

EDUCATIONAL PREPARATION OF HOSPITAL DIETITIANS:  
PRESENT FUNCTIONS AND SATISFACTIONS;  
CHARACTERISTICS NEEDED FOR CONTRIBUTING  
MEMBERSHIP ON HEALTH TEAMS

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## ABSTRACT

### EDUCATIONAL PREPARATION OF HOSPITAL DIETITIANS: PRESENT FUNCTIONS AND SATISFACTIONS; CHARACTERISTICS NEEDED FOR CONTRIBUTING MEMBERSHIP ON HEALTH TEAMS

By

Alice Ann Spangler

The study was designed to: (1) determine the present and ideal role of hospital dietitians as perceived by various health team members; (2) identify characteristics of successful dietitians who contribute to health team care of the patient; and (3) determine competences which the dietitians need to function as contributing health team members.

Questionnaires designed to evaluate the actual and ideal functions of professional personnel in hospital dietary departments were mailed to administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians in Michigan hospitals. In the follow-up study, dietitians from eleven sampled hospitals were interviewed to evaluate the influence that each dietitian had on the health care team in relation to her own personal characteristics and educational preparation. Physicians from the same

hospitals, either nominated by one of the dietitians or selected randomly, were contacted to determine how much decision-making they thought should be done by dietitians and the competences which dietitians need.

Based on responses from the questionnaires and personal interviews, the following conclusions were drawn:

1. The present and ideal functions of the dietary department were viewed differently by the administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians. Administrators were most optimistic in their description of the dietary department as a contributor to the health care team at a decision-making level; chiefs of staff were least optimistic. All groups, except chiefs of staff, endorsed the idea that the dietary department should contribute at a decision-making level.
2. Dietitians felt they should perform patient-oriented activities and not kitchen operations.
3. Responsibilities established as belonging to the dietitian include writing menus with patients, determining food likes, instructing patients, visiting patients, calculating special diets, and consulting the nurse regarding dietary problems.
4. Responsibilities for which the dietitian feels she should become more involved include attending ward rounds, prescribing special diets, attending medical



conferences, following patients on special diets after release from the hospital, making decisions on the health team, preparing dietary histories, writing the diet manual, charting dietary progress, writing special diets, and consulting with the physician.

5. Chiefs of staff felt dietitians should supervise food preparation and tray service, record dietary progress, and prepare dietary histories more than they do. Dietitians and doctors should instruct patients regarding their diet, and dietitians, doctors, and nurses should attend interdepartmental conferences and prepare the dietary manual.
6. Given the conditions of an "ideal" dietitian, physicians most often said they felt diet changes should be made by physicians, with modification by the dietitian.
7. Competences rated most important by the physician for the "ideal" dietitian include knowledge of food composition, nutrient recommendations, health team goals, food processing effects, skill in achieving patient's satisfaction, and communication skills.
8. Dietitians rated themselves highly proficient in knowledge of obtaining diet history by interviews, nutrient recommendations, food attitudes, food intake, technical operations of the kitchen, food standards, and food composition. Dietitians rated all of the above competences important for dietitians on the health team

except for technical operations and food standards.

Additional competences of an understanding of dietary modifications during illness and social and cultural factors were important.

9. Neither age, personality characteristics identified by the California Psychological Inventory, nor number of continuing education hours seemed to relate to the contribution made by dietitians to decision-making on the health team. The six most contributing dietitians were predominantly those who had or were presently participating in a three year supervised program in contrast to a dietetic internship and had worked in both therapeutic and administrative dietetics.

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## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION . . . . .	1
Purposes of the Study . . . . .	3
Statement and Significance of the Problem . . . . .	3
Limitations of the Study . . . . .	8
Organization of the Study . . . . .	9
II. LITERATURE REVIEW . . . . .	11
Introduction . . . . .	11
Health Care in the United States . . . . .	12
The Allied Health Professions . . . . .	15
Health Team Practice . . . . .	21
The Hospital Dietitians' Role as Health Team Members . . . . .	24
Summary . . . . .	35
III. DESIGN OF STUDY, INSTRUMENTATION, AND DATA COLLECTION PROCESSES . . . . .	37
Introduction and Over-All Design . . . . .	37
Over-All Design . . . . .	37
Phase I. Michigan Hospital Survey . . . . .	39
The Population . . . . .	39
The Instrument . . . . .	39
Procedures for Data Collection . . . . .	41
Data Analysis . . . . .	42
Phase II. In-Depth Study of Dietitians . . . . .	43
Part A. Dietitians' Interview . . . . .	43
The Population . . . . .	43
The Instruments . . . . .	43
Interview Schedule . . . . .	44
Competences of a Dietitian . . . . .	47
Dietitian's Responsibilities . . . . .	48
California Psychological Inventory . . . . .	48
Procedures for Data Collection . . . . .	52
Data Analysis . . . . .	53

Chapter	Page
Description of Present and Ideal Roles of Hospital Dietitians . . .	53
Skills and Competences Needed by Dietitians on the Health Team . . .	53
Characteristics of Successful Dieti- tians Who Contribute to Decision- Making on the Health Team . . .	54
Part B. Physicians' Study . . . . .	55
The Population . . . . .	55
The Instrument . . . . .	56
Procedure for Data Collection . . . . .	57
Data Analysis . . . . .	57
IV. RESULTS, DISCUSSION AND SUMMARY . . . . .	59
Introduction . . . . .	59
Phase I. Michigan Hospital Survey . . . . .	60
Characteristics of Dietitians and Dietary Departments . . . . .	60
Titles of Dietitians . . . . .	60
American Dietetic Association Member- ship . . . . .	61
Education of Dietitians and Dietary Department Heads . . . . .	62
Duration of Present Positions of Dietitians and Dietary Department Heads . . . . .	63
Location of Dietary Department Offices . . . . .	63
Actual and Ideal Function of the Dietary Department . . . . .	64
Dietitians' Responsibilities . . . . .	64
Dietitians' and Dietary Department Heads' Report of Ideal Responsibil- ities . . . . .	64
Chiefs' of Staff Assignment of Dietary- Related Responsibilities . . . . .	73
Frequency of Discussion . . . . .	77
Procedure for Ordering Diets . . . . .	78
Suggestions for Educational Preparation . . . . .	79
Hospital Administrators' Suggestions for the Dietitian's Education and Prediction of Future Role of Dieti- tians . . . . .	79
Importance of American Dietetic Associ- ation (ADA) Required Courses . . . . .	79

Chapter	Page
Phase II. In-Depth Study of Dietitians . . . . .	82
Part A. Dietitians' Study . . . . .	83
Interview of Dietitian . . . . .	83
Biographical Data . . . . .	83
Dietitians' Contribution to Decision-Making on the Health Team . . . . .	98
Dietitians' Evaluation of Educational Preparation . . . . .	103
California Psychological Inventory . . . . .	108
Analysis of Scores . . . . .	108
Comparison of Dietitians with High School and College Students . . . . .	112
Relation between CPI and Biographical Data . . . . .	112
The Dietitian Who Contributes to Decision-Making on the Health Team . . . . .	113
Biographical Data . . . . .	116
California Psychological Inventory . . . . .	117
Competences Needed by Dietitians on the Health Team . . . . .	117
Dietitian's Proficiency in Competences. Importance of Competences . . . . .	117
Comparison of Proficiency and Importance of Competences . . . . .	120
Differences between Dietitians with an Internship and Dietitians with Three Years Supervised Experience . . . . .	121
Dietitians' Responsibilities . . . . .	124
Current Responsibilities of Dietitians . . . . .	124
Dietitians who Feel They Should be Responsible for Duties . . . . .	127
Dietitians' Perception of Whether Physicians Would Assign Responsibility to Dietitian . . . . .	127
Responsibilities and Qualifying Experience for ADA Membership . . . . .	128
Part B. Physicians' Study . . . . .	128
Description of Physicians . . . . .	128
Use of Diet Therapy . . . . .	130
Preferred Method for Ordering Diet Changes . . . . .	130
Competences for "Ideal" Dietitian . . . . .	132
Competences and Use of Diet Therapy . . . . .	135
Competences and Diet Order Changes . . . . .	138
Physicians' Comments . . . . .	138

Chapter	Page
Discussion and Summary . . . . .	139
Roles of Hospital Dietitians . . . . .	140
Competences Needed by Dietitians . . . . .	145
Characteristics of Successful Dietitians Who Contribute to Decision-Making on the Health Team . . . . .	147
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . . .	149
Conclusions . . . . .	150
Present and Ideal Role . . . . .	151
Competences . . . . .	152
Characteristics of Successful Dietitians . . . . .	153
Recommendations . . . . .	154
Present and Ideal Role . . . . .	154
Competences . . . . .	156
Characteristics of Successful Dietitians . . . . .	161
Reflections . . . . .	161
Suggestions for Future Research . . . . .	165
LITERATURE CITED . . . . .	166
APPENDICES	
Appendix	
A. Discrepancies between Expectations of Profession as an Undergraduate and Realities of the Profession . . . . .	173
B. Letter of Request for Hospital Inter- views . . . . .	175
C. Dietitian's Interview Schedule . . . . .	176
D. Dietitian's Responsibilities . . . . .	185
E. Dietitian's Competences . . . . .	187
F. Physician's Cover Letter to Question- naire . . . . .	191
G. Physician's Questionnaire . . . . .	192



## LIST OF TABLES

Table	Page
1. Description of 18 personality characteristics measured by the California Psychological Inventory . . . . .	49
2. Professional identification of dietitians in Michigan hospitals . . . . .	60
3. Percentage of dietitians and dietary department heads eligible for ADA membership in 169 Michigan hospitals . . . . .	61
4. Educational preparation qualifying dietitians and dietary department heads for present positions in 169 Michigan hospitals . . . . .	62
5. Location within the hospital of dietary department offices according to 144 dietary department heads in Michigan hospitals . . . . .	63
6. Extent of dietary department's actual and ideal contribution to decision-making on the health team as perceived by respondents . . . . .	65
7. Assignment of dietary-related duties as perceived by 135 chiefs of staff . . . . .	76
8. Frequency of discussion with dietitian by 135 chiefs of staff when a dietary problem is involved . . . . .	78
9. Diet order procedures followed in hospital and preferred by 135 chiefs of staff and 231 dietitians . . . . .	78
10. Hospital administrator's suggestions for educational improvement of hospital dietitians and perception of their future role . . . . .	80
11. Courses essential for therapeutic, administrative specialists, or both according to Michigan hospital dietitians . . . . .	81

Table	Page
12. Distribution of 33 dietitians (includes five department heads) in relationship to number of beds in 11 selected Michigan hospitals . .	83
13. Characteristics of dietitians in selected hospitals . . . . .	87
14. Status of American Dietetic Association membership of 33 dietitians from 11 Michigan hospitals . . . . .	90
15. Qualifying experience leading to ADA membership by 33 dietitians from 11 Michigan hospitals .	90
16. Characteristics of 26 dietitians who qualified for ADA membership by internship or supervised experience . . . . .	91
17. Sequence of professional experiences of 33 dietitians . . . . .	95
18. Highest education attained by 33 dietitians from 11 Michigan hospitals . . . . .	98
19. Distribution of 33 dietitians' contribution to decision-making on the health team . . . .	99
20. Personality characteristics of 26 dietitians with different ADA qualifying experiences . .	114
21. Personal profile of six dietitians contributing most to health team decision-making . . . .	115
22. Return response of nominated and randomly selected physicians in relation to their type of practice . . . . .	129
23. Number of physicians responding to questionnaire in relationship to primary specialization . . . . .	131
24. Use of diet therapy as part of total patient care by 72 physicians . . . . .	132
25. Eighty-one physicians' preferred procedure for ordering diet changes if an "ideal" dietitian were accessible . . . . .	132

Table	Page
26. Physicians' ratings of importance (very important, somewhat important, of little importance) of certain competences for the dietitian . . . . .	133
27. Importance ratings by physicians of "ideal" dietitian's competences in relationship to physicians' use of diet therapy as part of total patient care . . . . .	136

## LIST OF FIGURES

Figure	Page
1A. Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head . . . .	67
1B. Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head . . . .	69
1C. Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head . . . .	71
2. Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietitian . . . . .	74
3. Job title of 33 hospital dietitians interviewed . . . . .	84
4. Percentage of time spent in therapeutic activities as reported by dietitians interviewed . . . . .	88
5. Work experience prior to present position of 33 dietitians interviewed . . . . .	92
6. Continuing education hours earned for American Dietetic Association registration prior to October, 1970 . . . . .	96
7. Comparison of personality characteristics of 26 dietitians with female college and high school students based on the California Psychological Inventory . . . . .	110
8. Comparison of dietitians' perceived proficiency (●—●) with importance (0---0) of competences for dietitians on the health team . . . . .	118

Figure	Page
9. Comparison of dietitians with an internship or three years supervised experience in relation to their perceived proficiency and importance of competences for dietitians on the health team . . . . .	122
10. Dietitian's perception of her responsibilities .	125

## CHAPTER I

### INTRODUCTION

The rapid rise in health needs, concurrent with shortage of health personnel in all health professions, necessitates a re-evaluation of utilization of health personnel.<sup>1</sup> The dietetic profession is not exempt from critical appraisal. Krehl states:

All too often, the dietitian's excellent training and knowledge regarding nutrition and its application, both in health and disease, are held in limbo and not fully utilized in the overall spectrum of patient care . . . . There is little doubt in my mind that the dietitian, generally, has not attained an appropriate place in the health care team and has not had the opportunity to participate significantly in the delivery of health care to patients and to communities.<sup>2</sup>

He pleads

For a changing attitude by all members of the health care team to utilize the dietitian more effectively by making her a full participating member in the consideration of the medical problems presented by the patient.<sup>3</sup>

The health care team concept as a vehicle for various health professionals to provide care to the patient has

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<sup>1</sup>C. J. Wagner, 1967, Toward fullest utilization of our health resources, Health Office News Digest, 33:6.

<sup>2</sup>W. A. Krehl, 1969, The dietitian in the regional medical program, J. Amer. Dietet. Assoc., 55:107-111.

<sup>3</sup>Ibid.

emerged as a result of increased medical specialization with the physician being the team leader,<sup>1</sup> who must share his authority with others.<sup>2</sup>

Barriers often exist between dietitians and physicians or other health team members. Mayer noted that education, professional training and custom have failed in enabling the dietitian to establish necessary communication with physicians.<sup>3</sup> In addition, Burling et al. observed that, although the most significant groups with whom the dietitian must work are doctors and nurses, interaction between dietitians and doctors rarely occurs; nurses may have developed an unfavorable impression towards the dietitian, either due to unpleasant memories of student experiences or to the feeling that the dietitian has taken away part of the nurse's traditional responsibility.<sup>4</sup>

In summary, dietitians experience frustration with regard to:

1. their membership on the health team;

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<sup>1</sup>L. T. Coggeshall, 1967, Planning for medical progress through education, p. 25, Evanston, Illinois: Assoc. of Amer. Medical Colleges.

<sup>2</sup>G. James, 1967, Teaching community health in schools of medicine, Arch. Environ. Health, 14:713.

<sup>3</sup>J. Mayer, 1966, Dietetics looks to the future, Post Graduate Medicine, 40:A97-101.

<sup>4</sup>T. Burling, E. M. Lentz, and R. N. Wilson, 1956, The give and take in hospitals, p. 311, New York: G. P. Putnam's Sons.

2. decision-making allowed the dietitian; and
3. relationships with other health professionals such as physicians and nurses.

### Purposes of the Study

The purposes of the study were to identify and describe:

1. the present and ideal role of hospital dietitians;
2. characteristics of dietitians who are most successful in contributing to the care of the patient as measured by the influence dietitians have on ordering admission diets and diet order changes, providing dietary instruction, and attending medical rounds; and
3. skills and competences which dietitians need to function as contributing health team members.

### Statement and Significance of the Problem

If new concepts of health care necessitate change of the dietitian's participation on the health team, this participation needs to be defined, and consideration must be given to whether other professionals will accept the dietitian's potential contributions to health care.

In addition, identification of the above purposes would be useful in re-evaluating and reconstructing an undergraduate curriculum for dietetic majors so that the profession can increase its effectiveness on the health team.



Most undergraduate dietetic programs are independent of other allied health educational curricula, and thus dietitians are not usually educated with other health team members.

The American Dietetic Association (ADA) has traditionally emphasized dual preparation in therapeutic and administrative dietetics in both the undergraduate dietetic curriculum and the dietetic internship. Membership in the association is usually gained by completing a four year baccalaureate program that meets academic requirements in addition to completing a dietetic internship; other qualifying experiences include a three year supervised program or a Master's degree with one year of professional experience.

Mayer challenged the dietetic profession: how can a person be both a generalist and a specialist with special services to render?<sup>1</sup> Is it possible to prepare a student to possess expertise in both administrative and therapeutic dietetics--both areas which have expanded greatly with advanced technology?

Consideration is now being given to specialized areas by the American Dietetic Association in its development of new Minimum Academic Requirements that will be evaluated by colleges and universities participating in a Pilot program under the proposed requirements instead of the present

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<sup>1</sup>Mayer, op. cit.

requirements.<sup>1</sup> These new requirements allow three areas of specialty in addition to the general option: (1) food service management; (2) clinical dietetics; and (3) community nutrition. Although the four options allow more flexibility in specialization than the present requirements, the emphasis on specialization is most notable in specialized internships available by 1975.

Despite the bleak outlook for many professions as a result of the current economic recession, the Bureau of Labor Statistics has listed dietetics, with chemistry, counseling, dentistry, and medicine, as a profession in which the "supply is estimated to be significantly below requirements".<sup>2</sup> In 1968, the number of employed dietitians was estimated to be 30,000; expected requirements for 1980 are 42,100. The number of dietetic interns per year increased from 687 in 1951 to only 815 in 1969,<sup>3</sup> or a 19 percent increase during these 18 years, which is not commensurate with the 40 percent increased need in projections to 1980. Since dietetic internships are presently the primary entry step into the profession of dietetics, either

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<sup>1</sup>American Dietetic Association, Annual Reports and Proceedings, 1969-1970, pp. 13-14, Chicago: The American Dietetic Association.

<sup>2</sup>Bureau of Labor Statistics, Supply-demand imbalances expected in professions if past study and work patterns continue, New York Times, Jan. 11, 1971, p. 55.

<sup>3</sup>U.S. Department of Health, Education, and Welfare, Health Manpower Source Book 21, 1970, Bethesda, Maryland: Public Health Service.

more internships should be available or other alternatives should be examined. Supportive of the need for other alternatives is that more than 400 college seniors, whose applications were screened by the ADA Membership Department for dietetic internships between October, 1969, and May, 1970, were not placed in internships.<sup>1</sup> Apparently the barrier to increased needs for manpower in the dietetic profession is not only in recruiting dietitians but also in providing enough opportunities for experience which meets ADA standards.

Summarizing the mentioned problems would be helpful for establishing guidelines for development of a dietetic curriculum:

1. If the dietitian's contribution to health care is not as great as it could be, based on her educational preparation and the unique competences she has, attention should be given to identifying present competences which are not adequate and new competences to enable dietitians to contribute maximally to health care. The curriculum then should be formulated on the basis of maximizing special competences of dietitians.
2. If the trend in health care is towards the health team approach, identification of relationships among health professionals is necessary before a realistic dietetic

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<sup>1</sup>The American Dietetic Association, p. 39, op. cit.

curriculum can be developed. In addition, description of individual characteristics of successful dietitians in contributing to health team care could provide further guidelines for curriculum development.

3. If there is still debate between a dual program of administrative and therapeutic dietetics and a specialized program, identification of job descriptions of dietitians should indicate trends in hospital dietetics in relation to administrative responsibilities which therapeutic dietitians have and therapeutic responsibilities which administrative dietitians have. This identification should also consider the responsibilities of dietitians who consider themselves both administrative and therapeutic, and the prevalence of food service being directed by someone besides a dietitian. Goals for generalized or specialized programs should be realistic and in accord with present and projected job demands.
4. If manpower needs have not been met, innovating ways to provide student experiences which would expand the opportunities dietitians have to gain the experience required for entry into the profession should be found.

To establish curriculum guidelines, identification of dietitians' roles, competences needed by health team dietitians, and characteristics of successful dietitians in contributing to health team care was sought in Michigan

hospitals. The study was in two phases: Phase I was designed to provide descriptions of dietitians' roles and responsibilities by hospital administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians by a questionnaire; Phase II further identified dietitians' roles, competences needed by dietitians, and characteristics of successfully contributing health team dietitians by personal interviews with and questionnaires from dietitians, and questionnaires from physicians.

#### Limitations of the Study

Results of the study will be influenced by the following factors:

1. Recognition that relying upon respondents to return data collection instruments, such as the questionnaires and psychological inventory used in this study, by mail often results in less than 100 percent response, in which case, inferences extrapolated to the entire population are limited.
2. Acknowledgement that hospitals' refusal to allow the researcher to visit the hospital may place a bias on the final sample of hospitals in the study.
3. Awareness that there were no large teaching hospitals selected in the random sample. Involvement of dietitians in contribution to health team decisions in

teaching hospitals may be greater than in smaller, non-teaching hospitals.

4. Recognition that activities of dietitians may be restricted by hospital policy unique to that hospital. Dietitians might contribute to health team decisions differently in another hospital without personal characteristics changing.
5. Hospitals selected for interviews had at least two dietitians identified by the hospital administrator in Phase I.
6. Recognition that all hospitals in the study were in Michigan; extrapolation of results in this study to a wider geographical region, such as the Midwest or the United States, should be done with discretion.

### Organization of the Study

The remaining presentation is organized into the following chapters:

Chapter II: Review of the Literature. Aspects of health care in the United States, the Allied Health Professions, health team practice, and the dietitian's traditional contribution to health care are reviewed.

Chapter III: The Design of the Study. The population, data collection procedures, and data analyses are defined and described. A description of data collection instruments and their development are included.

Chapter IV: Results, Discussion and Summary of the Data. Description of dietitians and physicians is reported. Role and responsibilities of the dietary department and hospital dietitians are described. The relationship between various aspects of the dietitian's background and her perceptions of her responsibilities, competences, personality characteristics, and influence on the health team are identified. Data from the unstructured interview regarding the dietitian's specific suggestions for curriculum change are included. Physicians' identification of responsibility and important competences for dietitians and unstructured comments are summarized and categorized.

Chapter V: Summary, Conclusions, and Recommendations. In this last chapter, the study is summarized, conclusions are drawn, and recommendations for curriculum development are made. The final segment of this presentation contains suggestions for further research.

## CHAPTER II

### LITERATURE REVIEW

#### Introduction

Although the main thrust of this study is the hospital dietitians' role, competences, and characteristics for decision-making on the health team, concentrating on the dietitian without consideration of the milieu in which she is functioning would be fallacious. Thus health care in the United States is reviewed to provide encompassing conditions which affect all health professions. Since dietetics is a member of the allied health professions, allied health professions are reviewed to describe concepts and problems of this alliance. The health team was reviewed to describe a situation which may involve dietitians' ideal functions and problems. The development and description of the hospital dietitians' role is presented in relation to expectations of dietitians by other health workers. The concept of role is reviewed to present possibilities for alterations of role descriptions within hospitals.



Health Care in the United States

The historical development of health care in the United States provides a background for consideration of present needs. The evolution of health care in technically advanced countries was divided by McKeown into three stages: (1) no significant public responsibility; (2) public health services primarily concerned with the environment and control of communicable disease; and (3) public responsibility emphasizing medical care of the ill, particularly the acutely ill.<sup>1</sup>

Federal commitment in support of health programs has a long history, starting with the establishment of the Public Health Service in 1798. Commitment in recent years has been further emphasized by the passage of about fifty major health bills including Medicare and Medicaid legislation in 1965, Comprehensive Health Planning, 1966, Regional Medical Programs, 1965, and the Allied Health Professions Act, 1966.

Present needs in health care are complex. An insufficient number of workers is critical because of an increased population, especially in age groups which require the greatest care.<sup>2</sup> An additional challenge is for health care of higher quality and better distribution. Greenfield suggested that the demand in health services was generated by

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<sup>1</sup>T. McKeown, 1968, The complexity of the medical task, Bull. N.Y. Acad. Med., 44:83-101.

<sup>2</sup>J. A. D. Cooper, 1970, Health manpower crisis--challenge and response, North Carolina Med. J., 31:219-222.

a change in consumer "tastes".<sup>1</sup> Americans expect a coordinated and comprehensive system of health care without discrimination of race, creed, color or economic circumstances.<sup>2</sup> Froh listed five health services expected by families: basic medical services, accessible services, high quality services, responsible services, and personal and humane services.<sup>3</sup>

Lewis discussed health care in the context of politics, which he defined as "who gets what, when and how".<sup>4</sup>

Manpower needs for all health occupations have been projected to 1980 by Hatch. There will be five million workers in health occupations, an increase of 1.5 million over 1967. Of the 3.5 million workers in 1967, 420,000 were in allied health occupations. He estimated that by 1975, allied health workers will increase by forty percent, and by 1980 the increase will be sixty-three percent higher than the 1967 level or about one-fifth of the total health workers.<sup>5</sup> Piper summarized projected needs for dietitians

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<sup>1</sup>H. I. Greenfield, 1968, Manpower problems in the allied health field, J. Amer. Med. Assoc., 206:1542-1544.

<sup>2</sup>A. R. Somers, 1968, Some suggested principles for community health planning and for the role of the teaching hospital, J. Med. Ed., 43:479-494.

<sup>3</sup>R. B. Froh, 1970, New systems for health care, J. Amer. Pharm. Assoc., 10:514-517.

<sup>4</sup>I. J. Lewis, 1969, Science and health care--the political problem, New England J. Med., 281:888-896.

<sup>5</sup>T. D. Hatch, 1970, Allied health personnel: an answer to the manpower crisis, Hosp. Progress, 51:69-71.

from 1966 to 1975, according to the U.S. Department of Labor, which estimated an increased need of 17,000 positions.<sup>1</sup> This represents an estimate of 8,000 new positions and 9,000 replacement positions due to attrition, death, and retirement.

Levy contended that part of the health problem was the improper utilization of allied health personnel. He felt physicians resisted transfer of medical functions to others because of such factors as their conservatism, their concern for economic self-interest, increased specialization, the issue of "final medical responsibility", the concept of delegation in contrast to surrender of function, and the comprehensiveness of the allied health worker's function.<sup>2</sup> Further he stated that physicians would relinquish only those functions which they considered non-medical or uneconomic for them to perform.

To meet manpower needs, Marchmont-Robinson visualized future health care as one in which the family physician would be the central figure of the health team who would make the contact between the patient's needs and available resources, such as specialists, allied health personnel and advanced machinery.<sup>3</sup>

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<sup>1</sup>G. M. Piper, 1970, Dietetic manpower trends in education and training, J. Amer. Dietet. Assoc., 57:225-228.

<sup>2</sup>L. Levy, 1966, Factors which facilitate or impede transfer of medical functions from physicians to paramedical personnel, J. Health and Human Behavior, 7:50-54.

<sup>3</sup>H. Marchmont-Robinson, 1968, Today's challenge. Delivery of health care, J. Amer. Med. Assoc., 204:155-156.

The emphasis in future health care will need to be more on preventive measures than on treatment or after-the-fact remedies.<sup>1</sup> Harrell suggested that change in the character of disease will require a new look at health care systems.<sup>2</sup> James felt that future health care must be designed for chronic illness created by man-made hazards, including pollution and environmental hazards. He visualized extensive Federal programs, a decline in solo practice with more team practice in which the physician and nurse would have many helpers, more service to people in primarily urban areas, more involvement of public health in patient care, and consideration of social change.<sup>3</sup> Health care was criticized by Winkelstein and French, who felt that the present health status was not related to the quality and quantity of health care because health care was curative, not preventive.<sup>4</sup>

#### The Allied Health Professions

The term allied health profession describes the professional, technical and supportive disciplines involved in

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<sup>1</sup>J. E. Graber, 1969, Preventing dependency: protective health services, Amer. J. Pub. Health, 59:1413-1427.

<sup>2</sup>G. T. Harrell, 1969, Education on a health sciences campus, Ann. N.Y. Acad. Sci., 166:855-861.

<sup>3</sup>James, op. cit.

<sup>4</sup>W. Winkelstein, Jr. and F. E. French, 1970, The role of ecology in the design of the health care system, Calif. Med., 113:7-12.

activities supporting, complementing or supplementing functions of health administrators and medical and health practitioners. James<sup>1</sup> estimated 140 distinct specialties which can be identified as part of allied health manpower, although Fenninger felt that allied health professions and occupation categories are not well defined.<sup>2</sup> Burton and Smith suggested that each profession must re-examine its roles and duties in thinking how best to deliver total health services in relation to who can do it most effectively and efficiently.<sup>3</sup>

The emergence of allied health professions was very rapid. In 1900, the ratio of allied health personnel to physicians was about 1:1; the present ratio is 13:1 and may exceed 20:1 by 1975.<sup>4</sup> Points outlined the developmental stages of new health professions: (1) physician identifies the need for a helper; (2) physician trains the person to

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<sup>1</sup>G. James, 1969, Educational role of new health science centers in the health-related professions, Ann. N.Y. Acad. Sci., 166:862-868.

<sup>2</sup>L. D. Fenninger, 1969, Health manpower: scope of the problem, Ann. N.Y. Acad. Sci., 166:825-831.

<sup>3</sup>L. E. Burton and H. H. Smith, 1970, Public health and community medicine for the allied professions, p. 501, Baltimore: Williams and Wilkins Co.

<sup>4</sup>F. J. Moore, 1970, Information technologies and health care. II. The need for new technologies to offset the shortage of physicians, Arch. Intern. Med., 125:351-355.

fill the role; (3) new personnel form organizations to represent them; (4) formal collaboration with medical specialty groups and American Medical Association Council on Medical Education who develop basic objectives for education of such personnel.<sup>1</sup> In contrast, Light described development of the allied health disciplines as independent of physicians.<sup>2</sup> Independence was also noted in the education of separate disciplines, with the frequent result of fragmentation of hospital personnel who shared similar goals of excellent patient care but conflicted in individual efforts to attain this goal.<sup>3</sup>

The emergence of the Association of Schools of Allied Health Professions in 1967 helped to solidify the concept of coordinated effort among health professionals.<sup>4</sup> The Association was established for the purpose of providing new dimensions for increasing health manpower and the development of educational programs. Allied health education programs traditionally were located within the hospital

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<sup>1</sup>T. C. Points, 1970, Guidelines for development of new health occupations, J. Amer. Med. Assoc., 213:1169-1171.

<sup>2</sup>I. Light, 1969, Development and growth of new allied health fields, J. Amer. Med. Assoc., 210:114-120.

<sup>3</sup>R. C. Buerki, 1965, The increasing role of paramedical personnel, J. Med. Ed., 40:850-855.

<sup>4</sup>J. W. Perry, 1969, Career mobility in allied health education, J. Amer. Med. Assoc., 210:107-110.

organization; however, college campuses are now providing this education with supplementary utilization of community and medical services for clinical affiliation.

Atwell viewed medical centers or schools as the logical place for health education to occur since, in theory at least, medical facilities allowed ideal conditions for the "team care" concept to be developed. He supported multidisciplinary rounds and suggested that in the medical program there should be emphasis of what can be delegated to whom.<sup>1</sup> Light, on the other hand, stressed a sharing of responsibility rather than delegation of duties.<sup>2</sup> Atwell stated that dietitians and nutritionists have much to contribute to the education of the physician both during his student days and during his post-MD education.<sup>3</sup>

Perry felt that goals of education should be realistic in balancing educational preparation with actual job responsibility. He believed that loss of mobility in allied health occupations can sometimes be attributed to too little or too much formal education.<sup>4</sup> Bergman described activities of allied health professions as effective when each

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<sup>1</sup>R. J. Atwell, 1970, Interdependence of medical and allied health education, J. Amer. Med. Assoc., 213:276-277.

<sup>2</sup>I. Light, 1970, Growth and development of new allied health fields, Amer. J. Med. Tech., 36:75-83.

<sup>3</sup>Atwell, op. cit.

<sup>4</sup>J. W. Perry, 1970, Career mobility and allied health education, Amer. J. Med. Tech., 36:33-43.

discipline provided contributions and reduced overlap of functions through combined planning.<sup>1</sup>

Moore pointed out that for a task to be delegated to an aide by the physician, the aide must be at least as well trained as the physician in that particular task. The difference between the physician and the aide would be the scope and competence of decisional judgment which the physician would have in a broad range of situations.<sup>2</sup> Johnson challenged the assumption that the physician is at least as well trained as his subordinates in a specific field. She stated that "more often than not they have only a superficial understanding of the subject matter with which each profession deals".<sup>3</sup> The Council on Foods and Nutrition of the American Medical Association acknowledged that teaching of nutrition in medical schools was inadequate<sup>4</sup> and Shank attributed the primary problem to lack of identity of nutrition in the curriculum or to difficulty in achieving definition of subject matter.<sup>5</sup>

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<sup>1</sup>R. Bergman, 1970, Education of para-medical personnel, Int. Nurs. Rev., 16:161-166.

<sup>2</sup>Moore, op. cit.

<sup>3</sup>D. Johnson, 1964, The physician and the dietitian, Amer. J. Clin. Nutr., 14:183-185.

<sup>4</sup>Council on Foods and Nutrition, 1963, Nutrition teaching in medical schools, J. Amer. Med. Assoc., 183:955.

<sup>5</sup>R. A. Shank, 1966, Nutrition education in school of medicine, Amer. J. Pub. Health, 56:929-933.



McNerney cited the institutionalization of allied health personnel as a hurdle in the progress of health care. He stated that allied health workers try to emulate the physician with their white coats, certification, awards, associations, officerships and technical papers. The workers are insulated from other disciplines and are occupied by the pursuit of skill, excellence and professionalism.<sup>1</sup>

Career mobility, described by Perry and Ramphal, allows an individual with adequate education requirements and capabilities to move from the level of aide, to assistant, and to full-fledged professional status.<sup>2</sup> The "lattice" concept allows horizontal movement among health professions as a result of the "core curriculum" and occupational experience common to many fields.<sup>3</sup> With regard to career ladders, Shetland questioned the effectiveness of an educational system developed to accommodate change and transfer among the professions. She also felt intrinsic satisfaction in intermediate steps is deprived the professional, if the educational system reinforces achievement of status and dignity only by upward mobility.<sup>4</sup>

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<sup>1</sup>W. J. McNerney, 1970, Does America need a new health system?, Univ. Mich. Med. Center, 35:82-87.

<sup>2</sup>Perry, op. cit., 1970; M. Ramphal, 1968, Needed: A career ladder in nursing, Amer. J. Nurs., 68:1234-1237.

<sup>3</sup>J. Hamburg, 1969, Core curriculum in allied health education, J. Amer. Med. Assoc., 210:111-113.

<sup>4</sup>M. L. Shetland, 1970, This I believe about career ladders, new careers, and nursing education, Nursing Outlook, 18:32-35.

### Health Team Practice

Health team practice has been viewed as a possible solution to health manpower problems of shortages, utilization of present personnel, and accessibility. Burton and Smith described the changing concept of health care in which the physician is no longer director of subordinates but, rather more like a coordinator who assumes responsibility for the total regimen. Cooperation of each team member is essential for success.<sup>1</sup> Silver visualized the health team as replacing the functions which the general practitioner formerly performed but not as excluding the general practitioner as part of the team.<sup>2</sup>

Stead pointed out the physician traditionally had helpers: nurses, administrators, technicians, physiotherapists, dietitians and social workers. However, health profession organization did not allow easy movement among the groups of workers. Additionally the non-physician component of the health team was often related to institutions and was not allowed to share the satisfaction in dealing with an individual patient.<sup>3</sup>

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<sup>1</sup>Burton and Smith, op. cit.

<sup>2</sup>G. A. Silver, 1958, Beyond general practice: the health team, Yale J. Biology and Medicine, 31:29-39.

<sup>3</sup>E. A. Stead, Jr., 1968, The birth of a new educational venture--the association of schools of allied health professions, Medical Times, 96:99.

A team was described by Pascasio as one in which all members knew their own unique function as well as the specific roles of other team members. In addition, they knew how all roles related to each other.<sup>1</sup>

Szasz felt that the term "health team" was often used indiscriminately to describe groups of persons who had been thrust together either by administrative decisions, personal trust or by highly organized policies. Clarifying the concept of "health team" involved identification of specific goals based on needs and interests of the client and professional, and fusion between preventive, diagnostic, therapeutic and rehabilitative components of health care.<sup>2</sup>

Szasz also identified the personalities of team members as one of the basic factors of the team. There are differences in goals, training and technology. Status ascription is a differential and there are often territorial conflicts because of lack of definition of responsibility. Economic compensation and institutional structure also establish barriers.<sup>3</sup>

Thomas feels that the role of the health team remains to be defined in terms of its constituents, training of

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<sup>1</sup>A. Pascasio, 1970, Relation of allied health education to medical education, J. Amer. Med. Assoc., 213:281-282.

<sup>2</sup>G. Szasz, 1969, Interprofessional education in the health sciences, Milbank Mem. Fund Quarterly, 47:449-475.

<sup>3</sup>Ibid.

members, and the effect of team approach on health.<sup>1</sup> Supportive of this lack of definition is Darley, who observed that, despite the wide distribution in thoughts and words of the need for comprehensive health care available for everyone, the rank and file physicians and hospitals have failed to commit themselves to changing patterns of providing care.<sup>2</sup> This hesitation blocks decisions in education and use of allied health personnel. James stated that, to be generally accepted by the medical profession and general public, health specialists must make it clear who they are, what they can do, what they cannot be expected to do and the value of their services.<sup>3</sup>

Education is essential in developing a health team approach. Millis stated that professionals do not work together by instinct. Rather they learn to work together by learning their professional roles together as students.<sup>4</sup> Christman reinforced this in stating that university students in health fields should have shared experiences to help them arrive at shared goals and values and to develop

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<sup>1</sup>J. W. Thomas, 1970, Health manpower shortages: need for nonphysician professionals, Univ. Mich. Med. Center, 35:101-103.

<sup>2</sup>W. Darley, 1969, Allied health personnel and their employment for the improvement of medical care, New England J. Medicine, 281:443-445.

<sup>3</sup>James, op. cit., 1969.

<sup>4</sup>J. Millis, 1970, The future, J. Med. Ed., 45:490-492.

an understanding of the contributions each could make.<sup>1</sup>

That this does not occur was evidenced by Pascasio and Light who reviewed the unilateral education of team members who have had little contact with other future team members.<sup>2</sup>

Szasz identified learning experiences which all students of health professions share at the University of British Columbia:

Description of the relationship between man's cultural background and his ideas of health and illness; communication between patients and the health professionals and among health professionals; knowledge of social institutions and agencies available for improvement of the patient's health, economic and political influences of the patient's environment; and understanding of basic biological sciences including pathology and clinical knowledge, in which the depth is determined by the students' needs and interests.<sup>3</sup>

#### The Hospital Dietitians' Role as Health Team Members

Dietetics as a profession emerged formally in 1917 as the American Dietetic Association (ADA). Prior to this time, dietitians had been developing an identification of themselves as a unique group of professionals; dietitians had no precedents on which to rely in World War I.<sup>4</sup>

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<sup>1</sup>L. Christman, 1970, Education of the health team, J. Amer. Med. Assoc., 213:284-285.

<sup>2</sup>Pascasio, op. cit.; Light, op. cit., 1969.

<sup>3</sup>G. Szasz, 1970, Education for the health team, Canad. J. Pub. Health, 61:386-390.

<sup>4</sup>M. I. Barber, ed., 1959, History of the American Dietetic Association. 1917-1959, Philadelphia: J. B. Lippincott Company.

Following the formation of the Association, cooperation with other professions was exemplified by exchange of discussion with the American Medical Association, The Association of Chemists and Bacteriologists, American Public Health and the American Nurse Association. Early national ADA conventions had speakers from other professions, and one of the primary interests at the 1923 convention was how dietitians might best cooperate with physicians and what hospital superintendents expected of dietitians.<sup>1</sup>

As early as 1925 MacEachern, a hospital administrator, identified three phases of hospital dietetics: the medical phase involving close work with the clinician and laboratory worker; the nursing phase in which dietitians are instructors of nutrition; and the business phase of the hospital in which dietitians deal with purchasing, production and supervision.<sup>2</sup> MacEachern felt that the dietitian should contribute to accurate and early diagnosis of the patient's illness, efficient and scientific treatment, and a rapid return to physical health. He reviewed the evolution of the hospital dietary department, which in earlier years was operated by a faithful cook. Transitorily housekeepers were responsible for the food until trained dietitians became available. With the new emphasis on dietetics, clinicians

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<sup>1</sup>Ibid.

<sup>2</sup>M. T. MacEachern, 1925a, The hospital dietary department--a forecast, J. Amer. Dietet. Assoc., 1:3-8.

looked to the dietitian for her cooperation, particularly with diabetics and patients who suffered other diseases of metabolism.<sup>1</sup> Additionally, MacEachern suggested the need for planned follow-up of patients who were released from the hospitals.<sup>2</sup>

In this early phase, dietitians were seen as the persons most able to handle food prescriptions by Howland,<sup>3</sup> an administrator, and to provide accurately measured diets which fulfilled the requirements of the disease.<sup>4</sup>

Wilder described the ideal dietitian as a director and teacher; she was not a preparer of foods and a half-qualified nurse. The dietitian was the teacher of patients and doctors as well as one who filled diet prescriptions.<sup>5</sup> Myers reported that many dietitians devoted one-half to three-fourths of their time to teaching activities. In his study of dietitians and their department directors, 70 percent of the directors estimated that only one-fourth to one-half of the dietitians were successful in their educational

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<sup>1</sup>Ibid.

<sup>2</sup>M. T. MacEachern, 1925b, The hospital dietary department. II. J. Amer. Dietet. Assoc., 1:63-72.

<sup>3</sup>J. B. Howland, 1925, The function of the hospital dietitian, J. Amer. Dietet. Assoc., 1:81-82.

<sup>4</sup>F. W. Peabody, 1925, The function of the hospital dietitian, J. Amer. Dietet. Assoc., 1:82-83.

<sup>5</sup>R. Wilder, 1926, The hospital nutrition expert, J. Amer. Dietet. Assoc., 1:118-127.

responsibilities.<sup>1</sup> Morgan recognized the need for both clinical and administrative research by the dietitian in large and small hospitals.<sup>2</sup> MacEachern visualized an expanded role of dietetics as a result of increased interest in the therapeutic application of proper diet,<sup>3</sup> demonstrated by Robinson and Proudfit.<sup>4</sup> Sadow related the need for the hospital dietitian to be aware of needs and resources of her local community. Even within the hospital, the dietitian had an opportunity to counsel out-patients as well as instruct in-patients with regard to their social and economic situation when they left the hospital.<sup>5</sup> Hughes summarized duties which belonged to the dietitian: control of the department through planning, supervising and contact with the hospital administrator, interpretation of diet orders, consultation with physicians, interviews and instruction of patients, teaching of professional groups and participation in clinical research.<sup>6</sup>

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<sup>1</sup>M. Myers, 1950, Is the dietitian adequately prepared to teach?, J. Amer. Dietet. Assoc., 26:663-667.

<sup>2</sup>A. F. Morgan, 1939, The dietitian's place in the hospital research program, J. Amer. Dietet. Assoc., 15:853-859.

<sup>3</sup>M. T. MacEachern, 1949, Advances in dietetics from the hospital viewpoint, J. Amer. Dietet. Assoc., 25:494-496.

<sup>4</sup>C. H. Robinson and F. T. Proudfit, 1949, Development of positive food therapy, J. Amer. Dietet. Assoc., 25:497-503.

<sup>5</sup>S. E. Sadow, 1941, Coordinating the dietitian's work with related community activities, J. Amer. Dietet. Assoc., 17:321-328.

<sup>6</sup>R. A. I. Hughes, 1951, The profession studies delegation of duties, J. Amer. Dietet. Assoc., 27:634-636.



Siscoe summarized attitudes of physicians toward dietitians:

dietitians lack personal contact with patients, lack ability as cooks or at least ability to see that food was properly prepared and lack flexibility in daily routine.<sup>1</sup>

He emphasized the need for cooperation between the patient, doctor, nurse and dietitian. Strauss, Pragoff and Thomas included the social service worker in this joint cooperation.<sup>2</sup> To contribute to medical team care of the patient, dietitians must keep in contact with the physician to carry out his orders and to educate him.<sup>3</sup> English, a psychiatrist, stated that most dietitians are relegated to the kitchen.<sup>4</sup> Other health professionals, such as the occupational therapist, the nurse, the nurse's aid and physiotherapist provide additional knowledge of the patient's problem, assume responsibility in providing optimal health, and share close contact with the physician and his goals for treatment. The

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<sup>1</sup>D. L. Siscoe, 1931, The doctor seeks the aid of the dietitian, J. Amer. Dietet. Assoc., 7:119-134.

<sup>2</sup>A. E. Strauss, 1928, The dietitian and the out-patient. J. Amer. Dietet. Assoc., 3:243-247; H. Pragoff, 1948, Areas of cooperation between medical social workers and dietitians, J. Amer. Dietet. Assoc., 24:485-490; Thomas, op. cit.

<sup>3</sup>P. Reznikoff, 1939, The relation of the dietitian to the physician in modern medical practice, J. Amer. Dietet. Assoc., 15:537-539.

<sup>4</sup>O. S. English, 1951, Psychosomatic medicine and dietetics, J. Amer. Dietet. Assoc., 27:721-725.

dietitian too should make these contributions.<sup>1</sup> White encouraged the dietitian to seek information from other health workers to help her determine the nutritional needs of patients.<sup>2</sup>

The obscurity of the dietitian was attributed to time-consuming planning a dietitian needs to do, often in seclusion.<sup>3</sup> As a result little time is left for dealing with the patient or reflecting needs of the hospital. He suggested this obscurity depended on the hospital and on the dietitian's ability and background to enable herself to be a known and recognized figure on the health team. Ross, from an administrator's viewpoint, stated that dietitians should know the nurse and physician and avoid burying herself in the kitchen; they should demonstrate their professional competences and abilities.<sup>4</sup>

In describing the dietitian's role on the health team, Moore visualized the physician as captain of the team, although Letourneau stated that the team concept suggested

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<sup>1</sup>Ibid.

<sup>2</sup>G. White, 1954, The patient as the focus of attention, J. Amer. Dietet. Assoc., 30:25-28.

<sup>3</sup>R. B. Kirk, 1959, The dietitian's hidden nature?, J. Amer. Dietet. Assoc., 35:1055-1057.

<sup>4</sup>A. Ross, Jr., 1967, An administrator looks at the department of dietetics, J. Amer. Dietet. Assoc., 50:26-31.

that professions work with the doctor, not for the doctor.<sup>1</sup> Moore felt that the physician should delegate responsibility to each team member, but still be legally responsible for the team's treatment of the patient. The dietitian as a team member would implement the physicians' orders as well as communicate with him either verbally or in writing. The physician also lends support to the dietitians' responsibilities.<sup>2</sup> Graning supported the idea that dietitians should accompany the physician during hospital rounds and make specific contributions to patient management.<sup>3</sup> Krehl endorsed the dietitians' participation in the health care team, but stated that the dietitian has not attained an appropriate position in the health team and has not had adequate opportunity to contribute significantly to care of the patient.<sup>4</sup>

Di Laura described a nutritionists' responsibilities and activities on a team in a Children's Rehabilitation Center. She evaluated, contributed, and gave direct service with other team members. She needed support and cooperation

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<sup>1</sup>N. S. Moore, 1951, Physicians and nutritionists, J. Amer. Dietet. Assoc., 27:833-837; C. U. Letourneau, 1957, Management and the profession of dietetics, J. Amer. Dietet. Assoc., 33:691-694.

<sup>2</sup>Moore, op. cit.

<sup>3</sup>H. M. Graning, 1970, The dietitian's role in "heads up" patient care, J. Amer. Dietet. Assoc., 56:299-302.

<sup>4</sup>Krehl, op. cit.

with many professionals to meet her broad objectives; likewise, she offered her own contribution so that other members could accomplish their rehabilitative goals.<sup>1</sup>

The American Dietetic Association defined its objectives as:

improving nutritional status of human beings; raising the standards in dietetic service; protecting the status of the profession; and fostering cooperation between the members and workers in allied fields.<sup>2</sup>

The U.S. Employment Service defines dietitians as those:

who use their knowledge of chemistry and nutritional value of food and the food needs of healthy and sick people in planning meals which will provide a balanced diet, and in buying and supervising the preparation of food for large groups of people and individuals in hospitals, schools, hotels, clubs or factories.<sup>3</sup>

In addition to defining "dietitian", the American Dietetic Association provided standards for responsibilities of the dietitian to the physician. She:

1. Is loyal to the physician as the director of the health team.
2. Serves as consultant to the physician in all areas of diet therapy and nutrition.
3. Suggests nutritional standards to maintain and/or improve the nutrition of the patient.
4. Consults with the physician concerning his dietary prescription.

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<sup>1</sup>A. Di Laura, 1965, The nutritionist and the team approach, Hosp. Progress, 46:130-132.

<sup>2</sup>G. E. Miller, 1950, Is dynamic knowledge of nutrition essential for every dietitian?, J. Amer. Dietet. Assoc., 26: 600-606.

<sup>3</sup>National Roster of Scientific and Specialized Personnel: Medical Professions, 1947, U.S. employment service description of professions, Series Pamphlet No. 4.

5. Implements dietary prescriptions with meals adapted to the needs of the patient.
6. Informs the physician, both verbally and in writing, about the patient's food intake.
7. Teaches and assists patients satisfactorily to fulfill nutritional and diet therapy needs.
8. Informs the physician, both verbally and in writing, about progress in the patient's dietary instruction.
9. Meets with staff physicians who serve as an advisory committee on nutrition and diet therapy.
10. Refers recent research developments in nutrition and related subjects to the physician.<sup>1</sup>

The dietitian's future role may be altered as a result of personnel supportive of her work.<sup>2</sup> The American Dietetic Association listed duties for several levels of workers in the dietary department,<sup>3</sup> and Piper described the dietary technician who holds a two-year associate degree.<sup>4</sup> Miller projected to the future when technological influence will alter the dietitian's role.<sup>5</sup> Making use of new machines and supportive personnel, the dietitian will be more available

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<sup>1</sup>American Dietetic Association, 1962, Responsibilities of dietitians to administrators and physicians, J. Amer. Dietet. Assoc., 40:41.

<sup>2</sup>H. Blood, 1970, Supportive personnel in the health care system, Physical Therapy, 50:173-180.

<sup>3</sup>American Dietetic Association, 1965, Duties and responsibilities in the department of dietetics, J. Amer. Dietet. Assoc., 46:179-182.

<sup>4</sup>Piper, op. cit.

<sup>5</sup>G. E. Miller, 1965, To be or not . . ., J. Amer. Dietet. Assoc., 47:15-19.

for professional duties, and perhaps a great change in her role will occur.

In considering the potential of role changes for dietitians, an exploration of the role concept is desirable. The concept of role implies that the hospital dietitian is not an isolate in defining her role. The term "role" has many definitions but the most definitive at present represents the dynamic aspect of status.<sup>1</sup> Linton defined role as the:

sum total of the culture patterns associated with a particular status.<sup>2</sup>

Although traditionally designated as the basic unit of social behavior of individuals, role is now considered a composite of various social forces or mechanisms.<sup>3</sup>

With regard to decision-making roles of members of the health team, physicians wanted to be free to make their own decisions in professional matters.<sup>4</sup> Those who made administrative decisions which directly concerned the work

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<sup>1</sup>L. J. Neiman and J. W. Hughes, 1951, The problem of the concept of role: a re-survey of the literature, *Social Forces*, 30:141-149.

<sup>2</sup>R. Linton, 1945, *The cultural background of personality*, New York: Appleton-Century.

<sup>3</sup>S. N. Eisenstadt, 1965, *Essays on comparative institutions*, p. 30-31, New York: John Wiley and Sons.

<sup>4</sup>M. E. Goss, 1961, Influence and authority among physicians in an outpatient clinic, *Amer. Sociological Rev.*, 26:39-50.

of the physicians were the physicians themselves rather than a lay person. The role attitude of the physician towards other professionals on the health team affected the success of meeting one hospital's medical goals.<sup>1</sup> Increased stratification in a ward, defined by the physician's maximization of status differentials between himself and the occupants of other positions in the hospital ward, was correlated to increased patient length of stay, increased job mobility of nurses and auxiliary personnel, decreased use of consultation increased medication errors, and decreased teaching quality of the wards.

Burling et al. described other influences in the hospital which may affect roles of personnel. The hospital board of trustees delegates discretionary authority to the administrator, but in widely varying amounts. The board must often depend on the self-regulation of the medical group. Frequently there is role conflict between the administrator and the trustees and physicians. According to Burling, the administrator must provide technical skills, humanitarian purposes, flexibility, and organization.<sup>2</sup>

Deasy suggested that successful adjustment to new roles was related to: (1) the clarity with which expected behaviors appropriate to future roles are defined; (2) whether a

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<sup>1</sup>M. Seeman and J. W. Evans, 1961, Stratification and hospital care: II. The objective criteria of performance, *Amer. Sociological Rev.*, 26:193-203.

<sup>2</sup>Burling et al., op. cit.

model has been evident; (3) the kinds of transitional rituals built into structure; and (4) the completeness of the shift in responses and expectations by the society.<sup>1</sup>

### Summary

Current health manpower problems in the United States have resulted from increased population and a change of values held by the consumer who expects high quality care and accessibility to health care for everyone. The problems have challenged all health professions, including dietetics, to maximize efficiency and effectiveness of health workers. The allied health professions, of which dietetics is one, have formally organized to provide a joint effort towards cooperation among health professions, primarily in an educational setting. One anticipated outcome of this educational endeavor would be strengthening of the health team concept; if students from different fields work and learn integratively, they may function as better health team members at a professional level. Dietitians have traditionally provided nutritional care to the patient, but developing and sharing goals for patient care with the physician, nurse and other health professionals have not been evident.

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<sup>1</sup>L. C. Deasy, 1964, Social role theory: its component parts and some applications, Washington, D.C.: The Catholic Univ. of America Press.



In meeting health challenges, many health professionals' roles may be altered. Present and ideal roles and responsibilities of dietitians, competences needed for health team dietitians, and characteristics of successfully contributing dietitians on the health team are explored in the remaining chapters.

## CHAPTER III

### DESIGN OF STUDY, INSTRUMENTATION, AND DATA COLLECTION PROCESSES

#### Introduction and Over-All Design

This study is designed to: (1) determine the present and ideal role of hospital dietitians; (2) identify characteristics of successful dietitians who contribute to health team care of the patient; and (3) determine competences which the dietitian needs to function as a contributing health team member. To achieve these objectives, it was necessary to identify a suitable over-all design, describe the population, obtain or develop suitable data collection instruments, establish and implement procedures for data collection, and determine appropriate methods for data analysis.

#### Over-All Design

The over-all design of this study is descriptive in nature. The descriptive study, also known as the survey or the normative study, according to Hillway, usually attempts to:

describe a condition or to learn the status of something, and whenever possible, to draw valid general conclusions from the facts discovered.<sup>1</sup>

Van Dalen described two types of descriptive research.

Surveys collect:

detailed descriptions of existing phenomena with the intent of employing the data to justify current conditions or to make more intelligent plans for improving social, economic, or educational conditions and processes.<sup>2</sup>

Included in survey studies are job analyses which analyze information collected about general duties and responsibilities of workers, the specific activities of their job, the relationship to the total organization, working conditions, and education and training possessed.

A second type of descriptive research, interrelationship studies, seeks to trace interrelationship between facts obtained and involves correlation studies and case studies.<sup>3</sup> Case studies include gathering data about carefully selected individuals with the intent of developing a better understanding of the represented group. Correlation techniques are frequently used in studies of prediction and cause and effect to quantify the extent to which two variables are related; a cause-effect relationship cannot be implied.

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<sup>1</sup>T. Hillway, 1964, Introduction to research, Boston: Houghton Mifflin Co.

<sup>2</sup>D. B. Van Dalen, 1962, Understanding educational research, New York: McGraw-Hill Book Company, Inc.

<sup>3</sup>Ibid.

The above mentioned techniques are included in the design of this study, which consists of two phases: the first phase is a survey of Michigan hospitals with job analyses as its primary intent. The second phase, a study of selected dietitians and physicians, combines the survey method with interrelationship studies utilizing case studies of dietitians.

### Phase I. Michigan Hospital Survey

#### The Population

The population consisted of all hospital administrators, the chiefs of staff, the directors of nursing, the dietary department heads, and dietitians in the 236 Michigan hospitals listed by the Michigan Hospital Association. State supported institutions were not included.

#### The Instrument

A questionnaire developed by previous workers<sup>1</sup> was used for data collection. Only portions of the questionnaire which fulfilled the objectives of describing the present and ideal function of the dietitian, and identifying competences needed by dietitians were used in this research. The information sought: 1) described demographic

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<sup>1</sup>C. Florencio and D. Cederquist, 1969, Dietetics--relevance of undergraduate program to practice in Michigan hospitals, Unpublished report, Michigan State University.

characteristics of dietitians and the dietary department including job title, American Dietetic Association (ADA) membership and qualifying experience for membership for dietitians and dietary department heads, educational background of dietitians, and location of dietary department offices; 2) identified the actual and ideal function of the dietary department with regard to its level of decision-making on the health team, according to five groups of respondents: hospital administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians; 3) identified dietary-related responsibilities which should be performed by the dietitian, as reported by dietitians, dietary department heads and chiefs of staff; and 4) identified hospital administrators' and dietitians' suggestions for educational preparation of the dietitian.

The questionnaires were pre-tested by 21 dietitians throughout the state, and the final questionnaire was modified based on results of the pre-tested questionnaire. In its implemented form, 18 dietary-related responsibilities were listed for ratings. Dietitians and dietary department heads rated the responsibilities according to whether they required unique competences of a dietitian; other respondents assigned the responsibility to who presently performs the duty and who should perform the duty. Assignments included doctor, dietitian, nurse, a combination of the three fore-mentioned health personnel, or none of the three. The

contribution of the dietary department to decision-making on the health team was rated on the basis of three levels of contribution: decision-making, auxiliary, and no contribution. The above information plus demographic questions were pre-coded for facilitation of data processing. In addition, dietitians and dietary department heads who were eligible for ADA membership and administrators were asked to complete unstructured questions.

Preliminary information from American Hospital Association membership lists of 1968 included size of the hospital by bed number, control of the hospital and type of services the hospital offered.

#### Procedures for Data Collection

Hospital administrators were initially contacted March 31, 1969, by a letter from the executive director of the Michigan Hospital Association encouraging them to participate in the study along with questionnaires and cover letters explaining the purposes of the study. The hospital administrators distributed the questionnaires to the other respondents; additional questionnaires were sent to the hospital administrators if requested. Upon completion of the questionnaire each respondent gave his questionnaire to the hospital administrator in a sealed envelope to be returned. Hospital administrators not returning the questionnaires were contacted by a telephone follow-up and a final deadline for return of questionnaires was set.

### Data Analysis

Data from Phase I were useful in describing the present and ideal role of hospital dietitians. Data were analyzed by the IBM 3600 computer using existing statistical programs developed by the Agricultural Experiment Station (AES) and the Computer Institute for Social Science Research (CISSR) at Michigan State University. Frequency distributions and percentages were calculated for: (1) demographic descriptions of dietitians and dietary department heads; (2) description of actual and ideal function of the dietary department according to the five groups of respondents; and (3) chiefs' of staff assignment of dietary-related responsibilities. Simple correlations were determined for the dietitians' and dietary department heads' description of responsibilities requiring dietitians' unique competences.<sup>1,2</sup> In addition comments of administrators, dietary department heads, and dietitians regarding the dietitians' future and educational preparation were analyzed by thematic content analysis.<sup>3</sup>

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<sup>1</sup>R. G. D. Steele and J. H. Torrie, 1960, Principles and procedures of statistics, New York: McGraw-Hill Book Company, Inc.

<sup>2</sup>W. L. Hays, 1963, Statistics, New York: Holt, Rinehart and Winston, Inc.

<sup>3</sup>F. N. Kerlinger, 1967, Foundations of behavioral research, New York: Holt, Rinehart and Winston, Inc.

Phase II. In-Depth Study of Dietitians  
Part A. Dietitian's Interview

The Population

The population included dietitians from Michigan hospitals selected randomly from the fifty-four hospitals in which administrators had reported having at least two dietitians in Phase I of the study. Fifty-four hospitals were stratified by size to represent the following groups:

	<u>Number of Beds</u>		
	<u>1-200</u>	<u>201-400</u>	<u>401-500 or more</u>
Number of hospitals with two or more dietitians	18	19	17

To allow for an adequate sample size eleven hospitals were contacted: four each from the smallest and largest hospitals, and three from the medium-sized hospitals.

The Instruments

To pursue the three objectives of: (1) determining the present and ideal role of hospital dietitians; (2) identifying characteristics of successful dietitians who contribute to care of the patient; and (3) determining competences which the dietitian needs to function as a contributing health team member, dietitians were interviewed. An interview schedule was needed to identify biographical data about the dietitian, the dietitian's contribution to decisions made on the health team, and the dietitian's feelings of adequacy towards her educational preparation for her



present position. These instruments were developed by the researcher. Two other instruments, Dietitians' Competences and Dietitians' Responsibilities were developed by the researcher. The third instrument, California Psychological Inventory,<sup>1</sup> was selected.

#### Interview Schedule

The interview schedule developed by the author (Appendix C) consisted of three sections: biographical data of the dietitian, dietitian's contribution to decisions made on the health team, and dietitian's feelings about her educational preparation.

Biographical Data.--The purpose of this section was to provide background data about the dietitians and to determine whether contributions to decision-making on the health team reflected personal background. Biographical data included: the title of the dietitian, the percentage of time the dietitian spent in therapeutic activities, the highest education she had attained, ADA membership, route to ADA eligibility, number of years an ADA member, number of continuing education hours the dietitian had accumulated to maintain ADA registration prior to October, 1970, whether or not the dietitian had sought continuing education prior to registration, years and types of professional experience, years in present position, and age.

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<sup>1</sup>H. G. Gough, 1969, Manual for the California Psychological Inventory, Palo Alto, Calif.: Consulting Psychologists Press, Inc.

Dietitian's Contribution to Decision-Making on the Health

Team.--An instrument was developed by the author to measure the contribution the dietitian makes towards decision-making on the health team (Appendix C). Extent of contribution of four activities was measured: (1) ordering diets at admission; (2) changing diets following admission; (3) instructing patients; and (4) attending medical rounds. For each of the four activities, three levels of contribution were described: no contribution, some contribution, and much contribution. Descriptions for the three levels of contribution for each activity are included in Appendix C. The dietitian described her participation at each of the three levels of contribution for each activity by percentage. Total influence for each activity was measured on the basis of a weighted index of three levels. Respondents distributed their involvement in each activity among these levels by:

	<u>Weight</u>	<u>Percentage Distribution of Contribution</u>
No contribution	1	a
Some contribution	2	b
Much contribution	3	c

The index was calculated by the following procedure:

$$\text{Index} = \frac{1a + 2b + 3c}{100}$$

For example, if a dietitian participates 100 percent in ordering diets at admission by "no contribution" (i.e., she

does not contribute at all) her index would be 1.00 since "no contribution" has a weight of 1.00. At the other extreme, if the dietitian participates 100 percent in ordering diets at admission by "much contribution" her index would be 3.00. Indices intermediate between 1.00 and 3.00 represent a combination of the three levels of contribution.

In addition to four specific activities, a fifth index, the Overall Index, was an average of the four specific indices. It was calculated to provide an over-all profile of the dietitian in terms of her total contribution to decision-making on the health team.

This instrument was pre-tested in the field and submitted to professional colleagues and university specialists for clarification of items.

Dietitian's Educational Preparation.--To provide a basis for educational objectives in a dietetic curriculum the dietitian was asked to provide information about her feelings towards her educational preparation, including the undergraduate program and dietetic internship (when applicable). The non-structured questions were prepared by the researcher on the basis of selected areas of knowledge which have been identified in the literature as important for hospital dietitians. Five areas of inquiry were included: diet therapy, normal nutrition, cultural and socio-economic emphasis on diet planning, communication skill, and knowledge of food composition. For each area the dietitian

evaluated the adequacy of coverage and was asked to list additional coverage which would have been appropriate, based on demands made of her in her present or past position(s). In addition, the dietitian was asked if she felt the internship and/or advanced degree (when applicable) was necessary for effective functioning in her present position and what was gained that had not been included in previous educational preparation. The dietitian also identified basic administrative skills which therapeutic dietitians should have, since concern has been expressed about the dual and specialized program. The final question of the interview dealt with areas the dietitian would like to see changed in the educational preparation of a dietitian.

#### Competences of a Dietitian

To identify competences and skills which a dietitian needs to function on a health team, dietitians rated a list of competences (Appendix D) that had been compiled by the ADA Minimum Academic Requirements Committee Pilot Study and suggested by professional colleagues. These competences were rated with regard to importance for a dietitian of the health team on a 4-point scale of Very Important, Important, Somewhat Important and Not Important; dietitians also described their self-proficiency in these skills on the basis of Very Proficient, Proficient, Somewhat Proficient, and Not Proficient.

### Dietitian's Responsibilities

To further identify the present and ideal role of dietitians, hospital dietitians rated a list of dietary-related responsibilities which represented disagreement in assignment to the dietitian by respondents in Phase I of the study or were suggested by professional colleagues (Appendix E). The dietitian stated which responsibilities she does and should do, and the ones which she perceived the physician felt she should do.

The three instruments were pre-tested by two hospital dietitians who were not in the final sample of dietitians. Modifications incorporated suggestions for clarifying the questions and adjusting the length of the instrument.

### California Psychological Inventory

To identify the influence personality characteristics have on the dietitian's contribution to the health team, the California Psychological Inventory (CPI) was administered.<sup>1</sup> The CPI measures eighteen personality characteristics described in Table 1.

Developed by Harrison G. Gough, the CPI was selected for the following reasons:

1. Rigorous testing conditions are not required for valid and useful test results.
2. The inventory is interpretable by a novice of clinical psychological measurements.

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<sup>1</sup>H. G. Gough, op. cit.

TABLE 1.--Description of 18 personality characteristics  
measured by the California Psychological Inventory.

**HIGH SCORERS**  
*Tend to be seen as:***SCALE AND PURPOSE****LOW SCORERS**  
*Tend to be seen as:***Class I. Measures of Poise, Ascendancy, Self-Assurance and Interpersonal Adequacy**

Aggressive, confident, persistent, and playful; as being persuasive and verbally fluent; as self-reliant and independent; and as having leadership potential and initiative.

**1. Do (dominance)** To assess factors of leadership ability, dominance, persistence, and social initiative.

Retiring, inhibited, commonplace, indifferent, silent and unassuming; as being slow in thought and action; as avoiding of situations of tension and decision; and as lacking in self-confidence.

Ambitious, active, forceful, insightful, resourceful, and versatile; as being ascendant and self-seeking; effective in communication; and as having personal scope and breadth of interests.

**2. Cs (capacity for status)** To serve as an index of an individual's capacity for status (not his actual or achieved status). The scale attempts to measure the personal qualities and attributes which underlie and lead to status.

Apathetic, shy, conventional dull, mild, simple, and slow; as being stereotyped in thinking, restricted in outlook and interests; and as being uneasy and awkward in new or unfamiliar social situations.

Outgoing, enterprising, and ingenious; as being competitive and forward; and as original and fluent in thought.

**3. Sy (sociability)** To identify persons of outgoing, sociable, participative temperament.

Awkward, conventional, quiet, submissive, and unassuming; as being detached and passive in attitude; and as being suggestible and overly influenced by others' reactions and opinions.

Clever, enthusiastic, imaginative, quick, informal, spontaneous, and talkative; as being active and vigorous; and as having an expressive, ebullient nature.

**4. Sp (social presence)** To assess factors such as poise, spontaneity, and self-confidence in personal and social interaction.

Deliberate, moderate, patient, self-restrained, and simple; as vacillating and uncertain in decision; and as being literal and unoriginal in thinking and judging.

Intelligent, outspoken, sharp-witted, demanding, aggressive, and self-centered; as being persuasive and verbally fluent; and as possessing self-confidence and self-assurance.

**5. Sa (self-acceptance)** To assess factors such as sense of personal worth, self-acceptance, and capacity for independent thinking and action.

Methodical, conservative, dependable, conventional, easygoing, and quiet; as self-abasing and given to feelings of guilt and self-blame; and as being passive in action and narrow in interests.

Energetic, enterprising, alert, ambitious, and versatile; as being productive and active; and as valuing work and effort for its own sake.

**6. Wb (sense of well-being)** To identify persons who minimize their worries and complaints, and who are relatively free from self-doubt and disillusionment.

Unambitious, leisurely, awkward, cautious, apathetic, and conventional; as being self-defensive and apologetic; and as constricted in thought and action.

**Class II. Measures of Socialization, Maturity, Responsibility, and Intrapersonal Structuring of Values**

Playful, responsible, thorough, progressive, capable, dignified, and independent; as being conscientious and dependable; resourceful and efficient; and as being alert to ethical and moral issues.

**7. Re (responsibility)** To identify persons of conscientious, responsible, and dependable disposition and temperament.

Immature, moody, lazy, awkward, changeable, and disbelieving; as being influenced by personal bias, spite, and dogmatism; and as under-controlled and impulsive in behavior.

Serious, honest, industrious, modest, obliging, sincere, and steady; as being conscientious and responsible; and as being self-denying and conforming.

**8. So (socialization)** To indicate the degree of social maturity, integrity, and rectitude which the individual has attained.

Defensive, demanding, opinionated, resentful, stubborn, headstrong, rebellious, and undependable; as being guileful and deceitful in dealing with others; and as given to excess, exhibition, and ostentation in their behavior.

Calm, patient, practical, slow, self-denying, inhibited, thoughtful, and deliberate; as being strict and thorough in their own work and in their expectations for others; and as being honest and conscientious.

**9. Sc (self-control)** To assess the degree and adequacy of self-regulation and self-control and freedom from impulsivity and self-centeredness.

Impulsive, shrewd, excitable, irritable, self-centered, and uninhibited; as being aggressive and assertive; and as overemphasizing personal pleasure and self-gain.

Enterprising, informal, quick, tolerant, clear-thinking, and resourceful; as being intellectually able and verbally fluent; and as having broad and varied interests.

**10. To (tolerance)** To identify persons with permissive, accepting, and non-judgmental social beliefs and attitude.

Suspicious, narrow, aloof, wary, and retiring; as being passive and overly judgmental in attitude; and as disbelieving and distrustful in personal and social outlook.

Co-operative, enterprising, outgoing, sociable, warm, and helpful; as being concerned with making a good impression; and as being diligent and persistent.

**11. Gi (good impression)** To identify persons capable of creating a favorable impression, and who are concerned about how others react to them.

Inhibited, cautious, shrewd, wary, aloof, and resentful; as being cool and distant in their relationships with others; and as being self-centered and too little concerned with the needs and wants of others.

HIGH SCORERS <i>Tend to be seen as</i>	SCALE AND PURPOSE	LOW SCORERS <i>Tend to be seen as</i>
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***Class II. Measures of Socialization, Maturity, Responsibility, and Intrapersonal Structuring of Values***  
(Continued)

Dependable, moderate, tactful, reliable, sincere, patient, steady, and realistic; as being honest and conscientious; and as having common sense and good judgment.

**12. Cm (communality)** To indicate the degree to which an individual's reactions and responses correspond to the modal ("common") pattern established for the inventory.

Impatient, changeable, complicated, imaginative, disorderly, nervous, restless, and confused; as being crafty and deceitful; inattentive and forgetful; and as having internal conflicts and problems.

***Class III. Measures of Achievement Potential and Intellectual Efficiency***

Capable, co-operative, efficient, organized, responsible, stable, and sincere; as being persistent and industrious; and as valuing intellectual activity and intellectual achievement.

**13. Ac (achievement via conformance)** To identify those factors of interest and motivation which facilitate achievement in any setting where conformance is a positive behavior.

Coarse, stubborn, aloof, awkward, insecure, and opinionated; as easily disorganized under stress or pressures to conform; and as pessimistic about their occupational futures.

Mature, forceful, strong, dominant, demanding, and foresighted; as being independent and self-reliant; and as having superior intellectual ability and judgment.

**14. Ai (achievement via independence)** To identify those factors of interest and motivation which facilitate achievement in any setting where autonomy and independence are positive behaviors.

Inhibited, anxious, cautious, dissatisfied, dull, and wary; as being submissive and compliant before authority; and as lacking in self-insight and self-understanding.

Efficient, clear-thinking, capable, intelligent, progressive, playful, thorough, and resourceful; as being alert and well-informed; and as placing a high value on cognitive and intellectual matters.

**15. Ie (intellectual efficiency)** To indicate the degree of personal and intellectual efficiency which the individual has attained.

Cautious, confused, easygoing, defensive, shallow, and unambitious; as being conventional and stereotyped in thinking; and as lacking in self-direction and self-discipline.

***Class IV. Measures of Intellectual and Interest Modes***

Observant, spontaneous, quick, perceptive, talkative, resourceful, and changeable; as being verbally fluent and socially ascendant; and as being rebellious toward rules, restrictions, and constraints.

**16. Py (psychological-mindedness)** To measure the degree to which the individual is interested in, and responsive to, the inner needs, motives, and experiences of others.

Apathetic, peaceable, serious, cautious, and unassuming; as being slow and deliberate in tempo; and as being overly conforming and conventional.

Insightful, informal, adventurous, confident, humorous, rebellious, idealistic, assertive, and egoistic; as being sarcastic and cynical; and as highly concerned with personal pleasure and diversion.

**17. Fx (flexibility)** To indicate the degree of flexibility and adaptability of a person's thinking and social behavior.

Deliberate, cautious, worrying, industrious, guarded, mannerly, methodical, and rigid; as being formal and pedantic in thought; and as being overly deferential to authority, custom, and tradition.

Appreciative, patient, helpful, gentle, moderate, persevering, and sincere; as being respectful and accepting of others; and as behaving in a conscientious and sympathetic way.

**18. Fe (femininity)** To assess the masculinity or femininity of interests. (High scores indicate more feminine interests, low scores more masculine.)

Outgoing, hard-headed, ambitious, masculine, active, robust, and restless; as being manipulative and opportunistic in dealing with others; blunt and direct in thinking and action; and impatient with delay, indecision, and reflection.



3. The characteristics measured are hypothetically pertinent to hospital dietitians.
4. Reliability and validity have been established by numerous investigators.
5. The inventory provides norms based on more than 6000 males and 7000 females representing a wide range of ages, socio-economic groups and geographical areas.
6. Personality characteristics are related to favorable and positive aspects rather than to pathological or morbid facets.

The inventory consists of 480 statements to which a respondent agrees or disagrees on whether the statements describe him. The number of statements reflecting a characteristic are counted. Raw data are converted to standard scores which can be compared with various population groups.

This instrument was reviewed by professional colleagues and administered to one of the two dietitians in the pre-test.

#### Procedures for Data Collection

Individual interviews, 1-1 1/2 hours in length, were conducted with all dietitians in each hospital from November, 1970, to April, 1971. The section on educational preparation was taped, while the first two sections, biographical data and dietitian's contribution to decision-making on the health team, were recorded on the interview schedule and pre-coded for data processing. Following the interview, dietitians completed and returned by mail Dietitian's Competences, Dietitian's Responsibilities, and the California

Psychological Inventory. Dietitians who had not returned the written materials by a certain date were encouraged by letter to complete and return the instruments.

### Data Analysis

Data from Phase II Part A, were useful in describing the present and ideal role of hospital dietitians, identifying skills and competences needed by dietitians on the health team, and identifying characteristics of successful dietitians who contribute to decision-making on the health team.

#### Description of Present and Ideal Roles of Hospital Dietitians

Dietitians' identification of present responsibilities, perception of responsibilities they should have, and perception of responsibilities physicians feel dietitians should have were calculated by frequency distributions and percentages.

#### Skills and Competences Needed by Dietitians on the Health Team

Dietitian's rating of importance of competences for dietitians on the health team were calculated by arithmetic means and standard deviations for each competence. Dietitians' rating of self-proficiency in these competences were analyzed similarly.

The dietitian's comments regarding adequacy in educational preparation on the basis of present job demands were analyzed by thematic content analysis.

#### Characteristics of Successful Dietitians Who Contribute to Decision-Making on the Health Team

Characteristics identified from the Biographical Data that were non-quantifiable were analyzed by frequency distributions and percentages; these included: title of the dietitian; educational preparation needed for her present position; ADA membership; route to ADA eligibility; and types of professional experience.

Characteristics described by the Biographical Data that were quantifiable, including the percentage of time dietitians spent in therapeutic activities, the highest education she had attained, the number of years an ADA member, number of continuing education hours accumulated, years of professional experiences, years in present position, and age; data from the dietitian's contribution to decision-making on the health team index; and standard scores from the California Psychological Inventory were calculated to express means and standard deviations.

In addition, differences among categories of non-quantifiable characteristics were evaluated by the quantifiable characteristics including data from the dietitian's contribution to decision-making on the health team

index, standard scores from the California Psychological Inventory, Dietitians' Responsibilities, and Dietitians' Competences using a one-way analysis of variance. In this way the possibility of relating personal background characteristics to variables related to health team responsibilities could be explored.

A profile of individual characteristics of the six most contributing dietitians are compared with the overall profile of all dietitians in the study.

## Part B. Physicians' Study

### The Population

The population included all physicians that had been nominated by dietitians during the interview. Dietitians listed physicians whom they perceived as holding positive or negative attitudes regarding the role of the dietitian on the health team. The dietitians could also list those physicians whom they were not certain of attitudes, but who might provide "interesting" information.

In addition to the physicians who were nominated by dietitians, physicians were selected randomly from the American Medical Directory.<sup>1</sup> Since this directory was organized geographically by cities, physicians were selected on the basis of the number of nominated physicians from that

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<sup>1</sup>American Medical Directory, 1969, Geographical Register of Physicians, Parts II and III, 25th Edition.

city. There was an equal number of randomly selected physicians and nominated physicians. In many cities there was one hospital, and the assurance that the two groups of physicians practiced in the same hospital was high. If the city were quite large and had several hospitals an attempt was made to match addresses of physicians' offices. In addition the cover letter mentioned the hospital that was participating in the study.

### The Instrument

A questionnaire designed to define an ideal role of the dietitian and identify competences needed by the dietitian was developed by the researcher (Appendix G). Modifications by professional colleagues and pre-testing by four practicing physicians resulted in clarification of wording, rearrangement of items, and shortening of the instrument. Respondents were asked if they routinely used diet therapy as part of total patient care; choices allowed Yes or No responses. Physicians identified the amount of decision-making allowed the "ideal" dietitian in changing a diet order. Since "ideal" dietitian was not defined, responses indicated the influence allowed if the dietitian had all the characteristics which the physician considered important.

Physicians were also asked to express additional comments regarding the dietitian's role.

### Procedure for Data Collection

Physicians were contacted by letter (Appendix F) and a questionnaire, which was to be completed and returned within three weeks in a self-addressed, stamped envelope. An identical letter and questionnaire were sent two weeks later as a follow-up for those who had not yet completed the questionnaire.

In addition to supplying addresses of physicians, the American Medical Directory provided the following information: the year the physician was born, his primary and secondary specialty, and the type of practice in which he is engaged.

### Data Analysis

These data were useful in describing the role of an "ideal" dietitian in prescribing diet order changes and competences needed by dietitians.

Frequency distributions and percentages were calculated for the primary and secondary specialties, the use of diet therapy, and the level of decision allowed an "ideal" dietitian.

Averages and standard deviations were calculated for the year the physician was born and ratings of competences.

Importance of competences needed by the dietitian were evaluated in relation to primary and secondary specialty, the use of diet therapy, and the level of decision allowed

an "ideal" dietitian using a one-way analysis of variance. Additional comments were summarized by thematic content analysis.

## CHAPTER IV

### RESULTS AND DISCUSSION

#### Introduction

A study to determine the present and ideal role of hospital dietitians, identify characteristics of successful dietitians who contribute to health team care, and determine competences which dietitians need to function as a contributing health team member was conducted in Michigan hospitals. The investigation consisted of two phases: the preliminary phase was a survey of virtually all Michigan hospitals designed to: (1) identify responsibilities which dietitians should perform; and (2) identify hospital administrators' and dietitians' suggestions for educational preparation of the dietitian.

The second phase consisted of two parts. Part A was the Dietitians' Study developed to pursue all three objectives. Part B was the Physicians' Study designed to define an ideal role of the dietitian and identify competences needed by the dietitian.

Results are presented in the remaining part of the chapter.



Phase I. Michigan Hospital Survey

Of the 236 hospitals contacted, 169 hospitals returned questionnaires representing a return rate of 72 percent. Ninety two percent of these hospitals were general hospitals; the remaining included children's, maternity, and psychiatric hospitals. Hospitals ranged in size from seven beds to 1043 beds.

Characteristics of Dietitians and  
Dietary Departments

Title of Dietitians

Dietitians classified themselves according to the title of their position listed in Table 2. Therapeutic dietitians comprised the largest portion of the group, and when coupled with head therapeutic dietitians, comprised 53 percent of the population.

TABLE 2.--Professional identification of dietitians in Michigan hospitals.

Professional Title	Percent of Total (N = 231)
Head Administrative Dietitian	5.2
Administrative Dietitian	14.7
Head Therapeutic Dietitian	12.1
Therapeutic Dietitian	41.1
Teaching Dietitian	2.2
Research Dietitian	0.0
Consultant, Only Dietitian	21.6
Dietary Department Head	1.3
Food Service Supervisor	1.3
No Response	.4

Seventy-two dietary department heads were members or eligible for membership in the American Dietetic Association (ADA).

#### American Dietetic Association Membership

Seventy-seven percent of the dietitians were members of the American Dietetic Association while 15 percent were not eligible; an additional seven percent were eligible but not members (Table 3). In contrast, 45 percent of the dietary department heads were members of ADA while 48 percent were not members; an additional five percent were eligible but not members. Most ADA eligible members gained membership eligibility by participating in a dietetic internship.

TABLE 3.--Percentage of dietitians and dietary department heads eligible for ADA membership in 169 Michigan hospitals.

	Dietitian Percent of Total (N = 231)	Department Head Percent of Total (N = 144)
<u>ADA Eligibility</u>		
Member of ADA	77.1	45.1
Eligible for Membership, do not Belong	6.9	4.9
Ineligible	14.7	47.9
No Response	1.5	2.1
<u>Route to ADA Eligibility<sup>1</sup></u>		
Dietetic Internship	75.8	63.9
Advanced Degree	2.1	4.2
Three Years of Supervised Experience	14.4	23.6
No Response	7.7	8.3

<sup>1</sup>Seventy-two dietary department heads and 194 dietitians were eligible for ADA membership.

# Education of Dietitians and Dietary Department Heads

A large portion of dietitians (91 percent) listed the educational preparation qualifying them for their position as a college or university degree in dietetics, foods and nutrition or institution administration (Table 4). Fifty-two percent of the dietary department heads listed the educational preparation qualifying them for their position as a degree in dietetics, foods and nutrition or institution administration; six percent held a degree in hotel or restaurant management, and 19 percent had completed a food service supervisor's course that was one year or less in length.

TABLE 4.--Educational preparation qualifying dietitians and dietary department heads for present positions in 169 Michigan hospitals.

	Dietitian Percent of Total (N = 231)	Department Head Percent of Total (N = 144)
College or university degree in dietetics; foods and nutrition; or institution administration	91	52
College or university degree in hotel or restaurant administration	1	6
Hospital food service supervisor's course requiring one year or less to complete	1	19
Other	7	23

Duration of Present Position of  
Dietitians and Dietary  
Department Heads

The average number of years dietitians had been in their present position was four years; dietary department heads had on the average spent five and one-half years in their present capacity.

Location of Dietary Department  
Offices

Almost all of the hospitals had a dietary office in the area of food production (Table 5). About half had offices located in, or adjacent to, the dining room or cafeteria. A few hospitals also had offices near the office of the hospital administrator or director of nursing, in the area of patient's housing, or in the outpatient clinic.

TABLE 5.--Location within the hospital of dietary department offices according to 144 dietary department heads in Michigan hospitals.

Location of Office <sup>1</sup>	Percent of Hospitals (N = 144)
In area of Food Production	91
In, or adjacent to, Dining Room or Cafeteria	50
Near Office of Hospital Administrator or Director of Nursing	10
In area of Patients' Housing	14
In Outpatient Clinic	6

<sup>1</sup>Some hospitals have two or more dietary department offices.

### Actual and Ideal Function of the Dietary Department

All respondents were asked to describe the actual function of the hospital dietary department and the ideal function of the dietary department as a contributor to health care (Table 6). It was apparent that every group felt the dietary department should contribute more to the health care team at the decision-making level than it is presently doing. The hospital administrators were the most optimistic of the groups in describing the present status of the dietary department as a contributing and decision-making component of the health team. However, a large majority of each group (at least 67 percent), except chiefs of staff, stated that the ideal role of a dietary department should be that of a decision-making member of the health team. Chiefs of staff most frequently felt that the dietary department is and should be at an auxiliary level, primarily implementing the orders of others.

### Dietitians' Responsibilities

#### Dietitians' and Dietary Department Heads' Report of Ideal Responsibilities

In addition to considering the general function of the dietary department, dietitians and dietary department heads rated specific dietary-related responsibilities in relation to competences needed to perform these duties. The responsibilities were categorized on the basis of dietitians and

TABLE 6.--Extent of dietary department's actual and ideal contribution to decision-making on the health team as perceived by respondents.

Respondents	Percent of Respondents Agreeing That:	
	Dietary Department CONTRIBUTES to Decision-Making on the Health Team	Dietary Department SHOULD CONTRIBUTE to Decision-Making on the Health Team
Dietitian	38	86
Dietary Department Head	42	81
Chief of Staff	22	45
Director of Nursing	35	80
Hospital Administrator	54	73

dietary department heads reporting which duties required unique competences of the dietitian and should be performed by her. Duties which more than half of the respondents felt required unique competences of the dietitian included: attending ward rounds, preparing dietary histories, providing dietary instruction for patients, recording patient's dietary progress; following-up patients on therapeutic diets after release from the hospital, participating in conferences on nutritional needs of patients, participating in intern instruction, and preparing and/or revising the dietary manual.

The remaining dietary-related duties should not be performed by the dietitian: supervising food preparation, supervising tray service, ordering food, preparing food

production schedules, solving employee problems, handling routine desk work, writing menus, and determining food preferences of patients.

In addition, each duty was paired with every other duty to determine whether the duty was in any way related to other duties. For example, a respondent who felt that the dietitian should chart dietary progress might also say the dietitian should prepare dietary histories.

Correlation analyses suggested a grouping of duties. The double-headed arrows (Figures 1A-1C) indicate correlation between the two duties at the correlation listed. Correlations above 0.600 are considered for discussion. According to the dietary department head, the duties grouped together were:

1. Supervising food preparation and tray service, preparing food production schedules, ordering food, solving employee problems and routine desk work, writing menus and writing and/or revising the diet manual. These will be considered kitchen-oriented duties in future discussion.
2. Determining patient food preferences, attending ward rounds, preparing dietary histories, instructing patients about special diets, charting dietary progress, attending interdepartmental meetings, and instructing interns. These will be described as patient-oriented duties in further discussion.

Thus department heads who listed one of the kitchen-oriented duties frequently listed other kitchen-oriented duties as those which should be performed by the dietitian, at the exclusion of patient-oriented duties. Department heads who identified the dietitian with patient-oriented

Figure 1A.--Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head. Responsibilities connected by double-headed arrows were both listed as requiring proficiencies of the dietitian at a correlation level of 0.800-0.899.

Responsibilities included: Determining patient's food preferences; attending ward rounds; preparing dietary histories of patients prior to diet prescription; instructing patients following prescription of special diets; recording on charts dietary progress of patients; following-up patients on special diets after release from hospital; participating in interdepartmental conferences and consultations on nutritional needs of patients; participating in intern instruction; preparing and/or revising dietary manual; writing routine menus; participating in conferences, staff meetings, profession-related committee work; handling routine desk work such as payroll, accounting, inventories, and administrative report writing; handling employee problems such as hiring, training, counseling, and scheduling; ordering food, preparing food production schedules; supervising tray service, and supervising food preparation.



DIETARY DEPARTMENT HEAD

FOOD PREPARATION

FOOD PREFERENCE

TRAY SERVICE

WARD ROUNDS

DIET HISTORY

PATIENT INSTRUCTION

CHARTING

FOLLOW-UP

INTERDEPT MEETING

FOOD PRODUCTION  
SCHEDULE

ORDER FOOD

EMPLOYEE  
PROBLEMS

DESK WORK

CONFERENCE

WRITE MENUS

INTERN

DIET MANUAL

$r = .800 - .899$

Figure 1B.--Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head. Responsibilities connected by double-headed arrows were both listed as requiring proficiencies of the dietitian at a correlation level of 0.700-0.799.

Responsibilities included: Determining patient's food preferences; attending ward rounds; preparing dietary histories of patients prior to diet prescription; instructing patients following prescription of special diets; recording on charts dietary progress of patients; following-up patients on special diets after release from hospital; participating in interdepartmental conferences and consultations on nutritional needs of patients; participating in intern instruction; preparing and/or revising dietary manual; writing routine menus; participating in conferences, staff meetings, profession-related committee work; handling routine desk work such as payroll, accounting, inventories, and administrative report writing; handling employee problems such as hiring, training, counseling, and scheduling; ordering food, preparing food production schedules; supervising tray service, and supervising food preparation.

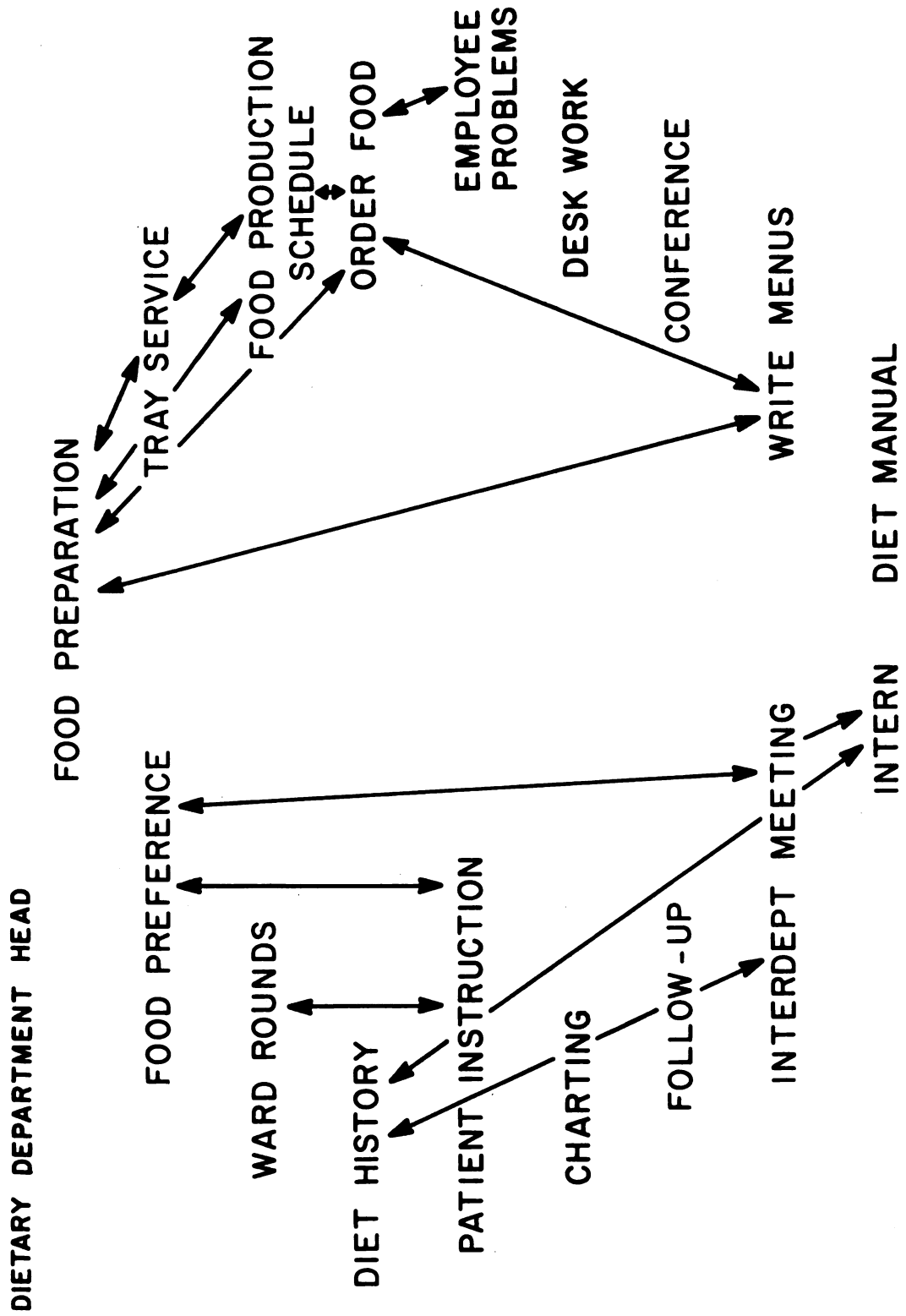
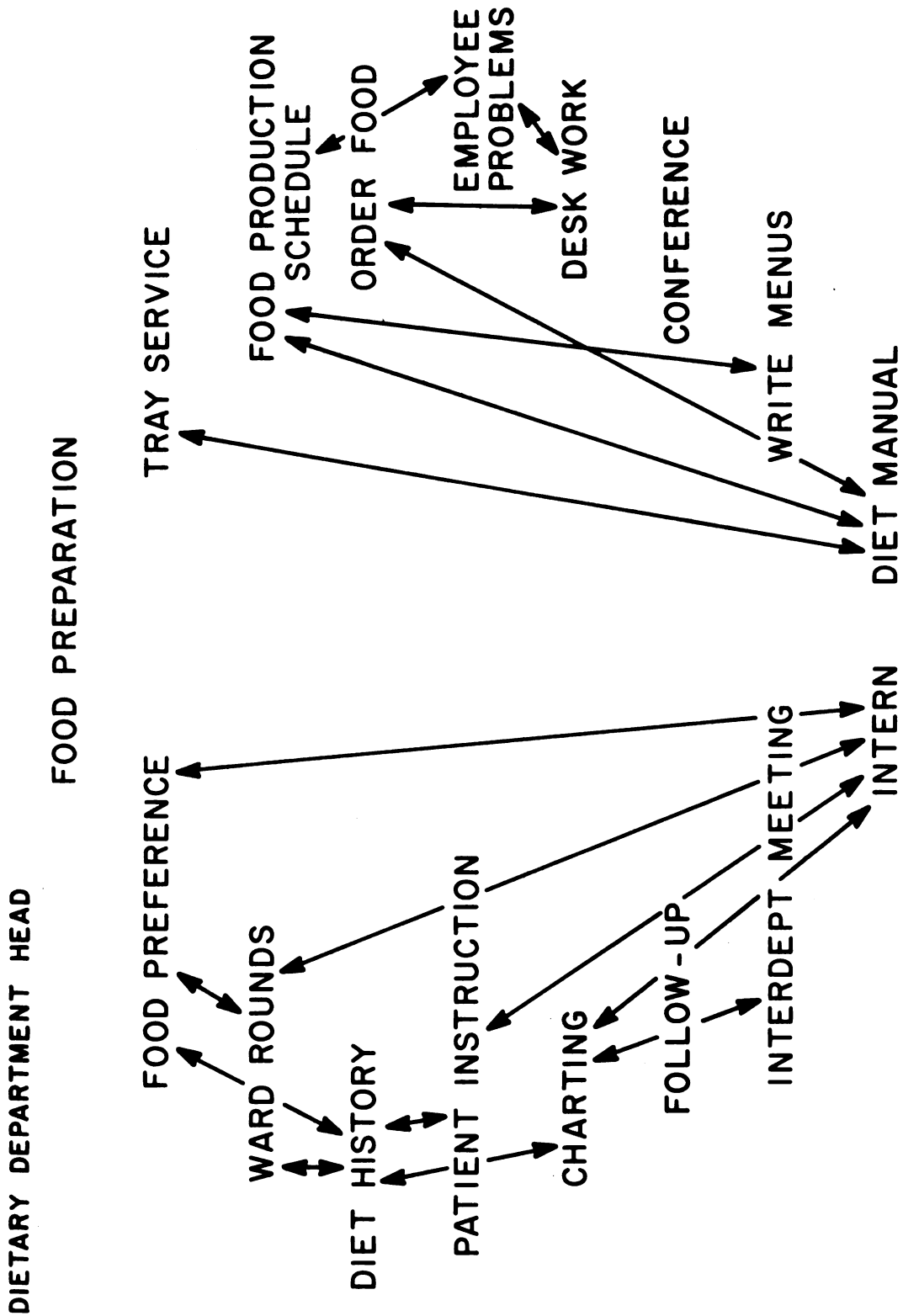


Figure 1C.--Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to dietary department head. Responsibilities connected by double-headed arrows were both listed as requiring proficiencies of the dietitian at a correlation level of 0.600-0.699.

Responsibilities included: Determining patient's food preferences; attending ward rounds; preparing dietary histories of patients prior to diet prescription; instructing patients following prescription of special diets; recording on charts dietary progress of patients; following-up patients on special diets after release from hospital; participating in interdepartmental conferences and consultations on nutritional needs of patients; participating in intern instruction; preparing and/or revising dietary manual; writing routine menus; participating in conferences, staff meetings, profession-related committee work; handling routine desk work such as payroll, accounting, inventories, and administrative report writing; handling employee problems such as hiring, training, counseling, and scheduling; ordering food, preparing food production schedules; supervising tray service, and supervising food preparation.



activities often did so at the exclusion of kitchen-oriented duties.

Note should be made that the group of kitchen-oriented duties are similar to the ones that less than half the dietitians and dietary department heads had identified as not requiring unique competences of the dietitian. The group of patient-oriented duties are identified as those which require competences of the dietitian.

Contrary to the dietary department heads' consistent division of activities, the dietitian associated attending ward rounds, instructing interns, and attending interdepartmental meetings with writing and/or revising the diet manual as well as with preparing the food production schedule; attending interdepartmental meetings was also associated with preparing the food production schedule (Figure 2). Thus dietitians did not make a distinct separation of kitchen-oriented and patient-oriented responsibilities.

#### Chiefs' of Staff Ideal Assignment of Dietary-Related Responsibilities

Chiefs of staff assigned dietary-related duties ideally to the dietitian, physician, or nurse alone, to two or more of the health personnel or none of these three health personnel. All responses which included the dietitian as a participant were summed and compared with those duties which the dietitian should perform alone (Table 7).

Figure 2.--Grouping of dietary-related responsibilities requiring proficiencies of the dietitian according to the dietitian. Responsibilities connected by double-headed arrows were both listed as requiring proficiencies of the dietitian at a correlation level of 0.600-0.699.

Responsibilities included: Determining patient's food preferences; attending ward rounds; preparing dietary histories of patients prior to diet prescription; instructing patients following prescription of special diets; recording on charts dietary progress of patients; following-up patients on special diets after release from hospital; participating in interdepartmental conferences and consultations on nutritional needs of patients; participating in intern instruction; preparing and/or revising dietary manual; writing routine menus; participating in conferences, staff meetings, profession-related committee work; handling routine desk work such as payroll, accounting, inventories, and administrative report writing; handling employee problems such as hiring, training, counseling, and scheduling; ordering food, preparing food production schedules; supervising tray service, and supervising food preparation.

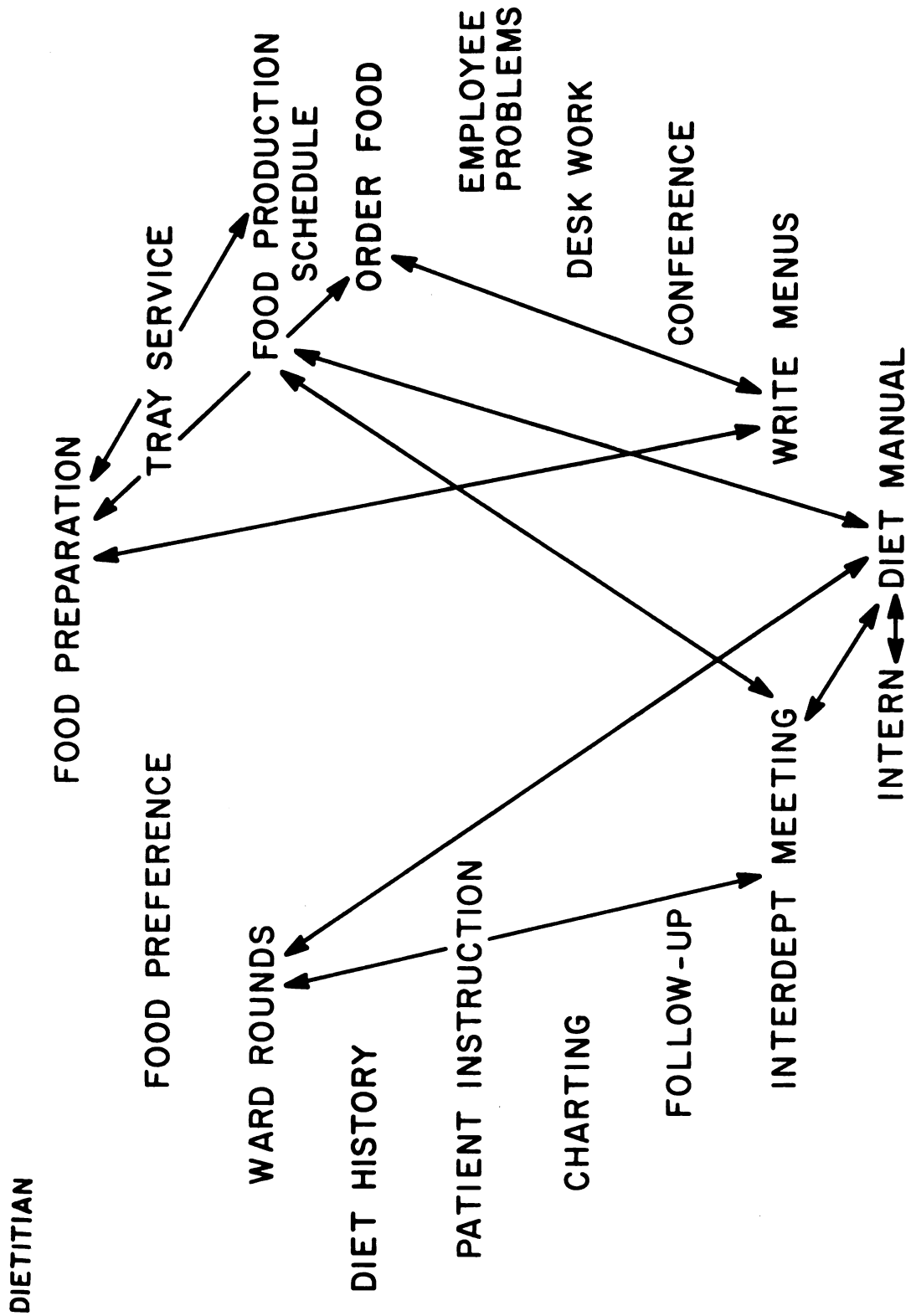




TABLE 7.--Assignment of dietary-related duties as perceived by 135 chiefs of staff.

Duty	Duty Should Be Assigned To	
	Dietitian Alone	Dietitian With Other Health Team Members <sup>1</sup>
<u>Kitchen-Oriented</u>	<u>%</u>	<u>%</u>
Supervise Food Preparation	80.7	1.5
Supervise Tray Service	54.1	21.5
Write Routine Menus	71.1	5.2
Prepare Food Production Schedule	68.1	2.9
Handle Employee Problems	48.9	0.0
Handle Routine Desk Work	25.9	0.0
<u>Patient-Oriented</u>		
Prepare and/or Revise Diet Manual	29.6	54.8
Follow Patients with Special Diets Upon Release from Hospital	11.9	28.2
Attend Interdepartmental Meetings	11.9	65.9
Determine Food Preference of Patient	43.7	31.2
Attend Ward Rounds	10.4	21.5
Prepare Dietary History	28.1	26.7
Instruct Patients About Special Diets	57.0	24.4
Chart Dietary Progress of Patient	17.0	28.9
Instruct Interns	11.1	26.7

<sup>1</sup>This percentage includes those duties ideally assigned to: (1) doctor and dietitian; (2) nurse and dietitian; and (3) doctor, nurse, and dietitian.

Kitchen-Oriented Duties.--In general, chiefs of staff more frequently assigned ideal duties centered within the kitchen to the dietitian than they assigned patient-oriented functions to the dietitians. Notable exceptions are those of determining patient food preference and providing diet instructions.

The dietitian alone was most associated with kitchen-oriented duties rather than involving the nurse or physician. An exception is that nurses were often assigned to supervising tray service with the dietitian.

Patient-Oriented Duties.--There was greater variation in the assignment of patient-oriented duties in that all duties were more frequently associated with the Dietitian With Other Team Members than with the Dietitian Alone, except for determining food preference. Great differences were noted for preparing and/or revising the diet manual and attending interdepartmental meetings in which Chiefs of staff felt that ideally the dietitian should do these duties in conjunction with the physician and/or nurse.

#### Frequency of Discussion

Other activities in addition to those listed above were evaluated. Chiefs of staff reported the frequency of discussion between themselves and a dietitian when a dietary problem of a patient was involved. Most frequently chiefs of staff stated that they occasionally consulted the dietitian (Table 8).

TABLE 8.--Frequency of discussion with dietitian by 135 chiefs of staff when a dietary problem is involved.

Percent of Respondents	
Frequently	19
Occasionally	64
Never	14
No Response	2

#### Procedure for Ordering Diets

Chiefs of staff also reported the procedure used in their hospitals for ordering diets and the procedure they preferred (Table 9). In most hospitals doctors ordered the diet from a diet manual. Most chiefs of staff and dietitians preferred that diets were ordered by the doctor after consulting with the dietitian.

TABLE 9.--Diet order procedures followed in hospital and preferred by 135 chiefs of staff and 231 dietitians.

Diet Ordered	Procedure Used in Hospital	Procedure Preferred By Chiefs of Staff	Procedure Preferred By Dietitians
		%	%
By doctor, from diet manual	64	29	32
By doctor, after consulting with dietitian	15	53	49
By doctor, with modifica- tion by dietitian	19	15	14
By dietitian, after review- ing patient's case	2	2	4

### Suggestions for Educational Preparation

#### Hospital Administrators' Suggestions for the Dietitian's Education and Prediction of Future Role of Dietitians

Hospital administrators were asked for suggestions for improving the education of hospital dietitians and their prediction of the future role and responsibilities of the hospital dietitian. Sixty-five percent of the administrators responded to one of the questions; three answered both questions. Thus the responses of these hospital administrators may not be representative of the total sample since one does not know why other administrators did not respond (nor why the ones who did respond did so).

The responses, analyzed by a thematic content analysis, are presented in Table 10. Although hospital administrators thought dietitians should have more administrative courses, they stated that hospital dietetics of the future will have more emphasis on therapeutic dietetics.

#### Importance of American Dietetic Association (ADA) Required Courses

The importance of the ADA requirements of certain courses for the therapeutic specialist and the administrative specialist was evaluated by ADA eligible dietitians. Courses were rated on the basis of: (1) absolutely essential in the undergraduate program; (2) should be included in the

undergraduate program; or (3) should not be included in the undergraduate program. Response rate ranged from 100 percent response of administrative dietitians to 78 percent response of head administrative dietitians; approximately 85 percent of the department head dietitians responded, and 90 percent of both head therapeutic dietitians and therapeutic dietitians responded to this question in the survey.

TABLE 10.--Hospital administrator's suggestions for educational improvement of hospital dietitians and perception of their future role.

	Number of Respondents
<u>Educational Improvement</u>	
Discontinue dual preparation	5
Continue dual preparation	1
Include more administrative courses	32
Include more therapeutic courses	5
Instill a more professional attitude	6
<u>Future Role</u>	
Will remain as is	1
More therapeutic emphasis	13
More administrative emphasis	1
Food manager replaces dietitian	4

In all of the subject areas except for food composition, microbiology, psychology, and sociology, there was a definite polarity between the importance of the courses for a therapeutic or administrative specialist indicated in Table 11. All groups of dietitians agreed that anthropology should not be included in the undergraduate program.

TABLE 11.--Courses essential for therapeutic, administrative specialists, or both according to Michigan hospital dietitians.

Absolutely Essential for the Therapeutic Specialist	Absolutely Essential for the Administrative Specialist	Absolutely Essential for Both
Anatomy	Food Selection and Preparation	Microbiology
Chemistry	Menu Planning	Psychology
Intermediary Metabolism	Food Laws	Sociology
Physiology	Management and Labor	Food Composition
Diet Therapy	Purchasing and Accounting	
Biochemistry		

Course requirements were also analyzed on the basis of hospital positions of the dietitians, including department head dietitians.

The administrative dietitian in almost every instance endorsed courses as absolutely essential more often than the other respondents, regardless of whether the importance was in reference to the therapeutic specialist or an administrative specialist. Part of this high support may be explained by the 100 percent response to the question; however, in many cases, there was enough difference to probe for other explanations than the high percentage return. The administrative dietitian apparently believed that she and therapeutic dietitians should be equally proficient in courses related to therapeutic and administrative specialization. The only course that the administrative dietitian thought was not particularly essential for either the therapeutic or

administrative dietitian is anatomy. Her strong feelings towards essentiality of all courses may be related to her frequent comments that she had not been adequately prepared for her hospital position (Appendix A).

Therapeutic dietitians' and department head dietitians' assignments were similar to the entire group of dietitians (Table 11).

### Phase II. In-Depth Study of Dietitians

The second phase was in two parts: Part A was a study in which dietitians were interviewed and requested to complete three questionnaires--Dietitians' Competences, Dietitians' Responsibilities, and the California Psychological Inventory; Part B was a study of physician's use of diet therapy, decision allowed an "ideal" dietitian, and competences needed by dietitians. Dietitians and physicians were from the same hospitals.

Thirty-three dietitians from 11 hospitals were included in the study (Table 12). Of the 11 hospitals, six hospitals had dietary department heads who were not dietitians. A seventh hospital had two departments: the department of dietetics was headed by a dietitian; however, the head of the department of food service was not a dietitian. Thus, in seven hospitals the director of food service was someone other than a dietitian. One hospital maintained a contract food service.

TABLE 12.--Distribution of 33 dietitians (includes five department heads) in relationship to number of beds in 11 selected Michigan hospitals.

Hospital	No. of Beds	No. of Dietitians	Department Head Dietitian
1	0-200	1	Yes
2	0-200	1	Yes
3	0-200	2	Yes
4	0-200	2	
5	201-400	4	
6	201-400	1	
7	201-400	1	
8	401 or more	4	
9	401 or more	4	Yes <sup>1</sup>
10	401 or more	6	
11	401 or more	7	Yes

<sup>1</sup>Dietitian is head of Department of Dietetics only; head of Food Service is not a dietitian.

### Part A. Dietitians' Study

#### Interview of Dietitian

The interview consisted of three sections: Biographical Data, Dietitian's Contribution to Decision-Making on the Health Team, and the Dietitian's Evaluation of Educational Preparation.

#### Biographical Data

Job Title.--Twenty-two of the 33 dietitians interviewed were therapeutic or head therapeutic dietitians (Figure 3). The distribution of therapeutic and administrative dietitians are in similar proportions to Phase I of the study.



Figure 3.--Job title of 33 hospital dietitians interviewed. Dietitians were from 11 Michigan hospitals.

# ***DESCRIPTION OF DIETITIANS-TITLE***

<b>THERAPEUTIC DIETITIAN</b>		<b>54.6 %</b>
<b>12.1</b>	<b>HEAD THERAPEUTIC DIETITIAN</b>	
<b>12.1</b>	<b>DIETITIAN</b>	
<b>6.1</b>	<b>CHIEF DIETITIAN</b>	
<b>6.1</b>	<b>ADMINISTRATIVE DIETITIAN</b>	
<b>6.1</b>	<b>OTHER</b>	
<b>3.0</b>	<b>DIETARY DEPARTMENT HEAD</b>	

The dietitian's title was related to other personal background factors (Table 13). Highly significant were the differences in number of continuing education hours attained by dietitians. Head therapeutic dietitians were especially high in accumulated hours, and chief dietitians and administrative dietitians were above average. The groups of therapeutic dietitians, dietary heads, and dietitians were below average in accumulated hours.

Percentage of Time Spent in Therapeutic Activities.---Exemplary of the large number of therapeutic dietitians in the sample is the percentage of time spent in therapeutic activities (Figure 4). Thirty percent of the respondents spent all of their time in therapeutic activity with an additional 30 percent devoting more than three-fourths of, but less than all, their time to such activity. Average time spent in therapeutic activity was 75 percent.

ADA Membership.--Membership in the American Dietetic Association was held by 27 dietitians; two additional dietitians were presently in the three year supervised experience to qualify for ADA membership (Table 14). Four dietitians were not eligible for membership. Although comparable to the larger group of dietitians in the earlier phase of the study in terms of percentage of dietitians who were members, there were no dietitians who were eligible for ADA membership but who did not belong. All ADA dietitians were registered.

TABLE 13.--Characteristics of dietitians in selected hospitals.

Characteristic	Ther. Di.	Head Ther. Di.	Admin. Di.	Title of Dietitians <sup>1</sup>				Ass't. Di.	Signif- icance <sup>2</sup>
				Dietitian	Chief Di.	Dietary Head			
Time Spent in Thera- peutic Activity (%)	86 + 16 ±	95 + 5 ±	25 + 35 ±	48 + 5 ±	48 + 39 ±	10 + 0 ±	100 + 0 ±		**
Age	35 + 13 ±	46 + 9 ±	49 + 6 ±	44 + 10 ±	33 + 8 ±	54 + 0 ±	36 + 18 ±		N.S.
Years in ADA	9 + 10 ±	13 + 8 ±	24 + 6 ±	7 + 8 ±	7 + 6 ±	10 + 0 ±	0 + 0 ±		N.S.
Years Pro- fessional Experience	9 + 8 ±	18 + 5 ±	15 + 4 ±	12 + 5 ±	10 + 7 ±	19 + 0 ±	11 + 13 ±		N.S.
Years in Present Position	3 + 2 ±	4 + 2 ±	8 + 3 ±	4 + 3 ±	8 + 9 ±	5 + 0 ±	1 + 1 ±		N.S.
Number of Clock Hours	19 + 22 ±	75 + 14 ±	31 + 13 ±	18 + 18 ±	34 + 20 ±	19 + 0 ±	0 + 0 ±		**
Number in Each Category	18	4	2	4	2	1	2		

<sup>1</sup>Ther. Di. = Therapeutic Dietitian; Head Ther. Di. = Head Therapeutic Dietitian;  
Admin. Di. = Administrative Dietitian; Chief Di. = Chief Dietitian; Ass't. Di. =  
Assistant Dietitian.

<sup>2</sup>Indication of F-test values: \*\*  $P \leq 0.01$ ; N.S. = non-significant.

Figure 4.--Percentage of time spent in therapeutic activities as reported by 33 dietitians interviewed. The abscissa represents the amount (percent) of time spent in therapeutic activities. The ordinate indicates the percent (%) of the dietitians.

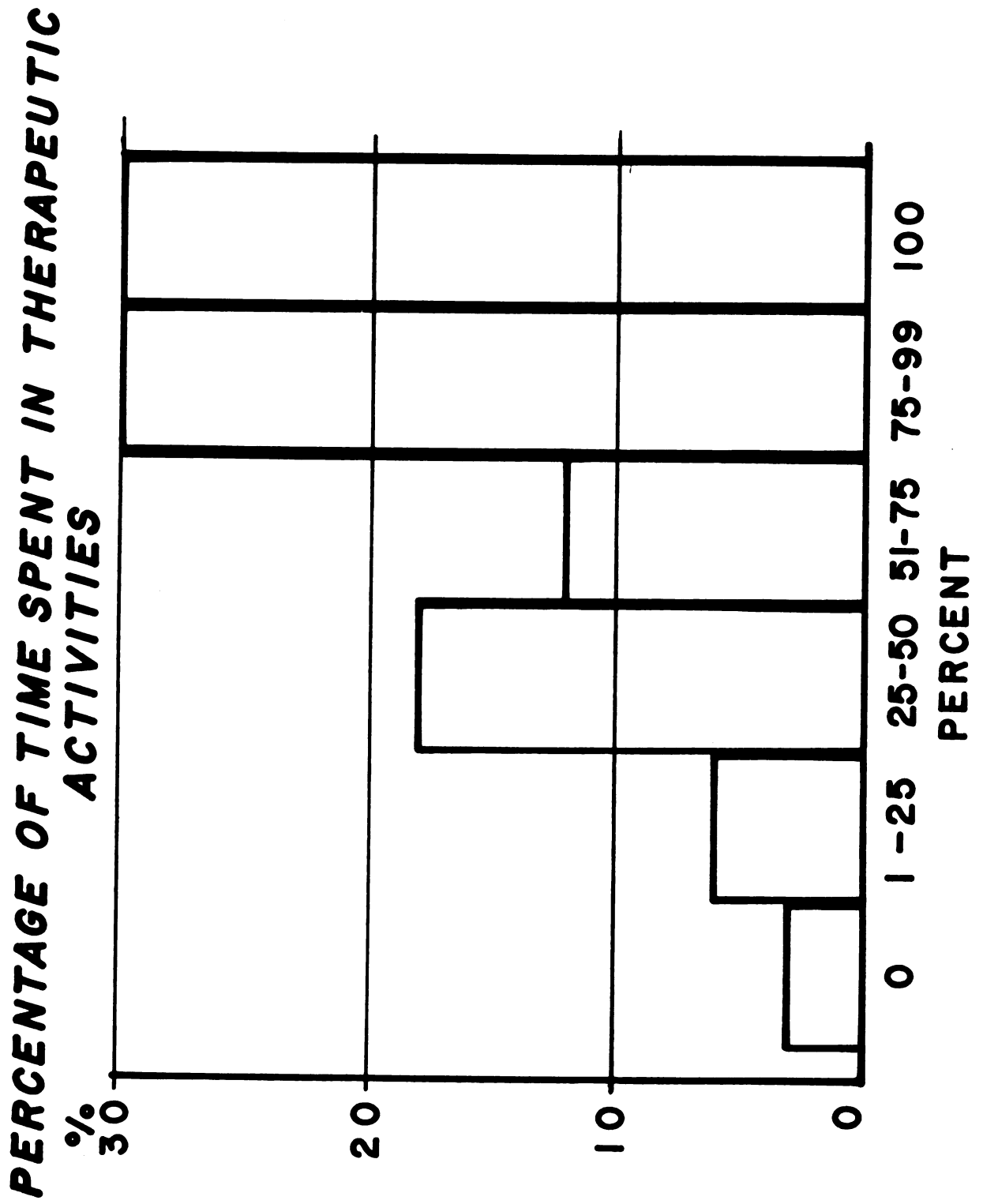


TABLE 14.--Status of American Dietetic Association membership of 33 dietitians from 11 Michigan hospitals.

	Number	%
Member	27	82
Presently in 3 Year Supervised Experience to Qualify for Membership	2	6
Not Eligible	4	12

Two-thirds of the ADA dietitians qualified for membership through a dietetic internship (Table 15); one-third, from a three year supervised experience. In comparison with the initial study, the proportion of former dietetic interns and those who were in the three year experience was similar. The two dietitians who were presently in the supervised experience program were included as part of the six dietitians who were not presently eligible for ADA.

TABLE 15.--Qualifying experience leading to ADA membership by 33 dietitians from 11 Michigan hospitals.

	Number	%
Internship	18	55
3 Years Supervised Experience	9	27
Not Presently Eligible	6	18

Characterizing dietitians by the route which they chose for ADA membership eligibility showed that dietitians who had the three years supervised experience had been in their

present position significantly longer than dietitians who had an internship, but had been an ADA member fewer years (Table 16). As a group, dietitians with supervised experience were also older.

TABLE 16.--Characteristics of 33 dietitians who qualified for ADA membership by internship or supervised experience.

	Internship	Supervised Experience	Does Not Apply	Significance <sup>1</sup>
Age	38 ± 12	45 ± 11	32 ± 11	Tr.
Years in ADA	13 ± 11	8 ± 6	0 ± 0	*
Years in Present Position	3 ± 3	6 ± 3	2 ± 1	*
Number in Each Category	18	9	6	

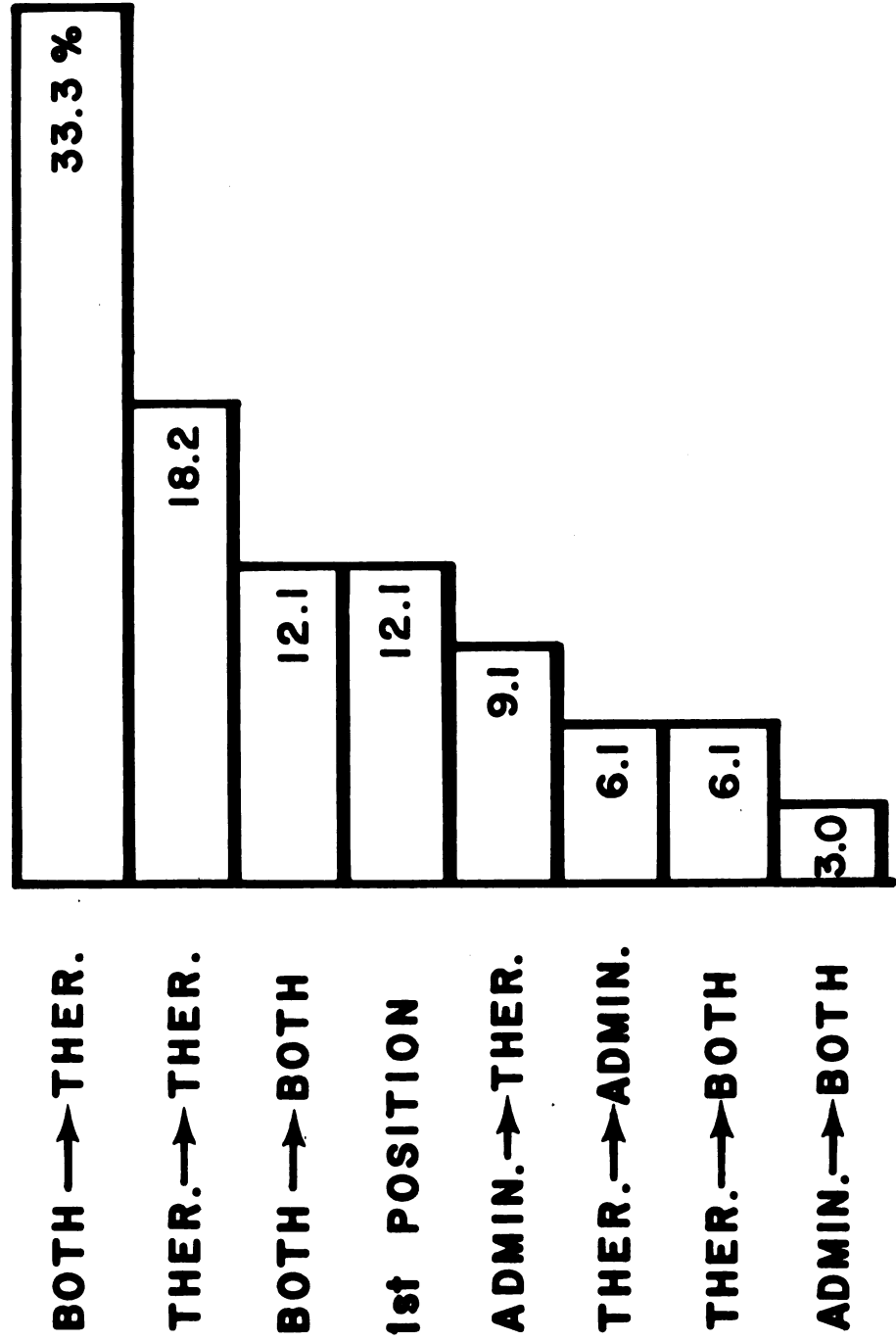
<sup>1</sup>Indication of F-test values: \*  $0.01 < P \leq 0.05$ ; Tr.  $0.05 < P \leq 0.10$ .

Previous Work Experience.--A variety of work experience combining both administrative and therapeutic dietetics was evident in previous work experience and the present position (Figure 5). Almost half of the therapeutic dietitians had previous experience in both therapeutic and administrative dietetics or in administrative dietetics alone. The seven dietitians who were presently in both the administrative and therapeutic aspects also had variety in their backgrounds. Only six dietitians, all therapeutic, had one phase of



Figure 5.--Work experience prior to present position of 33 dietitians interviewed. Previous experiences are indicated on the left side of the arrow. Present position is indicated on the right side of the arrow. Experiences include therapeutic dietetics only, (Ther.); administrative dietetics only, (Admin.); or a combination of therapeutic and administrative dietetics, (Both). Dietitians who are presently in their first position are indicated, (1st Position).

# **WORK EXPERIENCE PRIOR TO PRESENT POSITION**



dietetics in both previous and present experience. Four dietitians were in their first position, and no comparison of previous and present position was possible.

Age and years of professional experience were significant factors in sequence of work experiences (Table 17). The average age of the two administrative dietitians who had previously been in therapeutics was 49; these two also, on the average, had the most experience. Two other groups with previous experience in both aspects and who were presently assuming a dual role were older and had more professional experience than most dietitians. Dietitians in their first position were youngest and had the least years of professional experience.

Educational Preparation.--The highest education attained by eight dietitians was a college degree (Table 18). One dietitian had attended college but had not completed her degree. The highest educational level for ten dietitians was a dietetic internship. Aside from the one respondent who had not completed college, the dietitians not eligible for ADA had completed college in a Home Economics or Dietetic program.

Continuing Education Hours.--Continuing education hours accumulated prior to October, 1970, averaged 26 hours, with a range from 0 to 91 hours (Figure 6). Six of the seven dietitians with no hours were not members of ADA.

TABLE 17.--Sequence of professional experiences of 33 dietitians.

	1st	Professional Experiences <sup>1</sup>						Signifi- cance <sup>2</sup>
		T→A	A→T	T→T	B→T	A→B	T→B	B→B
Age	23 + 1 -	49 + 6 -	35 + 13 -	32 + 8 -	45 + 12 -	40 + 0 -	33 + 8 -	47 + 11 -
Years Pro- fessional Experience	2 + 1 -	15 + 4 -	11 + 10 -	8 + 4 -	16 + 8 -	11 + 0 -	10 + 7 -	14 + 6 -
Number in Each Cate- gory	4	2	3	6	11	1	2	4

<sup>1</sup>1st = first position

T = Therapeutic Dietetics

A = Administrative Dietetics

B = Both T and A

Letters on left of arrow represent previous position  
Letters on right of arrow represent present position

<sup>2</sup>Indication of F-test values: \* 0.01 < P ≤ 0.05.

Figure 6.--Continuing education hours earned for American Dietetic Association registration prior to October, 1970. The ordinate represents the percentage of 33 dietitians accumulating the range of hours indicated by the abscissa.

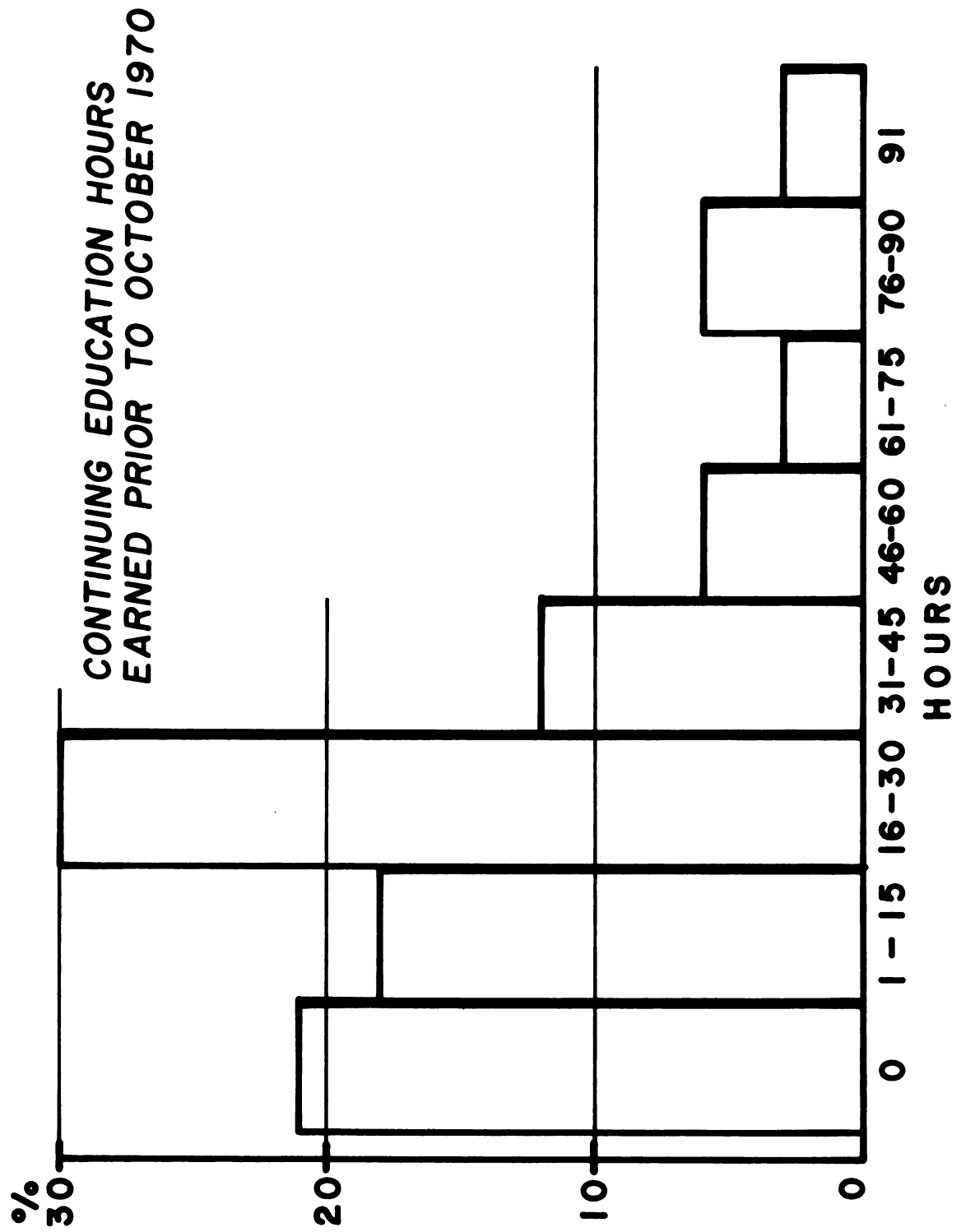


TABLE 18.--Highest education attained by 33 dietitians from 11 Michigan hospitals.

	Number	%
Attended College, But Did Not Complete	1	3
College Degree	8	24
Dietetic Internship	10	30
Post-Graduate Courses Not Terminating in Master's Degree	11	33
Master's Degree	2	6
Post-Master's Degree Courses Not Terminating in Ph.D.	1	3

The extent of continuing education sought prior to ADA registration was not related to the dietitian's previous professional experiences, her present job title, nor to the route by which she qualified for ADA membership. The most frequent form of continuing education sought prior to registration was reading professional journals. Three other frequent activities were attending meetings, seeking self-study, and attending classes to increase professional skills. A few dietitians presented papers to professional and lay groups.

#### Dietitian's Contribution to Decision-Making on the Health Team

Contributions made by dietitians to decision-making on the health team (Table 19) were measured by procedures presented in Chapter III. Four activities included:

TABLE 19.--Distribution of 33 dietitians' contribution to decision-making on the health team.

Index <sup>1</sup>	Admission Diet Order		Change in Diet Order		Diet Instruction		Medical Rounds	
	N	%	N	%	N	%	N	%
1.00	18	55	4	12	4	12	21	64
1.01-1.20	13	39	21	63	13	39	10	30
1.21-1.40	1	3	6	18	5	15	1	3
1.41-1.60	1	3	2	6	2	6		
1.61-1.80					2	6		
1.81-2.00					2	3		
2.01-2.20					1	3		
2.21-2.40					1	3		
2.41-2.60					0	0	1	3
2.61-2.80					1	3		
2.81-3.00					4	12		

<sup>1</sup>Determined by  $\frac{1a + 2b + 3c}{100}$  where:

1 = weight for no contribution

2 = weight for some contribution

3 = weight for much contribution

a,b,c = percentage distribution of contribution

(1) ordering admission diets; (2) ordering diet changes; (3) providing dietary instruction; and (4) attending medical rounds. Briefly, the dietitian reported the distribution, by percentage, of her participation among three decision-making levels of contribution for each activity. Her contribution to decision-making in the activity was expressed as a weighted average, in which greater contribution received a greater weight.



Ordering Admission Diets.--The greatest contribution (weight 3) a dietitian could make in ordering the diet at admission was by ordering the diet herself after consulting with the physician and/or patient's record. Intermediate contribution (weight 2) occurred if the physician ordered the diet after consulting with the dietitian, and the least contribution (weight 1) was when the physician ordered the diet with no conference with the dietitian. The maximum value for this index was 3.00, in which all diets were ordered by the dietitian; the minimum value was 1.00, in which all diets were ordered by the physician with no consultation. The average for the 33 dietitians was 1.04 (Table 17). The highest index was 1.45.

In relating biographical data to this index, the three highest scoring dietitians also had accumulated a high number of continuing education hours.

Ordering Diet Changes.--The highest level (weight 3) of influence the dietitian had on diet changes following admission was if she changed the diet order after consulting the physician and/or the patient's record (Table 17). Intermediate level (weight 2) was that the physician changed the diet order after consulting the dietitian; least (weight 1) was that the physician made the change without consulting the dietitian. The highest index was 1.50. The average for 33 dietitians was 1.15.

Providing Diet Instruction.--The highest of the five indices was diet instruction, in which the average was 1.57. Three of the four dietitians with the minimum index of 1.00 were in a hospital in which all diet instructions were paid by the patient, and the initiator of this "paid treatment" was the physician. The intermediate level of contribution (weight 2) was that the diet instruction order was given by the physician after consultation with the dietitian regarding patient goals. Very few were in this category. Highest influence (weight 3) of a dietitian was when she determined patient needs and provided dietary instruction routinely without the physicians' request. The highest index was 2.99.

The two personal background factors which seemed to be significantly different among dietitians who made varying contributions in determining need for diet instructions were age and number of continuing education hours accumulated. The three most contributing dietitians were below 30 and were below average in the number of continuing education hours they had obtained. The highest contributor was at present a three year student qualifying for ADA. The other two were ADA members; one had 20 continuing education hours; the other, one hour. The next highest contributor, by contrast, had attained 88 hours.

Participating in Medical Rounds.--The dietitian's contribution in health team care was further indicated by her participation in ward or medical rounds with the physician.

The maximum contribution (weight 3) was when the dietitian routinely attended rounds, intermediate (weight 2) was when she attended upon special request, and the least contribution (weight 1) was when she did not attend rounds. A weight of 2.5 was given to dietitians who by coincidence were visiting the patient the same time the physician arrived and remained with the patient and physician; some dietitians would not remain and did not receive this rating. A few dietitians intentionally planned their own rounds at a time when many physicians were also making rounds, and their chances for meeting physicians were enhanced. The highest index was 2.55.

The trend noted for differences in continuing education hours in relation to the dietitians' attendance at ward or medical rounds emphasized the contrast between the dietitian (non-ADA) with no hours who contributed more than the ADA dietitian with 91 hours. The dietitian who contributed most had 75 hours which was well above the average of 26, and the next highest contributor had 13 hours.

Over-all Contribution.--An over-all index represented an average of the four individual indices. The over-all average was 1.21; the highest overall index was 1.73. The most contributing dietitian had 75 continuing education hours, the next category of two dietitians had an average of ten hours (one dietitian with zero hours; the other had 20 hours) and the third highest contributing group of one dietitian had

one hour. Several non-ADA dietitians with 0 hours made more contribution than the dietitian with 91 hours.

#### Dietitians' Evaluation of Educational Preparation

During the interview dietitians evaluated specific aspects of their dietetic preparation. Comments are summarized on the basis of general comments regarding the entire program, benefits from the dietetic internship, basic administrative skills that a therapeutic dietitian needs, evaluation of specific areas of knowledge, and suggested changes.

General Comments.--Comments directed to the entire program are summarized, with the number of dietitians who made the comment in parenthesis. Comments are paraphrased unless indicated otherwise.

"All areas of preparation were inadequate; it was necessary to gain competence through experience and reading (2)."

The dietitian learned the most on her first job (2).

"There was so much to know that education was crammed in or covered inadequately (2)."

"'Watered-down' courses in chemistry and physiology were inadequate (2);" one respondent is now taking graduate work and feels handicapped.

"General education requirements are valuable and should not be dropped (1)."

Specialization in either administrative or therapeutic dietetics is recommended over a dual program (1).

"Practical training is best; theory is unrealistic and difficult to apply (2)."

"Dietitians need to get along with all types of people (1)."

"Dietitians need self-confidence that will be developed by adequate knowledge and contact with other people (1)."

"Medical students should be exposed to dietetic students (1)."

The dietitian sees little chance for job advancement in hospital dietetic positions (1).

The dietitian wasn't using her education in her job (2).

Benefit from Dietetic Internship.--All dietitians who had a dietetic internship supported the necessity of one for themselves, for the following reasons:

The dietitian was exposed to a hospital and food service department as functioning units (8).

Several aspects of dietetics were integrated (3).

Practical application of previous learning was helpful (4).

Dietitians learned to work with many different people: employees, in-patients, and out-patients (4).

"Students were guided by well-trained personnel in a planned program (3)."

"Self-confidence was developed (2)."

Further competence in food handling and therapeutics was gained (2).

Self-discipline emerged (1).

Basic Administrative Skills Needed by Therapeutic Dietitians.--Basic administrative skills needed by therapeutic dietitians were identified:

"The dietitian should know the entire kitchen operation (3)."

She should be acquainted with kitchen operations such as supervision, purchasing and preparing food (5).

"She should be able to supervise special diet cooks (1)."

She should know food standards (2).

She should know sanitation procedures (2).

"The dietitian must be able to work with people (4)."

She should know how to schedule employees (1) and budget time and money (2).

She should be prepared to become head of the dietary department (2); with transferable administrative skills, she should be capable of directing other departments (1).

Specific Comments about Diet Therapy.--The following comments summarize statements specific for diet therapy:

"Diet therapy should come earlier in the student's program (3)."

"Diet therapy should be integrated with experience (3)."

"Diet therapy should be more applied (5)."

"There should be a greater coverage of disease and physiological conditions (4)."

More information on drug therapy is desirable (2); an example was the relationship between different insulins and dietary patterns.

"More test meals and unusual diets should be presented (1)."

Cultural differences should be considered in diet therapy (2).

Students should realize that diets change over time and from hospital to hospital (2).

"There is too much material for the small amount of time allowed (1)."

Normal Nutrition.--Dietitians discussed the area of normal nutrition:

"There is too much material for the little time allowed (1)."

Normal nutrition should be more applied (1).

Meal planning for low-income families is suggested (1).

Food Composition.--The area of food composition was discussed.

Interest in food composition has increased since dietitian's formal education (2).

"There should be information on food additives (2)."

"More resources of food composition knowledge are needed (1)."

"This information can be learned from use or by referring to a book (2)."

Cultural and Socio-Economic Aspects of Dietary Planning.--

Evaluation of cultural and socio-economic considerations in courses were discussed.

"This area is more important now because improved transportation brings people of different backgrounds closer together (2)."

Appreciation of this area was gained through exposure to different people (2).

"Cultural aspects of food should be a requirement rather than an elective (1)."

Communication.--Second to diet therapy, communication skills was the most frequently discussed area. Every dietitian stated that communication skill was very important, but often very lacking in dietitians' competences.

"Dietitians should be able to converse with the physician on the physician's level of communication (7)."

Dietitians should be able to talk with everyone including employees (2).

Inadequacy in teaching was frequently attributed to poor communication skills. Many dietitians had ideas on how communication could best be presented:

A communication course would be helpful (7).

Students should be encouraged to participate in classroom discussion (3).

"Experience is the best teacher (7)."

"Sensitivity training might break some communication barriers (1)."

"Communication depends on the individual and whether he wants to be an integral part of total function (1)."

"Settings can be created where communication skills can be developed (1)."

Suggestions for Change in the Total Program.--Suggestions have been grouped on the basis of related areas of knowledge. Dietitians felt there should be more:

Physiology (3); biochemistry (1); nutrition (1); diet therapy (8); information on normal and abnormal physiological values (3); chart reading (1); and medical terminology (1).

Communications (3); psychology (7); sociology (2); cultural and socio-economic aspects (1); education, including adult education (6).



Management of People (3); scheduling of people (1).

Economics (1); business (1); cost analysis (3); labor relations (1).

There should be experience incorporated into the program with courses (4). Community contribution of dietitians should be emphasized (2).

There should be a better presentation of what the future job will be like (5). Dietitians should develop the characteristic of being more aggressive (1).

### California Psychological Inventory

The average of the 18 characteristics of the 26 dietitians completing the California Psychological Inventory was expressed as standard scores with 50 being the mean for all females who have taken the test (Figure 7). The basic purpose of each scale is to identify individuals who will: 1) behave in a certain way and 2) be described in a characteristic manner.

### Analysis of Scores

The manual for the Inventory suggested that if most of the scores were above the mean, the respondents are probably functioning effectively both intellectually and socially; if the majority of scores are below the mean the respondents are probably experiencing difficulties in interpersonal adjustment. Averages for the 26 dietitians were above the mean in eleven of the eighteen characteristics. None of the scales deviated greatly from the standard score of 50.

Class I - Measures of Poise, Ascendancy, Self-Assurance and Interpersonal Adequacy.--Dietitians were generally below the mean in Class I - Measures of Poise, Ascendancy, Self-Assurance and Interpersonal Adequacy (Figure 7). In individual characteristics dietitians were below the mean in capacity for status, sociability, social presence and sense of well-being; they were above the mean in measures of dominance and self-acceptance.

Class II - Measures of Achievement, Potential and Intellectual Efficiency.--Dietitians were above average for two of the three scales in Class II - Measures of Achievement, Potential and Intellectual Efficiency. The two factors above average were achievement via conformance and achievement via independence. The third factor of intellectual efficiency was below the mean.

Class III - Measures of Socialization, Maturity, Responsibility, and Intrapersonal Structuring of Values.--In Class III dietitians were generally above the mean. For individual scales, they were above the mean for responsibility, socialization, self-control, good impression, and communality. The only factor below average was tolerance.

Class IV - Measures of Intellectual and Interest Modes.--In Class IV dietitians were above average in psychological-mindedness and femininity. They were below average in flexibility.

Figure 7.--Comparison of personality characteristics of 26 dietitians with female college and high school students based on the California Psychological Inventory.<sup>1</sup> Solid lines connect discrete variables consisting of the following characteristics:

Class 1. Measures of poise, ascendancy, self-assurance and inter-personal adequacy

Do Dominance  
Cs Capacity for status  
Sy Sociability  
Sp Social presence  
Sa Self-acceptance  
Wb Sense of well-being

Class 2. Measures of achievement potential and intellectual efficiency

Ac Achievement via conformance  
Ai Achievement via independence  
Ie Intellectual efficiency

Class 3. Measures of socialization, maturity, responsibility and intra-personal structuring of values

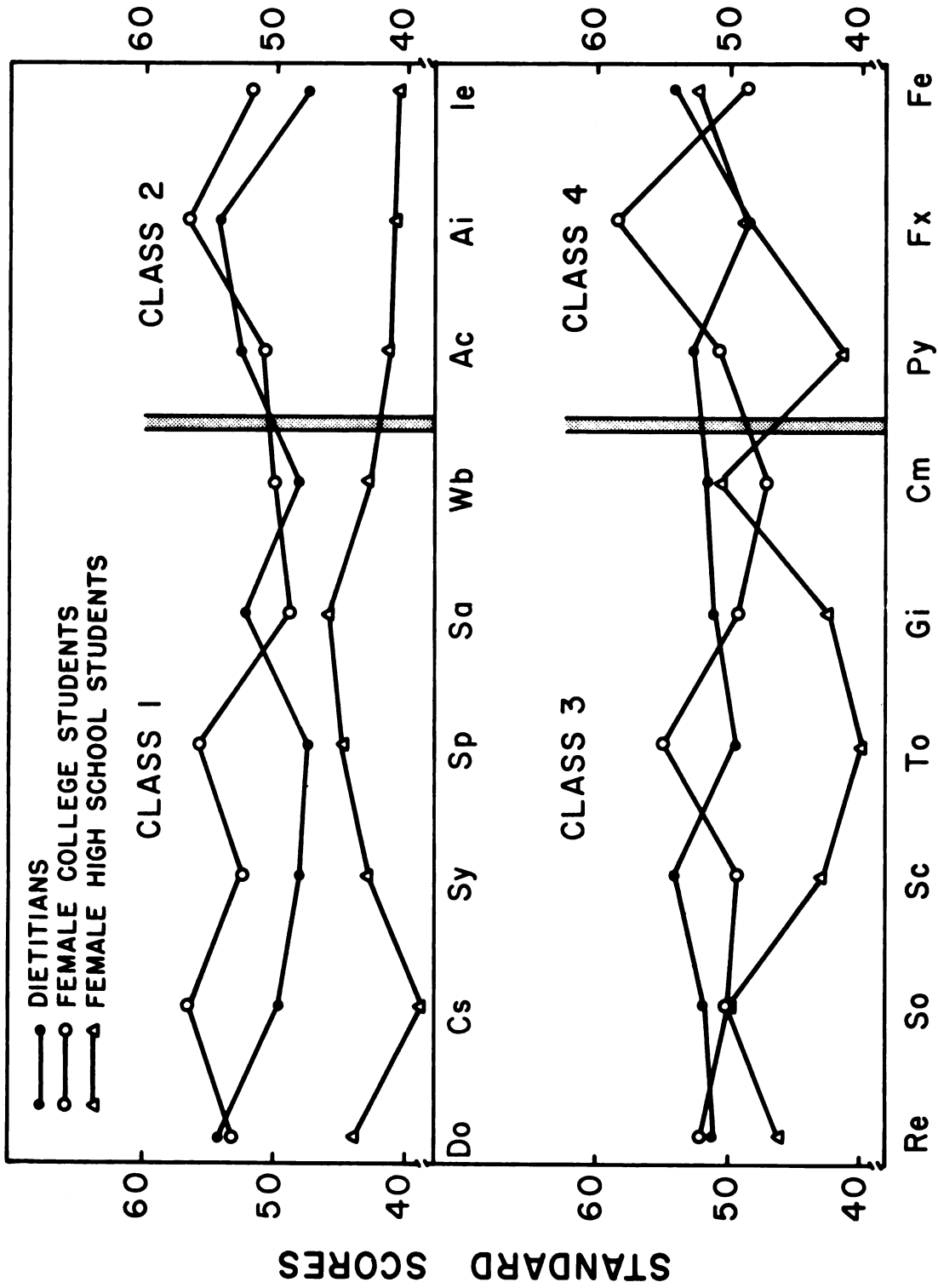
Re Responsibility  
So Socialization  
Sc Self-control  
To Tolerance  
Gi Good impression  
Cm Communality

Class 4. Measures of intellectual and interest modes

Py Psychological-mindedness  
Fx Flexibility  
Fe Femininity

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<sup>1</sup>Gough, op. cit.



### Comparison of Dietitians with High School and College Students

Personality characteristics were also compared with standard scores of college and high school females. Although all but one of the respondents were college graduates, other factors, including age and the fact that the dietitians are no longer college students, must be considered. In all factors, the group of dietitians scored higher than female high school students. The dietitians were similar to the female college students on the scales of dominance and communality. Dietitians scored higher for self-acceptance, socialization, self-control, good impression, achievement via conformance, psychological-mindedness, and femininity; and lower on scores of capacity for status, sociability, sense of well-being, responsibility, tolerance, achievement via independence, intellectual efficiency, and flexibility.

### Relation Between CPI Characteristics and Biographical Data

Biographical Data of dietitians, including route to ADA membership and previous professional experience were related to California Personality Inventory characteristics by analysis of variance.

ADA Membership.--When personality characteristics of dietitians who had an internship, dietitians with three years supervised experience, or dietitians who were not eligible

for ADA membership were compared, significant differences existed for social presence, sense of well-being, achievement via conformance, intellectual efficiency, and psychological-mindedness (Table 20). Trends were noted for the factors sociability, responsibility, and communality. Dietitians not eligible for ADA membership were highest scoring for all of the above factors. For all factors but psychological-mindedness, the group of dietitians who had a dietetic internship scored higher than the dietitians who had three years of supervised experience. Four of these factors, sociability, social presence, sense of well-being, and intellectual efficiency, were the four lowest characteristics for all dietitians.

Previous Work Experience.--The California Psychological Inventory did not differ among dietitians with different previous work experiences.

The Dietitian Who Contributes to Decision-Making on the Health Team

The two most effective dietitians in each of the five indices were selected for further study of their personal data and personality profile (Table 21). Potentially ten dietitians could have been selected, but some dietitians were high in more than one index. For example, one dietitian was one of the two highest contributors on all the indices but diet instruction. As a consequence profiles of six dietitians are presented rather than ten. The two dietitians highest in diet instruction were from the same

TABLE 20.--Personality characteristics of 26 dietitians with different ADA qualifying experiences.

	Intern- ship	Supervised Experience	Not Eligible for ADA	Signif- icance <sup>1</sup>
<u>Average Standard Score<sup>2</sup></u>				
Sociability	46.9 ± 11.0	42.4 ± 15.6	60.0 ± 7.5	Tr.
Social Presence	46.6 ± 10.1	40.8 ± 14.2	60.8 ± 9.0	*
Sense of Well- Being	48.6 ± 10.5	40.0 ± 8.1	57.5 ± 6.8	*
Responsibility	51.0 ± 7.3	45.6 ± 11.0	59.0 ± 3.5	Tr.
Communality	52.6 ± 5.8	45.4 ± 13.3	57.5 ± 2.9	Tr.
Achievement via Conformance	53.2 ± 8.3	46.4 ± 4.6	59.8 ± 3.0	*
Intellectual Efficiency	47.8 ± 10.6	38.6 ± 15.8	58.5 ± 5.7	*
Psychological- Mindedness	50.1 ± 7.0	54.8 ± 11.6	63.5 ± 3.3	*
Number in Each Category	17	5	4	

<sup>1</sup>Indication of F-test values: \* 0.01 < P ≤ 0.05; Tr. 0.05 < P ≤ 0.10.

<sup>2</sup>Determined by California Psychological Inventory.

TABLE 21.--Personal profile of six dietitians contributing most to health team decision-making.

	Dietitians <sup>1</sup>					
	A Head Ther. Dietitian	B Ther. Dietitian	C Chief Dietitian	D Head Ther. & Clinic Di.	E Ther. Dietitian	F Ther. Dietitian
Therapeutic Activities (%)	100	90	75	90	100	90
Highest Education Attained	Post-Grad. Courses	College Graduate	Intern-ship	College Graduate	College Graduate	Intern-ship
ADA Membership	Yes	No	Yes	Yes	Yes	Yes
Qualifying Experience for ADA	3 Years	3 Year Student	Intern-ship	3 Years	3 Years	Intern-ship
Years Professional Experience	20	1	5	19	5	9
Years in Present Position	6	1	1	4	2	2
Sequence of Work Experience	Both-Ther.	1st Position	Ther.-Both	Both-Ther.	Admin.-Ther.	Ther.-Ther.
Continuing Education Hours	75	0	20	55	25	13
Years ADA Member	13	0	5	17	1	8
Age	55	23	27	46	27	31

<sup>1</sup>Highest contributing dietitians to decision-making in: determining admission diet = A,D; determining diet order change = A,E; providing diet instruction = B,C (from same hospital); attending medical rounds = A,F (F from same hospital as D).



hospital in which policy allowed dietitians routinely to instruct patients without a physician's order.

#### Biographical Data

Five of the six dietitians were therapeutic dietitians who spent 90 percent or more of their time in therapeutic activities; one was a chief dietitian who spent 75 percent of her time with therapeutic duties. All were members of the American Dietetic Association except for one who was in a three year supervised experience to qualify for ADA. Of particular note was that of the five dietitians who were ADA members, three had been in a three year supervised experience. These three dietitians plus the student dietitian represented four of the six contributing dietitians who qualified or are presently qualifying for ADA by three years experience. The remaining two dietitians had dietetic internships. Four of the dietitians had a combination of administrative and therapeutic dietetics in their present and previous work experiences. One dietitian was in her first position. Neither age nor number of years of professional experience seemed to be a contributing factor; age ranged from 23 to 55, and the years of professional experience ranged from one to twenty years. Continuing education hours ranged from 0 to 75 hours. Continuing education sought prior to registration was similar to that sought by the entire group. Most frequent were reading professional

journals and attending meetings to increase professional skills.

### California Psychological Inventory

The six most contributing dietitians were all higher than the average for all dietitians in dominance, capacity for status, sociability, social presence, and self-acceptance. They were frequently higher for responsibility, tolerance, communality, psychological-mindedness, but often lower in socialization, self-control and good impression. Similar traits included sense of well-being, achievement via conformance, achievement via independence, intellectual efficiency, flexibility, and femininity.

### Competences Needed by Dietitians on the Health Team

#### Dietitian's Proficiency in Competences

A list of competences that were hypothesized to be important for dietitians on the health team were rated by 26 dietitians. The dietitians' self-description of proficiency in the various competences is presented in Figure 8.

#### Importance of Competences

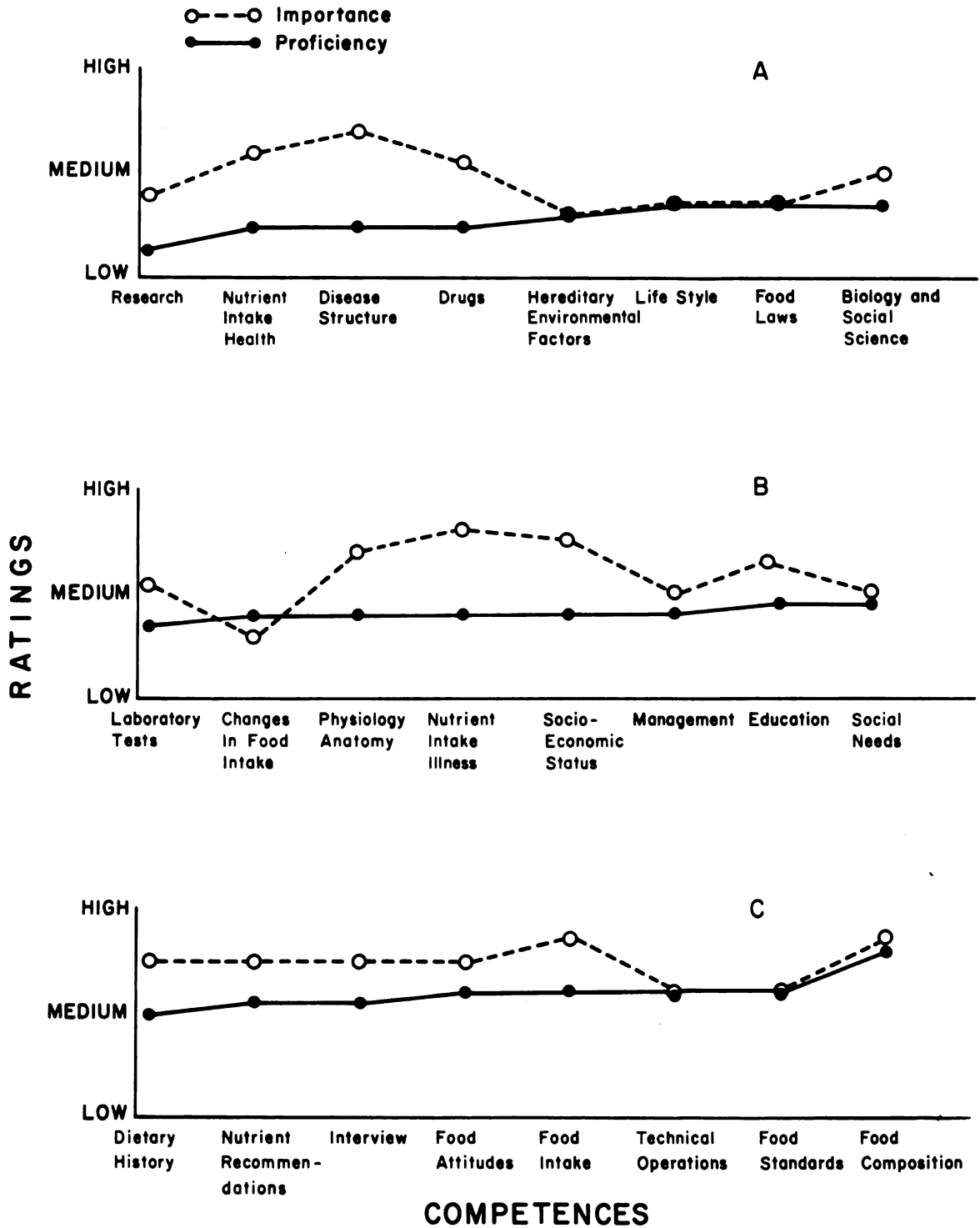
In addition to self-description of competences, dietitians rated the importance of these skills for a dietitian on the health team (Figure 8). The ordering of importance

Figure 8.--Comparison of dietitians' perceived proficiency (●—●) with importance (O---O) of competences for dietitians on the health team. Solid and dashed lines connect discrete variables. Ratings indicate relative proficiency and importance of competences, as rated by 26 dietitians. Proficiency ratings (●—●) of 24 competences were measured and divided into three equal groups from the lowest, (A) to the highest, (C).

Part A includes competences in which dietitians are least proficient: evaluates research findings in the sciences; understands relationship between nutrient intake, structure and function of the body at various stages of life; understands abnormalities in structure and function during disease; understands relation between food and drugs; recognizes relation between hereditary and environmental factors in structure and regulatory functions; recognizes life styles of groups and individuals; knows laws and regulatory agencies related to food quality and safety; integrates biological and social sciences into a comprehensive concept of human nutrition.

Part B includes competences in which dietitians are intermediate in proficiency: understands interpretation of laboratory data; analyzes physical and chemical changes in food during storage, preservation and preparation; understands structure, processes and functioning of various systems of the human body; understands relationship between nutrient intake, structure and function of the body during disease; uses knowledge of socio-economic, cultural and ethnic status in designing dietary plans; understands process of managing human, material and financial resources; understands principles of education; and understands social needs, attitudes, concerns and habits.

Part C includes competences in which dietitians are most proficient: knows methods of obtaining dietary histories; knows nutrient recommendations for individuals in various environments and stages of life; knows methods of interviewing patients; recognizes uniqueness and depth of food attitudes and habits; identifies changes in food intake necessary for treating disease; understands technical operations involved in production, distribution and service of food; knows food standards and factors affecting food quality; uses food composition knowledge in designing dietary plans.



of these competences begin with the least important: "heredity environmental factors", "change in food", "food laws", "life style", "research", "management", "social needs", "biology and social science", "drugs", "laboratory tests", "food standards", "nutrient intake health", "technical operation", "education", "disease structure", "physiology anatomy", "dietary history", "nutrient recommendations", "socio-economic status", "food attitudes", "interview", "nutrient intake illness", "food composition", and "food intake", with the latter being the most important.

#### Comparison of Proficiency and Importance of Competences

The ratings of importance of all competences for a dietitian on the health team were higher than the self-ratings of proficiency with six exceptions. Five competences were similar in rating of importance and self-proficiency: "technical operations", "food standards", "heredity environmental factors", "life style", and "food laws". The importance of analyzing chemical and physical changes in food during processing, etc., was rated lower than the self-proficiency, suggesting that a dietitian on the health team may not need as much background in this area of competence as dietitians presently have.

Generally, competences which dietitians rated as most important for dietitians on the health team were also those in which they were most proficient (Figure 8). Two

competences, "technical operations" and "food standards", were rated among the highest proficiencies, although their importance for health team dietitians was not as high as other competences in group C.

Wide discrepancies were noted between proficiency and importance of competences in Figures 8A and 8B, suggesting that certain competences in which dietitians perceived themselves as least competent were those which they considered most important for dietitians on the health team. Wide differences were observed for the following competences: "nutrient intake health", "disease structure", "drugs", "physiology anatomy", "nutrient intake illness", and "socio-economic status".

#### Differences Between Dietitians with an Internship and Dietitians with Three Years Supervised Experience

All competences listed in Figure 8 were evaluated to determine differences between dietitians with an internship and dietitians with three years supervised experience in relation to their self-perceptions of proficiency and importance of competences for health team dietitians.

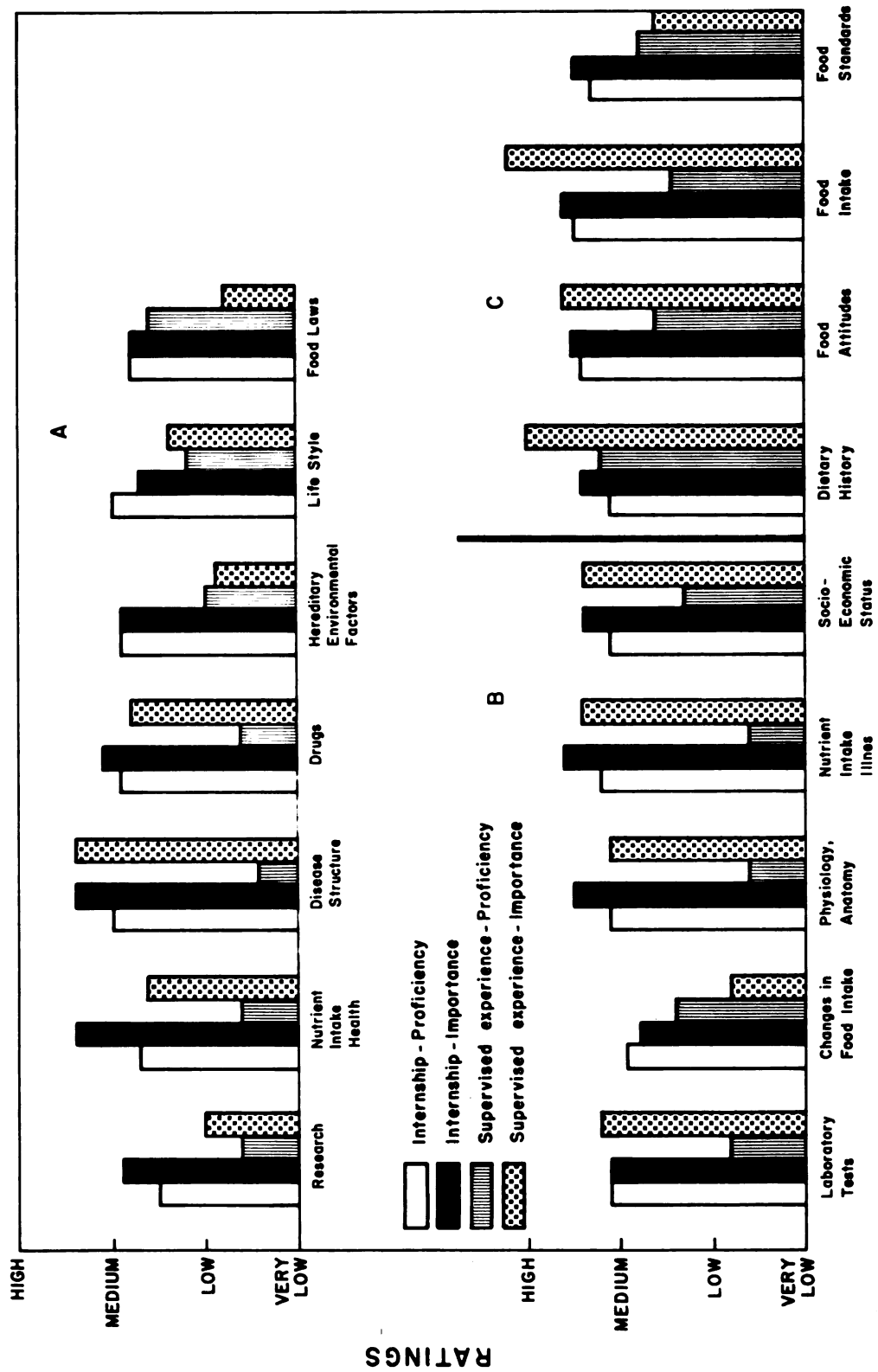
Figure 9 illustrates only competences for which there were statistical differences between dietitians with an internship and dietitians with three years supervised experience for either self-description or importance of these competences. Comparison of Figures 8 and 9 shows greater differences between these two groups of dietitians

Figure 9.--Comparison of dietitians with an internship or three years supervised experience in relation to their perceived proficiency and importance of competences for dietitians on the health team. Ratings indicate relative proficiency and importance of competences, as rated by 26 dietitians.

Part A includes competences in which the total group of dietitians are least proficient: evaluates research findings in the sciences; understands relationship between nutrient intake, structure and function of the body at various stages of life; understands abnormalities in structure and function during disease; understands relation between food and drugs; recognizes relation between hereditary and environmental factors in structure and regulatory functions; recognizes life styles of groups and individuals; knows laws and regulatory agencies related to food quality and safety.

Part B includes competences in which the total group of dietitians were intermediate in proficiency: understands interpretation of laboratory data; analyzes physical and chemical changes in food during storage, preservation and preparation; understands structure, processes and functioning of various systems of the human body; understands relationship between nutrient intake, structure and function of the body during disease; uses knowledge of socio-economic, cultural and ethnic status in designing dietary plans.

Part C includes competences in which the total group of dietitians were most proficient: knows methods of obtaining dietary histories; recognizes uniqueness and depth of food attitudes and habits; identifies changes in food intake necessary for treating disease; and knows food standards and factors affecting food quality.





in skills which dietitians self-rated themselves as least competent (Figure 8A) than for skills in which they were more competent (Figures 8B and 8C). Except for "dietary history", dietitians with an internship rated themselves more proficient than dietitians with three years supervised experience.

In rating the importance of competences, dietitians with an internship rated "heredity environmental factors", "food laws", and "changes in food" higher in importance than the dietitian who had three years supervised experience.

Comparisons between self-description and importance of a competence for a dietitian on the health team show that frequently there were greater differences for dietitians with three years supervised experience than dietitians with an internship.

### Dietitians' Responsibilities

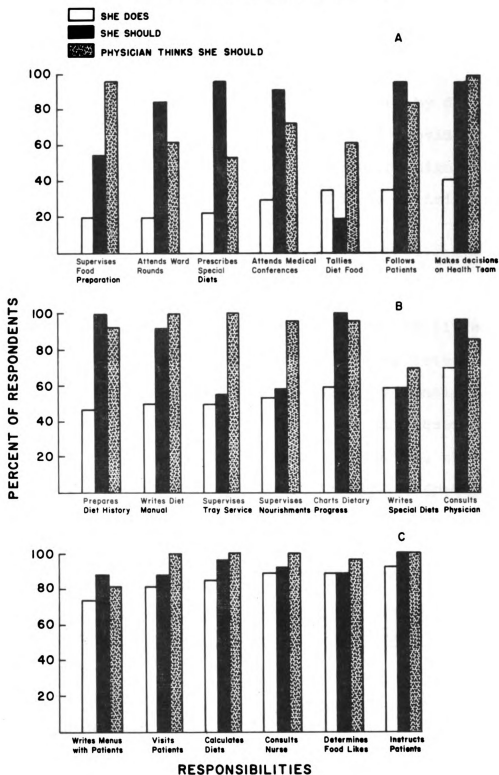
Dietitians reported current responsibilities which they presently do; these were compared with duties for which they should be responsible and their perceptions of whether physicians would assign these responsibilities to dietitians.

#### Current Responsibilities of Dietitians

Responsibilities are arranged in Figure 10 in order of the percentage of respondents who perform these duties. The seven responsibilities least often performed by dietitians are presented in Figure 10. Three of these seven duties,

Figure 10.--Dietitian's perception of her responsibilities. Responsibilities include those she does, thinks she should do, and those she perceives the physician feels she should do. Responsibilities were grouped according to the percent of 26 dietitians who presently (white bar) perform the responsibilities from the smallest percent, (A) to the largest, (C).

# DIETITIANS' PERCEPTIONS OF HER RESPONSIBILITIES



attending ward rounds, prescribing diets, and making decisions on the health team further reflected the small contribution made by dietitians to selected activities in decision-making on the health team, discussed in a previous section.

The six duties most frequently performed by dietitians appear in Figure 10. The responsibility of providing dietary instruction supported earlier findings of the high contribution dietitians made in diet instruction to decision-making on the health team.

#### Dietitians Who Feel They Should Be Responsible for Duties

Dietitians stated which of these responsibilities they should perform. There was little discrepancy between the actual and ideal duties for the six most frequently performed (Figure 10). Greater differences were observed for several responsibilities in Figures 10A and 10B, which represented the lower two-thirds of percentage frequency in activity.

#### Dietitian's Perception of Whether Physicians Would Assign Responsibility to Dietitian

Dietitians also described their perceptions of what they thought physicians felt they should do. Again, little difference was noted for the six most frequently performed duties. In certain duties generally related to kitchen operations, the dietitian perceived physicians as believing

the dietitian should perform these duties much more frequently than she does or thinks she should do; these included supervising food preparation, tallying food services, supervising tray service and nourishments. For other duties dietitians described the physicians' thoughts and their own thoughts similarly with regard to the dietitians ideally doing the job; these responsibilities included: making decisions on the health team, preparing diet histories, writing the diet manual, charting dietary progress, and writing special diets.

#### Responsibilities and Qualifying Experience for ADA Membership

Eighty percent of the dietitians with an internship experience believed physicians felt dietitians should prescribe diets, but only 40 percent of the dietitians who followed a three year program agreed to this belief.

#### Part B. Physicians' Study

Of the 130 questionnaires sent to physicians, 91 were returned; 54 came from physicians who had been nominated by dietitians, and 37, from those selected randomly.

#### Description of Physicians

Eighty-two physicians returning the questionnaire were either full-time general practitioners or practiced a specialty full-time (Table 22).

TABLE 22.--Return response of nominated and randomly selected physicians in relation to their type of practice.

Type of Practice	M.D.'s Nominated <sup>1</sup>		M.D.'s Randomly Selected <sup>2</sup>		Total M.D.'s	
	Con-tacted	Re-sponded	Con-tacted	Re-sponded	Con-tacted	Re-sponded
Full-time GP or Full-time Specialty	58	49	55	34	113	83
GP With Some Specialty Practice	1	1	5	2	6	3
Intern	0	0	0	0	0	0
Resident or Fellow	1	1	2	1	3	2
Other Full-time Staff in Hospital Service	1	0	1	0	2	0
Full-time Medical School Faculty	0	0	1	0	1	0
Administra-tive Medicine	1	1	1	1	2	2
Not Listed	3	2	0	0	3	2
TOTAL	65	54	65	38	130	92

<sup>1</sup>During interview of dietitian.

<sup>2</sup>From American Medical Directory.

A large portion of physicians nominated by dietitians had a primary specialty of internal medicine (Table 23). Next most frequently occurring was the general surgery group and general practitioners. These were also the three largest areas in the group selected randomly.

Of the 130 physicians contacted, 97 did not have a secondary specialty. The 20 physicians nominated by the dietitian that had a secondary specialty listed cardiovascular disease or internal medicine most frequently. Thirteen randomly selected physicians most often listed cardiovascular disease or general surgery as their secondary specialty.

#### Use of Diet Therapy

Sixty of the 92 physicians returning the questionnaire stated they used diet therapy routinely as part of total patient care (Table 24).

#### Preferred Method for Ordering Diet Changes

Physicians were asked the method they preferred for ordering diet changes on the assumption that an "ideal" dietitian (Table 25) was accessible. Twenty-seven thought the dietitian could modify the doctors' diet change. Twenty-two said the dietitian should make the diet change.

TABLE 23.--Number of physicians responding to questionnaire in relationship to primary specialization.

Primary Specialty	M.D.'s Nominated <sup>1</sup>		M.D.'s Randomly Selected <sup>2</sup>		Total M.D.'s	
	Con- tacted	Re- sponded	Con- tacted	Re- sponded	Con- tacted	Re- sponded
Allergy	4	4			4	4
Cardiovascular Disease	2	2			2	2
Colon & Rectal Surgery	2	2			2	2
General Practice	6	5	18	11	24	16
General Surgery	11	6	11	7	22	13
Internal Medicine	27	24	15	9	42	33
Neurological Surgery	1	0			1	0
Neurology			1	0	1	0
Obstetrics & Gynecology			5	5	5	5
Orthopedic Surgery	2	2	10	4	12	6
Pathology	1	1			1	1
Pediatrics	3	3			3	3
Radiology	1	1			1	1
Thoracic Surgery	1	1	1	0	2	1
Urology			3	1	3	1
Unspecified (retired, not in practice, not specified)			1	1	1	1
Other	2	1			2	1
Not Listed	2	2			2	2
TOTAL	65	54	65	38	130	92

<sup>1</sup>During interview of dietitian.<sup>2</sup>From American Medical Directory.



TABLE 24.--Use of diet therapy as part of total patient care by 72 physicians.<sup>1</sup>

	Number	Percent of Total
Physician Uses Routinely	60	83
Physician Uses Sometimes	4	6
Physician Does Not Use	8	11

<sup>1</sup>Twenty physicians did not respond to this question.

TABLE 25.--Eighty-one physicians' preferred procedure for ordering diet changes if an "ideal" dietitian were accessible.<sup>1</sup>

Diet Changes Made By:	Number	Percent of Total
Physician	11	14
Physician, upon Consultation with Dietitian	19	23
Physician, with Dietitian Modifying Diet Subject to Approval by Physician	27	33
Dietitian, with Approval from Physician	22	27
Other	2	3

<sup>1</sup>Eleven physicians did not respond to this question.

#### Competences for "Ideal" Dietitian

Competences of the "ideal" dietitian who participates in ordering diets the way physicians suggested were rated by all physicians (Table 26). The most important competences included: "utilizes food composition knowledge", "utilizes nutrient recommendations", "assures patients' satisfaction", "uses communication skills", "understands

TABLE 26.--Physicians' ratings of importance (very important, somewhat important, of little importance) of certain competences for the dietitian.

Utilizes knowledge of	M.D.'s Nominated <sup>1</sup>	M.D.'s Selected Randomly <sup>2</sup>	Total M.D.'s	Significance <sup>3</sup>
<u>Numerical Rating of Importance<sup>4</sup></u>				
Nutrient Recommendations	2.61 ± .76 <sup>5</sup>	2.39 ± 1.17	2.52 ± .95	N.S.
Food Composition	2.63 ± .76	2.39 ± 1.17	2.53 ± .95	N.S.
Socio-Economic Status	2.44 ± .79	2.13 ± 1.17	2.32 ± .97	N.S.
Diet History	2.50 ± .82	2.03 ± 1.15	2.30 ± .99	*
Communication	2.63 ± .85	2.18 ± 1.20	2.45 ± 1.03	*
Physiology and Anatomy	2.24 ± .82	1.97 ± 1.22	2.13 ± 1.01	N.S.
Heredity/Environment	1.93 ± .82	1.61 ± 1.15	1.79 ± .98	N.S.
Food Intake in Disease	2.46 ± .84	2.05 ± 1.23	2.29 ± 1.03	Tr.
Nutrition and Drug Therapy	2.11 ± .86	1.61 ± 1.13	1.90 ± 1.01	*
Abnormal Data for Diet Changes	2.44 ± .84	1.87 ± 1.19	2.21 ± 1.03	**
Research Findings	2.00 ± 1.06	1.89 ± 1.16	1.96 ± 1.10	N.S.
Goals of Health Team Members	2.61 ± .83	2.13 ± 1.26	2.41 ± 1.05	*
Manages Resources	2.17 ± 1.00	1.97 ± 1.20	2.09 ± 1.09	N.S.
Processes Affecting Food	2.41 ± .86	2.18 ± 1.25	2.32 ± 1.04	N.S.

TABLE 26.--Continued.

Utilizes knowl- edge of	M.D.'s Nominated <sup>1</sup>	M.D.'s Selected Randomly <sup>2</sup>	Total M.D.'s	Signif- icance <sup>3</sup>
Food Laws	2.19 ± .93	1.87 ± 1.19	2.05 ± 1.05	N.S.
Food Service	2.26 ± .94	2.05 ± 1.23	2.17 ± 1.07	N.S.
Assuring Patient's Satisfaction	2.63 ± .81	2.21 ± 1.28	2.46 ± 1.04	Tr.
Number of Respondents	54	38	92	

<sup>1</sup>By dietitian during interview.

<sup>2</sup>From American Medical Directory.

<sup>3</sup>Based on F-test value: \*\*  $P \leq 0.01$ ; \*  $0.01 < P \leq 0.05$ ; Tr.  $0.05 < P \leq 0.10$ ; N.S. = non-significant.

<sup>4</sup>Average of the following responses: 3 = Very Important; 2 = Somewhat Important; 1 = Of Little Importance.

<sup>5</sup>Standard deviation.

goals of health team", and "understands effects of food processing". The least important were "manages resources", "knows food laws", "applies research findings", "modifies food intake in disease", and "understands heredity and environmental factors".

Physicians nominated by dietitians rated the competences "uses communication skills", "understands goals of health team", "obtains diet history", "applies abnormal data to diet changes", and "modifies food intake in disease" more important than physicians randomly selected.

#### Competences and Use of Diet Therapy

The use of diet therapy by the physicians as a part of total patient care seemed to be related to several of the competences which physicians rated for dietitians (Table 27). Significant differences were noted for "nutrient recommendations", "food composition", "communications", "heredity and environmental factors", "food intake in disease", "goals of health team", and "effects of food processing". In all cases physicians who used diet therapy routinely rated the competences as more important than physicians who did not use diet therapy. The physicians who sometimes used diet therapy usually rated the competences higher than those who routinely used diet therapy, except for "communication", "food intake in disease", and "manages resources".

TABLE 27.--Importance ratings by physicians of "ideal" dietitian's competences in relationship to physicians' use of diet therapy as part of total patient care.

Utilizes Knowl- edge of	Uses Diet Therapy			Significance <sup>1</sup>
	Yes	Sometimes	No	
<u>Numerical Rating of Importance<sup>2</sup></u>				
Nutrient Recommendations	2.83 ± .38 <sup>3</sup>	3.00 .00	2.22 1.30	**
Food Composition	2.82 ± .39	3.00 .00	2.00 1.22	**
Socio-Economic Status	2.55 ± .59	2.75 .50	2.22 1.30	N.S.
Diet History	2.59 ± .55	2.50 .58	2.11 1.36	N.S.
Communications	2.82 ± .49	2.50 .58	2.11 1.27	**
Physiology and Anatomy	2.38 ± .74	3.00 .00	2.11 1.27	N.S.
Heredity/ Environment	2.00 ± .76	2.50 1.00	1.33 1.12	*
Food Intake in Disease	2.65 ± .67	2.50 .58	1.78 1.09	**
Nutrition and Drug Therapy	2.12 ± .81	2.25 .50	1.44 1.13	Tr.
Abnormal Data for Diet Changes	2.47 ± .68	2.75 .50	1.89 1.45	Tr.
Research Findings	2.26 ± .97	2.25 .50	1.56 1.01	N.S.
Goals of Health Team Members	2.68 ± .71	2.75 .50	2.00 1.22	*
Resource Management	2.30 ± .88	2.25 .96	1.56 1.13	Tr.
Processes Affecting Food	2.59 + .68	3.00 .82	1.44 1.13	**

TABLE 27.--Continued.

Utilizes knowl- edge of	Uses Diet Therapy			Significance <sup>1</sup>
	Yes	Sometimes	No	
Food Laws	2.32 ± .81	2.25 .96	1.67 1.12	N.S.
Food Service	2.45 ± .79	2.50 .58	1.67 1.22	*
Assuring Patient's Satisfaction	2.76 ± .56	2.75 .50	1.56 1.42	**
Number of Respondents	66	4	9	

<sup>1</sup>Based on F-test value: \*\*  $P \leq 0.01$ ; \*  $0.01 < P \leq 0.05$ ; Tr.  $0.05 < P \leq 0.10$ ; N.S. = non-significant.

<sup>2</sup>Average of the following responses: 3 = Very Important; 2 = Somewhat Important; 1 = Of Little Importance.

<sup>3</sup>Standard deviation.

## Competences and Diet Order Changes

The method preferred for changing the patient's diet order after admission did not reflect the physician's rating of competences important for "ideal" dietitians who would participate as the physician had indicated. The two exceptions included "obtains diet history", which is rated most important by physicians who feel the doctor should order the diet, with modifications by the dietitian. The lowest rating of importance was by the group of physicians who felt that the doctor should order the diet after consulting with the dietitian. Physicians who felt diet orders should be made by the doctor with no interaction with the dietitian rated the competence "manages resources" highest of all groups; lowest was the group who stated that dietitians should be consulted prior to the physicians' ordering a change in diet.

## Physicians' Comments

In addition to objective sections of the questionnaire, 35 physicians provided additional comments. The following comments summarize comments made by physicians.

Dietitians must be aggressive, involved and encouraging in their institutions.

I feel today's dietitian is nothing more than a high class cook. The future dietitian will be more of a chemist and physiologist. Instead of using terms such as carbohydrate, fat, protein, it will be necessary to be more specific in use of such terms as amino acids, linolenic acid, fructose and sucrose.

I feel that the more opportunity the dietitian has to work with the individual patient, the more influence that good diet will have on constructive patient management.

Dietitians should practice more common sense.

I regularly invite the hospital dietitians to take part in weekly clinical conferences where all aspects of cancer patient care is reviewed. The dietitians make good use of and contribute well to this conference.

Dietitians should be available for clinical rounds and should be a part of all teaching rounds as well.

Good communications among all members of the therapeutic team is vital.

We need further work on standardization of diet nomenclature.

Dietitians should, above all else, see to it that food is prepared and served in a palatable fashion.

Too few dietitians seem to understand what the doctor is trying to achieve. There should be more clinical orientation so that the dietitians can intelligently review a chart.

I feel the dietitian is an important member of the health team with much to contribute in consultation with other team members in delivering nutritional therapy and maintenance.

### Discussion and Summary

The stated purposes of this research were:

1. to determine the present and ideal role of hospital dietitians;
2. to determine skills and competences which dietitians need to function as a contributing health team member; and



3. to elucidate characteristics of successful dietitians who contribute to care of the patient.

The following discussion is presented on the premise that the above stated purposes are not separate entities and unrelated to each other. Identifying general and specific roles of hospital dietitians helps to determine competences that are needed by dietitians to fulfill these roles and responsibilities. Elucidating characteristics of dietitians who are successful contributors to health team care of patients may suggest other characteristics, in addition to skills and competences, which may be important for dietitians on the health team.

#### Roles of Hospital Dietitians

Disagreement between present and ideal roles was evident when five groups of participants were asked to describe the function of the dietary department in Phase I. Not only did the groups of hospital administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians view the ideal function differently, but present function was also conflicting. Hospital administrators were most optimistic in their description of the dietary department being at a decision-making level on the health team; chiefs of staff were least optimistic. The low percentage of chiefs of staff who felt that dietary departments should be at a decision-making level possibly reflects the

physician's typical reaction of not wanting to relinquish authority. It may further exemplify his present opinion of the limited contributions a dietary department makes to the care of the patient; or it may be the chiefs' of staff genuine lack of information about the potential contribution of the dietitian. Chiefs of staff may not be representative of all physicians, but the authority of their position may influence contributions a dietary department would be allowed to make by determining hospital dietary policies. The directors' of nursing enthusiastic support of greater participation by the dietary department in health team decision-making contradicted observation by Burling et al. of conflict between the nursing and dietary staff.<sup>1</sup> The director of nursing may visualize an increased participation of the dietary department in decision-making as a change in hospital policy which could enhance the level of responsibility in her area of nursing. Since the questionnaire asked about the dietary department rather than the dietitian, implications for the dietitian's role in decision-making are limited to the extent to which dietitians represent to other team members the dietary department; in most hospitals, dietitians are the primary professional spokesmen to other health professions for the dietary department, even if they are not heads of the departments.

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<sup>1</sup>Burling et al., op. cit.

Dietitians stated conflict between the actual and ideal role of the dietary department to such an extent that one speculates that their individual present roles contradicted their perception of an ideal role for a dietitian.

In Phase I dietitians differentiated between responsibilities which required their unique competences and those which should be performed by someone else. Generally dietitians felt that therapeutic activities such as determining dietary histories should be performed by them; administrative activities such as supervising tray service should be performed by someone else.

In Phase II, dietitians rated several responsibilities which they performed and which they felt they should perform. There were certain responsibilities which, with little doubt, belonged to the dietitian, according to both dietitians in Phase II and chiefs of staff from Phase I. These duties include writing menus with patients, determining food likes, and instructing patients; these were presently being performed by the dietitian. The high contribution by dietitians to making decisions for diet instruction reinforces the fact that diet instruction is apparently a responsibility that has been delegated to the dietitian. Physicians' comments in Phase II also emphasize the function of dietary instruction for dietitians.

Some duties, which the dietitians are and feel they should be doing, but were not listed in the chief's of

staff questionnaire, are visiting patients, calculating special diets, and consulting the nurse regarding dietary problems.

There were several duties for which dietitians in Phase II felt they should be more responsible than they are presently: supervising food preparation, attending ward rounds, prescribing special diets, attending medical conferences, following patients upon release from the hospital, making decisions on the health team, preparing dietary histories, writing the dietary manual, charting dietary progress, and consulting the physician. Except for the first responsibility listed, these duties are patient-oriented. Their perceptions of the physicians' assignment of these duties suggest that physicians are not as enthusiastic in assigning these duties to dietitians as dietitians think they should be, especially for duties related directly to patient care. However, evaluation of job assignments by chiefs of staff in Phase I showed that chiefs of staff assigned these duties to dietitians, except for attending ward rounds and charting dietary progress, much more frequently than what dietitians believed they would. Frequently the chief of staff did not assign the responsibility to the "dietitian alone", but involved the dietitian with other health personnel in fulfilling the responsibility. Carroll noted that status cannot be demanded; it must be earned by performance, and dietitians,

members of a young profession compared to professions of law, theology, and medicine, are often impatient for recognition.<sup>1</sup>

General agreement on how diets should be ordered was noted among chiefs of staff, and dietitians in Phase I, in that both groups of respondents felt the doctor should make the diet order, subsequent to consultation with the dietitian. Physicians in Phase II most often stated that diet order changes should be made by the physician with modifications made by the "ideal" dietitian. The next preference was that diet order changes be made by dietitians.

Dietitians easily and readily nominated physicians whom they described as having a positive attitude towards dietitians' contribution to health team care. However, physicians whom dietitians perceived as having negative attitudes were few. Hesitation may be attributed to: 1) the dietitian's not wishing to be negative; 2) there were not many physicians with negative attitudes towards dietitians; or 3) lack of contact with the vast majority of physicians. As a consequence, the dietitian would not know many of the physicians on the staff well enough to identify their attitudes towards dietitians participating on the health team.

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<sup>1</sup>S. C. Carroll, 1959, Status of dietitians in the hospital, J. Amer. Dietet. Assoc., 35:1027-1031.

Dietitians selected three groups of physicians most frequently: general practitioners, general surgeons, and internal medicine specialists; however, these were also the most frequently occurring M.D.'s in the random list. The few physicians receiving negative nominations were frequently those whose specialty, such as allergy or colon and rectal disease, may reflect unappetizing diets which these physicians often ordered for treatment in their specialty. Patients may have expressed dissatisfaction to the physician, who projected negative feelings towards the dietitian.

#### Competences Needed by Dietitians

In Phase II dietitians rated themselves highly proficient in "diet history", "nutrient recommendations", "interview", "food attitudes", "food intake", "technical operations", "food standards", and "food composition". Importance of competences for dietitians on the health team was highest for the above competences excluding "technical operations" and "food standards", and including the additional competences of an "understanding of dietary modifications during illness", and "knowledge of social and cultural factors".

Physicians rated the following competences most important for the "ideal" dietitian: "utilizes food composition knowledge", "utilizes nutrient recommendations", "assures

the patient's satisfaction", "uses communication skills", "understands goals of health team", and "understands effects of food processing".

Different procedures preferred by physicians in ordering diets did not reflect different ratings of competences.

A factor which made a difference on physicians' rating of competences was whether physicians had been nominated by the dietitian or selected randomly. Frequently competences were rated of higher importance by nominated physicians than by those selected randomly. In addition, physicians who routinely used diet therapy rated several competences higher in importance than those who did not routinely use diet therapy.

The previous experience of dietitians in Phase II supports the actuality of a general education combining both administrative and therapeutic dietetics, since most dietitians not in their first position had dual work experience. This was cited as an advantage of general education for dietitians<sup>1</sup> although Mayer questioned how a dietitian can be both a generalist and specialist with specialized services to offer.<sup>2</sup>

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<sup>1</sup>C. Florencio and D. Cederquist, op. cit.

<sup>2</sup>J. Mayer, op. cit.

Characteristics of Successful Dietitians  
Who Contribute to Decision-Making on  
the Health Team

The outstanding characteristic of the six most successful dietitians as measured by contribution of dietitians to decision-making in certain activities on the health team was that four of the six dietitians had qualified or were presently qualifying for ADA membership by the three year pre-planned experience program. Perhaps these dietitians have felt need to "prove" themselves, since prestige is usually placed on the dietetic internship. The supervising dietitians in the case of these four dietitians might have been influential in developing the dietitians' abilities to contribute on the health team. A third alternative would be that the dietitian must have had endurance and a strong desire to be an ADA member by completing the three-year program.

There was great variation in ages, number of continuing education hours attained, and previous work experience.

It was hypothesized that there would be distinct differences in personality characteristics between the successful group and the remaining dietitians. Ross stated that dietitians must be educated for:

adaptability, flexibility, creativity, self-reliance, resourcefulness, steadfastness to human values, intercultural understanding, and a concern for the common good.<sup>1</sup>

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<sup>1</sup>M. L. Ross, 1970, The long view, J. Amer. Dietet. Assoc., 56:295-298.



However, no sharp differences were noted in any of the eighteen personality characteristics.

One of the limitations of this study was that hospital policies unique to one hospital might restrict the dietitian's activities. Without altering her personal characteristics, a dietitian might contribute either more or less to decision-making on the health team if she were in another hospital. Supportive of this is that two of the 11 hospitals in Phase II each had two of the six dietitians who were most successful in contributing to decision-making on the health team. One of these hospitals allowed dietitians to provide routine dietary instructions without a physician's order; two of the four dietitians from this hospital were most contributing to decision-making for dietary instruction. Specific policies which might influence the dietitian's contribution in other hospitals with "successful" dietitians were not identified.

The doctors' willingness, at least on paper, to relinquish some authority to dietitians in prescribing diet changes raises the question of what conditions would be necessary before this would occur in actuality since competences of the "ideal" dietitian were not significantly different among groups of physicians who suggested different levels of participation by the dietitian.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Because of rising demands in health delivery systems, all health professionals have been challenged to evaluate their contributions and determine how utilization of all health professions can be most efficient and effective.

A facet of this challenge for the dietetic profession is to determine the contribution hospital dietitians make to the health team care of the patient. Although an ideal role has often been suggested in which interaction among the dietitian, physician, nurse, and other health professionals occurs frequently and freely with an exchange of ideas, the ideal role is rarely actuated. As Darley noted, the rank and file physicians and hospitals have apparently not been convinced of the contributions health workers could make if given more authority or included in the total health services given by the physician to the patient.<sup>1</sup>

For the above reasons, this study was conducted to determine the present and ideal role of hospital dietitians; to elucidate characteristics of successful dietitians who

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<sup>1</sup>Darley, op. cit.

contribute to health care of the patient; and to determine skills and competences which the dietitians need to function as a contributing health team member.

The first phase included an evaluation of the actual and ideal function of the dietary department by hospital administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians. Chiefs of staff and dietitians further evaluated specific roles and responsibilities of hospital dietitians.

The second phase included an interview with dietitians from selected hospitals to evaluate the influence dietitians had on the health care team in relation to personal background characteristics. Dietitians were also asked specific questions about their educational preparation. Physicians were contacted by a questionnaire to determine their feelings about decision-making delegated to the dietitian and competences which dietitians need.

### Conclusions

Based on responses given by participants, the following conclusions are related to the three stated objectives of this study.

Present and Ideal Role of  
Hospital Dietitians

1. The present and ideal functions of the dietary department were viewed differently by the administrators, chiefs of staff, directors of nursing, dietary department heads, and dietitians. Administrators were most optimistic in their description of the dietary department as a decision-maker on the health team; chiefs of staff were least optimistic. All groups, except chiefs of staff endorsed the idea that the dietary department should be at a decision-making level.
2. Dietitians felt they should perform patient-oriented activities such as determining patient dietary histories and not kitchen operations such as supervising food preparation.
3. Responsibilities established as belonging to the dietitian include writing menus with patients, determining food likes, instructing patients, visiting patients, calculating special diets, and consulting the nurse regarding dietary problems.
4. Responsibilities for which the dietitian feels she should become more involved include attending ward rounds, prescribing special diets, attending medical conferences, following patients on special diets after release from the hospital, making decisions on the health team, preparing dietary histories, writing the



diet manual, charting dietary progress, writing special diets, and consulting with the physician.

5. Chiefs of staff felt dietitians should supervise food preparation and tray service, record dietary progress, and prepare dietary histories more than they do. Dietitians and doctors should instruct patients regarding their diet, and dietitians, doctors, and nurses should attend interdepartmental conferences and prepare the dietary manual together.
6. Given the conditions of an "ideal" dietitian, physicians most often said they felt diet changes should be made by physicians, with modification by the dietitian.

#### Competences Needed by Health Team Dietitians

1. Competences rated most important by the physician for the "ideal" dietitian include knowledge of food composition, nutrient recommendations, assuring patient's satisfaction, communication, goals of health team, and knowledge of effects of food processing.
2. Dietitians rated themselves highly proficient in knowledge of obtaining diet history and interviews, nutrient recommendations, food attitudes, food intake, technical operations of the kitchen, food standards, and food composition. All of the above competences were rated important for dietitians on the health team except for

- technical operations and food standards. Additional competences include an understanding of dietary modifications during illness and social and cultural factors.
3. Dietitians felt there was inadequate integration of theory and application, especially in nutrition and diet therapy.
  4. Dietitians felt inadequately prepared in the specific areas of diet therapy and communication skills; they felt that more medical and biological sciences and social and behavioral sciences were necessary.
  5. There was a definite polarity between the importance of courses for therapeutic specialists and administrative specialists. Dietitians in Phase II felt that dietitians do not need to be equally trained in both administrative and therapeutic dietetics.
  6. Although hospital administrators felt dietitians should have more administrative courses, they believed that hospital dietetics of the future would have more emphasis on therapeutic dietetics.

Characteristics of Dietitians Who Contribute  
to Decision-Making on the Health Team

1. Of the four activities in which dietitians' contributions to decision-making on the health team were measured, contribution to dietary instruction was much

greater than ordering diets at admission, ordering diet changes, and attending medical rounds.

2. Neither age, number of continuing education hours, nor distinct differences in personality characteristics seemed to be related to the contribution made by dietitians to health team care, measured by the Health Team Contribution Index. Four of the six most successful dietitians had or were presently participating in a three year supervised program in contrast to two dietitians who had a dietetic internship. Four of the six had worked in both administrative and therapeutic dietetics.

### Recommendations

The following recommendations are based on conclusions of this study. Integration among the three objectives is reflected in relating dietitians' roles and characteristics of successful health team dietitians to competences needed by dietitians who function as contributing members of the health team.

### Present and Ideal Role of Hospital Dietitians

1. Disagreement among health personnel's descriptions of present and ideal roles of hospital dietary departments and dietitians is evidence of a need for better



understanding of the contribution dietetics could make at present and in the future.

Utilizing dietitians' comments and suggestions from the literature, clarification of the roles of dietitians and dietary departments should occur during the professional's formal education. Ideally, students from several fields, including dietetics, would together participate in identifying the contributions of their specialties. In addition to clarifying the function of dietitians, this procedure might instill better cooperation among health team members.

The ideal role of the dietary department suggests goals for the dietetic program. Most professionals felt dietary departments should be at a decision-making level on the health team. Dietetic curricula should provide appropriate education so that dietitians can be leaders in their departments.

Since physicians were especially reluctant to describe the ideal dietary department as a contributing decision-maker to health team care, special attention could be given to the "art of delegation" in medical schools.

2. Dietitians' education should prepare them to perform responsibilities well, assuming the responsibilities require their professional expertise. Present responsibilities which she feels she should do include:

writing menus with patients; determining food likes; instructing patients; visiting patients; calculating special diets; and consulting the nurse regarding patients' dietary problems.

In addition to present responsibilities, dietetic curricula should emphasize duties which the dietitian feels she should do, but presently does not. These include: following-up patients with special diets upon release from the hospital; making decisions on the health team; preparing dietary histories; writing the diet manual, charting dietary progress, writing special diets, and consulting with the physician. This recommendation assumes that, if a dietitian can demonstrate great competences, she may achieve the recognition that she seeks.

#### Competences Needed by Health Team Dietitians

1. Specific competences which have been rated as important for dietitians by physicians and dietitians and should be emphasized in a dietetic curriculum include: knowledge of food composition; knowledge of nutrient recommendations; ability to assure patient's satisfaction; communication skills; knowledge of health team goals; knowledge of effects of processing on food; ability to obtain dietary histories and interviews; understanding food attitudes, and making needed changes in food intake.

Emphasis should be given to competences in which dietitians are not as proficient as they should be to contribute to the health team. These include understanding relationships between disease and structure, knowledge of nutrient intake in illness and health, socio-economic considerations, physiology, anatomy, and relationship between nutrients and drugs.

2. Based on dietitians' comments the dietetic program should integrate formal classroom instruction with practical experience rather than following the traditional plan of four years of didactics followed by a fifth year of experience in the internship. Diet therapy should occur earlier in the curriculum so that greater integration with subsequent courses is possible.

Two areas of knowledge should be more emphasized in the program. Diet therapy should be more comprehensive, with greater inclusion of disease and its relationship to diet. The second area, development of communication skills, is very important but presently lacking. Opportunity to practice the learned skill could occur in other classes or in suitable settings during field experience. Communication skills should enable dietitians to communicate with many groups of people, including employees and physicians. Communication skills should also enhance teaching skills.

4. Dietitians' evaluations of their education and the demands of their present positions suggest that the following areas of preparation should form the basis of the program for hospital dietitians, primarily in the area of therapeutics.

- A. Experiences which contribute to an understanding of the physical and biological sciences.

The purposes of such preparation would be to provide dietitians with an understanding of basic principles which can be related to nutrition and food.

Courses providing such understandings include: inorganic and organic chemistry, biochemistry, physiology, and anatomy.

- B. Experiences which contribute to an understanding of the social and behavioral sciences.

The purposes of such background would be to provide dietitians with an understanding of basic principles of these sciences which can be related to dietary needs such as trying to understand the patient as a whole individual, trying to establish rapport with the patient, and teaching. Further, ability to motivate other people and effect changes might be useful in establishing better relations with other health professionals.

Courses providing such background may be titled: communication, psychology, sociology, education--including adult education.

- C. Experiences which provide the dietitians with strong competences in understanding nutritional needs of the healthy and the ill.

Provided with an understanding of physical, biological, and social sciences, dietitians should be able to integrate all facets of individual's social and physiological needs into a comprehensive program of dietary care. High competences in this area should also encourage greater self-confidence when working with the patient and physician.

Courses providing such understanding are often titled: human nutrition, diet therapy, patterns of food selection, food composition, cultural and social aspects of food, and readings and research in nutrition and diet therapy. The area of pharmacology would aid the dietitian in understanding interaction between nutrients and drugs, and knowledge of normal and abnormal physiological levels would help the dietitian understand needs of the patient.

- D. Experiences which provide the dietitian with an acquaintance of technical kitchen operations.

This background would enable the therapeutic dietitian to understand administrative components of the dietary department.

A course providing such background is an introductory course to food service systems.

E. Experiences which provide the dietitian with ability to manage people, time, money, and other resources. Such experiences would allow the dietitian to assume a leadership role either among her colleagues, subordinates such as dietary technicians, the entire dietary department, or even at higher administrative levels in the hospital.

Areas dealing with this aspect include: personnel management, economics, management of resources, business, cost analysis and systems analysis.

F. Experiences which contribute to an understanding of the unique contributions dietitians make to the health team and contributions made by other health team members.

Such experience might lead to implementation of cooperation and sharing among health team members.

Experiences might include common "core" courses, perhaps involving the physical, biological, and sociological courses. In addition, student health teams should

practice together, so that each can observe the other and clarify the contribution of each profession.

Characteristics of Dietitians Who  
Contribute to Decision-Making  
on the Health Team

1. The small contribution dietitians make in ordering admission diets, ordering diet changes, and participating in medical rounds reinforces the need for providing more team work during student preparation and providing dietitians with competences and self-confidence to contribute at a decision-making level on the health team.
2. A standardized personality evaluation could be developed to provide useful information in counseling and selection of prospective dietitians on the basis of profiles established by successful dietitians.
3. Since the extent of contribution to decision-making on the health team was not apparently related to personal characteristics investigated in this study, pursuit of other factors, such as role relationships, is recommended.

Reflections

Upon reviewing this study, several thoughts emerge which require reflection. Although not based on the research data, these ideas were gained during the process of

designing the study, developing the instruments, and collecting data.

The first cognition is whether dietitians want to change their roles, or is it easier and less disruptive to maintain their status quo. In addition, if roles change, what adjustments would dietitians personally need to make, aside from the many other alterations that would need to occur externally to dietitians. Or is it assumed that dietitians have already the competences and motivation needed and are waiting to capture any opportunity directed to enhancing their status on the health team.

Another consideration should be given to the reality of trying to create a new role for dietitians through a restructured program. When she graduates, what happens if the role for which she was trained does not exist? Does she become frustrated and ultimately leave hospital dietetics? This becomes another justification for health fields to cooperate in clarifying health team roles. Clarification should occur among the working professions as well as among students in health careers.

In considering frustration of dietitians, the relationship between the beginning dietitian and her supervising dietitian may reflect conflict in the high number of continuing education hours the head or only dietitians had accumulated in contrast to the fewer hours the staff dietitians had. This might be a reflection of the head



dietitians' aggressiveness, initiative, and enthusiasm for self-improvement in a professional sense; on the other hand, this differential may indicate increased opportunities and flexibility the head dietitian has to attend conventions and other meetings which provide continuing education hours.

In identifying the dietitians' present and ideal role on the health team, one is faced with the issue of how much decision-making should be allowed. Should the dietitian ideally have jurisdiction over the patient's diet order? In developing the questionnaire for the physicians, review of the instrument with physicians showed that the decision could not be only the dietitians'. She could contribute at many levels--from little contribution to actually making the order--but all contribution was subject to the physician's approval. If team effort and not complete decision-making by the dietitian is the goal for health care, then dietitians should work in the team framework, and not feel that their status is not high enough until they have complete jurisdiction in such areas as ordering diets.

A similar case can be constructed for diet instruction. The highest level of decision-making would be that the dietitian determines the extent of diet instruction and proceeds accordingly, without the physician's specific consent. Frequently dietitians who instruct routinely without initiation from the doctor glibly provide dietary instructions without checking with the doctor to see which medical goals

should be incorporated into the diet instruction, consulting with a social worker to determine social and economic needs of the patient, or the nurse to define dietary needs in relation to nursing goals. In this instance, the dietitian may be high in decision-making but has not contributed or received from team effort and cooperation.

In interviewing dietitians, the researcher was very impressed by extreme differences in dietitians. There was variety in age, previous work experience, the way ADA membership had been gained, educational background and marital status. Surely a "typical" dietitian could not be defined.

One concern noted was that there is some very good talent among dietitians who have a bachelor's degree in a dietetic program, but who have not completed ADA requirements of qualifying experience. These dietitians, although frequently doing the same work as ADA dietitians and identified by administrators as dietitians, are on a different pay scale. In addition ADA makes it difficult for these dietitians to complete the qualifying experience. This situation may result eventually in a loss of excellent talent if these dietitians become discouraged, unless the American Dietetic Association provides support to exploration of new channels for meeting the experience qualification.

Suggestions for Future Research

This study was initiated to evaluate present and ideal needs of hospital dietitians for the purpose of developing a dietetic curriculum. Suggestions for future research include:

1. Determining the physician's concept of "ideal" dietitian.
2. Determining whether physicians would actually allow the authority they indicate on paper, if dietitians met their "ideal" definition.
3. Establishing norms which would be useful in counseling and selection of dietitians by administering the California Psychological Inventory to a larger sample of dietitians.
4. Determining who is most influential in defining the dietitian's role in the hospital.
5. Elucidating relationships of dietitians with other allied health workers such as nurses or medical technologists.
6. Evaluating which duties of a dietitian can be delegated to someone else so that the dietitian's time is available for maximum utilization.

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## APPENDIX A

DISCREPANCIES BETWEEN EXPECTATIONS OF PROFESSION AS  
AN UNDERGRADUATE AND REALITIES OF THE PROFESSION

APPENDIX A.--Discrepancies existing between expectations and realities of the profession.

	Admin. Dietitian		Ther. Dietitian		Consulting Dietitian		Dept. Head Dietitian		Total Dietitians	
	N	%	N	%	N	%	N	%	N	%
<u>Discrepancy Related to Curriculum</u>										
Unrealistic Curriculum	4	8.5	12	9.8	3	17.6	7	10.1	26	10.0
Unrelated Courses			1	.8			1	1.4	2	.8
More Administrative, Less Therapeutic	5	10.6	2	1.6			7	10.1	14	5.4
More Therapeutic, Less Administrative			2	1.6					2	.8
<u>Relationship with Others</u>										
Communication with Health Team	5	10.6	23	18.7	1	5.9	9	13.0	38	14.7
Professional Status	3	6.4	18	14.6	5	29.4	7	10.1	33	12.7
Little Knowledge of Employees			3	2.4			1	1.4	4	1.5
Little Knowledge of Professionals			5	4.1			1	1.4	6	2.3

APPENDIX A.--Continued.

Job Related Discrepancy

Labor Problems	1	2.1	2	1.6	1	5.9	3	4.3	7	2.7
Nonprofessional Activity	3	6.4	15	12.2					18	6.9
Salary, Hours, Hard Work	3	6.4	4	3.3	1	5.9	3	4.3	11	4.5
Jealousy, Politics	3	6.4	1	.8					4	1.5
Greater Responsibility than Expected			4	3.3			1	1.4	5	1.9
Like Job Better than Expected	1	2.1	3	2.4			5	7.2	9	3.5
More Administrative Duties than Expected			1	.8			1	1.4	2	.8
More Involvement with People			2	.8			1	1.4	2	.8

174

No Discrepancy

	8	17.0	24	19.5	2	11.8	13	18.8	47	18.1
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No Response

	16	34.0	30	24.4	4	23.5	14	20.3	64	25.0
--	----	------	----	------	---	------	----	------	----	------

Irrelevant Response

	1	2.1	1	.8	1	5.9	3	4.3	6	2.6
--	---	-----	---	----	---	-----	---	-----	---	-----

Total Number of Dieti-  
tians in Each Category

	47	123	17	69	256
--	----	-----	----	----	-----

Total Responses of Dieti-  
tians in Each Category

	53	152	18	77	300
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APPENDIX B

LETTER OF REQUEST FOR HOSPITAL INTERVIEWS

November 9, 1970

Mr. John Smith, Administrator  
Jones Memorial Hospital  
Escanaba, Michigan 49829

Dear Mr. Smith:

As you may already know, the Department of Human Nutrition and Foods (formerly Foods and Nutrition) at Michigan State University and Michigan Hospital Association are conducting a study of the role of the hospital dietitian in the State of Michigan. We appreciated very much your hospital's participation in the first phase of our study, which included a questionnaire sent to all Michigan hospitals. The data provided a general description of the role of the hospital dietitians (Michigan Hospitals 6:2, 1970). Now we are very interested in gaining more in-depth information of the dietitian's role and responsibility to help provide a basis for curriculum evaluation in the dietetic program. Since you have been interested enough to complete the first part of the study, we have selected your hospital for further study. We hope to eliminate any bias in selection but yet include hospitals that would be willing to cooperate in this second phase.

Since a much smaller number of hospitals have been selected to participate in this study, personal interviews will be feasible. Dietitians will also be asked to keep a day's record of communication activities. In addition I would like to discuss with some of your physicians their perception of the dietitian's role.

I hope that you will accept this opportunity to help further our knowledge of the dietitian's present and future role. All information will be held confidential, and all hospitals and individuals will be assigned a code number and the data analyzed accordingly. Neither individual respondents nor hospitals will be identified in the resulting report.

I would like to visit your hospital some time during November or December, on a convenient date for you and your dietitians. If you agree to participate in the study would you please return the enclosed postcard by November 20? I will then contact you to confirm a date for my visit.

Sincerely yours,

Alice A. Spangler, Instructor  
Department of Human Nutrition and Foods

Enclosure: Postcard



## APPENDIX C

### DIETITIAN'S INTERVIEW SCHEDULE

ROLE AND RESPONSIBILITY OF THE HOSPITAL  
DIETITIAN-PHASE-II

We have selected your hospital for further study from hospitals that participated in an initial study conducted by the Department of Human Nutrition and Foods (formerly Foods and Nutrition) at Michigan State University and the Michigan Hospital Association to describe the role and responsibility of hospital dietitians. We appreciated very much your hospital's participation in Phase I of the study, which included a questionnaire sent to all hospitals in Michigan.

Now we are interested in gaining in-depth knowledge about the dietitian's role on the health team to help us examine the adequacy of this aspect of the undergraduate dietetic curriculum. In addition, the information should be helpful to those with whom the dietitian comes in contact. Before we begin, I would like to mention that all of these data will reflect characteristics of dietitians as a group and not individuals. You and your hospital will be identified only by a code number.

(1) (2-3) (4-6) (7) (8-9)

First I would like to know about your background.

- A. What is the title of your position in this hospital? \_\_\_\_\_(10)
1. Head administrative dietitian
  2. Administrative dietitian
  3. Head therapeutic dietitian
  4. Therapeutic dietitian
  5. Teaching dietitian
  6. Research dietitian
  7. Dietitian (Both Therapeutic and Administrative)
  8. Dietary Department Head
  9. Other (Specify)
- B. What percent of your time is spent in "therapeutic" activities? \_\_\_\_\_(11-12)
- C. What type of educational preparation has qualified you for your present position? \_\_\_\_\_(13)
1. College or university degree in dietetics; or foods and nutrition; or institution administration
  2. College or university degree in hotel or restaurant administration
  3. College or university degree in home economics
  4. Hospital food service supervisor course requiring one year or less to complete
  5. Other (Specify)
- D. What is your status with regard to American Dietetic Association membership? \_\_\_\_\_(14)
1. I am a member of ADA
  2. I am eligible for membership in ADA but do not belong to ADA
  3. I am not eligible for ADA membership
- E. How did you originally qualify for membership in ADA? \_\_\_\_\_(15)
1. Dietetic internship
  2. Advanced degree
  3. Three years of supervised experience
  4. Not eligible

F. What has been your highest formal education attainment? \_\_\_\_\_(16)

1. Attended high school, but did not graduate
2. High school graduate
3. Attended college, but did not graduate
4. College graduate
5. Dietetic internship
6. Post-graduate courses not terminating in M.S. or M.A. degree
7. M.S. or M.A. degree
8. Graduate courses beyond Masters, but not resulting in Ph.D.
9. Ph.D., Ed.D.

G. How many years of professional experience have you had following the Bachelor's Degree? \_\_\_\_\_(17-18)

List the type of position chronologically beginning with present position (include internship)

Years in this position

\_\_\_\_\_(19-20)

Sequence of experience

\_\_\_\_\_(21)

- H. Are you a registered dietitian? \_\_\_\_\_(22)  
 0. No  
 1. Yes
- I. How many clock hours had you accumulated by Oct. 3, 1970? \_\_\_\_\_(23-24)
- J. How many years prior to registration (began Aug., 1969) have you been an ADA member? \_\_\_\_\_(25-26)

Since we are looking at dietitians as a group rather than individually, we would like to know what types of continuing education dietitians sought prior to registration.

- K. Prior to Aug., 1969, did you
1. Attend meetings to increase professional skills
  2. Attend classes to increase professional skills
  3. Seek self-study to increase professional skills
  4. Write for professional and lay people
  5. Present papers to professional and lay groups
  6. Read professional journals
  7. Other (Specify) \_\_\_\_\_

Does dietitian seek continuing education? \_\_\_\_\_(27)

0. No  
 1. Yes

Did she seek continuing education prior to registration? \_\_\_\_\_(28)

0. No  
 1. Yes

- L. What is your age? \_\_\_\_\_(29-30)
- M. What type of food service do you have in this hospital? \_\_\_\_\_(31)

Since we are in the process of evaluating our curriculum we are especially interested in your ideas about your work and the educational preparation which you have had.

First, I would like to ask you about your work. One area which we would like to know about is the management activity in which you are involved.

1. What employees do you most work with?

Which of these do you supervise?

Do you evaluate employees for hiring, promotion, dismissal?

If so, which employees?

Who is your immediate supervisor?

2. Does your dietary department use the computer?  
If yes, in what way?

Are you involved with using the computer?

If yes, in what way?

3. Who is in charge of purchasing?

Who is in charge of storage?

Who is in charge of distribution of food?

Are you involved with any of the above 3 items?

If yes, in what way?

4. What influence do you have regarding quality of food?  
What influence do you have regarding preparation of the food, either for regular or modified diets?

5. What other managing aspects do you do, such as planning, organizing, controlling, evaluating in both therapeutics and administration?

Another area of interest is what you typically do during the day. Could you give me a time sequence schedule of your typical day?

What percentage of diets are ordered for the patient at admission by the following procedures:

1. Physician orders diet with no conference with you \_\_\_\_\_
2. Physician orders diet after consulting with you \_\_\_\_\_
3. You order diet after consulting with physician and/or patient record \_\_\_\_\_
4. Other (Specify) \_\_\_\_\_ INDEX I \_\_\_\_\_

What percentage of diet changes are made following admission by the following procedures:

1. Physician changes diet order without consulting with you \_\_\_\_\_
2. Physician changes diet order after consulting with you \_\_\_\_\_
3. You change diet order after consulting with physician and/or patient record \_\_\_\_\_
4. Other (Specify) \_\_\_\_\_ INDEX II \_\_\_\_\_

What percentage of diet instructions do you give subsequent to the following procedures:

1. Physician orders diet instruction without consulting with you \_\_\_\_\_
2. You give diet instruction after conference with physician \_\_\_\_\_
3. You give diet instruction routinely without request from physician \_\_\_\_\_
4. Other (Specify) \_\_\_\_\_ INDEX III \_\_\_\_\_

What percentage of the wards for which you are responsible observe the following procedures:

1. You do not attend ward rounds \_\_\_\_\_
2. You attend ward rounds at special request \_\_\_\_\_
3. You attend ward rounds routinely \_\_\_\_\_
4. Other (Specify) \_\_\_\_\_ INDEX IV \_\_\_\_\_

V OVERALL INDEX \_\_\_\_\_

___	___	___	(32-34)	I
___	___	___	(35-37)	II
___	___	___	(38-40)	III
___	___	___	(41-43)	IV
___	___	___	(44-46)	V

Part of this study involves learning what groups of people dietitians work with, especially physicians and the specialty they are in.

Are there certain physicians with whom you work more than other physicians? Which ones? What is their specialty and in what way do you work with them?

Are there certain physicians with whom you do not usually work? Which ones?



I would also like to know how you felt about your educational preparation.

Did you feel the level and amount of diet therapy in your undergraduate education was sufficient?

If not - what else should have been included?

What areas of diet therapy from your undergraduate education have been most valuable to you?

Did you feel the level and amount of diet therapy in your internship was sufficient?

If not - what else should have been included?

What areas of diet therapy from your internship have been of most value?

Did you feel the level and amount of normal nutrition in your undergraduate education was sufficient?

If not - what should have been added?

What areas of normal nutrition from your undergraduate education have been of most value?

Did you feel the level and amount of normal nutrition in your internship was sufficient?

If not - what else should have been added?

What areas of normal nutrition from your internship have been of most value?

Did you feel the level and amount of cultural and socio-economic emphasis on diet planning in your undergraduate education was sufficient?

If not - what else should have been included?

What areas of cultural and socio-economic emphasis on diet planning have been of most value to you?

Did you feel the level and amount of cultural and socio-economic emphasis on diet planning in your internship was sufficient?

If not - what else should have been included?

What areas of cultural and socio-economic emphasis on diet planning have been of most value to you?

Did you feel the level and amount of development of communication skills in your undergraduate education was sufficient?

If not - what else should have been included?

What areas of development of communication skills have been of most value to you?

Did you feel the level and amount of development of communication skills in your internship was sufficient?

If not - what else should have been included?

What areas of development of communication skills have been of most value to you?

Did you feel the level and amount of food composition in your undergraduate education was sufficient?

If not - what else should have been included?

What areas of food composition from your undergraduate education have been most valuable to you?

Did you feel the level and amount of food composition in your internship was sufficient?

If not - what else should have been added?

What areas of food composition from your internship have been most valuable to you?

What do you feel was important in your undergraduate curriculum?

What do you feel was unimportant in your undergraduate curriculum?

Was your internship necessary for effective functioning on your present work? What did you learn from the internship that was not gained in your undergraduate preparation?

Was your advanced degree necessary for effective functioning on your present work? What did you learn from this degree that was not gained in your undergraduate or internship background?

What would you like to see changed in the educational preparation of a dietitian?

PLEASE MARK 1 IF YOU AGREE WITH THE FOLLOWING STATEMENTS IN THE COLUMN CLOSEST TO THE STATEMENT PAGE; MARK 0 IF YOU DISAGREE; MARK 2 IF YOU ARE UNDECIDED. TURN TO THE PAGE PRECEDING THE ONE YOU HAVE JUST COMPLETED WHEN YOU ARE THROUGH WITH A COLUMN.	I DO	I SHOULD	PHYSICIAN THINKS I SHOULD	NURSE THINKS I SHOULD	HOSPITAL ADMINISTRATOR THINKS I SHOULD
1. Determine patient food likes and dislikes					
2. Prepare a diet history for many patients					
3. Instruct patients in regard to their special diets					
4. Chart dietary progress of patients					
5. Routinely visit patients to discuss nutrition or dietary practices					
6. Attend ward rounds					
7. Attend medical conferences					
8. Prescribe special diets					
9. Consult or advise physician regarding nutrition needs of patient					
10. Consult or advise nurse regarding nutrient needs of patient					
11. Participate in making dietary decisions on health team					
12. Follow dietary practices of patients upon release from hospital					
13. Supervise tray service					
14. Supervise between meal feedings					
15. Prepare and/or revise diet manual					
16. Supervise food preparation					
17. Write individual menus for patients receiving special diets					

18. Calculate special diets not routinely used					
19. Tally servings of special diet foods					
20. Write individual menus for patients receiving special diets with the patient					
21. Other					

APPENDIX D

DIETITIAN'S RESPONSIBILITIES

Describe the importance of the following competences for a dietitian on the health team using the description:

1. Very important    2. Important    3. Somewhat important  
4. Not important at all

- \_\_\_ 1. Knows nutrient recommendations for individuals in various environments and stages of life.
- \_\_\_ 2. Uses food composition knowledge in designing dietary plans.
- \_\_\_ 3. Uses knowledge of socio-economic, cultural and ethnic status in designing dietary plans.
- \_\_\_ 4. Recognizes uniqueness and depth of an individual's food attitudes and habits.
- \_\_\_ 5. Understands the individual's basic social needs, developmental processes and culturally acquired attitudes, concerns and habits.
- \_\_\_ 6. Recognizes similarities and differences in family groups and individual life styles in technically developed societies.
- \_\_\_ 7. Understands the relationship between nutrient intake and the biochemical and biophysical structure and function of the body at various stages of life.
- \_\_\_ 8. Understands the relationship between nutrient intake and the biochemical and biophysical structure and function of the body during illness.
- \_\_\_ 9. Understands abnormalities in structure and function of a diseased tissue and effects of the abnormality upon total body metabolism.
- \_\_\_ 10. Identifies changes in food intake necessary for treating the disease and its complications.
- \_\_\_ 11. Understands the structure, processes, functioning and interrelationship of various systems of the human body.
- \_\_\_ 12. Recognizes relationships between hereditary and environmental factors in structure and regulatory functions.
- \_\_\_ 13. Evaluates and interprets research findings in the sciences.
- \_\_\_ 14. Understands relation between food and drugs.
- \_\_\_ 15. Understands influence of previous diets on laboratory tests and the consequent interpretation of laboratory data.
- \_\_\_ 16. Integrates biological and social sciences into comprehensive concept of human nutrition.
- \_\_\_ 17. Knows different methods of patient interview and when to apply each.
- \_\_\_ 18. Knows different methods of obtaining dietary histories, advantages and disadvantages of the methods, and usefulness of dietary histories.
- \_\_\_ 19. Understands process of managing human, material and financial resources.

- \_\_\_ 20. Understands the principles of education that are basic to effective learning by individuals and groups.
- \_\_\_ 21. Analyzes physical and chemical changes occurring in food during storage, preservation and preparation in terms of food composition and quality.
- \_\_\_ 22. Knows food standards and the factors affecting food quality.
- \_\_\_ 23. Understands the technical operations (menu planning, purchasing, facilities, finance) involved in the production, distribution and service of high quality food in food service systems with varying organizational structure and objectives.
- \_\_\_ 24. Knows laws, regulatory agencies and/or processes responsible for food quality and safety.
- \_\_\_ 25. Other \_\_\_\_\_

## APPENDIX E

### DIETITIAN'S COMPETENCES



Describe yourself with regard to the following competences using the description:

1. Very competent    2. Competent    3. Somewhat competent  
4. Not competent at all

- \_\_\_ 1. Knows nutrient recommendations for individuals in various environments and stages of life.
- \_\_\_ 2. Uses food composition knowledge in designing dietary plans.
- \_\_\_ 3. Uses knowledge of socio-economic, cultural and ethnic status in designing dietary plans.
- \_\_\_ 4. Recognizes uniqueness and depth of an individual's food attitudes and habits.
- \_\_\_ 5. Understands the individual's basic social needs, developmental processes and culturally acquired attitudes, concerns and habits.
- \_\_\_ 6. Recognizes similarities and differences in family groups and individual life styles in technically developed societies.
- \_\_\_ 7. Understands the relationship between nutrient intake and the biochemical and biophysical structure and function of the body at various stages of life.
- \_\_\_ 8. Understands the relationship between nutrient intake and the biochemical and biophysical structure and function of the body during illness.
- \_\_\_ 9. Understands abnormalities in structure and function of a diseased tissue and effects of the abnormality upon total body metabolism.
- \_\_\_ 10. Identifies changes in food intake necessary for treating the disease and its complications.
- \_\_\_ 11. Understands the structure, processes, functioning and interrelationship of various systems of the human body.
- \_\_\_ 12. Recognizes relationships between hereditary and environmental factors in structure and regulatory functions.
- \_\_\_ 13. Evaluates and interprets research findings in the sciences.
- \_\_\_ 14. Understands relation between food and drugs.
- \_\_\_ 15. Understands influence of previous diets on laboratory tests and the consequent interpretation of laboratory data.
- \_\_\_ 16. Integrates biological and social sciences into a comprehensive concept of human nutrition.
- \_\_\_ 17. Knows different methods of patient interview and when to apply each.
- \_\_\_ 18. Knows different methods of obtaining dietary histories, advantages and disadvantages of each, and usefulness of dietary histories.

- \_\_\_ 19. Understands process of managing human, material and financial resources.
- \_\_\_ 20. Understands the principles of education that are basic to effective learning by individuals and groups.
- \_\_\_ 21. Analyzes physical and chemical changes occurring in food during storage, preservation and preparation in terms of food composition and quality.
- \_\_\_ 22. Knows food standards and the factors affecting food quality.
- \_\_\_ 23. Understands the technical operations (menu planning, purchasing, facilities, finance) involved in the production, distribution and service of high quality food in food service systems with varying organizational structure and objectives.
- \_\_\_ 24. Knows laws, regulatory agencies and/or processes responsible for food quality and safety.
- \_\_\_ 25. Other \_\_\_\_\_

APPENDIX F

PHYSICIAN'S COVER LETTER TO QUESTIONNAIRE

March 8, 1971

F. William Jones, M.D.  
Suite 418 Medical Arts Building  
1322 East Michigan  
Lansing, Michigan 48912

Dear Dr. Jones:

We need your assistance. The Department of Food Science and Human Nutrition at Michigan State University is contemplating a revision of the dietetic curriculum to meet future health needs. To meet this objective we have been conducting a study of the role of dietitians at Smith Memorial Hospital. Your opinion would be very valuable in helping us define the dietitian's contribution to the delivery of health care. In addition, your feelings regarding the competences that are needed by a dietitian would be most helpful in our development of a new program.

I realize that you have a very busy schedule, and we have made every effort to keep the information requested from you to a minimum. Other comments which you might have would also be very valuable, and I would encourage you to express these ideas on the back of the questionnaire.

If you will accept this opportunity to help increase our knowledge of the dietitian's future educational needs, will you please complete and return the enclosed form in the stamped and addressed envelope by March 15. All information will be held confidential, and individual respondents will be identified only by a code number.

Thank you for your cooperation.

Sincerely yours,

Alice A. Spangler  
Instructor  
Food Science and Human Nutrition

Enc.

APPENDIX G

PHYSICIAN'S QUESTIONNAIRE

Do you routinely use diet therapy as part  
of total medical care? YES NO

A patient requires a change from his original diet order. Basing your response on what  
you consider the "ideal" dietitian of the future, how would you prefer this change be  
made. Please check one only.

1. By the physician.
2. By the physician, upon consultation with the dietitian.
3. By the physician, with the dietitian modifying the diet upon approval by the physician.
4. By the dietitian, with approval from the physician.
5. Other (Please Specify) \_\_\_\_\_

HOW IMPORTANT ARE THE FOLLOWING SKILLS FOR THE  
IDEAL DIETITIAN WHO WOULD PARTICIPATE IN THE PROC-  
ESSES OF CHANGING DIETS AS YOU HAVE INDICATED BELOW?

	Very Important	Somewhat Important	Of Little Importance
1. Utilizes nutrient recommendations for individuals in various environments and states of life in planning the patient's dietary pattern.			
2. Uses food composition knowledge in designing dietary plans.			
3. Uses knowledge of socio-economic, cultural and ethnic status in planning the patient's dietary pattern.			
4. Utilizes information from appropriately obtained dietary histories.			
5. Uses principles of communication in dealing with patients and professionals of the health team.			
6. Understands the structure, processes, functioning and interrelationship of various systems of the human body in health and disease.			

7. Recognizes relationships between hereditary and environmental factors in structure and regulatory functions.			
8. Makes changes in food intake necessary for treating disease and its complications.			
9. Modifies food intake in conjunction with drug administration.			
10. Applies recognition of abnormal physiological data to dietary modification.			
11. Applies research findings from the sciences.			
12. Understands professional objectives of health team members.			
13. Manages human, material and financial resources.			
14. Applies the principles of storage, preservation and preparation of food in terms of composition and quality.			
15. Utilizes laws and regulatory agencies in assuring high quality foods.			
16. Operates food service departments with varying organizational structure by being involved in the production, distribution and service of high quality food.			
17. Assures patient's satisfaction with food served.			

ADDITIONAL COMMENTS MAY BE EXPRESSED ON THE BACK OF THIS QUESTIONNAIRE.

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