

A SURVEY OF WINE SERVICE IN U.S. HOSPITALS

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Stillwater, Oklahoma

1976

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
MASTER OF SCIENCE
July, 1981



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ACKNOWLEDGMENTS

The author extends special thanks to Dr. Lea Ebro, major thesis adviser, for her expertise, patience, and her encouragement during this study. Appreciation is extended to Dr. Esther Winterfeldt and Dr. Larry Claypool, committee members, for their guidance and assistance.

The author gratefully acknowledges the Wine Institute of California for their generous financial support and interest throughout the study.

A special word of appreciation goes to all the hospital administrators and dietitians who participated in this research endeavor.

The author recognizes Andy, Denise, Nan, Ken, Elaine, and Carol for their special contributions of encouragement throughout this study.

Finally, this thesis is dedicated to my parents, Mr. and Mrs. Dean Swander. Their faith, support, and love have been invaluable throughout this research.

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CHAPTER I

INTRODUCTION

Wine is fast becoming a popular beverage in the United States. While consumption rates of distilled spirits and beer have remained constant over the past 65 years, wine consumption has increased two and one half times (Burck, 1975). "Wine is important to good foodservice . . . good wine enjoyed with good food adds to the establishments' reputation" (The Essentials of Good Table Service, 1975, p. 40). Hospital foodservice departments are beginning to look at restaurants and hotels for ways to improve their foodservice.

Hospital feeding and hotel feeding are totally parallel. The only difference is in dietetics. Those hospitals which aren't doing a good job aren't applying those principles used commercially (Peffer, 1977, p. 105).

Wine adds much to the aesthetic and psychological needs of the patient on a normal diet. An attractive placemat, nice dinnerware, and a glass of wine can enhance the appetite of the hospitalized individual.

For many patients, no dietary modification is required. Good nutritional care for them consists in supplying a normal diet that furnishes the patients nutritional, psychologic, and anesthetic needs . . . (Robinson, 1975, p. 369).

No other alcoholic beverage contains as many varied and complex substances as wine. Research done at the University of California (McDonald, 1979) showed that wine is more than alcohol alone.

When drugs are becoming more costly and the expense of hospitalization seems to know no limit, the solace of a glass of wine at meal times might speed recovery (McDonald, 1979, p. 19).

There is a void in the literature regarding wine service in hospital foodservice. The information from this research may provide valuable information to professional organizations, hospitals, and industry--each striving to meet the goal of excellent patient care.

Purpose and Objectives

The purpose of this research was to identify prevailing wine management practices utilized by foodservice departments in the United States hospitals that have a wine service program.

Specific Objectives include:

1. Determine wine management practices used in hospitals that have wine service programs based on size of the hospitals.
2. Determine wine management practices used in hospitals that have wine service programs based on selected personnel variables.
3. Determine attitudes of hospital foodservice administrators toward wine service based on selected personnel variables.
4. Make recommendations for further research in this area.

Hypotheses

The hypotheses postulated in this study were:

H₁: There will be no significant differences in management practices in hospitals that have wine service programs based on hospital size.

H₂: There will be no significant differences in management prac-

tices in hospitals with wine service programs based on the age and sex of foodservice administrators.

H₃: There will be no significant differences in the attitudes of hospital foodservice administrators towards wine service based on their age and sex.

Assumptions and Limitation

The following assumptions were accepted for this study:

1. The hospitals that responded to the January, 1980 survey by the Wine Institute are similar to other hospitals in the United States.
2. The respondents to the surveys by the Wine Institute and by the Foods, Nutrition, and Institution Administration Department, Oklahoma State University completed the questionnaire objectively and without bias.

The following limitation was accepted for this study.

The 657 hospitals in this study constituted an invited sample (Fox, 1969) rather than a random sample of the 7,200 hospitals in the United States, hence generalizations which will be made from the study will only apply to the sample used.

Definitions

1. Beer: Beverage made from brewed and fermented grain (Waugh, 1968, p. 202).
2. Foodservice: The components that make up the production and service of food (Position Paper, 1979, p. 473).
3. Hospital: "An institution where the ill or injured may receive medical, surgical, or psychiatric treatment, nursing, food, and

lodging, etc., during illness." (Guralnik, 1964, p. 702).

4. Management Functions: "The processes used to accomplish the goals of the organization are planning, organizing, staffing, directing, and controlling" (MacKenzie, 1969, p. 81).

5. Service: "Signifies the utensils necessary to serve a particular part of a meal such as tea or wine service; the whole ensemble of objects used at the table: linens, plates, glasses, silver, and holloware" (Editors of CBI, 1981, p. 51).

6. Spirits: "Beverage of high alcoholic content obtained by distillation of fermented grapes or other fruit, grains, potatoes, sugar cane, etc." (Waugh, 1968, p. 203).

7. Wine: "Beverage made from the fermented juice of grapes, occasionally from the juice of other fruit or even flowers like dandelions" (Waugh, 1968, p. 203).

8. Wine Service: The components that make up the procuring, storing, presenting, and serving of wine.

CHAPTER II

REVIEW OF LITERATURE

History of Wine as a Therapeutic Beverage

The earliest preserved record of wine used as a medicine was a clay tablet discovered in 1910 from the ruins of an ancient city, Nippur, south of the supposed site of Babylon. It was placed at the University of Pennsylvania Museum in Philadelphia, and dates from about the third millenium before Christ (Kramer, 1956, p. 56).

In the culture of ancient India, wine was regarded as the god Soma. The god beverage was credited with medicinal powers. One thousand years before Buddha it was written:

O Soma! you have been crushed, you flow as a
stream to
Indra, scattering joy on all sides, you bestow
immortal food.
Seven women stir thee with their fingers blending
their voices in a song to thee, to remind the
sacrifices of his
duties at the sacrifice.
Of all the drinks that Indra have, you are the most
pleasant and intoxicating.
This is Soma, who flows wine, who is strength
giving . . .
(Bose, 1922, p. 6).

Wine was served by the early Indians as a natural cure for the flow of internal fluids in the body.

Hippocrates of Cos (460-370 B.C.) used wine extensively in his therapy. He introduced the scientific study and treatment of disease and gave the medical profession its ethical ideas. Prescriptions of wine were given for wound dressing, as a cooling agent for fevers, as a purgative, a diuretic, and a nourishing dietary beverage. Hippocrates made no magical claims for wine, and was quick to point out when it should not be used as a medicine (Lucia, 1963).

During the Dark Ages, the monasteries served as hospitals and pharmacies. The monks followed greatly the teachings of Galen. Each monastery had a vineyard. The monks often used various plants as medicine and mixed many of these with wine. They were in constant communication to the saints for healing. Perhaps the monks greatest function was the preservation of the manuscripts of ancient civilization (Lucia, 1963).

Wine was used as an antiseptic for more than 2,000 years until Lord Lister discovered the benefits of carbolic acid as an antiseptic. The barber-surgeons of the 1600's used wine to dress the wounds after their surgery (Garrison, 1922).

During the early 1900's, drugs such as aspirin, barbitols, and vitamins captured the researcher's eye and much elaborate laboratory work accompanied the discovery of each. As this was also the era of prohibition, use of wine was disregarded and little research on its benefit was done (Lucia, 1963).

Research Related to Wine as a Beverage

In a United States Department of Agriculture study of wine purchases in the United States (Folwell, 1980), it was determined that approximately one half of the households in the United States purchase wine, and nearly half of the wine sold is purchased by five percent of the population. The typical household that purchases wine has more education, fewer members, and a higher income than the rest of the population. The majority of wines purchased are table wines.

Researchers at the University of California in Berkeley have discovered that more was involved in wine's therapeutic effects than just the alcohol. Tests were conducted to determine whether the alcohol of wine or some of the non-alcoholic constituents, the congeners, had a significant effect on the absorption of certain nutrients. Results showed that significantly higher levels of calcium, zinc, phosphorus, magnesium, and iron were absorbed when wine or dealcoholized wine were included in the diet. It was speculated that the increased absorption of certain elements during the consumption of wine or dealcoholized wine was due to the congeners. A possible explanation was that wine, but not alcohol, possesses an average, natural pH of 3.5, close to that of gastric juice (McDonald, 1979).

In New York state, beverage consumption patterns for a broad-based sample were studied. "Per capita use of both coffee and milk have declined while consumption of soft drinks, beer, wine, and liquor have increased" (Cook, 1975, p. 222).

Wine, in moderation, should be considered for use with geriatric patients. For those who are accustomed to alcoholic beverages, there

was less stress involved when these adults were institutionalized if moderate amounts of alcohol were placed into their diet. The therapeutic aspects of wine as a mild, safe sedative were noted (Leake, 1967).

Wine had been utilized by hospitals and nursing homes to "create a more home-like atmosphere". Patients seemed to adhere more easily to special diets when wine was added to the dietary regime.

"Whatever the physiological or psychological mechanisms involved, it likewise seems obvious that the inclusion of small amounts of wine in their hospital diets resulted in a substantial relaxation of these tensions, as indicated by a substantially lower number of complaints per patient" (Funk 1967, p. 184).

The use of wine with meals not only improved the palatability of the foods with which it was served, but it also appeared to make the coffee taste better, reduce unpleasantness of hospital smells, make the rooms seem less noisy, increase the courtesy and efficiency of receptionists and cashiers, and generally improved the rapport between the patients and their physicians, nurses and technicians (Funk, 1967).

Hospitals have turned to marketing procedures to increase their declining patient loads. Before 1970, hospitals' problems had to do with number of patients. There were bed shortages, and many prospective patients and their physicians had to queue up. The situation turned around drastically in the 1970's, and hospitals found themselves with falling patient admissions and falling patient-days. With high fixed costs and rising labor costs, the declining patient census spelled the difference between being in the black and being in the red. Hospitals began to search for ways to get a larger share of the avail-

able patients. In competing for maternity patients, a Philadelphia hospital made a practice of serving a candelight dinner (with steak and champagne) for the parents of a newborn child on the evening before their departure (Kotler, 1980).

Professional dietitians, in planning the nutritional care of each patient should interpret the physician's order in terms of daily meal patterns that have been individualized according to the patient's food habits as well as modified according to the therapeutic needs (Robinson, 1977). As hospitals begin to look at their patients as people with individual backgrounds, needs, wants, and feelings, it was not surprising for hospitals to begin to add wine service for their patients who like wine and could include it in their diet.

Summary

Wine had been used for therapeutic reasons for centuries. Recent literature indicated that some constituents in wine are useful in the diet to aid in absorption of some nutrients. Wine consumption is increasing in the general public, and some physicians encourage the use of moderate amounts of alcohol for patients who are accustomed to having it. This study could prove valuable to hospital administrators, dietitians, and foodservice professionals as they consider wine service not only as a part of hospital foodservice, but also as a part of the nutritional care of patients.

CHAPTER III

RESEARCH PROCEDURES

This research was undertaken to identify prevailing wine management practices utilized by foodservice departments in the United States hospitals that have a wine service program. The research design, sample, data collection and data analysis will be outlined in this chapter.

Research Design

Descriptive status survey was the research design used in this study (Kerlinger, 1973; Van Dalen, 1973). "Descriptive research deals with relationships between variables, the testing of hypotheses, and the development of generalizations, principles, or theories that have universal validity" (Best, 1977, p. 117).

Sample

There are approximately 7,200 hospitals in the United States. In January of 1980, a survey was conducted by the Wine Institute of California to determine the number of hospitals that have wine service. Approximately ten percent (N=713) of all the hospitals responded to the survey. The food service administrators of the hospitals that responded to the January survey constituted the invited sample in this study (Fox, 1980). The information collected from this study can be general-

ized only to the hospitals surveyed.

Data Collection

Planning and Development

Planning and development were done during the summer and fall, 1980 semesters. Data collection procedures were determined and data analysis techniques appropriate to answer the research hypotheses were chosen.

Instrumentation

A questionnaire was selected as the research instrument. Questionnaires are generally used to obtain opinions, preferences, facts known to the individual respondent and attitudes (Joseph and Joseph, 1979). The research instrument consisted of multiple choice questions. Respondents were asked to specify their response when they checked "other". In developing the instrument, dietitians in hospitals and other health care facilities in Oklahoma were interviewed by phone regarding actual practices and procedures used when wine was served in their institutions. Questions sent by California wineries who are members of the Wine Institute, as well as questions in the initial survey by the Wine Institute, were analyzed to discern if some of the questions were relevant to include in the study.

Multiple choice questions were written following the "total design method" (Dillman, 1979). Forty questions comprised in the research instrument. Questions included in the instrument were demographic variables (hospital and foodservice administrators), prevailing management practices relative to wine service, attitudes of foodservice

administrators toward wine service and their need for promotional materials, equipment, supplies and service from the wine industry.

The research instrument was examined for content validity, clarity, and format by a panel made up of graduate faculty of the Food, Nutrition and Institution Administration, and Statistics Departments of Oklahoma State University, and several dietitians in Stillwater, Oklahoma. Modifications were made based on the panel's comments on the questions and clarity of instructions. The final draft was printed by a local printing company on heavy (70 weight) paper of ivory color using a burgundy colored ink. Instructions were printed directly on the questionnaire and the instrument was designed so that it could be refolded, stapled and mailed back to the researcher. Return postage was provided (Appendix A).

Survey Procedure

A 14-item questionnaire was utilized in an initial survey conducted by the Wine Institute of California on January 1980 to determine the number of U.S. hospitals with wine service. Responses were received from 713 of the 7200 hospitals surveyed. Data were forwarded to Oklahoma State University for processing. Frequency tables were generated based on the responses to the 14 questions. Respondents were then classified in alphabetical order by hospitals within the cities and by cities within the states. Results of the initial survey were sent to the Wine Institute of California.

A second more comprehensive survey was initiated at Oklahoma State University to identify prevailing wine management practices utilized by the hospitals who responded to the Wine Institute survey. Although

there were 713 hospitals that returned the initial survey, the computer indicated that only 657 of these hospitals actually have wine service. The remaining 56 hospitals were interested in initiating a wine service program but did not currently serve wine. The computer was then programmed to print out address labels for the 657 hospitals with wine service.

Letters inviting the 657 foodservice administrators/dietitians to participate in the second survey (Appendix B) were mailed out with the research instrument on November 8, 1980. Participants were requested to respond within two weeks. Follow-up letters were then sent out one month after the original mailing date (Appendix B).

Data Analysis

Fifty-one percent (N=337) of the initial sample made up of foodservice administrators and dietitians working in hospitals with wine service participated in this study. Responses were transcribed and processed onto computer cards for standard statistical analysis using the Statistical Analysis System (SAS) by Barr and Goodnight (1972). Frequencies and percentages were generated to transform demographic and other variables into meaningful and usable information (Joseph and Joseph, 1979). Chi square values were determined to test the association between selected variables (Kerlinger, 1973).

CHAPTER IV

RESULTS AND DISCUSSION

The major purpose of this study was to identify prevailing wine management practices utilized by 337 hospital foodservice departments in the United States that have a wine service program. Forty questions were developed and set forth in an eight page questionnaire to determine these practices.

This chapter describes the characteristics of hospitals, characteristics of respondents, attitudes of respondents to wine service program, and needs of respondents in regard to their wine service program. Data analyses to evaluate the hypotheses are also included in this chapter.

Characteristics of Hospitals

Size and Type

Of the 337 hospitals that participated in the study, 44 percent (N=149) have 100 to 299 beds, 36 percent (N=122) have 300 beds or more, while 20 percent (N=66) have less than 100 beds. On the question "type of hospital", respondents were allowed to check all descriptions that applied to their institution. The 337 respondents marked 461 descriptions (1.4 per respondent). Hospitals with wine service were of various types, with private institutions as well as those offering general services checked more often by the respondents (Table I). The 33

TABLE I
TYPES OF HOSPITALS WITH WINE SERVICE

Hospital Type	Number of Responses (N=461)
Private	150
General Services	81
Nonfederal Government	53
Corporately Owned for Profit	44
Non-Private	41
Other	33
Associated With Medical School	20
Special Services	18
Privately Owned for Profit	12
Federal Government	9

"other" responses referred to institutions that described themselves as one of the following: "non-profit", religious-general, mental health, rehabilitation, nursing home, state hospital, health maintenance organization and indigent care.

Management Practices

The policy to serve wine to patients is a decision made by more than one person or department in most hospitals. Of the 500 total responses, 33 percent (N=166) indicate that the foodservice director established the policy. One hundred fifteen (23 percent) checked physicians, 86 (17 percent) checked dietitians, and 67 (13 percent) checked hospital board. The remaining 13 percent specified that they did not know who established the policy.

The reason wine is served to patients elicited a total of 722 responses (2.1 per respondent). One hundred fifty eight (22 percent) indicate that wine is served as a part of quality foodservice. Between 114 and 126 responses (16 to 17 percent) were indicated for the following choices: therapeutic reasons, appetite stimulant, special events, and patient request. Eight percent (N=61) serve wine for aesthetic purposes.

Forty percent of the responses indicate that wine is offered to patients by a patient selected menu. The physician offers wine to patients in 96 hospitals (22 percent of the responses to this question).

Over one half (54 percent, N=182) of the hospitals offer a choice of white, red or rosé house wines. One hundred forty four (43 percent) offer the house choice--no patient selection. In almost one half of the hospitals (48 percent, N=168) wine is served in a wine glass filled

from a retail size bottle, and in one fourth of the hospitals (26 percent N=91), wine is served in individual bottles.

Eighty percent (N=267) of the responding hospitals serve domestic wine, while seventeen percent (N=57) serve a combination of domestic and imported wines. Ninety-five percent of the domestic wine comes from California (79 percent, N=280) and from New York (16 percent, N=57). Two hundred sixty eight responses (70 percent) indicate that wine is served with food on the tray. Seventy-three percent (N=274) of the hospitals indicate that the nursing department served the food trays to the patients, while 26 percent (N=86) have food trays served by the foodservice department. On the question of who actually served the wine, however, 51 percent (N=167) indicate that wine is served to the patients by the foodservice staff and 36 percent (N=118) by nursing staff.

Wine is purchased for patient foodservice, (48 percent, N=289), catering (27 percent, N=174), and food production, (16 percent, N=101). Wine is purchased by the foodservice director (47 percent, N=181), the dietitian (24 percent, N=90), or the hospital purchasing agent (10 percent, N=39). The wine is purchased in a retail liquor outlet by 65 percent (N=215) of the responding hospitals and in a wholesale liquor outlet by 27 percent (N=91) of the hospitals.

Forty-eight percent of the hospitals store wine in a medium-security storage area (N=159), 29 percent in a high security storage area, (N=97), and 23 percent in a low security storage area (N=77).

Wine inventory is monitored the same amount as other food supplies by 65 percent of the respondents (N=216). Ninety hospitals (27 percent) monitor their wine inventory more carefully than other food

supplies.

Centralized purchasing, decentralized purchasing, or a combination of the two are utilized by 73 percent (N=245) of the hospitals that participated in the study. In contrast, only 5 percent (N=17) utilize exclusively group purchasing. Conventional foodservice system is utilized by 90 percent of the 337 hospitals in the study. A conventional foodservice system is defined as "production and service of quality food within one foodservice operation while effectively utilizing all renewable and non-renewable resources" (Bobeng, 1978, p. 524-529).

The type of table appointments utilized by the hospitals in this study indicated the degree of formality of patient foodservice. Nine percent (N=29) of the hospitals may be classified as having formal tableservice (china, glassware, stainless or silver flatware, and cloth), 72 percent (N=241) may be classified as semi-formal (china, glassware, stainless flatware, and paper), while 19 percent (N=63) may be classified as having informal tableservice (heat resistant plastic, stainless flatware, and paper or all disposables).

Characteristics of Respondents

The respondents were predominantly female (62 percent); males only constituted 38 percent. Age-wise, 51 percent of the respondents were 40 years or older, while the remaining 49 percent were younger than 40.

Over half (55 percent) the respondents (N=184) were foodservice administrators, while 37 percent (N=123) were administrative dietitians. The remaining 8 percent (N=20) identified themselves as one of the following: foodservice supervisors, purchasing agent, director of

pharmacy and purchasing, production manager, recreational therapy director, pharmacy and nutritional therapists.

Almost all the respondents (N=286 or 85 percent) have attained college education. Two-thirds of the group (N=225) have completed baccalaureate degrees, while about a fifth of the group (N=61) have advanced degrees--59 with masters degrees and 2 with doctoral degrees. Twelve percent (N=40) of the respondents have either completed associate degrees or vocational certifications, or have attended foodservice training of some kind. Eleven respondents did not indicate the type of education attained.

Respondents were asked to identify the emphasis of their degree by placing the letter "U" for undergraduate work and the letter "G" for graduate work beside the appropriate responses. Many of the respondents, however, only checked their major area of study. There were a total of 452 responses (1.3 responses per respondent). Dietetics and/or food and nutrition received 44 percent of the responses (N=200), 19 percent indicated institution administration, and 11 percent indicated hotel and restaurant administration. Twenty-five percent of the responses (N=113) were either food service, education or other.

Almost all the respondents were employed full-time (96 percent, N=325). Thirty-nine percent (N=131) have been employed at their present position one to three years, 22 percent (N=75) from four to six years, 12 percent (N=89) ten or more years. Forty-nine percent (N=165) of the respondents have had one or two professional jobs prior to their present position, 35 percent (N=117) have had three or four professional jobs prior to their present position, while 16 percent (N=53) have had five or more positions.

Of the 428 total number of responses to membership in professional organizations, 183 (43 percent) indicated membership in The American Dietetic Association (ADA), and 157 (37 percent) are members of the American Society of Hospital Food Service Administrators (ASHFSA).

Respondents (53 percent, N=263) have acquired their knowledge about wine and wine service by reading books, pamphlets, and journal articles. Many have learned from personal experiences with various wines, wine courses, and seminars.

Attitudes of Respondents Towards Wine

Service Program

Respondents' attitudes toward wine service are positive. Sixty-seven percent (N=226) would encourage a wine service program if they were to move to a hospital without one. Seventy-seven percent (N=259) indicate that their patients like the wine service program. Eighty-three percent (N=281) responded that foodservice management is no more or less difficult with wine service, and 69 percent (N=232) feel that wine service with meals improves patient's attitudes toward hospital foodservice. One hundred thirty-seven hospitals (41 percent) indicate that wine service is an asset to their hospital foodservice program, while 53 percent (N=177) feel that it is neither an asset nor a liability to their foodservice program. One hundred fifty-one hospitals (45 percent) indicate that there is no more or less plate waste when wine is served, while 39 percent (N=130) indicate they have had no opportunity to observe plate waste related to wine usage.

Needs of Respondents

The respondents in this survey indicate that the promotional materials now utilized in their wine service program are recipes for foodservice, calorie/nutrient information for various wines, wine lists, and guides to wine. There is a great interest in having more calorie/nutrient information, recipes, guides to wine, articles suitable for a newsletter, and wine lists (Table II).

The respondents currently use individual bottles, individual carafes and disposable wine goblets. The equipment and supplies they most would like to have are individual bottles, disposable wine goblets, individual carafes, a cart designed for wine service, locked wine racks, and a quick-chill wine cooler. Several respondents indicated that they were concerned about using disposable goblets or carafes that promoted a wine company. Although few of the respondents currently use visual aids to teach wine service, many indicated that they would use them if they were available. The services most requested by respondents are catalogues of products and slide shows to teach wine service (Table II).

Testing of Hypotheses

H_1 : There will be no significant differences in management practices in hospitals that have wine service programs based on hospital size.

Chi square values were determined for the association between management practices in hospitals that have wine service programs and hospital size. Results are presented in Table III. Significant associations were found between the variables "type of hospital pur-

TABLE II

FREQUENCY DISTRIBUTION TABLE OF PROMOTIONAL MATERIALS, EQUIPMENT,
AND SUPPLIES AND SERVICES THAT HOSPITAL ADMINISTRATORS
USE NOW OR WOULD USE IF AVAILABLE

Promotional Materials	Use Now N	Would Use N
Wine lists	27	73
Tray tents (table tents)	8	50
Posters	7	44
Articles suitable for a Newsletter	8	121
Guides to wine	22	165
Recipes for foodservice	70	167
Calorie/nutrient information for various wines	35	219
Placemats, napkins, other paper items	18	46
Menu covers	12	43
Equipment and Supplies	Use Now N	Would Use N
Individual carafes filled from larger bottles	47	58
"Quick Chill" wine cooler	7	30
Large carafes to serve wine from a cart	18	17
Locked wine racks	13	49
Cart designed for wine service	6	38
Disposable wine goblets	38	88
Individual bottles	72	94
Large bottles with facets that fit into racks	2	12
Casks	4	3
Services	Use Now N	Would Use N
Wine representative to teach hospital staff	3	59
Slide show to teach wine service	2	83
Film strip/cassette	1	84
16 mm movie	1	53
Teaching module without filmstrip, movie, etc.	1	21
Delivery service by liquor broker	18	50
Catalogues of products	12	121

TABLE III

CHI SQUARE DETERMINATIONS BETWEEN MANAGEMENT PRACTICES IN HOSPITALS THAT
HAVE WINE SERVICE PROGRAMS AND HOSPITAL SIZE

		Management Practices					Department Responsible for Tray Service
		Wine Service Personnel	Type of Hospital Purchasing	Purchasing Personnel	Type of Food Service System	Type of Table Appointments	
Hospital Size	χ^2	5.749	17.742	22.258	3.473	5.458	12.052
	df	4	8	4	2	4	2
	Prob	0.2187	0.0232	0.0002	0.1761	0.2434	0.0024

chasing" and hospital size ($P = 0.0232$), "food purchaser" and hospital size ($P = 0.0002$), and "department responsible for tray service" and hospital size ($P = 0.0024$) (Tables VI-XI, Appendix C). Based on these three relationships of variables, the researcher failed to accept H_1 . Hospitals with 100 beds or more tend to use group purchasing and a combination of centralized and decentralized purchasing more than hospitals with 100 beds or less. Hospitals with 300 or more beds tend to have the foodservice director, foodservice, or hospital purchasing agent purchase food while hospitals with less than 100 beds tend to have the dietitian or foodservice director purchase food. In hospitals with less than 300 beds, there is a strong tendency for the nursing department to serve the trays, while in hospitals with more than 300 beds, there is less of a tendency for the nursing department to serve the trays.

H_2 : There will be no significant differences in management practices in hospitals with wine service programs based on the age and sex of foodservice administrators.

Chi square values were determined for the association between management practices in hospitals that have wine service programs and the age and sex of foodservice administrators. Results are presented in Table IV. Significant associations were found between the variables "purchasing personnel" and age of the respondent ($P = 0.0283$), "wine service personnel" and sex of respondent, "purchasing personnel" and sex of respondent, and "table appointments used" and sex of respondent ($P = 0.0004$) (Tables XII-XXIII, Appendix C). Based on these four relationships of variables, the researcher failed to accept H_2 . Respondents in their thirties tend to indicate that the foodservice

TABLE IV

CHI SQUARE DETERMINATIONS BETWEEN MANAGEMENT PRACTICES IN HOSPITALS WITH WINE SERVICE PROGRAMS AND AGE AND SEX OF RESPONDENT

		Management Practices					
Age and Sex of Respondents		Wine Service Personnel	Type of Hospital Purchasing	Purchasing Personnel	Type of Foodservice System	Type of Table Appointments	Department Responsible for Tray Service
Age	X^2	2.312	20.411	14.124	3.333	6.329	0.964
	df	6	12	6	3	6	3
	Prob	0.8889	0.0597	0.0283	0.3430	0.3874	0.8100
Sex	X^2	7.702	8.425	40.667	2.287	15.446	0.294
	df	2	4	2	1	2	2
	Prob	0.021	0.0772	0.0001	0.1305	0.0004	0.5879

director does the purchasing, respondents in their forties tend to indicate that purchasing is done by the foodservice director or the purchasing agent, and respondents in their fifties tend to indicate that foodservice purchasing is done either by the dietitian or the foodservice director. Male respondents indicate that wine is mostly served by foodservice staff, and female respondents indicated that wine is served by nursing staff or foodservice staff. Females responded that foodservice purchasing is done by dietitians, foodservice directors, and purchasing agents, while male respondents indicated that purchasing is done only by foodservice directors and purchasing agents. Male respondents are more likely to use formal table appointments than female respondents.

H₃: There will be no significant differences in the attitudes of hospital foodservice administrators towards wine service based on their age and sex.

Chi square values were determined for the association between attitudes of hospital foodservice administrators towards wine service and age and sex of foodservice administrators. Results are presented in Table V. Significant associations were found between the variables "respondents attitude toward how wine service affects hospital foodservice" and sex of respondents (P = 0.0088), "respondents perception of patients attitudes toward hospital foodservice with wine service" and sex of respondents (P = 0.0163), respondents perception of plate waste when wine is served" and sex of respondents (P = 0.0083), "respondent's perception of the difficulty of hospital foodservice with wine service" and sex of the respondents (P = 0.0224), "respondents attitude toward encouraging wine service in another institution" and

TABLE V

CHI SQUARE DETERMINATIONS BETWEEN ATTITUDES OF RESPONDENTS TOWARDS WINE SERVICE AND AGE AND SEX OF RESPONDENTS

Age and Sex of Respondents	Attitudes of Respondents					
	Wine Service's Effect on Hospital Foodservice	Wine Service's Effect on Patient's Attitudes	Wine Service's Effect on Plate Waste	Wine Service's Effect on Foodservice Management	Implementation of Future Wine Service Program	Patient's Attitude Toward Wine Service
Age ³⁴						
X ²	3.220	5.406	16.576	7.584	5.175	4.256
df	6	6	9	6	3	6
Prob	0.7808	0.4929	0.0558	0.2702	0.1594	0.6421
Sex ³⁵						
X ²	9.458	8.238	11.752	7.597	14.775	7.578
df	2	2	3	2	2	2
Prob	0.0088	0.0163	0.0083	0.0224	0.0006	0.0226

sex of respondent ($P = 0.0006$), and "respondents perception of patient's attitude toward wine service" and sex of respondent ($P = 0.0226$) (Tables XXIV-XXXIV, Appendix C). Based on these six relationships of variables, the researcher failed to accept H_3 . Male respondents tend to view wine service as an asset to the hospital foodservice system more than female respondents. Male respondents believe, more so than female respondents, that wine service improves patients' attitudes toward hospital foodservice, that wine service has no effect on plate waste, that foodservice management is no more or less difficult with wine service, and that patients tend to like wine service.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The purpose of this research was to identify prevailing wine management practices utilized by hospital foodservice departments in the United States that have a wine service program. Three hypotheses were postulated for this research, as follows:

H₁: There will be no significant differences in management practices in hospitals that have wine service programs based on hospital size.

H₂: There will be no significant differences in management practices in hospitals with wine service programs based on the age and sex of foodservice administrators.

H₃: There will be no significant differences in the attitudes of hospital foodservice administrators towards wine service based on their age and sex.

A review of literature showed that wine has been used through the ages for therapeutic reasons. Current research has provided information indicating that moderate amounts of wine can be useful in the diet for therapeutic purposes. There was no research literature available to describe current wine service management practices in U.S. hospitals.

The research design used in this study was the descriptive status survey. A 40-item questionnaire was developed to obtain the data. Twenty questions were asked to describe the hospital and the management

practices used in the hospitals, six questions to discern the attitudes of the respondents toward wine service, 10 questions to describe the respondent, three questions to determine the needs of the hospitals for promotional materials, equipment, supplies, and services, and one question to allow the respondents to indicate ways they needed assistance with their wine service program. The invited sample consisted of 657 hospitals that responded to an initial survey in January, 1980 conducted by the Wine Institute of California sent to all the hospitals (N=7200) in the United States. Of these hospitals, 337 participated in the study.

Characteristics of Hospitals

Eighty percent of the hospitals (N=271) have more than 100 beds. The hospitals are of many types, with "private" and "general services" selected most often by respondents. Of the hospitals in this survey, the policy to serve wine is most often a joint effort between foodservice directors, physicians, dietitians, and hospital boards. Wine is served as a part of quality foodservice, for therapeutic purposes, as an appetite stimulant, for special events, for aesthetic purposes and on patient request.

Wine is most often offered as a part of the patient-selected menu, with the selection limited to the "house choice" or a selection of one white, one rose', and one red wine. Wine is most often served in a wine glass filled from a retail size bottle or in individual bottles such as used in airlines.

Most of the wine served in U.S. hospitals is domestic wine, predominantly from California. The wine purchased is used for patient

foodservice, catering, and food production. Foodservice directors, dietitians, and purchasing agents purchase the wine in most of the hospitals surveyed.

The storage areas for wine are most often medium or high security areas, and the wine inventory is monitored about the same as other food supplies. Centralized purchasing, decentralized purchasing, or a combination of the two are most often used by the hospitals in this study.

A majority of the hospitals use a conventional foodservice system, with food being served using "semi-formal" table appointments. Food is most often served by the nursing staff in the hospitals in this study.

The respondents were predominantly female, and about half the respondents were forty or older and half were younger than forty. Over ninety percent of the respondents were foodservice administrators or administrative dietitians. Eighty-five percent have a college education. The most frequently selected areas of study include food and nutrition, institution administration, and hotel and restaurant administration.

Most of the respondents work full time, and most have been at their present job from one to six years. Almost one half of the respondents have had only one or two professional jobs previous to their present position. Eighty percent of the responses indicate that the respondents are members of ADA or ASHFSA. Over one half of the respondents indicate that their wine knowledge comes from reading books, pamphlets, and articles about wine.

The respondents have positive attitudes about wine service. They believe that their patients like wine service, and that wine service

improves patients' attitudes toward hospital foodservice. They would encourage wine service in a hospital that didn't have it, and they believe that foodservice management is no more or less difficult with wine service. The majority indicate that wine service is an asset to hospital food service or is neither an asset nor a liability to hospital foodservice. The respondents have not had an opportunity to observe plate waste or they feel it is no more or less when wine is served.

The hospitals are very interested in getting calorie/nutrition information about wines, recipes, guides to wine, articles suitable for use in a newsletter, wine lists, individual carafes, locked wine racks, disposable wine goblets, individual bottles, and wine service teaching aids.

Testing the Hypotheses

Chi square values were determined for the association between the variables: 1) management practices and hospital size, 2) management practices and age and sex of respondents, and 3) attitudes of hospital foodservice administrators and their age and sex.

The results showed significant relationships between hospital size and management practices. Hospitals with 100 beds or more tend to use group purchasing and a combination of centralized and decentralized purchasing more than hospitals with less than 100 beds. In hospitals with more than 300 beds, there is less tendency for nursing staff to serve the trays.

In this study, respondents in their forties indicate purchasing is done by the foodservice director or purchasing agent, and respondents in their fifties indicate that foodservice purchasing is done by the

dietitians or foodservice director. Male respondents indicate that wine is mostly served by foodservice staff, and female respondents indicate that wine is served by nursing or foodservice staff. Females in this study were more likely to have the dietitian as purchasing agent. Male respondents were more likely than female respondents to use formal table appointments.

Male respondents in this study tend to view wine service as an asset to their hospitals more than female respondents. Male respondents believe, more than female respondents, that wine service improves patients' attitudes toward hospital foodservice, that wine service has no effect on plate waste, that foodservice management is no more or less difficult with wine service, and that patients tend to like wine service. Male respondents are more likely than female respondents to encourage wine service in other hospitals.

Recommendations

Further study of the management practice, attitudes and needs of foodservice administrators in a random sample of all U.S. hospitals and other health care institutions is needed. The survey instrument may be expanded to include questions regarding length of time wine service had been available in the institution; how wine is paid for--whether it is charged directly to the patient, charged as medicine or is included in foodservice; how administrators' attitudes differ based on geographical location or religious beliefs; how attitudes differ between dietitian administrators and non-dietitian administrators; and others. To facilitate statistical analysis, only one response per question in the survey should be allowed.

Controlled research studies of patient plate waste and patient attitudes toward food in institutions with or without wine service need to be investigated. The results of this study indicate that the wine industry could provide more information relevant to caloric/nutrient information of wines, recipes using wine as an ingredient, guides to wine and visual aids to teach wine service to foodservice administrators and their staff.

The applications for wine use in the health care industry could be widespread. The wine industry might bottle individual servings of wine for health care use with calorie and trace mineral information, nutrient interaction with wine as well as contraindications on the wine labels to familiarize personnel in health care regarding for advantages of using wine in their foodservices.

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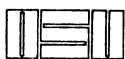
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APPENDIXES

APPENDIX A

INSTRUMENT



Oklahoma State University

Department of Food, Nutrition and Institution Administration

STILLWATER, OKLAHOMA 74078
(405) 624-5039

This Hospital Wine Usage questionnaire consists of forty questions. Please check one or more responses for each question to best describe your institution or yourself. Feel free to add comments to better describe your wine service program.

1. The policy to serve wine to patients was established by:

- a. hospital board
- b. physicians
- c. dietitians
- d. foodservice director
- e. other (please specify) _____

2. Wine is served to patients for which reasons?

- a. therapeutic purposes
- b. aesthetic purposes
- c. appetite stimulant
- d. for special events
- e. as a part of quality foodservice
- f. patient request
- g. other (please specify) _____

3. Wine is offered to patient by:

- a. wine steward
- b. patient-selected menu
- c. dietitian
- d. nursing staff
- e. physician
- f. other (please specify) _____

4. Wine selection is:

- a. house choice (no patient selection)
- b. choice of white, red, rose', house wines
- c. four to eight choices by name
- d. more than eight choices by name

5. Wine is served to patient in:

- a. individual bottles (as in airlines)
- b. individual carafes
- c. wine glass filled from retail size bottle
- d. wine glass filled from large carafe
- e. other (please specify) _____

6. Wine served is:

- a. imported
- b. imported and domestic
- c. domestic

If domestic wine is used, it is from:

- a. California
- b. New York
- c. other states (please specify) _____
- d. combination of states (please specify) _____

7. Wine is served to patients:

- a. with food on the tray
- b. before the meal
- c. by wine steward during meal
- d. "on demand"
- e. other (please specify) _____

8. Wine is served by:

- a. wine steward
- b. nursing staff
- c. foodservice staff
- d. other (please specify) _____

9. Wine is purchased for:

- a. patient foodservice
- b. guest cafeteria
- c. employee cafeteria
- d. catering
- e. food production
- f. pharmacy
- g. other (please specify) _____

10. Wine is purchased by:

- a. dietitian
- b. hospital purchasing agent
- c. foodservice purchasing agent
- d. pharmacy
- e. wine steward
- f. catering department
- g. other (please specify) _____

11. Wine is purchased from:

- a. wholesale liquor outlet
- b. retail liquor outlet
- c. broker
- d. winery
- e. other (please specify) _____

12. Wine is stored in:

- a. a high-security storage unit
- b. a medium-security storage unit
- c. a low-security storage unit

Please indicate storage area: _____

13. Wine inventory is:

- a. more carefully monitored than other food supplies
- b. monitored the same amount as other food supplies
- c. less carefully monitored than other food supplies

14. Hospital size is:

- a. less than 100 beds*
 - b. 100-299 beds
 - c. 300-999 beds
 - d. 1000 beds or more
- *exclude bassinets

15. Type of hospital

- a. federal government
- b. nonfederal government
- c. private
- d. non-private
- e. corporately owned for profit
- f. privately owned for profit
- g. associated with a medical school
- h. general services
- i. special services
- j. other (please specify) _____

16. Hospital purchasing is:

- a. centralized by the purchasing department
- b. decentralized (by departments)
- c. combination of a.) and b.)
- d. with other hospitals or organizations (group purchasing)
- e. other (please specify) _____

17. Foodservice purchasing is done by:

- a. dietitian
- b. foodservice director
- c. foodservice purchasing agent
- d. hospital purchasing agent
- e. other (please specify)

18. Type of foodservice system is:

- a. conventional foodservice system - production and service of quality food within one foodservice operation while effectively utilizing all renewable and non-renewable resources.
- b. assembly-serve foodservice system - food products are only procured after a considerable degree of processing; only storage, assembly, heating, and service functions are commonly done within the foodservice operation.
- c. commissary foodservice system - centralized food procurement and production functions with distribution of prepared menu items to several remote areas for final preparation and service.
- d. other (please specify) _____

19. Table appointments for patients include:

- a. china, glassware, silverware, cloth
- b. china, glassware, stainless flatware, cloth
- c. china, glassware, stainless flatware, paper
- d. heat resistant plastic, stainless flatware, paper
- e. disposables
- f. other (please specify) _____

20. Serving trays to the patients is the responsibility of:

- a. foodservice department
- b. nursing department

21. Wine service has been:

- a. an asset to our hospital foodservice system (financially and aesthetically)
- b. neither an asset nor a liability to our foodservice system
- c. a liability to our foodservice system

22. Wine service with meals:

- a. improves patient's attitudes toward hospital foodservice
- b. has no effect on patient's attitude toward hospital foodservice
- c. lowers patient's attitudes toward hospital foodservice

23. Plate waste seems to be:

- a. less when wine is served
- b. no more or less than when wine is served
- c. more when wine is served
- d. no opportunity to observe

24. Foodservice management is:

- a. more time-consuming and difficult with wine service
- b. no more or less difficult with wine service
- c. less time-consuming and difficult with wine service

25. If you moved to a hospital without wine service, you would:
- a. encourage the hospital to start a wine service program
 - b. neither encourage nor discourage the hospital to start a wine service program
 - c. discourage the hospital to start a wine service program
26. Patients seem to:
- a. like the wine service program
 - b. neither like nor dislike the wine service program
 - c. dislike the wine service program

PERSONAL DATA OF QUESTIONNAIRE RESPONDENT

27. Position title:
- a. administrative dietitian
 - b. chief or head dietitian
 - c. foodservice administrator
 - d. other (please specify) _____
28. Employment status:
- a. full-time
 - b. part-time
29. Years in present position:
- a. 1-3
 - b. 4-6
 - c. 7-9
 - d. 10 or more
30. Number of professional jobs prior to present position:
- a. 1-2
 - b. 3-4
 - c. 5 or more
31. Highest degree obtained
- a. bachelor's
 - b. master's
 - c. doctorate
 - d. other (please specify) _____
32. Emphasis in undergraduate (U) and graduate (G) education. Please place the correct letter beside the appropriate response.
- a. dietetics and/or food and nutrition
 - b. food science
 - c. institutional administration
 - d. education
 - e. hotel and restaurant administration
 - f. other (please specify) _____

6

33. Knowledge about wine and wine service were learned from:

- a. wine courses (college and university)
- b. wine courses (winery and wine institute)
- c. seminars
- d. reading books, pamphlets, journal articles, etc.
- e. other (please specify) _____

34. Age

- a. 22-29
- b. 30-39
- c. 40-49
- d. 50 or older

35. Sex

- a. male
- b. female

36. Membership in Professional Organizations:

- a. ADA
- b. AHFSA
- c. AHEA
- d. NRA
- e. SNE
- f. IFT
- g. other (please specify) _____

Questions 37, 38, and 39 contain lists of promotional materials, equipment, supplies, and services that are currently offered or might be offered by the wine industry. Please check the items you are currently using and the items you would use if available.

37. Promotional materials:

Use now Would use

- | | | |
|-----------------------------|-----------------------------|--|
| <input type="checkbox"/> a. | <input type="checkbox"/> b. | wine lists |
| <input type="checkbox"/> c. | <input type="checkbox"/> d. | tray tents (table tents) |
| <input type="checkbox"/> e. | <input type="checkbox"/> f. | posters |
| <input type="checkbox"/> g. | <input type="checkbox"/> h. | articles suitable for a newsletter |
| <input type="checkbox"/> i. | <input type="checkbox"/> j. | guides to wine |
| <input type="checkbox"/> k. | <input type="checkbox"/> l. | recipes for foodservice |
| <input type="checkbox"/> m. | <input type="checkbox"/> n. | calorie/nutrient information for various wines |
| <input type="checkbox"/> o. | <input type="checkbox"/> p. | placemats, napkins, other paper items |
| <input type="checkbox"/> q. | <input type="checkbox"/> r. | menu covers |
| <input type="checkbox"/> s. | <input type="checkbox"/> t. | other (please specify) _____ |

38. Equipment and supplies:

<u>Use now</u>	<u>Would use</u>	
<u>a.</u>	<u>b.</u>	individual carafes (filled from larger bottles)
<u>c.</u>	<u>d.</u>	a "quick chill" wine cooler
<u>e.</u>	<u>f.</u>	large carafes to serve wine from a cart
<u>g.</u>	<u>h.</u>	locked wine racks
<u>i.</u>	<u>j.</u>	cart designed for wine service (space for glasses, bottles, etc.)
<u>k.</u>	<u>l.</u>	disposable wine goblets (with winery's name)
<u>m.</u>	<u>n.</u>	individual bottles (as in airline use)
<u>o.</u>	<u>p.</u>	large bottles with facets that fit into racks (to fill carafes)
<u>q.</u>	<u>r.</u>	casks
<u>s.</u>	<u>t.</u>	other (please specify) _____

39. Services:

<u>Use now</u>	<u>Would use</u>	
<u>a.</u>	<u>b.</u>	wine representative to teach hospital staff the art of wine service
<u>c.</u>	<u>d.</u>	slide show to teach wine service
<u>e.</u>	<u>f.</u>	film strip/cassette to teach wine service
<u>g.</u>	<u>h.</u>	16 mm movie to teach wine service
<u>i.</u>	<u>j.</u>	teaching module without movie, slides, filmstrip, etc.
<u>k.</u>	<u>l.</u>	delivery service by liquor broker
<u>m.</u>	<u>n.</u>	catalogs of products
<u>o.</u>	<u>p.</u>	other (please specify) _____

40. In what other ways can the wine industry assist you in your wine service program?

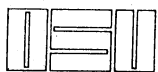
Thank you for your cooperation! Please use the remaining space for any additional comments you would like to make.

Joan Swander
Food, Nutrition and Institution Administration
Oklahoma State University
Home Economics West-403
Stillwater, OK 74078

Please refold the questionnaire, staple together and mail. Postage has been provided for your convenience. Thank you!

APPENDIX B

CORRESPONDENCE



Oklahoma State University

Department of Food, Nutrition and Institution Administration

STILLWATER, OKLAHOMA 74074
(405) 624-5039

October 31, 1981

Dear Colleague:

Early this year the Wine Institute in San Francisco, California sent out a survey to all hospitals in the United States to explore the number of health care institutions that serve wine. Thank you for your reply indicating that you either have or are interested in hospital wine service. In an effort to assist institutions with their wine service program, we need to describe how hospitals that currently serve wine manage their program, and identify areas where assistance is needed from the wine industry.

Please take twenty minutes of your time and check the responses on the attached questionnaire. Your identity and that of your institution will not be included in any published results. The code number on the questionnaire is only for data collection purposes. Your responses along with responses from other hospitals that serve wine, will be analyzed and written up in a research report (thesis). We hope the data from this study can generate information that can be utilized by dietitians and nutritionists in providing excellent nutritional care to clients. Kindly return the completed questions on or before November 20, 1980.

We are enthusiastic about this study and solicit your assistance and cooperation. May we hear from you?

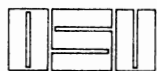
Sincerely yours,

Joan L. Swander
Graduate Student

Lea L. Ebro, Ph.D., R.D.
Major Adviser

JLS:LLE:sab

Enclosure



Oklahoma State University

Department of Food, Nutrition and Institution Administration

STILLWATER, OKLAHOMA 74074
(405) 624-5039

December 12, 1980

Dear Colleague,

Season's greetings!

Recently you received a questionnaire concerning hospital wine usage. To date we have not received your questionnaire. We are anxious to begin analyzing the data, and would like very much to include your responses in our research report.

We hope you will assist us in the study by completing the questionnaire. Your response will make this study a success!

If you have already returned your questionnaire, please accept our thanks and appreciation for your assistance and cooperation.

Sincerely,

Joan Swander
Graduate Student

Lea L. Ebro, Ph.D.
Associate Professor

JS/LLE/jrs

APPENDIX C

CHI SQUARE TABLES

TABLE VI
 CHI SQUARE TABLE SHOWING WINE SERVICE
 PERSONNEL BY HOSPITAL SIZE

Wine Service Personnel				
Hospital Size	Nursing Staff	Foodservice Staff	Wine Steward or Other	Total
< 100 beds	28/8.48%*	29/8.79%	8/2.42%	65/19.70
100-299 beds	53/16.06%	78/23.64%	15/4.55%	146/44.24
300 or > beds	37/11.21	60/18.18	22/6.67	119/36.06
Total	118/35.76	167/50.61	45/13.64	330/100

$$\chi^2 = 5.749$$

$$Df = 4$$

$$Prob = 0.2187$$

* Frequency/percent.

TABLE VII

CHI SQUARE TABLE SHOWING TYPE OF HOSPITAL PURCHASING BY HOSPITAL SIZE

Hospital Size	Type of Hospital Purchasing					Total
	Centralized by Purchasing Department	Decentralized (by Department)	Combination A&B	Group Purchasing	Other	
< 100 beds	8/2.38*	15/4.46	28/8.33	1/0.30	14/4.17	66/19.64
100-299 beds	18/5.36	35/10.42	56/16.67	8/2.38	31/9.23	148/44.04
300 or > beds	25/7.44	9/2.68	51/15.18	8/2.38	29/8.63	122/136.31
Total	51/15.18	59/17.56	135/40.18	17/5.06	74/22.02	336/100

$\chi^2 = 17.742$
Df = 8
Prob = 0.0232

TABLE VIII

CHI SQUARE TABLE SHOWING FOOD PURCHASER BY HOSPITAL SIZE

Hospital Size	Food Purchaser			Total
	Dietitian	Foodservice Director	Foodservice or Hospital Purchasing Agent	
< 100 beds	17/6.54*	34/13.08	6/2.31	57/21.92
100-299 beds	28/10.77	57/21.92	33/12.69	118/45.38
300 or > beds	9/3.46	38/14.62	38/14.62	85/32.69
Total	54/20.77	129/49.62	77/29.62	260/100.00

$$X^2 = 22.258 \quad Df = 4 \quad Prob = 0.0002$$

*Frequency/percent.

TABLE IX

CHI SQUARE TABLE SHOWING TYPE OF FOOD SERVICE SYSTEM BY HOSPITAL SIZE

Hospital Size	Foodservice System		Total
	Conventional Foodservice System	Other	
< 100 beds	60/18.18*	5/1.52	65/19.70
100-299 beds	138/41.82	8/2.42	146/44.24
300 or > beds	105/31.82	14/4.24	119/36.06
Total	303/91.82	27/8.18	330/100.00

$$X^2 = 3.473 \quad Df = 2 \quad Prob = 0.1761$$

*Frequency/percent.

TABLE X

CHI SQUARE TABLE SHOWING TABLE APPOINTMENTS USED BY HOSPITAL SIZE

Hospital Size	Appointments			
	Formal	Semi-Formal	Informal	
< 100 beds	5/1.50*	53/15.92	8/2.40	66/19.82
100-299 beds	12/3.60	110/33.03	26/7.81	148/44.44
300 or > beds	12/3.60	78/23.42	29/8.71	119/35.74
Total	29/8.71	241/72.37	63/18.92	333/100.00

$$X^2 = 5.458$$

$$Df = 4$$

$$Prob = 0.2434$$

* Frequency/percent.

TABLE XI

CHI SQUARE TABLE OF DEPARTMENT RESPONSIBLE FOR TRAY SERVICE BY HOSPITAL SIZE

Hospital Size	Departments Responsible for Tray Service			Total
	Foodservice Department	Nursing Department		
< 100 beds	7/2.10*	58/17.42		65/19.52
100-299 beds	38/11.41	110/33.03		148/44.44
300 or > beds	41/12.31	79/23.72		120/36.04
Total	86/25.83	247/74.17		333/100.00

$$X^2 = 12.052$$

$$Df = 2$$

$$Prob = 0.0024$$

* Frequency/percent.

TABLE XII

CHI SQUARE TABLE SHOWING WINE SERVICE PERSONNEL BY AGE OF RESPONDENT

Wine Service Personnel				
Age of Respondent	Nursing Staff	Foodservice Staff	Wine Steward or Other	Total
22-29	25/7.62*	29/8.84	8/2.44	62/18.90
30-39	38/11.59	48/14.63	13/3.96	99/30.18
40-49	22/6.71	40/12.20	12/3.66	74/22.56
50 or older	32/9.76	49/14.94	12/3.66	93/28.35
Total	117/35.67	166/50.61	45/13.72	328/100.00

$$X^2 = 2.312 \quad Df = 6 \quad Prob = 0.8889$$

* Frequency/percent.

TABLE XIII

CHI SQUARE TABLE SHOWING WINE SERVICE PERSONNEL BY SEX OF RESPONDENT

Wine Service Personnel				
Age of Respondent	Nursing Staff	Foodservice Staff	Wine Steward or Other	Total
Male	38/11.55*	60/18.24	25/7.60	123/37.39
Female	79/24.01	107/32.52	20/6.08	206/62.61
Total	117/35.56	167/50.76	45/13.68	329/100.00

$$X^2 = 7.702 \quad Df = 2 \quad Prob = 0.0213$$

* Frequency/percent.

TABLE XIV

CHI SQUARE TABLES SHOWING TYPE OF HOSPITAL PURCHASING BY AGE OF RESPONDENT

Age of Respondent	Type of Hospital Purchasing					Total
	Centralized	Decentralized	Combination	Group Purchasing	Other	
22-29	3/0.90*	11/3.29	30/8.98	1/0.30	16/4.79	61/18.26
30-39	14/4.19	18/5.39	47/14.07	3/0.90	20/5.99	102/30.54
40-49	14/4.19	14/4.19	29/8.68	8/2.40	13/3.89	78/23.35
50 and older	19/5.69	16/4.79	28/8.38	5/1.50	25/7.49	93/27.84
Total	50/14.97	59/17.66	134/40.12	17/5.09	74/22.16	334/100.00

$$\chi^2 = 20.411$$

$$Df = 12$$

$$Prob = 0.0597$$

TABLE XV

CHI SQUARE TABLES SHOWING TYPE OF HOSPITAL PURCHASING BY SEX OF RESPONDENT

Sex of Respondent	Type of Hospital Purchasing					Total
	Centralized	Decentralized	Combination	Group Purchasing	Other	
Male	27/8.06*	25/7.46	43/12.84	8/2.39	25/7.46	128/38.21
Female	24/7.16	34/10.15	91/27.16	9/2.69	49/14.63	207/61.79
Total	51/15.22	59/17.61	134/40.00	17/5.07	74/22.09	335/100.00

$$\chi^2 = 8.425$$

$$Df = 4$$

$$Prob = 0.0772$$

* Frequency/percent.

TABLE XVI

CHI SQUARE TABLE OF PURCHASING PERSONNEL BY AGE OF RESPONDENT

Purchasing Personnel				
Age of Respondent	Dietitian	Foodservice Director	Purchasing Agent	Total
22-29	13/5.04*	21/8.14	17/6.59	51/19.77
30-39	10/3.88	41/15.89	21/8.14	72/27.91
40-49	9/3.49	29/11.24	25/9.69	63/24.42
50 and older	22/8.53	37/14.34	13/5.04	72/27.91
Total	54/20.93	128/49.61	76/29.46	258/100.00

$\chi^2 = 14.124$ Df = 6 Prob = 0.0283
 * Frequency/percent.

TABLE XVII

CHI SQUARE TABLE OF PURCHASING PERSONNEL BY SEX OF RESPONDENT

Purchasing Personnel				
Sex of Respondent	Dietitian	Foodservice Director	Purchasing Agent	Total
Male	1/0.39*	66/25.48	34/13.13	101/39.00
Female	53/20.46	62/23.94	43/16.60	158/61.00
Total	54/20.85	128/49.42	97/29.73	259/100.00

$\chi^2 = 40.677$ Df = 2 Prob = 0.0001
 * Frequency/percent.

TABLE XVIII

CHI SQUARE TABLE OF TYPE OF FOODSERVICE SYSTEM BY AGE OF RESPONDENT

Age of Respondent	Type of Foodservice System		Total
	Conventional	Other	
22-29	58/17.68*	3/0.91	61/18.60
30-39	89/27.13	11/3.35	100/30.49
40-49	68/20.73	8/2.44	76/23.17
50 and older	86/26.22	5/1.52	91/27.74
Total	301/91.77	27/8.23	328/100.00

$$X^2 = 3.333 \quad Df = 3 \quad Prob = 0.3430$$

* Frequency/percent.

TABLE XIX

CHI SQUARE TABLE OF TYPE OF FOODSERVICE SYSTEM BY SEX OF RESPONDENT

Sex of Respondent	Type of Foodservice System		Total
	Conventional	Other	
Male	112/34.04*	14/4.26	126/38.30
Female	190/57.75	13/3.95	203/61.70
Total	302/91.79	27/8.21	329/100.00

$$X^2 = 2.287 \quad Df = 1 \quad Prob = 0.1305$$

* Frequency/percent.

TABLE XX

CHI SQUARE TABLE SHOWING TYPE OF TABLE APPOINTMENTS
BY AGE OF RESPONDENT

Age of Respondent	Type of Table Appointments			Total
	Semi-formal	Formal	Informal	
22-29	46/13.90*	5/1.51	11/3.32	62/18.73
30-39	70/21.15	12/3.63	19/5.74	101/30.51
40-49	60/18.13	6/1.81	9/2.72	75/22.66
50 and older	64/19.34	6/1.81	23/6.95	93/28.10
Total	240/72.51	29/8.75	62/18.73	331/100.00

$$X^2 = 6.329$$

$$Df = 6$$

$$Prob = 0.3874$$

* Frequency/percent.

TABLE XXI

CHI SQUARE TABLE SHOWING TYPE OF TABLE APPOINTMENTS
BY SEX OF RESPONDENT

Sex of Respondent	Type of Table Appointments			Total
	Semi-formal	Formal	Informal	
Male	86/25.90*	21/6.33	21/6.33	128/38.55
Female	155/46.69	8/2.41	41/12.35	204/61.45
Total	241/72.59	29/8.73	62/18.67	332/100.00

$$X^2 = 15.446$$

$$Df = 2$$

$$Prob = 0.0004$$

* Frequency/percent.

TABLE XXII

CHI SQUARE TABLE SHOWING DEPARTMENT RESPONSIBLE FOR TRAY
SERVICE BY AGE OF RESPONDENT

Department Responsible for Tray Service			
Age of Respondent	Foodservice Department	Nursing Department	Total
22-29	15/4.53*	46/13.90	61/18.43
30-39	29/8.76	73/22.05	102/30.82
40-49	21/6.34	55/16.62	76/22.96
50 and older	21/6.34	71/21.45	92/27.79
Total	86/25.98	245/74.02	331/100.00

$X^2 = 0.964$ Df = 3 Prob = 6.8100

* Frequency/percent.

TABLE XXIII

CHI SQUARE TABLE SHOWING DEPARTMENT RESPONSIBLE FOR TRAY
SERVICE BY SEX OF RESPONDENT

Department Responsible for Tray Service			
Sex of Respondent	Foodservice Department	Nursing Department	Total
Male	35/10.54*	92/27.71	127/38.25
Female	51/15.36	154/46.39	205/61.75
Total	86/25.90	246/74.10	332/100.00

$X^2 = 0.294$ Df = 1 Prob = 0.5879

* Frequency/percent.

TABLE XXIV

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTIONS OF THE EFFECT OF WINE SERVICE ON HOSPITAL FOODSERVICE SYSTEMS BY AGE OF RESPONDENTS

Respondent's Perceptions of the Effect of Wine Service on Hospital Foodservice Systems

Age of Respondent	Wine Service is an Asset	Wine Service is Neither an Asset Nor a Liability	Wine Service is a Liability	Total
22-29	21/6.58*	36/11.29	2/63	59/18.50
30-39	48/15.05	50/15.67	2/0.63	100/31.35
40-49	30/9.40	41/12.85	2/0.63	73/22.88
50 and older	37/11.60	49/15.36	1/0.31	87/27.27
Total	136/42.63	176/55.17	7/2.19	319/100.00

$$\chi^2 = 3.220$$

$$Df = 6$$

$$Prob = 0.7808$$

* Frequency/percent.

TABLE XXV

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTIONS OF THE EFFECT OF WINE SERVICE ON HOSPITAL FOODSERVICE SYSTEMS BY SEX OF RESPONDENTS

Respondent's Perceptions of the Effect of Wine Service on Hospital Foodservice Systems

Sex of Respondent	Wine Service is an Asset	Wine Service is Neither an Asset Nor a Liability	Wine Service is a Liability	Total
Male	67/20.94*	56/17.50	3/0.94	126/39.38
Female	70/21.88	120/37.50	4/1.25	194/60.63
Total	137/42.81	176/55.00	7/2.19	320/100.00

$$\chi^2 = 9.458$$

$$Df = 2$$

$$Prob = 0.0088$$

* Frequency/percent.

TABLE XXVI

CHI SQUARE TABLE OF RESPONDENT'S PERCEPTION OF PATIENT ATTITUDE
TO WINE SERVICE BY AGE OF RESPONDENTS

Respondent's Perception of Patient Attitude to Wine Service				
Age of Respondents	Patient's Like Wine Service	Patients Neither Like Nor Dislike Wine Service	No Response	Total
22-29	49/14.63*	9/2.69	4/1.19	62/18.51
30-39	78/23.28	19/5.67	5/1.49	102/30.45
40-49	61/18.21	11/3.28	6/1.79	78/23.28
50 and older	69/20.60	13/3.88	11/3.28	93/27.76
Total	257/76.72	52/15.52	26/7.76	335/100.00

$\chi^2 = 4.256$

Df = 6

Prob = 0.6421

* Frequency/percent.

TABLE XXVII

CHI SQUARE TABLE OF RESPONDENT'S PERCEPTION OF PATIENT ATTITUDE
TO WINE SERVICE BY SEX OF RESPONDENTS

Respondent's Perception of Patient Attitude to Wine Service				
Sex of Respondents	Patient's Like Wine Service	Patients Neither Like Nor Dislike Wine Service	No Response	Total
Male	107/31.85*	17/5.06	4/1.19	128/38.10
Female	151/44.94	35/10.42	22/6.55	208/61.90
Total	258/76.79	52/15.48	26/7.74	336/100.00

$$\chi^2 = 7.578$$

$$Df = 2$$

$$Prob = 0.0226$$

* Frequency/percent.

TABLE XXVIII

CHI SQUARE TABLES SHOWING RESPONDENT'S PERCEPTION OF THE EFFECT OF WINE SERVICE
ON PLATE WASTE BY AGE OF RESPONDENT

Respondent's Perception of the Effect of Wine Service on Plate Waste					
Age of Respondent	Less When Wine is Served	No More or Less When Wine is Served	No Opportunity to Observe	No Response	Total
22-29	5/1.50*	25/7.49	28/8.38	4/1.20	62/18.56
30-39	8/2.40	42/12.57	47/14.07	5/1.50	102/30.54
40-49	4/1.20	36/10.78	32/9.58	5/1.50	77/23.05
50 and older	14/4.19	47/14.07	22/6.59	10/2.99	93/27.84
Total	31/9.28	150/44.91	129/38.62	24/7.19	334/100.00

$$\chi^2 = 16.576$$

$$Df = 9$$

$$Prob = 0.0558$$

* Frequency/percent.

TABLE XXIX

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTION OF THE EFFECT OF WINE SERVICE ON
PLATE WASTE BY SEX OF RESPONDENT

Respondent's Perception of the Effect of Wine Service on Plate Waste					
Sex of Respondent	Less When Wine is Served	No More or Less When Wine is Served	No Opportunity to Observe	No Response	Total
Male	15/4.48*	68/20.30	41/12.24	4/1.19	128/38.21
Female	16/4.78	82/24.48	89/26.57	20/5.97	207/61.79
Total	31/9.25	150/44.78	130/38.81	24/7.16	335/100.00

$\chi^2 = 11.752$

Df = 3

Prob = 0.0083

* Frequency/percent.

TABLE XXX

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTION OF THE EFFECT
OF WINE SERVICE ON FOODSERVICE MANAGEMENT
BY AGE OF RESPONDENT

Respondent's Perception of the Effect of Wine Service on Food- service Management				
Age of Respondent	More Difficult With Wine Service	No More or Less Difficult With Wine Service	No Response	Total
22-29	6/1.80*	55/16.47	1/0.30	62/18.56
30-39	8/2.40	89/26.65	5/1.50	102/30.54
40-49	8/2.40	62/18.56	7/2.10	77/23.05
50 and older	8/2.40	74/22.16	11/3.29	93/27.84
Total	30/8.98	280/83.83	24/7.19	334/100.00

$\chi^2 = 7.584$ Df = 6 Prob = 0.2702

* Frequency/percent.

TABLE XXXI

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTION OF THE EFFECT
OF WINE SERVICE ON FOODSERVICE MANAGEMENT
BY SEX OF RESPONDENT

Respondent's Perception of the Effect of Wine Service Manage- ment on Foodservice Management				
Sex of Respondent	More Difficult With Wine Service	No More or Less Difficult With Wine Service	No Response	Total
Male	14/4.18*	111/33.13	3/0.90	128/38.21
Female	17/5.07	169/50.45	21/6.27	207/61.79
Total	31/9.25	280/83.58	24/7.16	335/100.00

$\chi^2 = 7.597$ Df = 2 Prob = 0.0224

* Frequency/percent.

TABLE XXXII

CHI SQUARE TABLE SHOWING RESPONDENT'S ATTITUDES TO IMPLEMENTATION OF FUTURE WINE SERVICE PROGRAMS BY AGE OF RESPONDENT

Respondent's Attitudes to Implementation of Future Wine Service Programs			
Age of Respondent	Would Encourage Wine Service Program	Would Neither Encourage Nor Discourage Wine Service Program or Discourage Wine Service	Total
22-29	36/11.15*	26/8.05	62/19.20
30-39	70/21.67	27/8.36	97/30.03
40-49	56/17.34	19/5.88	75/23.22
50 and older	63/19.50	26/30.34	323/100.00

$\chi^2 = 5.175$

Df = 3

Prob = 0.1594

* Frequency/percent.

TABLE XXXIII

CHI SQUARE TABLE SHOWING RESPONDENT'S ATTITUDES TO IMPLEMENTATION OF FUTURE WINE SERVICE PROGRAMS BY SEX OF RESPONDENT

Respondent's Attitudes to Implementation of Future Wine Service Programs			
Sex of Respondent	Would Encourage Wine Service Program	Would Neither Encourage Nor Discourage Wine Service Program or Discourage Wine Service	Total
Male	102/30.36*	24/7.14	128/38.10
Female	124/36.90	10/2.98	208/61.90
Total	226/67.26	98/29.17	336/100.00

$\chi^2 = 14.775$

Df = 2

Prob = 0.0006

* Frequency/percent.

TABLE XXXIV

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTION OF PATIENT'S ATTITUDES
TO HOSPITAL FOODSERVICE BY AGE OF RESPONDENTS

Respondent's Perception of Patient's Attitudes to Hospital Foodservice				
Age of Respondents	Wine Service Improves Patient's Attitudes to Hospital Foodservice	Wine Service Has No Affect on Patient's Attitudes to Hospital Food-Service	Wine Service Lowers Patient's Attitudes to Hospital Food-Service	Total
22-29	42/12.54*	11/3.28	9/2.69	62/18.51
30-39	73/21.79	22/6.57	7/2.09	102/30.45
40-49	56/16.72	15/4.48	7/2.09	78/23.28
50 and older	60/17.91	18/5.37	15/4.48	93/27.76
Total	231/68.96	66/19.70	38/11.34	335/100.00

$$X^2 = 5.406$$

$$Df = 6$$

$$Prob = 0.4929$$

* Frequency/percent.

TABLE XXXV

CHI SQUARE TABLE SHOWING RESPONDENT'S PERCEPTION OF PATIENT'S ATTITUDES
TO HOSPITAL FOODSERVICE BY SEX OF RESPONDENTS

Respondent's Perception of Patient's Attitudes to Hospital Foodservice				
Sex of Respondents	Wine Service Improves Patient's Attitudes to Hospital Foodservice	Wine Service Has No Affect on Patient's Attitudes to Hospital Food-Service	Wine Service Lowers Patient's Attitudes to Hospital Food-Service	Total
Male	100/29.76*	19/5.65	9/2.68	128/38.10
Female	132/39.29	47/13.99	29/8.63	208/61.90
Total	232/69.05	66/19.64	38/11.31	336/100.00

$\chi^2 = 8.238$

Df = 2

Prob = 0.0163

* Frequency/percent.

VITA²

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