# PROFESSIONAL DIETETIC MANPOWER IN KANSAS

by

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# INTRODUCTION

One of the greatest challenges in the health field today is providing the manpower needed for total health care (1). Health planners need to ensure the proper "manning" of the health care delivery system. They must see to it that the right numbers and types of health manpower are available when and where they are needed. Piper (2) pointed out that if manpower needs are met, the thinking and energies of all who are involved with research, education, and service in the fields related to health are required.

The basic objectives of manpower planning, according to Lynch (3), are to (a) ensure the optimum use of the human resources currently employed and (b) provide for future manpower needs in terms of skills, numbers, and ages. As cited by Peterson (4) increasing attention has been given over the years to manpower forecasting. This is particularly true at the national level where the federal government has attempted to provide more efficient utilization of manpower resources. The government has attempted to improve the situation through such legislation as the Manpower Training and Development Act and the Economic Opportunity Act. In conjunction with these various programs, the United States Department of Labor has attempted to estimate the long-term needs for various occupations (4).

Many studies have been done relating to the problem of maldistribution of health manpower, especially in the areas of nurse and physician distribution. In a review of the 1950 to 1960 decade (5) Van Horne stated that as far back as 1942 The American Dietetic Association (ADA)

first became concerned about the professional inability to meet the needs for dietetic services, especially in small hospitals. Hubbard and Donaldson (6) stated that to cope with the chronic shortage of manpower the professional dietetic organization should know to what extent the expansion of health services will result in an increase in the number of hospital dietitians and/or a change in the abilities expected from dietitians in the future. This requires manpower forecasting and subsequent development and implementation of action programs to meet the implications of the forecast.

To help meet the health care needs of the elderly and the poor, the U.S. Congress passed Public Law 89-97 in 1965 and established Medicare and Medicaid under Title XVII and XIX of the Social Security Act (7). As a result of the Medicare legislation, the demand for dietitians increased. Nursing homes that wished to participate in the Health Insurance for the Aged Program as "Extended Care Facilities" had to meet certain standards. The regulations required that the person designated by the administrator was responsible for the total foodservice of the facility. If this person was not a qualified dietitian, regularly scheduled consultation from a professional dietitian or other person with suitable training was needed (8, 9).

In Kansas revised standards and regulations for staffing in dietetic service departments of adult care homes were effective in 1977 (10). An in-depth look at the dietetic manpower situation in the state was needed to evaluate manpower needs. The objective of this research was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes.

As an adjunct to the study, a survey of the state dietetic associations was conducted to determine types of manpower studies that have been conducted in various states. Literature reviewed relevant to the study included: manpower planning, history and development, forecasting, health manpower studies, and government standards for dietetic services.

# REVIEW OF LITERATURE

## Manpower Planning

According to Walker (11), manpower planning refers to the complex task of forecasting and planning for the right numbers, and the right kinds of people at the right places, and the right times, to perform activities that will benefit both the organization and the individuals in it. Lynch (3) reported that manpower planning attempts to determine gross manpower needs and to translate these needs into talent and skill requirements.

Lester (12) stated that in a free society manpower planning aims to enlarge job opportunities and improve training and employment decisions through the power of informed personal choice and calculated adjustment to rapidly changing demand. Bryant (13) found that the proper utilization of manpower involves the coordination of numbers, talents, times, places, and objectives. Manpower planning is successful to the extent that it properly matches each of these elements.

As with all forms of planning, manpower planning requires analysis and synthesis in relation to a particular course of action. Planning is required in order to discover what has to be done, why it has to be done, what are the barriers to its being done, and how these barriers can be overcome (3).

Lynch (3) also stated that manpower planning has two main 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
3. Information on the manpower environment

Drandell (14) found that the problem in manpower planning is to determine a suitable level of personnel to handle existing contracts and those forecast for the future. What is desired is an equitable balance between the requirements and the means to respond to those requirements.

Lynch (3) contended that a manpower plan should be directed towards a goal. It requires systematic forethought and the ability to take a comprehensive viewpoint of a situation. Basically the main steps in planning are: defining needs, analyzing trends, and predicting courses of action. Skill is the basic unit upon which manpower planning centers its attention. Trist and Emery (15) stated that manpower planning cannot be confined effectively to estimating the probable nature and range of distant requirements; it must take into account the opportunities and constraints which lie between the present situation and the desired state of affairs at a particular point of future time.

As reported by Walker (11), manpower planning should begin with forecasting manpower needs based on operating plans and budgets. The planning period is usually six to eighteen months for short range planning and from two to five years for intermediate range planning. Howard (16) contended that planning should encourage a debate about objectives and ways of meeting them and not imply that one solution must necessarily be fought for at all costs.

Lynch (3) suggested that a manpower planning study has two main "end products." The first is a statement of manpower required to meet objectives and forecasts; the second is the plan for reconciling manpower requirements and availability. Plans and forecasts need to be continually re-examined and updated. Manpower planning should not pretend to offer definitive, final resolutions.

## Forecasting Manpower Needs

An important prerequisite of a manpower policy is a comprehensive forecasting and planning system (17). Manpower forecasting as defined by Peterson (4) refers to research for the purpose of estimating the size and characteristics of the work force at some future point of time. At the present time the objective of manpower forecasting in America, as summarized in the occupational outlook program of the Bureau of Labor Statistics, is to provide information for the use of individuals choosing a career and for those responsible for planning education and training programs (17).

According to Ahamad and Blaug (18), the reason why manpower forecasts have been made in practice is to avoid "bottlenecks" in economic growth arising from absolute shortages of educated manpower or to reduce relative shortages of particular types of manpower co-existing with relative surpluses of other types. The point of making manpower forecasts, therefore, is to ensure that new supplies of manpower become available at the same time that new demands materialize; in this way, manpower balances may be eliminated or at least minimized. The precise degree of accuracy from a forecast depends entirely on the decision that follows from the results. Walker (11) cited that if manpower forecasts are to be accurate,

they must result from a simultaneous consideration of manpower needs or other forecasts and plans. Kast and Rosenzweig (19) found that as the time element is extended, forecasting becomes increasingly hazardous and more subjective but remains an essential ingredient in the planning process. As the foundation for long-range planning, forecasting is an attempt to make the future environment less uncertain.

As stated by Bryant (13) the major techniques of manpower forecasting include judgmental or estimating techniques, matrix models, quantitative techniques, and computer simulation. Judgmental techniques can be divided into two broad classifications: (a) those using supervisor estimates, rules of thumb or replacement tables; and (b) the Delphi technique.

Utilizing supervisor estimates is the most used method of forecasting manpower requirements. Intuition and experience of the person closest to the job is emphasized in this technique which can be used for short run forecasts. It is a simple and quick method that can produce results in the absence of adequate data. Disadvantages are that it is based heavily on opinion, requires costly executive time, and requires an accuracy that a manager may not be able to provide.

The rule of thumb technique sets up decision heuristics (rules of thumb for certain environmental conditions) which are used in manpower forecasting. The disadvantages of this technique are: (a) it is designed to maintain the status quo and, (b) it may not represent changed influences that may affect future requirements.

According to Dill et al. (20) the simplest and oldest approach to manpower planning is the replacement table. A replacement table is a graphic device designed to ensure that suitable replacements are ready to move into vacated positions as vacancies occur among incumbent personnel.

It may make use of data, such as the incumbent's age, performance level, promotability, and the name and degree of readiness of the incumbent's backup personnel. The chief disadvantage is that constructing such a table may require a great deal of labor in the data assembly and compilation. The table also presents a static rather than a dynamic picture of the organization's structure.

Developed by the Rand Corporation (21), the Delphi Method is a systematic procedure for arriving at a consensus of opinion among a group of experts. As viewed by Bryant (13) the Delphi Technique enlists the participation of a panel of experts in a structured program of mail interviews, which involves a round of questionnaires, accompanied after the initial response by feedback on the view of the other experts in the panel. The advantages of this technique are the use of anonymous responses, the reduction of irrelevant communications, and the requiring of individual panelists to consider other factors that they may have overlooked when making the original judgments. As cited by Stoner (22), the disadvantages of the Delphi Technique are: insufficient reliability, oversensitivity to ambiguous questions, and the near impossibility of taking unexpected events into account.

According to Bryant (13), matrix models provide a means of manpower planning which is gaining acceptance in the business world. The primary purpose of the matrix model is to aid management in determining the probabilities of varying types of personnel movement in the system. The first step is to project how many people are needed, what kind of people they will be, and at what levels they will work as the organization grows or diversifies. The next step is to apply past experience and managerial judgment to the jobs being analyzed in order to assign subjective

probabilities to the flow of personnel to fill the projected jobs. Finally one must analyze management policies for influencing rates and direction of personnel flow. The techniques do not provide any new information or guidelines. The chief advantage is that they can provide aids to logic in comprehending the relationships among the variables and they present data in readable form.

Quantitative techniques, as observed by Stoner (22), fall into three categories: statistical methods, operations research methods, and simulation techniques. An example of a statistical method would be time series analysis, a procedure for identifying patterns in information that has been accumulated over time. The basic idea is to project past trends into the future. According to Bryant (13), this method has two principle advantages: it forces the forecaster to consider the underlying trend, cyclic, and seasonal elements; and it takes into account the particular repetitive or continuing patterns shown by past manpower-use data. Its disadvantages include the need for an established data base, the need for a fairly large labor force to make results statistically significant, and the assumption that the future will be a continuation of the past.

Linear programming, an operations research technique, can be used to determine the amount of manpower required to meet objectives when a set of specified constaints is given. It is useful for testing an optimum solution or mix of manpower resources required to reach a quantifiable objective (13).

Computer simulation is a useful technique when a mathematical formulation may not be possible or feasible. Simulation is especially useful in manpower forecasting for determining the effects of variations in policies, availability of personnel, and the utilization of personnel (13).

According to Stoner (22), computer simulation tries to replicate a part of an organization's operations to determine what will happen over time, or to experiment by changing certain variables. Some advantages of computer simulation are that it permits experimentation to take place without interfering with actual operations. Another major advantage is that simulations can be speeded up through the computer to indicate within minutes what would occur in the real world over a period of years. Bryant (13) cited the following disadvantages of computer simulation: a sophisticated model requires time and money to develop, model validation is difficult, it does not guarantee an optimal solution, and computer time may be expensive.

## Manpower Planning in the United States

The development of manpower legislation and programs in the United States has been accomplished through the realization of, and response to specific problems that required the attention of the federal government. Rather than this being a process of framing an overall policy of human resource development and utilization, the National Commission on Manpower Policy indicated it has been largely a piecemeal approach attacking specific dysfunctions or attempting to meet certain social needs (23).

Prior to the 1960's the principle agencies and programs providing manpower services were the Employment Service, Vocational Education, and Vocational Rehabilitation. Early attempts at manpower planning were represented in "manning tables" used prior to and during World War II. The first actual major piece of manpower development legislation was Public Law 346, commonly called the GI Bill, which passed in 1944. The National Defense Act in 1958 was an effort to expand the number of

qualified scientists, engineers, technicians, and foreign language specialists (24).

As cited by Weinstein (25), the 1960's could be described as a period when planning was emphasized in the United States. The impetus from the programmatic side came from the recession of the late fifties and early sixties, which was attributed to the increase in automation as well as structural changes within society. It focused attention on pockets of unemployment geographically spread throughout the country and this gave rise to the first of the area redevelopment programs. Subsequent developments fostered programs dealing with displacement due to international trade, permanent shifts in demand, alterations in production functions, and problems of special population subsets. All these programs emphasized investing in human beings and were supply oriented.

The Area Redevelopment Act (ARA) of 1961 and the Manpower Development and Training Act (MDTA) of 1962 put the federal government directly into manpower programs for the first time through its direct support of manpower training. The ARA was a first attempt by the federal government to address the issue of what could be done to improve employment and income prospects of depressed areas. The MDTA was a response to the high level of unemployment and the fear that automation was replacing skilled members of the labor force (24).

In the 1950's and early sixties, attention began to focus on the rising unemployment of youth. Under the Economic Dpportunity Act of 1964, the Neighborhood Youth Corps and the Job Corps were established. Amendments to the original MDTA legislation also increased services to youth. According to the National Commission for Manpower Policy, much of the current manpower effort for youth is in the form of work experience (24).

Between 1964 and 1966, the President's Committee on Manpower, a cabinet committee chaired by the Secretary of Labor, worked to increase the coordination of manpower and training services at the local level. The National Manpower Advisory Committee, created by MDTA, began to call attention to, and make recommendations regarding duplication and fragmentation in manpower programs. In 1967 the Cooperative Area Manpower Planning System (CAMPS) attempted to improve coordination of manpower through the planning approach. The CAMPS committees were expected to assess local needs and develop programs to meet these needs. At the same time the Concentrated Employment Program (CEP) attempted to provide intensive manpower services to areas of high unemployment (23).

It was not until 1973, with the passage of the Comprehensive Employment and Training Act (CETA), that new legislation designed to alleviate the fragmentation of the sixties was passed and signed into law. CETA decategorized the various categorical approaches of MDTA and some of the Economic Opportunity Programs and decentralized their operation from the federal government to state and local governments. In addition, the law placed heavy emphasis on the coordination of CETA programs with other manpower related programs such as the Employment Service, the Work Incentives Program, Vocational Education, and Vocational Rehabilitation (23).

The National Commission for Manpower Policy is a statutory commission established by the Congress under Title V of the Comprehensive Employment Training Act of 1973. The Commission advises the President and members of the Cabinet on manpower concerns, but it is specifically instructed to advise the Congress. In establishing the National Commission for Manpower Policy, Congress sought guidance in two principal arenas: shaping a national manpower policy and improving the coordination of manpower programs (23).

A major objective of the Commission is to contribute to the formulation of a national manpower policy which would identify priority national manpower objectives and indicate how they might be achieved (26).

## Manpower Studies in Health Related Professions

The passage of the National Health Planning and Resources Development Act of 1974 began a new era for health resource planning. The specific purpose of the Act is to help health planners measure manpower supply and requirements in their local areas. Health manpower in its broadest definition applies to more than six million persons in the health care industries. Health manpower includes employees and self-employed in the public and the private sectors and persons engaged in patient care, in ancillary health services, and in administrative and supportive activities (27).

Health manpower is defined as a process whereby goals, objectives, priorities, and activities for health manpower development are determined in a systematic fashion. The overall goal is to ensure that health manpower resources, both current and future, are adequate to meet the requirements for the delivery of health services to a population. Manpower planners must strive for a balance between the resources available and the resources provided. To achieve such a balance the planner must consider four factors:

(a) manpower supply--Is there enough overall?

(b) manpower distribution--Is the manpower in the right place?

(c) manpower utilization--Are providers making the best use of the skills and numbers of health professionals available?

(d) manpower productivity--Are there ways in which existing manpower can provide more or better services?

Once these four factors have been analyzed, the planner must formulate goals and objectives for the appropriate health manpower development activity to arrive at the appropriate balance between manpower available and manpower required (28).

According to Hepner (1), the four major components for improved health care delivery are: (a) more and better qualified health manpower; (b) better planning for health manpower utilization; (c) reorganization of the health care delivery system; and (d) better financing arrangements for the population. As health care becomes available to all citizens, more demands and pressures will be exerted on the health care system. Hepner (1) further stated that to meet this growing need the United States must not only increase the quantity of manpower but also, the quality of health manpower through education and training. Redeployment of health manpower in the reorganization of the health care delivery system must be given priority. Health manpower must be viewed as part of a comprehensive system. The major element in understanding health manpower is its interdependence. Health professionals cannot be viewed as autonomous segments or groups.

Health manpower should be viewed as having interrelated components that together make up a whole or system. The U.S. Bureau of Health Planning and Resources Development (28) concluded that a health manpower planning system needs to do three things: (a) plan for health manpower development, (b) follow through to facilitate program implementation in accord with planned priorities, and (c) organize the complex planning

process itself and see to it that all planning activities are administered properly.

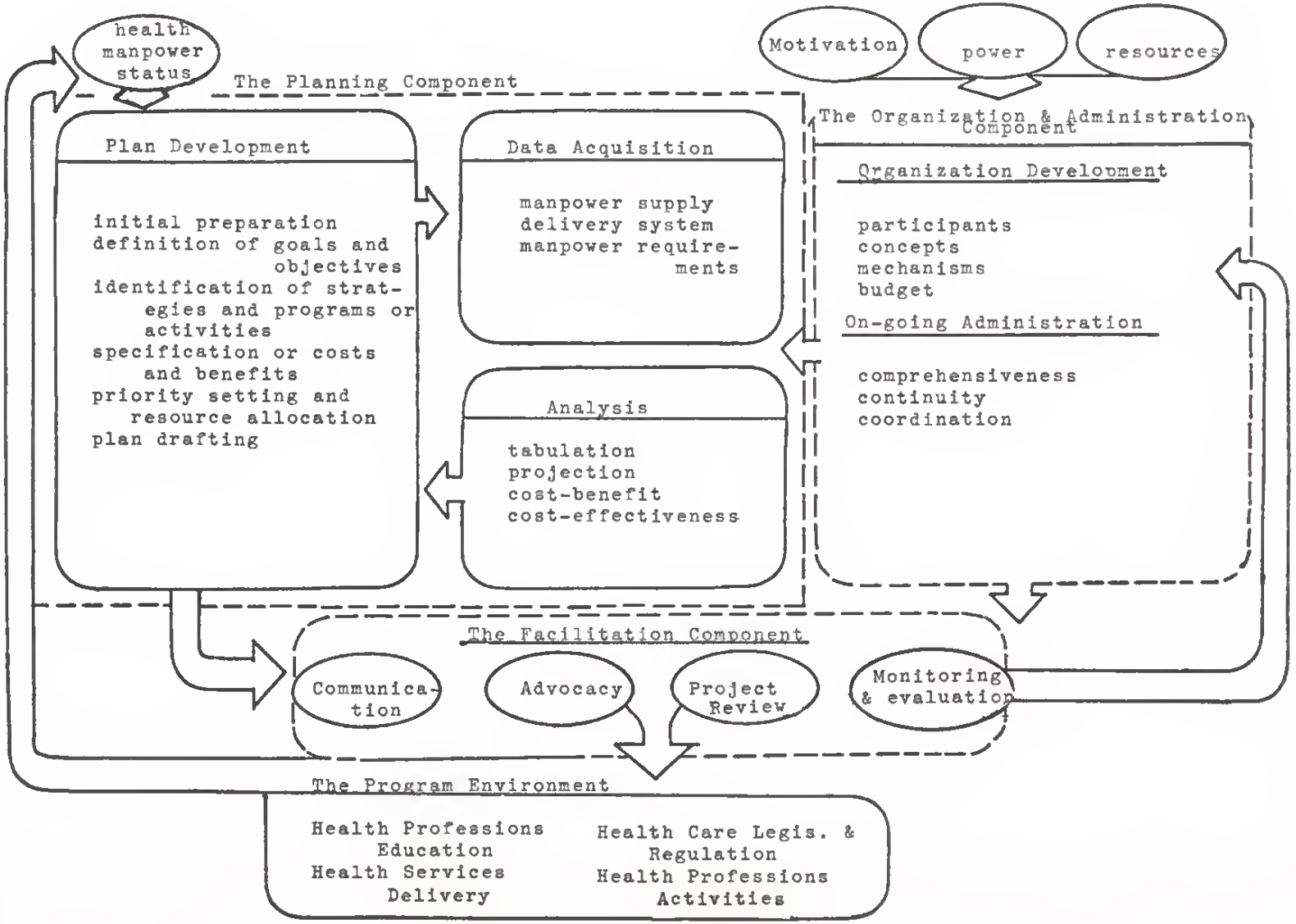
A health manpower planning system (Figure 1) prepared by Abt Associates, Inc. (28) for the Bureau of Health Planning and Resources Development of the U.S. Department of Health, Education and Welfare has three basic components: planning, facilitation, and organization and administration.

The planning component consists of three processes: plan development, data acquisition, and analysis. These processes form a continuous cycle in the conduct of planning. The process begins with the initial steps in the plan development, proceeds to the accessing and analysis of data, and then provides for modifying the initial plan in conformance with the analyzed data. Plan development is the foundation of the planning process since the output is the plan itself.

Data acquisition and analysis are specialized functions requiring the talents and experience of trained personnel. These functions are continual throughout the plan development process. The special skills required are those of information and reference specialists. Analysis of the data acquired at any stage of the plan development process may be simple or complex depending on the sophistication of the planning methods being used. In its simplest form, analysis is the organization of data into tabular or chart form. More complex types of analysis involve the development of cost-benefit or cost-effectiveness ratios.

The facilitation component of the framework is concerned with ensuring the fullest possible implementation of the plan by the individuals and agencies concerned. There are four processes which the planner as facilitator can use to "encourage" compliance with the priorities of the

Fig. 1. Health manpower planning system.
Source: (28).


health manpower status
Motivation
power
resources
The Planning Component
The Organization & Administration Component
Plan Development
initial preparation
definition of goals and objectives
identification of strategies and programs or activities
specification or costs and benefits
priority setting and resource allocation
plan drafting
Data Acquisition
manpower supply
delivery system
manpower requirements
Analysis
tabulation
projection
cost-benefit
cost-effectiveness
Organization Development
participants
concepts
mechanisms
budget
On-going Administration
comprehensiveness
continuity
coordination
The Facilitation Component
Communication
Advocacy
Project Review
Monitoring & evaluation
The Program Environment
Health Professions Education
Health Services Delivery
Health Care Legis. & Regulation
Health Professions Activities

plan: communication, advocacy, project review, and monitoring and evaluation.

Organization and administration is the third component of the framework. The purpose of this component is "planning for planning" and then overseeing the operation of the planning system to ensure its success. The two processes involved are organization development and on-going administration. Organization development is the process of setting up the planning and facilitation components of the planning system. On-going administration means continuing supervision of the performance of the planning system to see that it is accomplishing its goals and objectives as effectively as possible.

There are four main inputs to make up the establishment of a health manpower planning system in a given area: health manpower status, motivation, power, and resources. Health manpower status is an indicator developed by analysis of the supply of, and requirements for, health manpower in a planning jurisdiction. Motivation as an input can take many forms. It may be a legislative mandate to increase one or more types of health manpower. It may be the perception of a severe deficiency in availability or distribution or any other factors involving health manpower. Motivation is critical in starting up the planning process. Power refers to the availability of some form of power sufficient to ensure that all activities in all three components of the conceptual framework are carried out. Resources as an input are the money, personnel, and information needed if planning is to be carried out. The long feedback arrow which connects the program environment with the health manpower status indicator symbolizes the impact of these changes. Also, feedback is the

channel through which information flows updating the nature of an area's health manpower problems.

According to the Carnegie Commission (29), the most serious shortages of professional personnel in any major occupational group in the United States are in the health services. Possibly the most widely received recommendation of the Carnegie Commission was the suggestion to develop area health centers in an attempt to organize health manpower training resources within identifiable geographic areas (29). The maldistribution of health manpower has been identified as one of the key issues the health planner must address in the 1970's. The majority of the studies in the health area have been on physician distribution (27, 30-32). The earliest designations of shortage areas in health manpower were mandated by 1965 legislation (the Health Professions Educational Assistance Act Amendments) (33). This legislation provided for cancellations of outstanding Health Professional Student Loans obtained by students in specific medical schools in return for their service after graduation in areas found to have physician shortages. These shortage areas were to be determined by the state health authorities in accordance with regulations provided by the U.S. Secretary of Health, Education and Welfare. The regulations promulgated to implement the legislation provided for designation on the basis of specific ratios of practitioners to population, applied to county data, with special consideration allowed for county or subcounty areas exhibiting inaccessibility of medical services to the residents of the area, aged or incapacitated physicians, or particular local health problems.

The interest in forecasting the number of physicians needed to provide adequate medical services has had a somewhat longer history than general

manpower forecasting. Doctors have traditionally played the central role in the provision of health services. Their training period is so long that it seems clear that shortages of doctors and hence, of medical services will tend to develop in the absence of planning (34).

In the United States, forecasts of physician requirements and resources have been made over a long period of time using a number of different methods. The earliest dates to the 1930's when Lee and Jones (35) attempted to forecast requirements on the basis of professionally determined standards. Their method consisted of forecasting the incidence of specific diseases in the population, the estimated physician-time required to diagnose and treat these diseases, and the hours worked per physician. Lee and Jones were concerned, therefore, with the number of physicians required to satisfy the medical needs of the population. A 1972 study by Schonfeld et al. (32) adapted the method of Lee and Jones in estimating the number of internists and pediatricians needed to provide primary care.

Projections of physician requirements were made by the President's Commission (36) in 1953 for 1960 on the basis of assumptions about the physician-population ratio. The U.S. Surgeon General's Consultant Group (37) also used projections of the physician-population ratio to make projections of requirements in 1975.

In 1967 the U.S. Public Health Service published three forecasts of physician requirements in 1975. The projections were based on professional judgment, the highest ratio in the four major regions of the United States, and the input-output model developed by the U.S. Bureau of Labor Statistics (38).

A study done by Hawkins (39) in 1969 dealt with physician distributions. The purpose of the study was to examine physician distributions as an element of social welfare, to determine the extent of maldistributions and their causes, and to explore alternative means for correction of imbalance.

Another study done by Elesh et al. (39) in 1972 dealt with the distribution of physicians in an urban area. They developed a demand-supply model for the distribution of private physicians within a city. The supply or spatial distribution of physicians is a function of the demand for their services and of the environmental factors which facilitate or limit the supply. The model was applied to full-time private practice specialists and general practitioners in Chicago and Detroit.

As cited by the Bureau of Health Planning and Resources Development of the U.S. Department of Health, Education and Welfare (27), effective manpower utilization, another critical issue, may be the answer to maldistribution in some areas (27). A study conducted by the City of Milwaukee Health Department in 1962 developed an approach that appeared to have potential for securing data needed for staffing recommendations. The general objective of the Milwaukee study was to determine the actual amount of time used by nursing personnel in providing nursing service to a random sample group of ambulatory and non-ambulatory patients living in fourteen selected nursing homes in the city of Milwaukee (39).

In 1972 a study done by Laberge-Nadeau and Feuvrier (39) analyzed nursing tasks in order to maximize efficient utilization of nursing personnel. A time-study was used to determine direct care needs of patients. The model was developed to test the effect of variations in the number and class of patients on the number and type of nursing staff needed.

The need to place newly graduated pharmacists in "high need" communities has been studied at the University of Missouri at Kansas City (UMKC) (40). According to Mares and Levine (40) serving high need communities has been viewed not just as a professional and social responsibility of the school, but also as a contractual obligation as part of the School of Pharmacy's participation in a federal program to improve the distribution of health care personnel in thirty-eight counties in Western Missouri. To determine whether graduates of the School of Pharmacy were located in high need communities, information on location subsequent to graduation was collected for the May and August 1975 and August 1976 graduating classes of the UMKC School of Pharmacy.

## Manpower Studies in Dietetics

Barber (41) reported that The American Dietetic Association has been confronted since its founding in 1917 by a demand for dietitians which exceeded the supply. A study done by Hubbard and Donaldson (6) in 1968 was designed to develop an instrument to collect data for estimating professional manpower needed by hospital dietary departments and to estimate for the different types of dietetic professions the number of dietitians needed by 1972 and 1977. Data on nine types of dietetic positions were requested from administrators of 1,000 randomly selected short-term hospitals not under federal control. The total number of positions for dietitians in short-term hospitals for 1972 and 1977 was estimated from the number of filled positions in 1966, the calculated number of replacements, and the number of vacant positions in 1966.

As observed by the Executive Board (42), since 1962 ADA has conducted a membership survey to learn more about its membership so that program

planning on both the national and state levels could be carried out more effectively. Information such as age, years of membership in ADA, the educational background of the respondents, and the number of years out of the workforce were collected in the original survey. Follow-up surveys were done in 1967 and 1972.

To take advantage of extra computer capability, in 1969 the Executive Board approved the development of a comprehensive and routine data collection system. Since 1970 a questionnaire has been used for collecting baseline data from all members (43).

Several states have conducted manpower studies to assess their dietetic manpower situation. The Michigan Dietetic Association (MDA) (44) sends out a questionnaire each year with the annual ADA dues bill to keep its manpower data current. The annual analysis of MDA membership serves several purposes. It is useful in alerting members to the need for comprehensive and accurate data for determining educational needs of the members, planning realistic curricula for educational programs, and predicting future manpower needs of the profession in that state.

In 1976 the Minnesota Dietetic Manpower Survey of Health Care Facilities (45) was conducted and funded jointly by the Minnesota Dietetic Association, Minnesota Department of Health, and the University of Minnesota Department of Food Science and Nutrition. The study was designed to accomplish the following: ascertain the current number of dietetic personnel in Minnesota health care facilities, determine qualifications and type of personnel supplying dietetic service in counties without dietitians, make projections for future demand, identify regions that were understaffed, and determine for which positions health care

facilities had difficulty in obtaining dietetic personnel. The net result was to provide an aid for locating personnel to meet dietetic needs.

The School of Home Economics at the University of Washington (46) conducted a survey in 1975 to provide information on the current dietetic manpower of the Pacific Northwest region which is comprised of the states of Washington, Alaska, Montana, Idaho, and Oregon. The primary goals of the project were to: (a) identify the geographic location and distribution of dietitians by position-type; (b) project the dietetic manpower needs for this region through 1980; (c) identify states with the greatest professional need to establish state quotas for admittance to the Coordinated Undergraduate Program in Clinical Dietetics at the University of Washington and project future faculty needs; and (d) identify persons who were not ADA members, their educational background, and the number of available professional positions held by these individuals.

In 1976 a dietetic manpower survey was conducted jointly by the Bureau of Health Statistics, the Bureau of Community Health Services, and the Wisconsin Dietetic Association (47). The questionnaire was mailed to 779 members of the Wisconsin Dietetic Association. Data were presented by employment activities, educational background, demographic characteristics, and county and health service area of employment. In a manpower study done by Lareau (48) in 1976, California Dietetic Association members and administrators of employed members were polled via questionnaire to determine the number and types of dietitians that would be needed in California through 1986 and the needs for in-service and advanced degree programs.

## Standards for Staffing in Dietetic Service Departments of Adult Care Homes and Hospitals

As observed by Robinson (49), for some time dietitians employed as consultants in governmental and voluntary agencies have offered services to nursing homes but these contacts have necessarily been infrequent. Several factors, however, have brought about an increased demand for dietitians to provide service on a part-time or regular consulting basis. These include enactment of federal legislation relative to health insurance for the aged (Medicare) and an increase in the number and size of nursing homes and related facilities.

As cited by Smith (50), two major milestones which contributed to the development of present licensure and certification standards for health care facilities were the passing of the Social Security Act of 1935 and the Hospital Survey and Construction Act of 1946, popularly known as the Hill-Burton Act. This law required states to develop minimum standards for construction and maintenance of public or non-profit hospitals and long-term care and related facilities utilizing federal Hill-Burton funds.

The Social Security Amendments of 1950 established the beginning of a system for direct payments to providers of health care for welfare recipients. After this legislation was passed, most states not only had hospital codes and licensing programs but they began to develop some form of nursing home licensure as well. In the late fifties and early sixties, Congress authorized the Public Health Service to make grants to state licensure agencies to use for improvement of nursing home services. These grants enabled many state agencies to employ one or more dietitians for their licensure divisions for the first time (50).

In 1951, the Joint Commission on Accreditation of Hospitals (JCAH) was created through a joint effort of the primary medical and hospital associations of North America (51). The sole purpose of JCAH is to encourage the voluntary attainment of uniformly high standards of institutional medical care. The standard on staffing in the hospital dietetic service department requires at least one qualified dietitian, either full-time or part-time, and preferably one who is registered and is a qualified therapeutic dietitian. If the director of the service is not the dietitian, there must be an effective method of communication and a close working relationship between the director and the dietitian (51).

In 1965 Title XVIII and XIX of the Social Security Act, under Public Law 89-97, established the Medicare and Medicaid programs (52). Written into the Medicare Act was the provision that the hospitals participating in the program were to maintain the level of patient care that had come to be recognized as the norm. The JCAH standards are specifically referred to in the Medicare Act and the Conditions of Participation for Hospitals, published by the Social Security Administration, reflected the 1965 standards of the Joint Commission (51). Under the Conditions of Participation for Hospitals (53) the dietetic services department must be under the supervision of a qualified dietitian who is responsible for quality food production, service, and staff education. The dietitian serves on a full-time basis if possible or, in smaller hospitals, on a regular part-time supervising or consulting basis. One result of the 1965 Medicare Legislation was the provision that hospitals accredited by the Joint Commission were automatically "deemed" to be in compliance with the federal Medicare Conditions of Participation and, thus, "deemed" to be eligible for participation in Medicare (51).

Under Medicare there are nine standards relating to dietetic services contained in the Conditions of Participation for Extended Care Facilities which are aimed at providing maximum benefit to the patient. As reported by Smith (50), these Conditions of Participation represented the highest and most comprehensive set of nursing home standards for most of the United States. As stated in Conditions of Participation for Extended Care Facilities (54), the standard for supervision states that a person designated by the administrator is responsible for the total foodservice 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 obtained. Robinson (49) found that factors one and two under this standard define the term "professional dietitian" as one who meets The American Dietetic Association's qualification standards and designated "other persons with suitable training" as those who are graduates of baccalaureate degree programs with major studies in foods and nutrition.

In 1969, federal standards for skilled nursing homes under Medicaid (50, 54, 55) were published. While much less detailed than the Medicare standards for Extended Care Facilities, they required a dietitian or nutritionist to either plan the menus and supervise the meal service or provide consultation to the person in charge of the dietary service.

In 1972, through amendments to the Social Security Act in Public Law 92-603, Congress directed the Department of Health, Education and Welfare to develop a single set of uniform standards applicable to facilities formerly certified as Extended Care Facilities under Medicare and as Skilled Nursing Homes under Medicaid. The Conditions of Participation for Skilled Nursing Facilities were published in 1974 and became the first

federal standard to state specific educational and experience requirements for the dietetic service supervisor.

In January of 1974 the regulations governing intermediate care facilities were published, creating in response to congressional legislation a new level of care to be provided under the Medicaid program (56). The regulations provided that a designated staff member suited by training or experience in food management or nutrition is responsible for planning and supervision of menus and meal service. If the facility accepts or retains individuals in need of medically prescribed special diets, the menus for such diets must be planned by a professionally qualified dietitian, or are reviewed and approved by the attending physician.

In 1977 the standards and regulations for the dietetic service departments of adult care homes in Kansas (10) were revised. The revised standards apply to both the skilled nursing homes and the intermediate care homes. The homes differ primarily in their nursing care requirements, not in the dietetic service department. For the nursing homes to receive Title XIX monies, all of the nursing homes must meet these standards. The dietetic staffing requirements for skilled and intermediate care homes are that overall planning and supervision for the entire dietetic service department shall be under the direction of a dietetic services supervisor, who shall be a qualified dietitian, or a trained food service supervisor, who has consultation with a qualified dietitian.

# METHODOLOGY

## The Study Sample

The population for the study was the membership of the Kansas Dietetic Association (KDA) as of Spring 1978. The population included dietitians in foodservice management, clinical dietetics, community or public health, teaching, and generalist positions. The roster totaled 544 names. The 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.

## Development of the Instrument

In developing the first draft of the questionnaire, instruments from previous studies of Calbeck and Spear (57, 58) and a recent printout from The American Dietetic Association (ADA) membership analysis were used. The draft was reviewed by several faculty members in the Department of Dietetics, Restaurant and Institutional Management at Kansas State University and an official of the Kansas Department of Health and Environment in Topeka. Revisions were made based on the comments of the reviewers.

Draft two of the instrument was reviewed again by the initial review group. Draft three which incorporated the additional suggestions of draft two was distributed to a selected sample of eight dietitians in the surrounding community for review. After additional changes, draft four was sent to the initial review group and to a second selected sample of dietitians who were asked to complete the instrument as respondents and

then give suggestions for revisions. The final revisions of the instrument dealt with the repositioning of certain questions to simplify response to the questionnaire. The final research instrument (Appendix A) was printed in booklet form with the first page printed on official letterhead indicating the title of the study and identifying the sponsor. The final instrument contained twenty-five questions. The first twenty-two questions asked for demographic data and included information on educational background, qualifying experience for ADA membership, number of years as a member of the profession, years experience in various areas of dietetics, number of years out of the work force, job position information, area of residence, and years lived in that area. Two questions with several parts for those not presently involved in consulting were concerned with interest in working as a consultant dietitian in a nursing home or hospital if such a position were available.

The final section was to be answered by dietitians with one or more consulting accounts. Typical questions were: Are you presently employed; if yes, for how many and what types of facilities do you serve as consultant; how many hours and number of visits per month do you make to each facility; are trained foodservice supervisors employed; if so, what type of training completed; what are the number of miles and nights spent away from home; could you handle additional accounts; if yes, how many; and do you work in a group-type arrangement with other consultant dietitians?

## Distribution of the Instrument

A cover letter which explained the purpose of the study was mailed with each questionnaire (Appendix B). A self-addressed stamped envelope

was included to facilitate return of the instruments. An informed consent statement was included in the letter to ensure confidentiality of the responses and anonymity of the participants. Each questionnaire was numbered to identify non-respondents for purposes of follow-up. Four weeks following the initial mailing a follow-up letter (Appendix B) and a second questionnaire were mailed to those not responding to the first mailing. Total return from the initial and follow-up mailings was 72.6 per cent (N = 395).

## Survey of Other Dietetic Manpower Studies

As an adjunct to the study, a survey (Appendix C) of the state dietetic associations and the District of Columbia, plus Puerto Rico, was conducted to determine types of manpower studies that have been made in various states. Forty states responded with eight sending information on manpower studies.

## Data Analysis

Manpower data 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 manpower 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 six 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. Southwest

V. South Central

VI. Southeast

The ratio of dietitians to population was computed for the whole state and by health district.

As discussed in the previous section, maldistribution of health manpower is often a problem and health professionals tend to congregate in large population areas. To study geographic distribution of dietitians in Kansas more specifically, the number of dietitians living in the ten largest cities of the state was determined.

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 1977 (59) were the most current national data available on number of dietitians. The 1970 census (60) provided the population data by state. Although the population and membership data were from different years, more current census data were not available. The assumption was made that these ratios would provide rough indicators of dietetic manpower within the United States for comparison with manpower statistics in Kansas.

For additional comparisons of the dietetic manpower in relation to number of healthcare facilities in the state, ratios were computed by health district of the number of dietitians to the number of hospitals in

the state (61), number of hospital beds, number of nursing homes (62, 63), and number of nursing home beds.

Frequency distributions were compiled for all survey data. Means were computed as appropriate for several items, e.g., years of experience. Crosstabulations were compiled to determine residence and employment of dietitians within the health districts of Kansas. Crosstabulations also were compiled to study data on the accounts of the consulting dietitians by type of facility (64). Comparisons were made with national statistics from the ADA membership for data that were available (65).

# RESULTS AND DISCUSSION

The first part of the results section includes information pertaining to general statistical data on Kansas dietitians. In the second section results obtained from the survey are discussed. Information pertaining to educational preparation, basic membership statistics, and employment status of Kansas dietitians were compared to ADA membership data. Data are presented on professional practice, unemployment data, residence information, continuing education, and consultant information. Also included are data on the position titles of dietitians and facilities by region and on percentages of dietitians employed in specific positions and facilities.

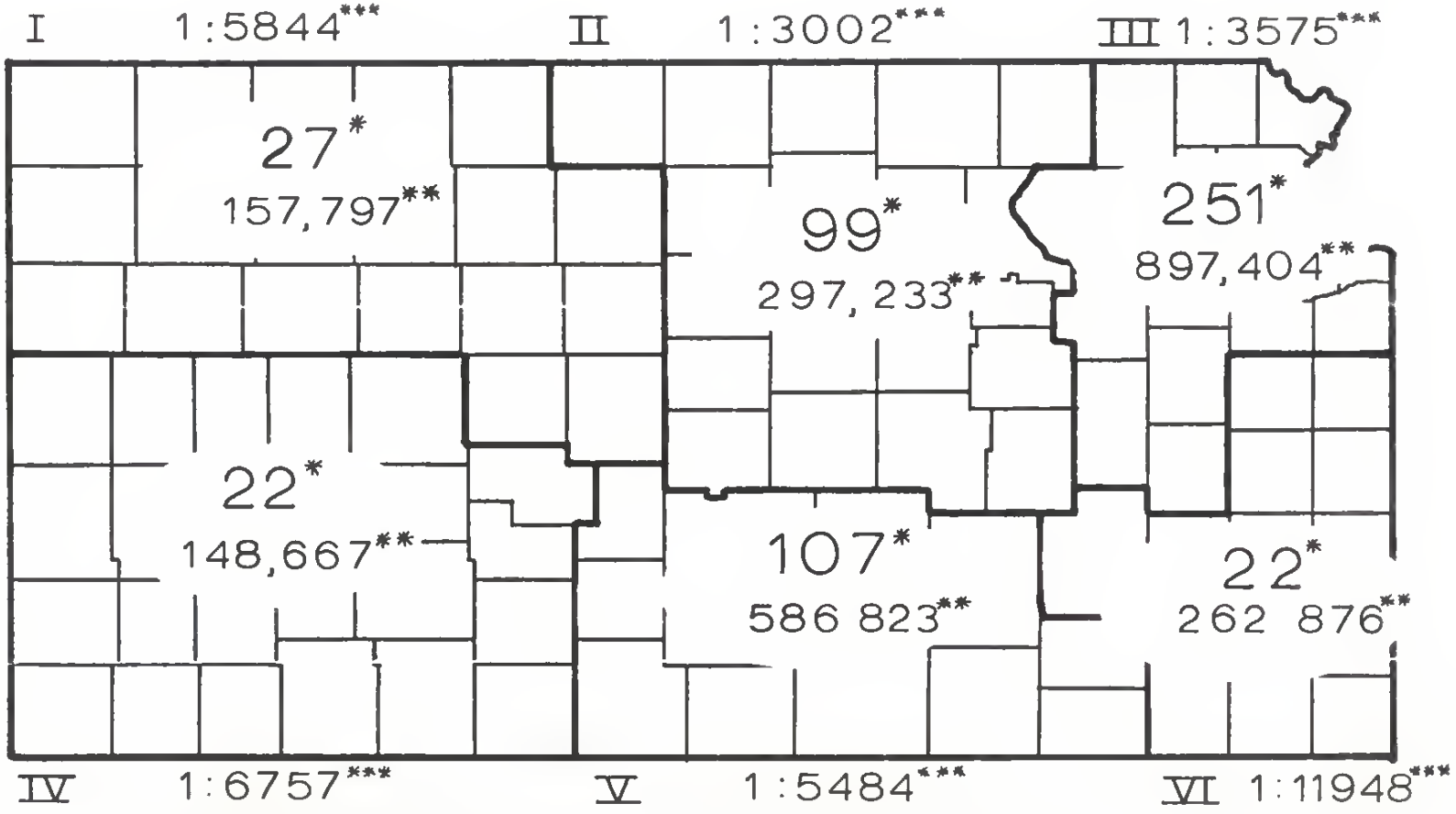
## General Statistical Information on Kansas Dietitians

### Distribution of Dietitians in Kansas

As of February 1978, the total number of dietitians in Kansas was 528. This number includes all professional categories of Kansas members of The American Dietetic Association. Technician members were excluded since the study was concerned with professional dietetic manpower and not supportive personnel.

Figure 2 shows the total number of dietitians, the population, and the ratio of number of dietitians to population by district. Table 1 and Figure 3 show the breakdown of number of dietitians by county within the state. Figure 4 highlights those counties within Kansas in which there were no dietitians residing as of February 1978. To study distribution of professional dietetic manpower more specifically, as indicated earlier,

Fig. 2. Ratio of number of dietitians to population by health district.




* NO. OF DIETITIANS
** POPULATION OF DISTRICT
*** RATIO OF DIETITIANS TO POPULATION

Table 1: Kansas dietitians by county and district[1]

| District I: Northwest | | District II: North Central | | District III: Northeast | |
|---|---|---|---|---|---|
| Barton | 4 | Chase | 1 | Atchison | 3 |
| Cheyenne | 1 | Clay | 1 | Brown | - |
| Decatur | 2 | Cloud | 2 | Coffey | - |
| Ellis | 10 | Dickinson | 1 | Doniphan | 1 |
| Gove | - | Ellsworth | 1 | Douglas | 16 |
| Graham | 1 | Geary | 4 | Jackson | 1 |
| Logan | - | Jewell | - | Jefferson | 1 |
| Norton | 2 | Lincoln | - | Johnson | 113 |
| Osborne | - | Marion | 3 | Leavenworth | 24 |
| Phillips | 3 | Marshall | 3 | Lyon | 6 |
| Rawlins | - | McPherson | 5 | Nemaha | - |
| Rooks | 1 | Mitchell | 3 | Osage | 1 |
| Rush | - | Morris | - | Pottawatomie | - |
| Russell | 1 | Ottawa | 1 | Shawnee | 58 |
| Sheridan | - | Republic | 2 | Wabaunsee | 1 |
| Sherman | - | Rice | 1 | Wyandotte | 26 |
| Thomas | 2 | Riley | 60 | | |
| Trego | - | Saline | 10 | total | 251 |
| Wallace | - | Smith | 1 | | |
| | | Washington | - | | |
| total | 27 | | | | |
| | | total | 99 | | |

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

Table 1: (cont.)

| District IV: Southwest | |
|---|---|
| Clark | - |
| Comanche | - |
| Edwards | - |
| Finney | 3 |
| Ford | 3 |
| Grant | 1 |
| Gray | 1 |
| Greeley | - |
| Hamilton | - |
| Haskell | - |
| Hodgeman | - |
| Kearney | 1 |
| Kiowa | 2 |
| Lane | - |
| Meade | 1 |
| Morton | - |
| Ness | - |
| Pawnee | 3 |
| Scott | 1 |
| Seward | 2 |
| Stanton | 1 |
| Stevens | 1 |
| Wichita | 2 |
| total | 22 |

| District V: South Central | |
|---|---|
| Barber | 1 |
| Butler | 3 |
| Chautauqua | - |
| Cowley | 11 |
| Elk | - |
| Harper | 1 |
| Harvey | 5 |
| Kingman | - |
| Pratt | 5 |
| Reno | 12 |
| Sedgwick | 67 |
| Stafford | 1 |
| Sumner | 1 |
| total | 107 |

| District VI: Southeast | |
|---|---|
| Allen | 2 |
| Anderson | 1 |
| Bourbon | 1 |
| Cherokee | 2 |
| Crawford | 2 |
| Franklin | 1 |
| Greenwood | 2 |
| Labette | 2 |
| Linn | - |
| Miami | 3 |
| Montgomery | 5 |
| Neosho | - |
| Wilson | 1 |
| Woodson | - |
| total | 22 |

Fig. 3. Distribution of Kansas dietitians by county.

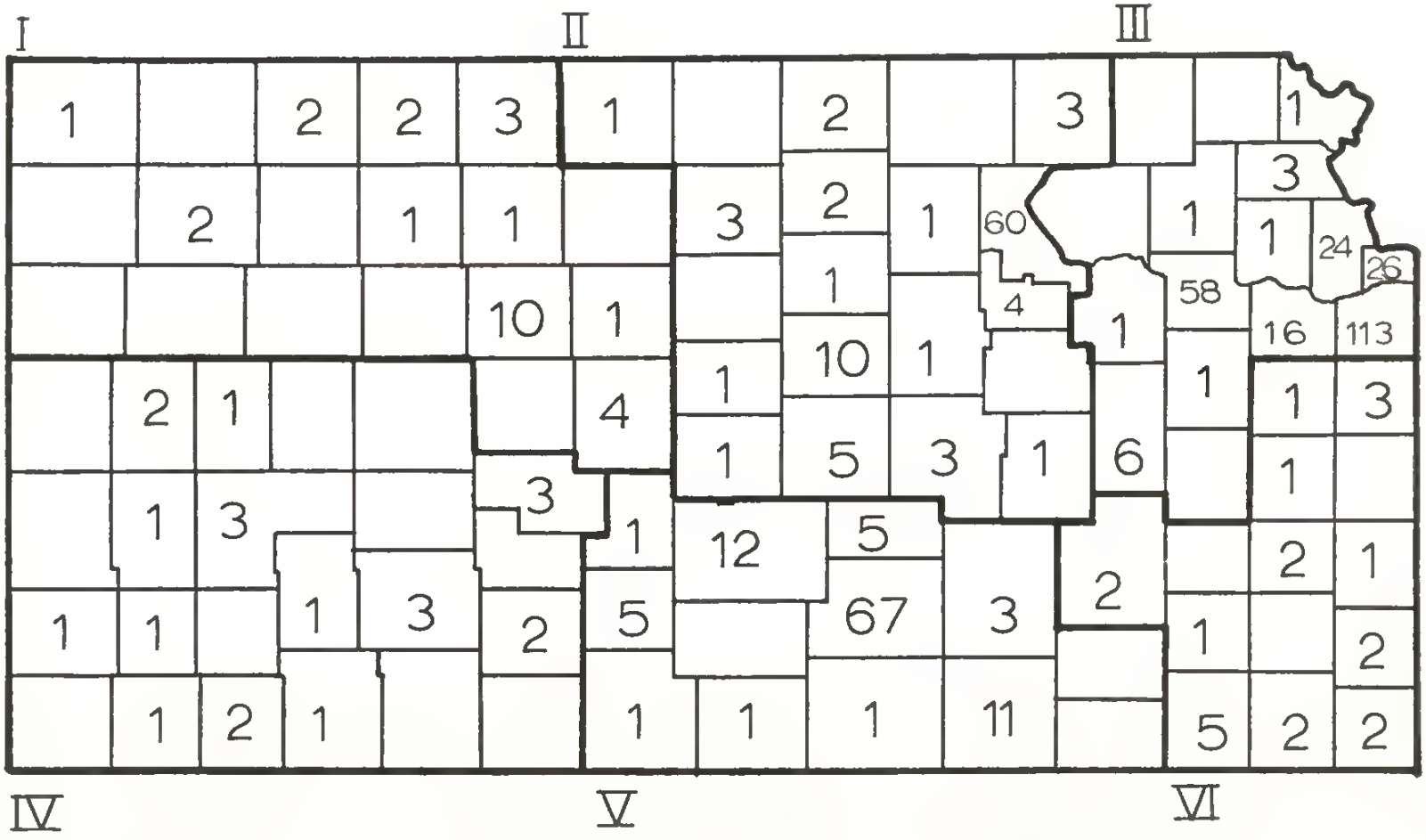

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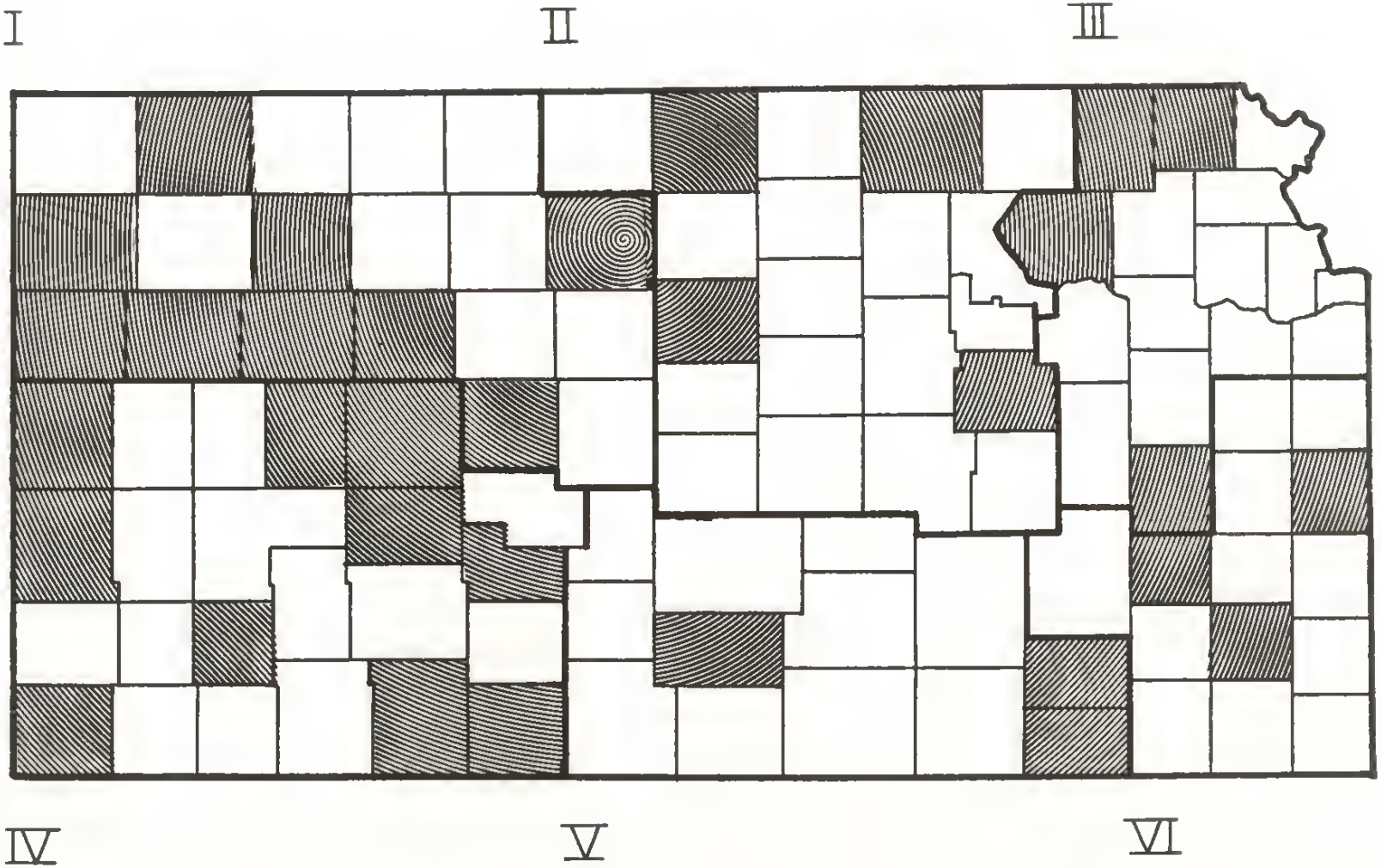
Fig. 4. Counties in Kansas without a dietitian.[1]

[1]Designated by shading.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data were compiled on the number of dietitians living in the ten largest cities in the state. These data are presented in Table 2 and Figure 5.

The overall ratio of dietitians to population in Kansas was 1:4,452. As shown in Figure 2 the largest number of dietitians (N = 251) live in the northeastern district of the state (District III). The ratio of dietitian to population in this district is one dietitian to 3,575 population. District III (northeast district) has the highest concentration of dietitians in the state as an absolute number; however, the ratio to population is smaller in the North Central district (District II), 1 to 3,002 compared to 1 to 3,575 in the Northeast district. The second largest concentration of dietitians is in the South Central district (District V), although the population ratio is 1 to 5,484.

Concern has been expressed by health authorities about the availability of health manpower in the western segment of the state.[1] Although the concentration of dietitians is low in the two western health districts, because of the low population density the ratio to population does not differ greatly from that of District V, the South Central district (Figure 2). District VI, the Southeast district, is the area of the state with the most limited dietetic manpower. Only twenty-two dietitians live in that district and with the high population density the ratio is only 1 to 11,948.

The data in Tables 1 and 2 and Figures 3 and 4 were compiled to study distribution within each of the six health districts. As shown in

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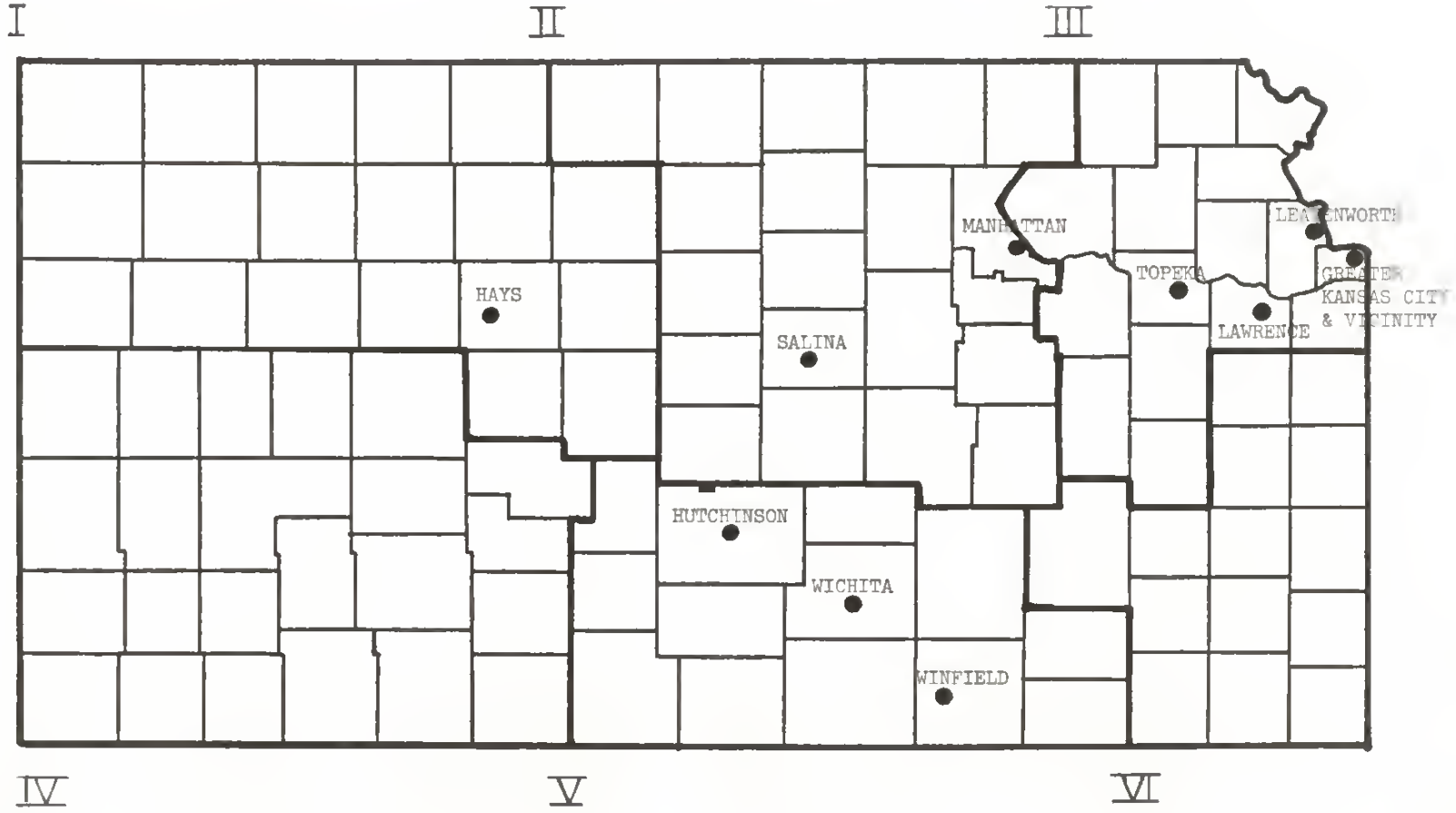
[1] Conversations with administrators of the Kansas Department of Health and Environment.

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

| metropolitan area | N | %[1] |
|---|---|---|
| greater Kansas City and vicinity | 126 | 23.8 |
| | n | % |
| Shawnee | 33 | 6.3 |
| Kansas City | 28 | 5.4 |
| Overland Park | 24 | 4.6 |
| Mission | 11 | 2.1 |
| Prairie Village | 9 | 1.7 |
| Lenexa | 7 | 1.3 |
| Olathe | 7 | 1.3 |
| Merriam | 4 | .7 |
| Leawood | 3 | .5 |
| Wichita | 62 | 11.9 |
| Manhattan | 60 | 11.5 |
| Topeka | 58 | 11.1 |
| Leavenworth | 18 | 3.4 |
| Lawrence | 12 | 2.3 |
| Hutchinson | 11 | 2.1 |
| Hays | 9 | 1.7 |
| Winfield | 8 | 1.5 |
| Salina | 7 | 1.3 |
| total | 371 | 70.6 |

[1]% of dietitians residing in state.

Fig. 5. Ten largest metropolitan areas and cities in Kansas.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LEAVENWORTH
TOPEKA
GREATER
KANSAS CITY
& VICINITY
LAWRENCE
HAYS
SALINA
HUTCHINSON
WICHITA
WINFIELD
IV
V
VI

Figure 3, the dietitians tend to be distributed rather unevenly within the districts, especially in Districts II, III, and V.

In District III, the Northeast district, two counties account for the majority of dietitians in the district, Johnson County and Shawnee County (Table 1). Three other counties, Leavenworth, Wyandotte, and Douglas, account for all but thirteen dietitians in the sixteen county area. As shown in Figure 5 four of the ten largest metropolitan areas in Kansas are located in this district: Greater Kansas City and vicinity, Topeka, Leavenworth, and Lawrence. Data in Table 2 indicate that 40.6 per cent of the Kansas dietitians live in these four metropolitan areas. Four counties in the district have no dietitians residing in them (Figure 4).

In Districts II and V the professional dietetic manpower also is concentrated in only a few counties (Figure 3). Two counties (Saline and Riley) account for 70.7 per cent of the dietitians in District II, the North Central district (Table 1). Three counties (Sedgwick, Reno, and Cowley) account for 84.1 per cent of the dietitians in District V, the South Central district. Five of the ten largest metropolitan areas and cities are located in these five counties in Districts II and V (Figure 5). Also 28.3 per cent of the Kansas dietitians live in these five cities (Table 2). Five counties in District II and one county in District V have no dietitians (Figure 4).

In District I (Northwest) over one-third of the dietitians (37.0 per cent) lived in Ellis County (Table 1). Of these ten dietitians, all but one live in Hays (Table 2), which is the only one of the ten largest cities not in Districts II, III, and V (Figure 5). As shown in Figures 3 and 4 the two western districts (I and IV) have a number of counties without dietitians and many have only one dietitian per county.

In the Southeast district of the state (District VI) there are three counties without dietitians (Figures 3 and 4). The other eleven counties have small numbers of dietitians.

Data shown in Figures 2 through 5 and Tables 1 and 2 document the maldistribution of dietitians within the state of Kansas. As indicated in Table 2, 70.6 per cent of the Kansas dietitians live in the ten largest cities in the state. It is assumed, however, that the need for dietetic manpower is greatest in these high population areas, and therefore the distribution may not be skewed in relation to the demand for dietetic manpower.

Comparison with Dietetic Manpower in Other States

The overall ratio of dietitians to population in the United States is 1 to 6,091 (Table 3). Based on an analysis which compared dietetic manpower statistics from 1977 to the most current census data (1970), the ratio of dietitians to population in Kansas was 1 to 4,571. The lowest ratio was found for Nebraska (1:2,673) and the highest was for Puerto Rico (1:12,498). Seven states reported more favorable ratios than that of Kansas. Sixteen other states, however, have ratios similar to that of Kansas (±1,000).

States were categorized by the ADA areas for further review. In ADA Area IV, the area which includes Kansas, three states have more favorable ratios than Kansas: Arizona, Colorado, and Utah (Table 3). Area III which includes most of the southeastern states had the highest dietitians to population ratios of any other area.

Table 3: Ratio of ADA dietitians to population by state[1]

| areas[2] | population per ADA member | ADA dietitians[3] |
|---|---|---|
| Area I | | |
| Hawaii | 4,207 | 183 |
| Washington | 4,645 | 734 |
| Idaho | 4,986 | 143 |
| Oregon | 5,138 | 407 |
| Montana | 5,144 | 135 |
| California | 5,420 | 3,681 |
| Wyoming | 5,832 | 57 |
| Alaska | 6,569 | 46 |
| Area II | | |
| Nebraska | 2,673 | 555 |
| North Dakota | 4,350 | 142 |
| Minnesota | 4,606 | 826 |
| Wisconsin | 4,612 | 958 |
| Iowa | 5,027 | 562 |
| Missouri | 5,767 | 811 |
| South Dakota | 6,722 | 99 |
| Michigan | 7,198 | 1,233 |
| Area III | | |
| Florida | 6,304 | 1,077 |
| Louisiana | 6,369 | 572 |
| Alabama | 7,266 | 474 |
| Georgia | 8,196 | 560 |
| Mississippi | 9,049 | 245 |
| Arkansas | 9,202 | 209 |
| South Carolina | 12,277 | 211 |
| Puerto Rico | 12,498 | 217 |

[1]Population data from the latest available census (1970); ADA membership data from October 15, 1977 and includes Puerto Rico and District of Columbia.

[2]Areas defined by the ADA.

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

Table 3: (cont.)

| areas | population per ADA member | ADA dietitians |
|---|---|---|
| Area IV | | |
| Arizona | 3,382 | 524 |
| Colorado | 3,532 | 625 |
| Utah | 4,488 | 236 |
| Kansas | 4,571 | 492 |
| New Mexico | 5,976 | 170 |
| Texas | 6,495 | 1,724 |
| Oklahoma | 6,788 | 377 |
| Nevada | 7,883 | 62 |
| Area V | | |
| Ohio | 5,789 | 1,840 |
| Tennessee | 6,551 | 599 |
| Kentucky | 6,749 | 477 |
| Illinois | 7,003 | 1,587 |
| Indiana | 7,377 | 704 |
| West Virginia | 10,970 | 159 |
| Area VI | | |
| District of Columbia | 2,387 | 317 |
| Delaware | 5,536 | 99 |
| Maryland | 5,603 | 700 |
| Virginia | 6,631 | 701 |
| Pennsylvania | 7,394 | 1,595 |
| North Carolina | 9,027 | 563 |
| Area VII | | |
| Massachusetts | 4,875 | 1,167 |
| Vermont | 5,107 | 87 |
| New Hampshire | 5,123 | 144 |
| Connecticut | 5,765 | 526 |
| Rhode Island | 5,899 | 161 |
| New York | 7,078 | 2,570 |
| New Jersey | 7,973 | 899 |
| Maine | 8,793 | 113 |
| United States and territories | 6,091 | 33,355 |

Dietitians in Relation to Healthcare Facilities

Figures 6, 7, 8, and 9, and Table 4 present data on the number of hospitals, hospital beds, nursing homes, nursing home beds, and the ratio of dietitians to healthcare facilities and their capacities in Kansas. These data are presented as general indicators of the supply of professional dietetic manpower in relation to healthcare institutions in Kansas. It is understood that all dietetic manpower in the state are not employed by hospitals and nursing homes. Data presented in the next section will present specific employment data. Data in this section are presented for a general picture of availability of dietetic manpower to serve Kansas healthcare facilities.

The total number of hospitals in Kansas as of 1978 was 164; of these, seventy-eight have JCAH (Joint Commission on Accreditation of Hospitals) accreditation. Thirty-seven of the hospitals are located in the Northeastern district (District III) of Kansas (Figure 6). The next largest number of hospitals are located in the South Central district. The North Central and South Central districts of Kansas have twenty-eight and twenty-nine hospitals respectively. The total number of hospital beds in Kansas was 17,768. As shown in Figures 6 and 7 the Northeast and South Central districts have the largest number of hospital beds, as well as hospitals.

The total number of nursing homes in the state was 406 (Figure 8). The Northeast and South Central districts have the largest number of homes, 106 and 89 respectively. The total number of nursing home beds in Kansas homes was 24,533 as shown in Figure 9, with the Northeast and South Central also having the largest number of beds.

The ratios of dietitians to healthcare facilities and their capacities in Kansas are shown in Table 4. The areas of greatest dietetic manpower

Fig. 6. Distribution of hospitals in Kansas by county.

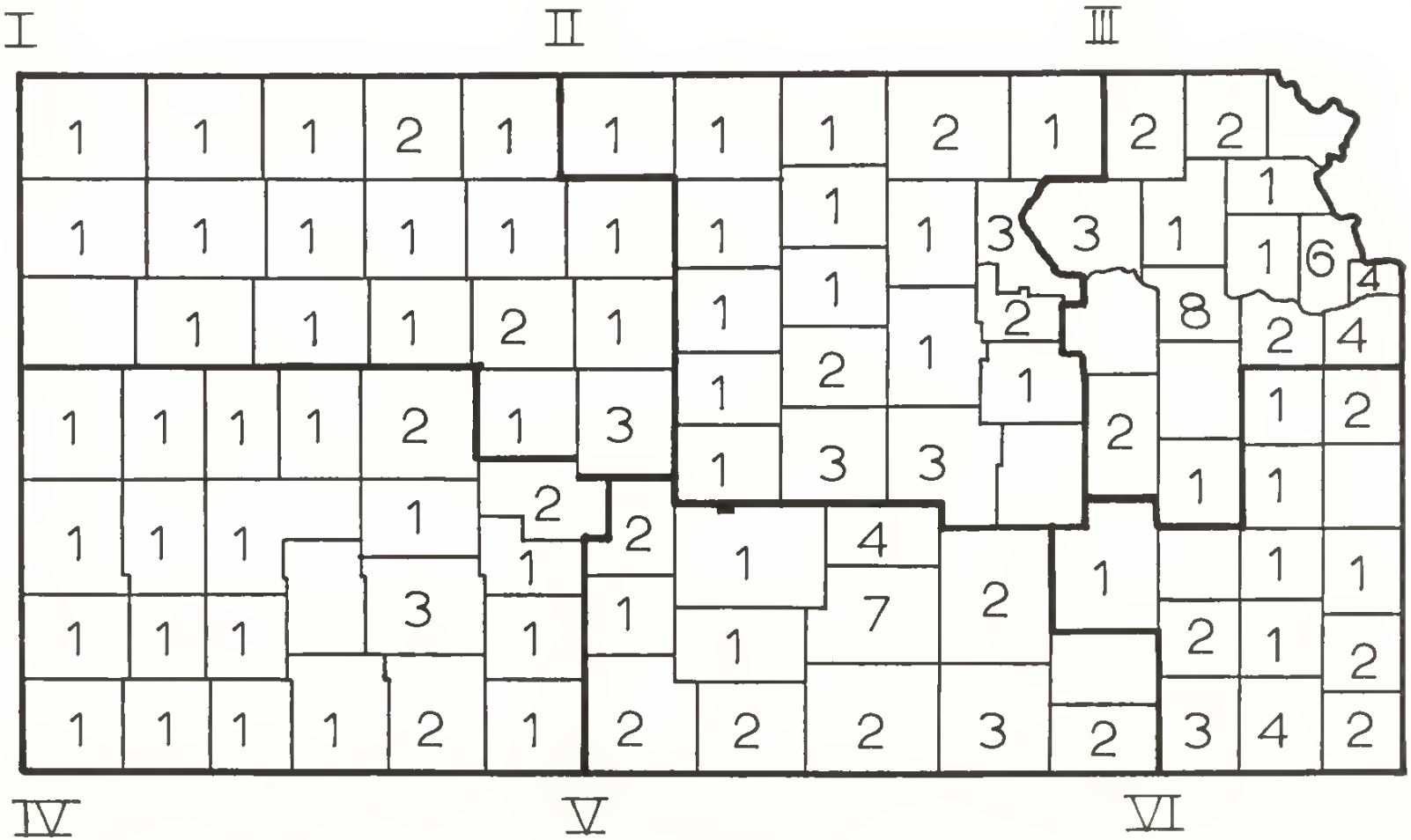
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Fig. 7. Hospital beds in Kansas by county.

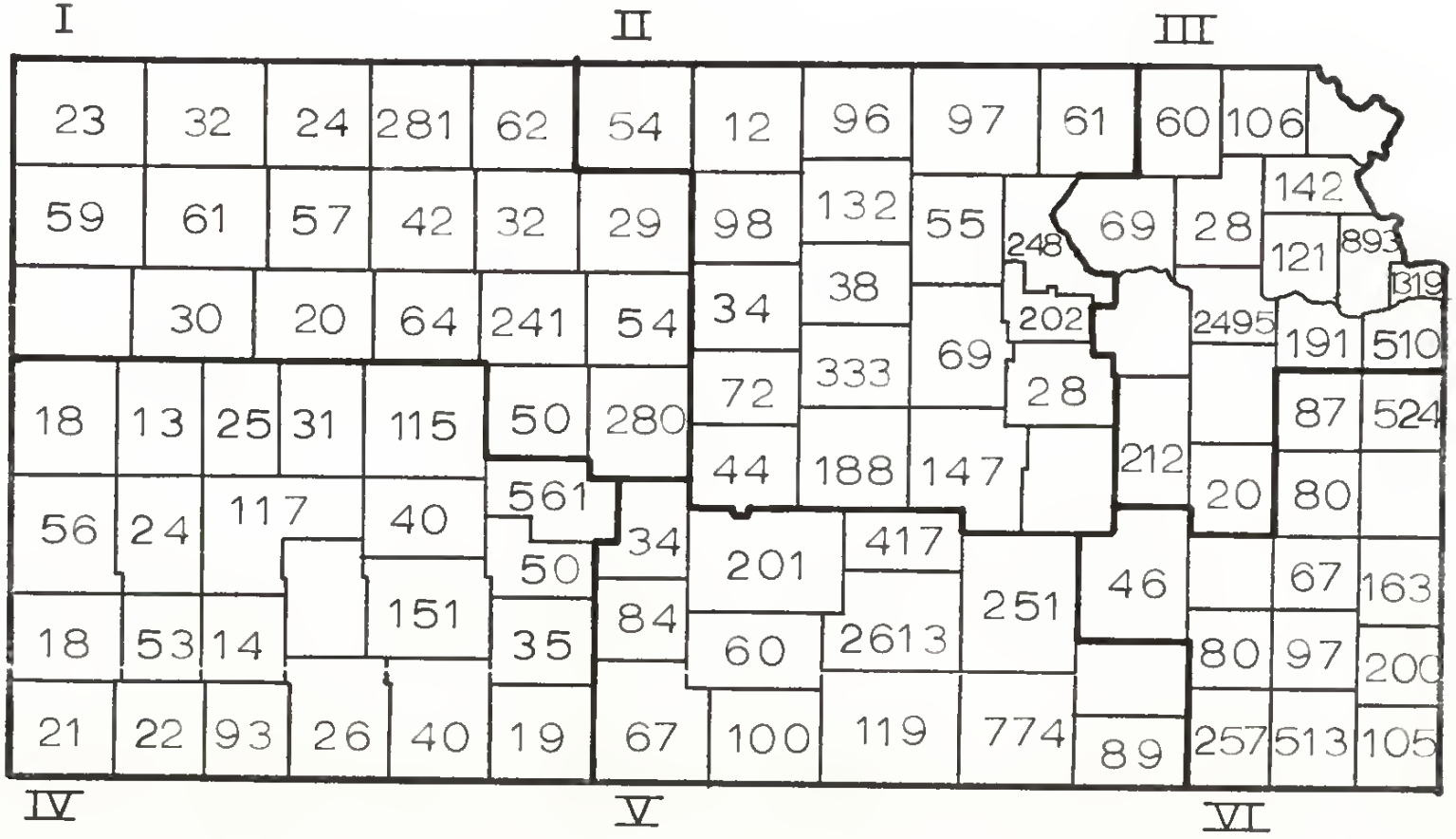
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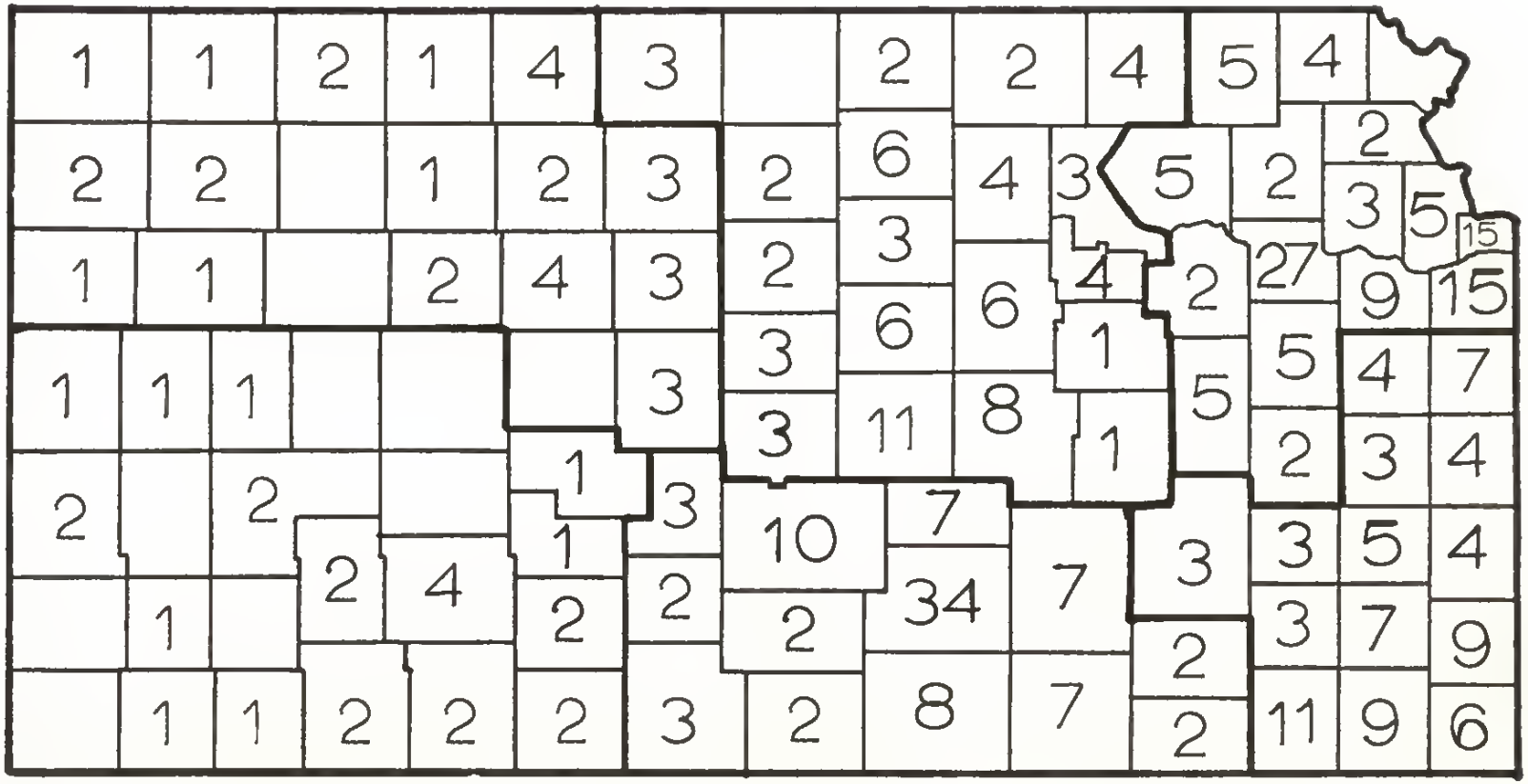
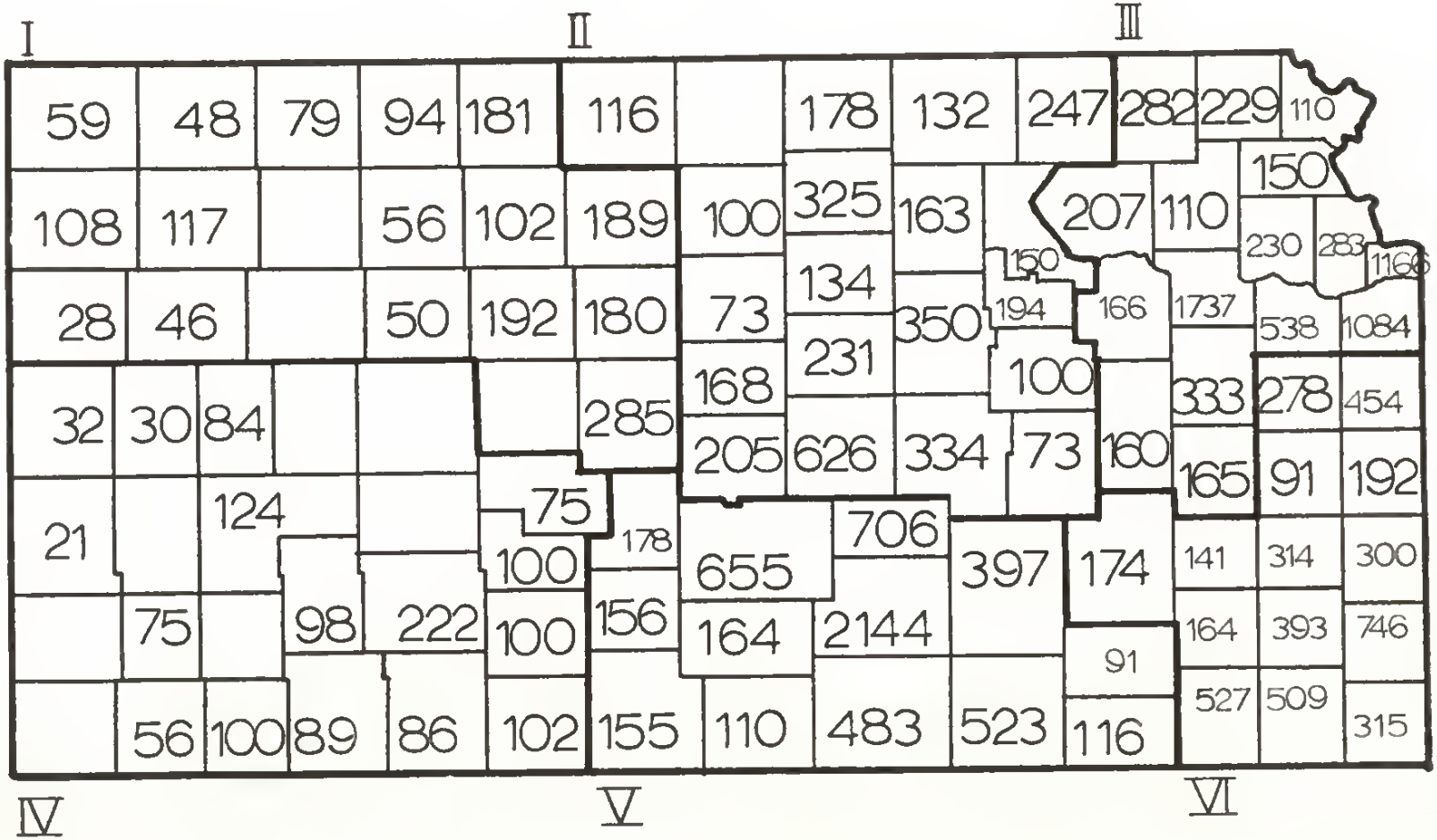
Fig. 8. Distribution of nursing homes in Kansas by county.

I II III




IV V VI

Fig. 9. Nursing home beds in Kansas by county.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181
116
178
132
247
282
229
110
108
117
56
102
189
100
325
163
207
110
150
230
283
1166
28
46
50
192
180
73
134
350
150
194
166
1737
538
1084
231
168
100
32
30
84
285
205
626
334
73
160
333
278
454
165
91
192
21
124
75
178
100
655
706
397
174
141
314
300
75
98
222
100
156
164
2144
91
164
393
746
56
100
89
86
102
155
110
483
523
116
527
509
315
IV
V
VI

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

| | 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 |
|---|---|---|---|---|---|
| I. | Northwest | 1.2 | 92.5 | .8 | 67.9 |
| II. | North Central | 3.5 | 20.2 | 1.3 | 39.3 |
| III. | Northeast | 6.7 | 24.5 | 2.3 | 27.6 |
| IV. | Southwest | .8 | 70.0 | .8 | 63.3 |
| V. | South Central | 3.6 | 44.9 | 1.2 | 54.9 |
| VI. | Southeast | 1.0 | 100 | .2 | 209 |

need appear to be in the Northwest, Southwest, and Southeast districts. In the southwest the ratio of dietitians to hospitals is only .7, and the ratio of hospital beds to dietitians is 70 to 1, based on the assumption that all dietitians are employed by hospitals. The Northeast district (Oistrict III) of Kansas has the most adequate supply of dietitians, in relation to these comparisons. There are 6.2 dietitians to each hospital and 1 dietitian for 24.5 hospital beds, again assuming all dietitians are employed in hospital dietetics.

A rule of thumb in the profession recommends one dietitian to each 100 hospital beds as a maximum ratio. A general recommendation is not available on nursing home manpower needs. Usually, nursing homes, particularly those with fewer than 100 beds, are served by a consultant dietitian. It is difficult to evaluate the data in Table 4 without information about employment of dietitians.

## Survey of Kansas Dietitians

The population for the study was the membership of the Kansas Dietetic Association (KDA) as of Spring 1978. Of the total 544 questionnaires sent to members of the KDA, 395 (72.6 per cent) 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 will vary because of incomplete responses on some items. In several tables in this section information obtained through this survey is compared to similar information from the ADA (65).

### Educational Preparation

Descriptive data about the educational background of the Kansas dietitians are compared to the educational data from the ADA membership in Table 5. The highest degree attained by 66.2 per cent of the KDA dietitians was a bachelor's degree; 31.2 per cent have a master's degree and 2.5 per cent a Ph.D. The major field for a bachelor's degree among both the KDA and ADA members was dietetics, institutional management, or foods and nutrition. The major field for the master's degree for the two groups also was dietetics, institutional management, or foods and nutrition.

Graduate hours completed were reported by KDA members, whether or not an advanced degree was held. Almost two-thirds (61.5 per cent) of the KDA members had completed at least one or more graduate level courses. Of those, about half had earned a sufficient number of hours to complete a master's degree.

Table 5: Educational background of members of KDA and ADA[1]

| | KDA | | ADA | |
|---|---|---|---|---|
| | N | % | N | % |
| highest degree | | | | |
| bachelor's | 261 | 66.2 | | |
| master's | 123 | 31.2 | | |
| ph.d. | 10 | 2.5 | | |
| major field for bachelor's | | | | |
| dietetics, institutional management, or foods and nutrition | 351 | 89.3 | 21,669 | 89.1 |
| home economics education | 26 | 6.6 | | |
| education, other | 2 | 0.5 | 869 | 3.6 |
| other | 14 | 3.6 | 1,771 | 7.3 |
| major field for master's[2] | | | | |
| dietetics, institutional management, or foods and nutrition | 126 | 84.0 | 4,270 | 71.2 |
| home economics education | 2 | 1.3 | | |
| education, other | 9 | 6.0 | 605 | 10.1 |
| other | 13 | 8.7 | 1,124 | 18.7 |
| graduate hours completed | 243 | 61.5 | | |
| 1-10 hours | 70 | 28.7 | | |
| 11-20 hours | 34 | 14.0 | | |
| 21-29 hours | 15 | 6.1 | | |
| 30-39 hours | 60 | 24.5 | | |
| 40 and over | 64 | 25.9 | | |

[1]Information on ADA membership reported as available. Source: (61).

[2]Includes persons with degrees in progress.

## Basic Membership Data

Basic membership data on members of the Kansas Dietetic Association and The American Dietetic Association are shown in Table 6. The majority of both the KDA and the ADA members gained ADA membership eligibility through an internship program (56.2 per cent, KDA; 79.5 per cent, ADA). The proportion of total membership for ADA, however, was substantially larger. Among the KDA members, the second most frequent route to membership was through the coordinated undergraduate program (18.1 per cent); whereas the ratio nationally was only 3 per cent. An advanced degree with experience was the second largest category among ADA members (8.7 per cent); although a larger proportion of KDA members reported this route than was true nationally. The KDA membership was relatively young; almost 40 per cent were under thirty years of age.

Of the KDA members, 85.2 per cent were registered which was approximately 10 per cent higher than the national statistic. Over half of the Kansas dietitians (54.1 per cent) had been members of the ADA for one to ten years, while 29.2 per cent had been members for twenty-one years or more.

## Continuing Education Reported by Kansas Dietitians

To maintain professional registration, seventy-five hours of continuing education are required every five years (66). Also, standards for hospital accreditation and Medicare certification for healthcare facilities specify continuing education for all personnel (51, 54, 56). Data on graduate study suggest that many KDA members have pursued formal academic coursework as one means of continuing education. Data on other continuing education are reported in Table 7. One-third (31.0 per cent)

Table 6: Basic membership statistics of members of KDA and ADA[1]

| | KDA | | ADA | |
|---|---|---|---|---|
| | N | % | N | % |
| route to membership in ADA | | | | |
| coordinated undergraduate program | 71 | 18.1 | 742 | 3.0 |
| advanced degree with experience | 54 | 13.7 | 2,100 | 8.7 |
| traineeship | 24 | 6.1 | 1,321 | 5.4 |
| associate membership/professional practice | 23 | 5.9 | 773 | 3.2 |
| internship | 221 | 56.2 | 19,210 | 79.5 |
| registration status | | | | |
| registered. | 334 | 85.2 | 47,430 | 75.6 |
| nonregistered | 58 | 14.8 | 8,824 | 24.3 |
| years member of ADA | | | | |
| 1 year or less | 44 | 11.3 | | |
| 2-5 years | 118 | 30.1 | | |
| 6-10 years | 50 | 12.7 | | |
| 11-20 years | 66 | 16.9 | | |
| 21 years or more | 117 | 29.2 | | |
| age | | | | |
| 20-29 | 131 | 37.0 | | |
| 30-39 | 57 | 16.1 | | |
| 40-49 | 50 | 14.1 | | |
| 50-59 | 73 | 20.6 | | |
| 60-69 | 27 | 7.6 | | |
| 70 or over | 16 | 4.5 | | |

[1]Information on ADA membership reported as available.

Table 7: Continuing education of Kansas dietitians (N = 395)

| | N | % |
|---|---|---|
| continuing education hours during past 3 years | | |
| none | 90 | 22.7 |
| less than 10 | 9 | 2.3 |
| 10-24 | 28 | 7.3 |
| 25-49 | 68 | 17.5 |
| 50-74 | 80 | 20.7 |
| over 75 | 120 | 31.0 |
| ADA meetings attended in last 3 years | | |
| none | 263 | 66.6 |
| 1 meeting | 78 | 19.7 |
| 2 meetings | 33 | 8.4 |
| 3-5 meetings | 21 | 5.4 |
| KDA meetings attended in last 3 years | | |
| none | 92 | 23.3 |
| 1 meeting | 68 | 17.2 |
| 2-3 meetings | 136 | 34.4 |
| 4-5 meetings | 76 | 19.2 |
| 6-8 meetings | 23 | 5.9 |

of the dietitians had accumulated over seventy-five continuing education hours during the past three years, while 22.7 per cent did not report continuing education hours.

In the last three years, 19.7 per cent of the KDA dietitians reported attendance at one annual ADA meeting. Only 13.8 per cent had attended two or more meetings; whereas 66.6 per cent indicated they had not attended a national meeting of ADA.

KDA meetings appeared to be a more important source of continuing education. Over three-fourths reported attendance at one or more KDA meetings in the last three years.

Residence in Kansas

Data in Table 8 provide information on Kansas residency of KDA members and projected future tenure in the state. One-fourth (25.3 per cent) of the dietitians had lived in the state from one to five years, while half (49.9 per cent) the population had lived in Kansas sixteen or more years. Almost one-third (28.3 per cent) of the dietitians planned to live in Kansas for thirty years or longer; only 14.1 per cent planned to live only one to five years in the state. Almost one-fourth (22.3 per cent) of the dietitians were willing to relocate within the state which

Table 8: Residence of Kansas dietitians

| | N | % |
|---|---|---|
| length of time lived in Kansas | | |
| 1-5 years | 100 | 25.3 |
| 6-15 years | 58 | 14.7 |
| 16-30 years | 106 | 26.8 |
| 31-50 years | 55 | 14.2 |
| 51 or more | 33 | 8.9 |
| not indicated | 43 | 10.9 |
| anticipated future time in Kansas | | |
| 1-5 years | 56 | 14.1 |
| 6-15 years | 28 | 7.1 |
| 16-30 years | 26 | 6.7 |
| over 30 years | 111 | 28.3 |
| not indicated | 174 | 44.1 |
| persons willing to relocate within state | 88 | 22.3 |

could benefit areas with limited manpower. Questions asked did not reflect locations within the state where the dietitians would be willing to live.

Professional Practice

As shown in Table 9 the majority of Kansas dietitians (62.8 per cent) have been employed in the profession for ten years or less; whereas those with more than twenty years professional practice represented less than 20 per cent of the membership. These data corraborate earlier data reported on the age of the KDA membership. Currently a large number of young professionals are practicing dietetics in Kansas.

Kansas dietitians reported the greatest amount of experience in the clinical, generalist, and food management areas of dietetics. Of the 209 dietitians with experience in clinical practice, 80 per cent had from one to five years of experience. Of the dietitians reporting work experience in food management, 62.2 per cent had worked from one to five years. There were 175 dietitians with experience in general dietetics and over half (62.9 per cent) had worked only one to five years. Only 8.9 per cent reported experience in community health; whereas, almost one-third reported experience in teaching positions.

Current Employment Status

The ADA and the KDA membership data show similar statistics regarding current employment status of dietitians (Table 10). Data from members indicated that 70.6 per cent were employed currently in dietetic practice as compared to 76 per cent of the dietitians nationally. Conversely, the percentage not employed in KDA was 29.4 as compared to a slightly lower statistic of 24 per cent unemployment among ADA members. A small

Table 9: Professional practice of Kansas dietitians

| | N | % |
|---|---|---|
| years employed in profession (N = 380) | | |
| 1 year or less | 40 | 10.5 |
| 2-5 years | 127 | 33.5 |
| 6-10 years | 71 | 18.8 |
| 11-20 years | 70 | 18.4 |
| 21 years or more | 72 | 19.1 |
| years of experience in:[1] | | |
| food management | 167 | 43.9 |
| 1 year or less | 41 | 24.5 |
| 2-5 years | 63 | 37.7 |
| 6-10 years | 23 | 13.8 |
| 11-20 years | 19 | 11.4 |
| 21 years or more | 21 | 12.6 |
| clinical dietetics | 209 | 55.0 |
| 1 year or less | 43 | 20.6 |
| 2-5 years | 124 | 59.4 |
| 6-10 years | 21 | 10.0 |
| 11-20 years | 16 | 7.7 |
| 21 years or more | 5 | 2.5 |
| generalist dietetics | 175 | 46.0 |
| 1 year or less | 36 | 20.6 |
| 2-5 years | 74 | 42.3 |
| 6-10 years | 27 | 15.4 |
| 11-20 years | 24 | 13.7 |
| 21 years or more | 14 | 8.1 |
| community nutrition and public health | 34 | 8.9 |
| 1 year or less | 18 | 52.9 |
| 2-3 years | 10 | 29.4 |
| 7-14 years | 5 | 14.6 |
| 34 years | 1 | 2.9 |

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

Table 9: (cont.)

| | N | % |
|---|---|---|
| teaching | 122 | 32.1 |
| 1 year or less | 24 | 19.7 |
| 2-5 years | 55 | 45.1 |
| 6-10 years | 19 | 15.6 |
| 11-20 years | 13 | 10.5 |
| 21 years or more | 11 | 8.8 |
| other | 69 | 18.1 |
| 1 year or less | 15 | 21.7 |
| 2-5 years | 35 | 50.7 |
| 6-10 years | 15 | 21.6 |
| 11-20 years | 4 | 5.6 |

Table 10: Current employment status of KDA members as compared to ADA members

| | KDA | | ADA | |
|---|---|---|---|---|
| | N | % | N | % |
| currently employed in dietetic practice | 279 | 70.6 | 24,180 | 76.0 |
| not employed (includes temporary unemployment) | 116 | 29.4 | 7,575 | 24.0 |
| employed in more than one job (other than consulting)[1] | 32 | 8.1 | | |

[1]Data not available for ADA.

percentage (8.1 per cent) of the Kansas dietitians, other than consultants, reported they had more than one employer.

Almost half (46.3 per cent) of the unemployed dietitians (Table 11) cited family responsibility as their main reason for not being employed.

Table 11: Unemployed dietitians in Kansas (N = 102)

| | N | % |
|---|---|---|
| anticipate employment in dietetics within next 2-5 years | | |
| yes | 50 | 49.0 |
| no | 52 | 51.0 |
| reason for not being employed | | |
| family responsibility | 44 | 46.3 |
| retired | 20 | 21.1 |
| no job opportunities | 11 | 11.6 |
| student | 6 | 6.3 |
| other | 14 | 14.7 |

Of the unemployed, 49 per cent anticipated employment in dietetics within the next two to five years. Forty per cent of the Kansas dietitians had been out of the work force for one or more years (Table 12).

In analyzing employment data by health district in the state there was considerable variation within the districts. Data presented in Table 13 include all employed dietitians, those working full time, part time, or as consultants. Employment was highest in the Northeast (75.9 per cent) and Southeast (78.6 per cent), whereas employment was lowest in the Southwest (64.3 per cent) and South Central (63.2 per cent) districts.

Figure 10 shows the percentage of Kansas dietitians employed in specific positions and facilities as compared to the ADA national percentages. The figure shows that the ADA and Kansas figures are similar. One key variation in comparing the Kansas and national data was the percentage of dietitians employed as consultants. The ADA statistic was 13 per cent whereas the Kansas percentage was 24.7 per cent. Clinical dietetics was the practice area which employed the largest percentage of ADA dietitians (20.9 per cent), as compared to 17.6 per cent of Kansas dietitians. Most of the dietitians, both in the state and nationally, were employed by hospitals. Over half (54.7 per cent) of the Kansas dietitians were employed in hospitals, and 45.9 per cent of the ADA dietitians. School foodservice was the lowest employment area for both groups, with 4.2 per cent for the Kansas dietitians and 3.7 per cent for the ADA dietitians.

Information on full and part time employment of Kansas dietitians according to the type of position and type of facility is shown in Figure 11. Thirty-one per cent were employed as full time clinical dietitians with no one working part time. A majority of the sample (62.7 per cent)

Table 12: Unemployment data on Kansas dietitians

| | N | % |
|---|---|---|
| out of work force for 1 or more years[1] | 158 | 40.0 |
| number of years out of the work force | | |
| none | 241 | 60.6 |
| 1 year or less | 21 | 5.3 |
| 2-5 years | 59 | 15.0 |
| 6-10 years | 34 | 8.6 |
| 11-20 years | 31 | 7.9 |
| 21-31 years | 9 | 2.6 |

[1]Some currently employed.

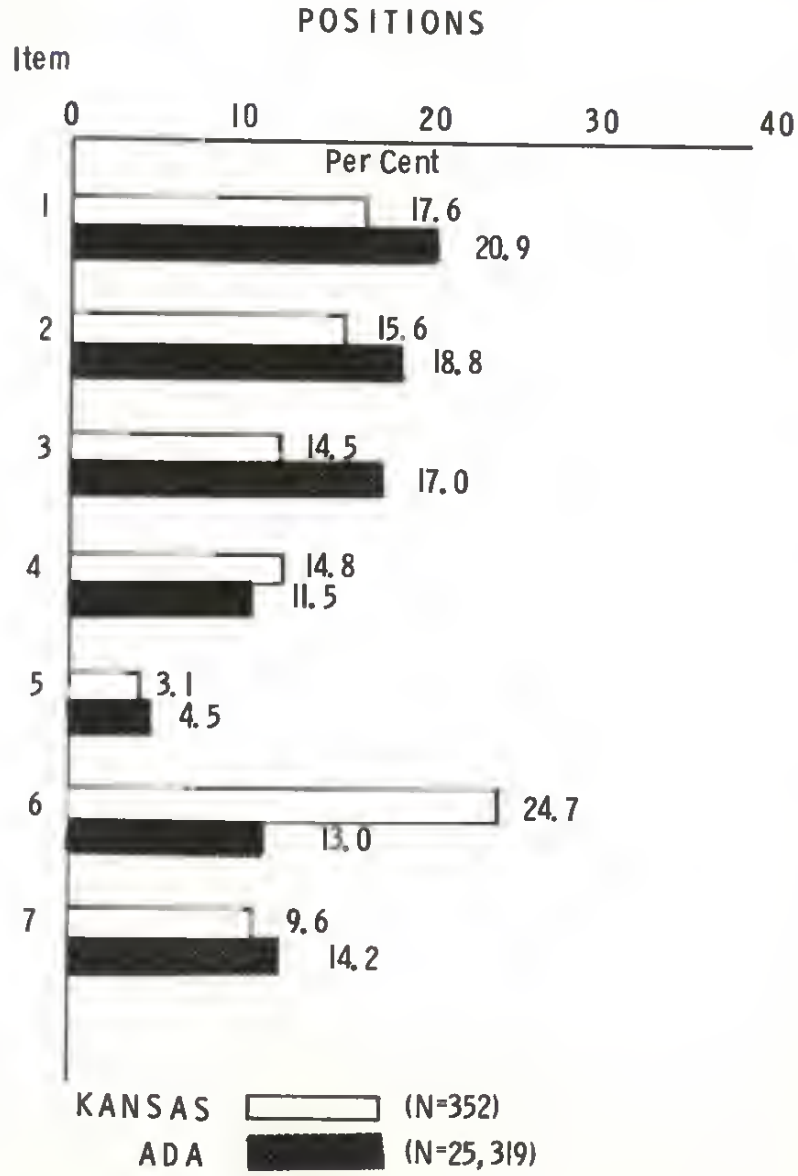
Table 13: Employment of Kansas dietitians by district

| district | no. of dietitians in district[1] | % employed in dietetic practice |
|---|---|---|
| | | % |
| I. Northwest | 19 | 68.4 |
| II. North Central | 85 | 68.2 |
| III. Northeast | 170 | 75.9 |
| IV. Southwest | 14 | 64.3 |
| V. South Central | 87 | 63.2 |
| VI. Southeast | 14 | 78.6 |
| total | 389 | 70.6 |

[1]Based on response to survey.

Fig. 10. Employment of ADA and KDA dietitians by type of position and facility.

| Positions | Facilities |
|---|---|
| 1. Clinical | 1. Hospital |
| 2. Generalist | 2. School |
| 3. Foodservice director | 3. University |
| 4. Teaching | 4. Nursing home |
| 5. Community or public health | 5. Other |
| 6. Consultant | |
| 7. Other | |


POSITIONS
Item
0
10
20
30
40
Per Cent
1
17.6
20.9
2
15.6
18.8
3
14.5
17.0
4
14.8
11.5
5
3.1
4.5
6
24.7
13.0
7
9.6
14.2
KANSAS (N=352)
ADA (N=25,319)

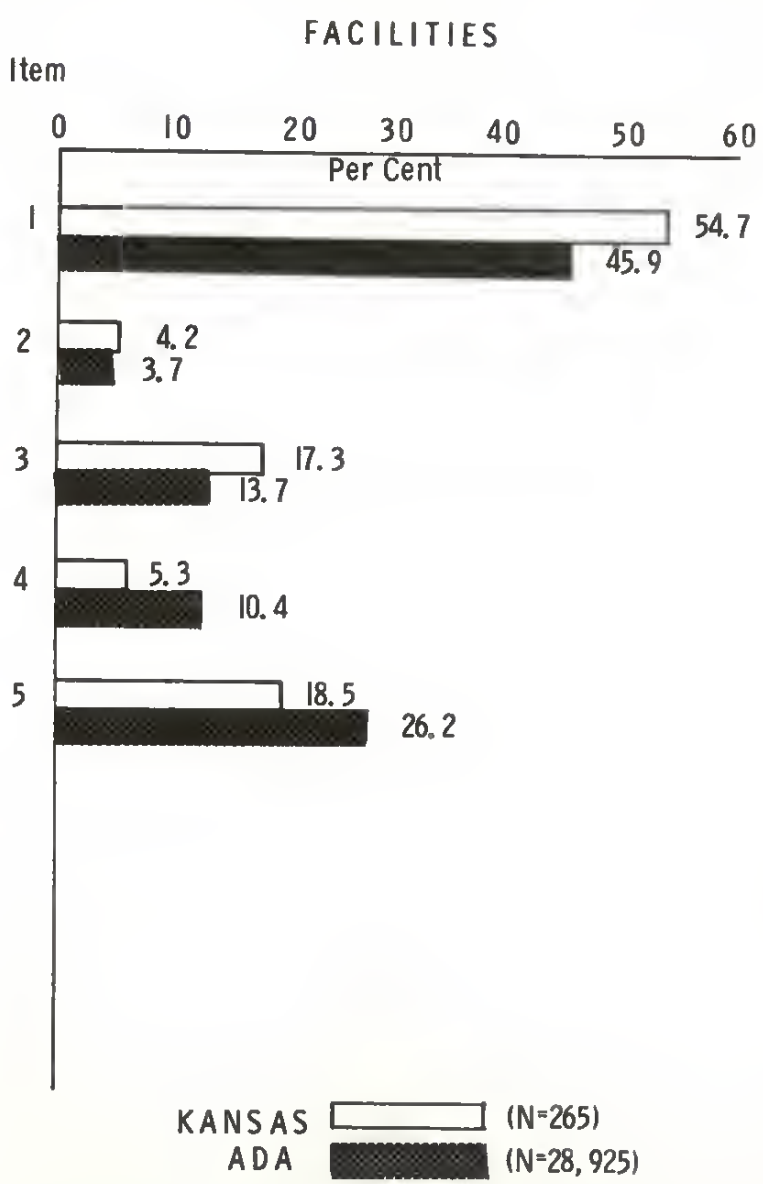
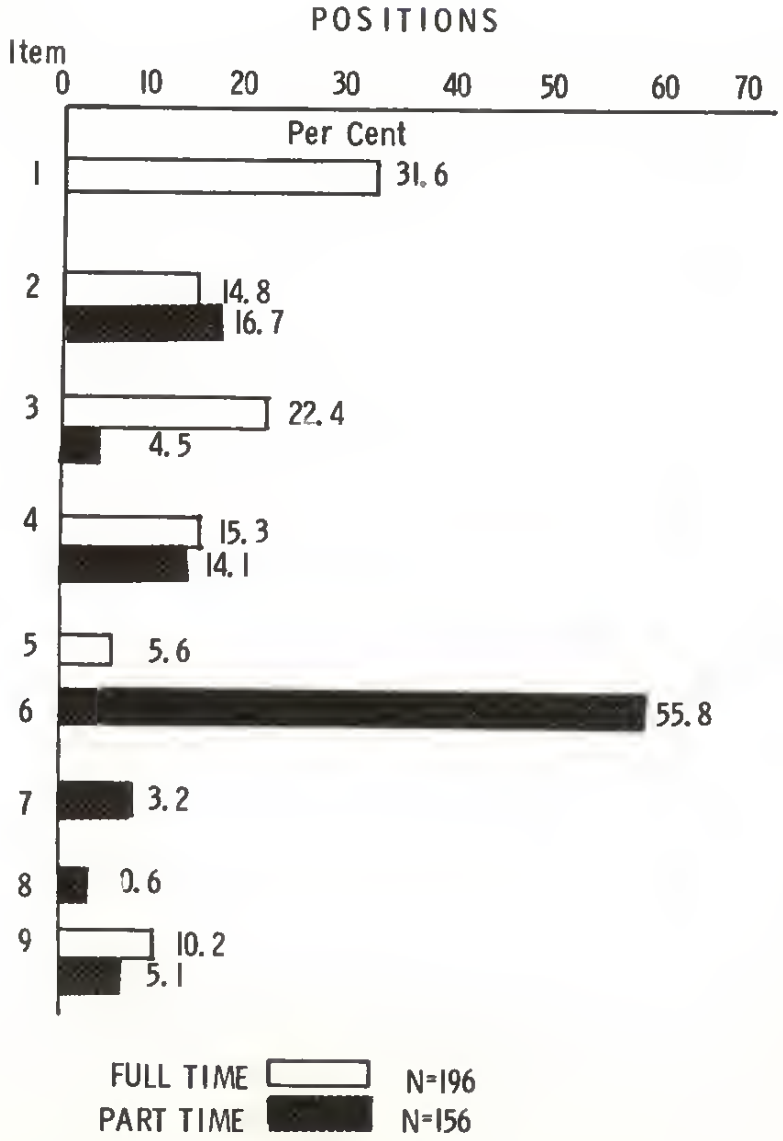
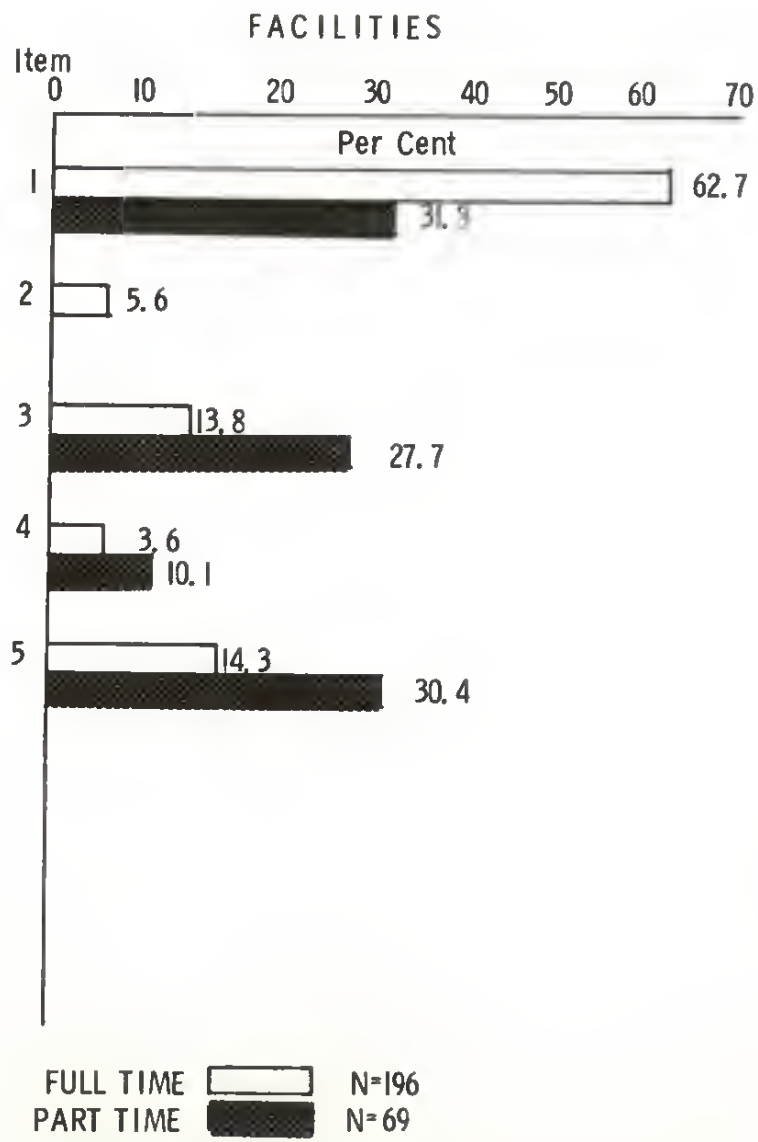

FACILITIES
Item
0
10
20
30
40
50
60
Per Cent
1
54.7
45.9
2
4.2
3.7
3
17.3
13.7
4
5.3
10.4
5
18.5
26.2
KANSAS (N=265)
ADA (N=28,925)

Fig. 11. Employment of Kansas dietitians in full time and part time positions and by type of facility.

| Positions | Facilities |
|---|---|
| 1. Clinical | 1. Hospital |
| 2. Generalist | 2. School |
| 3. Foodservice director | 3. University |
| 4. Teaching | 4. Nursing home |
| 5. Community or public health | 5. Other |
| 6. Consultant | |
| 7. Nutritionist | |
| 8. Research | |
| 9. Other | |


POSITIONS
Item
0 10 20 30 40 50 60 70
Per Cent
1 31.6
2 14.8
16.7
3 22.4
4.5
4 15.3
14.1
5 5.6
6 55.8
7 3.2
8 0.6
9 10.2
5.1
FULL TIME N=196
PART TIME N=156


FACILITIES
Item
0 10 20 30 40 50 60 70
Per Cent
1 62.7
31.9
2 5.6
3 13.8
27.7
4 3.6
10.1
5 14.3
30.4
FULL TIME N=196
PART TIME N=69

work full time in hospitals, while 31.8 per cent work part time. The remainder were employed in other practice areas.

The full time position title of dietitians in each of the six districts of Kansas is given in Table 14. In the Northeastern district, the largest number (N = 102) hold full time positions with the largest percentage (34.3 per cent) working in the clinical area (N = 35) and 25.5 per cent employed as foodservice directors (N = 26). In Table 15 it is shown that in the Northeastern district of Kansas the majority (66.7 per cent) of these full time dietitians work in hospitals; whereas 5 (4.9 per cent) work in nursing homes. In the South Central district there were thirty-eight full time dietitians, eighteen dietitians (47.4 per cent) work in the clinical area. The others are employed as generalist, foodservice directors, or in other areas. The largest percentage of these dietitians (76.3 per cent) work in hospitals. In the North Central district there were thirty-four full time dietitians. Fifty per cent work in a university setting; 38.2 per cent of these dietitians are employed in teaching and 20.6 per cent work as foodservice directors.

The Northwest district has only five full time dietitians, two dietitians are employed as foodservice directors, and one each reported employment in clinical, generalist, and teaching positions. In the Southwest district there are nine full time dietitians most of whom work in hospitals. In the Southeast district three of the five full time dietitians were employed as generalist practitioners.

Dietetic Consultation to Healthcare Institutions

Specific questions were posed to dietitians who serve as consultants to healthcare facilities since a primary objective was to assess availability

Table 14: Full time position title of dietitians by district

| | position title | | | | | | |
|---|---|---|---|---|---|---|---|
| district | clinical | generalist | foodservice director | teaching | community or public health | other | total |
| Northwest | 1 | 1 | 2 | 1 | - | - | 5 |
| North Central | 4 | 5 | 7 | 13 | 3 | 2 | 34 |
| Northeast | 35 | 11 | 26 | 12 | 7 | 11 | 102 |
| Southwest | 2 | 3 | 1 | 2 | - | 1 | 9 |
| South Central | 18 | 6 | 6 | 1 | 1 | 6 | 38 |
| Southeast | 1 | 3 | 1 | - | - | - | 5 |
| total | 61 | 29 | 43 | 29 | 11 | 20 | 193 |
| % | 31.4 | 14.9 | 22.1 | 14.9 | 5.6 | 10.3 | |

Table 15: Place of employment of full time dietitians by region

| | facility title | | | | | |
|---|---|---|---|---|---|---|
| region | hospital | school | university | nursing home | other | total |
| Northwest | 3 | 1 | 1 | - | - | 5 |
| North Central | 10 | 3 | 17 | 1 | 3 | 34 |
| Northeast | 68 | 4 | 7 | 5 | 18 | 102 |
| Southwest | 6 | 1 | 1 | - | 1 | 9 |
| South Central | 29 | 2 | - | 1 | 6 | 38 |
| Southeast | 5 | - | - | - | - | 5 |
| total | 121 | 11 | 26 | 7 | 28 | 193 |
| % | 62.6 | 5.6 | 13.4 | 3.6 | 14.5 | |

of manpower for small institutions in Kansas. The majority of hospitals in the state are small institutions (>125 beds); also a fairly large number of nursing homes operate in Kansas. Generally, small hospitals and nursing homes are served by a consultant or part time dietitian. Questions were also included to determine if dietitians currently not consulting were interested in becoming consultants to nursing homes or hospitals.

Interest in Consulting. From the sample of KDA dietitians (N = 286) who were not employed as consultants, 93, or 32.5 per cent, responded that they had once worked as a consultant. Two and a half years was the average time spent as a consultant. One hundred and thirteen, or 28.6 per cent of the KDA dietitians were interested in consulting for a nursing home and 123 (31.1 per cent) were interested in consulting for a hospital. Those dietitians thought they could manage between five and six hospital or nursing home accounts (on a one day per month consultation). About three-fourths (74.5 per cent) were willing to travel up to fifty miles to an account and spend an average of three to four nights away from home each month. Family responsibility rated as the main factor that would limit their travel.

Consultant Dietitians. Number of Accounts Served. Table 16 shows the geographic distribution of the dietitians (N = 87) who reported they were consultants at the time of the survey. The Northeast, North Central, and South Central districts had the largest number of dietitians serving as consultants, with 28, 21, and 16, respectively. The smallest number of consultants were in the Southwest; however there were substantially fewer dietitians in that area.

Table 16: Consultants in Kansas by district

| district | number of consultants N | % of dietitians in district |
|---|---|---|
| I. Northwest | 9 | 47 |
| II. North Central | 21 | 25 |
| III. Northeast | 28 | 16 |
| IV. Southwest | 4 | 29 |
| V. South Central | 16 | 18 |
| VI. Southeast | 8 | 57 |
| total | 86 | |

As indicated in Table 17, the majority of consultants serve from one to three accounts. A small number of consultants (N = 6) serve from 10 to 15 accounts. The hospitals, nursing homes, and other facilities served by consultants are broken down by districts in Table 18. Of the total number of accounts served, intermediate care facilities were the predominant type of facility served by consultants. This finding was not surprising, however, since there are only fifty-three skilled homes in Kansas and 164 hospitals; whereas 353 intermediate care homes operate in the state. Also, many of the hospitals would employ full time dietitians rather than consultants, especially those over 150 beds.

Characteristics of Consultant Accounts. Information was obtained from the consulting dietitians on their various accounts. Table 19 indicates that of the 298 healthcare facilities served by consultants, for

Table 17: Accounts served by consultant dietitians in Kansas

| | N | % |
|---|---|---|
| hospitals | | |
| none | 53 | 60.9 |
| 1 to 2 | 25 | 28.7 |
| 3 to 4 | 7 | 8.0 |
| 5 to 6 | 2 | 2.2 |
| skilled nursing homes | | |
| none | 57 | 65.5 |
| 1 home | 21 | 24.1 |
| 2 homes | 5 | 5.7 |
| 3 homes | 2 | 2.3 |
| 4 homes | 2 | 2.3 |
| intermediate care homes | | |
| none | 35 | 40.2 |
| 1 to 3 | 35 | 40.2 |
| 4 to 6 | 9 | 10.3 |
| 7 to 10 | 8 | 9.1 |
| other types of institutions | | |
| none | 73 | 83.9 |
| 1 | 11 | 12.6 |
| 2 | 2 | 2.3 |
| 3 | 1 | 1.1 |
| total number of accounts | | |
| 1 to 3 | 53 | 60.9 |
| 4 to 6 | 15 | 17.1 |
| 7 to 9 | 9 | 10.3 |
| 10 to 15 | 6 | 6.8 |
| not indicated | 4 | 4.6 |

Table 18: Number of facilities served by consultants

| district | hospitals | skilled nursing | intermediate care homes | other facilities | total |
|---|---|---|---|---|---|
| I. Northwest | 7 | 2 | 6 | 1 | 16 |
| II. North Central | 11 | 12 | 34 | 2 | 59 |
| III. Northeast | 25 | 12 | 69 | 6 | 112 |
| IV. Southwest | 6 | 3 | 2 | 1 | 12 |
| V. South Central | 13 | 10 | 35 | 4 | 62 |
| VI. Southeast | 9 | 13 | 21 | 2 | 45 |
| total | 71 | 52 | 167 | 16 | 304 |

Table 19: Number of beds in facilities served by consultant dietitians

| | beds | | | | | | |
|---|---|---|---|---|---|---|---|
| facilities | 10-25 | 26-50 | 51-75 | 76-100 | 101-150 | over 150 | total |
| hospitals | 12 | 32 | 9 | 6 | 6 | 4 | 69 |
| nursing homes | 3 | 94 | 54 | 56 | 13 | 9 | 229 |
| total | 15 | 126 | 63 | 62 | 19 | 13 | 298 |

which specific data were given (on Question 25N of the questionnaire) the large majority (92.7 per cent) were 100 beds or smaller. These data indicate approximately 40 per cent of the 164 hospitals in the state are served by these consultants, and 56.4 per cent of the 406 nursing homes. The actual statistics may be somewhat higher, however, because survey data were available from only 72.6 per cent of the Kansas dietitians. Only eleven other types of facilities were served by consultants; these included medical clinics, a rehabilitation center, a mental health center, and a child care association.

To study these results more specifically, the hospital data for Kansas were broken down by bed size as follows:

| beds | no. of hospitals |
|---|---|
| 10-25 | 31 |
| 26-50 | 42 |
| 51-75 | 26 |
| 76-100 | 20 |
| 101-150 | 15 |
| over 150 | 30 |

Comparison of the survey findings with these data indicates that 60 per cent of the hospitals 50 beds and under may be served by these consultants; whereas, 33 per cent of the 51 to 100 bed hospitals and only 22 per cent of those over 100 beds could be served by the reporting consultant dietitians. Nursing home data indicate that 85 per cent of the fifty-three skilled homes may be served and 52 per cent of the 353 intermediate care homes. These findings should be interpreted with a degree of caution, however, because survey data do not indicate that all facilities served by the consultants responding to the survey are in the state of

Kansas. Consultant dietitians living close to the state lines could well be serving accounts in Colorado, Missouri, Nebraska, and Oklahoma, as well as serving accounts in Kansas.

These data suggest, however, that the coverage of skilled nursing homes is relatively high while coverage of intermediate care facilities appears to be somewhat less. Data were not available on national statistics, although it is assumed that the consultation rate in intermediate care facilities might be higher in Kansas than nationally, since Kansas regulations require a full time or consultant dietitian and federal regulations are less stringent.

Three-fourths of the consultants reported they spent 9 hours or less at their consultant accounts (Table 20). Only nine reported as much as one day per week. Data in Table 21 indicate that 43 per cent of the consultants reported one visit per month to the facilities they served; whereas another 32.6 per cent reported 2 to 3 visits per month.

Table 20: Hours per month spent at facilities by consultant dietitians

| | hours per month | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| facilities | 1-4 | 5-6 | 7-9 | 10-17 | 18-29 | 30-40 | over 40 | total |
| hospital | 3 | 8 | 20 | 14 | 8 | 9 | 6 | 68 |
| nursing home | 44 | 46 | 101 | 25 | 5 | 4 | 3 | 228 |
| total | 47 | 54 | 121 | 39 | 13 | 13 | 9 | 296 |

The dietitians reported that 237 of the hospitals and nursing homes where they were a consultant had trained foodservice supervisors

Table 21: Number of visits per month to facilities by consultant dietitians

| | visits | | | | |
|---|---|---|---|---|---|
| facilities | 1 | 2-3 | 4-6 | 7-12 | total |
| hospital | 27 | 15 | 17 | 8 | 67 |
| nursing home | 97 | 79 | 39 | 6 | 221 |
| total | 124 | 94 | 56 | 14 | 288 |

(Table 22). The lack of trained supervisors was more of a problem in the nursing homes than in the hospitals; 25.9 per cent of the nursing homes did not have a trained supervisor, whereas 11.7 per cent of the hospitals were without one. These data were of interest because the federal regulations for healthcare facilities require a trained supervisor (53, 54, 56).

Table 22: Consultant dietitians' accounts with and without trained foodservice supervisors

| facilities | with trained FS supervisor | without trained FS supervisor |
|---|---|---|
| hospital | 60 | 8 |
| nursing home | 177 | 62 |
| total | 237 | 70 |

A correspondence course was the type of foodservice supervisor training reported most often (Table 23). In a long term care improvement study done in 1975 by the USDHEW (67) it was found that only 40 per cent of the

nursing home facilities employed trained foodservice supervisors. Spear (58) reported in 1978 that approximately 72 per cent of the foodservice supervisors in her study had received training through a correspondence course or a vocational technical training course.

Table 23: Type of training of foodservice supervisors in consultant dietitians' accounts

| facilities | corre-pondence | FSS[1] course | university degree | vo tech school | other | total |
|---|---|---|---|---|---|---|
| hospital | 35 | 15 | 3 | 3 | 2 | 58 |
| nursing home | 94 | 40 | 7 | 31 | 5 | 177 |
| total | 129 | 55 | 10 | 34 | 7 | 235 |

[1]Foodservice supervisors.

The second most common method for training foodservice supervisors was through a foodservice supervisor's course, other than a correspondence course. About one-fourth of the nursing homes and hospitals had foodservice supervisors who received their training through a foodservice supervisor's course.

Characteristics of Consultative Practice. Thirty-one consultants reported that they traveled from 1 to 20 miles from their home to the farthest client institution; whereas, twenty-two traveled from 21 to 50 miles (Table 24). Only nine traveled more than 100 miles to an account.

Only eight consultants reported that they spent nights away from home because of their consultative practice. Of those, only two spent more than one night per month away from home.

Table 24: Characteristics of consultative practice

| | N | % |
|---|---|---|
| number of miles traveled from home base to farthest institution | | |
| 1 to 20 | 31 | 35.6 |
| 21 to 50 | 22 | 24.7 |
| 51 to 75 | 10 | 11.4 |
| 76 to 100 | 11 | 12.6 |
| 101 and more | 9 | 10.3 |
| not indicated | 4 | 4.5 |
| nights per month spent away from home | | |
| none | 79 | 90.8 |
| 1 | 6 | 6.9 |
| 3 | 1 | 1.1 |
| 10 | 1 | 1.1 |
| consultants working | | |
| independently | 66 | 75.8 |
| in partnership | 21 | 24.2 |
| number of dietitians involved in partnership | | |
| 2 to 5 | 13 | |
| 6 to 12 | 1 | |
| 13 to 16 | 7 | |
| consultants with clerical staff | 22 | 25.3 |

Sixty-six consultants reported that they worked independently; whereas twenty-one reported they practiced in a partnership-type arrangement. Thirteen of the twenty-one working in a group-type arrangement were in partnership with two to five other dietitians; whereas, seven worked in fairly large group-type arrangements ($\leq$13).

Twenty-two dietitians (25.3 per cent) had clerical or other support staff to assist them with their consulting activities. The type of assistance was either secretarial, clerical, or only typing.

Consultants Interested in Additional Accounts. About a third of the consultants were interested in securing additional accounts (Table 25). Of those, ten estimated they could manage one or two additional accounts and another ten indicated they could manage three or four additional accounts. Four of those who indicated they could handle a relatively large number of additional accounts were in partnership arrangements and another dietitian indicated that she could handle fifteen additional accounts if another consultant were hired. Most (75 per cent) of the consultants interested in additional accounts were willing to travel only up to fifty miles from home. Only a few (N = 9) were willing to spend nights away from home in consulting activities. Child care and other family responsibilities were the primary factors limiting travel.

Table 25: Consultant dietitians interested in additional accounts

| | N |
|---|---|
| consultants interested in additional accounts | 29 |
| number of additional accounts that could be managed[1] | |
| 1 or 2 | 10 |
| 3 or 4 | 10 |
| 5 or 6 | 2 |
| 8 | 4 |
| 15 | 2 |
| nights per month willing to be spent away from home consulting | |
| 1 to 2 | 6 |
| 3 to 4 | 1 |
| 5 to 6 | 2 |
| factors that limit travel | |
| child care | 30 |
| family responsibility | 30 |
| other | 21 |

[1]Based on one day per month consultation.

# SUMMARY AND CONCLUSIONS

## Summary

Many studies have been done relating to the problem of maldistribution of health manpower. In 1942 The American Dietetic Association first became concerned about the professional inability to meet the demands for dietetic services, especially in small hospitals (5). As stated by Hubbard and Donaldson (6) to cope with the chronic shortage of manpower, the professional dietetic organization should know to what extent the expansion of health services will result in an increase in the number of hospital dietitians and a change in the abilities expected from dietitians in the future.

In Kansas revised standards and regulations for staffing in dietetic service departments of adult care homes were effective in 1977. An in-depth look at the dietetic manpower situation in the state was needed to evaluate manpower needs. The objective of this research was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes.

The population for the study was the membership of the Kansas Dietetic Association (KDA) as of Spring 1978. The population included dietitians in clinical dietetics, foodservice management, community or public health, teaching, and generalist positions. Out of the total 544 members of the KDA who were sent the survey questionnaire, 395 (72.6 per cent) were returned. Four drafts of the survey instrument were reviewed before the final draft was complete, with revisions based on the comments

of the reviewers. There were two sections to the survey questionnaire, the first section asked questions pertaining to demographic data, and the final section dealt with the consultant activities of the dietitians.

Information was gathered pertaining to general statistical data on the relative number of Kansas dietitians compared to population and healthcare facility data. The overall ratios of dietitians to population in Kansas was 1:4,452. Dietitians were concentrated in the most populous areas of the state; for example, in the Northeast, the dietitian to population ratio is 1:3,575. Four of the largest metropolitan areas in Kansas are located in this district (Greater Kansas City and vicinity, Topeka, Leavenworth, and Lawrence). Two counties (Shawnee and Johnson) account for the majority of dietitians in the Northeast district. Although the concentration of dietitians is low in the two western health districts, the population density is also lowest in those areas. The Southeast district is the area of the state with the most limited dietetic manpower. In this Southeast district the ratio of dietitians to population is 1:11,948. Dietitians tend to be distributed rather unevenly within the districts, especially in the North Central, Northeast, and South Central districts. Over 70 per cent of the Kansas dietitians live in the ten largest cities in the state, all of which are located in these three districts.

The overall ratio of dietitians to population in the United States is 1:6,091. Based on an analysis which compared dietetic manpower statistics from 1977 to the most current census data (1970) the ratio of dietitians to population in Kansas was 1:4,571. Sixteen states had ratios similar to Kansas and seven states reported more favorable ratios.

Out of a total number of 164 hospitals in Kansas, 37 are located in the Northeastern district. The Northeast and South Central districts have the largest number of hospital beds and hospitals. The Northeast and South Central districts have the largest number of nursing homes and nursing home beds. In relation to healthcare facilities the areas of greatest dietetic need appear to be in the Northwest, Southwest, and Southeast districts.

The survey data provided information on educational preparation, basic membership statistics, and employment status of Kansas dietitians. The highest degree attained by 66.2 per cent of the KDA dietitians was a bachelor's degree; 31.2 per cent held a master's degree and 2.5 per cent, a Ph.D. The major field for both a bachelor's and master's degree among both the KDA and ADA members was dietetics, institutional management, or foods and nutrition. Almost two-thirds of the KDA members had completed at least one or more graduate level courses.

Eligibility for ADA membership was gained through an internship for 56.2 per cent of the KDA members compared to 79.5 per cent for dietitians nationally. The second most frequent route to membership for Kansas dietitians was through the coordinated undergraduate program (18.1 per cent) compared to 3 per cent nationally. The KDA membership was relatively young; almost 40 per cent were under thirty years of age. Of the KDA members, 85.2 per cent were registered which was approximately 10 per cent higher than the national statistic.

Data on graduate study suggest that many KDA members have pursued formal academic coursework as one means of continuing education. KDA meetings appeared to be a more important source of continuing education than the annual ADA meetings.

One-fourth (25.3 per cent) of the dietitians had lived in the state from one to five years, while half (49.9 per cent) the population had lived in Kansas sixteen or more years. Almost one-fourth (22.3 per cent) of the dietitians were willing to relocate within the state. About one-third (28.3 per cent) of the dietitians planned to live in Kansas for thirty years or longer.

The majority of Kansas dietitians have been employed in the profession for ten years or less. Professional practice data indicated that the greatest amount of experience was in clinical, generalist, and food management positions.

Employment statistics indicated that 70.6 per cent were employed currently in dietetic practice compared to 76 per cent nationally. Of the unemployed dietitians almost half (46.3 per cent) cited family responsibility as the main reason for not being employed. Forty-nine per cent of the unemployed anticipated employment in dietetics within the next two to five years. Forty per cent of the Kansas dietitians had been out of the work force for one or more years.

There was considerable variation within the districts in analyzing employment data. Employment was highest in the Northeast (75.9 per cent) and Southeast (78.6 per cent), whereas employment was lowest in the Southwest (64.3 per cent) and South Central (63.2 per cent) districts.

Consultant dietetic practice was more common in Kansas than was true nationally, 24.7 per cent compared to 13 per cent. Clinical dietetics was the practice area which employs the most ADA dietitians (20.9 per cent) as compared to 17.6 per cent of Kansas dietitians. Over half (54.7 per cent) of the Kansas dietitians are employed in hospitals, and 45.9 per cent of the ADA dietitians.

From the sample of KDA dietitians (N = 286) who were not employed as consultants, 93, or 32.5 per cent, responded that they had once worked as a consultant. Two and a half years was the average time spent as a consultant. One hundred and thirteen, or 28.6 per cent of the KDA dietitians were interested in consulting for a nursing home and 123 (31.1 per cent) were interested in consulting for a hospital.

The Northeast, North Central, and South Central districts had the largest number of dietitians serving as consultants. The smallest number of consultants were in the Southwest. The majority of consultants serve from one to three hospitals or nursing homes.

Almost all the consultant dietitians served accounts within 50 miles of their residence. Seventy-six per cent of the consultants worked independently, the remainder practiced in group-type arrangements. Twenty-two dietitians (25.3 per cent) had clerical or other support staff to assist them with their consulting activities.

The large majority (92.7 per cent) of healthcare facilities served by the consultants were 100 beds or smaller. The survey data suggested that approximately 40 per cent of the 164 hospitals and 56.4 per cent of the 406 nursing homes in Kansas are served by consultants.

Of the 307 hospitals and nursing homes served by the consultant dietitians, 237 had trained foodservice supervisors. A correspondence course was the type of training reported most frequently for foodservice supervisors. A foodservice supervisors course was the second most common method for training foodservice supervisors.

About one-third of the consultants were interested in securing additional accounts, most indicated they could manage from one to four nursing homes or hospitals, based on a one day per month consultation. The

majority of the consultants interested in additional accounts were willing to travel up to fifty miles from home, but stressed that child care and family responsibility were the main factors limiting their travel.

## Conclusions

Age and employment data indicate that there are a fairly large number of young professionals practicing dietetics in Kansas. This finding may have a relation to the large percentage of dietitians (18.1 per cent) that have achieved ADA membership through a coordinated undergraduate program in dietetics in Kansas, whereas the national figure is only three per cent. The coordinated undergraduate program was initiated at Kansas State University in 1971.

Dietitians were concentrated in the most populated areas of the state such as the Northeast. It was shown that 70.6 per cent of the Kansas dietitians live in the ten largest cities in the state. The Southeast district is the area of the state with the most limited dietetic manpower. Compared to the other states the ratio of dietitians to population in Kansas is above the national average yet areas of dietetic need can still be identified. The areas of greatest dietetic need in relation to health-care facilities appear to be in the Northwest, Southwest, and Southeast districts.

One key variation in comparing the KDA and national data was the high percentage of consultant dietitians in Kansas in relation to national statistics. Most of the dietitians, both in the state and nationally, were employed by hospitals. In Kansas the majority of hospitals are small institutions (>125 beds) which could account for the large percentage of consultant dietitians.

Data are needed on vacancies and projected dietetic manpower needs in healthcare and other institutions within the state to assess accurately the manpower situation. Based on the number of unemployed dietitians who anticipate reemployment in the profession, there appear to be about eighty dietitians who may enter the labor force in the next two to five years. Problems of maldistribution might be met by possible movement within the state of these dietitians willing to relocate. These data coupled with possible expansion among consultant dietitians indicate some potential exists for meeting possible dietetic manpower needs in Kansas.

## Recommendations

The results of this research indicate the need to conduct a survey of institutions in the state to determine vacancies and projected needs for dietitians. These data on institutions in Kansas were not available from state agency records. It was also shown that there is a need to survey other types of facilities which employ dietitians to determine need. Because the manpower status in any occupational area is constantly changing, it is recommended that periodic studies be conducted to update the data on Kansas dietitians. Perhaps such a survey could become a project of the professional association of dietitians.

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# APPENDIXES

# APPENDIX A

## Research Instrument

Department of Dietetics, Restaurant
and Institutional Management
Justin Hall
Manhattan, Kansas 66506
Phone: 913 532-5521-2

# A SURVEY OF ADA MEMBERSHIP IN KANSAS

Instructions: Please complete all questions and return in the enclosed stamped addressed envelope.

Thank you for your assistance!

Judy Cohen, Graduate Student

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

1. Indicate number of years you have been a member of ADA:
   _____ years

2. How did you become a member of ADA?
   _____(1) Dietetic internship
   _____(2) Coordinated undergraduate program
   _____(3) Advanced degree with experience or assistantship
   _____(4) Dietetic traineeship
   _____(5) Associate membership
   _____(6) Approved professional practice

3. Registration status:
   _____(1) Registered
   _____(2) Nonregistered

4. What is your most advanced degree?
   _____(1) Bachelor's
   _____(2) Master's
   _____(3) Ph.D.

5. What was your major field of study?

   A. Major field for Bachelor's:
      _____(1) Dietetics, institutional management, or foods and nutrition
      _____(2) Home economics education
      _____(3) Education, other than home economics
      _____(4) Other, please specify
      _____

   B. Major field for Master's:
      _____(1) Dietetics, institutional management, or foods and nutrition
      _____(2) Home economics education
      _____(3) Education, other than home economics
      _____(4) Other, please specify
      _____

6. Indicate total number of graduate hours completed whether or not you have completed an advanced degree.
   _____ hours

7. Total number of years you have been employed in the profession:
   _____ years

8. How many years of experience have you had in the following areas?

   YEARS
   _____(1) Food service management
   _____(2) Clinical dietetics
   _____(3) Generalist (positions combining management and clinical
   _____(4) Community or public health
   _____(5) Teaching
   _____(6) Other dietetic practice areas, please specify
   _____

9. Are you presently employed in dietetic practice (including teaching or research in dietetics or a related field)?
_____(1) Yes
_____(2) No

10. A. Are you presently employed either full or part-time in more than one job in dietetics? (Exclude consulting; question 25 relates to consultant employment.)
_____(1) Yes
_____(2) No

B. If yes to question 10A, please indicate number of employers:
_____

11. If you are not presently employed, do you anticipate active employment in dietetics within the next 2-5 years?
_____(1) Yes
_____(2) No

12. If not presently employed, please specify your reason for not being employed.
_____

14. A. Since you became a member of ADA have you been out of the work force for one or more years?
_____(1) Yes
_____(2) No

B. If you answered yes to question 14A, indicate the total number of years you have been out of the work force:
_____ total years out of the work force

15. A. How long have you lived in the state of Kansas?
_____ years

B. How long do you anticipate living in the state of Kansas?
_____ years

16. Are you willing to relocate within the state of Kansas?
_____(1) Yes
_____(2) No

17. Indicate place of present residence and population of community/town/city.

_____ county _____ city/town

_____ state _____ population

18. Please check your age group:
_____ 20-29 _____ 50-59
_____ 30-39 _____ 60-69
_____ 40-49 _____ 70 or over

13. Indicate below your current full and part-time employment. (Exclude consulting; if employed by more than one institution give information for each job.)

| Position Title | Type of Facility | Full-Time (Yes/no) | Part-time (Indicate hours per week) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

19. How many total continuing education hours have you accumulated in the past 3 years?
_____ hours

20. In the last 3 years how many ADA annual meetings have you attended?
_____ ADA meetings

21. In the last 3 years how many state KDA, spring or fall, meetings have you attended?
_____ KDA meetings

22. Are you a member of the ADA Consultant Dietitian dietetic practice group?
_____(1) Yes
_____(2) No

IF YOU ARE NOT PRESENTLY CONSULTING, ANSWER QUESTIONS 23 AND 24. ALL OTHER RESPONDENTS SKIP TO QUESTION 25 AND CONTINUE.

23. A. If not currently employed in consulting, have you ever worked as a Consultant Dietitian?
_____(1) Yes
_____(2) No

B. If yes to 23A, for how many years have you worked as a Consultant Dietitian?
_____ years

24. 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 24A or 24B, how many accounts would you be able to manage, based on a one day per month consultation?
_____ accounts

D. How many miles (one-way) would you be willing to travel from home base to an account(s)?
_____ miles (one-way)

E. How many nights a month would you be willing to spend away from home in consulting activities?
_____ nights

F. Indicate factors that would limit your travel:
_____(1) Child care
_____(2) Other family responsibility
_____(3) Other, please specify
_____

QUESTION 25 IS TO BE ANSWERED BY DIETITIANS WITH ONE OR MORE CONSULTING ACCOUNTS.

25. A. Are you presently employed as a Consultant Dietitian at one or more institutions?
_____(1) Yes
_____(2) No

B. If yes, for how many hospitals and nursing homes do you serve as a consultant?
_____ hospitals
_____ skilled nursing facilities
_____ intermediate care facilities
_____ other, please specify
_____

C. Indicate number of miles (one-way) traveled from your home base to the farthest client institution.
_____ miles (one-way)

D. Indicate usual number of nights per month spent away from home for consulting activities.
_____ nights

E. Are you interested in obtaining additional accounts?
_____(1) Yes
_____(2) No

F. If yes, estimate the number of accounts you could manage, based on a one day per month consultation.
_____ accounts

G. How many miles (one-way) from home base are you willing to travel for an additional account(s)?
_____ miles

H. How many nights a month are you willing to spend away from home in consulting activites?
_____ nights

I. Indicate factors that limit your travel:
_____(1) Child care
_____(2) Other family responsibility
_____(3) Other, please specify
_____

J. Are you working as a consultant independently or in partnership-type (or other group-type) arrangement?
_____(1) Independent
_____(2) Partnership, group or corporation

K. If you work in a group-type arrangement (partnership, corporation, etc.), how many dietitians are involved?
_____ dietitians

L. Do you have clerical or other support staff to assist you with consulting activities?
_____(1) Yes
_____(2) No

M. If yes, please specify type and amount (hours per month) of assistance.
Type _____
Hours per month _____

N. Please complete the following chart which will provide information on your consulting accounts.

Comments:

| Type of facility | Number of beds or residents | Hours per month at facility | Number of visits per month | Are trained foodservice supervisors employed? (Yes, No) | If trained what was type of training? |
|---|---|---|---|---|---|
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# APPENDIX B

Correspondence

Department of Dietetics, Restaurant
and Institutional Management
Justin Hall
Manhattan, Kansas 66506
Phone: 913 532-5521-2

April 10, 1978

Dear Kansas Dietitian:

The Department of Dietetics, Restaurant and Institutional Management is conducting a survey of professional dietetic manpower in Kansas, which is designed to assess the availability of consultative services for small hospitals and nursing homes. The survey is being sent to all members of The American Dietetic Association in Kansas. 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 statistics summarized for the entire state.

This survey is being conducted under guidelines established by Kansas State University. By cooperating, you will help provide answers to important questions; however, your participation is strictly voluntary. We would appreciate your responses to all items on the questionnaire; however, if there are individual items you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study.

If you have any comments please feel free to express them. When you have completed the questionnaire, please place it in the enclosed stamped 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 by phone or mail any one of the research team. Thank you for your cooperation and time in answering the questionnaire.

Sincerely,

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

Judy Cohen
Graduate Assistant

JC/fj

Department of Dietetics, Restaurant
and Institutional Management
Justin Hall
Manhattan, Kansas 66506
Phone: 913 532-5521-2

May 10, 1978

Dear Kansas Dietitian:

We need your help! Last 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 Kansas dietitians.

In the event you did not receive the mailing, let me briefly restate the purpose of the study. We are conducting a survey to assess the availability of consultative services for small hospitals and nursing homes in Kansas. 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 stamped envelope and drop it in the mail. Thank you for your cooperation and time in answering the questionnaire.

Sincerely,

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

Judy Cohen
Graduate Assistant

JC/jc

# APPENDIX C

## Survey of State Associations

April 8, 1978

Dear

The Department of Dietetics, Restaurant and Institutional Management is conducting a dietetic manpower survey in Kansas, and we are interested in finding out if any similar studies have been done in your state. Could you please fill out the questionnaire below and return it to me in the self-addressed envelope. Thank you for your cooperation and time.

Sincerely,

Ms. Judy Cohen
Graduate Student

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QUESTIONNAIRE

State: _____

Has a dietetic manpower study ever been done in your state?

_____ Yes

_____ No

If yes, is this information available?

_____ Yes

_____ No

Source:

THANK YOU FOR YOUR HELP!

# PROFESSIONAL DIETETIC MANPOWER IN KANSAS

by

JUDY COHEN

B.S., Indiana State University, 1973

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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

1979

ABSTRACT

Health planners have the task of ensuring the proper manning of the healthcare delivery system. They must ensure that the right numbers and types of health manpower are available when and where they are needed. The proper use of the human resources currently employed needs to be determined and at the same time future manpower needs of the profession must be anticipated. The objective of this research was to survey the professional dietetic manpower in Kansas to assess the availability of consultative services for small hospitals and nursing homes. The population for the study was the membership of the Kansas Dietetic Association (KDA) as of Spring 1978. Out of the total 544 members of the KDA who were sent the survey questionnaire, 395 (72.6 per cent) were returned.

Information was gathered pertaining to general statistical data on Kansas dietitians. The overall ratio of dietitians to population in Kansas is 1:4,452. Dietitians are concentrated in the most populous areas of the state. The greatest dietetic manpower need appears to be in the Southeast area of the state where the dietitian to population ratio is 1:11,948.

The survey data provided information on educational preparation, basic membership statistics, and employment status of Kansas dietitians. Almost two-thirds of the members had completed at least one or more graduate level courses. Eligibility for ADA membership was achieved through an internship program for 56.2 per cent of the KDA members compared to 79.5 per cent for dietitians nationally. The second most frequent route to membership for Kansas dietitians was through the coordinated

undergraduate program (18.1 per cent) compared to 3 per cent nationally. Of the KDA members, 85.2 per cent were registered which was approximately 10 per cent higher than the national statistic.

Age and employment data indicate there are a fairly large number of young professionals practicing dietetics in Kansas. Professional practice data also indicated that the greatest amount of experience was in the clinical, generalist, and food management positions. Employment statistics indicated that 70.6 per cent were employed currently in dietetic practice compared to 76 per cent nationally. The majority of employed Kansas dietitians practice in hospital dietetics.

Consultant dietetic practice is more common in Kansas than is true nationally, 24.7 per cent compared to 13 per cent. The majority of the consultants serve from one to three hospitals or nursing homes. Almost all the consultant dietitians serve accounts within 50 miles of their residence. Seventy-six per cent of the consultants work independently, the remainder practice in group-type arrangements. About one-third of the consultants were interested in securing additional accounts, most indicated they could manage from one to four additional accounts.

Data are needed on vacancies and projected dietetic manpower needs in healthcare and other institutions within the state to assess accurately the manpower situation. Based on unemployment and anticipated employment statistics there appear to be about eighty dietitians who may enter the labor force in the next two to five years. These data, coupled with possible expansion among consultant dietitians, indicate some potential exists for meeting possible dietetic manpower needs in Kansas.