R, Fat/R				X						
Special/R	X			X	X					
Sodium/R, Calorie/R			X				X	X		
Soft, Bland						X				
Fat/R, Cholesterol/R						X				
Sodium/R, Cholesterol/R, Calorie/R						X				
Calorie/R, Soft							X			
Fiber/R, Bland								X		

In the hospitals contacted, order sheets are color-coded to the menu. Order sheets vary greatly in type. All but three repeat the items for selection from the menu on the order sheet. Patients of the other hospitals order the entree, appetizer, dessert and salad by number. At five hospitals patients circle all their selections; at one hospital the patients circle the items desired, except for the entree which is written in. At two others, the patients check off the selections desired. In most cases the beverages, condiments, and accessories are written on the order sheet but not on the menu itself. Figure 1 illustrates the instructions one hospital gives to its patients on the inside of its multiple-page menu.

Prototype Menus

Prototype menus for WRAMC were developed at NLABS taking into consideration the number of selections offered at other hospitals, recommendations of food service personnel contacted, length of patient stay at WRAMC, acceptance data obtained in other NLABS studies, sensory data from products developed at NLABS, production guides available, compatibility of the products with the WRAMC production system, and compatibility with the rethermalization system. Figures 2-6 illustrate the proposed formats for menus. These menus not only illustrate the number of selections recommended, but the desirable types of foods. However, the specific foods listed are not necessarily the only options to be considered, and it is anticipated that the WRAMC dietary staff may wish to make changes. Figure 2 illustrates the regular diet menu. Figure 3 is the consolidated modified diet menu recommended for calorie-restricted, type II hyperlipoproteinemia, diabetic bland diets and would also be the one used (but printed in a different color) for sodium-restricted, calorie-restricted, type II hyperlipoproteinemia, diabetic, bland diets. Figures 4 and 5 illustrate the pureed bland, dental liquid, and full liquid-diet menus.

The number of choices that a patient would have on each diet are shown in Table 5. Illustrated in Table 6 is the number of items, excluding beverages, condiments, and accompaniments that would have to be assembled using these menus. The number is not as high as the total number of items for selection because, for assembly purposes, if the item has already been offered on another menu, it has not been counted again. It was found that the total number of items to be assembled (209) is considerably fewer than the number currently assembled at WRAMC.



Example

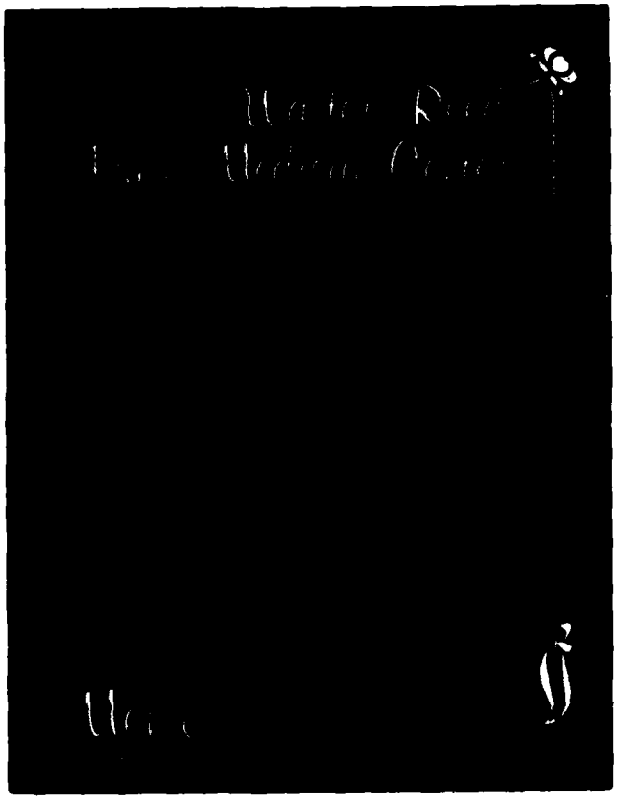
Welcome

Example

Instructions For Ordering From Your Menu

1. Find the menu order form in your menu and write your room number, your name, and tomorrow's date for each meal you order.
2. All food items have a number. Choose the item you want and write that number in the box on your menu order form.
3. The Lunch and Dinner Entrees often include a choice of starches. Please indicate your selection by writing "A" or "B" to the right of the Entree number.
4. Choose food items for each meal under the proper heading, for example:
   Breakfast Entrees under Breakfast, etc.
5. Circle your bread, margarine, and beverage selection for each meal.
6. See example above on this page.
7. Complete the entire form. A person from the Dietary Department will pick it up.
8. A Dietitian is available to assist you if you desire.

Figure 1. Example of food order. (Courtesy of Tulane Medical Center Hospital)



Breakfast

Fruits and Juices

ORANGE JUICE
GRAPEFRUIT JUICE
FRUIT COCKTAIL
STEWED PRUNES

FRESH FRUIT IN SEASON
(BANANA, APPLE,
MELON, ORANGE)

Entrees

SCRAMBLED EGGS WITH BACON
OMELET AND SAUSAGE

SOUFFLE WITH GRILLED HAM
QUICHE LORRAINE

Cereals

CREAM OF WHEAT
RICE KRISPIES
OATMEAL

CORN FLAKES
RAISIN BRAN
SPECIAL K

Accompaniments

HASH BROWN POTATOES
GRITS

Breakfast Breads

DANISH PASTRY
DOUGHNUT

MUFFINS (FRUIT)
RAISIN TOAST

WHOLE WHEAT TOAST
WHITE TOAST

Regular Menu
Dinner - Supper

Appetizers

APPLE JUICE
TOMATO JUICE
VEGETABLE SOUP

CONSOMME
CHICKEN NOODLE SOUP
CREAM OF MUSHROOM SOUP

Cold Entrees

FRUIT SALAD WITH COTTAGE CHEESE
HAM AND CHEESE SANDWICH

CHEF'S SALAD
TUNA SANDWICH

Hot Sandwiches

CHEESEBURGER
HAMBURG ON A BUN WITH POTATO CHIPS

Hot Entrees

MACARONI AND CHEESE
VARIOUS POT ROAST WITH OVEN BROWNED POTATOES
SWEDISH MEATBALLS WITH MASHED POTATOES
BAKED FISH WITH CHEESE SAUCE AND OVEN BROWNED POTATOES
SHRIMP CREOLE OR SEA FOOD NEWBURG WITH RICE
CHICKEN PAPRIKASEE WITH OVEN BROWNED POTATOES
VEAL PARMESAN WITH BUTTERED NOODLES
PORK CHOP SUEY OR SWEET AND SOUR PORK WITH RICE
BAKED HAM WITH CHERRY SAUCE AND SWEET POTATO
BEEF BURGUNDY OR BEEF STROGANOFF WITH BUTTERED NOODLES
SALISBURY STEAK WITH MUSHROOM SAUCE AND MASHED POTATOES
ROAST BEEF AND GRAVY WITH MASHED POTATOES
CASSEROLE SPECIAL: NEOPOLITAN SPAGHETTI, ARROZ CON POLLO,
TURKEY TETRAZZINI, OR TALLERINES

Vegetables

COLLARD GREENS
BUTTERED CORN
GREEN BEANS

STEWED TOMATOES
CARROT COINS
GREEN PEAS

Salads

TOSSED GREEN SALAD
POTATO SALAD
COLE SLAW

FRUITED GELATIN SALAD

Breads

WHITE BREAD
DINNER ROLLS

WHOLE WHEAT BREAD
RYE BREAD

Desserts

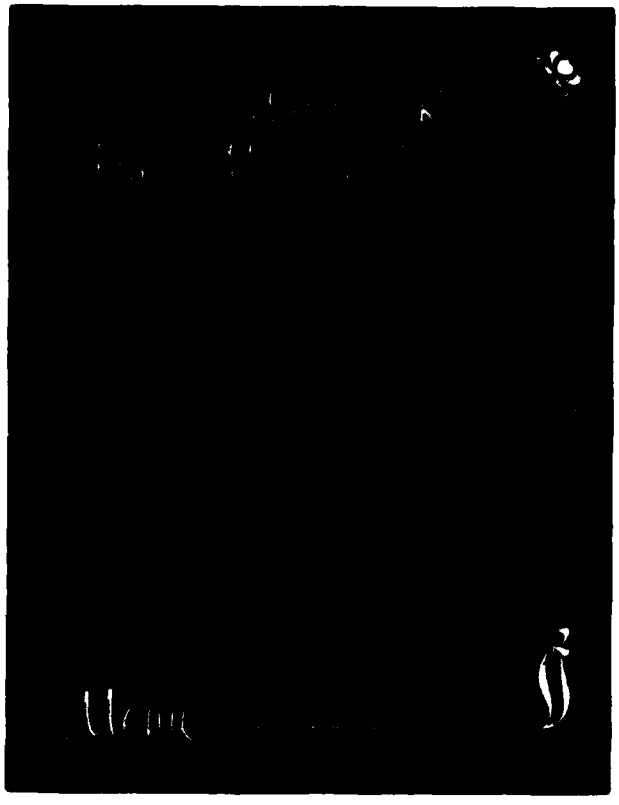
APPLE PIE
COOKIES

PEARS
JELLO
CUSTARD

PEACHES
PUDDING

ANGEL CAKE
DEVIL'S FOOD CAKE

Fig 2
Prototype Regular Diet Menu



Breakfast

Fruits and Juices

ORANGE JUICE
GRAPEFRUIT JUICE
FRUIT COCKTAIL
STEWED PRUNES
FRESH FRUIT IN SEASON (BANANA, APPLE, ORANGE, MELON)

Eggs

OMELET
SCRAMBLED EGGS

Cereals

CREAM OF WHEAT
PUFFED WHEAT
RICE KRISPIES
CORN FLAKES
OATMEAL
SPECIAL K

Accompaniments

HASH BROWN POTATOES
GRITS

Breakfast Breads

WHOLE WHEAT TOAST
WHITE TOAST
RAISIN TOAST
MUFFINS (FRUIT)

Modified Diet Menu
Dinner - Supper

Appetizers

APPLE JUICE
TOMATO JUICE
VEGETABLE SOUP
CHICKEN NOODLE SOUP
CREAM OF MUSHROOM SOUP

Cold Entrees

FRUIT SALAD WITH COTTAGE CHEESE
SLICED CHICKEN SANDWICH
CHEF'S SALAD

Hot Sandwiches

CHEESEBURGER ON A BUN
HAMBURG ON A BUN

Hot Entrees

ROAST CHICKEN AND GRAVY WITH MASHED POTATOES
CHICKEN CACCIATORE WITH NOODLES
YANKEE POT ROAST WITH OVEN BROWNED POTATOES
ROAST BEEF AND GRAVY WITH MASHED POTATOES
MACARONI AND CHEESE
BEEF STEW AND OVEN BROWNED POTATOES
BAKED SALISBURY STEAK AND MUSHROOM SAUCE WITH MASHED POTATOES
STEAK BRAISED WITH MUSHROOMS AND OVEN BROWNED POTATOES
VEAL LOAF WITH VEGETABLE SAUCE AND PARSLEY SLICED POTATOES
ITALIAN VEAL BALLS WITH TOMATO SAUCE AND NOODLES
TUNA PATTIES WITH LEMON SAUCE AND HASH BROWN POTATOES
CREOLE HALIBUT WITH RICE

Vegetables

COLLARD GREENS
STEWED TOMATOES
CARROT COINS
CORN
GREEN BEANS
GREEN PEAS

Salads

TOSSED GREEN SALAD
FRUIT GELATIN SALAD
POTATO SALAD
FRUIT WITH COTTAGE CHEESE

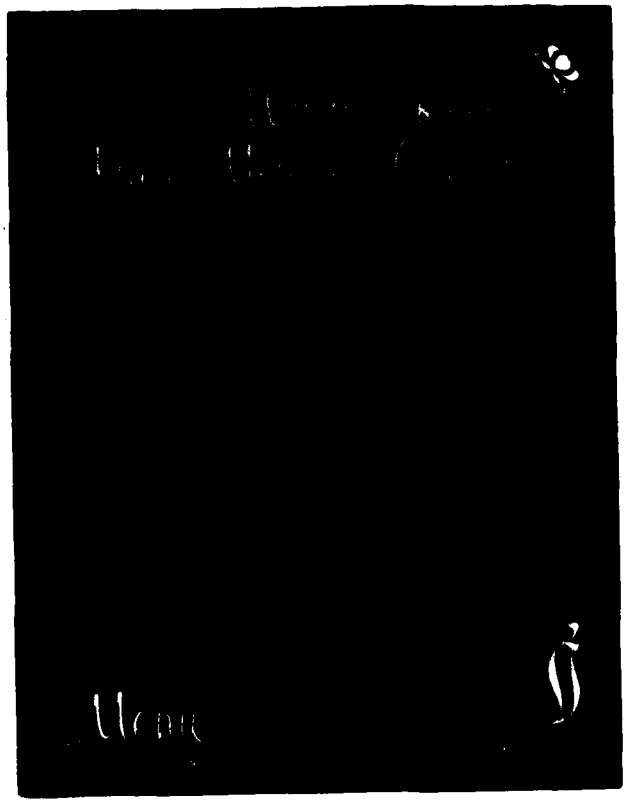
Breads

WHITE BREAD
WHOLE WHEAT BREAD
RYE BREAD
DINNER ROLLS

Desserts

PEARS
CHERRY COBBLER
JELLO
PEANUT BUTTER COOKIES
FRESH FRUIT IN SEASON
APPLESAUCE
PEACHES
POUND CAKE

Fig 3
Modified Diet Prototype Menu



Dental Liquid Menu

Breakfast

Juices

GRAPEFRUIT JUICE CRANBERRY JUICE
ORANGE JUICE TOMATO JUICE
PRUNE JUICE

Cereals

CREAM OF WHEAT OATMEAL CREAM OF RICE
FARINA MAYPO

Beverages

HOT CHOCOLATE
EGGNOG COFFEE
MILK TEA

Dental Liquid Menu
Dinner - Supper

Appetizers

CREAM OF CHICKEN SOUP APPLE JUICE CREAM OF MUSHROOM SOUP
CREAM OF POTATO SOUP TOMATO JUICE CREAM OF PEA SOUP

Entrees

SWEET AND SOUR PORK CHICKEN AND WINE
HAM AND CHEESE FONDUE HAWAIIAN CHICKEN
BEEF AND SPAGHETTI SAUCE BEEF BURGUNDY
YANKEE POT ROAST BEEF AND GRAVY
BEEF STROGANOFF CHICKEN AND GRAVY

Vegetables

MASHED POTATOES ASPARAGUS CARROTS MIXED VEGETABLES
BUTTERED PEAS WAX BEANS LIMA BEANS GREEN BEANS

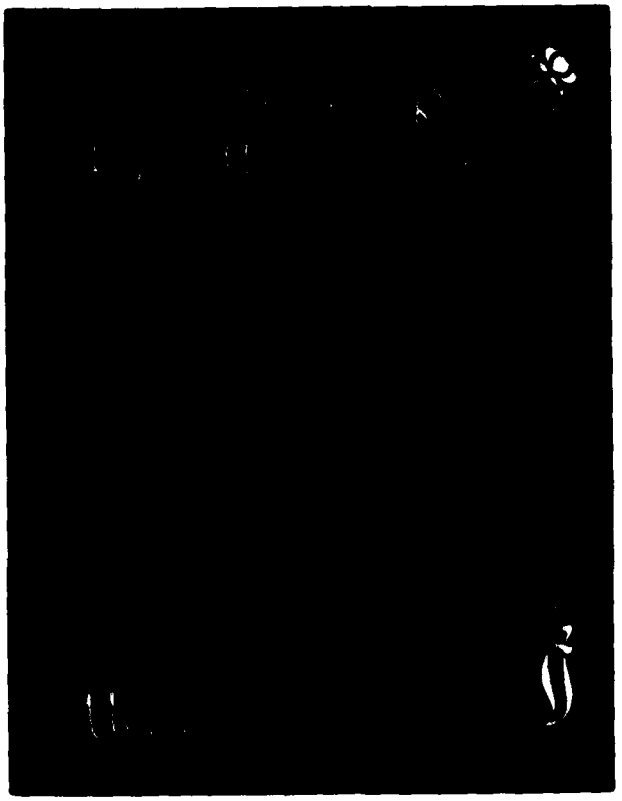
Desserts

VANILLA PUDDING CHOCOLATE PEPPERMINT PUDDING BAKED CUSTARD
BUTTERSCOTCH PUDDING TAPIOCA PUDDING CHOCOLATE PUDDING

Beverages

MILK COFFEE TEA
EGGNOG HOT CHOCOLATE MILKSHAKE

Fig 4
Prototype Dental Liquid Menu



Full Liquid Menu

Breakfast

Juices GRAPEFRUIT JUICE, ORANGE JUICE, PRUNE JUICE, APPLE JUICE

Cereals CREAM OF RICE, OATMEAL, CREAM OF WHEAT

Beverages TEA, COFFEE, MILK, HOT CHOCOLATE

Dinner - Supper

Juices APRICOT NECTAR, GRAPE JUICE, TOMATO JUICE, PINEAPPLE JUICE

Soups CREAM OF CHICKEN SOUP, CREAM OF POTATO SOUP, CREAM OF MUSHROOM SOUP, CREAM OF PEA SOUP

Desserts VANILLA PUDDING, JELLO, CUSTARD

Beverages HOT CHOCOLATE, MILK, COFFEE, TEA

Pureed Bland Menu

Breakfast

Fruits and Juices CRANBERRY JUICE, GRAPEFRUIT JUICE, ORANGE JUICE, FRUIT COCKTAIL, PRUNE JUICE, BANANA

Eggs

OMELET, SCRAMBLED EGGS, SOUFFLE

Cereals

CREAM OF WHEAT
CREAM OF RICE
OATMEAL
FARINA

Accompaniments

WHITE TOAST
GRITS

Pureed Bland Menu

Dinner - Supper

Appetizers

CREAM OF CHICKEN SOUP, APPLE JUICE, CREAM OF POTATO SOUP, CREAM OF PEA SOUP, TOMATO JUICE

Entrees

SWEET AND SOUR PORK
HAM AND RAISIN SAUCE
CHICKEN A LA KING
BARBECUED BEEF
BEEF BURGUNDY
BEEF AND MUSHROOMS
YANKEE POT ROAST
BEEF STROGANOFF
BEEF AND GRAVY
VEAL PAPRIKA

Vegetables

GREEN BEANS, MASHED POTATOES, WAXED BEANS, ASPARAGUS, WINTER SQUASH, GREEN PEAS, SUCCOTASH, BEETS

Deserts

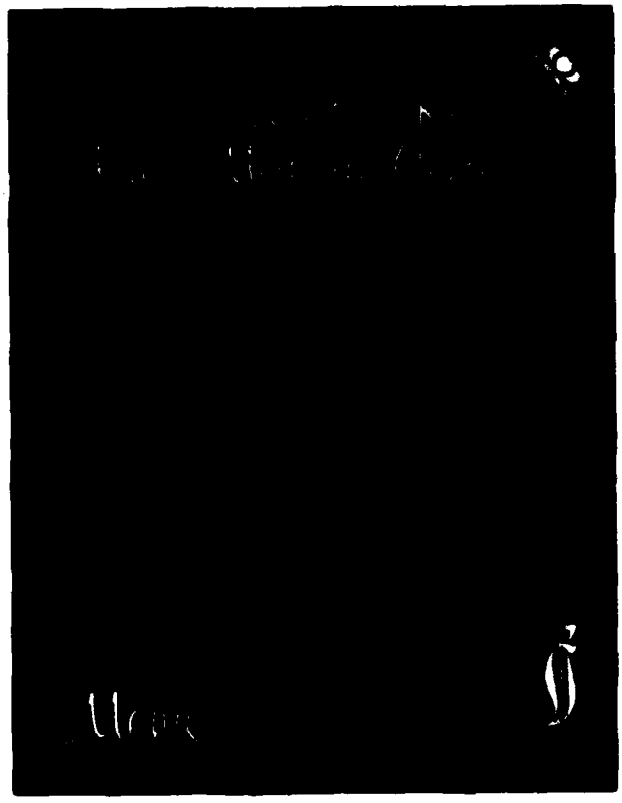
PEACHES, APPLESAUCE, PEARS, CUSTARD, PUDDING, JELLO

Fig 5
Prototype Pureed Bland and Full Liquid Menus

TABLE 5. PROTOTYPE MENUS FOR HOSPITAL DIETS - TOTAL NUMBER OF ITEMS FOR SELECTION

	Regular Diet	Mod 1 Cal/R Type II,HLP Diabetic Bland	Mod 2 Na/R, Cal/R Type II,HLP Diabetic Bland	Pureed Bland	Dental Liquid	Full Liquid
Breakfast						
Appetizers	8	8	8	6	5	4
Entrees(eggs)	4	2	2	3		
Starches	2	2	1			
Cereals (Hot & Cold)	6	6	5	5	5	3
Meats	3					
Breads	6	4	4	1		
Beverages					5*	4*
Supper-Dinner						
Appetizers	6	5	5	5	6	8
Hot Entrees	13	12	12	10	10	
Hot Sandwiches	2	2	2			
Cold Plates	2	2	2			
Cold Sandwiches	2	1	1			
Starches	5	6	6	1	1	
Vegetables	6	6	7	7	7	
Salads	4	4	4			
Breads	4	4	4			
Desserts	9	8	8	6	6	3
Beverages					6*	4*

*Dental Liquid and Full Liquid Diets are supplemented with beverages not necessarily available on other diets.



Full Liquid Menu
Breakfast

Juices GRAPEFRUIT JUICE, ORANGE JUICE, PRUNE JUICE, APPLE JUICE

Cereals CREAM OF RICE, OATMEAL, CREAM OF WHEAT

Beverages TEA, COFFEE, MILK, HOT CHOCOLATE

Dinner - Supper

Juices APRICOT NECTAR, GRAPE JUICE, TOMATO JUICE, PINEAPPLE JUICE

Soups CREAM OF CHICKEN SOUP, CREAM OF POTATO SOUP, CREAM OF MUSHROOM SOUP, CREAM OF PEA SOUP

Desserts VANILLA PUDDING, JELLO, CUSTARD

Beverages HOT CHOCOLATE, MILK, COFFEE, TEA

Pureed
Bland Menu

Breakfast

Fruits and Juices CRANBERRY JUICE, GRAPEFRUIT JUICE, ORANGE JUICE, FRUIT COCKTAIL, PRUNE JUICE, BANANA

Eggs

OMELET, SCRAMBLED EGGS, SOUFFLE

Cereals

CREAM OF WHEAT
CREAM OF RICE
OATMEAL
FARINA

Accompaniments

WHITE TOAST
GRITS

Pureed Bland Menu
Dinner - Supper

Appetizers

CREAM OF CHICKEN SOUP, APPLE JUICE, CREAM OF POTATO SOUP, CREAM OF PEA SOUP, TOMATO JUICE

Entrees

SWEET AND SOUR PORK
HAM AND RAISIN SAUCE
CHICKEN A LA KING
BARBECUED BEEF
BEEF BURGUNDY
BEEF AND MUSHROOMS
YANKEE POT ROAST
BEEF STROGANOFF
BEEF AND GRAVY
VEAL PAPRIKA

Vegetables

GREEN BEANS, MASHED POTATOES, WAXED BEANS, ASPARAGUS, WINTER SQUASH, GREEN PEAS, SUCCOTASH, BEETS

Deserts

PEACHES, APPLESAUCE, PEARS, CUSTARD, PUDDING, JELLO

Fig 5
Prototype Pureed Bland and Full Liquid Menus

TABLE 5. PROTOTYPE MENUS FOR HOSPITAL DIETS - TOTAL NUMBER OF ITEMS FOR SELECTION

	Regular Diet	Mod 1 Cal/R Type II,HLP Diabetic Bland	Mod 2 Na/R, Cal/R Type II,HLP Diabetic Bland	Pureed Bland	Dental Liquid	Full Liquid
Breakfast						
Appetizers	8	8	8	6	5	4
Entrees(eggs)	4	2	2	3		
Starches	2	2	1			
Cereals (Hot & Cold)	6	6	5	5	5	3
Meats	3					
Breads	6	4	4	1		
Beverages					5*	4*
Supper-Dinner						
Appetizers	6	5	5	5	6	8
Hot Entrees	13	12	12	10	10	
Hot Sandwiches	2	2	2			
Cold Plates	2	2	2			
Cold Sandwiches	2	1	1			
Starches	5	6	6	1	1	
Vegetables	6	6	7	7	7	
Salads	4	4	4			
Breads	4	4	4			
Desserts	9	8	8	6	6	3
Beverages					6*	4*

*Dental Liquid and Full Liquid Diets are supplemented with beverages not necessarily available on other diets.

TABLE 6. NUMBER OF ITEMS TO BE ASSEMBLED
EXCLUDING BEVERAGES, CONDIMENTS, ACCOMPANIMENTS

	Regular Diet	Mod 1 Cal/R Type II,HLP Diab Bland	Mod 2 Na/R,Cal/R Type II, HLP Diab Bland	Pureed Bland	Dental Liquid	Full Liquid	Total
Breakfast							
Appetizers	8	2*		2	1		13
Entrees	4	2	2		5		13
Starches	1		1				2
Cereals	7			2			9
Meats	3						3
Breads	6		4				10
Supper-Dinner							
Appetizers	6		3	3	4	3	19
Hot Entrees and Sandwiches	15	14	14	10	10		63
Cold Plates and Sandwiches	4	2	2				8
Vegetables	6			8	8		22
Salads	4	4	3				11
Breads	4		4				8
Desserts	9	8	3	2	6		28
Total							209

* items in addition to regular diet items needing assembly.

HOSPITALS USING COOK/FREEZE OR FROZEN CONVENIENCE FOODS

TABLE 7

Hospital	Location	Operator	Number of Beds	Menu Type	Foods Prepared Cook/Freeze	Frozen Convenience Foods Used	Other Food Preparation	Size of Frozen Lots
Brooklyn Hospital and Medical Ctr	Brooklyn, NY	In-house	1100	2-week selective	Almost 100%	None	Salads, scrambled eggs cook/chill	60-portion bulk
Mercy Hospital	Des Moines, IN	In-house	500	7-day select cycle	Entrees, some starches, scrambled eggs steamed then frozen	Desserts	vegetables conventional	half size polystyrene steam table pans
Mt. Sinai	Baltimore, MD	In-house	600	hotel	entrees, starches vegetables	None	breakfast prepared conventionally	preplated
Riverside General	Newport News, VA	Food Service contractor (ARA)	641	4-day select cycle	About 90%	NA	prepared cook/chill offsite	preplated
St. Charles Hospital	Toledo, OR	In-house	350	hotel	About 90%	NA	desserts prepared conventionally or cook/chill	preplated
Norfolk General	Norfolk, VA	Food Service contractor (ARA)	644	3-day select cycle	About 90%	NA	Breakfast conventional except for French toast, pancakes	preplated
W. Jersey Hospital	Camden, NJ	In-house	680	12-day select cycle	entrees, vegetables starches	very little	Conventional	individual portions
Harper Grace Hospital	Detroit, MI	In-house	999	hotel		99%	Hard & soft cooked eggs prepared on floors	bulk
Lutheran Medical Center	Denver, CO	Food Service Contractor (Service Direction)	350	hotel		99%	emphasize cold selection to decrease reheating	bulk

HOSPITALS USING COOK FREEZE OR FROZEN CONVENIENCE FOODS
TABLE 7 continued

Hospital	Tempering	Rethermalization	Cafeteria	Comments
Brooklyn Hospital and Medical Center	45°F room	3M cart & modules	100% cook/ freeze	Cook/freeze costs half as much as conventional. Personnel costs greatly reduced, food quality high.
Mercy Hospital	38°F room	microwave ovens on floors, 2 to 20 patients	separate except for some frozen entrees	Lack sufficient frozen storage space, would freeze more and stock larger inventory with increase in freezer space. Negative complainte initially, very few now.
Mt. Sinai	walk-in-refrig-ator	convection oven	conventional	Frozen foods keep being eroded by larger use of cold plates, other cook/chill items.
Riverside General	40°F room	microwave tunnel	50% bulk frozen	Does not like microwave tunnel, difficult to change controls.
St. Charles Hospital	40°F room	3M modules & carts	conventional	Would like to bulk freeze for cafeteria.
Norfolk General	40°F room	microwave tunnel	frozen in bulk	Takes careful planning to coordinate cafeteria and patient tray service. Ideal system combines fresh, cook/chill, cook/freeze.
W. Jersey Hospital	38°F box	microwave tunnel	24 entrees frozen in half size steam table pans	Cook/freeze good only for large facilities. Lacks sufficient freezers & productions space. Would freeze soups, desserts if more room available. Would like to reheat without tempering.
Harper Grace Hospital	rapid thaw tempering box	microwave ovens on floor	separate	
Lutheran Medical Center	rapid thaw tempering box	microwave on floors 2 to 40 patients	ready foods	Likes microwave reheating system because not tied into use of specific dishes.

Discussion

Restaurant Menu. The hospital personnel contacted were very open and helpful in discussing their opinions of the restaurant menu approach. Fifteen of those liking the restaurant menu or a modified restaurant menu said they had no problems with patient tray assembly as long as there was sufficient training of personnel.

Two of the hospitals had different choices for supper and dinner. This was to give the patient a change from selecting from the same menu for both the supper and dinner meals. However, most hospitals felt that combining supper and dinner had over-riding advantages. It not only gives the patient more items from which to choose, but it allows for more efficient use of leftovers, and relieves personnel on the patient tray assembly line from remembering locations of different items for two meals.

Two hospitals allowed a menu choice for the special diets only through their order sheets. In this way the patient is presented with a regular diet menu, but the order sheet would specify the restriction after an item, or not include an item that was not allowed on the diet. For example, on a low sodium diet, there would be no place on the order sheet for the patient to order an item such as ham or bacon. The dietitians felt this was an important learning situation for the patient because away from the hospital, he would be required to select items from a regular menu.

Methods of marking order sheets varied considerably as did the opinions of the persons interviewed about them. Some of the hospitals used a number system for ordering and those who did, liked the system. Several others had tried using the numbering system but found it too confusing for the patient tray assembly personnel. They felt the assembly worked better if the item ordered was circled, checked off or written out. One administrator emphasized the need for rotating the patient tray assembly personnel to prepare for absences and to prevent boredom. Although the patient tray assembly personnel have more items to assemble with a restaurant menu, this work is partially offset by always having the same items to assemble. Therefore, the people on the line become more adept at locating the right item.

All hospitals interviewed felt that cold plates and sandwiches were an important part of their menu, and all but one said that cold entrees accounted for between 25 to 75% of the patient entree selection, with the noon meal often running at 50 to 60% cold selections. The one person who said his cold selection was very low, around 4%, attributed this to the high quality of the hot entrees.

Each hospital person contacted was asked about interfacing the patient tray menu with the cafeteria. Two had almost competely interfaced the cafeteria with the patient most tried tray menu and to work the cafeteria in conjunction with the patient tray service to some extent. Problems in interfacing the cafeteria included lack of frozen storage space and the need for additional selections. Careful planning was stressed in combining a cafeteria and patient tray cook/freeze system. One hospital food service

director felt that cafeteria patrons were happier with the restaurant menu system because they no longer felt they were getting patient leftovers.

The menus, as summarized in Table 3, show a very high concentration of effort on the entree portion of the menu. Few hospitals were as imaginative or diverse in the offering of such items as appetizers, salads, vegetables or even desserts as they were in the entree selection.

Specials of the day were emphasized in almost all hospitals. One hospital, while offering a very large selection of hot and cold entrees, also offered four extra hot entrees each day. Specials were used not only for entrees, but also for "soup of the day" and "omelet of the day". Dessert specials, sandwich specials, and fresh fruit specials were also used. In certain categories, products were not identified specifically so that the flavor or type could be varied from day to day. Generally, such items as frosted cake, jello, or dinner rolls were listed. A few hospitals had a special Sunday menu, and most had special holiday meals. Several order sheets allowed a position for a patient to check off "daily special" under the appropriate category. Specials very often would include what was being served in the cafeteria for that day. All of the conventional systems observed combined portioning and assembly. This worked quite smoothly in the hospitals visited. Although these hospitals were relatively small and therefore relatively few trays had to be filled, the number of items to be placed on each tray was comparable with that of larger hospitals.

At one 250-bed hospital it took 50 minutes to portion and assemble the trays. One 700-bed hospital combining portioning and assembly used two lines, each line taking about 1 hour and 15 minutes. They estimated plating and tray assembly at 300 portions per hour per line.

In general the hospitals felt little need for frequent menu revisions. The food service contractor that was visited indicated that they printed a year's supply of menus initially and changes were sometimes made after a year. Other hospitals had used the same menus for up to six years. Only one hospital printed and revised the menu relatively often, and this was primarily done to offer seasonal specials and to take advantage of changes in prices of various food items.

In the hospitals interviewed, the trend seemed to be toward forecasting rather than tallying, except for very specialized diet items. With the same items served each day forecasting can be quite accurate.

Breakfast was the most difficult meal for all hospitals surveyed. In those, using a cook/freeze system or even cook/chill systems, breakfasts were often made conventionally. Scrambled eggs were made centrally; frozen omelets were sometimes purchased; and in one hospital using convenience foods, hard and soft cooked eggs were prepared separately in galleys on the floor.

One tendency to be avoided seemed to be adding items to the menu until the number of items becomes unmanageable.

All hospitals said they had few complaints about the boredom factor of a hotel/restaurant menu, except from long-term patients, and this could be largely overcome with clip-on daily specials. With the exception of the two hospitals not liking the hotel-menu concept, all felt patient acceptability was very high.

Many hospitals used a portion of their menu for nutritional education of the patients, for giving instructions to the patient on filling out order forms, for an explanation of the need for special diet restrictions (usually that the patient's physician had prescribed that diet for the patient), for an explanation of the dietary staff visits, or for a brief history of the hospital.

Cook/Freeze Systems

Little negative feedback was received from those using a cook/freeze or frozen convenience food system. Most hospitals reported that they were satisfied with the system, although three lacked sufficient freezer space. One food service director stated that he felt the ideal system combines fresh, cook/chill, and cook/freeze items. In actuality, this is occurring in all cook/freeze systems because fresh items like fresh fruit, salads, cold plates, and cold sandwiches are being combined with some cook/chill items and the cook/freeze products. One hospital food service director felt he was reducing costs as much as 50% by using the cook/freeze system. Another dietitian reported very negative complaints about "frozen food" when the hospital first opened, but these ceased when the menu offered a choice of selections rather than single offerings given during the first few months of operation.

Those using microwave ovens on the floor to rethermalize had a range of from 1 microwave oven for 10 patients to one oven for 40 patients. One hospital reported that it took one minute 10 seconds to microwave each tray and 1 to 1 1/2 hours to heat and serve trays for a ward of 40 patients with one microwave oven. Most of those using microwave ovens on the floors had cold storage boxes on the floors for the delivery cart so that the food could remain chilled prior to rethermalization. Those hospitals using microwave tunnels or 3-M carts or modules had differing opinions as to the desirability of these systems.

Conclusions and Recommendations

The results of this survey indicate that the restaurant menu is being used successfully in many hospitals. There are obvious benefits in providing consistent products with such a menu and the disadvantages can be handled with a minimum of difficulty. The principal disadvantages are the lack of variety, especially for long-term patients and a change in patient tray assembly. The cook/freeze and cook/chill systems seemed to be operating satisfactorily in those hospitals on a cook/freeze system, although lack of sufficient freezer space was a common problem.

The use of the cook/freeze system at the WRAMC coupled with a restaurant-type menu would result in the production of larger batches of a fewer number of products, make quality assurance easier to monitor and encourage the substitution of large numbers of lesser quality items with fewer high quality items. The results of this survey show that the use of this menu would be a practical way to improve the food system at WRAMC.

Recommendations

General

It is recommended that:

1. WRAMC adopt a restaurant type menu.

2. The restaurant type menu be planned around a cook/freeze system.

3. As many modified diet patients as possible be offered a restaurant-type menu selection.

4. The cafeteria be interfaced with the patient menu to the greatest extent possible.

5. Extreme care be given to limiting the number of selections available on the menu.

6. Modified diets be consolidated as much as possible.

7. Selections on the menu be dependent on the following factors:

   a. Compatibility with the WRAMC system.
   b. Available preference data.[1]
   c. Sensory quality ratings from both NLABS[2-7] and WRAMC.

[1]H.L. Meiselman, D. Waterman, L.E. Symington, Armed Forces Food Preferences NLABS Technical Report 75-63-FSL, December 1974

[2]G. Darsch, C. Shaw, and J. Tuomy; Storage Study of Frozen Entree Items Developed for Walter Reed Army Medical Center, NATICK/TR-78/006, 1978. (AD A091 769)

[3]C. Shaw, G. Darsch, G. Legris, Y. Masuoka, and J. Tuomy; Entree Production Guides for Modified Diets, Part I: Consolidated Modified Meat Entrees, NATICK/TR-79/010, 1979. (AD A079 949)

[4]C. Shaw, V. Loveridge, G. Darsch, and J. Tuomy; ibid Part II: Pureed Bland Entrees, NATICK/TR-79/011, 1979. (AD A073 718)

[5]C. Shaw. V. Loveridge, G. Darsch, and J. Tuomy; ibid Part III: Dental Liquid Entrees, NATICK/TR-79/012, 1979. (AD A069 183)

[6]G. Darsch, R. Young, C. Shaw, and J. Tuomy; ibid Part IV: Meat Substitute Entrees, NATICK/TR-79/013, 1979. (AD A079 958)

[7]J. McNutt, M. Branagan, J. McPhee, L. Albertini, and M. Klicka; ibid Part V: Renal Diet Items, NATICK/TR-79/014, 1979. (AD A083 141)

d. Available cook/freeze production guides [3-13] or ready foods.
e. Ease of preparation.
f. Cost.

[8]R. Helmer, and H. Schlup; Meat Entree Item Production Guides for Vegetables, Entrees, Soups, Desserts, Pastries and Salads Developed for Use in Ft. Lee Interim Central Food Preparation Facility, NATICK/TR-74-27 (FEL 12), March 1975. (AD A009 733)

[9]A. Rahman, H. Gorfein, N. Kelley, G. Schafer, W. Swantak, and D. Westcott; Production Guides for Vegetables, Entrees, Soups, Desserts, Pastries, and Salads Developed for Use in Central Food Preparation Facility, NLABS/TR 75-37 (FEL 13) Sep 1974. (AD A001 725)

[10]A. Rahman, H. Schlup, G. Schafer, W. Swantak, and N. Kelley; Production Guides for Meat and Vegetable Entrees and Desserts Developed for Use in the Frozen Foil Pack Feeding System, F.E. Warren Air Force Base, NLABS TR76-20, FEL 52, Feb 1976. (AD A099 678)

[11]J. Tuomy, G. Walker, L. Hinnergardt; Pilot Plant Production of Frozen Entree Items for the Navy, NATICK/TR-79/31A (FEL 59) Sep 1976. (AD A031 327)

[12]G. Walker, J. Tuomy, C. Kanter; Egg Products for Use in a Cook/Freeze System, NLABS TR-76/28 (FEL 57) Aug 1976. AD A031 023)

[13]R. Young, C. Shaw, G. Darsch, J. Tuomy, and G. Walker; Meat and Fish Entree Production Guides Prepared for Walter Reed Army Medical Center, NATICK/TR-77/055 (FEL 77-004) 1977. (AD A004 476)

8. The same selections be available for both supper and dinner.

9. The order sheets be color-coded to the menu.

10. In most instances a patient be limited to one selection from each category of items.

11. For most items, forecasting be used to determine the amount of product to be tempered.

12. Additional entrees be prepared and packaged in bulk for cafeteria use.

13. Plans be made to increase the items offered on the cafeteria short order line.

Regular Diet Menu

Breakfast

1. Appetizers. The menu should contain 8 to 10 selections. However, because additional appetizers may be added to certain modified diets to increase variety, they could be added to the regular menu without expanding the number of items to be assembled. The use of fresh fruit when available is strongly recommended.

2. Entrees. The menu should contain 3 to 4 egg selections. Because French Toast, pancakes, and waffles are not compatible with the system, their use is not recommended.

3. Breakfast Meats. For ease of patient tray assembly, the breakfast meats should be combined with the entrees. Selection should be limited to 2 or 3 meat items, such as sausage, ham, and/or bacon.

4. Cereals. Cereals should be limited to 2 hot and 4 cold choices. However, because more choices may be desirable on some of the more restricted modified diets, these may also be added to the regular menu without expanding the total number of items to be assembled.

5. Accompaniments. Hash brown potatoes and grits should be included to enhance the breakfast menu especially after the elimination of items mentioned above because of their incompatibility with the system.

6. Breakfast breads. The selection of toast should be minimized because of its incompatibility with the food preparation system. Danish pastry, doughnuts, and muffins served warm would be preferable and can be varied by changing flavors and types. Therefore, the use of baked breakfast breads should be emphasized.

7. Beverages. Beverages could be ordered through the order sheet and need not be printed on the menu.

Dinner-Supper

1. Appetizers. Six to eight appetizers should be available for selection. However, like breakfast, additional appetizers from modified diets may be added without increasing the burden on patient tray assembly. The appetizers on the regular diet menu should be coordinated with those on modified diet menus as much as possible.

2. Cold Entrees. A minimum of two cold entree plates and two cold sandwiches should be on the WRAMC menu.

3. Hot Sandwiches. Two hot sandwiches should be available for selection.

4. Hot Entrees. A maximum of fourteen hot entrees should be listed on the regular diet menu. With an average patient stay of 7.3 days, a patient could theoretically have a different entree at each meal.

5. Starches. Starches should be listed on the menu in combination with the entrees to lessen the total number of items for combination in portioning and assembling. Five to six starches, compatible in flavor, texture, and color with the entrees with which they are coupled are sufficient. Certain casseroles, such as macaroni and cheese, will contain the starch as an integral part of the product.

6. Vegetables. No more than eight vegetables should be used. Portioning the vegetable with the entree is not recommended because of the difficulty in rethermalizing large amounts of food on one dish in the Alpha system.

7. Salads. No more than five salads should be offered. Tossed salads and molded gelatin salads can be varied somewhat from day to day. Potato salad should be offered to accompany cold plates or sandwiches if desired. A fruit salad with cottage cheese should be offered as a cold plate entree, although it could also be offered under salads. These items together with cole slaw will give the needed salad variety.

8. Desserts. Eight to ten dessert offerings should be offered, some of which, such as pie, frosted cake, jello, and pudding, could be varied from day to day of desired. The results of the hospital survey shows a disproportionate number of dessert items because many include a large variety of ice cream and sherbert flavors.

9. Specials of the day. No plans for entree or other specials should be made until the menu has been in use long enough to study patient acceptability.

Modified Diet Menus

General

1. The modified diet menus should be divided into six main classifications.

a. Calorie restricted (Cal/R), type II hyperlipoproteinemia, (HLP), diabetic, bland (Mod 1).

b. Sodium restricted (Na/R) calorie restricted (Cal/R), type II hyperlipoproteinemia, (HLP), diabetic, bland (Mod 2).

c. Fiber restricted, residue restricted, bland.

d. Pureed bland.

e. Dental liquid.

f. Full liquid.

2. Consolidation of diets should be implemented. Specially formulated production guides requested by WRAMC for this purpose should be used. With the current vast number of special diet variations, it is not possible to give proper attention and quality control examinations to each item prepared and served. By preparing, freezing, and assembling fewer items, the quality of the products will improve.

3. A children's menu may be offered by changing the menu design with little or no change in items offered.

4. The first two diets listed, the Cal/R, Type II, HLP diabetic, bland and the Na/R, Cal/R, Type II HLP diabetic, bland contain the same item selections. A change in menu color, order sheet color, and item number should be made to differentiate the sodium-restricted items from the calorie-restricted items.

5. Extremely small volume products, such as the dental liquid and pureed bland items, should be made in bulk, but frozen individually. The removal from frozen storage should be determined by tallying rather than forecasting.

Comment: It is realized that there will be occasions when the consolidated modified diet menus will not exactly meet the needs of certain patients. This problem can be largely overcome in ways other than expanding the number of items to be prepared and assembled. Special order forms, printed diet instructions, clip-ons added to the menu, and clinical dietetic assistance can all help to tailor the menu to the individual patient.

Modified Diet Menus

Cal/R, Type II HLP, diabetic bland (Mod 1) and Na/R, Cal/R, Type II HLP, diabetic bland (Mod 2).

Breakfast

1. Appetizers. The same appetizers should be available when possible as those on the regular diet menu.

2. Eggs. A decrease in egg offerings to scrambled eggs and omelets is necessary due to the use of low cholesterol egg substitutes. If other acceptable low cholesterol egg entrees are available, they could be added to the menu.

3. Cereals. Cereals similar to those on the regular diets should be offered.

4. Accompaniments. Should remain the same as on the regular diet menu.

5. Breakfast breads. Should remain the same as on the regular diet, except for limitations on items such as doughnuts or danish pastry as necessary.

Dinner-Supper

1. Appetizers. Appetizers on the dinner-supper menu should be similar to the regular diet appetizers.

2. Cold Entrees. Cold entrees and sandwiches should be varied slightly from those on the regular diet to allow adaptation to the modified diets.

3. Hot Sandwiches. Hot sandwiches should remain similar to those on the regular diet menus.

4. Hot Entrees. Twelve hot entrees should be offered from consolidated modified diet entree production guides.

5. Starches. Five to six starches should be offered from modified diet entree guides.

6. Vegetables. Vegetables should be similar to those on the regular diet.

7. Salads. Salads should be similar to those on the regular diet.

8. Breads. Depending upon the patient's diet, the bread selection should be similar to the regular menu.

9. Desserts. Desserts should be selected from those developed at NLABS for consolidated diets. For patients whose diets allow a wider range of desserts, clip-on of regular dessert items could be used.

Fiber-Restricted, Residue-Restricted Bland Diet

Using the items available on the other diets, the WRAMC dietary staff should design a low fiber, low residue bland diet. The number of items for selection should be similar to those recommended in the other diets.

Pureed Bland Diet

Breakfast

The pureed bland breakfast diet should be assembled from items found on the regular and consolidated modified diet menus.

Dinner-Supper

1. Appetizers. The appetizers for the pureed bland diets should be the same as items taken from the regular and modified diet menus.

2. Entrees. A maximum of 10 entrees for the pureed bland diet should be selected from the entrees developed at NLABS. These items should greatly enhance the food served to patients on the pureed bland diet.

3. Vegetables. Vegetables should be selected from available production guides. Because of other limitations in diet selection, such as the absence of salad, the patient should be allowed to make at least two selections of vegetables.

4. Desserts. Desserts for patients on the pureed bland diet should be assembled from those prepared for other diets.

Dental Liquid Diet

Breakfast

1. Appetizers. Juices from other diets should be used for dental liquid patients.

2. Cereals. Thinned, strained cereals prepared from available production guides should be offered to the dental liquid patient.

3. Beverages. Because of the lack of other choices such as eggs, additional beverages such as eggnog should be offered on the menu. Other high protein drinks could also be made available.

Dinner-Supper

1. Appetizers. Appetizers for dinner-supper should include four of the thinned, strained soups developed at NLABS for dental liquid patients. Two juices could also be available.

2. Entrees. Ten dental liquid entrees should be available for selection by the dental liquid patient.

3. Vegetables. Eight vegetables selected from available production guides should be on the menu. The patient should have a choice of at least two vegetables.

4. Desserts. A choice of six desserts is recommended. These also should be selected from those guides developed at NLABS.

5. Beverages. Additional beverages should be available to the dental liquid patient. Eggnogs, milkshakes, hot chocolate, and milk are all nutritionally advantageous to these patients.

Full Liquid Diet

Items on the full liquid diet should be taken from suitable products available on other diets.

Miscellaneous

1. In as many instances as possible, routine accompaniments, condiments, and accessories should be placed on the patient's tray. Thus, all regular diet patients would receive salt and pepper, crackers if they order soup, butter or margarine with bread or rolls, jelly with toast, milk and sugar with coffee, milk with cereal, etc. The waste involved in routinely providing most accompaniments would be offset by the savings in labor.

2. To accommodate ordering other accompaniments, the clinical dietitians together with patient tray assembly personnel should develop order sheets, which would indicate what accompaniments modified diet patients could receive.

3. As a back-up, certain condiments and accompaniments should be available from the galleys on the patient floors.

REFERENCES

Darsch, G., C. Shaw, and J. Tuomy; Storage Study of Frozen Entree Items Developed for Walter Reed Army Medical Center, NATICK/TR-78/006, April 1978. (AD A091 769)

Darsch, G., R. Young, C. Shaw, and J. Tuomy; Entree Production Guides for Modified Deits at Walter Reed Army Medical Center, Part IV: Meat Substitute Entrees, NATICK/TR-79/015 (FEL 92) 1979. (AD A079 958)

Helmer, R., and H. Schlup; Meat Entree Production Guides Developed for Use in Fort Lee Interim Central Food Preparation Facility, NLABS/TR 74-27 (FEL 12) March 1975. (AD A009 733)

McNutt, J., M. Branagan, J. McPhee, L. Albertini, and M. Klicka; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part V: Renal Diet Items, NATICK/TR-79/014 (FEL 103) 1979. (AD A083 141)

Meiselman, H.L., D. Waterman, L. E. Symington; Armed Forces Food Preferences, NLATS TR 75-63, FSL, December 1974.

Rahman, A., H. Gorfein, N. Kelley, G. Schafer, W. Swantak, and D. Westcott; Production Guides for Vegetables, Entrees, Soups, Desserts, Pastries and Salads Developed for Use in Central Food Preparation Facility, NLABS TR 75-35, FEL 13 Sep 1974. (AD A001 725)

Rahman, A., H. Schlup, G. Schafer, W. Swantak, and N. Kelley; Production Guides for Meat and Vegetable Entrees and Desserts Developed for Use in the Frozen Foil Pack Feeding System. F.E. Warren Air Force Base, NLABS TR 76-20, (FEL 52) Feb 1976. (AD A099 678)

Shaw, C., G. Darsch, G. Legris, Y. Masuoka, and J. Tuomy; Entree Production Guides for Modified Deits at Walter Reed Army Medical Center, Part I: Consolidated Modified Meat Entrees, NATICK/TR-79-010, (FEL 91), 1979. (AD A079 949)

Shaw, C., V. Loveridge, G. Darsch, and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part II: Pureed Bland Entrees, NATICK/TR-79/011, (FEL 93) 1979. (AD A073 718)

Shaw, C., V. Loveridge, G. Darsch, and J. Tuomy; Entree Production Guides for Modified Diets at Walter Reed Army Medical Center, Part III: Dental Liquid Entrees, NATICK/TR-79/012 (FEL 90) 1979. (AD A069 183)

Tuomy, J., G. Walker, L. Hinnergardt; Pilot Plant Production of Frozen Entree Items for the Navy, NLABS TR 76-31A (FEL 59) Sep 1976. (AD A031 327)

Walker, G., J. Tuomy, C. Kanter; Egg Products for Use in a Cook/Freeze System, NATICK/TR-76/28 (FEL 57) August 1976 (AD A031 023).

Young, R., C. Shaw, G. Darsch, J. Tuomy, and G. Walker; Meat and Fish Entree Production Guides Prepared for Walter Reed Army Medical Center, NATICK/TR-77/005 (FEL-77-004) Apr 1977 (AD A004 476).