

PROFESSIONAL DIETETIC HUMAN RESOURCES IN KANSAS

by

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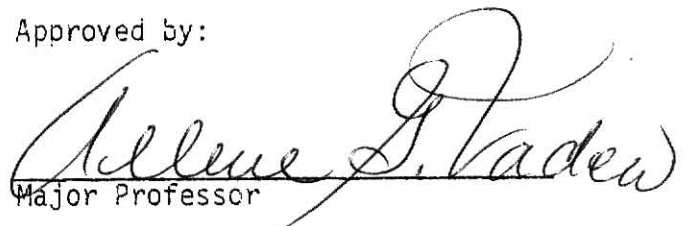
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Proba te dignus . . .

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INTRODUCTION

Human resource planning has been a function of management since the origins of the modern organization (1). Walker (1) defined this function as the process of analyzing an organization's human resource needs under changing conditions and developing the activities necessary to satisfy these needs. Piper (2) stressed that the thinking and energies of all those involved in research, education, and service in all the fields related to health would have to be coordinated to meet current human resource needs.

Miller and Burack (3) traced the development of human resource planning over several periods: employment planning, manpower planning, and human resource planning. Walker (1) defended human resource planning as more extensive than the previous term, manpower planning, because the new term shifts attention to a more comprehensive view of the process. Walker further stated that the term "human resource" gained favor as a way to reduce the sexist implications of MANpower and to emphasize the positive view of people as a basic resource.

Walker (1) discussed human resource planning as a two-step process: forecasting human resource needs and planning appropriate programs. According to Peterson (4), the first step refers to research performed for the purpose of estimating the size and characteristics of the work force at some future point of time. Walker (1) identified four basic types of forecasting models that are available: (a) simple forecasting models which are also called opinion or informed judgment techniques; (b) organization change models which are designed to show how an

organization will look under certain assumptions about the future; (c) optimization models which examine not what is likely to happen but rather what is necessary to happen if certain objectives are to be achieved; and (d) integrated simulation models which involve computer-based simulations that are appropriate when parameters of future change are not known. Frantzreb (5) reported that the most common forecasting approach in organizations is to rely most heavily on judgmental forecasts of unit managers, supplemented with some statistical analysis.

According to Van Horne (6), The American Dietetic Association (ADA) has been concerned for several decades about the professional inability to meet the needs for dietetic services. In 1962, the ADA Executive Board realized the need for human resource planning and set forth to determine how priorities could be established in the midst of increasing demands for all types of dietitians so that future time, efforts, and money would continue to be invested wisely (7). During April of that year, the first membership survey was sent out to almost 16,000 members. Since 1962, dietetic human resource studies have become more important. Studies have been conducted periodically in a number of states and regions and at the national level.

In 1978, Cohen (8) examined the membership of the Kansas Dietetic Association. A primary objective of the study was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes. She recommended that periodic studies be conducted to update and compare data on Kansas dietitians.

Data also are needed on educational needs of dietitians since competency assurance is an important issue, along with that of manpower

availability. Hallahan (9) reported that the history of the ADA indicates a profound interest in education. Vanderveen (10) contended that an improved understanding of dietitians' educational needs and interests should facilitate improved planning, assist in allocation of educational resources, and encourage a broad approach in evaluating what is valuable to the practitioner. She stated that the limited involvement of dietitians in the planning and design of continuing education programs is a weakness in the effectiveness of these programs.

The objectives of this study were to:

- (1) investigate the current status of professional dietetic human resources in Kansas,
- (2) compare the results of this research to those from the 1978 study conducted by Cohen and to national data to identify trends and changes, and
- (3) identify the continuing education experiences and perceived continuing education needs of dietitians in Kansas.

The review of literature includes the history and development of human resource planning and the human resource planning process. A presentation of human resource studies in dietetics and an overview of continuing education as it relates to the dietetic profession also are included in the review.

REVIEW OF LITERATURE

History and Development of Human Resource Planning

Walker (1) contended that human resource planning has been a function of management since the origins of the modern organization. He further stated that the relatively sophisticated techniques available today are the outcomes of a long period of evolution in practices, beginning decades ago with simple, practical short-term planning.

Several different periods have come to characterize human resource planning developments. According to Miller and Burack (3), these periods fall into roughly three phases: employment planning, manpower planning, and human resource planning.

Employment Planning

Employment planning characterized the first period up until the late 1960s. Miller and Burack (3) stated that the objective of employment planning was to provide recruiters with data on an organization's short-term workforce needs. In this phase of development, they further stated the emphasis was on gathering information about effects of technological change on the workforce and on the types and numbers of employee skills that could be found. Some concerns also were expressed regarding obsolescence of certain skills. Miller and Burack found this early stage of human resource planning, however, was limited to determining short-term manpower requirements in order to assist the organization. They indicated this type of planning received relatively little attention in the textbooks and journals during its time.

Manpower Planning

Manpower planning became the key term during the late 1960s and most of the 1970s. Miller and Burack (3) reported a new emphasis which considered the contribution of this type of planning toward organizational effectiveness. Planning resources, developments and new techniques for valid forecasting received much attention. Numerous books (11-16) and articles (4, 17-24) have been published on "manpower planning."

Lester (11) stated that in a free society manpower planning aims to enlarge job opportunities and improve training and employment decisions through the use of informed personal choice and calculated adjustment to rapidly changing demand. Essentially, it is a method for anticipating difficulties and seeking to guide the course of developments toward desired goals through reasoned actions based on forecasting. With the aid of systematic analysis, Lester added that this approach attempts to minimize surprises and uncertainty and to eliminate mistakes and waste.

Vetter (12) stressed the need in organizations to develop and integrate manpower planning with overall planning. This basis lays a solid foundation for future human resource planning. Vetter defined manpower planning as the process by which management determines how the organization should move from its current manpower position to its desired position. Through planning, he contended that management strives to have the right number and the right kinds of people at the right places, at the right time, doing things which result in both the organization and the individual receiving maximum long-run benefits.

Lynch (13) explained that manpower planning has two interrelated functions. The first and continuing function is to provide knowledge about current manpower resources and capabilities. The second and more

important function is to attempt to anticipate the future. Effectiveness in performing these two functions of determining current needs and forecasting future needs is dependent on three basic inputs:

1. information on plans and objectives,
2. knowledge of present manpower resources, and
3. information on the manpower environment.

Miller and Burack (3) claimed that all of these interpretations of manpower planning consider the total effectiveness of an organization rather than the mere short-term workforce needs.

Human Resource Planning

According to Miller and Burack (3), a refocusing of personnel planning orientation and approaches was witnessed during the late 1970s. First, career planning for individuals became a concern, largely under the pressure of equal employment surveillance and enforcement. Second, the ideas from various human resource approaches have been integrated from almost two decades of development in order to gain their fullest benefits and to assure economic programming (3).

Walker (1) contended that human resource planning is viewed as a management process, not merely as a piece of the personnel staff function. He defined it as the process of analyzing an organization's human resource needs under changing conditions and developing the activities necessary to satisfy these needs.

Walker (1) defended the term "human resource planning" as more extensive than the previous term "manpower planning." Human resource planning implies a scope broader than supply-demand balancing or quantitative forecasting. He stated that the new term shifts attention to a more comprehensive view of the process while still acknowledging both

needs forecasting and program planning. Walker added that the term "human resource" gained favor as a way to minimize the sexist implications of MANpower and to emphasize the positive view of people as a basic resource.

Cornwall (25) reported that various industries currently are developing human resource programs through the use of overall strategic planning as the starting point. In strategic planning, human resource efforts are focused so that they support the organizational goals. Kahalas (26) recognized this planning as an overall theme which gives greater consistency of action, direction of decision-making, and integration and coordination of efforts. Without long-range planning, individual actions are random, not directed to organizational goals; thus, as Kelly (27) contended, the results may be dysfunctional.

The Human Resource Planning Process

Walker (1) defined effective human resource planning as a two-step process of analyzing an organization's human resource needs under changing conditions and developing the activities necessary to satisfy these needs. He indicated that the forecasting of needs is required initially to allow the determination of priorities and allocation of resources where they can do the most good. From this analysis of needs, the second step of planning programs then can be conducted.

Forecasting human resource needs is a central aspect of the planning process. According to Peterson (4), this step refers to research performed for the purpose of estimating the size and characteristics of the work force at some future point of time. Walsh and Polding (18) suggested that a current objective of forecasting in America is providing

information to individuals choosing a career as well as to those responsible for planning education and training programs.

Authorities in the field (1, 4, 5, 17, 28) have identified four essential components of an integrated forecasting process. According to Walker (1), forecasting logically begins with the development of an understanding of the environmental and organizational conditions affecting future requirements. The second step involves taking inventory of the talent currently available and then projecting the future available supply of talent in an organization. Milkovich and Mahoney (28) explained that the third step requires an analysis of current human resource requirements and then, through the application of planning criteria or assumptions, current staffing can be projected to the future needs. Finally, Walker (1) indicated the fourth step of the process requires a matching or balancing of the net projections of future availability to supply and future requirements to demand.

Walker (1) contended that accurate forecasting is essential to an effective human resource program. He further stated that forecasting should be based on the best available information which is generally provided by management directly responsible for specific operations. Mathematical and computer-based techniques are available but Walker (1) and Frantzreb (5) reiterated that these should be considered supplements, not substitutes, for management-based judgments regarding future needs. According to Walker (1), four basic types of forecasting models are available: simple forecasting methods, organization change models, optimization models, and integrated simulation models.

Simple Forecasting Methods

Bryant et al. (20) divided simple forecasting methods, also called opinion or informed judgment techniques, into two broad classifications: (a) supervisor estimates which also include rule of thumb or replacement charts and (b) the Delphi technique. They contended that utilizing supervisor estimates is perhaps one of the oldest and most used methods of forecasting needs. Intuition and experience of the person closest to the job are used to produce simple and quick short-run forecasts in an absence of adequate data. Bryant and his coworkers concluded, however, that this technique is based heavily on opinion, requires costly executive time, and also may require accuracy in estimating that a manager may be unable to provide.

Bryant et al. (20) explained that the rule of thumb technique sets up decision heuristics or rules of thumb for certain environmental conditions which are used for forecasting human resource needs. Disadvantages are that the heuristics usually are designed to maintain status quo and may not represent changed influences affecting future requirements (20). They described replacement charts as graphic devices designed to ensure that suitable replacements are ready to move into vacated positions. Data utilized include the incumbent's age, performance level, promotability, and the name and degree of readiness of the incumbent's back-up person. The extensive labor requirement in the assembly and compilation of data was described as a major disadvantage.

A final technique in the judgmental category is the Delphi technique. Milkovich et al. (19) reported that this technique was developed originally by Rand Corporation in the late 1940s as a set of procedures designed to obtain the most reliable consensus of opinion among a group

of experts. As Bryant et al. (20) explained, a formal questionnaire is mailed to a panel of experts. The results are processed, summarized, and sent out to provide a basis for more feedback. Bryant and coworkers described the advantages of this technique as the use of anonymous responses, the reduction of irrelevant communications, and the requiring of individual panelists to consider other factors which they may have overlooked when making original judgments. Another advantage cited by Drandell (23) is that the analysis of these subjective beliefs may be better than a more sophisticated quantitative approach of the long range forecast where basic variables affecting the forecast are unknown and/or probability distributions are difficult to construct. Bryant et al. (20) stated that the decline in interest after a few trials, insufficient reliability, and the requirement of costly executive time are among the disadvantages.

Organization Change Models

Change models are a second category of forecasting designed to show how an organization will look under certain assumptions about the future. Walker (1) reviewed three types of models: succession analysis, probabilistic models, and regression analysis. These models examine the movement of personnel in a system as a basis for planning changes desired (20).

According to Walker (1), succession analysis involves drawing a chart of succession plans for key positions and levels in the organization. He stated that a planner may analyze the movement of personnel and the related organizational changes manually. Walker further stated that a computerized model also may perform this analysis and reduce the cumbersome manual analysis.

Using probabilistic models, data are examined on employees as groups instead of individuals as is used in succession analysis. Walker (1) explained that the probabilities of employees moving within and out of an organization form a matrix or table of transitional probabilities. According to Grinold and Marshall (29), this analysis provides the basis for stochastic models, Markov chains, and other models which analyze mobility in an organization.

Regression analysis measures the degree of correlation between future staffing requirements and measurable indicators such as output and revenues. Milkovich and Mahoney (28) stressed that the regression model is based on historical policies and actions and does not necessarily represent desired or optimal future staffing levels.

Optimization Models

Optimization models are the third type of forecasting tool. Walker (1) purported that these models forecast not what is likely to happen, but rather what is necessary to happen if certain objectives are to be achieved. Tools used include linear and non-linear programming, goal programming, and assignment models. He stated that the models identify the actions required to achieve desired staffing objectives within defined constraints. According to Walker, the optimization models are currently in developmental stages, are extremely complex, and require the capacity of computers for their utilization.

Walker (1) stated that linear programming is useful when considering staffing needs at a particular point in time and within given constraints. This method is applicable when the given constraints are proportional to the measure of the activities and all relationships are in the form of

linear inequalities. He further stated that relationships are not always linear and thus non-linear and dynamic programming become applicable. Bryant et al. (20) emphasized that these models are useful in that they can test for an optimal solution to reach a quantifiable objective.

The goal programming model is a refinement of the linear programming model (1). The model is termed "goal programming" because a goal or set of goals is specified which is subject to a set of constraints. Grinold and Marshall (29) explained that the model tests alternative goals by examining the discrepancies between forecasted results and identified targets and thereby suggests optimum goals that are attainable.

Assignment models are the last type of optimization model. Walker (1) indicated that their purpose is to optimize the overall utilization of talent and to forecast the specific short-falls and surpluses of talent anticipated with extreme precision. Individual data are processed and the model "assigns" a suitable job for each person. Walker emphasized that the entire organizational changes for a specific period are simulated all at once.

Integrated Simulation Models

The final category of forecasting involves computer-based simulations which are appropriate when parameters of future change are not known and when testing of alternative views of future conditions is desired. Walker (1) found that integrated simulation provides the ultimate model of the patterns of change in a total entity when linked with overall long range planning. He stated that the value of advanced simulation models is not merely to forecast human needs, but to evaluate the effects of various sets of variables upon the needs and vice versa. According to Walker,

some workers in the field believe these models are idealistic, yet trends in human resource planning are pointing toward development and use of integrated simulation models. Walker (1) and Milkovich and Mahoney (28) stated, however, that current progress suggests that these models are technically feasible and potentially practical for management use.

Applying Forecasting Models

Frantzreb (5) reported that in the organizations doing formal manpower forecasting the most common approach is to rely most heavily on the judgmental forecasts of unit managers, supplemented with some statistical analysis. Skinner (30) contended that these forecasting decisions should not be a low priority for management. These decisions that specify requirements, however they are derived, provide the link between top issues relating to changing conditions over to the eventual program planning aspects of the human resource planning process (1).

Analysis of needs leads to the planning of programs to be conducted (1). Two areas of primary concern in program planning identified by Walker (1) include performance management and career management. Performance management involves the improvement of productivity which is a primary aim in human resource management. Improving the productivity of high-talent personnel requires strategies which influence the basic functioning of the organization. Performance appraisal and reward structure are two other performance management categories controlled by management which are discussed by Walker. He contended that these categories also are connected with work performance and require development along with productivity.

Walker (1) reported that the second area of concern in program planning, that of career management, involves developing career

opportunities, individual career planning, and developing policies and systems. Walker stressed that these programs should be planned in accordance with needs identified through the forecasting step of human resource planning.

Skinner (30) stressed that organizations must manage better; the current practices, systems, and even values must be adapted to changing conditions. He indicated that the essential impact of human resource planning is the extent to which it helps management maintain an effective and successful organization.

Human Resource Studies in Dietetics

The Identified Need for Dietetic Human Resource Studies

Through the years, The American Dietetic Association (ADA) has been confronted since its founding in 1917 by a demand for dietitians which exceeded the supply (31). Van Horne (6) stated that the years between 1945 and 1951 saw the development of many important projects by ADA committees including a training program for nonprofessional people so that the limited number of dietitians would be relieved of certain duties.

In 1962, the ADA Executive Board was faced with the urgent need of determining how priorities could be established in the midst of increasing demands for all types of dietitians so that future time, efforts, and money would continue to be invested wisely. Yakei (7) reported that the Board needed information about the membership so that program planning at both the national and state levels could be carried out most effectively. Consequently, a questionnaire was sent out in April of that year to almost 16,000 members. In this initial survey, information was collected on such variables as age, length of membership, and educational background of the

respondents. From these data, Yakel stated that the Executive Board made specific recommendations to the membership and planned follow-up surveys at five-year intervals.

The concern of an increased demand for dietitians continued according to Smith (32). In 1966, she contended that as a result of the enactment of Medicare legislation (amendments to the Social Security Act) the demand would again exceed the supply. The nursing homes desiring to participate in the Health Insurance for the Aged Program as extended care facilities needed to meet specific standards (33). One of the standards stated,

A person designated by the administrator is responsible for the food service of the facility. If this person is not a professional dietitian, regularly scheduled consultation from a professional dietitian or other person with suitable training is to be obtained.

As stated in explanatory factors, a professional dietitian meets the ADA qualification standards and the "other person with suitable training" implies a graduate of a foods and nutrition program.

In 1967, a five-year follow-up survey was conducted by ADA (34). A questionnaire was sent to almost 20,000 members with a 65 percent return rate. No radical changes had occurred during the five years. The percentage of members not working in dietetics fell from 38 to 32 percent. Those reporting that they were engaged as dietary consultants increased 200 percent (34). The hypothesis from this report was that more homemakers were able to serve part-time as consultants to extended care facilities as Medicare programs were implemented, which follows the projection by Smith (32).

Development of Dietetic Human Resource Studies

In 1968, Hubbard and Donaldson (35) reported a study designed to estimate professional dietetic human resources needed by hospital dietary departments and to project the number of dietitians needed by 1972 and 1977 to fill the different types of dietetic positions. Data on nine types of dietetic positions were requested from administrators of 1,000 randomly selected, short-term hospitals not under federal control. The calculated number of replacements, the number of vacant positions in 1966, and the number of filled positions in 1966 were used to estimate the total number of positions for dietitians. Hubbard and Donaldson stated that the estimated number of total dietetic positions for 1972 was 11,900; for 1977, 17,900 positions. They stressed that the profession was gaining new members at a rate of only 700 dietitians per year during this period, yet their projections through 1977 indicated that up to 1,200 new dietitians would be required each year to meet the need.

A second purpose of the Hubbard and Donaldson research (36) was to identify levels of ability in the performance of administrative activities expected by hospital administrators and dietary department directors of hospital dietitians in different types of positions. Their findings indicated that greater administrative ability was expected as the level of the dietitians position within the organizational hierarchy became higher. Hubbard and Donaldson were able to identify with their studies not only numerical demand, but also qualitative needs for dietitians.

Piper (2, 37) stressed that the thinking and energies of all those involved in research, education, and service in the fields related to total health would have to be coordinated to meet current manpower needs. The Bureau of Health Manpower was established in 1967 and thus created a

major organizational unit to focus attention on health manpower problems in federal government for the first time (2). Piper stated that one of its five divisions, The Division of Allied Health Manpower, directed its energies to those professional, technical, and supportive occupations in the fields of health care services, which included dietetics.

After the 1967 follow-up survey of the ADA membership, the need for centralized office procedures and current information about the profession was confirmed (38). Sharp et al. (38) reported the adoption of a computer system to handle the membership records in 1969. To take advantage of the computer capability, the Executive Board approved the development of a comprehensive and routine annual data collection system. Sharp et al. explained that members were asked to furnish baseline information and to update data previously supplied by completing a questionnaire mailed with the dues bill. Information requested included name, address, age category, marital status, educational level, college/university attended, size of community in which employed, and employment history. With this updating procedure, response in 1972 was 94 percent, as compared with the 63 percent response in 1962 when the initial survey was performed. All baseline data and updating information were machine processed and retained by the computer system. Summary reports were furnished monthly for the Headquarters office, the Executive Board, and affiliated state associations. The report was divided into four sections, data on general membership, employment, education, and salary (38). With the computer-assisted system, the Association has been able to maintain information on dietetic manpower (39, 40).

The ADA Task Force for the Seventies (41) had as one of its charges to anticipate needs of the next decade particularly as they related to

manpower, education, and organizational structure. In conjunction with this Task Force, a major review of the organization was being conducted. In 1972, the Study Commission on Dietetics published a report on The Profession of Dietetics (42). One of their studies considered the numbers and kinds of dietitians required in the future. The Commission realized the difficulty of this task due to the very rapid changes in health services and stated that additional information was seriously needed. Initially, the Commission reviewed the current supply and distribution of dietetic personnel among the various areas of dietetic practice. The adequacy of this manpower to meet the need for dietetic services in the future was considered under some broad predictions. Based on these considerations, the Commission presented numerical forecasts for dietitians by 1980. They considered their estimates to be conservative but emphasized the lack of reliable data.

The American Dietetic Association Dietetic Manpower Demand Study

In the Report of the Task Force on Competencies, Council on Educational Preparation (43), the need for manpower studies was identified to assess the supply, demand for, and utilization of practitioners. Subsequently, the Dietetic Manpower Demand Study (DMDS) became an important part of the Master Plan for Practice and Education. In 1978, the DMDS was initiated with the following objectives (44, 45):

1. Provide the ADA Board of Directors with a quantitative estimate of the demand for dietetic practitioners through 1985 and 1990 for all present practitioner levels using various assumptions regarding such factors as client attitudes,

economic changes, standards of health care practice, and technological change.

2. Identify and provide demand estimates for any new areas of potential development for the profession in which the ADA should encourage the preparation of practitioners in the future.
3. Prepare the way for more definitive studies regarding demand and supply projections for dietetic manpower.
4. Focus the assessment of demand for dietetic services on the needs and wants of service clients and institutional employers.
5. Provide project reports structured to maximize the flow of study information to dietetic practitioners, their employers, and health care policy makers.

Given the DMDS objectives, alternative methodologies for the determination of manpower requirements were evaluated. After establishing the advantages and disadvantages of each method, Fitz et al. (45) reported that an approach was selected which integrated both professional judgment and data regarding variables affecting utilization of dietetic professionals. This methodology has been recommended by organizations that do formal manpower forecasting (1, 5, 30).

For the DMDS, Fitz et al. (45) reported that scenario development was chosen as a method for exploring the future of dietetics with a group. They explained that scenario writing is a forecasting method for examining alternative futures. Assumptions are made as explicit as possible so that implications can be followed closely. They stressed that a scenario is not a prediction. Scenarios may make statements about what happens if a trend continues into the future (primary type), future possibilities if

trends do not continue (secondary type), and statements about the most likely cause of events, taking all factors into account (tertiary type) (45).

Three alternative futures were identified as scenarios: the Optimal, the Probable, and the Sub-Optimal. According to Fitz and coworkers (45), alternative estimates of demand were made in order to discourage overconfidence in any one set of projections and also to provide a sense of the sensitivity of these estimates to numerous sets of assumptions, importance of variables, and relationships between variables. They stated that these scenarios were used as part of the background information for the development of quantitative estimates. Numerical data from the 1978 Membership Census and the Conceptual Framework Study data compiled by the Policy Research Corporation (46) were evaluated to identify the most reliable and comparable descriptive percentage distributions to use for projection estimates. The DMDS Panel (45) then made numerical estimates of the future demand for dietitians in employment categories for 1985 and 1990, given the three alternative scenarios for dietetics.

The DMDS Panel (45) compiled the qualitative estimates of demand in the period 1985-1990 into two categories: professional activities and type of employer. The employment status of dietitians in 1985 and 1990 for the three scenarios was presented quantitatively. The Panel assessed that the overall picture is one of steady growth in the total number of dietitians employed; an increase was evident in all scenarios. The diversity of employers and the varying levels of demand also were illustrated. These data represent projected demands for dietitians in hospitals, other health facilities, higher education, commercial industry, government agencies, school foodservice, and those self-employed. Lastly, the demand for

dietetic technicians was analyzed and projected to increase in all three scenarios.

The DMDS completed 20 discussion papers (47-66) and six technical reports (67-72) and was concluded in August, 1981. Fitz (44) reported that the results of the DMDS will influence the development of practice and educational programs as The American Dietetic Association plans for the future. She stated that the study describes new roles, opportunities, and markets that will affect future systems and programs.

Regional Dietetic Human Resource Studies

Many states have researched their own human resource needs since The American Dietetic Association began emphasizing the benefits of such studies. In 1972, with the advent of computer usage, the Michigan Dietetic Association was able to stratify their data sent to the Association with the annual dues bill from that of the entire nation (73). Data could be analyzed from year to year within the state as well as be compared to the national statistics. The analysis was useful in (a) alerting members to the need for comprehensive and accurate data, (b) effectively planning educational needs of the members, (c) planning realistic curricula for educational programs, and (d) allowing more accurate prediction of future manpower needs in the profession.

Oregon dietitians responded to a call for health care planning data in 1974 (74). The Chief Planner of the Oregon State Health Division appealed to all health-care-related organizations to provide input as to the types of services and support elements that could be supplied at each level of care. Dietetic services available were examined and the numbers of dietitians necessary to furnish these services adequately for the state

of Oregon were projected. East and Harger (74) summarized the results of these efforts to serve as a possible guide to other dietetic associations desiring to provide input to their state planners.

In 1975, a study was conducted in the Pacific Northwest Region which included the states Montana, Oregon, Idaho and Alaska (75). The objectives of this research were to (a) identify the geographic location and distributions of dietitians in the area, (b) project the dietetic manpower needs for this region through 1980, (c) identify states with greatest professional needs in order to establish state quotas for Coordinated Undergraduate Programs in Dietetics and faculty, and (d) identify characteristics of those practitioners who were not members of the ADA. Moller and Fontana (75) stated that all of these objectives were met except there was not adequate response to certain questionnaire items that would have allowed an accurate forecast of future dietetic manpower needs.

A study, conducted in 1976 in the state of California, was designed to determine the number and types of dietitians that would be needed in the state during the next 10 year period (1976-1986), in addition to determining the needs for education programs (76). Both foodservice administrators and dietitians were polled with a mailed questionnaire. Lareau (76) concluded that a need was indicated for dietitians in areas of clinical nutrition, foodservice management, and administration. A need also was stressed for educational programs and expansion of in-service training, continuing education, extension classes, and advanced degree programs.

In 1976, a Wisconsin manpower study was conducted jointly by the Bureau of Health Statistics, Bureau of Community Health Services, and Wisconsin Dietetic Association (77). Data indicated that 75 percent of

the Wisconsin dietitians were currently employed either full or part-time. Over half worked in a hospital setting and had held their current position for over nine years.

In 1977, Minnesota sent out a questionnaire to almost 900 health care facilities in the state (78). They categorized their results according to current employment status, budgeted vacancies, difficult-to-fill vacancies, educational level of employed personnel and projected needs for supervisory personnel. Goers et al. (78) concluded that there was a need for the skills of a generalist dietitian with an added emphasis in management.

The membership of the Kansas Dietetic Association was the population for a study conducted in the spring of 1978 (8). Cohen (8) stated that an objective of this study was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes. Kansas was divided into six health districts and evaluated under a variety of conditions.

Cohen reported the overall ratio of dietitians to population in Kansas was 1:4,452. Dietitians were concentrated in the most populous area of the state. The greatest dietetic manpower needs appeared to be in the southeast area of the state where the dietitian to population ratio was 1:11,948. Age and employment data indicated that a fairly large number of young professionals were practicing dietetics in Kansas. The majority of employed Kansas dietitians practiced in hospital dietetics. The greatest amount of dietetic experience was in the clinical, generalist, and food-service management positions. Dietetic consultant practice was more common in Kansas than was true nationally; 24.7 percent were consultants in Kansas compared to 13 percent nationally. Cohen concluded that data on unemployment and anticipated employment, coupled with possible

expansion among consultant dietitians, indicated the potential for possible dietetic manpower needs in Kansas.

In 1981, the report of the Kansas Dietetic Manpower Survey (79) was published which provided data on dietetic assistants and dietetic technicians as well as providing updated information on dietitians. The survey was conducted under the auspices of the Kansas Task Force for Career Laddering in the Dietetic Profession. The Task Force, appointed by the Executive Board of the Kansas Dietetic Association, had the following charge: (a) to address future directions and needs of dietetic education in Kansas; (b) to identify locations for proposed education programs; (c) to study dietetic manpower needs; and (d) to assume a leadership role and make recommendations concerning the development of a statewide ladderred dietetic education program. Before developing a state educational plan for dietetic education, the Career Laddering Task Force decided a survey of manpower needs in the state was necessary. The survey results provide guidance for educational planning and suggest needs for all levels of dietetic practitioners that may be reflected in similar midwestern states.

Although the survey provided valuable information, limitations on distribution of questionnaires were caused by financial constraints.¹ The decision by the KDA Task Force was to utilize professional meetings to survey a broad spectrum of dietetic practitioners. Data were collected from dietitians attending the 1980 fall meeting of the Kansas Dietetic Association and meetings of the Kansas City District Dietetic Association.

¹Presentation by Lucas, M. and Meredith, S. for Telenetwork class on "Current Issues in the Dietetic Profession," Kansas State University, April 27, 1982.

Due to the cost of extensive mailings, questionnaires were sent only to groups that had limited representation.

The number of questionnaires distributed to dietitians at professional meetings was 219. Sixty-two questionnaires were mailed to low distribution areas for a total of 281, with 239 returned. Of the 239, invalid responses caused 13 more questionnaires to be discarded.

Data indicated dietitians were practicing primarily in clinical, management, and consulting positions. The dietitians surveyed appeared to be fairly mobile since one-third had been in their county less than three years and 22 percent were planning to relocate in five years. Clinical dietetics was the area which was expected to expand more in Kansas than the other specialities.

Continuing Education in Dietetics

Hallahan (80) stated that professionals should exhibit a desire to constantly enrich their competencies. She contended that The American Dietetic Association (ADA), as a professional association has the responsibility to insist that its members are qualified to perform so that recognition of, and compensation for their contribution will be worthy of the task. Hallahan (9) purported that the concept of continuing education was not new to the dietetic profession as members have continually strived for higher competencies. She reflected that the history of the profession indicates a profound interest in education among dietitians and a desire and willingness to change to meet the needs of those whom the profession serves.

Early Developments in Continuing Education in ADA

In the early days of the profession, as dietitians became more aware of the need to improve their competencies, sources of help for professional advancement and self improvement were sought (9). In response to needs felt by the leaders and members of ADA, Kirk (81) reported that a continuing education services program was developed in 1955 with West as the first full-time director. She initiated these services by surveying the membership to ascertain the real needs. Kirk indicated that West's familiarity with the membership, her experience in many aspects of the dietetic profession, and her personal inquiries into a number of state programs contributed to the development of the program.

Kirk became the new continuing education program director in 1958 after West left the position. In order to meet the needs of the entire membership, the concept of continuing education services regions was developed. Kirk (81) explained that eight regions, each having a representative, were set up throughout the country to work with the national director, under the supervision of the Education Section Chairman. The purposes of the continuing education program were threefold: graduate study, adult education, and communication. Wood (82) and Johnson (83) discussed the increased activity in the continuing education program. They attributed the program's growth to the improved dissemination of information due to regional representatives and increased Association publications.

Beeuwkes (84) stated that a basic function of the Association is the extension of knowledge. She further stated that even though dietetic workshops, seminars, and summer programs may be available, the extension of knowledge could not be restricted to these limited resources. She

encouraged the use of other educational facilities within each state for the numerous opportunities they presented for planning and participating in continuing education. Hunscher (85) purported that continuing education was an undeveloped frontier. She contended that the original professional education brings the dietitian only to the first stage of competency; thereafter, experience and continuing education are requisites for excellence of performance and leadership.

During the 1960s adult education, based on a philosophy of life-long learning, had been designated by a number of authorities as the most significant educational idea of the twentieth century (85-88). Patterson (87) identified some related issues in dietetic education. She expressed the need for a more clearly defined plan of continuing education for dietitians. She also stressed the need for dietitians to develop an ability to cope with change and plan their dietetic education accordingly. Robinson (89) reported some changes in continuing education for dietitians during its initial growth. Special classes for dietitians were being offered by universities and ADA was beginning to sponsor workshops jointly with other organizations such as the American Hospital Association.

In 1969, the Goals of the Lifetime Education of the Dietitian were published (90). The Committee on Goals of Education for Dietetics was charged with identifying those qualities which, to some degree, should be characteristic of every dietitian. One of the goals stressed that the dietitian "maintain the discipline and self-awareness of the professional person and accept responsibility for the continuing development of his own competence." In the paper, dietitians were challenged to continue improving their own leadership and inspirations by demonstrating a commitment to lifetime learning and participating in professional advancement.

Professional Registration and Continuing Education

During the 1960s when continuing education was developing, another important occurrence in ADA was the initiation of discussions in the House of Delegates about professional registration (91). As an outcome of these discussions, a committee was appointed by the Executive Board to study the advantages, disadvantages, and implications of licensure, registration, and certification for the membership. Hallahan (80) reflected that the focus of planning in the early meetings of the committee was on the concept of continuing education linked to professional registration. She further stated that the committee believed this was the only way registration could serve to assure professional competence.

After several years of committee work, numerous discussions in the ADA House of Delegates, and three all-member opinion polls, a final proposal for professional registration resulted (80). Early in 1969, a majority of the ADA membership voted for a constitutional amendment establishing registration for professional dietitians which became effective in June 1, 1969. As a result, dietetics became one of the first allied health professions to implement a program which specified continuing education requirements for maintaining professional registration. Members who chose to become registered dietitians were required to meet the established registration requirements (92):

1. Membership in The American Dietetic Association,
2. Payment of an annual registration fee, and
3. Completion of 75 clock hours of acceptable continuing education every five years.

Persons who sought registration after June 1969 were required to

accomplish a passing score on a written examination in addition to meeting the above requirements.

In 1974, the Association published a Position Paper on Continuing Education (93) which attempted to consolidate the salient aspects of continuing education for its membership. The Position Paper stated that ADA shares in the responsibility for the continuing education of its members. Hart (94) asserted that in the future, however, the responsibility for continuing education would fall more heavily on the individual professional. She theorized that dietitians would need to develop their own continuing education plans to help them keep abreast of specific technological changes and societal requirements.

A major change in the registration program in the mid-1970s involved the separation of professional registration from membership in ADA. The constitutional amendment which permitted professional registration without requiring Association membership was passed by a vote of the active members in early 1976 (95).

Research on Continuing Education in Dietetics

Vanderveen and Hubbard (96) contended that a weakness in the continuing education program related to dietetic registration is the limited involvement of dietitians in the planning and design of educational programs. Membership needs have only been inferred from studies of role function and performance, professional activity analysis, and other related areas. Houle (97), an authority in adult education, asserted that people know what they need to learn and thus, the task of the adult educator is to identify these learning needs and to devise approaches for meeting these needs. He claimed that the educator's methodological task

is to devise, perfect, and use techniques to meet the perceived or ascribed needs of individuals or groups being served.

Limited research has been conducted on continuing education in dietetics. Research related to dietetic education has almost exclusively dealt with academic preparation and qualifying experience for entrance into the profession rather than with the educational needs of the dietetic practitioner (10). One study reported by Vanderveen and Hubbard (96) was designed to survey Ohio dietitians to identify their perceived education needs. Dietitians were asked to indicate degree of felt need for additional knowledge on 109 subject matter topics divided into three major knowledge areas: (a) managerial sciences; (b) nutritional care sciences; and (c) behavioral, communicative, and socio-cultural sciences. The Ohio dietitians perceived a greater educational need for professional knowledge than for behavioral, communicative, and socio-cultural sciences. Managerial and nutritional care skills which were directly related to professional practice were identified by dietitians as topics in which they desired additional knowledge.

Fargen et al. (98, 99) conducted a study to examine career profiles and the continuing education experiences and plans of experienced mid-career dietitians in three practice areas: administrative, general, and clinical dietetics. The research instrument included questions on education background, professional practice, career interests and plans, and continuing education experiences and plans. Hospital dietitians surveyed focused their attendance at seminars or workshops on topics related to their present dietetic practice area. Administrative dietitians, however, reported attendance at workshops and seminars which included nutrition, medical, and general topics more frequently than clinical

dietitians attended continuing education sessions outside their practice area. Data reflected a relatively strong commitment to continuing education among these experienced hospital dietitians. Fargen et al. summarized that mid-career dietitians specialize in an area of dietetic practice and attempt to maintain competence by emphasizing that area of specialization in continuing education.

METHODOLOGY

The Study Population

The population for the study was the membership of the Kansas Dietetic Association (KDA) as of November 1981, which included all persons living in Kansas who were members of the ADA in any one of the membership categories. A total of 623 names were on the roster.

The Instrument

Instrument Development

In developing the first draft of the questionnaire, the instrument from Cohen's 1978 study (8) was used to provide the basic framework since an objective of the study was to compare the results of this study to those from that previous research. The instruments from other studies were used to supplement specific sections in the questionnaire.

The Vanderveen (10) and Fargen (100) instruments provided the sources for questions on continuing education, which were modified by the research committee. The Fargen instrument also was the source for questions on employment. Codes for position titles and types of employment facilities were adapted from that questionnaire. In addition, the instrument yielded statements indicating the primary reason for leaving one's last job. Linnenkohl (101) also used similar questions from the Fargen instrument. Her study was reviewed as well in formulating the study questionnaire.

The survey questionnaire for dietitians was reviewed from a study conducted in 1980 as part of the University of Kansas Career Laddering Project in cooperation with a KDA Task Force (79). That instrument

provided questions on what dietitians considered to be their primary area of specialization and which area they would enter if they were considering a change of specialities.

A tentative draft was developed which included questions from the various instruments on general background, education, employment, continuing education, and consulting experiences. Committee members met with the Career Laddering staff at the University of Kansas to review the draft. Also, a pretest was conducted by distributing the draft, an evaluation form, and a memorandum (Appendix A) to a selected sample of ten dietitians for review. The dietitians were asked to complete the questionnaire as if they were a respondent and then fill out the enclosed evaluation form to identify strengths and weaknesses of the instrument.

Draft two was revised by the research committee, incorporating the suggestions from the pretest respondents and the staff at the University of Kansas. The suggestions included rephrasing certain questions for clarification, altering the format of several questions, incorporating additional continuing education topics, and identifying major sections for the instrument.

After the second draft was reviewed, additional changes were made. The final revisions of the instrument dealt with the rearranging of certain questions and sections to simplify response to the questionnaire. The draft also was reviewed by the statistician for the project.

The Final Instrument

The final research instrument (Appendix B) was printed on orange paper as an eight-page booklet with the official letterhead on the first page indicating the title of the study and identifying the sponsor. Research on survey methodology indicates that colored paper enhances

response rate (102). The term "manpower" rather than the newer term "human resource" was used in the title of the questionnaire to facilitate understanding of the objectives.

The final instrument contained five sections. The first section was for obtaining general information on ADA membership, registration status, present residence, and age group. The second section contained questions on educational background such as the major field of study for each degree held, the college or university granting each degree, and the respondents' current status regarding graduate study.

Section III included questions on continuing education experiences and interests. Information on the number of district, state, and national dietetic meetings attended and the total number of continuing education hours accumulated were requested. Continuing education topics were listed in three categories: management related, nutrition and medical related, and other. Respondents were asked to indicate topics discussed in workshops or seminars for which they had earned continuing education hours during the last three years. In addition respondents were asked to identify those topics in which they were interested in obtaining additional information.

The fourth section of the instrument contained questions on employment background and plans. Total years in dietetic practice, primary area of dietetic specialization, mobility, unemployment, current dietetic positions, and salary were the issues covered by these questions.

In Section V, information was requested on consulting experiences and interests. The respondents not currently consulting were asked if they would be interested in becoming a consultant, how many accounts they would be able to manage, and how far they would be willing to travel to an

account. Dietitians currently employed as consultants were asked if they would desire additional accounts and how far they would be willing to travel to obtain these accounts. A chart to record information on the current accounts of consultants concluded this final section of the questionnaire. Information on each account included: type of facility, number of beds in facility, hours per month spent at facility, number of visits per month, and total length of time employed by facility.

Distribution of the Instrument

A cover letter which explained the purposes of the study was mailed with each questionnaire (Appendix C). A postage-paid envelope was included to facilitate return of the instrument. A statement was included in the letter to ensure confidentiality of the responses and anonymity for the respondents. Each questionnaire was numbered to identify non-respondents for purposes of follow up. Three weeks following the initial mailing, a follow-up letter (Appendix C), a second questionnaire, and another postage-paid return envelope were mailed to those not responding to the first mailing.

Approximately four weeks after the first follow-up was mailed, a second follow-up letter (Appendix C), another copy of the questionnaire, and a postage-paid return envelope were sent out to those persons who had still not responded. The letter was printed on goldenrod paper with a cartoon character to attempt to attract the attention of the non-respondents. Total return from the initial and both follow-up mailings was 524 (or 84.1 percent), four of which were returned after data analysis was complete.

Data Analysis

Data Coding

The research instrument was designed to yield data from respondents in a precoded form. The data were keypunched for electronic data processing. Additional response categories were established as necessary.

Analysis

The data on Kansas dietitians were studied from two perspectives. First, number of dietitians to population ratios were computed and number of dietitians in relation to number of health facilities were determined to provide general statistical information. Second, data from the survey of Kansas dietitians were analyzed to provide an in-depth description of dietetic professionals in the state. The total membership in KDA was used to provide the statistics for the first perspective; whereas only the respondents to the survey were used to provide data in the second perspective. All compatible information from the 1978 Cohen study (3) and national ADA membership statistics (103) were compared to detect changes or trends occurring in the state.

The most current membership list of the Kansas Dietetic Association was used to determine the number of dietitians in each of the seven health districts of the state. These districts as defined by the Kansas Department of Health and Environment are:

- I. Northwest
- II. North Central
- III. Northeast
- IV. Metropolitan
- V. Southwest
- VI. South Central
- VII. Southeast

The ratio of dietitians to population was computed for the whole state and

for each health district. To study specific geographic distribution of dietitians in Kansas, the number of dietitians living in the ten largest cities or metropolitan areas of the state was determined.

Since the Cohen study in 1978, the health districts were changed and the Metropolitan district in the Kansas City area was added. The Cohen results, therefore, were converted from the six health districts in 1978 to the current seven health districts to provide comparable data.

The ratio of dietitians to population was computed for all fifty states, Puerto Rico, and the District of Columbia for comparative purposes. The membership statistics of The American Dietetic Association for 1982 (103) were the most current national data available on number of dietitians. The latest available census in 1980 (104) provided the population data by state. Although the population and membership data were from different years the assumption was made that these ratios would provide indicators of dietetic human resources within the United States for comparison with Kansas.

For additional comparisons of the dietetic human resources in relation to number of health care facilities in the state, ratios were computed by health district of the number of dietitians to the number of hospitals in the state, number of hospital beds (105), number of nursing homes, and number of nursing home beds (106).

Frequency distributions were compiled for all items on the research instrument. Means were computed as appropriate for several items such as years of ADA membership and hours of professional literature read weekly. Crosstabulations were compiled to determine residence and employment of dietitians within the health districts in Kansas. Crosstabulations also

were compiled to study selected data on consultants in Kansas. Programs and routines in the Statistical Analysis System (SAS) (107) were used for these data analyses.

RESULTS AND DISCUSSION

The first part of the results section includes information pertaining to general statistical data on the total membership of Kansas dietitians. Data pertaining to the distribution of dietitians in Kansas, ratio of dietitians to population in other states, and relationship of Kansas dietitians to healthcare facilities are presented. In the second major section, results obtained from those dietitians responding to the survey are discussed. Data are presented on general membership status, educational background, residence information, professional practice, current employment status, dietetic consultation information, and continuing education experiences and interests. An objective of this study was to provide data which would be compared with the previous Cohen (8) study and national ADA (102) statistics. Thus, the 1982 data are presented and discussed with the 1978 Cohen data and ADA statistics for comparison.

General Statistical Information on Kansas Dietitians

Distribution of Dietitians in Kansas

As of November 1981, the total number of dietitians in Kansas was 623. This number includes all professional categories of Kansas members of The American Dietetic Association. Only seven technician members reside in Kansas, thus the study portrays data on professional dietitians and not supportive personnel.

Figure 1 shows the total number of dietitians, the population, and the ratio of number of dietitians to population by district for 1978 and

4

4

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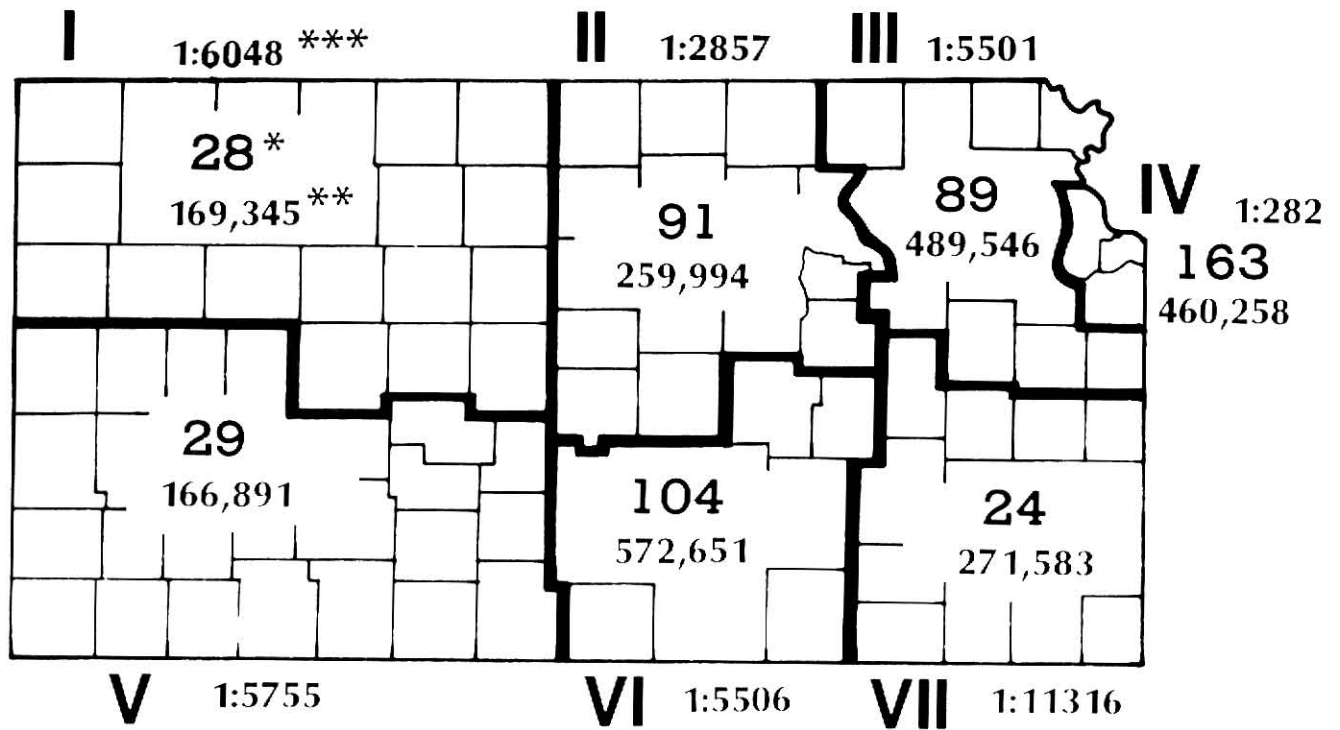
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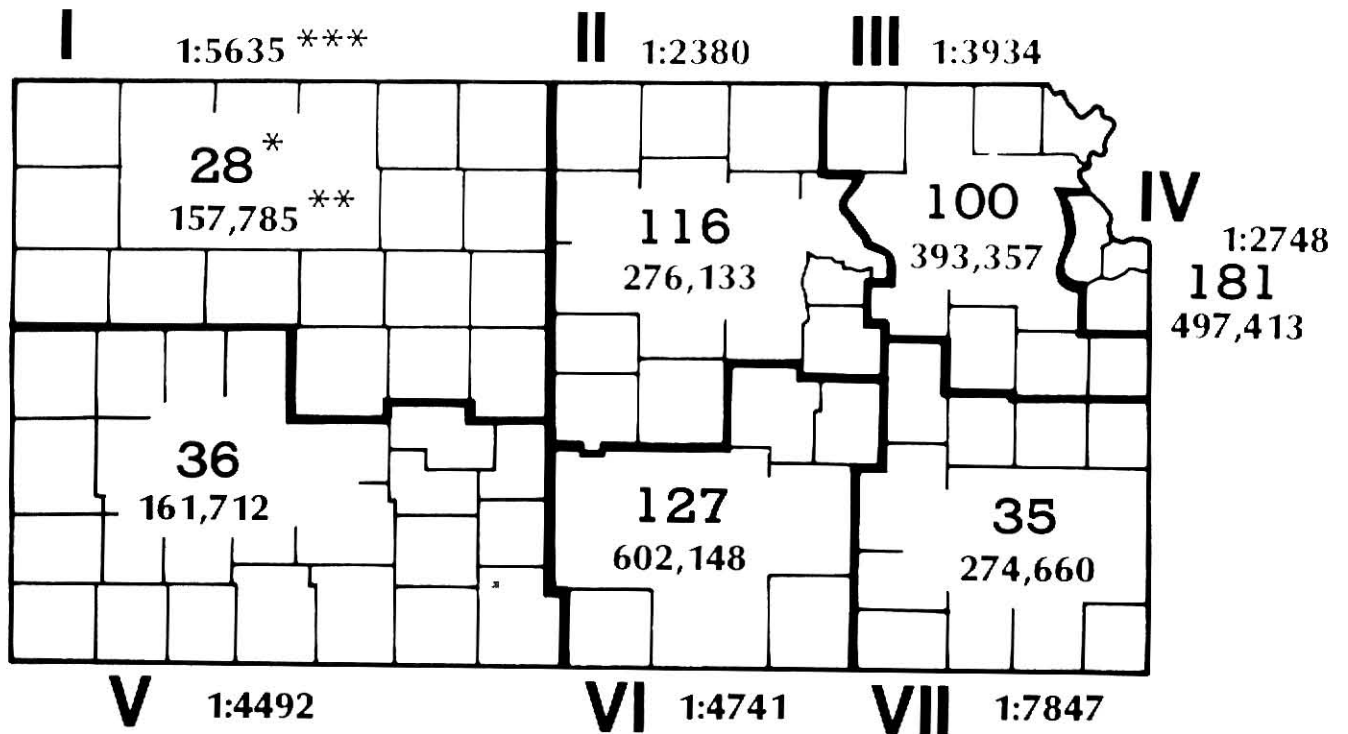
Figure 1. Ratio of number of dietitians to population
by health district in 1978 and 1982

1978

41



1982



* No. of Dietitians

** Population of District

*** Ratio of Dietitians to Population

1982. The overall ratio of dietitians in Kansas in 1978 was 1:4,452. In 1982, the overall ratio was 1:3,793.

The largest number of dietitians in 1978 and 1982 lived in the Metropolitan district of the state (District IV). The ratio of dietitian to population in this district was one dietitian to 2,824 population in 1978. In 1982, the ratio had increased slightly to 1:2,748. District IV (Metropolitan district) had the highest concentration of dietitians in the state as an absolute number. The ratio to population was larger, however, in the North Central district (District II), 1:2,380.

The second largest concentration of dietitians in 1978 and 1982 was in the South Central district (District VI). The population ratio for this district was 1:5,506 in 1978 and 1:4,471 in 1982. Even though the number of dietitians was large, the population density of the Wichita metropolitan area causes the ratio to be somewhat small. The supply of dietetic manpower is less than in the Kansas City metropolitan area.

In 1978, concern had been expressed by health authorities about the availability of health manpower in the western segment of the state. Although the concentration of dietitians was low in the two western health districts, because of the low population density the ratio to population did not differ greatly from that in District VI, the South Central district in 1978 (Figure 1). The population ratios for these western districts increased in 1982. District V (Southwestern district) experienced a large increase of 22 percent which caused the population ratio of 1:4,492 to be similar to that of the South Central district (1:4,741). The Northwest district (District I) continued to have the second lowest ratio of population per dietitian. The decreased population in those districts was largely responsible for the changes in the ratios, although

a few more dietitians resided in the Southwest district in 1982 than in 1978.

District VII, the Southeast district, was the area of the state with the most limited dietetic human resources in 1978. Only 24 dietitians lived in that district and with the high population density, the ratio was 1:11,316. In 1982, the population ratio was still the lowest in the state (1:7,847) despite a dramatic 31 percent increase from the 1978 ratio.

Table 1 and Figure 2 show the breakdown of number of dietitians by county in each of the seven health districts within the state in 1978 and 1982. Figure 2 also highlights those counties within Kansas in which there were no dietitians residing in the two years studied. The number of counties without a dietitian decreased from 33 to 26 between 1978 and 1982.

In District I (Northwest district), the total number of dietitians did not change from 1978 to 1982. The distribution of the dietitians did change slightly; the largest concentration of dietitians in 1978 was in Ellis County, whereas in 1982 Barton County had the most dietitians (Table 1).

In the North Central district (District II), two counties (Riley and Saline) accounted for 77 percent of the dietitians in the district in 1978. Again in 1982, the same two counties accounted for more than three-fourths (78 percent) of the dietitians (Table 1). The number of counties without a dietitian decreased from four in 1978 to two in 1982 (Figure 2).

Two counties also accounted for the majority of the dietitians in the Northeastern district (District III). Shawnee County and Douglas County accounted for all but 17 percent of the dietitians in the district in 1978 and all but 25 percent in 1982 (Table 1). Three counties did not

Table 1: Kansas dietitians by county and district in 1978 and 1982¹

<u>District I: Northwest</u>		<u>District II: North Central</u>		<u>District III: Northeast</u>	
	<u>1978²</u>		<u>1978</u>		<u>1978</u>
Barton	4	Clay	1	Atchison	3
Cheyenne	1	Cloud	2	Brown	-
Decatur	2	Dickinson	1	Doniphan	1
Ellis	10	Ellsworth	1	Douglas	16
Gove	-	Geary	4	Franklin	1
Graham	1	Jewell	-	Jackson	1
Logan	-	Lincoln	-	Jefferson	1
Ness	-	McPherson	5	Marshall	3
Norton	2	Mitchell	3	Miami	3
Osborne	-	Morris	-	Nemaha	1
Phillips	3	Ottawa	1	Osage	1
Rawlins	-	Republic	2	Pottawatomie	-
Rooks	1	Rice	1	Shawnee	58
Rush	-	Riley	60	Wabaunsee	1
Russell	1	Saline	10	total	89
Sheridan	-	Washington	-		
Sherman	-	total	91		
Smith	1			<u>District IV: Metropolitan</u>	
Thomas	2				<u>1978</u>
Trego	-			Johnson	113
Wallace	-			Leavenworth	24
				Wyandotte	26
total	28			total	163
					<u>1982</u>
					133
					19
					29
					<u>181</u>

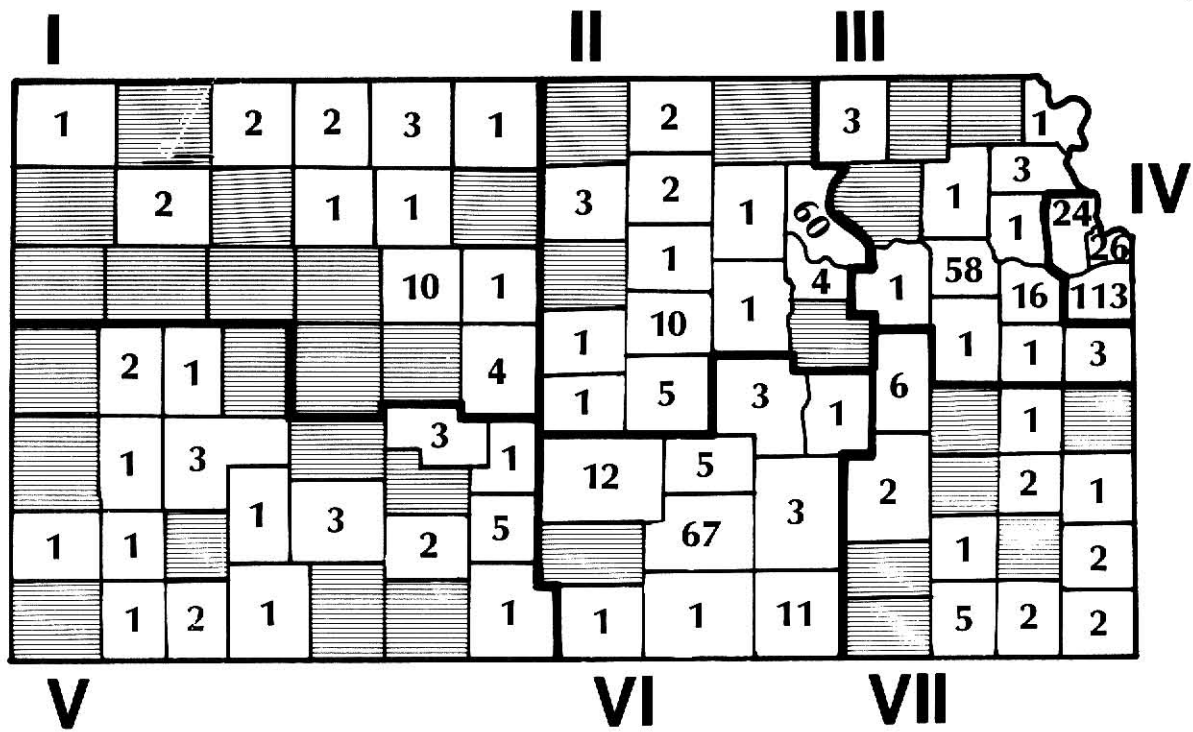
¹Districts are those defined by Kansas Department of Health and Environment.

²All data from 1978 are from Cohen (8).

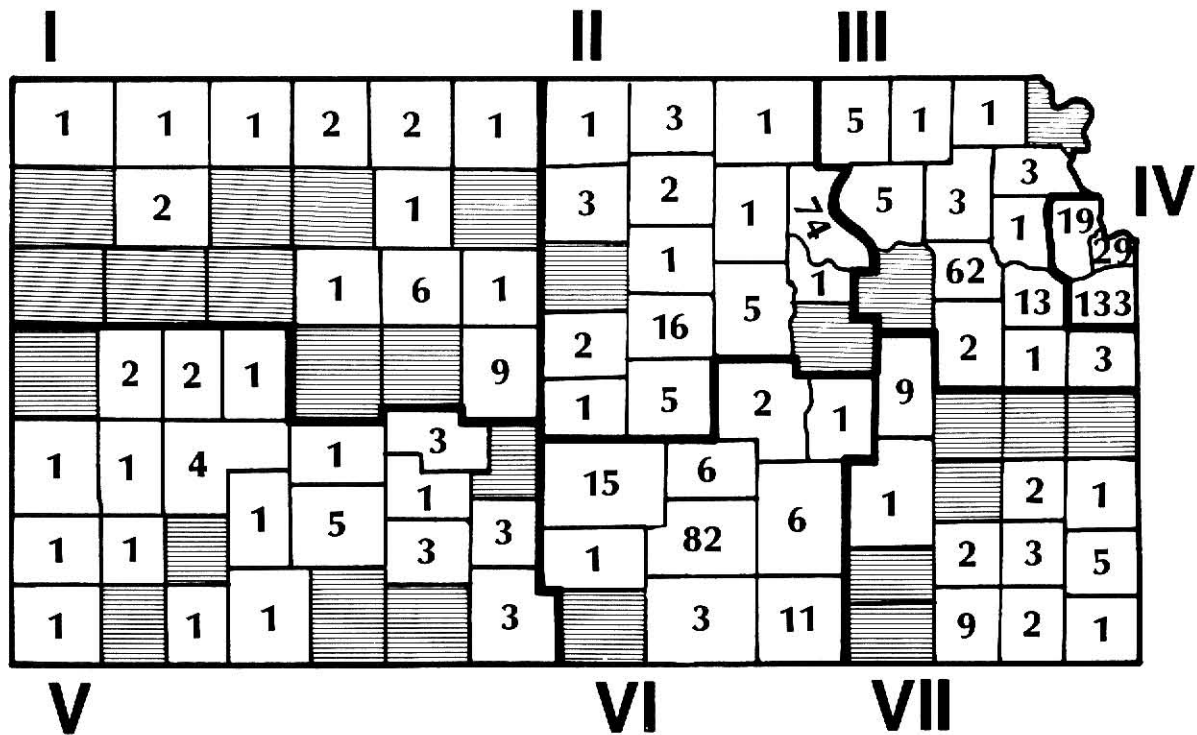
Figure 2. Distribution of Kansas dietitians by county in 1978 and 1982

1978

47



1982



 Counties without Dietitians

have a dietitian in residence in 1978; this was true for only two counties in 1982 (Figure 2). Pottawatomie County had a significant change from no dietitians in 1978 to five in 1982 (Table 1).

In District IV, the Metropolitan district, Johnson County accounted for the majority of dietitians in the district in both 1978 and 1982. Johnson County also had a larger number of dietitians than any other county in Kansas in 1978 (N = 113) and in 1982 (N = 133) (Table 1).

In the Southwest district of the state, nine counties were without a dietitian in 1978 and only six in 1982 (Figure 2). In 1982, 11 counties, however, had only one dietitian in the entire county.

The professional dietetic human resources in District VI (South Central district) were concentrated in only a few counties. Sedgwick, Reno, and Cowley accounted for 87 percent of the dietitians in the district in 1978 and 85 percent in 1982 (Table 1). Only one county (Kingman) in District VI had no dietitians in 1978. In 1982, Harper County was the only county without a dietitian (Figure 2).

District VII had six counties without a dietitian (Figure 2) in both 1978 and 1982. About half of the dietitians lived in either Lyon or Montgomery Counties (46 percent in 1978, 51 percent in 1982) (Table 1).

To study distribution of dietitians more specifically, as indicated earlier, data were compiled on the number of dietitians living in the ten largest cities or metropolitan areas¹ in the state. The location of these cities is shown in Figure 3. Over two-thirds of the dietitians in Kansas lived in these cities in 1982 (Table 2). Almost one-fourth (23

¹Information on metropolitan areas provided by the Population Research Laboratory, Department of Sociology, Anthropology and Social Work, Kansas State University.

Figure 3. Ten largest metropolitan areas and cities in Kansas

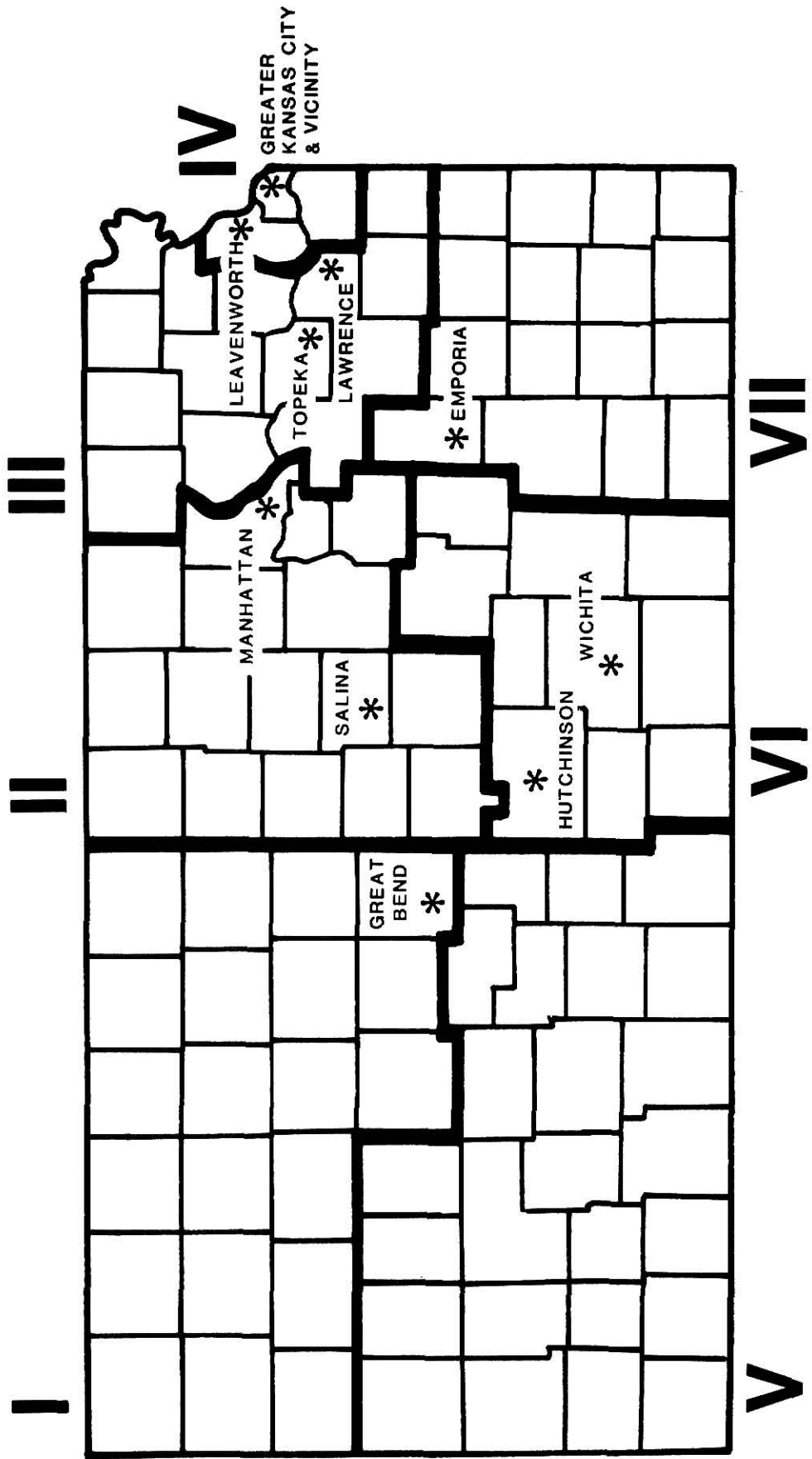


Table 2: Dietitians living in the ten largest metropolitan areas and cities in Kansas in 1978 and 1982

metropolitan area	1978		1982	
	N	% ¹	N	%
greater Kansas City and vicinity	126	23.9	144	23.1
Overland Park	24	4.6	40	6.5
Kansas City	28	5.4	28	4.5
Shawnee	33	6.3	23	3.7
Prairie Village	9	1.7	16	2.6
Lenexa	7	1.3	11	1.8
Mission	11	2.1	10	1.6
Olathe	7	1.3	7	1.1
Leawood	3	.5	5	.8
Merriam	4	.7	4	.6
Wichita	60	11.5	75	12.0
Manhattan	62	11.9	71	11.4
Topeka	58	11.1	60	9.6
Salina	7	1.3	15	2.4
Hutchinson	12	2.3	14	2.2
Leavenworth	18	3.4	12	1.9
Lawrence	6	1.1	9	1.4
Emporia	11	2.1	9	1.4
Great Bend	2	.4	8	1.3
total	371	70.6	417	66.9

¹% of dietitians residing in state.

percent) lived in the greater Kansas City and vicinity. One of the ten largest cities is located in the counties in which the most dietitians resided in each district in 1982. For example, in District VI, Wichita is in Sedgwick County which had the largest concentration of dietitians in the district. In District II, Manhattan and Salina are in the two counties, Riley and Saline respectively, which had the most dietitians in that district.

Comparisons with Dietetic Human Resources in Other States

The overall ratio of dietitians to population in the United States in 1978 was 1:6,091. In 1982, the overall ratio was 1:5,068, a favorable change of 17 percent (Table 3). Based on an analysis which compared ADA membership data from April 1982 to the most current census data (1980), the ratio of dietitians to population in Kansas was 1:3,653. The highest ratio was found for North Dakota (1:3,313) and the lowest was for Puerto Rico (1:11,502). The second highest ratio was reported for Kansas. Sixteen other states have ratios similar to that of Kansas (i.e., $\pm 1,000$ population per dietitian).

States were categorized by the ADA areas for further review. In Area IV, Colorado had the ratio that most closely approximated that in Kansas (1:3,757 population) (Table 3). Area III, which includes most of the southeastern states, had the lowest dietitian to population ratios of any other area.

Dietitians in Relation to Healthcare Facilities

Figures 4 and 5 present data on the number of hospitals, hospital beds, nursing homes, and nursing home beds by county. The ratios of dietitians to healthcare facilities and their capacities in Kansas are

Table 3: Ratio of ADA dietitians to population by state¹

areas ²	ADA dietitians ³	population per ADA member
<u>Area I</u>		
Hawaii	214	4,509
Washington	991	4,168
Idaho	191	4,942
Oregon	556	4,735
Montana	173	4,547
California	4,978	4,755
Wyoming	75	6,278
Alaska	76	5,269
<u>Area II</u>		
Nebraska	410	3,829
North Dakota	197	3,313
Minnesota	1,072	3,803
Wisconsin	1,217	3,866
Iowa	700	4,162
Missouri	1,019	4,826
South Dakota	129	5,350
Michigan	1,536	6,028
<u>Area III</u>		
Florida	1,567	6,216
Louisiana	711	5,913
Alabama	624	6,234
Georgia	765	7,143
Mississippi	369	6,831
Arkansas	269	8,496
South Carolina	308	10,127
Puerto Rico	277	11,502

¹Based on population data from the latest available census (1980). ADA membership data from April 19, 1982; includes Puerto Rico and District of Columbia.

²Areas defined by the ADA.

³Includes registered, nonregistered and associate members of the ADA.

Table 3: (cont.)

areas	ADA dietitians	population per ADA member
<u>Area IV</u>		
Arizona	564	4,819
Colorado	769	3,757
Utah	297	4,919
Kansas	647	3,653
New Mexico	224	5,803
Texas	2,535	5,613
Oklahoma	517	5,852
Nevada	117	6,831
<u>Area V</u>		
Ohio	2,363	4,569
Tennessee	818	5,612
Kentucky	521	7,028
Illinois	2,341	4,878
Indiana	929	5,910
West Virginia	222	8,782
<u>Area VI</u>		
District of Columbia	171	3,729
Delaware	128	4,650
Maryland	1,052	4,008
Virginia	977	5,472
Pennsylvania	2,145	5,532
North Carolina	820	7,164
<u>Area VII</u>		
Massachusetts	1,556	3,687
Vermont	109	4,692
New Hampshire	199	4,626
Connecticut	774	4,015
Rhode Island	206	4,598
New York	3,715	4,726
New Jersey	1,370	5,375
Maine	164	6,858
United States and territories	44,694	5,068

Figure 4. Distribution of hospitals and hospital beds in Kansas by county

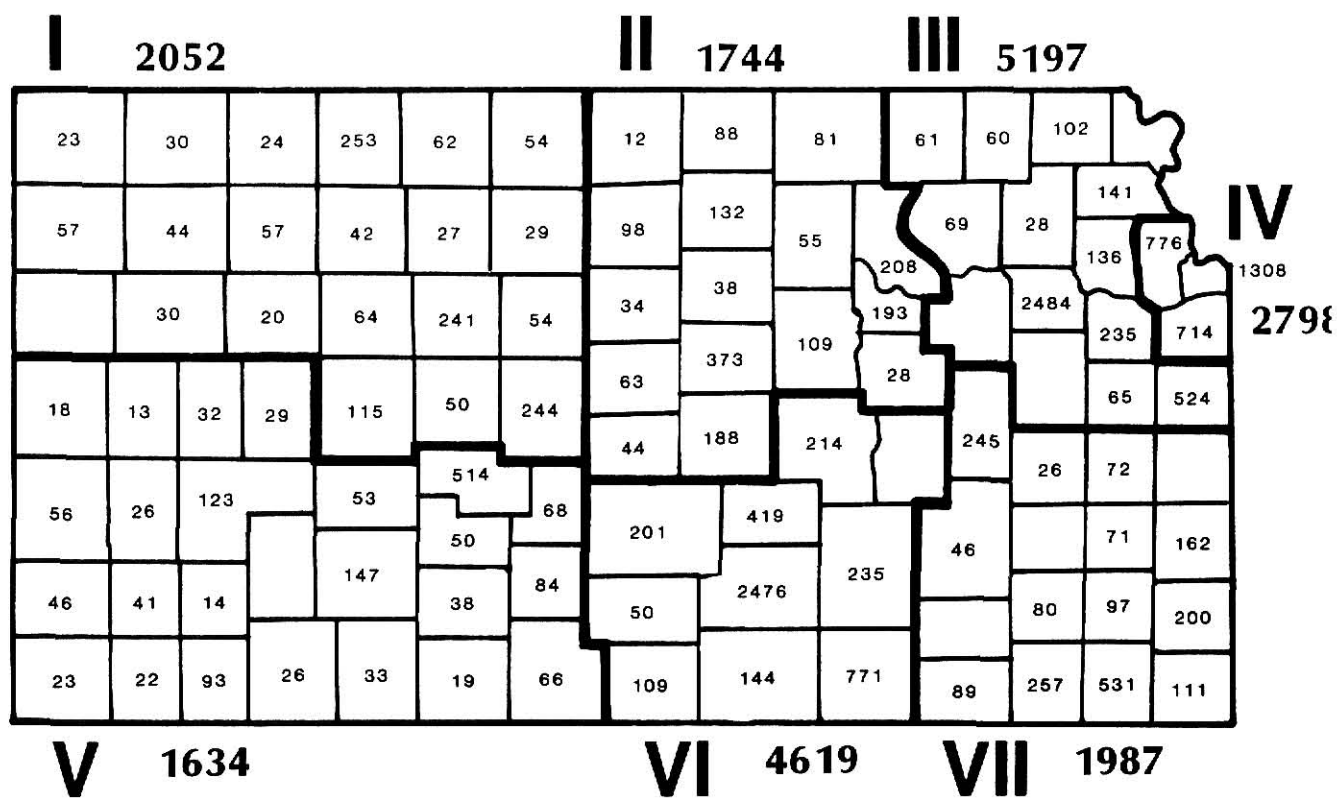
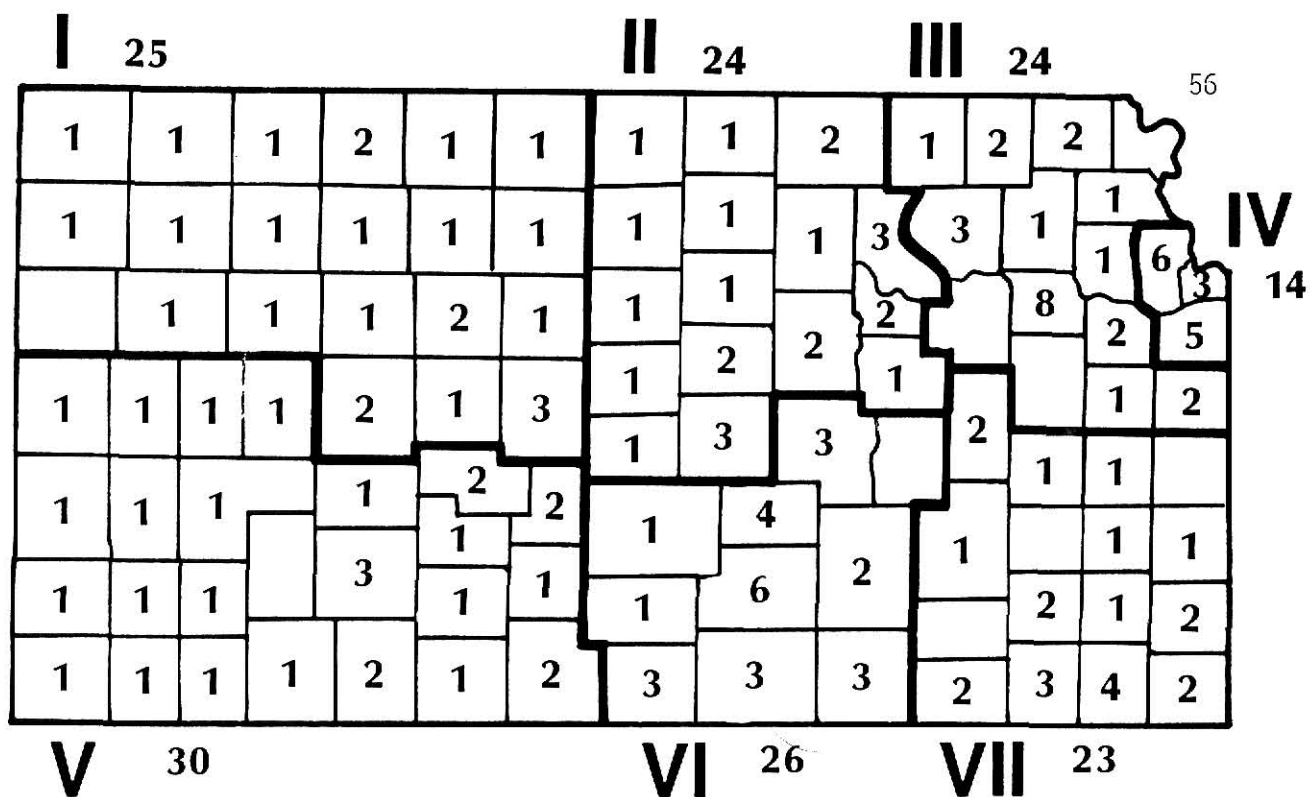
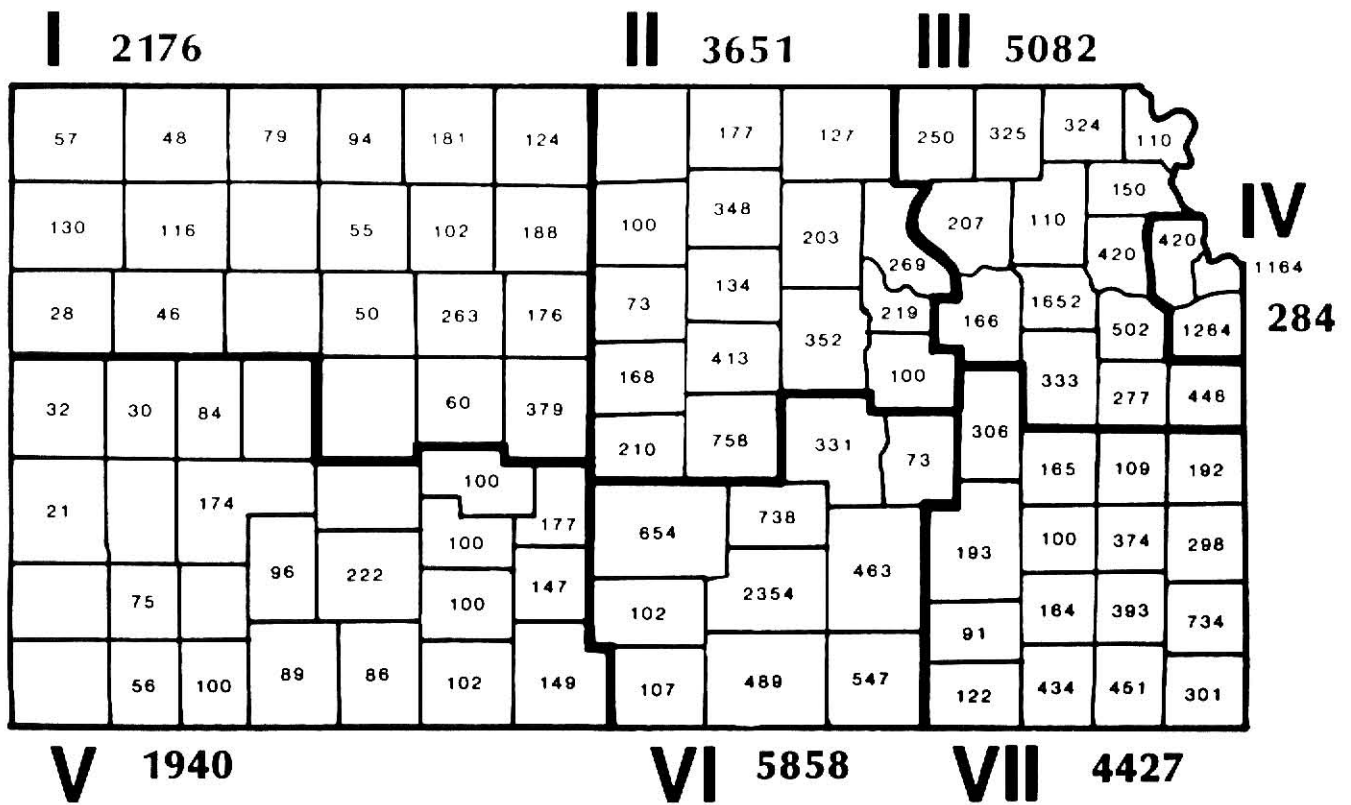
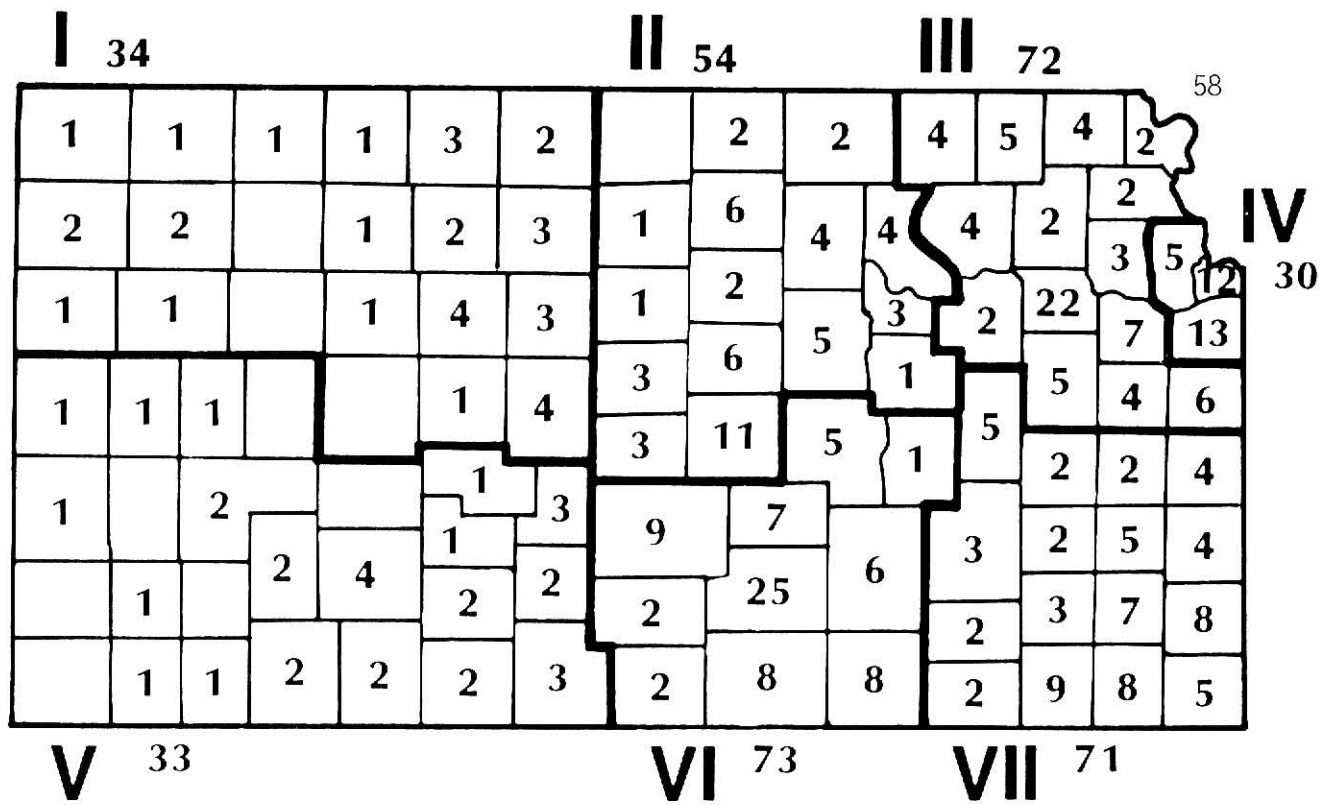


Figure 5. Distribution of nursing homes and nursing home
beds in Kansas by county



presented in Table 4. Although all dietitians in the state are not employed by hospitals and nursing homes, these data are presented as general indicators of the supply of professional dietetic human resources in relation to healthcare institutions in Kansas. Data presented in the next section will present specific employment data from the survey of dietitians. Data in this section are presented for a general picture of availability of dietetic resources to serve Kansas healthcare facilities.

District V has 30 hospitals, the largest number of hospitals per district in the state (Figure 4). These hospitals, however, are smaller and only account for 1,634 hospital beds which is the smallest number of hospital beds per district. Twenty-four of the hospitals in the state are located in the Northeastern district (District III) of Kansas. This district accounts for the largest number of beds (5,197). District VI has 26 hospitals and the next largest number of hospital beds (4,619). The total number of hospital beds in Kansas is 20,031.

The total number of nursing homes in the state is 367 (Figure 5). The Northeast, South Central, and Southeast districts have the largest number of homes. The total number of nursing home beds in Kansas is 25,982, with the Northeast, South Central, and Southeast districts also having the largest number of beds.

The ratios of dietitians to healthcare facilities and their capacities in Kansas for 1978 and 1982 are shown in Table 4. The areas of greatest dietetic manpower need in both 1978 and 1982 appear to be in the Northwest, Southwest, and Southeast districts. In the Northwest district in 1982, the ratio of dietitians to hospitals was only 1.1 and the ratio of hospital beds to dietitians was 73 to 1. The Metropolitan district (District IV) of Kansas had the most adequate supply of dietitians using

Table 4: Ratio of dietitians to healthcare facilities and capacities in Kansas in 1978 and 1982

district	no. of dietitians per hospital		no. of hospital beds per dietitian		no. of dietitians per nursing home		no. of nursing home beds per dietitian	
	1978	1982	1978	1982	1978	1982	1978	1982
I. Northwest	1.1	1.1	57.5	73.3	.8	.8	68.9	77.7
II. North Central	4.0	4.8	21.4	15.0	1.6	2.1	34.4	31.5
III. Northeast	3.7	4.2	43.6	52.0	1.1	1.4	57.0	50.8
IV. Metropolitan	11.6	12.9	16.7	15.5	4.7	6.0	15.6	15.7
V. Southwest	1.0	1.2	65.4	45.4	.9	1.1	64.9	53.9
VI. South Central	4.2	4.9	45.0	36.4	1.2	1.7	53.7	46.1
VII. Southeast	1.0	1.5	80.4	56.8	.3	.5	183.3	126.5

these indicators. In 1982, there were 12.9 dietitians to each hospital and one dietitian for 15.5 hospital beds.

The ratio of the number of dietitians per hospital increased from 1978 to 1982 in all districts except District I which remained the same. The ratio of number of hospital beds per dietitian decreased in all districts in 1982 except in Districts I and III. These trends suggest that dietitians were meeting more needs in Kansas in 1982.

In most of the districts, the same favorable trends evident with hospitals and hospital beds occurred with nursing homes and nursing home beds from 1978 to 1982. Usually, nursing homes, particularly those with fewer than 100 beds, are served by a consultant dietitian. It is difficult, therefore, to evaluate the data in Table 4 without information about employment of dietitians.

Survey of Kansas Dietitians

The population for the survey was the membership of the Kansas Dietetic Association (KDA) as of November 1981. Of the total 623 questionnaires sent to members of KDA, 524 or 84.1 percent were returned. The results of the information obtained from the survey instrument are included in this section. Complete information was not provided on all questionnaires; therefore N varies because of incomplete responses on some items.

Educational Background

Descriptive data about the educational background of Kansas dietitians in 1978 and 1982 are compared in Table 5. In 1978, the highest degree attained by 66.2 percent of KDA members was a bachelor's degree; 31.2 percent held a master's degree and 2.5 percent a doctorate. In 1982,

Table 5: Educational background of members of KDA in 1978 and 1982

	1978		1982	
	N	%	N	%
highest degree				
associate ¹			6	1.2
bachelor's	261	66.2	300	59.8
master's	123	31.2	180	35.9
doctorate	10	2.5	16	3.2
graduate semester hours completed	243	61.5	321	59.3
1-10 hours	70	28.7	111	34.6
11-20 hours	34	14.0	41	12.8
21-29 hours	15	6.1	21	6.5
30-39 hours	60	24.5	89	27.7
40 and over	64	25.9	59	18.4
major field for bachelor's				
dietetics, institutional management or foods and nutrition	351	89.3	402	82.9
dietetics			285	58.8
institutional management			51	10.5
food science and nutrition			66	13.6
home economics education	26	6.6	57	11.8
education, other	2	.5	1	.2
other	14	3.6	25	5.2
major field for master's				
dietetics, institutional management or foods and nutrition	126	84.0	155	78.7
dietetics			33	16.8
institutional management			53	26.9
food science and nutrition			69	35.0
home economics education	2	1.3	5	2.5
education, other	9	6.0	12	6.1
other	13	8.7	25	12.7
completed all undergraduate work at institution granting bachelor's degree				
yes			295	59.2
no			203	40.8

¹Data not requested in 1978 survey.

Table 5: (cont.)

	1978		1982	
	N	%	N	%
transfer students				
4 yr. college/university in another state			62	30.4
community/junior college in Kansas			45	22.1
4 yr. state college/university in Kansas			32	15.7
4 yr. private college in Kansas			22	10.8
2 yr. college in another state			19	9.3
other			24	11.8
dietetic technician prior to becoming dietitian				
yes			16	3.5
no			442	96.5
dietetic assistant prior to becoming dietitian				
yes			29	6.4
no			421	93.6

59.8 percent of dietitians had attained a bachelor's degree, 35.9 percent a master's degree, and 3.2 percent a doctorate. These statistics indicate an increase in the number of Kansas dietitians who hold advanced degrees.

The national ADA statistics for 1982 (103) indicate that 55 percent of the total membership hold a bachelor's degree, 28.8 percent a master's degree, and 2.7 percent a doctorate. The 1982 data for Kansas dietitians indicate that greater percentages of KDA members hold advanced degrees than is true nationally.

Graduate semester hours completed were reported by KDA members, whether or not an advanced degree was held. Almost two-thirds of the KDA members in both 1978 and 1982 had completed at least one or more graduate level courses.

The major field for a bachelor's degree among KDA members in both 1978 and 1982 was dietetics, institutional management, or foods and nutrition. In 1982, a majority (58.8 percent) of dietitians identified the specific major field for their bachelor's degree as dietetics. The major field for the master's degree also was dietetics, institutional management, or foods and nutrition.

In 1982, almost 60 percent of KDA members reported that they had completed all of their undergraduate work at the institution granting the bachelor's degree. Of those who had transferred during their undergraduate program, almost one-third came from a four year college or university in another state. Over 20 percent transferred from a community or junior college in Kansas.

In 1982, most Kansas dietitians reported that they had not been dietetic technicians or dietetic assistants prior to becoming dietitians. These data were not requested in 1978.

The college or university granting each degree according to 1982 reports is shown in Table 6. Of the Kansas dietitians holding bachelor's degrees, almost half obtained their degree from Kansas State University. Kansas State University also granted over 40 percent of the master's degrees while the University of Kansas granted about 10 percent.

Table 6: College or university granting each degree according to reports of KDA members in 1982

	Kansas State University		University of Kansas		other	
	N	%	N	%	N	%
associate	-	-	-	-	22	100.0
bachelor's	239	48.3	8	1.6	248	50.1
master's	87	42.4	22	10.7	96	46.8
doctorate	6	37.5	-	-	10	62.5

Current or future plans for graduate study was another facet in the analysis of the educational aspect of the study. Table 7 enumerates plans for graduate study of Kansas dietitians in 1982. About 30 percent of the dietitians had no plans for graduate study at the time of the survey. Almost 20 percent of the dietitians were either working on a master's or had plans to start work on a degree in the near future. Ten percent planned to start a master's program within the next five years. Seven percent were working on their first master's degree and a few were working on, or planned to start a second master's degree. About 20 percent had taken or planned to take graduate courses but did not plan to complete a master's degree at this time. Almost 15 percent of the dietitians had

Table 7: Current status regarding graduate study according to reports of KDA members in 1982

plans	N	%
have no plans for graduate study at this time	159	30.3
plan to start work on master's degree within the next 1 to 3 years	30	5.7
plan to start work on master's degree within the next 3 to 5 years	18	3.4
have taken some graduate courses but do not plan on completing master's at this time	78	14.9
plan to take some graduate courses but do not plan on completing master's at this time	30	5.7
now working on first master's degree	37	7.0
hold master's degree, have no plans for further study at present	73	13.9
now working on, or plan to start work on, second master's	10	1.9
plan to take some courses beyond a master's, but do not plan on getting a doctorate	49	9.3
plan to start work on a doctorate within the next 5 years	21	4.0
now working on doctorate	7	1.3
doctorate completed	13	2.5

plans for graduate study beyond a master's degree or were working on a doctorate.

General Membership Information

General membership data on the KDA members for 1978 and 1982 are shown in Table 8. The majority of dietitians in 1978 gained ADA membership eligibility through an internship program (56.2 percent). In 1982, this percentage was 43.9, a decrease of 12.3 percent from 1978. All of the routes to membership other than the internship route were more frequently reported by 1982 KDA members than was true in 1978. The largest increases were evident with the coordinated undergraduate program and the advanced degree routes.

Over half of the Kansas dietitians in 1978 had been members of the ADA for one to ten years, while 29.2 percent had been members for 21 years or more. In 1982, almost 60 percent had been members for less than ten years. ADA members for 21 years or more decreased to 24.8 percent. The mean length of ADA membership for Kansas dietitians in 1982 was 13.5 years.

A relatively large number of Kansas dietitians fell into the youngest age group (20 to 29 years) in both 1978 and 1982. In 1978, 37 percent were under 30 years of age. In 1982, the percentage decreased slightly to 34.8. The percentage of dietitians in the 30 to 39 years age group increased, however, from 1978 to 1982. Nationally, 37.7 percent of the ADA membership were 30 years and under as of June 1981.¹

¹Data from W.W. Baldyga, Department of Research, The American Dietetic Association.

Table 8: General KDA membership information for 1978 and 1982

	1978		1982	
	N	%	N	%
route to membership in ADA				
dietetic internship or coordinated master's internship	221	56.2	219	43.9
coordinated undergraduate program	71	18.1	122	24.5
advanced degree with experience	54	13.7	85	17.0
dietetic traineeship	24	6.1	37	7.4
associate membership and experience or approved professional practice	23	5.9	34	6.8
doctoral degree	-	-	2	.4
years member of ADA				
1 year or less	44	11.3	24	4.8
2-5 years	118	30.1	151	30.1
6-10 years	50	12.7	122	24.3
11-20 years	66	16.9	80	16.0
21 years or more	117	29.2	124	24.8
age				
20-29	131	37.0	169	34.8
30-39	57	16.1	124	25.5
40-49	50	14.1	57	11.7
50-59	73	20.6	73	15.0
60-69	27	7.6	43	8.8
70 or over	16	4.5	20	4.1
registration status				
registered	334	85.2	447	88.9
nonregistered	58	14.8	55	11.1

As shown below, almost 90 percent of the KDA members were registered in 1982, which was almost 8 percent higher than the national statistic. In 1978, the percentage of registered Kansas dietitians also was higher than the ADA statistic.

	<u>1978</u> %	<u>1982</u> %
ADA	75.6	81.2
KDA	85.2	88.9

KDA members continued to follow the national trend of increased numbers of dietitians becoming registered.

Residence in Kansas

Data in Table 9 provide information on Kansas residency of KDA members and projected future tenure in the state for 1978 and 1982. The

Table 9: Residence of Kansas dietitians in 1978 and 1982

	1978		1982	
	N	%	N	%
Length of time lived in Kansas				
1-5 years	100	28.4	130	27.1
6-15 years	58	16.5	79	16.5
16-30 years	106	30.1	157	32.8
31-50 years	55	15.6	72	15.0
51 or more	33	9.4	41	8.6
anticipated future time in Kansas ¹				
plan to move within the next year			24	5.0
plan to move within the next 5 years			91	18.9
plan to live in Kansas indefinitely			366	76.1
persons willing to relocate within state	88	22.3	128	26.9

¹Data not requested in 1978 survey.

length of time KDA members had lived in Kansas did not change dramatically during the four years. About one-fourth of Kansas dietitians in 1982 had lived in the state from one to five years, while over half had lived in Kansas 16 or more years.

About three-fourths of Kansas dietitians surveyed in 1982 reported that they planned to live in the state indefinitely. About one-fourth were willing to relocate within the state, however, which could benefit areas with limited dietetic human resources. Since 1978, the percentage of dietitians willing to relocate within the state increased slightly.

Professional Practice

As shown in Table 10, in 1982 about two-thirds of Kansas dietitians had been employed in the profession for 10 years or less; whereas those with more than 20 years professional practice represented only 16.7 percent of the membership. The mean length of employment in the dietetic profession was 10.5 years. These data corroborate earlier data reported on the age of the KDA membership. Currently, a large number of young professionals are practicing dietetics in Kansas as was true also in 1978.

In 1982, about 15 percent had held only one position in their dietetic career and about half had held two or three jobs in dietetic practice. The remainder had held four or more dietetic jobs during their career. These data suggest that Kansas dietitians may be changing jobs fairly frequently, however, since a majority of the dietitians had been employed in the profession for only 10 years or less.

The primary areas of specialization within the dietetic profession indicated by KDA members were clinical dietetics, general dietetics, and foodservice management. Over 90 percent of Kansas dietitians reported

Table 10: Professional practice of Kansas dietitians

	1978		1982	
	N	%	N	%
years employed in profession				
1 year or less	40	10.5	39	8.0
2-5 years	127	33.4	175	36.0
6-10 years	71	18.7	111	22.8
11-20 years	70	18.4	80	16.5
21 years or more	72	19.0	81	16.7
total number of jobs held in dietetic practice ¹				
1 job			75	15.8
2-3 jobs			226	47.6
4-6 jobs			140	29.5
7-9 jobs			27	5.7
10 or more jobs			7	1.5
primary area of specialization within dietetic profession				
clinical dietetics			172	35.6
generalist			146	30.2
foodservice management			119	24.6
community/public health nutrition			46	9.5
years of experience in: ²				
<u>food management</u>	167	43.9	187	34.6
1 year or less	41	24.5	46	24.6
2-5 years	63	37.7	75	40.1
6-10 years	23	13.8	30	16.0
11-20 years	19	11.4	21	11.2
21 years or more	21	12.6	15	8.0

¹Data not requested in 1978 survey.

²Percentages of dietitians reporting various periods of employment within each practice area are based on the total number with experience in the area.

Table 10: (cont.)

	1978		1982	
	N	%	N	%
<u>clinical dietetics</u>	209	55.0	262	48.4
1 year or less	43	20.6	45	17.2
2-5 years	124	59.3	144	55.0
6-10 years	21	10.0	40	15.3
11-20 years	16	7.7	27	10.3
21 years or more	5	2.4	6	2.3
<u>generalist dietetics</u>	175	46.0	175	32.3
1 year or less	36	20.6	29	16.6
2-5 years	74	42.3	82	46.9
6-10 years	27	15.4	36	20.6
11-20 years	24	13.7	17	9.7
21 years or more	14	8.1	11	6.3
<u>community nutrition and public health</u>	34	8.9	69	12.7
1 year or less	18	52.9	26	37.7
2-5 years	10	29.4	33	47.8
6-10 years	4	11.8	4	5.8
11-20 years	1	2.9	4	5.8
21 years or more	1	2.9	2	2.9
<u>teaching</u>	122	32.1	124	22.9
1 year or less	24	19.7	27	21.8
2-5 years	55	45.1	50	40.3
6-10 years	19	15.6	30	24.2
11-20 years	13	10.7	12	9.7
21 years or more	11	9.0	5	4.0
<u>consulting</u>			174	32.2
1 year or less			40	23.0
2-5 years			83	47.7
6-10 years			37	21.3
11-20 years			14	8.0
21 years or more			-	-

Table 10: (cont.)

	1978		1982	
	N	%	N	%
<u>research</u>			28	5.2
1 year or less			13	46.4
2-5 years			12	42.9
6-10 years			3	10.7
11 or more years			-	-
<u>other</u>	69	18.1	36	6.6
1 year or less	15	21.7	11	30.6
2-5 years	35	50.7	17	47.2
6-10 years	15	21.7	2	5.6
11-20 years	4	5.8	5	13.9
21 years or more	-	-	1	2.8

one of these three areas as their specialization in the 1982 survey. A small percentage of respondents (11 percent) indicated that they had specific plans to change their area of specialization in the future.

Kansas dietitians in 1978 and 1982 reported the greatest amount of experience in the clinical, general, and food management areas of dietetics. Data on years of experience in consulting was not requested in the 1978 survey but almost one-third of the 1982 respondents indicated that they had experience in this area. The percentage of respondents who reported experience in clinical, general, and food management areas of dietetics decreased from 1978 to 1982. In 1982, 22.9 percent reported experience in teaching, 12.7 percent in community health, and only 5.2 percent in research.

Current Employment Status

KDA membership statistics were similar in 1978 and 1982 regarding current employment status of dietitians (Table 11). Data from 1982

Table 11: Current employment status of KDA members in 1978 and 1982

	1978		1982	
	N	%	N	%
currently employed in dietetic practice	279	70.6	353	72.7
full-time ¹			240	49.4
part-time			113	23.3
not employed (includes temporary unemployment)	116	29.4	133	27.4
employed in more than one job (other than consulting)	32	8.1	35	7.7

¹Data not requested in 1978 survey.

indicated that 72.7 percent were employed in dietetic practice as compared to 70.6 percent in 1978. Almost half of Kansas dietitians currently were employed in full time practice. Full or part time employment status was not requested in 1978. The percentage not employed in 1982 was slightly lower than that in 1978 (27.4 compared to 29.4 percent). A small number of Kansas dietitians, other than consultants, reported they had more than one employer in both studies.

As shown in Table 12, raising a family was the primary reason dietitians gave for leaving their last job in the 1982 survey. Other reasons included having a spouse transferred, going back to school, and accepting a better paying job. Retirement was identified by 6.9 percent of the respondents as the primary reason.

About 40 percent of the unemployed dietitians (Table 13) cited family responsibility and child care as their main reasons for not being employed in 1982, a statistic slightly smaller than that from the 1978 study. A slightly higher percentage of unemployed dietitians in 1982 reported that they were retired (27.6 percent). Only a few in both surveys stated that their unemployment was because of no job opportunities or college enrollment. Of those unemployed, almost 40 percent anticipated employment in dietetics within the next two to five years, which is about 10 percent less than the same statistic in 1978. Less than 10 percent of the unemployed Kansas dietitians in 1982 were actively seeking employment, which represents about 1 percent of the KDA membership.

Forty percent of the Kansas dietitians in 1978 had been out of the work force for one or more years (Table 14). In 1982, almost two-thirds (63.2 percent) of KDA members had never been out of the work force, a percentage slightly higher than in 1978. These statistics suggest that

Table 12: Reason for leaving last job according to reports of KDA members in 1982

primary reason	N	%
to raise a family	79	17.0
spouse transferred	66	14.2
to go back to school	40	8.6
to accept a better paying job	38	8.2
wanted to get a different experience	34	7.3
retirement	32	6.9
wanted a more challenging job	28	6.0
to care for family members	18	3.9
position was temporary	14	3.0
promotion within the facility	14	3.0
to accept a job with better hours	13	2.8
didn't like the work	13	2.8
wanted to move to a different location	12	2.6
job didn't fit my expertise	10	2.1
other reasons	55	11.8

Table 13: Unemployed dietitians in Kansas in 1978 and 1982

	1978		1982	
	N	%	N	%
anticipate employment in dietetics within next 2-5 years				
yes	50	49.0	32	38.6
no	52	51.0	51	61.4
reason for not being employed				
child care			23	26.4
family responsibility ¹	44	46.3	12	13.8
retired	20	21.1	24	27.6
no job opportunities	11	11.6	5	5.7
student	6	6.3	10	11.5
other	14	14.7	13	14.9
actively seeking employment ²				
yes			7	7.8
no			83	92.2

¹Included child care in 1978.

²Data not requested in 1978 survey.

Table 14: Unemployment data on Kansas dietitians in 1978 and 1982

	1978		1982	
	N	%	N	%
out of work force for 1 or more years ¹	158	40.0	174	35.8
number of years out of the work force				
none	241	60.6	312	63.2
1 year or less	21	5.3	35	7.1
2-5 years	59	15.0	80	16.2
6-10 years	34	8.6	26	5.3
11-20 years	31	7.9	31	6.3
over 20 years	9	2.6	10	2.0

¹Some currently employed.

fewer dietitians are leaving the work force and if they do leave, fewer are staying out of the work force for extended periods of time.

In analyzing employment data by health district in the state, variation within the districts from 1978 to 1982 was considerable. Data presented in Table 15 include all employed dietitians working either full time or part time. Relative employment was highest in the Northwest district in 1982 (90.5 percent), which was a dramatic increase from 1978 (70.6 percent). Employment was lowest in the Southwest district for both years studied. Decreases between 1978 and 1982 in the percentage of dietitians employed in dietetic practice resulted in the Northeast, Metropolitan, and Southwest districts. Increases in the relative number of employed dietitians were revealed in the other three districts (North

Table 15: Employment of Kansas dietitians by district

	1978		1982	
	no. of dietitians in district ¹	% employed in dietetic practice	no. of dietitians in district	% employed in dietetic practice
I. Northwest	17	70.6	21	90.5
II. North Central	80	67.5	90	71.1
III. Northeast	63	82.5	84	70.2
IV. Metropolitan	107	74.8	136	72.8
V. Southwest	21	52.4	26	50.0
VI. South Central	85	64.7	99	75.7
VII. Southeast	17	64.7	28	71.4
total	390	70.6	484	72.1

¹Based on response to survey.

Central, South Central, and Southeast). The overall state employment percentage increased slightly in 1982, from 70.6 to 72.1 percent.

The full time position titles of dietitians in each of the seven health districts are given in Table 16. Clinical dietetic practice accounted for the largest percentage (30.9 percent) of dietitians in terms of full time position titles. Almost one-fourth, however, were employed as directors or assistant directors. About 10 percent were employed in administrative, generalist, or faculty positions. Of the remainder employed in dietetic practice, dietitians were divided between public health and other types of positions. A few held positions outside the profession. The pattern varied somewhat among the health districts.

Almost two-thirds of these dietitians employed full time reported they worked in hospitals (Table 17). An additional 6.7 percent were employed in other types of healthcare facilities. Approximately 20 percent were employed in schools or universities and the remainder worked in public agencies, industry, or other types of employment. Again, the pattern varied somewhat in the seven districts.

Data on the annual salary of Kansas dietitians from all positions for 1982 are reported in Table 18. About two-thirds of the respondents reported an annual salary of \$15,000 or more; however, about 20 percent received less than \$10,000. The fairly large number of dietitians working part time probably accounts for the relatively high percentage of dietitians in this salary range.

Dietetic Consultation to Healthcare Facilities

Table 19 shows the geographic distribution of dietitians who reported they were consultants at the time of the surveys in 1978 and 1982. The

Table 16: Full time position title of dietitians by district in 1982

district	position title							
	director or asst. director	adminis- trative	clinical	gener- alist	community or public health nu- tritionist	college/ university faculty	other dietetic position	non- dietetic position
Northwest	8	1	1	1	1	1	-	-
North Central	10	9	6	4	2	13	3	1
Northeast	14	7	17	8	4	-	-	1
Metropolitan	19	11	34	7	7	5	14	-
Southwest	2	-	1	-	-	1	-	1
South Central	6	4	29	8	2	4	4	2
Southeast	6	-	1	3	1	2	1	1
total	65	32	89	31	17	26	22	6
%	22.6	11.1	30.9	10.8	5.9	9.0	7.6	2.1

Table 17: Place of employment of full time dietitians by district in 1982

district	facility title								total
	hospital	school foodservice	university foodservice	university academic unit	public, voluntary, government agency	nursing home, mental retardation center or other healthcare facility	industry or other		
Northwest	5	1	-	1	1	1	-	9	
North Central	14	3	10	12	2	2	3	46	
Northeast	31	3	4	-	6	5	1	50	
Metropolitan	71	2	2	7	3	6	6	97	
Southwest	4	-	-	1	1	-	-	6	
South Central	45	2	-	3	3	3	3	59	
Southeast	6	2	-	3	2	2	-	15	
total	176	13	16	27	18	19	13	282	
%	62.4	4.6	5.7	9.6	6.4	6.7	4.6		

Table 18: Annual salary of Kansas dietitians in 1982 from all positions

annual salary	N	%
less than \$10,000	81	21.8
\$10,000-\$14,999	42	11.3
\$15,000-\$19,999	117	31.4
\$20,000-\$24,999	82	22.0
\$25,000-\$29,999	26	7.0
over \$30,000	24	6.5

Table 19: Consultants in Kansas by district in 1978 and 1982

district	1978		1982	
	N	% of dietitians in district ¹	N	% of dietitians in district
I. Northwest	10	58.8	12	57.1
II. North Central	18	22.5	17	18.9
III. Northeast	17	27.0	19	22.6
IV. Metropolitan	14	13.1	16	11.8
V. Southwest	6	28.6	9	34.6
VI. South Central	15	17.7	17	17.2
VII. Southeast	6	35.3	12	42.9
total	86	22.1	102	21.1

¹Based on responses to survey.

percentage of KDA members working in consulting was very similar in 1982 compared to 1978, as was the pattern among the districts. Consulting was a more important avenue of employment in the Northwest, Southwest, and Southeast districts of the state than in the other four districts. In the Metropolitan district, consulting accounted for the smallest percentage of dietitians compared to the other health districts. Overall, about one-fifth of the Kansas dietitians reported their primary employment to be consulting in both 1978 and 1982.

Almost three-fourths of the 1982 consultants reported that they worked independently; the remainder reported they practiced in a partnership-type arrangement. Since 1978, a slightly higher percentage of consultants worked in a group-type arrangement:

	<u>1978</u>	<u>1980</u>
	<u>%</u>	<u>%</u>
independently	75.8	71.3
in partnership	24.2	28.7

As indicated in Table 20, the majority of consultants in 1978 and 1982 served from one to three accounts. A small number of consultants served 10 or more accounts. Of the total number of accounts served, intermediate care facilities were the predominant type of facility served. In 1982, over half of the consultants reported that they served one to three intermediate care facilities. Above one-third of the 1982 consultants served one or two hospitals. Since 1978, a higher percentage of consultants were serving hospitals, intermediate care facilities, and other types of institutions; a slight decrease was evident in the percentage of consultants serving skilled nursing homes.

The number of facilities served by consultants in 1978 and 1982 are shown in Table 21. These data indicate an increase of 23 percent in the

Table 20: Accounts served by consultant dietitians in Kansas in 1978 and 1982

	1978		1982	
	N	%	N	%
hospitals				
none	53	60.9	61	59.8
1 to 2	25	28.7	37	36.3
3 to 4	7	8.0	4	3.9
5 to 6	2	2.3	-	-
skilled nursing homes				
none	57	65.5	70	68.6
1 home	21	24.1	19	18.6
2 homes	5	5.7	6	5.9
3 homes	2	2.3	7	6.9
4 homes	2	2.3	-	-
intermediate care homes				
none	35	40.2	26	25.5
1 to 3	35	40.2	55	53.9
4 to 6	9	10.3	13	12.7
7 to 12	8	9.2	8	7.8
other types of institutions				
none	73	83.9	82	80.4
1	11	12.6	16	15.7
2	2	2.3	4	3.9
3	1	1.1	-	-
total number of accounts				
1 to 3	53	60.9	61	59.8
4 to 6	15	17.1	20	19.6
7 to 9	9	10.3	12	11.8
10 or more	6	6.8	7	6.9
not indicated	4	4.6	2	2.0

Table 21: Number of facilities served by consultants in 1978 and 1982

year	hospitals	skilled nursing	intermediate care homes	other facilities	total
1978	71	52	167	16	304
1982	62	64	221	27	374

total number of facilities served. Fewer hospitals are served by consultants in 1982; however, increased numbers of skilled nursing, intermediate care, and other facilities employed consultant dietitians in 1982. Table 22 indicates that almost 90 percent of the healthcare facilities served by consultants were 100 beds or smaller in both years studied.

Table 22: Number of beds in facilities served by consultant dietitians in 1978 and 1982

year	beds						total
	10-25	26-50	51-75	76-100	101-150	over 150	
1968	15	126	63	62	19	13	298
1982	24	147	76	72	33	12	364

In about three-fourths of the accounts served by consultants, the dietitians in both 1978 and 1982 reported they spent nine hours or less per month at these facilities (Table 23). Data in Table 24 indicate that one visit per month by a consultant was the predominant practice in both 1978 and 1982.

Table 23: Hours per month spent at facilities by consultant dietitians in 1978 and 1982

year	hours per month							total
	1-4	5-6	7-9	10-17	18-29	30-40	over 40	
1978	47	54	121	39	13	13	9	296
1982	95	77	107	59	11	8	10	367

Table 24: Number of visits per month to facilities by consultant dietitians in 1978 and 1982

year	visits				total
	1	2-3	4-6	7-12	
1978	124	94	56	14	288
1982	196	118	37	13	364

About a third of the consultant dietitians were interested in securing additional accounts (Table 25). Of those surveyed in 1982, 60.0 percent estimated they could manage one or two additional accounts. Consultant dietitians were less willing to add new accounts in 1982 than in 1978. Most of the consultants interested in additional accounts were willing to travel only a short distance from home (i.e., 60 miles or less).

Table 26 shows data included to determine if dietitians currently not consulting were interested in becoming consultants to nursing homes or hospitals. From the sample of 1982 KDA members who were not employed as

Table 25: Consultant dietitians interested in additional accounts in 1978 and 1982

	1978		1982	
	N	%	N	%
consultants interested in additional accounts	29	33.3	36	35.6
number of additional accounts that could be managed ¹				
1 or 2	10	35.7	21	60.0
3 or 4	10	35.7	7	20.0
5 or 6	2	7.1	4	11.4
8 to 10	4	14.3	2	5.7
over 10	2	7.1	1	2.9
number of miles willing to travel from home base ²				
1 to 30 miles			8	21.1
31 to 60 miles			19	50.0
61 to 100 miles			7	18.4
101 or more miles			4	10.5

¹Based on one day per month consultation.

²Data not requested in 1978 survey.

Table 26: Dietitians interested in consulting according to reports of KDA members in 1982¹

	N	%
interested in becoming a consultant for a nursing home?		
yes	124	34.4
no	236	65.6
interested in becoming a consultant for a hospital?		
yes	188	46.7
no	215	53.3
estimated number of accounts which could be managed ²		
1 or 2	75	54.7
3 or 4	26	19.0
5 or 6	11	8.0
7 to 10	16	11.7
over 10	9	6.6
number of miles willing to travel from home base to facility		
1 to 30	62	44.0
31 to 60	65	46.1
61 to 100	14	9.9
101 or more	-	-

¹Data from dietitians not currently serving as consultants.

²Based on one day per month consultation.

consultants, about one-third were interested in securing consulting accounts. A majority estimated that they could manage one or two accounts. As was true for the consultants, most of these non-consultants were willing to travel only 60 miles or less from home base to a facility.

Continuing Education Experiences of Kansas Dietitians

To maintain professional registration, 75 hours of continuing education are required every five years (92). Data on graduate study presented previously in this report suggest that many KDA members have pursued formal academic coursework as one means of continuing education (refer to Table 5 on page 62 and Table 7 on page 66). Data on other aspects of continuing education are reported in Table 27.

About one-fourth of the KDA members surveyed in 1982 reported attendance at one annual ADA meeting in the last three years, which was an increase from the 1978 percentage. About two-thirds of the respondents in both 1978 and 1982 had not attended a national ADA meeting in the previous three years, however.

KDA meetings appeared to be a more important source of continuing education. Over three-fourths of Kansas dietitians in both study years reported attendance at one or more KDA meetings in the last three years. District meetings also appeared to be important as a continuing education source for Kansas dietitians. In 1982, almost two-thirds reported attendance at one or more district meetings in the last year.

Professional literature provided another source for continuing education. Only a few of the KDA members reported that they did not read professional literature. A majority indicated that they spent one or two hours reading professional literature in a typical week and the remainder

Table 27: Continuing education of Kansas dietitians in 1978 and 1982

	1978		1982	
	N	%	N	%
continuing education hours during past 3 years				
none	90	22.8	55	11.2
less than 25	37	9.4	51	10.4
25-49	68	17.2	156	31.8
50-74	80	20.2	104	21.2
over 75	120	30.4	124	25.3
ADA meetings attended in last 3 years				
none	263	66.6	327	67.8
1 meeting	78	19.7	109	22.6
2 meetings	33	8.4	33	6.9
3-5 meetings	21	5.4	13	2.7
KDA meetings attended in last 3 years				
none	92	23.3	98	20.0
1 meeting	68	17.2	71	14.5
2-3 meetings	136	34.4	195	39.7
4-5 meetings	76	19.2	97	19.8
6-8 meetings	23	5.9	30	6.1
district meetings attended in the last year ¹				
none			176	36.4
1 meeting			87	18.0
2-3 meetings			133	27.5
4-5 meetings			53	10.9
6-9 meetings			35	7.2
hours spent reading professional literature in a typical week				
none			22	4.6
1 hour			113	23.5
2 hours			129	26.9
3-4 hours			106	22.1
5-8 hours			79	16.5
over 9 hours			31	6.5

¹Data not requested in 1978 survey.

spent three or more hours weekly. A mean of 3.3 hours per week were devoted to reading professional literature according to reports of KDA members surveyed in 1982.

Topics of Continuing Education Workshops or Seminars. In the 1982 survey, in addition to the manpower data, questions were included on the subject matter emphasis of continuing education activities attended by Kansas dietitians. Topics examined were within three broad areas: management related, nutrition and medical related, and other.

In Table 28, the percentages of Kansas dietitians indicating attendance at seminars or workshops in the last three years which included management related topics are listed. Managerial effectiveness and efficiency was a topic of seminars or workshops attended by the largest percentage of respondents. Group dynamics, leadership effectiveness, motivational theories, labor-management relations, decision-making techniques, and cost containment were topics included in seminars or workshops attended by at least one-fifth or more.

Table 29 shows attendance of dietitians in the last three years at seminars or workshops including nutrition and medical related topics. Almost half of the KDA members had attended a seminar or workshop on nutrition and drug interrelationships. Over one-third of the respondents had attended seminars or workshops on the topics of nutritional assessment, diabetes, and obesity and weight control.

Data about the seminars or workshops attended in the last three years including other topics are presented in Table 30. Quality assurance, stress management, assertiveness training, and communication skills were the topics of seminars or workshops on this list which had been attended by the largest percentages of dietitians.

Table 28: Seminars or workshops attended in the last three years including management related topics¹

topic	N	%
managerial effectiveness and efficiency	173	31.6
group dynamics--goal achievement	154	28.2
leadership effectiveness	154	28.2
motivational theories	133	24.3
labor-management relations	122	22.3
decision-making techniques	120	21.9
cost containment	114	20.8
performance evaluation	99	18.1
staff development (professional)	95	17.4
health and safety laws, inspection and enforcement	89	16.3
employee training	85	15.5
job descriptions and performance standards	76	13.9
new types of production/delivery systems	64	11.7
management of change	61	11.2
food production	58	10.6
budgeting and financial management	54	9.9
employee recruitment, selection, orientation	52	9.5
merchandising and marketing	41	7.5
equal opportunity and affirmative action	40	7.3
purchasing	39	7.1
work methods analysis	38	7.0
computer-assisted management	35	6.4
laws affecting utilization of personnel	34	6.2
equipment layout and design	34	6.2
determining staffing requirements	32	5.9
analysis of foodservice systems	26	4.8
inventory control	23	4.2
conversion to metric system	18	3.3
storage and security	16	2.9

¹Data collected in 1982 survey only.

Table 29: Seminars or workshops attended in the last three years including nutrition and medical related topics¹

topic	N	%
nutrition and drug interrelationships	248	45.3
nutritional assessment	234	42.8
diabetes	222	40.6
obesity and weight control	205	37.5
parenteral and enteral nutrition	130	23.8
geriatrics	122	22.3
alcohol-nutrient interrelationships	121	22.1
cardiology	111	20.3
non-digestible dietary substances (fiber)	107	19.6
pregnancy and lactation	101	18.5
oncology	97	17.7
food habits (factors affecting, etc.)	72	13.2
mineral or vitamin metabolism	69	12.6
biochemistry, physiology update	67	12.2
nutrition in behavior abnormalities (e.g., hyperkinesia)	63	11.5
nutrition for physically impaired	61	11.2
pediatrics	61	11.2
other stress and trauma	59	10.8
toxics in foods, food-borne illnesses	59	10.8
gastroenterology	58	10.6
vegetarian diets	50	9.1
food allergies and intolerances	49	9.0
inborn errors of metabolism	41	7.5
developments in burn therapy	35	6.4
nutrition and immunological relationships	33	6.0
computers in nutritional care	21	3.8
urology	16	2.9

¹Data collected in 1982 survey only.

Table 30: Seminars or workshops attended in the last three years including other topics¹

topic	N	%
quality assurance	121	22.1
stress management	121	22.1
assertiveness training	120	21.9
communication skills	115	21.0
legislation	98	17.9
time management	91	16.6
team approach in health care	89	16.3
methods of nutrition education	77	14.1
publicly funded health programs (e.g., WIC, elderly feeding)	75	13.7
personnel in-service education	66	12.1
food science (additives, labeling, etc.)	63	11.5
patient education	59	10.8
accreditation standards (i.e., JCAH)	50	9.1
private practice counseling techniques	44	8.0
adult education concepts and principles	39	7.1
others	22	4.0
the politics of food--domestic and world dimensions	20	3.7
agri-business impacts on food production and distribution	16	2.9
genetic research advances and implications	8	1.5

¹Data collected in 1982 survey only.

Dietitians' Interests in Continuing Education. To provide information on continuing education needs of Kansas dietitians, respondents were asked to indicate topics of interest for workshops, seminars, or other events. The listing of topics was the same as that used for the assessment of continuing education experiences.

In Table 31, percentages of Kansas dietitians in 1982 interested in continuing education on selected management related topics are listed. Computer-assisted management was a topic of interest indicated by one-fourth of those surveyed. Additional management related topics of particular interest included budgeting and financial management, cost containment, managerial effectiveness and efficiency, decision-making techniques, and performance evaluation.

Interests of KDA members in continuing education on selected nutrition and medical related topics are shown on Table 32. Almost one-third of Kansas dietitians indicated an interest in use of computers in nutritional care, which was interesting in combination with the fairly strong interest in computer-assisted management reported above. About 25 percent indicated a need for biochemistry and physiology update. Nutritional assessment, food allergies and intolerances, nutrition in behavior abnormalities, nutrition and drug interrelationships, and mineral or vitamin metabolism were nutrition and medical related topics of interest for at least one-fifth of the respondents.

The percentages of Kansas dietitians in 1982 interested in continuing education on other topics are listed in Table 33. The topic, methods of nutrition education, was selected by the highest percentage of the respondents from this listing. Stress management was another topic of particular interest.

Table 31: Respondents interested in continuing education on selected management related topics¹

topic	N	%
computer-assisted management	133	24.3
budgeting and financial management	128	23.4
cost containment	125	22.8
managerial effectiveness and efficiency	114	20.8
decision-making techniques	114	20.8
performance evaluation	110	20.1
leadership effectiveness	104	19.0
new types of production/delivery systems	102	18.6
determining staffing requirements	98	17.9
management of change	95	17.4
laws affecting utilization of personnel	92	16.8
health and safety laws, inspection and enforcement	91	16.6
employee training	84	15.4
analysis of foodservice systems	83	15.2
job descriptions and performance standards	81	14.8
labor-management relations	80	14.6
staff development (professional)	80	14.6
merchandising and marketing	78	14.3
group dynamics--goal achievement	76	13.9
food production	72	13.2
employee recruitment, selection, orientation	68	12.4
work methods analysis	66	12.1
motivational theories	65	11.9
purchasing	65	11.9
inventory control	65	11.9
equipment and layout design	60	11.0
conversion to metric system	48	8.8
equal opportunity and affirmative action	38	6.9
storage and security	29	5.3

¹Data collected in 1982 survey only.

Table 32: Respondents interested in continuing education on selected nutrition and medical related topics¹

topic	N	%
computers in nutritional care	165	30.2
biochemistry, physiology update	138	25.2
nutritional assessment	127	23.2
food allergies and intolerances	123	22.5
nutrition in behavior abnormalities (e.g., hyperkinesis)	121	22.1
nutrition and drug interrelationships	114	20.8
mineral or vitamin metabolism	112	20.5
obesity and weight control	109	19.9
nutrition and immunological relationships	103	18.8
diabetes	100	18.3
alcohol-nutrient interrelationships	95	17.4
parenteral and enteral nutrition	95	17.4
oncology	94	17.2
geriatrics	93	17.0
pediatrics	86	15.7
nutrition for physically impaired	85	15.5
vegetarian diets	85	15.5
developments in burn therapy	82	15.0
gastroenterology	80	14.6
non-digestible dietary substances (fiber)	79	14.4
toxigants in foods, food-borne illnesses	78	14.3
other stress and trauma	76	13.9
pregnancy and lactation	76	13.9
food habits (factors affecting, etc.)	75	13.7
inborn errors of metabolism	70	12.8
cardiology	68	12.4
urology	41	7.5

¹Data collected in 1982 survey only.

Table 33: Respondents interested in continuing education on other topics¹

topic	N	%
methods of nutrition education	134	24.5
stress management	116	21.2
private practice counseling techniques	109	19.9
time management	108	19.7
communication skills	105	19.2
patient education	94	17.2
personnel in-service education	93	17.0
adult education concepts and principles	92	16.8
quality assurance	89	16.3
assertiveness training	88	16.1
team approach in health care	86	15.7
food science (additives, labeling, etc.)	82	15.0
agri-business impacts on food production and distribution	75	13.7
the politics of food--domestic and world dimensions	69	12.6
legislation	65	11.9
accreditation standards (i.e., JCAH)	64	11.7
genetic research advances and implications	59	10.8
publicly funded health programs (e.g., WIC, elderly feeding)	68	10.6
others	23	4.2

¹Data collected in 1982 survey only.

SUMMARY AND CONCLUSIONS

Human resource planning has been defined as the process of analyzing an organization's human resource needs under changing conditions and developing the activities necessary to satisfy these needs. The American Dietetic Association (ADA) has been concerned for several decades about the professional inability to meet the needs for dietetic services (6). In 1962, the ADA Executive Board recognized the need for human resource planning and set forth to determine how priorities could be established in the midst of increasing demands for all types of dietitians so that future time, efforts, and money would continue to be invested wisely (7). Periodically since 1962, ADA has conducted manpower studies.

Cohen (8) conducted a human resource study with the membership of the Kansas Dietetic Association (KDA) in 1978. A primary objective of the study was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes. She recommended that periodic studies be conducted to update and compare data on Kansas dietitians. An objective for the current study was to investigate the current status of Kansas dietitians for comparison with data from the Cohen study and with national data to identify trends and changes. An additional objective was to identify the continuing education experiences and perceived continuing education needs of dietitians in Kansas.

The population for the study was the membership of the KDA as of November 1981. Out of the total 623 members of the KDA who were sent the survey questionnaire, 524 (84.1 percent) were returned. The instrument

was developed through two drafts, involving review by a pretest group, Career Laddering staff at the University of Kansas, and committee members. The final instrument contained five sections. The first section was for obtaining general membership information. Section II contained questions on educational background; the third section of the instrument included questions on continuing education experiences and interests. Section IV included questions on employment background and plans and the last section requested information on consulting experiences and interests.

General statistical information was analyzed on the total membership of Kansas dietitians. In 1978, the overall ratio of dietitians to population in Kansas was 1:4,452; the ratio was 1:3,793 in 1982. The largest number of dietitians in 1978 and 1982 lived in the Metropolitan district of the state (District IV). The ratio to population was more favorable in 1982, however, in the North Central district (District II), 1:2,380 compared with 1:2,748 in the Metropolitan district.

The Southeast district (District VII) was the area of the state with the most limited dietetic resources in 1978 and 1982. Despite a dramatic change of 31 percent from the 1978 ratio (1:11,316), the population ratio in 1982 was still the lowest in the state (1:7,847).

To study distribution of dietitians more specifically, data were compiled on the number of dietitians living in the ten largest cities or metropolitan areas in the state. In 1982, over two-thirds (67 percent) of the Kansas dietitians lived in these cities. About one-fourth (23 percent) lived in the greater Kansas City and vicinity.

The overall ratio of dietitians to population in the United States in 1978 was 1:6,091. In 1982, the overall ratio was 1:5,068, a favorable change of 17 percent. Based on an analysis which compared ADA membership

statistics from April 1982 to the most current census data (1980) the ratio of dietitians to population in Kansas was 1:3,653.

In relation to healthcare facilities, the areas of greatest dietetic need in both 1978 and 1982 appeared to be in the Northwest, Southwest, and Southeast districts. The Metropolitan district (District IV) had the most adequate supply of dietitians based on the ratio of dietitians to hospitals.

Survey data from the research instrument provided more specific information on education and employment status. The statistics on the educational background of Kansas dietitians indicated an increase in numbers of Kansas dietitians who held advanced degrees in 1982 compared to 1978. Almost two-thirds of the Kansas dietitians had completed at least one or more graduate level courses in both surveys.

Eligibility for ADA membership was gained through an internship for 56 percent of KDA members in 1978 compared to 44 percent in 1982. The second most frequent route to membership for Kansas dietitians was through the coordinated undergraduate program. The KDA membership was relatively young, over one-third were under thirty years of age in 1982. Of the KDA members, almost 90 percent were registered which was higher than the national ADA statistic and the 1978 statistic.

Information on Kansas residency of KDA members indicated that the length of time Kansas dietitians had lived in Kansas did not change dramatically from 1978 to 1982. About three-fourths of KDA members surveyed in 1982 reported that they planned to live in the state indefinitely.

A large number of young professionals were practicing dietetics in Kansas in 1982 as was true also in 1978. About two-thirds of the KDA members in 1982 had been employed in the profession for 10 years or less.

Statistics regarding employment status indicated that almost three-fourths of the dietitians in 1978 and 1982 were employed in dietetic practice. About half of Kansas dietitians were employed full time in 1982. Of the unemployed dietitians in 1982, over 40 percent cited family responsibility and child care as their reasons for not being employed, which was the predominant reason given in 1978 also. Almost two-thirds of Kansas dietitians had never been out of the work force according to 1982 reports.

About one-fifth of Kansas dietitians were employed as consultants in both 1978 and 1982. The majority of consultants served intermediate care homes in both surveys. Approximately 60 percent of the consultant dietitians had only one to three accounts.

From the sample of KDA dietitians who were not employed as consultants, about one-third reported that they would be interested in obtaining an account with a hospital or nursing home. Of the dietitians who were already consultants, about one-third indicated they were interested in additional accounts.

Continuing education of Kansas dietitians was studied from several perspectives. Approximately one-fourth had accumulated over 75 continuing education hours during the past three years. Over three-fourths of Kansas dietitians in 1978 and 1982 reported attendance at one or more KDA meetings in the last three years; about one-fifth had attended at least one ADA meeting. KDA members reported attendance at seminars or workshops in the last three years on a variety of topics related to management, nutrition, and medicine. Kansas dietitians also indicated topics of interest in continuing education. Computer-assisted management and computers in nutritional care were topics of interest reported by the highest percentage of respondents. Financial management, managerial effectiveness, and

cost containment were among the other management topics of particular interest. Among nutrition and medical topics mentioned most frequently were biochemistry, physiology, pharmacology, nutritional assessment, and food allergies. Time management, nutrition education, and stress management were other topics of special interest.

Age and employment data indicate that there are a fairly large number of young professionals practicing dietetics in the state of Kansas. This trend may have a relation to the increasing percentage of dietitians who have achieved ADA membership through a coordinated undergraduate program in dietetics in Kansas. About half of KDA members holding bachelor's degrees and 40 percent holding a master's degree obtained their degrees from the land-grant institution in the state.

Dietitians were concentrated in the most populous areas of the state such as the Metropolitan district. The percentage of dietitians living in the ten largest cities in the state did not change dramatically from 1978 to 1982, perhaps indicating a degree of saturation in those areas. The geographic areas of greatest need appeared to be in the Northwest, Southwest, and Southeast districts.

Data on consulting indicated an increase in the number of consultant dietitians in 1982, compared to 1978; however, the percentage was about the same for both years. The data also revealed that consultants as well as those currently not consulting were interested in obtaining additional accounts, indicating some ability of the profession to meet healthcare needs for small institutions.

The unemployment rate among dietitians in Kansas was about 1 percent, however. The small percentage of unemployed dietitians actively seeking positions coupled with 13 percent who are retired or will probably retire

within the next 5 years indicates a limited ability in Kansas to meet human resource needs for either replacements or new positions in dietetics. These data suggest that educational programs should continue to prepare graduates at the same or an increased level to provide for adequate dietetic human resources in the state in the near future. Also, in order for dietitians to maintain and enhance competency levels, educational institutions and other organizations should plan educational activities for practitioners directed to identified needs.

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APPENDIXES

APPENDIX A

Pretest Information



**Department of Dietetics, Restaurant
and Institutional Management**

Justin Hall
Manhattan, Kansas 66506
913-532-5521

January 11, 1981

TO: Participants in Pilot Study

FROM: Grace E. Adam, R.D.
Graduate Student

Allene G. Vaden, Ph.D., R.D.
Major Professor

We appreciate your willingness to help in the pilot study which is part of a research project here at K-State on the status of dietetic manpower in Kansas. We want your honest reactions and criticisms to help us finalize the questionnaire.

Enclosed is the preliminary questionnaire and a form to evaluate the items. Please complete the questionnaire as though you were a respondent then list any suggestions and comments on the evaluation form. Please feel free to make any suggestions you believe will improve the study.

Please return the questionnaire and evaluation form in the envelope provided. We would appreciate receiving your response by January 22.

We appreciate your help!

APPENDIX B

Final Research Instrument

STUDY OF KANSAS DIETETIC MANPOWER

I. General Information

1. Please indicate number of years of ADA membership:
_____ years in ADA
2. How did you become a member of ADA?
_____ (1) Dietetic internship or coordinated Master's-Internship
_____ (2) Coordinated undergraduate program
_____ (3) Advanced degree with experience or assistantship
_____ (4) Dietetic traineeship
_____ (5) Associate membership and experience
_____ (6) Approved professional practice (2 or 3 year experience route)
_____ (7) Doctoral degree
3. Registration status:
_____ (1) Registered
_____ (2) Nonregistered
4. Indicate place of present residence and approximate population of community/town/city.
_____ county _____ city/town _____ city/town population
5. Please check your age group:
_____ (1) 20-29 years
_____ (2) 30-39
_____ (3) 40-49
_____ (4) 50-59
_____ (5) 60-69
_____ (6) 70 or over

II. Educational Background

1. What is your most advanced degree?
- _____ (1) Associate
_____ (2) Bachelor's
_____ (3) Master's
_____ (4) Doctorate

2. In the appropriate column, please indicate by a check mark your major field of study for each of the degrees you hold:

	Associate	Bachelor's	Master's	Doctorate
(1) Dietetics				
(2) Institutional Management or Foodservice Management				
(3) Food Science				
(4) Nutrition				
(5) Home Economics Education				
(6) Education, other than home economics				
(7) Other, please specify:				
Associate: _____				
Bachelor's: _____				
Master's: _____				
Doctorate: _____				

3. Indicate college or university granting each degree:

	name of college or university
Associate	
Bachelor's	
Master's	
Doctorate	

4. A. Did you complete all undergraduate work at the college or university granting your Bachelor's degree?
- _____ (1) Yes
- _____ (2) No
8. If No, please check the response that applies to you:
- _____ (1) Transferred from a community or junior (2 yr.) college in Kansas
- _____ (2) Transferred from a private 4 yr. college in Kansas
- _____ (3) Transferred from a 4 yr. state college or university in Kansas
- _____ (4) Transferred from a 2 yr. college in another state
- _____ (5) Transferred from a 4 yr. college or university in another state
- _____ (6) Other, please specify:

5. Technicians only

Prior to becoming a technician, were you a dietetic assistant or foodservice supervisor?

- _____ (1) Yes
 _____ (2) No

6. Dietitians only

Prior to becoming a dietitian, were you a dietetic technician or assistant?

- (a) technician?
 _____ (1) Yes
 _____ (2) No

- (b) assistant?
 _____ (1) Yes
 _____ (2) No

7. If you completed a dietetic internship, please indicate name and place:

Internship completed: _____

Location: _____

8. Check the statement or statements which apply to your current status regarding graduate study:

- _____ (1) Have no plans for graduate study at this time
 _____ (2) Plan to start work on a Master's degree within the next 1 to 3 years
 _____ (3) Plan to start work on a Master's degree within the next 3 to 5 years
 _____ (4) Have taken some graduate courses but do not plan on completing Master's at this time
 _____ (5) Plan to take some graduate courses but do not plan on completing Master's at this time
 _____ (6) Now working on first Master's degree
 _____ (7) Hold Master's degree, have no plans for further study at present
 _____ (8) Now working on, or plan to start work on, second Master's
 _____ (9) Plan to take some courses beyond a Master's degree but do not plan on getting a Doctorate
 _____ (10) Plan to start work on a Doctorate within the next 5 years
 _____ (11) Now working on Doctorate
 _____ (12) Doctorate completed

9. Indicate the total number of graduate hours (semester and quarter) completed whether or not you have completed an advanced degree (estimate if necessary):graduate credits

- _____ no. semester hrs. completed
 _____ no. quarter hrs. completed

III. Continuing Education Experiences and Interests

1. On the average, how many hours do you devote to reading professional literature in a typical week:

_____ hours/week

2. In the last 3 years how many national ADA meetings have you attended?

_____ ADA meetings

3. In the last 3 years how many state dietetic (spring and fall) meetings have you attended?

_____ state meetings

4. In the last year how many district dietetic association meetings have you attended?

_____ district meetings

5. How many total continuing education hours have you accumulated in the past 3 years:

- _____ (1) none
 _____ (2) less than 25
 _____ (3) 25-49
 _____ (4) 50-74
 _____ (5) 75 or more

6. The following chart relates to your continuing education experiences and interests.

In column A, check the topics covered in seminars, workshops, or meetings for which you have earned continuing education hours in the last 3 years.

In column B, check the topics for which you feel the need for additional information.

<u>TOPICS</u>	<u>Column A</u> Topics of work-shops attended	<u>Column B</u> Topics of interest for continuing education
<u>Management Related</u>		
1. Labor-management relations	_____	_____
2. Staff development (professional)	_____	_____
3. Conversion to metric system	_____	_____
4. Laws affecting utilization of personnel	_____	_____
5. Group dynamics--goal achievement	_____	_____
6. Managerial effectiveness and efficiency	_____	_____
7. Work methods analysis	_____	_____
8. Determining staffing requirements	_____	_____
9. Leadership effectiveness	_____	_____
10. Performance evaluation	_____	_____
11. Health and safety laws, inspection and enforcement	_____	_____
12. Motivational theories	_____	_____
13. Job descriptions and performance standards	_____	_____
14. Employee recruitment, selection, orientation	_____	_____
15. Equal opportunity and affirmative action	_____	_____
16. New types of production/delivery systems	_____	_____
17. Food production	_____	_____
18. Computer-assisted management	_____	_____
19. Purchasing	_____	_____
20. Analysis of foodservice systems	_____	_____
21. Cost containment	_____	_____
22. Budgeting and financial management	_____	_____
23. Equipment and layout design	_____	_____
24. Employee training	_____	_____
25. Inventory control	_____	_____
26. Storage and security	_____	_____
27. Merchandising and marketing	_____	_____
28. Management of change	_____	_____
29. Decision-making techniques	_____	_____

TOPICS	Column A	Column B
	Topics of work-shops attended	Topics of interest for continuing education
<u>Nutrition and Medical Related</u>		
1. Nutrition in behavior abnormalities (e.g., hyperkinesis)	_____	_____
2. Nutrition and immunological relationships	_____	_____
3. Alcohol-nutrient interrelationships	_____	_____
4. Inborn errors of metabolism	_____	_____
5. Developments in burn therapy	_____	_____
6. Other stress and trauma	_____	_____
7. Toxicants in foods, food-borne illnesses	_____	_____
8. Nutrition for physically impaired	_____	_____
9. Food allergies and intolerances	_____	_____
10. Non-digestible dietary substances (fiber)	_____	_____
11. Biochemistry, physiology update	_____	_____
12. Food habits (factors affecting, etc.)	_____	_____
13. Nutrition and drug interrelationships	_____	_____
14. Diabetes	_____	_____
15. Urology	_____	_____
16. Pediatrics	_____	_____
17. Cardiology	_____	_____
18. Geriatrics	_____	_____
19. Oncology	_____	_____
20. Gastroenterology	_____	_____
21. Mineral or vitamin metabolism	_____	_____
22. Obesity and weight control	_____	_____
23. Vegetarian diets	_____	_____
24. Pregnancy and lactation	_____	_____
25. Nutritional assessment	_____	_____
26. Parenteral and enteral nutrition	_____	_____
27. Computers in nutritional care	_____	_____
<u>Other</u>		
1. Publicly funded health programs (e.g., WIC, elderly feeding)	_____	_____
2. Assertiveness training	_____	_____
3. Team approach in health care	_____	_____
4. Adult education concepts and principles	_____	_____
5. Genetic research advances and implications	_____	_____
6. Agri-business impacts on food production and distribution	_____	_____
7. The politics of food--domestic and world dimensions	_____	_____
8. Personnel in-service education	_____	_____
9. Private practice counseling techniques	_____	_____
10. Communication skills	_____	_____
11. Time management	_____	_____
12. Methods of nutrition education	_____	_____
13. Food science (additives, labeling, etc.)	_____	_____
14. Legislation	_____	_____
15. Quality assurance	_____	_____
16. Stress management	_____	_____
17. Patient education	_____	_____
18. Accreditation standards (i.e., JCAH)	_____	_____
19. Others, please specify	_____	_____
(a) _____	_____	_____
(b) _____	_____	_____
(c) _____	_____	_____

IV. Employment Background and Plans

1. Please indicate total number of years you have been employed in dietetic practice since you met ADA requirements:
 _____ total years in dietetic practice
2. Please indicate total years of dietetic practice (full and part-time) in each of the following areas:
no. years
 _____ (1) Foodservice Management
 _____ (2) Clinical Dietetics
 _____ (3) Generalist (positions combining management and clinical)
 _____ (4) Community or public health nutrition
 _____ (5) Teaching
 _____ (6) Consulting
 _____ (7) Research
 _____ (8) Other dietetic practice areas, please specify _____
3. Please indicate total number of jobs held in dietetic practice:
 _____ total no. jobs
4. What do you consider to be your primary area of specialization within the dietetic profession? (Please check the one that best fits.)
 _____ (1) Foodservice Management
 _____ (2) Clinical Dietetics
 _____ (3) Generalist (positions combining management and clinical)
 _____ (4) Community or public health nutrition
5. A. At this time, do you have any specific plans to change your area of specialization in the future?
 _____ (1) Yes
 _____ (2) No
 B. If Yes, what area of specialization do you plan to enter?
 _____ (1) Foodservice Management
 _____ (2) Clinical Dietetics
 _____ (3) Generalist (positions combining management and clinical)
 _____ (4) Community or public health nutrition
6. A. How long have you lived in the state of Kansas?
 _____ years
 B. How long do you anticipate living in the state of Kansas?
 _____ (1) Plan to move within the next year
 _____ (2) Plan to move within the next 5 years
 _____ (3) Plan to live in Kansas indefinitely
 C. Are you willing to relocate within the state of Kansas for employment reasons?
 _____ (1) Yes
 _____ (2) No
7. A. Since you met ADA requirements, have you been out of the work force for one or more years?
 _____ (1) Yes
 _____ (2) No
 B. If Yes to 7A, indicate the total number of years you have been out of the work force:
 _____ total years out of work force
8. Please indicate the primary reason you left your last job:
 _____ (1) To accept a better paying job
 _____ (2) To accept a job with better hours
 _____ (3) Wanted to get a different experience
 _____ (4) Wanted a more challenging job
 _____ (5) Didn't like the work
 _____ (6) Job didn't fit my expertise
 _____ (7) To go back to school
 _____ (8) To raise a family
 _____ (9) To care for family members
 _____ (10) Spouse transferred
 _____ (11) Wanted to move to a different location
 _____ (12) Position was temporary
 _____ (13) Promotion within the facility
 _____ (14) Retirement
 _____ (15) Other, please specify: _____
9. Are you presently employed in dietetic practice (including teaching or research in dietetics or a directly related field)?
 _____ (1) No
 _____ (2) Yes, full-time (35 or more hours per week)
 _____ (3) Yes, part-time (less than 35 hours per week)
10. A. Are you presently employed in more than one job in dietetics? (Exclude consulting; Section V relates to consultant employment.)
 _____ (1) Yes
 _____ (2) No
 B. If Yes to question 10A, please indicate number of employers:
 _____ number of employers

If presently employed, please complete the chart below. Use the following codes to indicate position title and type of facility or employer. If employed by more than one institution give information for each job. Exclude consulting; data on consulting is included in Section V. If not employed, skip to Question 13.

11. I. POSITION TITLE

Code

- 1) Director
- 2) Associate or Assistant Director
- 3) Head Administrative Dietitian
- 4) Administrative Staff Dietitian
- 5) Head Clinical Dietitian
- 6) Clinical Staff Dietitian
- 7) Generalist Dietitian (joint responsibility in administration and clinical)
- 8) Research Dietitian
- 9) Teaching Dietitian
- 10) Community or Public Health Nutritionist
- 11) Private Practice
- 12) Health Care Facility Consultant
- 13) College/University Faculty
- 14) Other dietetic position, please specify
- 15) Non-dietetic position, please specify

II. TYPE OF FACILITY OR EMPLOYER

Code

- 1) Hospital
- 2) School Foodservice
- 3) College/University Foodservice
- 4) College/University Academic Unit
- 5) Public, Voluntary or Government Agency
- 6) Nursing Home
- 7) Mental Retardation Center
- 8) Physician's Clinic or Office
- 9) Other Health Care Facility
- 10) Industry
- 11) Other, please specify

Position	Position Title (please use code)	Type of Facility/ Employer (please use code)	Full Time (yes/no)	Part Time (indicate hrs/week)	Total Length of Time Employed (yrs., mos.)
1					
2					
3					
4					

12. Please indicate your total annual salary from all positions:

- ☐ (1) less than \$10,000
☐ (2) \$10,000 to 14,999
☐ (3) \$15,000 to 19,999
☐ (4) \$20,000 to 24,999
☐ (5) \$25,000 to 29,999
☐ (6) \$30,000 to 34,999
☐ (7) \$35,000+

IF NOT PRESENTLY EMPLOYED, ANSWER QUESTIONS 13 A, B, C.13. A. If you are not presently employed, are you actively seeking employment?

- ☐ (1) Yes
☐ (2) No

B. If you are not presently employed, do you anticipate active employment in dietetics within the next 2 to 5 years?

- ☐ (1) Yes
☐ (2) No

C. If not presently employed, please specify the reason:

- ☐ (1) Child care
☐ (2) Other family responsibility
☐ (3) Retired
☐ (4) No job opportunities
☐ (5) Student
☐ (6) Other, please specify: _____

V. Consulting Experiences and Interests

1. Currently, are you working as a dietetic consultant to one or more hospitals or nursing homes?

_____ (1) Yes
 _____ (2) No

IF NOT A CONSULTANT, ANSWER QUESTIONS 2A TO D. CONSULTANTS SHOULD SKIP TO QUESTION 3 AND CONTINUE.

2. A. If not presently employed in consulting, would you be interested in working as a Consultant Dietitian for a nursing home if such a position were available?
 _____ (1) Yes
 _____ (2) No
- B. For a hospital?
 _____ (1) Yes
 _____ (2) No
- C. If Yes to 2A or B, how many accounts would you be able to manage, based on a one-day per month consultation?
 _____ accounts
- D. If Yes to 2A or B, how many miles (one-way) would you be willing to travel from home base to an account(s)?
 _____ miles (one-way)

CURRENT CONSULTANTS ONLY, PLEASE ANSWER QUESTIONS 3A TO E AND 4.

3. A. For how many hospitals and nursing homes do you currently serve as a consultant?

NUMBER

_____ (1) Intermediate Care Nursing Homes
 _____ (2) Skilled Care Nursing Homes
 _____ (3) Mental Retardation Centers
 _____ (4) Hospitals
 _____ (5) Other, please specify _____

- B. Are you interested in obtaining additional accounts?

_____ (1) Yes
 _____ (2) No

- C. If Yes to 3B, estimate the number of additional accounts you could manage, based on a one-day per month consultation.

_____ accounts

- D. If Yes to 3B, how many miles (one-way) from home base are you willing to travel for an additional account(s)?

_____ miles (one-way)

- E. Are you working as a consultant independently or in partnership-type (or other group-type) arrangement?

_____ (1) Independent
 _____ (2) Partnership, group or corporation

(Please turn over to complete questionnaire)

4. Please complete the following chart which will provide information on your consulting accounts. Use the following codes to indicate the type of facility:

Code

- (1) Intermediate Care Nursing Home
- (2) Skilled Care Nursing Home
- (3) Mental Retardation Center
- (4) Hospital
- (5) Other, please specify in space provided

Account	Indicate type of facility (please use code)	Number of beds	Hours per month at facility	Number of visits per month	Total length of time employed by facility (yrs., mos.)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

APPENDIX C
Correspondence



**Department of Dietetics, Restaurant
and Institutional Management**

127

Justin Hall
Manhattan, Kansas 66506
913-532-5521

February 5, 1982

Dear Kansas Dietitian:

The Department of Dietetics, Restaurant, and Institutional Management is conducting a survey to gather updated statistics on professional dietetic manpower in Kansas. Data from this study will be compared to those collected by Kansas State University in 1978, to analyze trends and changes occurring in the state. The survey is being sent to all members of The American Dietetic Association in Kansas.

We realize the University of Kansas through the Career Laddering Project, in cooperation with a KDA Task Force, collected data in 1980. Because of differences in the questionnaires and sampling procedures, statistics are not directly comparable to those we collected in 1978, however. Also, our study will provide updated information which is needed by the state association and educational institutions and which is also needed for health manpower planning and projections in the state. The KU staff worked closely with us in reviewing and formulating the enclosed questionnaire.

We need your help in order that we may obtain an accurate assessment of the dietetic manpower situation in Kansas. All information will be completely confidential; the questionnaire is identified by code number for follow-up purposes only. Your name will not be linked with your responses. Data from questionnaires will be key-punched and results summarized for the entire state. We would appreciate your responses to all items on the questionnaire.

If you have any comments, please feel free to express them. When you have completed the questionnaire, please place it in the enclosed postage-paid envelope and drop it in the mail. This should take only about 20 minutes of your time--will you please return it to us by the end of the week?

If you have any questions concerning this research, please contact any one of the research team by phone or mail. Thank you in advance for your cooperation and helpfulness!

Sincerely,

Grace E. Adam, R.D.
Graduate Research Assistant

Allene G. Vaden, Ph.D., R.D.
Professor

Enclosure



**Department of Dietetics, Restaurant
and Institutional Management**

Justin Hall
Manhattan, Kansas 66506
913-532-5521

February 24, 1982

Dear Kansas Dietitian:

We need your help! Early this month we sent you a questionnaire concerning a survey of professional dietetic manpower in Kansas. For the study to yield valid results, we need responses from all dietitians in the state.

If your reply is in the mail, thank you--we appreciate your help! In the event you did not receive the mailing, let me briefly restate the purpose of the study. We are conducting a survey to analyze trends and changes occurring with professional dietetic manpower in Kansas. The study will provide updated information which is needed by the state association and educational institutions and which is also needed for health manpower planning and projections in the state. As indicated earlier, all information will be completely confidential; the questionnaire is identified by code number for follow-up purposes only. Your name will not be linked with your responses.

Enclosed is another survey form in the event it is needed. When you have completed the questionnaire, please place it in the enclosed postage-paid envelope and drop it in the mail. Thank you for your cooperation and time in answering the questionnaire.

Sincerely,

A handwritten signature in cursive script that reads "Grace E. Adam".

Grace E. Adam, R.D.
Graduate Research Assistant

A handwritten signature in cursive script that reads "Allene G. Vaden".

Allene G. Vaden, Ph.D., R.D.
Professor

Enclosure

Justin Hall
Manhattan, Kansas 66506
913-532-5521

March 30, 1982



HOLD EVERYTHING!

KANSAS DIETITIANS!

Please don't take another step until you take the time out to complete the enclosed questionnaire.

Last month we sent you a questionnaire concerning a survey of professional dietetic manpower in Kansas. For the study to be valid, we need responses from all dietitians in the state.

An envelope is enclosed for your response. We want to hear from you even if you're retired or not working. Thank you for your cooperation and time!

Sincerely,

Grace Adam

Grace E. Adam, R.D.
Graduate Research Assistant

Allene G. Vaden

Allene G. Vaden, Ph.D., R.D.
Professor

Enclosures

PROFESSIONAL DIETETIC HUMAN RESOURCES IN KANSAS

by

GRACE E. ADAM

B.S., Kansas State University, 1980

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Dietetics, Restaurant
and Institutional Management

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1982

ABSTRACT

This human resource study was designed to investigate current status, analyze possible trends, and identify the continuing education experiences and perceived needs of dietetic professionals in Kansas. The survey instrument was developed and mailed in 1982 to the entire membership of the Kansas Dietetic Association (N = 623). The instrument included five sections: general information, education background, continuing education experiences and interests, employment background and plans, and consulting experiences and interests. After an initial and two follow-up mailings, the total return was 84.1 percent (N = 524).

A previous study was conducted in Kansas in 1978 in which similar issues were examined. Results of the two studies provided a data base for analyzing trends and changes in dietetic human resources in the state. Also, selected statistics from the national association were used for comparative purposes.

General statistical data on Kansas dietitians indicated the overall ratio of dietitians to population in Kansas in 1978 was 1:4,452. In 1982, the ratio was 1:3,793. Dietitians were concentrated in the most populous areas of the state in 1978 and 1982. The greatest dietetic human resource need appeared to be in the southeast area of the state with a population ratio of 1:7,847, despite a dramatic 31 percent change from the 1978 ratio of 1:11,316.

Survey data provided information on general membership status, educational background, residence information, professional practice, current employment status, dietetic consultation information, and continuing

education experiences and interests. In 1982, 88.9 percent of the KDA members were registered, which was almost 8 percent higher than the national statistic. According to the 1978 study, 56 percent of the dietitians gained ADA membership eligibility through an internship program. In 1982, this percentage had dropped to 44 percent, a decrease of 12 percent. Graduates from coordinated undergraduate programs increased from 18 to 25 percent. A relatively large number of Kansas dietitians fell into the youngest age group (20 to 29 years) in both 1978 and 1982.

Data on consulting indicated that about one-fifth of the dietitians in Kansas were employed as consultants in 1978 and 1982. About a third of the consultants as well as dietitians who were not employed as consultants reported that they would be interested in obtaining additional accounts.

To maintain competency, KDA members reported attendance at seminars or workshops in the last three years on a variety of topics related to management, nutrition, and medicine. Kansas dietitians also indicated topics of interest in continuing education. Computer-assisted management and computers in nutritional care were topics of interest reported by the highest percentage of respondents. Financial management, managerial effectiveness, and cost containment were among the other management topics of particular interest. Among nutrition and medical topics mentioned most frequently were biochemistry, physiology, pharmacology, nutritional assessment, and food allergies. Time management, nutrition education, and stress management were other topics of special interest.

The unemployment rate among dietitians in Kansas was less than 1 percent. The small percentage of unemployed dietitians actively seeking positions coupled with 13 percent who are retired or will probably retire

within the next 5 years indicates a limited ability in Kansas to meet human resource needs for either replacements or new positions in dietetics. These data suggest that educational programs should continue to prepare graduates at the same or an increased level to provide for adequate dietetic human resources in the state in the near future. Also, in order for dietitians to maintain and enhance competency levels, education institutions and other organizations should plan educational activities for practitioners directed to identified needs.