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Abstract

PERFORMANCE OF TASK FUNCTIONS BY DIETETIC TECHNICIANS

by James C. Rose

The effective use of professional dietitians is predicated on the effective delegation of less demanding responsibilities and routine tasks to educationally qualified dietetic technicians. This is essential to effect optimal nutrition care at lowest cost.

The purpose of this research was to determine the degree to which dietetic technicians were performing identified tasks of the role as defined by the American Dietetic Association. A questionnaire was the survey instrument used to collect data from the 130 dietetic technicians who were members of the American Dietetic Association.

Task scores were derived by determining the average per cent of listed functions the dietetic technicians reported having had performed. For the clinical, generalist, and administrative technician groups, the mean task score was approximately 75 per cent.

Internal comparisons indicated that for clinical technicians, those employed in long term care facilities perform significantly more task functions than those employed in other facilities. Comparisons with previous researchers indicated that technicians surveyed in this study performed more of the listed task functions than dietitians had indicated a willingness to delegate in either 1976 or 1978.

Demographic profiles indicated similar characteristics for the clinical, administrative and generalist technician. However, the clinical technician was employed in relatively larger facilities, primarily acute

care teaching hospitals. Administrative technicians were employed in primarily either long term care facilities or acute care hospitals of relatively smaller capacities. The generalist was employed most infrequently in acute (or teaching) facilities and most frequently in long term care facilities or in "other" facilities, primarily of less than 150 beds in capacity.

This study did indicate a need for a more detailed delineation of the role of the dietetic technician.

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Graduate School

PERFORMANCE OF TASK FUNCTIONS BY
DIETETIC TECHNICIANS

by

James C. Rose

A Thesis in Partial Fulfillment
of the Requirements for the Degree
Master of Science in the Field of Food Systems Administration

April 1978

Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree of Master of Science.

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ACKNOWLEDGMENTS

The author wishes to thank each of his committee members for his/her willingness to participate in the direction of this study. Special thanks is extended to Dr. Kathleen Zolber for her multi-faceted assistance. Dr. David Abbey and his Survey Research Service staff were of great assistance in the completion of the computer assisted data analysis.

TABLE OF CONTENTS

	page
I. Introduction and Purpose	1
II. Literature Review	3
III. Methods	9
IV. Results and Discussion	11
Task Scores	12
Internal Comparisons	12
Comparisons with Other Researchers	21
Adequacy of Training	23
Demographic Profiles	31
Exceptions to the Data	36
Comments Made by Respondents	38
Recommendations	40
Future Study	43
V. Summary	45
References Cited	47
Appendices	49
Appendix A	
Table 6 through 9. Frequency and per cent of technicians performing task functions	51
Table 10 through 13. Frequency and per cent of technicians reporting adequacy of training to perform task functions	63
Appendix B	
Exhibit 1. Comments recorded by respondents	76
Exhibit 2. Types of facilities--"other" category	79
Exhibit 3. Comments recorded by respondents concerning training	80
Appendix C	
Tables 14, 15. Fisher's exact tests of performance of task functions versus adequately trained	83
Tables 16, 17. Fisher's exact tests of type of facility versus adequately trained to perform the task	86

Table of Contents continued

	page
Appendices continued	
Appendix D	
Cover Letters	90
Questionnaires	
Clinical	92
Administrative	98
Telephone Miniquestionnaire	103

LIST OF TABLES

	page
Table 1. Frequency and per cent of clinical dietetic technicians reporting performance of clinical task functions	13
Table 2. Frequency and per cent of administrative dietetic technicians reporting performance of administrative task functions	16
Table 3. Frequency and per cent of clinical dietetic technicians who reported they felt adequately trained to perform clinical task functions	24
Table 4. Frequency and per cent of administrative dietetic technicians who reported they felt adequately trained to perform administrative task functions	27
Table 5. Demographic Data. Expressed in percentage or mean values for clinical, administrative, and generalist dietetic technician groups	32

LIST OF ILLUSTRATIONS

	page
Figure 1. Histogram. Clinical Technicians. Distribution of task score (computed as per cent of possible)	19
Figure 2. Histogram. Administrative Technicians. Distribution of task score (computed as per cent of possible)	20

I. INTRODUCTION AND PURPOSE

Rising health care costs have caused concern among third party payers, hospital administrators and consumers. The health industry is the nation's third largest as well as one of its fastest growing. Health expenditures represented 4.6 per cent of the Gross National Product in 1950 and 7.7 per cent in 1974. Health expenditures have been rising at annual rates of 9-12 per cent in recent years. Forty per cent of the health care dollar pays for hospital care (Zubkoff, 1977).

Pressure for economic efficiency will necessitate the delegation of less professional duties to less highly trained personnel. This delegation would permit concentration of efforts of highly educated professionals on those tasks demanding the highest level of skill and responsibility (American Dietetic Association, 1972). Reinhardt (1975) concluded that this type of manpower substitution was probably the most effective way to enhance the average productivity of medical professionals. Trends in health care organizations are toward hiring personnel who may perform routine and repetitive tasks (Hodges, 1975).

The necessity of delegating selected task functions is particularly acute in professions with a manpower shortage. Dietetics has been characterized as a profession in which there is a shortage of qualified personnel (Bridge, 1973).

The Commission (American Dietetic Association, 1972) findings concerning educational and manpower needs in dietetics reported that if a production level of 2,500 dietetic bachelor's graduates per year could be achieved by 1976, the goal of 40,000 active practitioners may be reached by 1980. The Commission reported this conservative goal on the assumption

that dietetic professionals would be, in the future, functioning in a role which utilizes their professional expertise at a maximum level. Carey (1976) reported that a 29 per cent increase in practicing dietitians (to a level of 43,000 employed) would be necessary between 1974 and 1985. He also noted the large anticipated upward increase in employed health care technicians. In 1977, assuming a constant 70 per cent labor force participation rate as reported by the Commission (American Dietetic Association, 1972), 23,000 dietitians (registered and non-registered) were employed. One hundred thirty technicians were listed as members (American Dietetic Association Courier, 1978).

It may be assumed that the effective use of professional dietitians is predicated on the availability of educationally qualified dietetic technicians to whom dietitians may and will delegate less demanding responsibilities and routine tasks. Hubbard and Donaldson (1968) supported this premise in their recommendation to establish career ladders in dietetics to more fully utilize supportive personnel when possible to allow dietitians to maximize time allowance for activities for which they have been specifically educated.

Dietetic technicians are appropriately trained to accept these delegated responsibilities. The minimum education requirement includes an academic associate degree including practical experiences to meet the American Dietetic Association established standards.

PURPOSE OF THE STUDY

The purpose of the study is to determine the degree to which dietetic technicians are performing identified tasks of the role as defined by the American Dietetic Association.

II. LITERATURE REVIEW

The desire, expectation, and demand for health care, in addition to medical care requires an increasingly complex set of knowledge and skills. The participation of a greater variety of professionals and different modes of professional behavior is required, necessitating a further division of labor (Millis, 1975). Providers will have incentive to engage the most accomplished paramedical employees at the least compensation, subject only to the restraints of licensing laws (Bernstein, 1977). Apparently, the use of allied health technicians where properly qualified and trained has led to no significant problems of medical malpractice liability or malpractice insurance coverage (Rubin, 1974).

Labor compensation in the general manufacturing industry represents one-third of total cost (U.S. Bureau of Census, 1977). In the hospital industry, however, personnel costs represent about sixty per cent of total costs (Quarterly report, Hospitals, 1978). This illustrates the labor intensive nature of the health care market. Increased labor costs have been a significant factor in contributing to hospital inflation, both through increase in wage per employee and through increase in the relative number of employees. These contributing factors may have resulted from the increase in skill required as technologies became more sophisticated (Altman and Eichenholz, 1977). Cihlar (1974) supported this thesis, asserting that demands for increased compensation coincide with increased employee competence and expertise. Obviously, then, the effective use of personnel is one of the primary critical points in manpower planning (Bergman, 1975).

Though gross shortages of health care personnel have not been clearly demonstrated, maldistribution and malutilization have. There is

question whether health professionals perform functions consistent with the level of their ability and education. This possibility coupled with the resulting deadening quality of these jobs may significantly contribute to the high turnover rates in health care (Golden, 1975).

The increased use of supportive personnel is evident. Multiple programs for training various types of physician associates have been established. Graduates of these programs are equipped to handle many problems usually seen by the physician, who in turn may concentrate on professional services commensurate with his training (Beaudette, 1975). Preliminary studies indicate that so-called "physician extenders" can increase physician productivity by 74 per cent (Golden, 1975). Reinhardt (1975, p. 247) indicated that an increase of 30-50 per cent in physician productivity could be realized by increasing the average number of physician aides per physician from 1.75 to 4.00.

The need for and use of supportive personnel in hospital pharmacy practice is well-established. Performance by pharmacists of duties which might more appropriately be assigned to supportive personnel results in a dilution of pharmaceutical talents and limits the scope of pharmaceutical services provided. Kaufman (1975) reported that the use of pharmacy technicians over a five year period allowed the Miriam Hospital Department of Pharmacy to dramatically increase the scope of its services.

Recognizing this, most hospital pharmacies now employ supportive personnel, and a large number have done so for many years. These technicians function in strict accordance with standard, written procedures and guidelines, any deviation from which must be approved by the supervising pharmacist (American Society of Hospital Pharmacists, 1976).

It is anticipated that the future use of pharmacy technicians will increase. This prediction is based on the premise that the pharmacist retains full responsibility for the validity and accuracy of the work performed (Canadian Society of Hospital Pharmacists, 1976). Reportedly, Francke (Changing Practice, Hospitals, 1975) warned that society will not long tolerate the employment of pharmacists to perform technical tasks. This, he stated, dictates the need for an expanded role of pharmacy technicians.

An important aspect is the view professional personnel hold of the changing role of supportive personnel. Availability of qualified personnel does not predicate their effective use. Several authors have alluded to this fact. Mase (1976) questioned why health professionals failed to delegate routine tasks to available technicians. Reinhardt (1975, p. 231) indicated the existence of marked discrepancies between the range of tasks physicians feel could be delegated to physician assistants and the tasks they themselves actually would delegate to such personnel. If dietitians are threatened, they may fail to delegate functions (Wilson, 1971). The effective use of dietetic technicians, therefore, will largely depend on understanding of their competencies by the dietitians (Williams, 1977). Powers (1974) stated that the profession of dietetics and its respective paraprofessionals, including the dietetic technician, can expect a mutually supportive process, rather than a competitive in-fighting; however, as bright young paraprofessionals enter the field, a stimulating challenge may be presented to practitioners already in the field. Further, the American Dietetic Association projected that staffing requirements and specific functions of the dietetic technician

may be influenced by size, type, and complexity of the institution's nutritional care services (American Dietetic Association, Position Paper, 1975).

A literature search yielded little documentation concerning either the delegation of duties by dietitians to supportive personnel or the determination of actual tasks performed by the support personnel. Clemence (1975) reported that dietitians delegated the responsibility of a variety of tasks to support personnel. Such tasks might include follow-up visits to determine food acceptability and assist patients with menu selections. She stated, however, that supportive personnel must realize the limitations of their knowledge and refer instructions dealing with medical reasons for diets and specific composition of food to dietitians.

Caliendo (1976) reported the use of dietetic technicians at Loretto Geriatric Center to assess the nutritive value of residents' diets, conduct interviews of residents and families, develop and implement nutritional care plans, monitor care plans of therapeutic diets, and to serve as the representative of the nutrition department on the health care team. An intensive in-service program was developed to ensure adequate training.

Schell and Bloetjies (1962) conducted a study to determine the duties dietitians would be willing to delegate to selected personnel who, though having had some formal academic preparation, had not completed the required educational qualifications of a professional dietitian. Eighty-six duties known to be performed in a dietary department were listed on the survey instrument. Dietitians were willing to delegate to dietetic assistants depending on the specific task listed. The indications

of the study seemed to be that dietitians had delegated many repetitious tasks to paraprofessional supervisory personnel and would delegate more if educationally qualified personnel were available.

Lumsden (1976) surveyed personnel in 197 hospitals in the continental United States to determine willingness of dietitians to delegate specific tasks to dietetic technicians. Administrative dietitians' willingness to delegate to administrative technicians was not significantly different than the clinical dietitians willingness to delegate to clinical technicians. However, dietitians serving in both capacities were willing to delegate more of the clinical task functions than their administrative functions. There seemed to be no difference among administrative dietitians' willingness to delegate when comparing those who graduated before 1968 with those graduating 1968 or later. However, clinical dietitians who graduated in 1968 or later were willing to delegate significantly more duties. Generally, a substantial number of dietitians were willing to delegate to the dietetic technician with some reservation as to the type of task function. The reservations of delegation of particular tasks was particularly evident in the responses of the administrative dietitian.

Labor market conditions and curriculum relevance must also be considered in determining probable delegation (and thus their performance) of tasks to dietetic technicians by professional dietitians. Appel (1977) obtained data relative to this topic by a mail survey of recent dietetic technician graduates (and their supervisors) of ten training programs. A 54 per cent response rate was obtained. The findings indicated that 40 per cent of the graduates were not employed as dietetic technicians

and 31 per cent had never been employed. This relatively high under/un-employment primarily resulted from an inability to find conveniently located, full-time jobs and also to a return to school for a baccalaureate degree in dietetics. Generally, findings suggested a narrowly-based job market for graduates due to an apparent lack of geographic mobility of the graduates and to a concentration of employment in the hospital sector. Supervisors did indicate it was highly desirable to hire formally trained technicians, primarily because graduates can assume more responsibility with less on the job training. Curriculum content was found to be generally relevant. This was based on ratings of importance of and adequate training for the performance of specific task functions. It was stated that graduates appeared capable of handling job requirements. However, no information concerning actual tasks performed was reported.

III. METHODS

SAMPLE SELECTION

The sample consisted of all those persons who held dietetic technician category membership in the American Dietetic Association as of August 1, 1977. The membership list included 130 names.

SURVEY INSTRUMENT

The survey instrument used consisted of two separate questionnaires. The questionnaire for the administrative dietetic technician listed 27 task functions. The questionnaire for the clinical dietetic technician listed 32 task functions. For each task function the questionnaire asked: (a) As a technician, do you now do or have done; the following task functions? (b) Please categorize each function as to whom should ideally perform it. (c) Do you feel you have been adequately trained to do this duty?

The questionnaires for both the administrative and clinical technicians obtained demographic data such as sex, age, education, number of dietitians employed in the facility, type of facility in which employed, whether the technician had previous food service experience prior to employment as a professional dietetic technician, and the approximate annual salary.

SURVEY PROCEDURE

Both an administrative and clinical questionnaire were sent by first class mail to the members' addresses obtained from the American Dietetic Association. Two personalized, general cover letters (one from the surveyor and one from his advisor) and an instruction sheet accompanied

each mailing. Those technicians functioning in both administrative and clinical roles were asked to complete both questionnaires. Those functioning in only one role were asked to discard the non-applicable questionnaire, complete the appropriate one, and return it in the stamped, pre-addressed envelope which had been enclosed as part of the mailing.

After an initial and follow-up mailing, telephone contact was attempted for those from which there had been no response. If the technician contacted by telephone had ever been employed as a dietetic technician since graduation, a very abbreviated questionnaire was completed by telephone; a third mailing was sent to those of this group who expressed a willingness to complete and return the full-length questionnaire.

Of the 130 contacts, response was received from 103. This included 82 completed questionnaires, 6 completed telephone questionnaires, and 14 who stated they had never been employed as a dietetic technician since graduation. Of the completed questionnaires (full-length and telephone), 17 were categorized as generalists, 21 were categorized as administrative technicians, and 44 were categorized as clinical technicians. No questionnaires that were received were excluded from the data analyses.

IV. RESULTS AND DISCUSSION

The general purpose of this study was to determine the degree to which dietetic technicians reported performance of identified tasks of the role as defined by the American Dietetic Association. Technicians were queried concerning adequacy of training, various demographic information, and conceptualization of whether a dietitian or technician should ideally perform each respective task.

The detailed analyses which follow address task performance scores, adequacy of training, and demographic information. The results of the "who should ideally perform this task" section generally indicated that administrative technicians had no preference as to who should ideally perform the majority of the specific tasks, whether dietitian or technician. The clinical technicians, however, seemed to indicate specific preference for the respective task functions as to who should perform the task, whether dietitian or technician. This may imply that the perception of appropriateness of task performance by technicians is more clearly delineated in the clinical area and/or in the training of the clinical dietetic technicians. No further analyses dealt with this particular response data.

Throughout the remainder of this study the technicians are grouped into all-clinical technicians (those responses received from clinical specialists and generalists concerning clinical task functions), all-administrative technicians (those responses received from administrative specialists and generalists concerning administrative task functions), clinical technicians (those responses received from clinical specialists), and administrative technicians (those responses received from administrative specialists).

TASK SCORES

The frequency and per cent of technicians reporting performance of each specific task function are presented for the clinical and administrative technicians in Tables 1 and 2, respectively. Tables for the remaining groups are presented in the appendix. Ranking is by descending order of frequency of positive response.

The average number of task functions performed by each group was translated into a task score expressed in per cent relative to total possible. These average task scores were: 77.6 per cent for all-clinical technicians; 78.2 per cent for all-administrative technicians; 76.2 per cent for clinical technicians; 76.0 per cent for administrative technicians. Histograms displaying task score relative to per cent of technicians who reported performance of these tasks are presented in Figures 1 and 2 for clinical and administrative technicians respectively.

Internal Comparisons

A series of t-tests were performed to determine if the number of tasks performed by various groupings of technicians was significantly different ($p \leq 0.05$). For each specialty (clinical and administrative), the groupings tested were: graduates of a non-American Dietetic Association approved associate degree program versus graduates of an American Dietetic Association approved associate degree program; those technicians employed by long term care facilities versus those employed by all other types of facilities; those who reported their department director was a registered dietitian versus those who reported their department director was not a registered dietitian; and those who reported they had had previous food service experience prior to becoming a professional dietetic technician versus those who reported they had had no such experience.

Table 1: Frequency and per cent of clinical dietetic technicians reporting performance of clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	44	100.0
11	Interpret physician's routine diet orders and modify diet according to diet patterns	43	97.7
13	Determine food preferences through consultation with patient	43	97.7
17	Observe patients' acceptance of diet and make notations on diet history	43	97.7
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	42	95.5
20	Verify accuracy of diet as received by patients	42	95.5
32	Provide assistance in menu selection to new patients on routine diet modifications	42	95.5
14	Instruct patient and family on routine diets	41	93.2
9	Participate in departmental or staff meetings	40	90.9
23	Plan and supervise nourishments and between-meal feedings	40	90.9
26	Consult routinely with registered dietitian in the care of the patient	40	90.9
2	Attend workshops and other continuing education programs	39	88.6

Table 1 continued

Task Function Number	Task Function Description	Frequency	Per Cent
10	Take accurate and informative diet history	39	88.6
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	39	88.6
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	38	86.4
31	Provide assistance in menu selection to new patients on normal diets	38	86.4
29	Consider the various ethnic and sociocultural groups, life styles and environment in planning for the nutritional needs of individuals, families or groups	34	77.3
7	Help coordinate general office management	32	72.7
19	Assist in the establishment of accurate and timely food delivery system	32	72.7
24	Evaluate effectiveness of nutrition care for patients	32	72.7
27	Plan nutritious, attractive food combinations acceptable to various individuals, families or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	32	72.7
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	27	61.4
28	Utilize knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	26	59.1

Table 1 continued

Task Function Number	Task Function Description	Frequency	Per Cent
4	Participate in community activities	24	54.5
6	Serve on department and/or institutional committees	21	47.7
25	Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	20	45.5
1	Prescribe diets for patients	14	31.8
15	Hold conferences with the medical team	13	29.5
3	Participate in research studies in nutritional care	11	25.0
5	Organize and direct community nutrition programs	11	25.0
21	Plan and direct nutrition conferences	9	20.5
12	Direct nutrition research	5	11.4

Table 2: Frequency and per cent of administrative dietetic technicians reporting performance of administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	20	95.2
6	Delegate duties to competent individuals	20	95.2
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	20	95.2
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	19	90.5
11	Attend workshops and other continuing education programs	19	90.5
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	18	85.7
18	Develop labor times for production of food items (work schedules)	18	85.7
24	Develop and keep up-to-date job descriptions and specifications for all positions	18	85.7
26	Be responsible for discipline and termination when required	18	85.7
5	Assist in developing plans for operation under emergency conditions	17	81.0
12	Evaluate effectiveness of patient meal service	17	81.0

Table 2 continued

Task Function Number	Task Function Description	Frequency	Per Cent
21	Maintain effective interdepartmental relations through appropriate communications	17	81.0
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	16	76.2
25	Interview and select dietetic personnel	16	76.2
3	Maintain a departmental operational manual. Recommend changes in policies to update	15	71.4
16	Purchase food, equipment, and supplies according to specifications	15	71.4
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	14	66.7
17	Plan food production time tables	14	66.7
23	Determine staffing needs	14	66.7
7	Serve on department and/or hospital committees	13	61.9
15	Assist in development of specifications for food, small equipment, and supplies to assure quality and cost control	13	61.9
19	Communicate with hospital administration concerning policies and procedures for departmental operation	13	61.9
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and make recommendations necessary for action	13	61.9
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	12	57.1

Table 2 continued

Task Function Number	Task Function Description	Frequency	Per Cent
9	Initiate departmental Management by Objectives programs	11	52.4
4	Prepare budgets for both salaries and equipment	6	28.6
13	Participate in research studies in food management	5	23.8

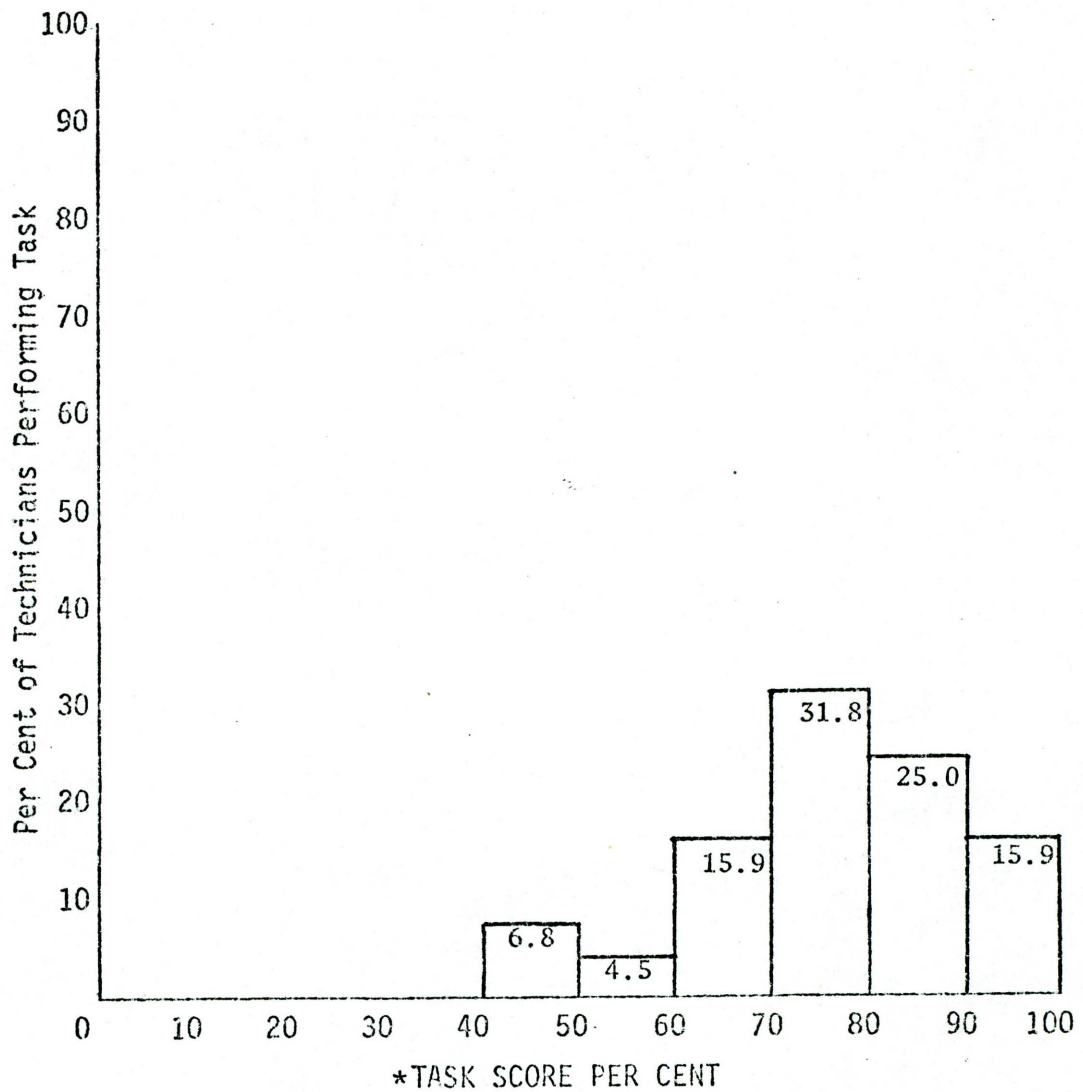


Figure 1. Clinical Technicians. Distribution of task scores (computed as per cent of possible).

*Per cent task score computed as number of tasks performed divided by total number of tasks excluding questions left blank.

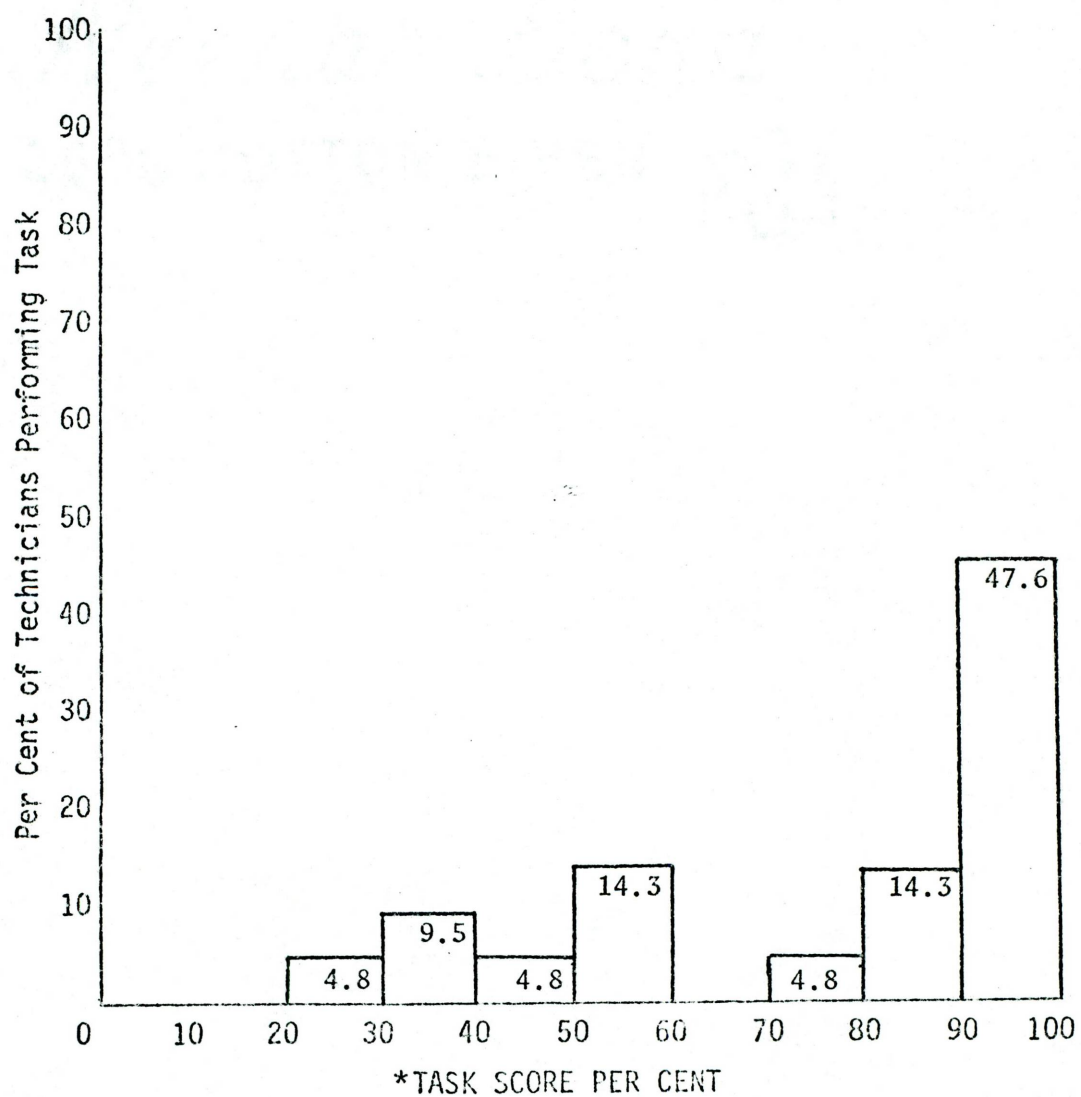


Figure 2. Administrative Technicians. Distribution of task scores (computed as per cent of possible).

*Per cent task score computed as number of tasks performed divided by total number of tasks excluding questions left blank.

For the clinical technician group, the only significant difference was found in that test dealing with type of facility. There appears to be a significantly greater number of the surveyed tasks being performed by clinical dietetic technicians employed in long term care facilities versus those being performed by those employed in all other types of facilities. The mean task score per cent was 91.0 for the long term care group and 74.2 for the other group.

For the administrative dietetic technician group, no significant difference was found in any of the cases tested.

For each specialty (clinical and administrative), a one-way analysis of variance was performed to test if there was a significant association between the number of duties performed and salary category. No significant difference was found, indicating no association, for either group. Another one-way analysis of variance was performed on each specialty group to determine if there was a significant association between number of duties performed and number of beds in the employing facility. No significant difference was found, indicating no association, for either group.

Again for each specialty group, correlation coefficients were calculated to determine if there was a significant association between number of duties performed and age or number of patients (employees) for which the dietetic technician was routinely responsible. No significant association was found for either group.

Comparisons with Other Researchers

A series of t-tests were performed to determine if the number of tasks performed by the technicians in this study differed from the

dietitian delegation scores reported by Lumsden (1976) and Beck (1978). It should be noted that the task function lists used in each of these three studies were identical.

For the comparison between task scores in this study and the dietitian delegation scores in Lumsden's (1976) and Beck's (1978) studies, the following groupings (listing the scores of this study first) were used: all-clinical technicians versus all-clinical dietitians; all-administrative technicians versus all-administrative dietitians; clinical technicians versus clinical dietitians; administrative technicians versus administrative dietitians. In all cases, a significant difference ($p \leq 0.05$) existed between the number of tasks performed by the technicians (as reported in this study) and the number of tasks for which dietitians expressed a willingness to delegate in both Lumsden's (1976) and Beck's (1978) data. Significantly more tasks were performed by technicians in 1978 than dietitians reported they were willing to delegate in either 1976 or 1978.

For comparisons of technician task scores in this study with the technician task scores reported by Beck (1978), the following groupings were used: all-clinical technicians; all-administrative technicians; clinical technicians; administrative technicians. The number of cases in each group were similar except in the administrative technician group wherein Beck recorded one-tenth the number of respondents as was reported in this study. None of the technicians in Beck's (1978) study were members of the American Dietetic Association. A significant difference in number of tasks performed by the technicians existed in the all-clinical and the clinical technicians groups. The technicians surveyed in this study reported they performed significantly more of the surveyed tasks than

those technicians documented in Beck's (1978) study. There was no significant difference in the task scores of the administrative groups.

ADEQUACY OF TRAINING

Ranked tables tabulated by descending order of reported adequacy of training are presented in Tables 3 and 4 for the clinical and administrative technicians respectively. Tables for the remaining groups are presented in the appendix. Generally, all groups reported adequacy of training for the majority of tasks.

Task functions for which 20 per cent or more of the technicians indicated inadequacy of training were examined in greater depths. For the administrative technician, task functions 4, 9, 13, 17, and 27 were examined; for the clinical technician, task functions 1, 3, 5, 12, and 21 were tested. All of these tasks dealt with functions which would normally be considered to require a greater amount of training for performance. The specific analyses are described below and are presented in detail in the appendix.

Have You Done This Task Function Versus Do You Feel You Have Been Adequately Trained

Fischer's exact tests were made to determine if there was an association between whether or not a technician was doing or had done the task function and whether or not he/she felt his/her training to perform this task function had been adequate.

Where the Fischer's tests were significant, those who tended to feel inadequate in training had not performed the duties. For the clinical

Table 3: Frequency and per cent of clinical dietetic technicians who reported they felt adequately trained to perform clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
17	Observe patients' acceptance of diet and make notations on diet history	43	97.7
11	Interpret physician's routine diet orders and modify diet according to diet pattern	42	95.5
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	42	95.5
13	Determine food preferences through consultation with the patient	41	93.2
14	Instruct patient and family on routine diets	41	93.2
20	Verify accuracy of diet as received by patients	41	93.2
31	Provide assistance in menu selection to new patients on normal diets	41	93.2
32	Provide assistance in menu selection to new patients on routine diet modifications	41	93.2
2	Attend workshops and other continuing education programs	40	90.9
10	Take accurate and informative diet history	40	90.9
23	Plan and supervise nourishments, and between-meal feedings	40	90.9
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	39	88.6
26	Consult routinely with registered dietitian in the care of the patient	39	88.6

Table 3 continued

Task Function Number	Task Function Description	Frequency	Per Cent
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	38	86.4
9	Participate in departmental or staff meetings	38	86.4
19	Assist in the establishment of accurate and timely food delivery system	38	86.4
27	Plan nutritious, attractive food combinations acceptable to various individuals, families, or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	38	86.4
24	Evaluate effectiveness of nutrition care for patients	36	81.8
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	36	81.8
28	Utilize knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	35	79.5
4	Participate in community activities	33	75.0
7	Help coordinate general office management	33	75.0
29	Consider the various ethnic and sociocultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	33	75.0
6	Serve on department and/or institutional committees	32	72.7

Table 3 continued

Task Function Number	Task Function Description	Frequency	Per Cent
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	32	72.7
25	Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	28	63.6
3	Participate in research studies in nutritional care	25	56.8
5	Organize and direct community nutrition programs	21	47.7
1	Prescribe diets for patients	19	43.2
15	Hold conferences with the medical team	17	38.6
21	Plan and direct nutrition conferences	13	29.5
12	Direct nutrition research	9	20.5

Table 4: Frequency and per cent of administrative dietetic technicians who reported they felt adequately trained to perform administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
11	Attend workshops and other continuing education programs	19	90.5
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	19	90.5
6	Delegate duties to competent individuals	18	85.7
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	18	85.7
12	Evaluate effectiveness of patient meal service	18	85.7
21	Maintain effective interdepartmental relations through appropriate communications	18	85.7
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	17	81.0
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	17	81.0
7	Serve on department and/or hospital committees	17	81.0
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	17	81.0
24	Develop and keep up-to-date job descriptions and specifications for all positions	17	81.0

Table 4 continued

Task Function Number	Task Function Description	Frequency	Per Cent
18	Develop labor times for production of food items (work schedules)	16	76.2
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	16	76.2
25	Interview and select dietetic personnel	16	76.2
26	Be responsible for discipline and termination when required	16	76.2
3	Maintain a departmental operational manual Recommend changes in policies to update	15	71.4
5	Assist in developing plans for operation under emergency conditions	15	71.4
16	Purchase food, equipment, and supplies according to specifications	15	71.4
17	Plan food production time tables	15	71.4
19	Communicate with hospital administration concerning policies and procedures for departmental operation	15	71.4
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	15	71.4
23	Determine staffing needs	14	66.7
15	Assist in development of specifications for food, small equipment, and supplies to assure quality and cost control	13	61.9
9	Initiate departmental Management by Objectives programs	12	57.1
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and recommendations necessary for action	12	57.1

Table 4 continued

Task Function Number	Task Function Description	Frequency	Per Cent
4	Prepare budgets for both salaries and equipment	10	47.6
13	Participate in research studies in food management	10	47.6

technicians, the Fisher's statistics were significant for task functions 1, 5, 12, 15, and 21; no significant association was found for task 3 (participate in nutrition research). For the administrative technicians, the Fisher's statistics were significant for task functions 4, 9, 13, and 27; no significant association was found for task number 17 (plan food production time tables). These results may indicate a need for curriculum relevance studies. Additionally, the apparent performance of certain tasks (nutrition research and planning production times) without adequate training is indicative of the need to identify discrepancies in training prior to the continuing and unevaluated delegation of these functions.

Long Term Care Facilities/Other Facilities Versus Do You Feel You Have Been Adequately Trained

Fisher's exact tests were made to determine if there was an association between the type of facility (long term care versus all others) in which the technician was employed and whether or not he/she felt his/her training had been adequate.

For the clinical task functions, a significant association ($p \leq 0.05$) was found for only task function 15 (hold conferences with the medical team). Technicians who performed this function in long term care facilities seemed to feel that they were more adequately trained to do so than did technicians who had performed this task function in other types of facilities. This may be logical when one considers the relative simplistic nature of this function in long term care facilities as compared to acute care facilities. The absence of a full time dietitian may also impact on the role assumed by the technician in the long term care facility.

For the administrative task functions, no significant association was found for any of the task functions tested. This would imply there is no apparent difference in the concept of adequacy of preparation by administrative technicians for task performance in long term care facilities as compared to those employed in other types of institutions.

DEMOGRAPHIC PROFILES

If one uses the clinical technician as a reference point, the administrative and generalist groups had more male members, were slightly older, and had received more types of educational training. Previous food service experience was indicated by a high percentage of all respondents, but more administrative and less clinical technicians reported having had such experience. The generalist seemed to receive the least remuneration and the administrative technician the most.

Generally, the clinical technician was employed in relatively larger facilities, primarily acute care teaching hospitals. Administrative technicians were employed in primarily either long term care facilities or acute care hospitals of relatively smaller capacities. The generalist was employed most infrequently in acute care (or teaching) facilities and most frequently in long term care facilities or in "other" facilities, primarily of less than 150 beds in capacity.

More detailed profiles follow. The data is further summarized and compared in Table 5.

Clinical Technician

Approximately 54 per cent of the respondents characterized themselves as clinical technicians. Of these, 97.7 per cent were female.

Table 5: Demographic Data, expressed in percentage or mean values for clinical, administrative and generalist technician groups.

Data Set Description	TECHNICIAN		
	Clinical	Administrative	Generalist
Sex			
Female	97.7%	81.0%	88.2%
Male	2.3%	19.0%	11.8%
Age, years			
Mean	31.3	37.4	33.8
Range	21-67	21-64	23-56
Patients/Employees for which Responsible			
Mean	90.1	41.1	114.3
Range	30-350	6-215	40-180
Previous Food Service Experience (yes)	63.6%	81.0%	70.6%
Education:			
ADA a.d. technician	77.3%	76.2%	76.5%
non-ADA a.d. technician	20.5%	23.8%	23.5%
Bachelor's Degree	4.5%	4.8%	5.9%
Other	4.5%	14.3%	11.8%
Type of Facility			
General, acute care hospital	31.8%	33.3%	11.8%
General, acute care teaching hospital	47.7%	14.3%	5.9%
Long Term Care Facility	11.4%	33.3%	35.3%
Other	4.5%	19.0%	47.1%
Beds in Facility			
less than 150	9.1%	33.3%	52.9%
150-250	29.5%	28.6%	35.3%
251-400	20.5%	23.8%	5.9%
more than 400	34.1%	14.3%	5.9%
Most Valuable Teaching Technique			
Lecture	13.6%	33.3%	11.8%
Supervised practical work experience	84.1%	57.1%	76.5%
Individual Projects	0.0%	0.0%	0.0%
Case Study	0.0%	0.0%	0.0%
Other	2.3%	4.8%	11.8%

Table 5 continued

Data Set Description	T E C H N I C I A N		
	Clinical	Administrative	Generalist
Food Service Director employed in facility is a registered dietitian (yes)	56.8%	38.1%	41.2%
Number of Dietitians employed in facility			
Mean	4.2	0.7	1.0
Range	0-18	0-4	0-4
Salary Range			
less than \$6,000	6.8%	0.0%	17.6%
\$6,000-\$7,500	11.4%	19.0%	23.5%
\$7,501-\$9,000	33.6%	19.0%	23.5%
\$9,001-\$10,500	22.7%	23.8%	23.5%
\$10,501-\$12,000	18.2%	19.0%	5.9%
more than \$12,000	0.0%	19.0%	5.9%

The mean age was 31.3 years, with a range of 21.0 to 67.0 years. Over 75 per cent had graduated from an American Dietetic Association approved associate degree dietetic technician training program; 63.6 per cent stated they had had food service experience prior to their becoming a professional dietetic technician. Approximately 84 per cent of the technicians indicated that, of the techniques listed, supervised practical work experience was the most valuable teaching technique used in their training. Over 60 per cent listed their annual salary as between \$7,501 and \$10,000, with \$7,501 to \$9,000 per year being the most frequent salary range indicated.

Over 85 per cent of the clinical technicians worked in either acute care hospitals or general acute care teaching hospitals. Almost 75 per cent of the clinical technicians were employed in facilities with over 250 beds; the category which received the most responses was that of facilities over 400 beds. The clinical technicians reported that they were responsible for a patient load ranging from 30.0 to 350.0 with a mean of 90.1 patients. In the facilities which employed these technicians, the number of clinical dietitians ranged from none to 18.0, with a mean of 4.2 dietitians. The food service director was a registered dietitian in 56.8 per cent of the cases.

Administrative Technician

Approximately 25 per cent of the respondents indicated they functioned in the role of the administrative technician. Of these, 81.0 per cent were female. The mean age was 37.4 years, with a range of 21.0 to 64.0 years. Over 75 per cent had graduated from an American Dietetic Association approved associate degree dietetic technician training program;

approximately 14 per cent indicated education other than a bachelor's or an associate degree. Eighty-one per cent noted that they had had previous food service experience prior to becoming a professional dietetic technician. Approximately 57 per cent of the technicians indicated that, of the techniques listed, supervised practical work experience was the most valuable teaching technique used in their training; lecture was indicated as the most valuable in one-third of the responses. Over 20 per cent listed their annual salary as falling between \$9,001 and \$10,500; each of the other classifications of salary (\$6,000-\$7,500; \$7,501-\$9,000; \$10,501-\$12,000; more than \$12,000) were indicated in 19 per cent of the cases.

One-third of the respondents were employed in long term care facilities. One-third of the facilities employing administrative technicians were less than 150 beds in capacity; over 85 per cent of the facilities were less than 400 beds in capacity. The administrative technicians indicated that they were responsible for direct supervision of between 6.0 and 215.0 employees; the mean number supervised was 41.1. In the facilities which employed these technicians, the number of administrative dietitians employed ranged from none to 4.0, with a mean of 0.7 dietitians. The food service director was a registered dietitian in 38.1 per cent of cases.

Generalist Technician

Approximately 20 per cent of the respondents described themselves as generalist technicians. Of these, 88.2 per cent were female. The mean age was 33.8 years, with a range of 23.0 to 56.0 years. Over 75 per cent

had graduated from an American Dietetic Association approved associate degree dietetic technician training program; 70.6 per cent indicated they had had food service experience prior to becoming a professional dietetic technician. Over 75 per cent indicated that, of the techniques listed, supervised practical work experience was the most valuable teaching technique used in their training. An equal number (23.5 per cent) indicated annual salary ranges of \$6,000-\$7,500 and \$7,501-\$9,000 and \$9,001-\$10,500.

The long term care facility was the most common specific type of facility in which these technicians were employed. However, the "other" category drew 47.1 per cent of the responses. Over 50 per cent of the facilities employing these technicians were less than 150 beds in capacity; over 88 per cent were less than 250 beds in capacity. The generalist technicians reported that they were responsible for between 40 and 180 patients (with a mean of 114.33 patients) and the supervision of none to 65.0 employees (with a mean of 21.53 employees). In the facilities which employed these technicians, the number of clinical dietitians employed was from none to 4.0; the mean was 1.0 clinical dietitians. From none to 2.0 administrative dietitians were employed; the mean was 0.69. The director of food services was a registered dietitian in 41.2 per cent of cases.

EXCEPTIONS TO THE DATA

The validity check questions used by Lumsden (tasks 4, 9, and 19 on the administrative questionnaire and tasks 1, 12, and 15 on the clinical questionnaire) were not used as validity criteria in this study. In

Lumsden's (1976) study these validity questions were viewed from a descriptive perspective predicated on supposition (willingness of dietitians to delegate tasks). In this study, however, actual performance of tasks was addressed. Further, the surveyed technicians in many cases may carry the major responsibility for these tasks in smaller facilities and/or in the absence of a more highly trained superior. Therefore, these questions were not used as disqualifiers of respondents. However, these questions were excluded from the comparative analyses to ensure similar data.

Some question was raised concerning the validity of the "who should ideally perform this task" section due to the supposition that technicians may not view task delegation (and hence performance) from a cost-effective standpoint as might a more highly trained professional such as a dietitian. Therefore, only general observations were noted.

The question concerning the optimal education technique assumed that all of those techniques listed were experienced by the technician during the training period. This is perhaps an unrealistic assumption. Therefore, the results from this question can only be used as a relative measure of preference of supervised work experience over lecture since the distribution of responses was primarily between these two variables. It is important to note, however, that supervised work experience ranked the highest in relation to its perceived value as an educational technique. In training programs, perhaps more emphasis should be placed on providing these experiences.

The question which dealt with whether or not the technician had previous food service experience prior to becoming a professional dietetic

technician may only be a general indicator. It would seem reasonable to expect that many student technicians would pursue food service employment, at least parttime, during their training in a food service industry occupation. A more appropriate question might query rather or not the technician had previous food service experience prior to entering the technician training program. These responses might suggest the existence or non-existence of a career ladder in food service.

The questions concerning the number of dietitians employed in the facility and whether or not the director was a registered dietitian probably yielded little valuable information other than descriptive. It was evident, however, that certain facilities apparently operate with a consultant dietitian and have no dietitian on their permanent staff.

The question concerning number of patients (or employees) for which a technician was responsible is also open to some question of usefulness for prediction. The perspective of the respondent and/or the type of patient load may have interfered with appropriate and meaningful data collection which might be used as a basis for predictive models.

COMMENTS MADE BY RESPONDENTS

Many comments were recorded by the respondents on the questionnaires. These are presented in Exhibits 1, 2, and 3 (appendix). A general summary, however, is presented here.

The comments seemed to center around explanations of responses, expressions of comradery, observations of responses of other professionals to the entrance of the technician into the field, and how training was inadequate.

Several respondents noted they were employed in such diverse "other" facilities as acute care hospitals with attached extended care facilities, rehabilitation or psychiatric centers, government funded nutrition programs, and school food service. It is important to note the wide variety of responsibilities that these various types of facilities would presumably delegate to the technician.

The technicians expressed pride in their profession, noting its value to the health care system. It was repeatedly emphasized that they felt they were an essential component of the health care team with the dietitian as their leader. None expressed, either in insinuitive tone or overtly, that they were as equally qualified as a dietitian.

Repeatedly, however, comments addressed the health care industry's ignorance of the technician's worth. It was stated that dietitians are unaware or reluctant to delegate tasks other than clerical tasks and that technicians are not allowed to function in the level of responsibility for which they had been trained. Resentment concerning the employment of non-qualified persons in technician roles was expressed as well. It was generally commented that a re-education of the dietitian, administrator and personnel department was needed to ensure optimal role performance by and employment of the professional dietetic technician.

In the administrative area, inadequacy of training in cost accounting, budgeting, and employee interview and discipline processes was noted. In the clinical area, inadequacy of training in communicating with medical staff, medical terminology, individualization of care plans, charting, and group dynamics was noted.

RECOMMENDATIONS

Though the sample size was limited, several recommendations based on this research may be made. These include the following:

(1) A fragmented approach to dietotherapy should be avoided.

Related tasks are not being performed to the same degree. For instance, 96 per cent of the clinical technicians stated they were providing assistance in menu selection to patients on modified diets; however, only 59 per cent indicated they utilized knowledge of food composition in designing dietary plans, and 77 per cent indicated they considered various ethnic and sociocultural factors in planning for nutritional needs. Similar percentages were noted in the adequacy of training section for these tasks. This represents a fragmented approach to dietotherapy which is inappropriate. Curriculums must be altered to reflect the importance of assessing patient situations and individualizing care plans; performance of delegated responsibilities should be continually monitored to ensure compliance with this approach to dietotherapy.

(2) Basic management activities must be delegated to technicians.

It is interesting to note that for the administrative technician, the basic functions of determining staffing needs, planning food production time tables, and planning/evaluating menus were performed 67 per cent of the time. For the adequacy of training, the technicians noted similar or lower percentages except for planning/evaluating menus which ranked first (90.5 per cent) in adequacy of training. Certainly, these basic functions should be an essential component of every training program. Additionally, it is suggested that the delegation of functions to administrative technicians include these task functions.

(3) Redefine the role and functions of the technician and dietitian.

Apparently, there is some lack of clear definition of the specific task functions a dietetic technician may appropriately perform as a delegated responsibility. The task functions lists now available are open to a wide range of interpretations. It is therefore essential that very specific task function descriptions be detailed for the technician with perhaps delineation as to type and size of facility if indeed the performance of tasks would be altered in response to these variables. Additionally, the published statement concerning the role and functions of the professional dietitian should be redefined and detailed; this statement should also reflect the importance and specifics of the delegation of the task functions to dietetic technicians.

(4) Emphasize practical work experience in training. Supervised practical work experience was noted by a vast majority of respondents as the most valuable teaching technique used in their training. It is recommended that this type of teaching technique under the guidance of a qualified instructor continue to be an essential component of every training program. In personnel management and in patient care systems, it is deemed essential that this type of educational technique be especially emphasized.

(5) Establish workshop programs for dietitians. Interactive programs such as workshops could be conducted under the auspices of the American Dietetics Association. The purpose of these programs would be to increase the awareness of the role the technician may play in the health care and/or management team. Presentations on the recommendations

for appropriate employment policies and practices as well as presentations of realistic and detailed job descriptions would be worthwhile activities. The underlying program, however, should deal with the specifics of how a technician job class may benefit the professional dietitian; that is, how a technician may be used effectively.

(6) Increase the professional recognition of the technicians.

Routes to enhance the recognition of the dietetic technicians as professionals fulfilling a vital and essential role in the health care industry should be identified and implemented. Serious consideration should be given by the American Dietetic Association to accrediting rather than to approving of dietetic technician programs. This would enhance the ability to use these stated competencies as a basis for licensure in relation to quality assurance programs. The recommendations of the Joint Commission for Accreditation of Hospitals of the American Hospital Association should be altered to reflect the appropriate use of the dietetic technician.

(7) Job titles should reflect qualifications. Further, the job title "dietetic technician" should be used only for those employment positions which are filled by qualified dietetic technicians. At no time should a professional dietetic technician position be filled by a person who has not completed the academic and practical experiences to qualify them for American Dietetic Association technician category membership. Advertising employment opportunities in professional journals may also be appropriate. This listing of employment opportunities may be especially applicable to long term care facility openings which may in turn encourage increased geographic mobility while decreasing maldistribution.

FUTURE STUDY

Several topics for further study have been raised as a result of this study. Perhaps the most pressing need for study concerns techniques and routes to re-educate other professional staff concerning the value of a dietetic technician as a component of the management and/or health care team. Inappropriate hiring policies, job descriptions, and delegation practices should be identified; appropriate methodologies to correct these incongruencies should be developed.

In conjunction with the above, more appropriate delineation of the role of the technician versus the role of the dietitian should be documented; this seems especially needed in current administrative subsystems. An assessment of whether or not specific tasks are a routine component of a job description might be useful. Appropriate guidelines and logic flow charts for a facility's use in developing the effective employment of a technician job class should be documented. A step-wise plan might be most helpful.

The optimal ratio of registered dietitians to professional dietetic technicians for effective utilization of manpower at least cost while ensuring an identified quality of nutrition care should be investigated. A well-documented study may indicate the economic optimal for combination of these levels of health manpower. This information is essential for facilities' cost control programs as well as for the development of meaningful manpower predictive tools for essential planning of educational programs. Concurrent with this study, the labor force participation rate, and reasons for it, should be investigated. It is interesting to note that 13.6 per cent of the respondents stated they had

not been employed in the field after graduation. Methods to increase labor force participation needs to be identified.

Curriculum content for dietetic technician training programs may need to be closely evaluated. Incongruencies in curriculum content in relation to the suggested task functions should be identified. The amount of time dedicated to the development of a competency for any one task function should be determined on a basis of its weighted proportion of relative importance to overall development of effective performance.

An examination of the curriculum relevance in respect to employment in long term care facilities, with their unique requirements is also indicated. This particular need for study might be expanded to include whether or not the type of education program from which a technician has graduated has prepared them for their role. That is, are the specialist program graduates employed in fields other than that of their trained specialty? Comments made by respondents would indicate that this employment paradox exists, but more study should be directed toward examining the impact of these employment practices on the general acceptance of the role of the dietetic technician.

V. SUMMARY

Questionnaires were sent to the 130 dietetic technicians who were members of the American Dietetic Association. The results were used to determine the degree to which dietetic technicians reported performance of identified tasks of the role as defined by the American Dietetic Association. The adequacy of training and certain demographic data were also collected and analyzed.

Task scores were derived by determining the average per cent of listed task functions the technicians reported having had performed. For all groups, the task score was approximately 75 per cent.

Internal comparisons by demographic data indicated that for clinical technicians, more tasks are performed by those employed in long term facilities than by those employed in other types of facilities. There was no significant difference in number of tasks performed by administrative technicians in relation to type of facility. Further comparisons were made for age, number of patients (employees) for which the technician was routinely responsible, salary, size of facility, whether the technician had previous experience, whether the technician was a graduate of a non-American Dietetic Association or an American Dietetic Association approved associate degree program, and whether or not the department director was a registered dietitian. No significant difference in number of tasks performed with respect to these variable was found for any group tested.

Comparisons with the studies of Lumsden (1976) and Beck (1978) were made. For all groups, significantly more tasks were being performed by technicians surveyed in this study than tasks which dietitians had been reported to be willing to delegate.

The analysis of adequacy of training indicated that generally, training was adequate for the majority of tasks. The technicians tended to feel inadequate in training if they had not performed the task.

Demographic profiles were described for the clinical, administrative, and generalist technician groups. With the clinical technician as a reference point, the administrative and generalist groups had more male members, were slightly older, and had received more types of educational training. Previous food service experience was indicated by a high percentage of all respondents, but more administrative and less clinical technicians had such experience. The generalist seemed to receive the least remuneration and the administrative technician the most.

Generally, the clinical technician was employed in relatively larger facilities, primarily acute care teaching hospitals. Administrative technicians were employed in primarily either long term care facilities or acute care hospitals of relatively smaller capacities. The generalist was employed most infrequently in acute care (or teaching) facilities and most frequently in long term care facilities or in "other" facilities, primarily of less than 150 beds in capacity.

The needs for more detailed delineation of the role of the dietetic technician was generally indicated.

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APPENDICES

APPENDIX A

Table 6 Frequency and per cent of clinical and generalist dietetic technicians reporting performance of clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	62	100.0
13	Determine food preferences through consultation with patient	60	96.8
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	60	96.8
17	Observe patients' acceptance of diet and make notations on diet history	60	96.8
32	Provide assistance in menu selection to new patients on routine diet modifications	60	96.8
14	Instruct patient and family on routine diets	59	95.2
11	Interpret physician's routine diet orders and modify diet according to diet pattern	58	93.5
2	Attend workshops and other continuing education programs	57	91.9
20	Verify accuracy of diet as received by patients	57	91.9
23	Plan and supervise nourishments, and between-meal feedings	57	91.9
26	Consult routinely with registered dietitian in care of the patient	57	91.9
9	Participate in departmental or staff meetings	56	90.3
10	Take accurate and informative diet history	56	90.3

Table 6 continued

Task Function Number	Task Function Description	Frequency	Per Cent
31	Provide assistance in menu selection to new patients on normal diets	56	90.3
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	54	87.1
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	53	85.5
19	Assist in the establishment of accurate and timely food delivery system	49	79.0
29	Consider the various ethnic and socio-cultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	48	77.4
7	Help coordinate general office management	46	74.2
27	Plan nutritious, attractive food combinations acceptable to various individuals, families or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	46	74.2
24	Evaluate effectiveness of nutrition care for patients	45	72.6
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	43	69.4
4	Participate in community activities	39	62.9
28	Utilize knowledge of food composition in designing dietary plans for meeting physiological needs of individuals and groups throughout the life cycle	39	62.9

Table 6 continued

Task Function Number	Task Function Description	Frequency	Per Cent
6	Serve on department and/or institutional committees	36	58.1
25	Participate with nursing service and special services in establishing and reviewing procedures related to dietary	33	53.2
1	Prescribe diets for patients	26	41.9
15	Hold conferences with the medical team	22	35.5
5	Organize and direct community nutrition programs	17	27.4
3	Participate in research studies in nutritional care	14	22.6
21	Plan and direct nutrition conferences	14	22.6
12	Direct nutrition research	7	11.3

Table 7 Frequency and per cent of administrative and generalist dietetic technicians reporting performance of administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	39	95.1
6	Delegate duties to competent individuals	38	92.7
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	38	92.7
11	Attend workshops and other continuing education programs	38	92.7
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	36	87.8
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	36	87.8
12	Evaluate effectiveness of patient meal service	36	87.8
21	Maintain effective interdepartmental relations through appropriate communications	35	85.4
24	Develop and keep up-to-date job descriptions and specifications for all positions	35	85.4
26	Be responsible for discipline and termination when required	35	85.4
18	Develop labor times for production of food items (work schedules)	34	82.9

Table 7 continued

Task Function Number	Task Function Description	Frequency	Per Cent
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	32	78.0
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	32	78.0
25	Interview and select dietetic personnel	32	78.0
16	Purchase food, equipment, and supplies according to specifications	31	75.6
23	Determine staffing needs	31	75.6
3	Maintain a departmental operational manual. Recommend changes in policies to update	30	73.2
5	Assist in developing plans for operation under emergency conditions	30	73.2
17	Plan food production time tables	30	73.2
7	Serve on department and/or hospital committees	28	68.3
15	Assist in development of specifications for food, small equipment and supplies to assure quality and cost control	28	68.3
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and recommendations necessary for action	28	68.3
19	Communicate with hospital administration concerning policies and procedures for departmental operation	26	63.4
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	24	58.5

Table 7 continued

Task Function Number	Task Function Description	Frequency	Per Cent
9	Initiate departmental Management by Objectives programs	21	51.2
4	Prepare budgets for both salaries and equipment	15	36.6
13	Participate in research studies in food management	12	29.3

Table 8 Frequency and per cent of generalist dietetic technicians reporting performance of clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
2	Attend workshops and other continuing education programs	17	100.0
14	Instruct patient and family on routine diets	17	100.0
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	17	100.0
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	17	100.0
31	Provide assistance in menu selection to new patients on normal diets	17	100.0
32	Provide assistance in menu selection to new patients on routine diet modifications	17	100.0
10	Take accurate and informative diet history	16	94.1
13	Determine food preferences through consultation with patient	16	94.1
17	Observe patients' acceptance of diet and make notations on diet history	16	94.1
19	Assist in the establishment of accurate and timely food delivery system	16	94.1
23	Plan and supervise nourishment, and between-meal feedings	16	94.1
26	Consult routinely with register dietitian in the care of the patient	16	94.1
9	Participate in departmental or staff meetings	15	88.2

Table 8 continued

Task Function Number	Task Function Description	Frequency	Per Cent
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	15	88.2
4	Participate in community activities	14	82.4
6	Serve on department and/or institutional committees	14	82.4
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	14	82.4
11	Interpret physician's routine diet orders and modify diet according to diet pattern	14	82.4
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	14	82.4
20	Verify accuracy of diet as received by patients	14	82.4
27	Plan nutritious, attractive food combinations acceptable to various individuals, families or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	14	82.4
7	Help coordinate general office management	13	76.5
28	Utilize knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	13	76.5
29	Consider the various ethnic and sociocultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	13	76.5
24	Evaluate effectiveness of nutrition care for patients	12	70.6

Table 8 continued

Task Function Number	Task Function Description	Frequency	Per Cent
25	Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	12	70.6
1	Prescribe diets for patients	11	64.7
15	Hold conferences with the medical team	8	47.1
5	Organize and direct community nutrition programs	6	35.3
21	Plan and direct nutrition conferences	5	29.4
3	Participate in research studies in nutritional care	3	17.6
12	Direct nutrition research	2	11.8

Table 9 Frequency and per cent of generalist dietetic technicians reporting performance of administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	17	100.0
11	Attend workshops and other continuing education programs	17	100.0
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	16	94.1
12	Evaluate effectiveness of patient meal service	16	94.1
6	Delegate duties to competent individuals	15	88.2
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	15	88.2
21	Maintain effective interdepartmental relations through appropriate communications	15	88.2
24	Develop and keep up-to-date job descriptions and specifications for all positions	15	88.2
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	14	82.4
18	Develop labor times for production of food items (work schedules)	14	82.4
23	Determine staffing needs	14	82.4
26	Be responsible for discipline and termination when required	14	82.4

Table 9 continued

Task Function Number	Task Function Description	Frequency	Per Cent
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	13	76.5
3	Maintain a departmental operational manual. Recommend changes in policies to update	13	76.5
7	Serve on department and/or hospital committees	13	76.5
16	Purchase food, equipment, and supplies according to specifications	13	76.5
17	Plan food production time tables	13	76.5
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance, and security	13	76.5
25	Interview and select dietetic personnel	13	76.5
15	Assist in development of specifications for food, small equipment and supplies to assure quality and cost control	12	70.6
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and recommendations necessary for action	12	70.6
19	Communicate with hospital administration concerning policies and procedures for departmental operation	11	64.7
5	Assist in developing plans for operation under emergency conditions	10	58.8
9	Initiate departmental Management by Objectives programs	10	58.8
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	10	58.8

Table 9 continued

Task Function Number	Task Function Description	Frequency	Per Cent
4	Prepare budgets for both salaries and equipment	7	41.2
13	Participate in research studies in food management	6	35.3

Table 10 Frequency and per cent of all clinical and generalist dietetic technicians who felt adequately trained to perform clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	60	96.8
17	Observe patients' acceptance of diet and make notations on diet history	60	96.8
13	Determine food preferences through consultation with patient	59	95.2
31	Provide assistance in menu selection to new patients on normal diets	59	95.2
32	Provide assistance in menu selection to new patients on routine diet modifications	59	95.2
14	Instruct patient and family on routine diets	58	93.5
23	Plan and supervise nourishments, and between-meal feedings	58	93.5
2	Attend workshops and other continuing education programs	57	91.9
10	Take accurate and informative diet history	57	91.9
11	Interpret physician's routine diet orders and modify diet according to diet pattern	57	91.9
20	Verify accuracy of diet as received by patients	57	91.9
26	Consult routinely with registered dietitian in the care of the patient	57	91.9

Table 10 continued

Task Function Number	Task Function Description	Frequency	Per Cent
27	Plan nutritious, attractive food combinations acceptable to various individuals, families, or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	56	90.3
9	Participate in departmental or staff meetings	55	88.7
19	Assist in the establishment of accurate and timely food delivery system	55	88.7
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	54	87.1
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	54	87.1
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	53	85.5
24	Evaluate effectiveness of nutrition care for patients	51	82.3
6	Serve on department and/or institutional committees	50	80.6
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	50	80.6
4	Participate in community activities	49	79.0
28	Utilize the knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	49	79.0

Table 10 continued

Task Function Number	Task Function Description	Frequency	Per Cent
7	Help coordinate general office management	48	77.4
29	Consider the various ethnic and socio-cultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	47	75.8
25	Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	43	69.4
1	Prescribe diets for patients	31	50.0
3	Participate in research studies in nutritional care	31	50.0
5	Organize and direct community nutrition programs	31	50.0
15	Hold conferences with the medical team	27	43.5
21	Plan and direct nutrition conferences	21	33.9
12	Direct nutrition research	11	17.7

Table 11 Frequency and per cent of all administrative and generalist dietetic technicians who reported they felt adequately trained to perform administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
6	Delegate duties to competent individuals	38	92.7
11	Attend workshops and other continuing education programs	38	92.7
12	Evaluate effectiveness of patient meal service	38	92.7
21	Maintain effective interdepartmental relations through appropriate communications	38	92.7
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	37	90.2
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	37	90.2
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	36	87.8
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	36	87.8
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	35	85.4
7	Serve on department and/or hospital committees	35	85.4

Table 11 continued

Task Function Number	Task Function Description	Frequency	Per Cent
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	35	85.4
24	Develop and keep up-to-date job descriptions and specifications for all positions	35	85.4
19	Communicate with hospital administration concerning policies and procedures for departmental operation	34	82.9
23	Determine staffing needs	34	82.9
18	Develop labor times for production of food items (work schedules)	33	80.5
25	Interview and select dietetic personnel	33	80.5
5	Assist in developing plans for operation under emergency conditions	32	78.0
17	Plan food production time tables	32	78.0
26	Be responsible for discipline and termination when required	32	78.0
3	Maintain a departmental operational manual. Recommend changes in policies to update	31	75.6
15	Assist in development of specifications for food, small equipment and supplies to assure quality and cost control	31	75.6
16	Purchase food, equipment, and supplies according to specifications	31	75.6
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and make recommendations for necessary action	30	73.2

Table 11 continued

Task Function Number	Task Function Description	Frequency	Per Cent
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	30	73.2
9	Initiate departmental Management by Objectives programs	26	63.4
4	Prepare budgets for both salaries and equipment	21	51.2
13	Participate in research studies in food management	20	48.8

Table 12: Frequency and per cent of generalist dietetic technicians who reported they felt adequately trained to perform clinical task functions

Task Function Number	Task Function Description	Frequency	Per Cent
6	Serve on department and/or institutional committees	17	100.0
10	Take accurate and informative diet history	17	100.0
13	Determine food preferences through consultation with patient	17	100.0
16	Provide assistance in menu selection to new patients on normal diets or routine diet modifications	17	100.0
22	Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	17	100.0
23	Plan and supervise nourishments, and between-meal feedings	17	100.0
26	Consult routinely with registered dietitian in the care of the patient	17	100.0
27	Plan nutritious, attractive food combinations acceptable to various individuals, families or groups at different economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape and consistency	17	100.0
31	Provide assistance in menu selection to new patients on normal diets	17	100.0
32	Provide assistance in menu selection to new patients on routine diet modifications	17	100.0
2	Attend workshops and other continuing education programs	16	94.1

Table 12 continued

Task Function Number	Task Function Description	Frequency	Per Cent
9	Participate in departmental or staff meetings	16	94.1
14	Instruct patient and family on routine diets	15	94.1
17	Observe patients' acceptance of diet and make notations on diet history	16	94.1
19	Assist in the establishment of accurate and timely food delivery system	16	94.1
30	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	16	94.1
4	Participate in community activities	15	88.2
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	15	88.2
20	Verify accuracy of diet as received by patients	15	88.2
24	Evaluate effectiveness of nutrition care for patients	15	88.2
25	Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	15	88.2
7	Help coordinate general office management	14	82.4
11	Interpret physician's routine diet orders and modify diet according to diet patterns	14	82.4
18	Maintain accurate and timely systems for transmission of patient diet orders and changes	14	82.4

Table 12 continued

Task Function Number	Task Function Description	Frequency	Per Cent
28	Utilize knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	14	82.4
29	Consider the various ethnic and sociocultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	13	76.5
1	Prescribe diets for patients	12	70.6
5	Organize and direct community nutrition programs	10	58.8
15	Hold conferences with the medical team	10	58.8
21	Plan and direct nutrition conferences	8	47.1
3	Participate in research studies in nutritional care	6	35.3
12	Direct nutrition research	2	11.8

Table 13: Frequency and per cent of generalist dietetic technicians who reported they felt adequately trained to perform administrative task functions

Task Function Number	Task Function Description	Frequency	Per Cent
6	Delegate duties to competent individuals	17	100.0
12	Evaluate effectiveness of patient meal service	17	100.0
21	Maintain effective interdepartmental relations through appropriate communications	17	100.0
23	Determine staffing needs	17	100.0
2	Establish standard procedures to carry out activities of the department in order to implement previously established policies	16	94.1
7	Serve on department and/or hospital committees	16	94.1
8	Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	16	94.1
10	Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	16	94.1
11	Attend workshops and other continuing education programs	16	94.1
19	Communicate with hospital administration concerning policies and procedures for departmental operation	16	94.1
20	Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	16	94.1

Table 13 continued

Task Function Number	Task Function Description	Frequency	Per Cent
24	Develop and keep up-to-date job descriptions and specifications for all positions	16	94.1
1	Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	15	88.2
14	Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	15	88.2
15	Assist in development of specifications for food, small equipment and supplies to assure quality and cost control	15	88.2
17	Plan food production time tables	15	88.2
18	Develop labor times for production of food items (work schedules)	15	88.2
22	Review cost control records, payroll reports, personnel records, and other pertinent reports and recommendations for action	15	88.2
3	Maintain a departmental operational manual. Recommend changes in policies to update	14	82.4
5	Assist in developing plans for operation under emergency conditions	14	82.4
25	Interview and select dietetic personnel	14	82.4
26	Be responsible for discipline and termination when required	14	82.4
9	Initiate departmental Management by Objectives programs	13	76.5

Table 13 continued

Task Function Number	Task Function Description	Frequency	Per Cent
16	Purchase food, equipment, and supplies according to specifications	13	76.5
27	Recommend appropriate salary and wage incentives based on performance records and evaluation	13	76.5
4	Prepare budgets for both salaries and equipment	10	58.8
13	Participate in research studies in food management	9	52.9

APPENDIX B

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Exhibit 1: GENERAL COMMENTS RECORDED BY RESPONDENTS

Clinical

Many hospitals and health care facilities do not know how to utilize a technician or aren't aware of what a dietetic technician can do in their facility. Informing administrators is a must if the technician is to remain/become a member of the health care team

The technician is used correctly can be a valuable asset to the dietitian.

I am not recognized as a technician. I am not allowed to instruct patients. Any problem I run into the dietitian solves; I am not allowed to attempt them. My job is basically diet clerking, answering telephones, picking up menus and checking diabetics for replacements.

Being a technician is rewarding.

More responsibility should be given to the dietetic technician, but I realize this might take time.

The industry doesn't have enough information on what diet technicians are or do.

Work under 2 dietitians. Support them. We have 350 patients.

Responsible for all special diet patients (usually 75).

Diet techs are not allowed to participate in the functions for which we are trained. (2 respondents)

Glad to see the diet techs are being considered as an individual group with their own problems, identity, etc.

I have enjoyed my work. However, some older dietitians have no time for us. They obviously feel that we are moving in on their work and don't feel we can be part of the total health care team.

I think the tech is capable to do more of the menu checking for diet modification.

In the care facility in which I work, the duties of the R.D. and the tech overlap. This is due to budget.

I feel I have been used to my fullest potential.

The role of the diet tech is very important. I hope it doesn't become obsolete.

Exhibit 1 continued

Clinical continued

At the York Hospital, the R.D., diet tech and diet assistant work together. While the tech and assistant are passing menus, the dietitian may be giving diet instructions. We have about 100 patients; I am responsible for fifty.

The part I play in the nutritional care of the patient is very rewarding.

I graduated from an administrative program. Most of the diet therapy knowledge I routinely use was acquired through seminars or my own research.

Administrative

Jobs are very hard to get in this area; when one does open, the salary is very low.

It has been my experience that dietitians are uncertain as to what is required of a dietetic technician and therefore reluctant to delegate; likewise it may be a threat to job security. Needs more exploration.

It is unfortunate that at this time non high school graduates are allowed to perform in the role of the diet tech in the state of Alabama.

Techs should be valued more and respected more. The salary should be better.

It isn't practical for the tech to work hard and complete school and then be shoved aside as the "off the street" person comes in and tries to perform in a tech's role.

I am proud of my title and ability and resent the hospital using my title for non-ADA techs.

The range of responsibilities will depend on the aggressiveness and ability of the technician.

Generalist

Management seems to be my biggest problem.

Personnel and administrators need to know more about dietetic technicians. The dietitians in general need to learn to delegate job tasks and not just menial jobs as as not to threaten them.

I feel the technician and the registered dietitian should work as a team, helping each other.

Exhibit 1 continued

Generalist continued

In this area, the technician is not recognized. I feel more dietitians should be aware of techs and how they can assist the dietitian in giving good nutritional care.

In a nursing home, the duties of the consultant dietitian and the duties of the tech should be clearly defined even though some areas may overlap. Job duties were not explained.

I would like to see more dietetic technician jobs advertised in professional journals.

Other

I am not employed as an orderly.

I have not worked since completing my tech training.

I work for a meat processing plant.

I have been unable to find a job. (3 respondents)

I have a M.S. in Food Systems Management. The ADA is unable to classify and integrate multi-specialists.

Exhibit 2: TYPES OF FACILITIES RECORDED IN THE "OTHER" CATEGORY

Clinical

State mental hospital

Acute hospital with long term care facility attached (3 respondents)

Psychiatric Research Center

Administrative

Short term convalescent center

School food service (3 respondents)

Spa

Title VII

Rehabilitation center for handicapped

Generalist

Nursing home is attached to hospital

Continuing care center

Exhibit 3: COMMENTS RECORDED BY RESPONDENTS CONCERNING TRAINING

<u>Question Number</u> <u>clinical</u>	<u>Comment</u>
--	As it stands now, the doctor prescribe the diet. I think the dietitian should. My own training was not nearly as extensive as that of a dietitian.
--	Too much emphasis was put on interviewing patients and reading charts; at my present job I am not allowed to do this.
--	Need a longer and more detailed class in modifying diets.
--	In my training we were not taught charting. I have to do this now and I don't feel adequately trained.
1	No drug interaction information. Not enough background on diseases (4 respondents)
1, 5, 12, 15, 21	All these situations need the indepth knowledge of a dietitian. (3 respondents)
5	I could help organize a community program but not head the entire thing.
5, 6, 15, 24, 25	Trained as a subordinate.
9, 12, 15, 21	Never included in my training.
12	We were trained in the "care" of patients, not in research.
14, 29	Poor knowledge of ethnic and socioeconomic factors as related to nutrition (3 respondents)
12	Terminology training was inadequate. What to expect from physician communications.
15	Very little training on how to deal with doctors on a face to face basis.
25	Not enough training in communicating with other medical staff.
41	A variety of training techniques is needed. (3 respondents)

Exhibit 3 continued

<u>Question Number</u>	<u>Comment</u>
administrative	
--	The only area in which I lack training is billing.
--	In many areas, my college training was not adequate but my personal experience over a period of 10 years has made up for it.
--	Inadequate accounting. More management courses needed.
13	More knowledge on how to find the best goals and compare present situations to the ideal.
25	A course in how to hire and fire personnel (3 respondents)
36	I found the combination of lecture and work experience the best. I could see how practical the lecture information was.
generalist	
--	My training was clinical and didn't include administrative areas which I deal with now.
--	I had little training in the area of employee relations and wages.

APPENDIX C

Table 14: Fischer exact tests performed on performance of task functions versus expressed adequacy of training to perform the task where 20 per cent or more of respondents recorded a "no" response in the adequacy of training section. Clinical dietetic technician

Task Function	Task Description	Perform The Task	Adequate Training		
			Yes	No	
		Yes			
		No			
1	Prescribe diets for patients		Y	N	
		Y	12	2	P = 0.0035
		N	7	16	
3	Participate in research studies in nutritional care		Y	N	
		Y	9	1	P = 0.1358
		N	16	12	
12	Direct nutrition research		Y	N	
		Y	5	0	P = 0.0001
		N	4	30	
5	Organize and direct community nutrition programs		Y	N	
		Y	9	1	P = 0.03
		N	12	16	
15	Hold conferences with the medical team		Y	N	
		Y	10	1	P = 0.0010
		N	7	20	

Table 14 continued

<u>Task Function</u>	<u>Task Description</u>	Perform The Task	Adequate Training	
			Yes	No
		Yes		
		No		
21	Plan and direct nutrition conferences		Y	N
		Y	9	0
		N	4	24

P = 0.0000

Table 15: Fischer exact tests performed on performance of task functions versus expressed adequacy of training to perform the task where 20 per cent or more of respondents recorded a "no" response in the adequacy of training section. Administrative dietetic technicians

Task Function	Task Description	Perform The Task	Adequate Training		
			Yes	No	
		Yes			
		No			
4	Prepare budgets for both salaries and equipment		Y	N	
		Y	5	0	
		N	5	9	P = 0.0217
9	Initiate departmental Management by Objectives Program		Y	N	
		Y	9	1	
		N	3	6	P = 0.01739
13	Participate in research studies in food management		Y	N	
		Y	4	0	
		N	6	9	P = 0.0540
17	Plan food production time tables		Y	N	
		Y	12	1	
		N	3	3	P = 0.07
27	Recommend appropriate salary and wage incentives based on performance records and evaluation		Y	N	
		Y	12	0	
		N	3	4	P = 0.009

Table 16: Fischer exact tests performed on expressed adequacy of training to perform the task versus type of facility in which employed, where 20 per cent or more of respondents recorded a "no" response in the adequacy of training section. The employing facilities were grouped into long-term care facilities (L) and all others (O). Clinical dietetic technicians.

Task Function	Task Description	Type of Facility	Adequate Training		
			Yes	No	
		L			
		O			
1	Prescribe diets for patients		Y	N	
		L	5	0	
		O	14	18	P = 0.0630
3	Participate in research studies in nutritional care		Y	N	
		L	3	1	
		O	22	12	P = 0.8834
5	Organize and direct community nutrition programs		Y	N	
		L	3	2	
		O	18	15	P = 0.7995
12	Direct nutrition research		Y	N	
		L	0	4	
		O	9	26	P = 0.5961
15	Hold conferences with the medical team		Y	N	
		L	5	0	
		O	12	21	P = 0.0289

Table 16 continued

<u>Task Function</u>	<u>Task Description</u>	Type of Facility	Adequate Training	
			Yes	No
		L		
		O		
21	Plan and direct nutrition conferences		Y	N
		L	3	1
		O	10	23

P = 0.2248

Table 17: Fischer exact tests performed on expressed adequacy of training to perform the task versus type of facility in which employed, where 20 per cent or more of respondents recorded a "no" response in the adequacy of training section. The employing facilities were grouped into long-term care facilities (L) and all others (O). Administrative dietetic technicians

Task Function	Task Description	Type of Facility	Adequate Training		
			Yes	No	
		L			
		O			
4	Prepare budgets for both salaries and equipment		Y	N	
		L	1	5	
		O	6	9	P = 0.3
9	Initiate departmental Management by Objectives program		Y	N	
		L	5	6	
		O	2	8	P = 0.22
13	Participate in research studies in food management		Y	N	
		L	2	3	
		O	5	11	P = 0.557
17	Plan food production time tables		Y	N	
		L	6	8	
		O	1	6	P = 0.21
27	Recommend appropriate salary and wage incentives based on performance records and evaluations		Y	N	
		L	5	7	
		O	2	7	P = 0.32

APPENDIX D



ROCHESTER METHODIST HOSPITAL

Rochester, Minnesota 55901

Telephone 507/286-7890

Dear

As a professional Dietetic Technician and a member of the American Dietetics Association, I am sure you are aware of the need for assurance that educational programs and professional definitions remain current. Attached is an open letter from Dr. Kathleen Zolber which emphasizes the need for the information addressed in these questionnaires. Your help in documenting this information is essential to ensure that your society, the American Dietetics Association, may respond to the dynamic process of change.

Please take a few minutes to complete the attached questionnaire(s). The questionnaires indicate which specific area they address, whether administrative or clinical. If you perform both roles, please complete both questionnaires.

We'd appreciate receiving the return questionnaire(s) within one week. A stamped, addressed envelope is enclosed for your convenience. All responses will be kept completely confidential and used in statistical summaries only.

Thank you very much for your help.

Sincerely,

James C. Rose, RD
Director of Dietetics
and Food Services

Encls

LOMA LINDA UNIVERSITY



91

Loma Linda Campus
LOMA LINDA, CALIFORNIA 92354
La Sierra Campus
RIVERSIDE, CALIFORNIA 92505

SCHOOL OF HEALTH
DEPARTMENT OF NUTRITION

November 2, 1977

You are filling a very important position as a dietetic technician in a health care facility and we hope that many more professionally qualified technicians will become available. With additional emphasis being placed on quality assurance in providing nutritional assessment and care, the role of the technician becomes significant.

In the Department of Nutrition, Loma Linda University, we have had a great deal of interest in identifying what tasks are currently being done by the dietetic technician. A Coordinated Undergraduate Program in Dietetics leading to a baccalaureate degree is offered and the students learn through clinical practicum experience how to utilize the expertise of the technician to the optimal level. Each clinical dietitian at the Medical Center has a full-time clinical dietetic technician as a team member.

We are anxious to learn from you the tasks for which you have responsibility or the tasks you are actually doing. To simplify your sharing this information with us we have prepared a questionnaire which we hope you will complete and return as requested.

James Rose, R.D., graduate student in Food Systems Administration, is conducting this study and I hope you will take a few minutes to provide the information requested.

Sincerely,

Kathleen Zolber

Kathleen Zolber, Ph.D., R.D.
Professor & Director of Dietetics

pw

Enclosure

INSTRUCTIONS FOR COMPLETING
CLINICAL DIETETIC TECHNICIAN QUESTIONNAIRE

1. Please complete the questionnaire within one week.
2. Please mail the completed questionnaire in the enclosed addressed and stamped envelope.

Thank you very much for your help.

Following is a list of task functions that a clinical technician might do. Please indicate which you do, or have done, as a technician.

1 2 3 4

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

	As a technician do you now do, or have done, the following task functions?		Please categorize each function as to whom should IDEALLY perform it. (Check ONE)			Do you feel you have been adequately trained to do this duty?	
	Yes	No	Dietitian	Dietetic Technician	Either the Dietitian or Dietetic Technician	Yes	No
1. Prescribe diets for patients	¹ []	² [] ⁵	¹ []	² []	³ [] ¹⁹	¹ []	² [] ³³
2. Attend workshops and other continuing education programs	[]	[] ⁶	[]	[]	[] ²⁰	[]	[] ³⁴
3. Participate in research studies in nutritional care	[]	[] ⁷	[]	[]	[] ²¹	[]	[] ³⁵
4. Participate in community activities	[]	[] ⁸	[]	[]	[] ²²	[]	[] ³⁶
5. Organize and direct community nutrition programs	[]	[] ⁹	[]	[]	[] ²³	[]	[] ³⁷
6. Serve on department and/or institutional committees	[]	[] ¹⁰	[]	[]	[] ²⁴	[]	[] ³⁸
7. Help coordinate general office management	[]	[] ¹¹	[]	[]	[] ²⁵	[]	[] ³⁹
8. Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	¹ []	² [] ¹²	¹ []	² []	³ [] ²⁶	¹ []	² [] ⁴⁰
9. Participate in departmental or staff meetings	[]	[] ¹³	[]	[]	[] ²⁷	[]	[] ⁴¹
10. Take accurate and informative diet history	[]	[] ¹⁴	[]	[]	[] ²⁸	[]	[] ⁴²
11. Interpret physician's routine diet orders and modify diet according to diet patterns	[]	[] ¹⁵	[]	[]	[] ²⁹	[]	[] ⁴³
12. Direct nutrition research	[]	[] ¹⁶	[]	[]	[] ³⁰	[]	[] ⁴⁴
13. Determine food preferences through consultation with patient	[]	[] ¹⁷	[]	[]	[] ³¹	[]	[] ⁴⁵
14. Instruct patient and family on routine diets	[]	[] ¹⁸	[]	[]	[] ³²	[]	[] ⁴⁶

Please continue on back of page

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

	As a technician do you now do, or have done, the following task functions?		Please categorize each function as to whom should IDEALLY perform it. (Check ONE)			Do you feel you have been adequately trained to do this duty?	
	Yes	No	Dietitian	Dietetic Technician	Either the Dietitian or Dietetic Technician	Yes	No
15. Hold conferences with the medical team	1 []	2 [] ⁴⁷	1 []	2 []	3 [] ⁵⁹	1 []	2 [] ⁷¹
16. Provide assistant in menu selection to new patients on normal diets or routine diet modifications	[]	[] ⁴⁸	[]	[]	[] ⁶⁰	[]	[] ⁷²
17. Observe patients' acceptance of diet and make notations on diet history	[]	[] ⁴⁹	[]	[]	[] ⁶¹	[]	[] ⁷³
18. Maintain accurate and timely systems for transmission of patient diet orders and changes	[]	[] ⁵⁰	[]	[]	[] ⁶²	[]	[] ⁷⁴
19. Assist in the establishment of accurate and timely food delivery system	[]	[] ⁵¹	[]	[]	[] ⁶³	[]	[] ⁷⁵
20. Verify accuracy of diet as received by patients	[]	[] ⁵²	[]	[]	[] ⁶⁴	[]	[] ⁷⁶
21. Plan and direct nutrition conferences.	[]	[] ⁵³	[]	[]	[] ⁶⁵	[]	[] ⁷⁷
22. Supervise the preparation of special diet foods in quantity, quality, and accuracy of ingredients	1 []	2 [] ⁵⁴	1 []	2 []	3 [] ⁶⁶	1 []	2 [] ⁷⁸
23. Plan and supervise nourishments, and between-meal feedings	[]	[] ⁵⁵	[]	[]	[] ⁶⁷	[]	[] ⁷⁹
24. Evaluate effectiveness of nutrition care for patients	[]	[] ⁵⁶	[]	[]	[] ⁶⁸	[]	[] ⁸⁰
25. Participate with nursing service and special services in establishing and reviewing procedures relating to dietary	[]	[] ⁵⁷	[]	[]	[] ⁶⁹	[]	[] ⁵
26. Consult routinely with registered dietitian in the care of the patient	[]	[] ⁵⁸	[]	[]	[] ⁷⁰	[]	[] ⁶

Please continue on next page

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

	As a technician do you now do, or have done, the following task functions?		Please categorize each function as to whom should IDEALLY perform it. (Check ONE)			Do you feel you have been adequately trained to do this duty?	
	<u>Yes</u>	<u>No</u>	<u>Dietitian</u>	<u>Dietetic Technician</u>	<u>Either the Dietitian or Dietetic Technician</u>	<u>Yes</u>	<u>No</u>
27. Plan nutritious, attractive food combinations acceptable to various individuals, families or groups at difference economic levels utilizing knowledge of food composition, flavors, colors, texture, temperatures, shape, and consistency	¹ []	² [] ⁷	¹ []	² []	³ [] ¹³	¹ []	² [] ¹⁹
28. Utilize knowledge of food composition in designing dietary plans for meeting the physiological needs of individuals and groups throughout the life cycle	[]	[] ⁸	[]	[]	[] ¹⁴	[]	[] ²⁰
29. Consider the various ethnic and sociocultural groups, life styles and environment in planning for the nutritional needs of individuals, families, or groups	[]	[] ⁹	[]	[]	[] ¹⁵	[]	[] ²¹
30. Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	[]	[] ¹⁰	[]	[]	[] ¹⁶	[]	[] ²²
31. Provide assistance in menu selection to new patients on normal diets	[]	[] ¹¹	[]	[]	[] ¹⁷	[]	[] ²³
32. Provide assistance in menu selection to new patients on routine diet modifications	[]	[] ¹²	[]	[]	[] ¹⁸	[]	[] ²⁴
33. For those performed duties listed above for which you feel inadequately trained, please explain in what way your training was inadequate.							

Question Number

How your training was inadequate

Please continue on back of page

34. What is your sex?

- 1 [] Female
25 2 [] Male

35. What is your age? _____

26-27

36. For how many patients are you routinely responsible? _____

28-30

37. Did you have previous food service experience prior to becoming a professional dietetic technician?

- 1 [] Yes
31 2 [] No

38. What is your educational training? Please check as many as apply.

- 32 1 [] Graduate of an ADA approved Associate Degree Dietetic Technician program
33 1 [] Graduate of a non-ADA approved Associate Degree Dietetic Technician program
34 1 [] Bachelor's Degree. Please specify: _____
35 1 [] Other. Please specify: _____

39. In what type of facility are you employed?

- 1 [] General, acute care hospital
2 [] General, acute care teaching hospital
36 3 [] Long term care facility
4 [] Other. Please specify: _____

40. How many beds are in your facility?

- 1 [] Less than 150 beds
2 [] 150 - 250 beds
37 3 [] 251 - 400 beds
4 [] more than 400 beds

41. What type of teaching technique do you think was most valuable in preparing you for your job role?

- 1 [] Lecture
2 [] Supervised practical work experience
38 3 [] Individual projects
4 [] Case Study Approaches
5 [] Other. Please specify: _____

42. Is your Food Service Director a Registered Dietitian?

- 1 [] Yes
39 2 [] No

43. How many clinical dietitians are employed in your facility? _____ (If NONE, please write "none.")

40-41

44. Please indicate the range in which your annual salary falls:

- 1 [] less than \$6,000
2 [] \$6,000 - \$7,500
42 3 [] \$7,501 - \$9,000
4 [] \$9,001 - \$10,500
5 [] \$10,501 - \$12,000
6 [] more than \$12,000

Please continue on next page

45. In which capacity do you perform?

97

- 1 [] Administrative Technician
- 2 [] Clinical Technician
- 3 [] Generalist
- 4 [] Other. Please specify: _____

46. Your comments will be welcome:

PLEASE CHECK THE QUESTIONNAIRE TO MAKE SURE YOU HAVE LEFT NO QUESTIONS BLANK WHICH SHOULD HAVE BEEN ANSWERED. THANK YOU VERY MUCH.

INSTRUCTIONS FOR COMPLETING
ADMINISTRATIVE DIETETIC TECHNICIAN QUESTIONNAIRE

1. Please complete the questionnaire within one week.
2. Please mail the completed questionnaire in the enclosed addressed and stamped envelope.

Thank you very much for your help.

Following is a list of task functions that an administrative technician might do. Please indicate which you do, or have done, as a technician.

1

 1 2 3 4

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

99

	As a technician do you now do, or have done, the following task functions?		Please categorize each function as to whom should IDEALLY perform it. (Check ONE)			Do you feel you have been adequately trained to do this duty?	
	Yes	No	Dietitian	Dietetic Technician	Either the Dietitian or Dietetic Technician	Yes	No
1. Assist in the establishment of an effective and efficient organization which integrates the long and short range goals of the department	1 []	2 [] 5	1 []	2 []	3 [] 16	1 []	2 [] 27
2. Establish standard procedures to carry out activities of the department in order to implement previously established policies	[]	[] 6	[]	[]	[] 17	[]	[] 28
3. Maintain a departmental operational manual. Recommend changes in policies to update	[]	[] 7	[]	[]	[] 18	[]	[] 29
4. Prepare budgets for both salaries and equipment	[]	[] 8	[]	[]	[] 19	[]	[] 30
5. Assist in developing plans for operation under emergency conditions	[]	[] 9	[]	[]	[] 20	[]	[] 31
6. Delegate duties to competent individuals	[]	[] 10	[]	[]	[] 21	[]	[] 32
7. Serve on department and/or hospital committees	1 []	2 [] 11	1 []	2 []	3 [] 22	1 []	2 [] 33
8. Utilize the ability to identify a problem, research the knowledge related to it, and make decisions about solutions	[]	[] 12	[]	[]	[] 23	[]	[] 34
9. Initiate departmental Management by Objectives programs	[]	[] 13	[]	[]	[] 24	[]	[] 35
10. Maintain an up-to-date knowledge of subject matter through reading, classes, and interaction with technical and professional personnel	[]	[] 14	[]	[]	[] 25	[]	[] 36
11. Attend workshops and other continuing education programs	[]	[] 15	[]	[]	[] 26	[]	[] 37

Please continue on back of page

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

100

	As a technician do you now do, or have done, the following task functions?		Please categorize each function as to whom should IDEALLY perform it. (Check ONE)			Do you feel you have been adequately trained to do this duty?	
	Yes	No	Dietitian	Dietetic Technician	Either the Dietitian or Dietetic Technician	Yes	No
12. Evaluate effectiveness of patient meal service	¹ []	² [] ³⁸	¹ []	² []	³ [] ⁵¹	¹ []	² [] ⁶⁴
13. Participate in research studies in food management	[]	[] ³⁹	[]	[]	[] ⁵²	[]	[] ⁶⁵
14. Plan and evaluate acceptable menu patterns in accordance with objectives of the institution and/or department	[]	[] ⁴⁰	[]	[]	[] ⁵³	[]	[] ⁶⁶
15. Assist in development of specifications for food, small equipment and supplies to assure quality and cost control	[]	[] ⁴¹	[]	[]	[] ⁵⁴	[]	[] ⁶⁷
16. Purchase food, equipment, and supplies according to specifications	[]	[] ⁴²	[]	[]	[] ⁵⁵	[]	[] ⁶⁸
17. Plan food production time tables	[]	[] ⁴³	[]	[]	[] ⁵⁶	[]	[] ⁶⁹
18. Develop labor times for production of food items (work schedules)	[]	[] ⁴⁴	[]	[]	[] ⁵⁷	[]	[] ⁷⁰
19. Communicate with hospital administration concerning policies and procedures for departmental operation	¹ []	² [] ⁴⁵	¹ []	² []	³ [] ⁵⁸	¹ []	² [] ⁷¹
20. Develop programs for maintaining acceptable standards of safety, sanitation, maintenance and security	[]	[] ⁴⁶	[]	[]	[] ⁵⁹	[]	[] ⁷²
21. Maintain effective interdepartmental relations through appropriate communications	[]	[] ⁴⁷	[]	[]	[] ⁶⁰	[]	[] ⁷³
22. Review cost control records, payroll reports, personnel records, and other pertinent reports and recommendations necessary for action	[]	[] ⁴⁸	[]	[]	[] ⁶¹	[]	[] ⁷⁴
23. Determine staffing needs	[]	[] ⁴⁹	[]	[]	[] ⁶²	[]	[] ⁷⁵
24. Develop and keep up-to-date job descriptions and specifications for all positions	[]	[] ⁵⁰	[]	[]	[] ⁶³	[]	[] ⁷⁶

Please continue on next page

As a technician do you now do, or have done, the following task functions?

Please categorize each function as to whom should IDEALLY perform it. (Check ONE)

Do you feel you have been adequately trained to do this duty?

101

	<u>Yes</u>	<u>No</u>	<u>Dietitian</u>	<u>Dietetic Technician</u>	<u>Either the Dietitian or Dietetic Technician</u>	<u>Yes</u>	<u>No</u>
25. Interview and select dietetic personnel	1[]	2[] 77	1[]	2[]	3[] 80	1[]	2[] 7
26. Be responsible for discipline and termination when required	[]	[] 78	[]	[]	[] 5	[]	[] 8
27. Recommend appropriate salary and wage incentives based on performance records and evaluation	[]	[] 79	[]	[]	[] 6	[]	[] 9

28. For those performed duties listed above for which you feel inadequately trained, please explain in what way your training was inadequate:

Question Number

How your training was inadequate

29. What is your sex?

- 10 1[] Female
2[] Male

30. What is your age? _____
11-12

31. How many employees do you routinely directly supervise? _____
13-15

32. Did you have previous food service experience prior to becoming a professional dietetic technician?

- 16 1[] Yes
2[] No

33. What is your educational training? Please check as many as apply.

- 17 1[] Graduate of an ADA approved Associate Degree Dietetic Technician program
18 1[] Graduate of a non-ADA approved Associate Degree Dietetic Technician program
19 1[] Bachelor's Degree. Please specify: _____
20 1[] Other. Please specify: _____

34. In what type of facility are you employed?

- 21 1[] General, acute care hospital
2[] General, acute care teaching hospital
3[] Long term care facility
4[] Other. Please specify: _____

Please continue on back of page

35. How many beds are in your facility?

- 1 less than 150 beds
- 2 150 - 250 beds
- 22 3 251 - 400 beds
- 4 more than 400 beds

36. What type of teaching technique do you think was most valuable in preparing you for your job role?

- 1 Lecture
- 2 Supervised practical work experience
- 3 Individual projects
- 23 4 Case Study Approaches
- 5 Other. Please specify: _____

37. Is your Food Service Director a Registered Dietitian?

- 1 Yes
- 24 2 No

38. How many administrative dietitians are employed in your facility? _____ (If NONE, please write "none")

25 - 25

39. Please indicate the range in which your annual salary falls:

- 1 less than \$6,000
- 2 \$6,000 - \$7,500
- 3 \$7,501 - \$9,000
- 27 4 \$9,001 - \$10,500
- 5 \$10,501 - \$12,000
- 6 more than \$12,000

40. In which capacity do you perform?

- 1 Administrative Technician
- 2 Clinical Technician
- 28 3 Generalist
- 4 Other. Please specify: _____

41. Your comments will be welcome:

PLEASE CHECK THE QUESTIONNAIRE TO MAKE SURE THAT YOU HAVE LEFT NO QUESTIONS BLANK WHICH SHOULD HAVE BEEN ANSWERED. THANK YOU VERY MUCH.

UNIVERSITY LIBRARY LOMA LINDA, CALIFORNIA

Miniquestionnaire for telephone followup. Emphasize the necessity for the return of the entire questionnaire.

Code: 1 2 3 1 1
 1 2 3 4 1 2 3 4

103

In which capacity do you perform:

- | | | | | |
|---|-----|------------------------------|-----|----------------|
| 1 | [] | Administrative Technician | 40. | 2 ⁹ |
| 2 | [] | Clinical Technician | 45. | 4 ³ |
| 3 | [] | Generalist | | |
| 4 | [] | Other. Please specify: _____ | | |

Task functions list:

As a technician
do you now do,
or have done,
the following task
functions?

	<u>Yes</u>	<u>No</u>	
ADMINISTRATIVE			
12. Evaluate effectiveness of patient meal service	1 []	2 []	38
18. Develop labor times for production of food items (work schedules)	[]	[]	44
25. Interview and select dietetic personnel	[]	[]	77
CLINICAL			
11. Interpret physician's routine diet orders and modify diet according to diet patterns	1 []	2 []	15
20. Take accurate and informative diet history	[]	[]	52
32. Provide assistance in menu selection to new patients on routine diet modifications	[]	[]	12

$\frac{2}{4}$