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A Report of Nutrition Field Observation and Experiences in the State of Arkansas

Carol Virginia Nelson
University of Tennessee, Knoxville

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To the Graduate Council:

I am submitting herewith a thesis written by Carol Virginia Nelson entitled "A Report of Nutrition Field Observation and Experiences in the State of Arkansas." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Nelle Traylor, Major Professor

We have read this thesis and recommend its acceptance:

Harold H. Walker, John T. Smith

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

*action Dept.
to Prof. [unclear]*

August 9, 1966

To the Graduate Council:

I am submitting a thesis written by Carol Virginia Nelson entitled "A Report of Nutrition Field Observations and Experiences in The State of Arkansas." I recommend that it be accepted for nine quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Kelle Trafer
Major Professor

We have read this thesis and recommend its acceptance:

Harold H. Walker
John T. Smith

Accepted for the Council:

Dean of the Graduate School

A REPORT OF NUTRITION FIELD OBSERVATIONS AND EXPERIENCES
IN THE STATE OF ARKANSAS

A Thesis
Presented to
the Graduate Council of
The University of Tennessee

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
Carol Virginia Nelson
August 1966

ACKNOWLEDGEMENT

The student wishes to express sincere appreciation to Mrs. Patricia Raines, Chief Nutrition Consultant, and Mrs. Mary Bell, Senior Nutrition Consultant, Arkansas State Department of Health, for their personal efforts in planning and directing a valuable field experience. She is grateful for the privilege of working with all members of the nutrition staff. The knowledge and help they so willingly gave made the field training an extremely beneficial and enjoyable professional experience.

The student acknowledges with special gratitude the guidance and help given by Miss Mary Nelle Traylor, her major professor. Appreciation is extended Dr. Harold H. Walker, Department of Public Health Education, The University of Tennessee, and Dr. John T. Smith, Department of Nutrition, The University of Tennessee, for their assistance. Sincere appreciation is extended the student's parents, Mr. and Mrs. Ray Nelson, for their continued support and understanding.

C. V. N.

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CHAPTER I

INTRODUCTION

This report is a presentation of the student's observations and experiences during seven weeks of field training with the Nutrition Service of the Arkansas State Department of Health. During this period the student was under the direct supervision of the Senior Nutrition Consultant responsible for training and orientation programs of the Nutrition Service. Much information was obtained concerning state and local nutrition services, but the information presented in this report will be restricted since it is impossible to comprehend the full extent of the program within this limited amount of time. The student will describe the nutrition program as it appeared during the field experience. It is hoped that this report will reflect the progressiveness and effectiveness of the nutrition program in the Arkansas State Department of Health.

The purpose of this field experience was to supplement the student's academic training in Public Health Nutrition at the University of Tennessee. It was felt that actual observation of and participation in the Nutrition Service programs would provide the student with knowledge of how the nutrition staff functions to meet the particular needs of the community in which it works. Another objective was to become familiar with the public health programs on state and local levels

and to develop appreciation of the place of nutrition services in these total health programs.

Since the student had had no background in public health work, another objective of the field experience was to develop some ability to function as a nutritionist in a health agency. This would include ability to plan, organize, and carry on the services that make nutrition an integral part of the public health program. Skills in working effectively with individuals, families, and groups needed to be developed.

To help the student accomplish these objectives, a varied program was planned. Some time was spent with each member of the nutrition staff since they each had different types of responsibilities and programs. Conferences with the Assistant State Health Officer and with the directors of various divisions of the Arkansas State Department of Health and other related agencies helped to present a picture of the total health program.

While the majority of time was spent in observation of the work carried on by the nutrition staff members, the student did participate in some phases of the program. During the seven weeks, the student recorded daily the information gained through observations, meetings, conferences, and actual participation.

The information gained during the field experience is summarized in the following four chapters. In Chapter II, some of the cultural, geographical, economical, educational, and health characteristics of the

state are presented since these factors directly influence the health problems and programs of the state.

Chapter III briefly describes the history, organization, and bureaus and divisions of the Arkansas State Department of Health. The administrative placement of the Nutrition Service in relation to the total health department program is also discussed in this chapter. In Chapter IV, the history, staff organization, and functions of the Nutrition Service are presented. A summary and evaluation of the field experience as related to the objectives as stated in the introduction are given in the last chapter.

CHAPTER II

THE STATE OF ARKANSAS

To work effectively with the people of any state through a public health nutrition program, knowledge of their health and nutritional status and of the factors contributing to them is necessary. It is these factors that play an important role in determining the priorities of the total health program and of the nutrition services.

I. GEOGRAPHICAL AND CULTURAL CHARACTERISTICS

Arkansas, once called the "Bear State" and later the "Wonder State" and renamed the "Land of Opportunity" in 1953, is one of the south central states of the United States. It is bounded by Missouri on the north, Tennessee and Mississippi on the east, Louisiana on the south, Texas on the southwest, and Oklahoma on the west. In size it ranks twenty-seventh among the states with an area of 53,104 square miles including 605 square miles of water surface. The capital city is Little Rock. Arkansas entered the Union, as the twenty-fifth state, on June 16, 1836 (1).

A study of the geography of an area is essential to the understanding of the economic life of a people, with its attendant social and political effects. Arkansas is a state of contrasts, of extremes (2). Two distinct physiographic divisions are found. These two

regions are the highlands, occupying the northwestern half, and the lowlands, occupying the southeastern half of the area (3). Fifty-two per cent of the area of the state lies in the lowlands, geologically known as the Gulf Coastal Plain; the remaining 48 per cent of the state's area is in the highlands. In a distance of 200 miles, the elevation of the state varies from 100 to 3,000 feet above sea level (2).

Topographically, the highlands may be separated into the Ozark region, the Arkansas Valley, the Ouachita Mountain system, and the Athens Plateau. The lowlands are the beginning of the Coastal Plain that embraces lands in seven other southern states. Naturally, in bottom lands, mountains, valleys, plateaus, level prairies, and foothills, the richness of the soil varies. In the uplands the soil is not fertile, except sections that are supplied with native limestone, and is sometimes rough and very poor. It is ideal for fruit growing and many fine orchards are located here. In the alluvial soil of the lowlands are grown bountiful crops of cotton, corn, rice, potatoes, soybeans, and oats. Here also are found the state's oil fields (2).

The line that would divide the state into two divisions geographically is more than a separation of the state's physiography. It tends to be the dividing line of the extremes in economic, social, and educational elements. Here is a division line for urban and farm centers; large and small farms; numbers of farms occupied by owners and tenants; densely and sparsely populated areas; and ratio of Negro to white population (2). The program of the health department is affected by this

division in that in the lowlands are found more of the medically indigent population, a higher percentage of infants delivered by midwives, and a higher percentage of families living in housing lacking adequate sanitation facilities.

The climate in Arkansas is similar in most of the state. For the northwestern third of the state, the average annual temperature is between 56 and 60 degrees. To the south of this runs a belt which averages between 60 and 62 degrees. For the lower third of the state, the average is between 62 and 66 degrees (3).

The cultural pattern of the state definitely follows the natural variations in topography. Inhabitants of eastern Arkansas in counties bordering the Mississippi River live in a natural setting and an atmosphere somewhat reminiscent of the Old South. People living in the western and central areas often compare in cultural attitudes with midwesterners, Texans or Oklahomans. A diminishing population of hill dwellers in the northwestern and northern highlands, on the other hand, have scant dealings with outsiders. This isolation of the people of the Ozarks has managed to preserve until the present time pioneer contrivances such as rail fences and split-bottom chairs, and varied Elizabethan expressions which authorities consider evidence of an Anglo-Saxon heritage derived from English and Scotch-Irish ancestors who once settled these areas (4). Various food superstitions passed on to the present generation are often encountered by nutritionists working in these areas.

II. POPULATION AND ECONOMIC CHARACTERISTICS

In 1960 Arkansas had a total population of 1,786,272. This was a loss of 6.5 per cent from the 1950 census population. The population had been declining since 1940. The population per square mile in 1960 was 33.6, as compared to 49.7 for the United States as a whole (1). It is estimated that by 1964 the population had increased to about 1,933,000 representing an average annual increase of 1.9 per cent from 1960 to 1964 (5).

The 1960 urban population was 42.8 per cent of the total, continuing a trend toward increasing urban residence. Distribution by color and nativity was as follows: 77.8 per cent native white; 0.4 per cent foreign born white; and 21.8 per cent nonwhite, practically all Negro (1).

The state is divided into seventy-five counties each having at least seven elective offices. Taxes on property for support of the county general fund are levied and appropriations from this fund are made by the quorum court. The quorum court consists of the county judge, as chairman, and all justices of the peace within the county. It is this court which decides the money available for public health programs in the counties (6).

Some of the biggest factors influencing the public health program in Arkansas are the economy and resources. In the 1950's Arkansas remained primarily an agricultural state, but there was a definite trend toward industrialization. After 1940 the mechanization of agriculture

resulted in larger farms and smaller farm populations. Thus, the steady migration from farms to the urban centers resulted in population losses of as much as 30 per cent in some counties and was partially responsible for the state's population drop during the 1950's. To combat this decline the legislature established the Arkansas Industrial Development Commission in order to co-ordinate the work of local groups in attracting industry. The commission gathered information on desirable sites for new industrial plants and offered help to areas seeking industries. As a result, by 1960 there were almost 100,000 workers in more than 3,000 industrial plants in the state, and new jobs were being created at the rate of about 10,000 a year (1).

Cotton has historically been the state's principal crop, but it began to decrease in importance in the 1950's. By the 1960's, although still the state's largest money crop, it had been surpassed by soybeans in acreage cultivated. The eastern third of the state accounted for 94 per cent of the income from cotton and soybeans and 99 per cent of the state's income from rice. The major crops were soybeans, cotton, hay, corn, and rice. The state also grew great quantities of peaches, strawberries, tomatoes, watermelons, spinach, sorghum, wheat, and grapes. Arkansas was second in the production of broilers in the late 1950's, the western section of the state being the poultry raising area. Livestock and dairy accounted for about 34 per cent of the total agricultural economy (1).

Arkansas is usually among the first ten states in the production of forest products. Wood products are valued at more than \$300,000,000 annually (1).

The state has a rich assortment of minerals. Among them are petroleum, natural gas, coal, bauxite, limestone, and manganese. Probably the most important of the state's minerals is bauxite from which aluminum is made. Arkansas leads the United States in the production of this mineral, averaging about 1,500,000 tons annually (1).

Water power is an important resource in the economy of the state. Five federal project dams produce an average of 600,000,000 kilowatt hours a year. In addition they provide flood control and vast recreational areas which attract tourists (1).

Manufacturing in Arkansas consists mostly of processing raw materials for marketing. Only since 1958 have nonfarm wages and salaries amounted to more than one-half of the personal incomes (1).

Transportation in the state is handled mainly by highways and railroads, even though the Mississippi is navigable along the entire eastern side of the state, and a 6.5-foot channel in the Ouachita is maintained for many miles upstream. The state highway system in 1960 included about 10,000 miles of highway supplemented by approximately 58,000 miles of county roads (1).

In 1964 the per capita income in Arkansas was \$1,607. This was the third lowest of all states in the nation (5). Because Arkansas is one of the poorest states and because poverty still contributes to

major health problems, much public health effort must be directed toward nutrition, immunizations, sanitation, and basic health information.

There has been continued improvement in the state in educational facilities, professional health personnel, health facilities, and the general socio-economic level (7).

In 1960 the median grade completed in school by persons over twenty-five was 8.9. Eighty per cent of persons sixteen and seventeen were enrolled in school (1). The teachers received salaries averaging \$4,200 in 1965 compared to a United States average of \$6,235. The expenditure per pupil in average daily attendance was \$317, compared with a national average of \$484 (5). Nevertheless, the percentage of state revenues spent for education was more than twice the pre-World War II percentages (1).

The leading state-supported institutions of higher learning are the University of Arkansas at Fayetteville; the Agricultural, Mechanical and Normal College at Pine Bluff; Arkansas State College at Jonesboro; Arkansas Polytechnic College at Russellville; the Agricultural and Mechanical College at College Heights; Southern State College at Magnolia; Arkansas State Teachers College at Conway; and Henderson State Teachers College at Arkadelphia. In addition, there are nine denominational institutions in Arkansas (4). The state maintains schools for the deaf and the blind at Little Rock, and in 1957 started a school for retarded children at Conway (1).

The state welfare department provides old age assistance, aid to the blind, to dependent and crippled children, and to the totally and permanently disabled as well as child welfare service, hospitalization, and general relief. This department also administers the distribution of surplus commodities. Unemployment benefits are administered by the Employment Security Division of the Labor Department (8).

The state supports a tuberculosis sanatorium near Booneville and one at Alexander; units of hospitals for mental diseases at Little Rock and Benton; and a children's colony at Conway. University Hospital, part of the University of Arkansas Medical Center at Little Rock, provides patient care but also contains features making it part of a teaching facility. Six federal hospitals are located in Arkansas (8).

III. HEALTH CHARACTERISTICS

The Arkansas birth rate in 1964 was 21.6 per thousand population compared to the United States birth rate of 27.2 (5). The infant death rate was 23.7 per thousand live births with prematurity being the leading cause of infant deaths (9). This compares with a United States infant death rate of 22.2 per thousand live births (5). Midwives in the state delivered 7.1 per cent of the total live births which is the lowest ever recorded. The maternal death rate was 5.1 per ten thousand live births (9).

The 1964 death rate was 10.0 per thousand population. A comparison between United States and Arkansas death rates shows the Arkansas

rate to be slightly above the United States average (5). The ten leading causes of death in descending numerical order were: heart disease (all forms), malignant neoplasms, vascular lesions affecting the central nervous system, accidents, influenza and pneumonia, diseases of the digestive system, certain diseases of early infancy, diabetes mellitus, nephritis and nephrosis, and congenital malformations (9).

CHAPTER III

THE ARKANSAS STATE DEPARTMENT OF HEALTH

I. HISTORY

Records indicate that the first State Board of Health was established by the Arkansas Medical Society in 1879. This board was a part of the medical society organization and not of state government. Its purpose was to set up and enforce quarantine regulations in an effort to stop the spread of yellow fever, of which there were several outbreaks in the Mississippi Valley at the time. In August of that same year, the governor issued a proclamation giving this board official status with authority to take necessary action to protect the public against epidemic diseases and called for donations from individuals and municipalities to finance its activities (10).

In 1881 the Legislature established a State Board of Health to continue the work of the original board and made a biennial appropriation. By the end of two years yellow fever had died out and the Legislature was too indifferent to renew the appropriation. In the winter of 1897-98 a milk epidemic of meningitis and the threat of a more serious epidemic of smallpox renewed interest, and state and county boards of health were again called into action (10).

Around 1910 the Rockefeller Foundation made a large grant to public health of which one million dollars were allocated for eradication

of hookworm disease in the Southern States. A state board of health was required for application for these funds and to satisfy this requirement, the Governor appointed a temporary board. In response to a resolution by the Arkansas Medical Society, Act 96 of 1913 was passed by the Legislature, thus establishing a permanent Arkansas State Board of Health (10).

II. ORGANIZATION

The basic Arkansas public health law, Act 96, defines the organization and functions of the Arkansas State Board of Health. The act authorizes the Governor to appoint a board of health, which presently consists of eleven members. Seven are licensed medical doctors, one a regularly licensed and practicing dentist, one a registered professional engineer, one a regularly licensed professional nurse, and one a regularly licensed pharmacist. Appointment is made by the Governor from a list of three names submitted by the appropriate professional organization (10).

Act 96 empowered the board of health with the responsibility of promulgating reasonable rules and regulations for the protection of the health of the citizens of the state. It also authorized the board of health to employ a qualified licensed physician to serve as Secretary to the board and who would be known as the State Health Officer (10).

The functions and duties of the Arkansas State Board of Health specifically outlined in the basic law are as follows:

1. To exercise general supervision and control of all matters pertaining to the health of the citizens of the state.
2. To direct and control all matters of quarantine and enforcement, to make studies of the cause and prevention of infectious, contagious, and communicable diseases, and to prevent the entrance of such diseases from all points without the state. To have direction and control over sanitary and quarantine measures for dealing with the prevention and spread of disease within the state.
3. To operate a Bureau of Vital Statistics, providing an adequate system for the registration of births and deaths and to issue (certified) copies of birth and death certificates. The Bureau is also required to record marriages, divorces, and adoptions occurring within the state.
4. To establish, direct, and operate a state hygienic laboratory (7).

Through the years additional legislation and administrative convenience have brought about the addition of the other bureaus, divisions, offices, and services shown on the current organization chart (Figure 1).

The bureaus and divisions are headed by qualified directors who comprise the central administrative staff and who contribute to departmental direction and assist in the execution of the specific programs. These staff members, and other technical employees of the department under their direction, render direct services to local health units and departments by serving as consultants on technical subjects or

STATE PLAN OF SANITARY ENGINEERING

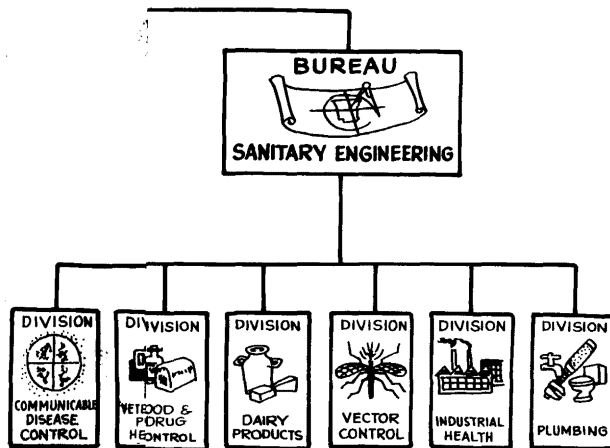
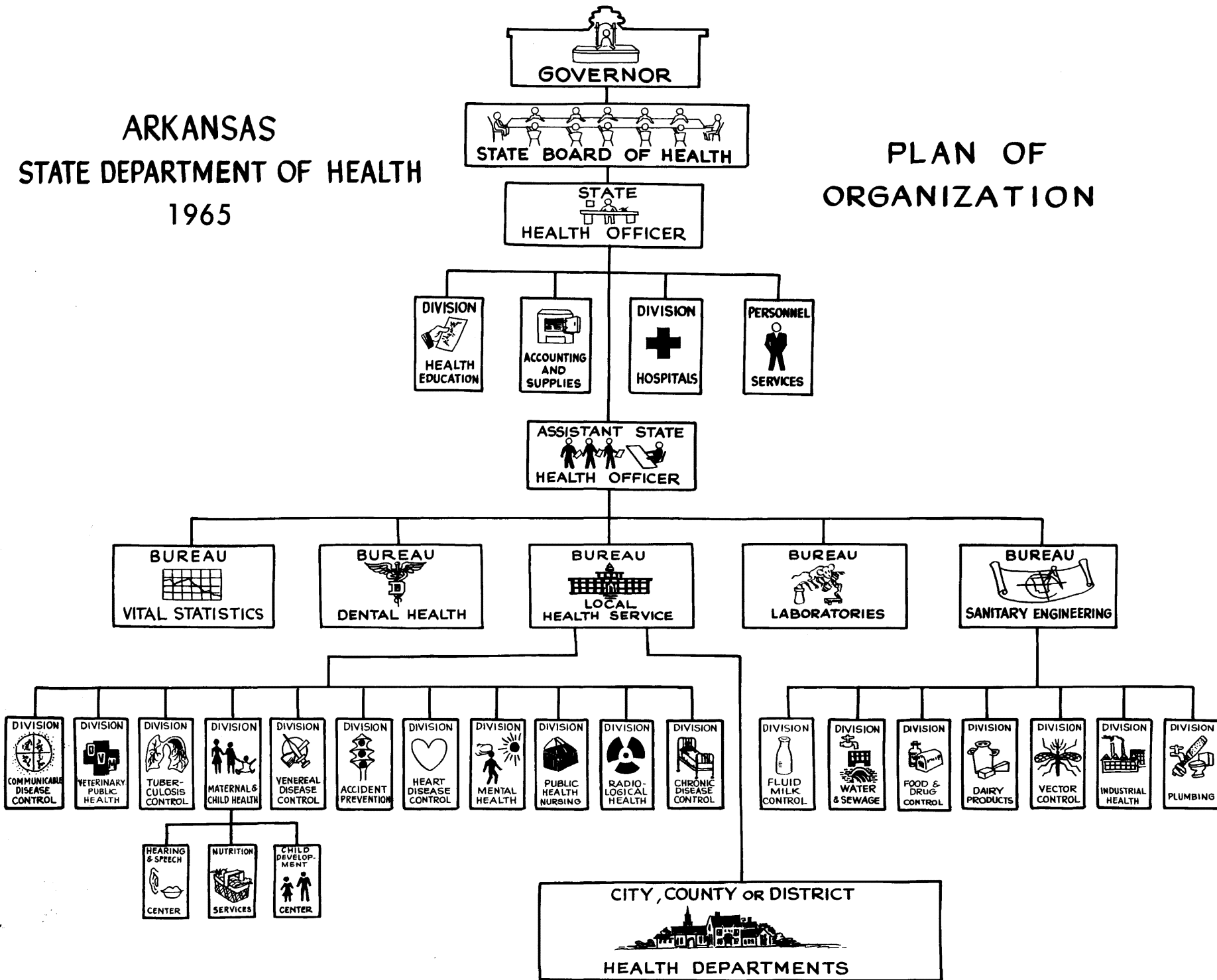


Figure 1. Organizational Chart of the Arkansas State Department of Health, 1965.

ARKANSAS
STATE DEPARTMENT OF HEALTH
1965

PLAN OF
ORGANIZATION



problems and in appraising local activities to improve local programs. These special direct services are made available when requested by either the local health department or the Director of the Bureau of Local Health Services (7).

The State Health Officer delegates to the Assistant State Health Officer and to the Director, Bureau of Local Health Services, the coordination of the various programs of the bureaus and divisions of the department. In order to execute an efficient basic public health program in this rural state, it is necessary for the department to maintain an organization of bureaus, divisions, and subdivisions centrally and to work through a system of district, county, and city health departments (7).

At the present time there are eight single county health departments, two city health departments, and seventeen district units of from two or five counties each. There is a total of fifty-seven counties included in these seventeen district units. A health department or district health unit should have at least the following personnel: (1) a medical director, (2) a nurse, and (3) a clerk. Ten counties are organized for nursing services only (7).

State health officials feel that this organizational plan is an effective system of coordination providing the various departments are adequately staffed. Local health services are inadequate in several areas, however. Eight of the seventy-five counties do not have full-time local health units. Approximately seven counties do not have even

part-time services of a sanitarian. The average of full-time public health nurses per capita is about one to sixteen-thousand which is much below the recommended number. At the present time, the inadequately staffed county and district health units receive basic services on an emergency basis from either district offices or directly from the central office of the state health department (7).

The Plan of Organization points out the fact that the Bureau of Vital Statistics, Bureau of Dental Health, and the Bureau of Laboratories are without divisions or sub-divisions and are directly responsible to the State Health Officer and the Assistant State Health Officer. The Bureau of Sanitary Engineering and the Bureau of Local Health Services have many divisions and sub-divisions and are directly responsible to the State Health Officer and Assistant State Health Officer.

The Division of Maternal and Child Health is one of eleven divisions under the Bureau of Local Health Services. It is under this division that the Nutrition Service is administratively located. Also under this division are the Hearing and Speech Center and the Child Development Center.

Two major factors influenced this placement of the Nutrition Service. In 1942 when a nutritionist was first employed by the Arkansas State Department of Health, placing her under a medical administrator was desired. Her employment was made possible because of funds available to the state through the Children's Bureau and the

United States Public Health Service. These funds were for use in extending health services to mothers and children. Therefore, the most logical administrative placement for the nutritionist was under the medical director of the maternal and child health programs.

Through the years this placement has not limited the scope of nutrition staff services. Consultation by the staff is available and utilized by professional workers in all divisions of the health department. Those divisions with which the Nutrition Service works most closely will be discussed in greater detail in the following chapter.

Since the services of the nutrition staff are not limited to the Maternal and Child Health Division, there has been some discussion about the feasibility of Nutrition Service becoming a separate division. The chief nutritionist has discussed this with the medical directors of chronic disease and maternal and child health programs, but no actual administrative plan has been developed as yet.

CHAPTER IV

THE NUTRITION SERVICE

I. PHILOSOPHY AND HISTORY

It is the philosophy of the Nutrition Service that improvement of the nutritional status of the total population of the state will help prevent disease and will promote physical well-being. The Nutrition Service strives to bring about this nutritional improvement through the programs and services briefly described in this chapter.

The Nutrition Service was established in the Arkansas State Department of Health during the summer of 1942. It was at that time that the first qualified nutritionist was employed through funds available for maternal and child health programs, as mentioned previously. For the first year she worked alone and then an assistant was added to the staff. This person worked for approximately a year during which time four or five other positions were set up. These were then filled as qualified personnel became available.

Through the years a staff of district nutritionists has been built up by employing personnel on a full-time or part-time basis, if necessary, and allowing them to serve the counties around the areas of the state in which they lived. This building of a program around available personnel was felt to be the best policy to follow in order to obtain maximum nutrition service throughout the state. This plan

has worked well, and the staff has continued to grow and expand. Figure 2 shows the present location of district nutritionists and the counties they serve. Additional counties will be covered as personnel able to serve them can be added to the nutrition staff.

II. STAFF

Currently the staff of the Nutrition Service includes a Chief Nutrition Consultant, three Nutrition Consultants who serve as district nutritionists in areas of from five to nine counties, and one Staff Nutritionist Trainee who, under supervision, serves five counties as district nutritionist. Also on the staff are two half-time Senior Nutrition Consultants. One is assigned to the Pediatric Department, University of Arkansas Medical Center. The other is responsible for orientation and training programs for the Nutrition Service and is district nutritionist for a four-county area. The district assignment is primarily for demonstration in training programs. The staff is completed by one half-time Senior Dietitian Consultant and one Dietitian Consultant.

The Nutrition Consultant working with the Maternal and Infant Care Project, University of Arkansas Medical Center, is technically responsible to the Chief Nutrition Consultant though not actually a Nutrition Service staff member. Writing of job specifications, recruitment, and supervision of a six-month period of orientation to public health for this nutritionist were responsibilities of the Chief

NUTRITION SERVICE STAFF



Chief Nutritionist: Mrs. Patricia Raines, Arkansas State Department of Health

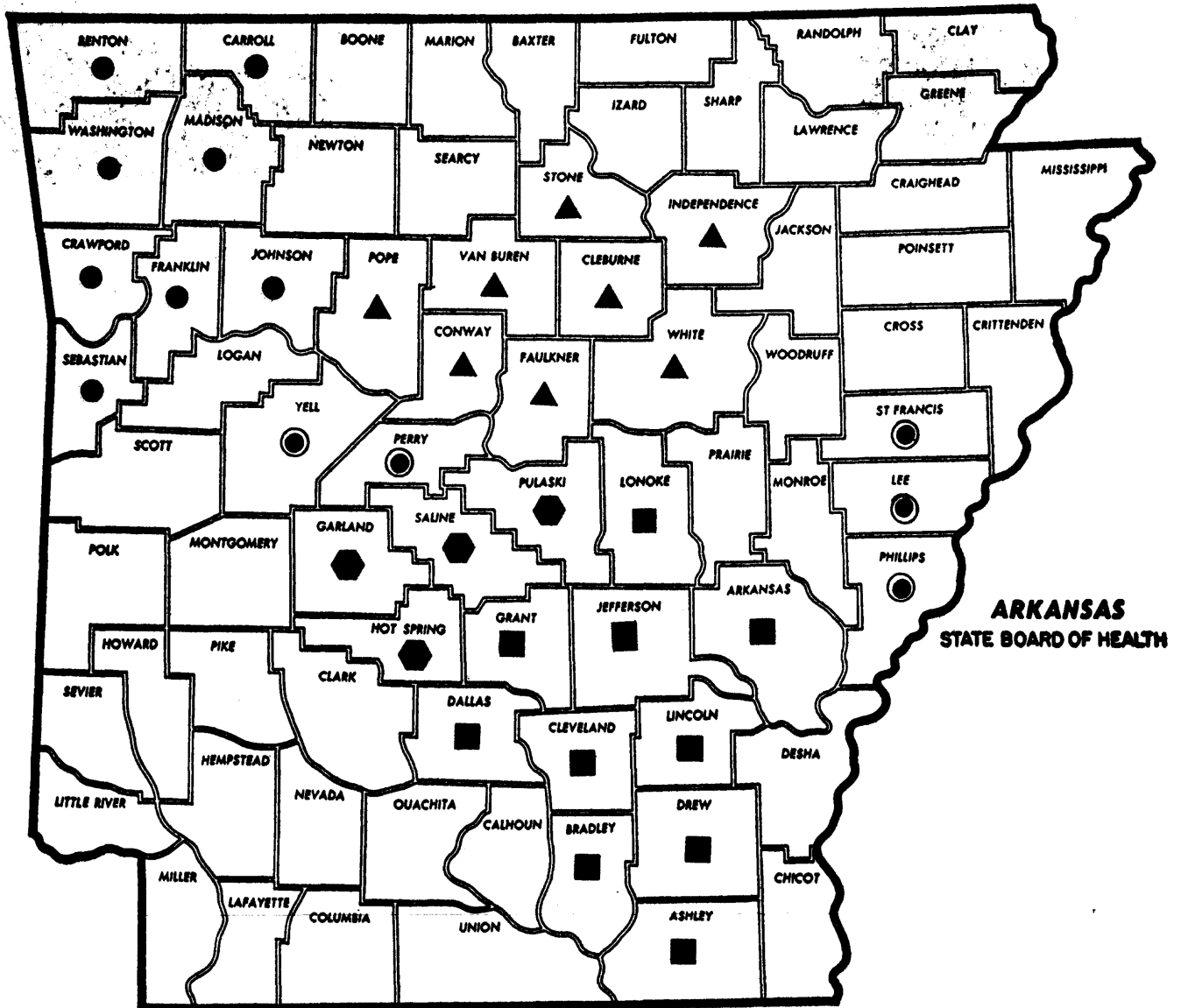
Dietary Consultant: Mrs. Geraldine Getty, Arkansas State Department of Health

- District Nutritionists:
- Mrs. Carolyn Atkinson, North Little Rock City Health Department
 - ◆ Mrs. Mary T. Bell, Little Rock City Health Department
 - Mrs. Kathleen Brown, Jefferson County Health Unit, Pine Bluff
 - Mrs. Nancy W. Froman, Washington County Health Unit, Fayetteville
 - ▲ Mrs. Ocrie M. Lambert, Cleburne County Health Unit, Heber Springs

Nutritionist Assigned to U of A Medical Center: Margaret T. Younathan, Ph. D., Pediatric Department

Figure 2. Nutrition Service Staff and Geographical Locations of District Nutritionist in Arkansas, 1966.

NUTRITION SERVICE STAFF



ARKANSAS STATE BOARD OF HEALTH

Chief Nutritionist: Mrs. Patricia Raines, Arkansas State Department of Health

Dietary Consultant: Mrs. Geraldine Getty, Arkansas State Department of Health

- District Nutritionists:
- Mrs. Carolyn Atkinson, North Little Rock City Health Department
 - ◆ Mrs. Mary T. Bell, Little Rock City Health Department
 - Mrs. Kathleen Brown, Jefferson County Health Unit, Pine Bluff
 - Mrs. Nancy W. Froman, Washington County Health Unit, Fayetteville
 - ▲ Mrs. Ocrie M. Lambert, Cleburne County Health Unit, Heber Springs

Nutritionist Assigned to U of A Medical Center: Margaret T. Younathan, Ph. D., Pediatric Department

Nutrition Consultant. An additional position has recently been set up providing for a Staff Nutritionist with the project. This position will be supervised by the project nutritionist. At the present time, the position is not filled.

Staff Qualifications and Responsibilities

The requirements for the position of Chief Nutrition Consultant include a Master's degree in nutrition including graduate work specifically related to the public health field and five years' experience as nutritionist in a public health or welfare program or in a related program in adult education dealing with nutrition. At least one year of the required experience must have been in public health and should have included supervisory or consultant responsibility.

The Chief Nutrition Consultant is administratively responsible to the Director of the Division of Maternal and Child Health. She is responsible for planning and carrying out the nutrition aspects of the state-wide public health program. She offers guidance and support to the staff by periodic visits to their areas to assist in planning and evaluation of services. In areas of the state not covered by district personnel, she assists with planning and carrying out nutrition programs with local personnel. When requests for nutrition services are received for these areas, the Chief Nutrition Consultant may give service directly or request that the district nutritionist located closest to the area provide the needed service.

The qualifications for the position of Senior Nutrition Consultant include a Bachelor's degree in Home Economics with a major in foods and nutrition, completion of one year's graduate work so chosen to qualify the worker for the public health field, and two years' experience as nutritionist in a public health or welfare program. The Senior Nutrition Consultants are under the direction of the Chief Nutrition Consultant. One of the Senior Nutrition Consultants is responsible for assisting in planning and promoting some phases of the state-wide nutrition program. Two of the staff members serving as district nutritionists, because of experience and educational backgrounds, are administratively classified as Senior Nutrition Consultants and are responsible for planning and carrying out nutrition programs in a large area of the state.

Other district nutritionists, with the exception of the trainee, are classified as Nutrition Consultants. The minimum qualifications for this position are a Bachelor's degree in Home Economics with a major in foods and nutrition and completion of at least one-half year of graduate work so chosen to qualify the worker for the public health field. The Nutrition Consultant is administratively responsible to the Chief Nutrition Consultant and is responsible for planning and carrying out a nutrition program in a large area of the state.

The position of Staff Nutritionist Trainee was recently set up to help meet the need for nutrition personnel to cover counties not now served by district nutritionists. The minimum qualification is a

Bachelor's degree in Home Economics with a major in foods and nutrition. At the end of a year, persons in this position either pursue graduate training in nutrition, are selected for the Staff Nutritionist position, or are terminated. Candidates for the position are carefully screened, and an attempt is made to select a person who will probably pursue graduate work after training. During the year a nutritionist is classified as a trainee, she is under the close supervision of a qualified Nutrition Consultant. She participates in an orientation program and is then responsible for carrying out nutrition services in local agencies.

The qualifications for Senior Dietitian Consultant include a Bachelor's degree in foods and nutrition or institutional management, satisfactory completion of a one year internship in hospital dietetics or institutional management, and at least three years of experience as a dietitian in an institution, one year of which has included supervisory or consultant responsibility. She is under the direction of the division director concerned and the supervision of the Chief Nutrition Consultant. She is responsible for planning and carrying out a state-wide program of consultation service to hospitals and other institutions.

The qualifications for Dietitian Consultant are the same as for Senior Dietitian Consultant with the exception that experience need only include one year of employment as a dietitian. She is under the direction of the division director concerned and the supervision of the Chief Nutrition Consultant, to be responsible for carrying out a program of consultation service to hospitals and other institutions.

The qualifications for the Nutrition Consultant with the Maternity and Infant Care Project include a Master's degree in nutrition and four years of professional experience in nutrition or dietetics. She is administratively responsible to the Project Director and under the technical direction of the Chief Nutrition Consultant. Her responsibilities include planning and implementing nutrition services for maternity patients served by the project and providing consultation to all members of the project staff. She participates with the project team in the overall planning, operation, and coordination of services.

Job specifications for the nutrition positions can be found in Appendix A, page 73. Plans are being made to revise these in the near future.

Appointments and Promotions

Nutrition staff members are employed under the Arkansas Merit System. Possession of minimum qualifications and passing of the merit system examination are required for provisional appointment. An interview is first held with the chief nutritionist and, if qualified, the applicant fills out a merit system application and a personal history record for agency files. These forms are reviewed by the Director, Maternal and Child Health Division, and the applicant interviewed by him and, if possible, by the State Health Officer. The Merit System sets up an examination time and announces it for three weeks. Scores

on the written test, education, training, and experience all influence the final decision regarding employment of a nutritionist.

All Arkansas State Department of Health employees serve a six months probationary period. At the end of five months a service rating is completed on the nutritionist by the Chief Nutrition Consultant and approved by the Director of the Maternal and Child Health Division. If this rating indicates that her services have been satisfactory, a permanent appointment is received. Thereafter, annual service ratings are made on each nutrition staff member. These ratings govern salary advancements and show areas of need for in-service education.

Recruitment and Orientation

Recruitment is a continuing responsibility of the Nutrition Service. One of the main goals of the Chief Nutrition Consultant during the past two years has been to fill staff positions. The purpose of a recently established training program is to enlarge the staff so that a district nutritionist will provide direct services to every county.

The Chief Nutrition Consultant recruits through contact with other professional people, through use of the state membership list of the American Dietetic Association, and through use of the American Dietetic Association Credentials Service Bulletin. Staff members promote careers in public health in high schools, colleges, and universities by talking to classes about opportunities and qualifications of nutritionists and dietitians. Leaflets prepared by the nutrition staff and by the American Dietetic Association are distributed to

interested persons. The student observed a district nutritionist's talk to a class of high school senior girls on the topic "Careers in Dietetics."

The Chief Nutrition Consultant and the Senior Nutrition Consultant, working part-time from the central office, are responsible for the training and orientation programs of new staff members. While a general plan is evolving for orientation, this is not yet a well-defined program. The length and content of the orientation program of recent new staff members has depended on the experience and education of the person coming into the position. For example, a recent new staff member, having a strong background in hospital work but very little knowledge of public health work, was given extensive orientation to the field of public health. She worked closely with most of the nutrition staff members and participated in activities planned to acquaint her with the overall program of the state health department. Almost no institutional experiences were included in her orientation. In contrast, another new staff member, having little experience in hospital work, had more extensive hospital experience during her orientation program. An orientation manual is available for all new staff members.

III. NUTRITION STAFF EDUCATION AND PROFESSIONAL GROWTH

Professional advancement is encouraged through in-service education at staff meetings, workshops, institutes, and by attendance and participation in professional meetings. Active membership in professional associations is expected of each staff member. All in-service education

promotes the professional growth of the staff. Opportunities are provided for the continuing education of staff members.

Staff Meetings

Nutrition Service staff meetings are held three times a year, a major purpose being to coordinate the work of the staff and to evaluate and strengthen the on-going program (7). They are usually held at the central office in Little Rock and usually last two days. All nutrition staff members generally attend these meetings.

Representatives from other divisions and agencies as well as consultants from the Children's Bureau and the United States Public Health Service attend and participate in staff meetings. Topics of professional interest are presented and discussed. In-service education is provided and other division and agency personnel are made aware of nutrition programs.

An important part of every meeting is the informal exchange of ideas by nutritionists on problems related to their individual programs and those of mutual concern to all staff. Present plans are to limit one meeting each year to staff participation with no outside guests or speakers. The student attended this type of staff meeting during her field work. The program consisted of the following: (1) assignment of responsibilities for an exhibit to be prepared for a forthcoming Arkansas Public Health Association meeting, (2) a report by the nutritionist working with the Maternal and Infant Care Project on what the project involves and on plans for coordinating her service at

the University of Arkansas Medical Center with service rendered to patients when they return to their homes, (3) viewing and evaluating a film, (4) a review of recent literature on obesity by one of the district nutritionists, and (5) evaluation by the entire staff of a set of day care menus as part of the development of a leaflet.

Once each month the Chief Nutrition Consultant attends staff meetings held by the State Health Officer. At each of these meetings one staff member reports on his program, thus keeping all staff members up-to-date on current health department activities. Nutrition Service programs are reported periodically. Because of information obtained at these meetings, the chief nutritionist is better able to plan with the other department heads how available nutrition services may be integrated into their on-going programs.

Professional Meetings

The Nutrition Service promotes the attendance of public health nutritionists at professional meetings such as those of the American Dietetic Association, the American Home Economics Association, and the American Public Health Association and those of their respective state associations. Official time is allowed for attendance at these meetings.

Active participation of the nutritionists in these professional associations is encouraged. Staff members have served on committees, as officers, and as speakers in the above associations.

Recommendations for nutrition staff attendance at out-of-state meetings is made by the chief nutritionist to the Director, Division of Maternal and Child Health and by him to the State Health Officer. Workshops or institutes which are meaningful in terms of on-going state programs and which fill a real need are most likely to be approved for transportation expenses. Those where expenses are underwritten by the Children's Bureau or by the United States Public Health Service are easiest for staff to attend. Travel funds are limited for the state health department and the State Health Officer must have a strict priority system for approving expenditure of funds to assure their best possible use.

During the field experience, the student was able to attend the Arkansas Dietetic Association annual spring meeting. The theme "Your Profession is Showing" was based on the premise that the objectives of the American Dietetic Association may be implemented through the cooperation and the combined efforts of other groups and agencies. Speakers from the Arkansas Dairy Council and the Arkansas Home Economics Association discussed common interests of the organizations which make working cooperatively possible.

Continuing Education

Opportunities are provided for nutrition staff members to keep up-to-date on current research and developments in the nutrition and the public health fields. Professional journals received in the central office are reviewed by the chief nutritionist and those containing

articles of educational value to nutrition staff members are routed to them. Each nutritionist may keep the materials for approximately two weeks before she sends them to the next staff member on the routing list. Copies of materials needed for files are duplicated by the clerical worker in the central office for each nutritionist on request.

Upon approval by the State Health Officer, nutrition staff members may be granted an educational leave in order to work on a Master's degree. Educational stipends are available through the state health department. A nutritionist receiving a stipend is expected to return to the Nutrition Service staff on a full-time basis for two years following completion of her degree program.

IV. PUBLIC RELATIONS AND COMMUNICATIONS

Intradepartmental Communications

The Chief Nutrition Consultant keeps in contact with the heads of other departments and divisions through administrative staff meetings and informal lines of communication. She keeps well-informed about their programs and communicates to them the types of nutrition services available which would supplement their programs.

The staffing pattern and programs of the Nutrition Service are described in the Division of Maternal and Child Health section of the annual report of the Arkansas State Department of Health. Biennially, the chief nutritionist rewrites the Nutrition Service section of the State Public Health Plan and makes minor revisions on alternate years.

This is sent to regional and federal offices of the Children's Bureau and the United States Public Health Service.

Copies of each staff nutritionist's monthly narrative are given to the heads of the Division of Maternal and Child Health, the Division of Chronic Disease, and the Division of Public Health Nursing to keep them informed of services rendered throughout the state. Quarterly, the chief nutritionist compiles the monthly narratives and writes a narrative report summarizing all activities of the Nutrition Service. Copies of this report are sent to every department head in the Arkansas State Department of Health.

Recently the chief nutritionist wrote an article for The Journal of the Arkansas Medical Association entitled "Available Services in Nutrition and Dietetics." This article presented information to physicians about nutrition services available to them through the Arkansas State Department of Health. Many are not aware that their private patients can be given diet instructions by staff nutritionists upon their request.

Printed Materials and Visual Aids

The materials developed and used by the nutrition staff increase the effectiveness of the program. Most pamphlets used have been designed and written by staff nutritionists to meet particular needs and are printed by the Arkansas State Department of Health. Some are adaptations of materials from other states. When suitable material is available from another source, it is utilized wherever possible. Samples of the

materials produced by the Nutrition Service are found in Appendix B. Subjects covered in these materials include basic nutrition needs of all family members, infant feeding, feeding of handicapped children, recipe and menu suggestions for low-sodium and diabetic diets, uses of commodity foods, low-cost menus, and diets in pregnancy and lactation. They are used by nutritionists and by public health nurses in local units. Some materials are available for distribution to any interested persons.

A leaflet on taking diet histories and teaching basic diets has been prepared for use by other health personnel and by nutrition staff. This leaflet was being revised while the student was doing field work and was discussed at the staff meeting she attended.

The materials are reviewed and revised as found necessary by personnel using them in the field. New materials are developed through the requests of public health nurses and other professional persons. A priority list is established and materials are revised and prepared as staff schedules permit. Most are developed on a cooperative basis with the staff member having a particular interest in the topic doing the rough draft. This is routed to all staff for recommendations and discussed at staff meetings. The final material is the result of the decisions of the group.

An extremely valuable publication of the Nutrition Service is the Arkansas Diet Manual, edited by the Senior Dietitian Consultant. It was written with the cooperation of the Arkansas Medical Society

and the Arkansas Dietetic Association and is endorsed by the Arkansas Hospital Association, the State Nurses Association, and the University of Arkansas School of Medicine (11).

The diet manual is distributed through the nutrition office, free of charge, to: (1) incoming physicians, (2) public health nurses, (3) hospitals and nursing homes, and (4) libraries of schools of nursing and home economics departments throughout the state. Upon request, the manual is sent out of state but only to the above groups. Individual diet plans, adapted from the diet manual, are available to physicians and hospitals, (see Appendix B, page 88). These diet sheets are used extensively by nutritionists in giving diet instructions as requested by physicians.

The newsletter entitled "Your Patient's Tray" is an educational tool written each month by the Senior Dietitian Consultant for use by hospital and nursing home administrators and food service supervisors. It is sent out by the Division of Hospitals and Nursing Homes.

The nutrition staff members use a variety of visual aids with skill when speaking to groups. Of particular value are the Hook N' Loop Boards to which large objects can be attached, such as food models and empty food containers. Through its use the basic four food groups can be discussed in an interesting and colorful manner. National Dairy Council cards using bar graphs to compare foods values contributed by foods in these four groups and in common snack foods are often used in these discussions. Other visual aids, both from the National Dairy

Council and from other organizations sponsored by food and related manufacturers, are utilized when considered appropriate after careful evaluation.

Flip charts and posters are made by the nutrition staff as needed. Films and filmstrips are available through the Division of Public Health Education. The student narrated a filmstrip on diet in arthritis at a nutrition workshop held for public health nurses.

District nutritionists use visual aids exceptionally well in their market basket demonstrations. Items purchased by two imaginary shoppers are displayed and reasons given for why they are or are not wise purchases. Actual food cans, boxes, bottles, and produce are used. Posters show how much money each woman spent, and bar graphs contrast the difference in nutritive values received for money invested.

V. NUTRITION PROGRAM PLANNING AND EVALUATION

Overall Program

The overall nutrition program is planned to reach the goal of improving the nutritional status of the total population of the state. This is attempted by providing consultative, educational, and service programs in normal and therapeutic nutrition to all divisions within the state health department and to all local health units. Consultative, educational, and service programs are also offered to: (1) official and non-official agencies and community groups interested in health education; (2) schools, colleges, and teacher-training institutions,

(3) physicians and allied medical and para-medical personnel, (4) institutions involved in group feeding, and (5) the community at large. These services and programs are made available to the public through a staff which has the responsibility of knowing state and community organization and selecting the most pertinent means for getting up-to-date nutrition information to all individuals and groups of individuals in the community who need this health information. An implied responsibility of the staff is the interpretation of nutrition programs and services to all the potential users of them.

Planning of the Program

At the state level the Chief Nutrition Consultant works with the staff of other divisions and bureaus in planning programs with nutrition components. This planning is continued at the local level through medical directors, supervising nurses, and local public health nurses. (7). In determining priority needs of programs at both levels, factors considered include current health statistics, such as infant death rates, premature birth rates, and prevalence of certain disease conditions. Surveys to determine eating patterns of school children have been taken in many areas and results of these are utilized in planning types of food and nutrient needs to be emphasized in educational programs. Another major factor influencing program planning is the type and number of requests for service by other divisions, agencies, and organizations.

District nutritionists in the state are responsible for developing and implementing their own programs based on needs of their area

and their aptitudes and interests. The nutritionists work mainly on request from local health departments, official and voluntary agencies, and community groups. Depending on the programs, nutritionists may or may not make regular visits to local health departments. They do, however, attempt to visit each one in their area at least once a month. It is their responsibility to keep local health unit personnel aware of recent trends in nutrition and new materials available. On request, nutritionists give consultation to private patients of local physicians.

When a nutritionist is assigned to a new county, the assignment is usually first discussed with the directors of the Division of Maternal and Child Health, Division of Chronic Disease Control, the Division of Public Health Nursing, and the Bureau of Local Health Services. On initiation of the nutrition service in the county, the chief nutritionist and the district nutritionist who will serve the county go together to visit the area. They talk with the public health nurses and with the nursing supervisor to work out a suitable program.

Location of the headquarters office of district nutritionists depends on their programs and, to some extent, on which local health units in their area have available office space. As seen in Figure 2, page 22, two district nutritionists work out of offices in city health departments and three out of offices in county health departments.

Evaluation of the Program

Since much of the work of the Nutrition Service involves consultation to other professional people who transmit what they have

learned to others, evaluation of the relative successfulness of the program is difficult. The chief nutritionist is responsible for the evaluation of the overall nutrition program and the staff. Periodic conferences with staff members to review programs and working practices aid in her evaluation. The study of monthly narrative reports provides another method of evaluation.

Every three months when the monthly narrative reports are compiled, an estimate is made of the time spent by nutrition staff members in work in the different categorical programs. This information is used by the business manager in the Accounting and Finance Department to justify his assignment to the Nutrition Service of categorical funds such as maternal and child health, cardio-vascular, and chronic disease. This information provides a useful evaluation tool for the Chief Nutrition Consultant.

Approximately three years ago staff nutritionists wrote an evaluation and summary of their activities. At the same time, long-term goals were projected. Plans are to compare nutrition staff activities now with what was being done at that time and with the projected goals sometime during the next year. This will serve as a basis for a long-term program evaluation.

Each district nutritionist is responsible for evaluation of her program. There is no objective scale for doing this. Writing of monthly narratives, observation of the number and types of requests for service received, and observation of nursing staff follow-through

usually provide the basis for their program evaluation.

VI. COORDINATION OF NUTRITION SERVICES WITH OTHER
HEALTH DEPARTMENT PROGRAMS

Division of Maternal and Child Health

Nutritionists work closely with other health department personnel in maternal and child health programs. Nutrition information is included in maternity clinics, prenatal counseling, midwife control programs, premature infant care, well-child conferences, and work with patients with inborn errors of metabolism.

Maternity clinics. Maternity clinics are conducted by local physicians assisted by public health nurses in nineteen counties as part of the local health program for prenatal and postnatal care of patients, especially those expecting to have midwife deliveries (9). Dietary counseling is available to patients through the public health nurses. Nutritionists provide consultation to nurses individually and through area nursing conferences. District nutritionists attend clinics on request and as their schedules allow to provide diet counseling. Selected patients may be visited at home by a public health nurse and nutritionist when additional nutrition counseling is required. The materials on diet in pregnancy developed by the nutrition staff are used in clinics and on home visits (see Appendix B, page 86). The student observed and participated in maternity clinics at Morrilton and

Pine Bluff instructing patients on normal diet in pregnancy and low-sodium diets as prescribed by the attending physicians.

Maternity and Infant Care Project. In conjunction with the University of Arkansas Medical School, the Maternity and Infant Care Project was started in June, 1965. The purpose of the project is to: (1) improve maternity and newborn care in Arkansas, thereby reducing and preventing mental retardation and other handicaps; (2) provide especially for the high risk mothers in the central portion of Arkansas; and (3) serve mothers of low-income groups who, for reasons beyond their control, are not receiving adequate maternity care (7).

Patients are served from a ten-county area surrounding Pulaski County. The mother is counseled in nutrition, health needs, and availability of local services during her prenatal course. A comprehensive medical care program in preventive health services is carried out for each mother and infant without charge. Hospital care is provided at the University of Arkansas Medical School and post-partum follow-up care is provided. Complete evaluation and care of the infant until two years of age is an important phase of this program (9).

The project is administered by the Project Director who works jointly with the Arkansas State Department of Health and the University of Arkansas Medical Center. His staff includes a pediatric coordinator, a nursing coordinator, a social service coordinator and a social service consultant, an anesthesia consultant, a nutrition consultant,

an administrative assistant, an accountant, a biostatistician, medical residents, and secretaries and clerks (7).

The nutrition consultant plans and implements nutrition services for maternity patients and infants served by the project and coordinates these services with the other aspects of the total program. She now spends a great deal of time in the clinic area providing direct dietary consultation to patients. She also conducts group educational programs for patients while they attend the clinic. An important aspect of her work is the contribution she makes to the education of the junior and senior medical students while on their obstetrics service. Through working with them in the clinic area, she is able to stimulate their interest in nutrition and serves as a resource person. As they learn of the service she offers, they routinely refer patients to her and come to her for answers to questions concerning nutrition. Her services have been well accepted by the residents and interns serving the maternity clinics, and she is able to work closely with them. When the recently established nutritionist position is filled, the nutrition consultant will be able to work in liaison with local personnel providing nutrition services.

The student spent one and one-half days at the University of Arkansas Medical Center learning about the project. Interviews were held with members of the project team, and a new patient was followed through the clinic.

Midwife control. Almost twenty years ago regulations were passed by the Arkansas State Board of Health setting up standards for obtaining permits to practice midwifery and forbidding practice without a permit. Permits are issued annually by the Division of Maternal and Child Health over the signature of the State Health Officer on request of medical directors and public health nurses. In 1964 the number of practicing midwives reached a record low of 266 and these reported 2,938 deliveries (9).

Monthly classes are held by the public health nurses in all counties with midwives. Midwives are required to attend the classes. Upon request, district nutritionists teach these classes in the counties they serve. Basic nutrition is taught along with discussions of topics such as food superstitions and taboos.

Premature infant care project. One district nutritionist works closely with public health nurses on the Jefferson County Program for Combined Hospital-Home Care for Premature Infants. The purpose of this project is to determine the feasibility of early discharge from the hospital of premature infants who have stabilized and are gaining weight well. The rationale that premature infants should not be discharged from the hospital until they reach a certain weight is being evaluated. An attempt is being made to give mothers and these infants the full benefit of the mother-infant relationship at the earliest possible time after birth. This involves careful evaluation and preparation of

the home and close supervision of the infant by public health nurses (7). Nutrition services are available to the nurses through consultation. When requested, the nutritionist goes into the home with the nurse to visit the mother and infant and evaluate nutritional problems. Much help has been given on formula preparation techniques by the nutritionist.

Pediatric Staff, University of Arkansas Medical Center. The first responsibilities of the part-time Senior Nutrition Consultant assigned to the Pediatric Department involved mainly serving as a consultant to physicians in the pediatric clinics. Because of her strong academic background, she was asked by the head of the pediatric staff for assistance in writing a chapter for a pediatric textbook on nutritional requirements of infants and children. She now serves as assistant professor of pediatrics, and funds from the medical center supplement her salary. She teaches pediatric nutrition and nutrition counseling to medical students and writes some nutrition literature. She works closely with the medical staff and attends patient-admitting conferences, pediatric staff conferences, and weekly seminars. The pediatric staff request help with feeding hospitalized patients as well as those seen in out-patient clinics. Her reports to the nutrition office are duplicated and sent to the other nutrition staff members since the content of these reports is useful in-service education material. This nutritionist provides a valuable service as a resource

person for other nutritionists on the staff. She is able to send them recent information concerning special disease conditions of patients with whom they work. Continuity of care is possible since she is able to inform district nutritionists of therapeutic diets prescribed for pediatric patients while they are at the University of Arkansas Medical Center. She serves as a liaison between the medical center and the state health department. The student accompanied the nutritionist on Pediatric Rounds and discussed the work she does during a morning conference with her at the University of Arkansas Medical School.

Well-child conferences. Well-child medical supervision by local physicians is provided for children at well-child conferences throughout the state. These clinics are arranged by public health nurses and ordinarily held in local health units (9). District nutritionists serve these clinics when possible by providing individual counseling of patients and group discussions on family feeding and food buying problems for parents who bring their children to the conferences.

Inborn errors of metabolism. One of the programs of the Division of Maternal and Child Health with which nutritionists work most closely is that of providing service to patients diagnosed as having inborn errors of metabolism. Lofenalac is currently furnished by the division to three children in the state having phenylketonuria. A program of acquainting the private physicians with the methods of screening for phenylketonuria is in progress (9). Nutritionists give dietary instruc-

tions to parents of children with this disease and others of this type, such as galactosemia. They work with both public health nurses and parents on diet calculations for these children. With the district nutritionists, the student visited in the homes of the three children having phenylketonuria and one having galactosemia. The nutritionists answered the mothers' questions and gave suggestions for handling feeding problems.

Division of Public Health Nursing

The Division of Public Health Nursing, located under the Bureau of Local Health Service, works very closely with other divisions of this bureau in planning and supervising the activities of the local staff nurses in order to offer the best generalized service possible (9). The public health nurse is largely responsible for direct nutrition teaching as she makes home visits and holds clinics. The nutritionists' responsibility is to provide technical guidance and consultation to the local health nurses. In-service training of the nurses is carried out through individual consultation on special problems and participation in nursing staff education meetings. The student attended a staff education meeting for nurses in the Little Rock area at which nutritionists discussed prenatal diets, methods of interviewing a patient, and the work of the nutritionist on the Maternal and Infant Care Project. She participated in a nutrition workshop for nurses from Washington and Benton counties planned by the district nutritionist for

that area. The program included a discussion of the basic four food groups, nutrition needs of various age groups, and several types of modified diets. This workshop was held at the request of the nurses in these counties.

Geriatric feeding and low-sodium diet discussions were lead by the student. In planning the discussions, the student used as a guide for material to be included the results of a nutrition pretest given at a previous nursing staff education meeting, observation of the nurses' workable knowledge of normal nutrition and modified diets while making home visits and working in clinics with them, and observation of the needs and capabilities of the patients with whom the nurses work. The student and nutritionist met prior to the day of the workshop and discussed the overall program. The length of the student's discussions were based on the planned time schedule. Files in the central office, nutrition textbooks, and booklets of the American Heart Association were used as resource material. A flipchart was prepared and used, as was a blackboard, to stress major points during the discussions. From the response and participation of the nurses attending the workshop, the student was able to evaluate somewhat the appropriateness and effectiveness of the materials presented.

Home visits are made with nurses upon request to provide patient instruction and nursing education. The student accompanied nurses from five different health departments on home visits both with a nutritionist and alone. These home visits in different geographical areas of the

state enabled the student to observe contrasts and similarities of health and nutrition needs in different socio-economic and cultural situations. Visits were made to homes of large Negro families in a southern agricultural area of the state in which neither electricity or water were available. These visits demonstrated nutritional problems primarily related to obtaining adequate food for all family members and sanitation problems involved in food preparation and storage under these conditions. Low-income families visited in urban areas had some of the same problems but most had better sanitation facilities. Rural families visited in the northwestern part of the state had more resources, and extreme poverty was not frequently encountered. Nutrition counseling on home visits here was often related to specific dietary problems of individual family members. Need of education in wise food purchasing and use of commodity foods was a problem encountered in most areas.

Division of Tuberculosis Control

The Division of Tuberculosis Control, located under the Bureau of Local Health Service, provides local medical services to out-patients through chest clinics staffed by qualified consultants. The local clinics are established at the request of local medical societies and staffed by specialists practicing in the area. This division also provides anti-tuberculosis medication for any out-patients under treatment and nursing consultation to local health departments (9).

The student attended a local chest clinic at the Washington County Health Department and instructed a patient seen by referral

on normal dietary needs with emphasis on weight control. Basic four food group materials developed by the nutrition staff were used (see Appendix B, page 85).

Division of Chronic Disease Control

The Division of Chronic Disease Control is the most recently established division under the Bureau of Local Health Service. It was organized by the Arkansas State Department of Health early in 1962 due, in part, to the success of a pilot Home Nursing Care Program in Ouachita County. At the present time thirty-six counties have Home Nursing Care Services. The medical society in a county must request the program. Physicians write treatment orders and give them to public health nurses who in turn visit the patient concerned and carry out the designated orders. No patient is admitted to the service without being referred by a private physician. The nurses act in close liaison between the patient and doctor (12).

Through an interview with the director of this division, the student learned that a nutritionist worked with the pilot project and that the demand for nutrition services is constantly increasing. District nutritionists now spend about 30 per cent of their time in service activities related to chronic disease. The student visited in homes with nutritionists and public health nurses to participate in and observe consultation to patients with diabetes, carcinoma, cardio-vascular diseases, and cystic fibrosis.

A dietitian was recently employed who will, after training, work as a chronic disease consultant. She will travel in the state and work with district nutritionists as well as other professional people in the area of chronic disease control. One of her first responsibilities will be to evaluate what is being done and design a more sophisticated method of reporting nutrition services in chronic disease programs. While the student was doing her field experience, this staff member was on loan to the Division of Hospitals and Nursing Homes. Her work there will be discussed in a later section.

Division of Food and Drug Control

The Division of Food and Drug Control, administratively located under the Bureau of Sanitary Engineering, carries out a program to protect the public from adulterated and misbranded food, drugs, devices, and cosmetics (9). The nutrition staff works with this division on matters pertaining to nutritive content of food, labeling of foods, and food fads and false claims. The staff members serve as consultants on these matters when the opinion of a specialist in foods is needed by members of the division in carrying out their responsibilities.

Division of Hospitals and Nursing Homes

The Division of Hospitals and Nursing Homes is administratively located directly under the State Health Officer. Responsibilities of this division include licensing of hospitals and nursing homes, administering the Hill-Burton Program in Arkansas, and carrying out an

inspection program which includes review and approval of plans and specifications for the construction and alteration of all medical facilities in the state. Routine inspection of these facilities to check on nursing service, nutrition and food service, and safety is also carried out by the division (9).

A nutritionist is employed by this division to work with nursing homes and is administratively responsible to the director of the division. The Chief Nutrition Consultant and the Senior Dietitian Consultant give technical supervision or consultation as requested to this nutritionist. District nutritionists work cooperatively with her in nursing homes in their areas, on request.

The Senior Dietitian Consultant in the Nutrition Service works closely with this division by providing consultation on matters pertaining to institutional food service. She reviews blueprints for dietary departments of hospitals as requested (7).

"Your Patient's Tray," the monthly newsletter sent to all hospital and nursing home administrators by this division, is written by the Senior Dietitian Consultant. It is an educational tool designed for food service supervisors and encourages them to attend institutes and to take advantage of other available nutrition materials and resources.

During the student's field experience, the newest Nutrition Service staff member was on loan to the Division of Hospitals and Nursing Homes. She is now being trained to serve as the state-wide specialist in chronic disease programs, as previously mentioned. While

on loan to this division, she worked closely with other members of the health team responsible for certification of hospitals and nursing homes for eligibility to receive payments as provided under the Social Security Amendments of 1965. She traveled throughout the state inspecting dietary facilities of small hospitals for compliance with required standards. The student accompanied her for one day during which two small hospitals were visited. After checking the standards required in areas of organization and personnel, facilities, diets, and conferences by both visual inspection and interviews with dietary personnel, a conference was held with the food service supervisor and later with the hospital administrator. Explanations were given as to why the dietary department did or did not satisfactorily comply with established standards. Hospital administrators then had an opportunity to make necessary changes before the final certification inspection was made.

Bureau of Dental Health

The Bureau of Dental Health, administratively located directly under the Assistant State Health Officer, is concerned with dental health education and correction and prevention of dental caries. Activities of the bureau include educational programs with all age levels in various school systems and civic groups, promotion of fluoridation of public water supplies, and dental services for indigent children. The Nutrition Service cooperates with this bureau in the preventive aspect of their program. Consultation is provided on nutrition components of dental health education. The nutrition staff

members review materials and information relative to the role of foods in dental health.

Northwest Arkansas Area Migrant Project

The district nutritionist working in northwest Arkansas works cooperatively with other health personnel in providing public health, medical, and dental care services to the migrant population through the Northwest Arkansas Area Migrant Project.

During the summer months, a need for short-term laborers to harvest crops brings many migrant workers into Washington and Benton counties. The largest concentration of these persons is located in the Springdale Labor Center which consists of 161 hutments, two community showers, a community laundry area, several community toilet facilities, and a vacated school building. In 1965, approximately 1,200 persons lived in this center at various times from April 15 to October 15 (13).

The objectives of the project are to: (1) establish and operate family health service clinics; (2) provide public health nursing service and nutritional counseling in areas of specific need; and (3) provide general health education as an integral part of services offered, thereby improving basic hygiene, nutrition, sanitation, prenatal and child health, and health motivation in the migrants' environment (13).

During the past year the project activities were carried on for four months. Dental clinics and medical clinics were held one evening a week in two rooms of the vacant school building, and a nursing clinic was held four afternoons a week. The nutritionist attended these

clinics as her schedule permitted and held individual patient conferences on the referral of the physicians and nurses. At dental clinics the nutritionist held informal conferences with children and teenagers and showed films at some on subjects such as basic diet and dental health. Home visits were made to follow up instructions given in clinics for infant feeding, weight reduction diets, diabetic diets, and bland diets. As a part of orientation, a new staff member worked with the district nutritionist on project activities for two months. Another district nutritionist, working on her Master's degree during the summer, did a nutrition survey with fifty families living in the camp. It was found that the majority of the families had a high intake of fresh meats which was of interest since only two of the families had electric refrigerators. Diets were low in foods rich in vitamin A but fairly adequate in foods rich in vitamin C. (13).

Since the migrant camp was not in operation while the student was in northwestern Arkansas, she did not participate in any of the programs. She did, however, visit the camp and see the clinic facilities and the hutments in which the families live.

VII. COORDINATION OF NUTRITION SERVICES WITH OTHER AGENCIES AND ORGANIZATIONS

Arkansas Department of Public Welfare

The program of the Crippled Children's Division of the Arkansas Department of Public Welfare is financially supported by federal

grants-in-aid authorized by the Social Security Act and administered by the Children's Bureau. An interview with the Chief Orthopedic Nursing Consultant of this division clarified for the student the ways in which the Nutrition Service works with the Crippled Children's Division.

An agreement in writing states that nutritionists with the Arkansas State Department of Health will provide service to crippled children's clinics in the state. Due to the lack of adequate coverage of the state, nutritionists are not able to participate in all clinics. District nutritionists do regularly attend the clinics in the area they serve.

All new patients attending the clinics are referred to the nutritionist for dietetic screening. Return patients are seen on a referral basis. Many of the patients attending the clinics have nutrition problems in common. One of the most frequently seen ones is obesity and in younger children, "milk" anemia. The leaflet "Feeding the Handicapped Child" is used with a great deal of success in working with parents of children seen in these clinics (see Appendix B, page 87).

Nutritionists serve some children receiving crippled children's services by home visiting selected cases with public health nurses. The student observed and participated in two crippled children's clinics and visited the homes of several children receiving crippled children's services. Consultation by nutritionists is a service available to the nurses and social workers of the Crippled Children's Division at all times.

The Nutrition Service provides consultation for personnel in the Child Welfare Division, Arkansas Department of Public Welfare, concerning feeding of children in day care centers. Nutrition staff participate in workshops with groups of directors and give individual and group consultation to workers and directors.

The student visited two day care centers and observed a district nutritionist working with a director establishing a day care center. The nutritionist made some recommendations for feeding of the children, gave the director nutrition materials, and told her of other available resources. During the time of the student's field experience, four staff members cooperatively developed a set of day care menus for use by the Child Welfare Division at the request of the Director of the Day Care Center Program. These were evaluated by the other nutritionists at the staff meeting and then distributed to all day care centers in the state.

Nutritionists work with the Commodity Distribution Division of the department of welfare by giving consultation on recipes and effective use of commodities (7). Leaflets prepared by the staff are distributed to institutions and families receiving commodity foods.

Arkansas State Department of Education

Nutrition consultants participate in in-service nutrition education programs for teachers through individual and group consultation. Information on classroom activities, lesson plans for a nutrition unit,

suitable materials for different age groups, and recommended nutrition references are presented. Lectures to students are sometimes used as a demonstration for individual teachers to encourage them to up-date their nutrition knowledge. The student observed a district nutritionist talk to elementary teachers at a city school. Basic nutrition, classroom activities, and available reference materials and resources were stressed.

Surveys of eating habits of school children have been directed by nutritionists to determine eating patterns, and the results of these are used in classroom lectures to stimulate interest of the students. The vitamin A and vitamin C groups are usually the ones most widely neglected in the diet of the children. Attractive, attention-getting posters are also used in talking to the students. The district nutritionist and the student visited three rural schools where the nutritionist discussed basic nutrition needs with all classes. In two high schools the student observed district nutritionists lecture to home economics classes about prenatal nutrition, the effect of nutrition on one's appearance, good marketing practices, and careers in dietetics and nutrition.

The Nutrition Service works with the School Food Service, Arkansas State Department of Education, through individual and group conferences with state and local staff members (7). Considerable work is done with school lunch personnel on commodity foods and how they can be made more attractive to children.

Agricultural Extension Service

The Nutrition Service works cooperatively with the Nutrition Specialist and the Consumer Marketing Specialist of the Agricultural Extension Service in nutrition education programs. Reference materials are furnished on request, and nutritionists participate in workshop programs for county agents. On the district level nutritionists, on request, work closely with home demonstration agents in planning and carrying out programs that pertain to nutrition. They participate in home demonstration club programs serving as speakers and panel members. Several nutritionists have worked on the use of commodity foods with these clubs by providing demonstrations and recipe leaflets.

Food Stamp Program

The United States Department of Agriculture started the Food Stamp Program in 1961 to improve the diets of low-income families through increased purchasing power rather than by direct donations of food. Families receiving welfare assistance under the state's welfare program are considered eligible. Other families may also receive food coupons provided their income does not exceed stated amounts. The Department of Public Welfare certifies needy families to participate in the program. Families exchange the amount of money they could normally be expected to spend for food for coupons or stamps worth more. The United States Government pays for the difference between the amount each family pays and the total value of the coupons it gets. These coupons

are used to buy food at any participating retail grocery store or supermarket (14).

The Food Stamp Plan began in Arkansas with a pilot project in Independence County in 1963. Of the seventy-five counties in the state, thirteen are now using the Food Stamp Plan and fifty-nine are distributing commodities. Nutritionists feel the Food Stamp Program presents an excellent opportunity for motivating people to feed their families better but realize nutrition education is necessary. In Pulaski County nutritionists and other agency personnel realized the need for: (1) informing low-income families about the program; (2) encouraging them to participate in it; and (3) once in the program, providing education in the use of extra money for the purchasing of the proper kinds of foods to give a balanced diet. To meet this need, the interagency Pulaski County Nutrition Committee was formed soon after the introduction of the program into the county. Agencies represented on the committee include the Arkansas State Department of Health, Little Rock City Health Department, North Little Rock Health Department, Pulaski County Tuberculosis Association, Pulaski County Welfare Department, Pulaski County Health Department, Agricultural Extension Service, American Dairy Association of Arkansas, Arkansas State Department of Education, and the United States Department of Agriculture Consumer and Marketing Service. The district nutritionist serving Pulaski County is chairman of the committee and the Senior Dietitian Consultant in the central office serves as a committee member.

Some stated goals of this committee are: (1) to assist all personnel of the Food Stamp Program in acquainting the public of the availability and benefits of the program; (2) to motivate families through mass media, meetings, and whenever possible individual contact to participate in the program; (3) to assist through consumer education in the spending of their food stamps; (4) to inform the stamp users of the essentials of a good diet; and (5) to coordinate the efforts of all agencies involved to improve the selection and preparation of food for families participating in the Food Stamp Program.

To achieve these goals, various activities have been carried out, one being the monthly publication of a leaflet entitled "Sally Saver Says." It is distributed at the Coupon Issuing Office and contains facts about basic nutrition, good food buys, and recipes using low-cost foods. Each month a different member of the committee is responsible for planning the leaflet. Other activities include presentation of radio programs explaining basic facts about the Food Stamp Program and placement of educational posters on the bulletin board in the Coupon Issuing Office.

A major problem faced in use of the Food Stamp Program in many Arkansas counties is lack of participation by eligible families. Reasons for this include difficulty and expense involved in getting to the food stamp office and inability of families to have enough money on hand at one time to purchase the stamps. Possible solutions for these problems are being investigated by agencies working with the program.

Hospitals and Institutions

Nutrition staff members serve hospitals and institutions by giving consultation to hospital administrators and food service supervisors on management of the dietary department and on use of modified diets for patients. Upon request for follow-up service by the nutritionist in the Division of Hospitals and Nursing Homes, this same type of consultation is given to nursing home personnel. The student visited the Arkansas Children's Hospital with the staff member who provides weekly consultation to the administrator and food service supervisor and observed the operation of the dietary department.

The Senior Dietitian Consultant serves as Arkansas' coordinator for the American Dietetic Association's correspondence course for food service supervisors. The purpose of the course is to help the person taking it improve his job performance and thus improve patient care. This staff member and others serve as preceptors for students enrolled in the course. Follow-up services are provided for supervisors by the nutrition staff after the course has been completed.

The annual Food Service Supervisor's Institute is co-sponsored by the Arkansas Dietetic Association, the Arkansas Nursing Home Association, and the Arkansas Hospital Association. Members of the Nutrition Service staff take an active part in these institutes by serving on the planning committees and serving as speakers, group discussion leaders, and resource people. The student attended and participated in one of the institutes serving as a resource person for a discussion group. The

program was built around quality purchasing principles. Special speakers included a regional nutrition consultant from the United States Public Health Service and a representative of the Livestock Division, United States Department of Agriculture.

Professional Schools

Upon request nutrition staff members give lectures and demonstrations to students at schools of nursing throughout the state. The student observed a district nutritionist discussing public health nutrition with a class at St. Edwards Hospital School of Nursing. Members of the class were on their public health affiliation at that time. Preceding the class, the student and nutritionist made home visits with two nursing students to large families needing help with food purchasing on limited incomes.

The chief nutritionist lectures to sophomore medical students at the University of Arkansas Medical School about the Nutrition Service, dietary patterns common in Arkansas, and socio-economic factors effecting eating habits. Senior students in the University of Arkansas School of Pharmacy, taking a public health unit, are told about the Nutrition Service by the chief nutritionist.

Colleges and Universities

The district nutritionist assigned to the northwest area of the state works closely with the Home Economics Department, University of Arkansas, in Fayetteville. Lectures and demonstrations are given to

classes. Students enrolled in community nutrition courses go on field trips to observe the nutritionist at work. She serves as a resource person for graduate students in nutrition. Several contacted her for information for projects while the student was working with her.

Nutrition staff members give consultation to state and private colleges and universities on employment opportunities in the state for graduates in nutrition. Lectures concerning any phase of their work and nutritional problems seen in the state are provided to classes on request.

Office of Economic Opportunity Programs

Because poverty in Arkansas is widespread, many Office of Economic Opportunity Action Programs have been initiated in the past two years. There are two Job Corps conservation camps in the state, and nearly one thousand Arkansas youths have been sent to Job Corps camps, mostly in other states. Work-training, work-study, rural loan, and Head Start kindergarten programs are progressing in most parts of the state (15). Nutrition staff members cooperate with these programs as requested. Staff members serve as committee members of county divisions of Economic Opportunity Councils and as consultants to Head Start programs. One consultant served as chairman of the Food Committee for a Head Start program in the Little Rock area. This involved planning menus, going over each week's menu with cooks, purchasing food, and planning three parent-education classes concerned with nutrition and

food purchasing. The nutritionist assigned to the Pediatric Department, University of Arkansas Medical Center, took diet histories on the children of this project while they were seen at the medical center for physical examinations. Information gained about food patterns of the children was of value to the nutritionist in planning menus and parent education classes. In workshops held for Head Start teachers, the Chief Nutrition Consultant has served as an instructor along with other health department personnel.

Voluntary Agencies

The district nutritionist working in the Little Rock area serves as a nutrition consultant to the nursing staff of the Little Rock Visiting Nurses Association. Individual conferences are held with the staff nurses on nutrition problems of patients. Direct nutrition services may be given to patients on request through home visits by the nutritionist with a nurse. The student spent most of one day making home visits with one of the visiting nurses. Basic nutrition needs modified for the geriatric patient were discussed with several elderly patients.

The Nutrition Service works cooperatively with organizations such as the Arthritis Foundation, the American Heart Association, Councils for the Retarded, and United Cerebral Palsy. Nutritionists serve as speakers, panel members, and resource persons for work shops and meetings held by these groups. The nutritionists use educational materials distributed by these groups and in turn provide materials on request.

The American Heart Association booklets on sodium-restricted diets and fat-controlled diets were used by a district nutritionist and the student at a nutrition workshop held for public health nurses.

CHAPTER V

SUMMARY AND EVALUATION

The student has presented her observations and experiences during seven weeks of field training with the Nutrition Service of the Arkansas State Department of Health. Because of the careful planning of her program and the excellent cooperation of the nutrition staff as well as the state and local health department personnel with whom she worked, the student was able to accomplish her objectives as stated in the first chapter of this report.

Conferences with heads of divisions and bureaus of the Arkansas State Department of Health gave the student a better understanding of the organization, administration, and services of a state health department. Emphasis was given to programs in which nutrition services are most closely integrated, thus clarifying the student's knowledge of the role of the Nutrition Service at the state level. Through interviews with heads of local health departments, and through visits to clinics, with nurses, and with sanitarians, the student gained understanding of the overall program of a local health department in serving the community.

Opportunity to observe and work with each nutrition staff member was of great value to the student in developing appreciation of the place of nutrition services in the total health program. Time spent with the Chief Nutrition Consultant gave the student an opportunity

to comprehend the complex administrative responsibilities involved in planning and carrying out a state-wide program. Because of the great diversity of responsibilities and functions of the nutrition staff members observed, the field experience will be beneficial to the student in any type of public health nutrition position in which she works.

The time spent with each staff member provided an opportunity for the student to observe both consultant and direct nutrition services and how different skills and techniques can be utilized in meeting the needs of people of all age, educational, social, and economic levels. Adaptation of nutrition programs to different geographical and cultural areas was demonstrated. By allowing the student to participate in carrying out programs, ability to function as a public health nutritionist was developed. Opportunities for participation included: (1) diet counseling at maternity, crippled children's, and chest clinics, as requested by attending physicians; (2) diet counseling on home visits with public health nurses; (3) working on advance preparations and serving as a resource person for a food service supervisors institute, and (4) preparing and presenting lectures on geriatric nutrition and low-sodium diets at a nutrition workshop for public health nurses.

In working with families, individuals, and groups, the student gained confidence in her abilities and also realized some of her areas of greatest weakness. While she can establish rapport with both

nonprofessional and professional persons with whom she works, more knowledge and skill is needed in presenting information at the level most appropriate for different groups. The student feels she needs to develop more ability in program planning and evaluation and will work toward this goal. Academic training has provided a foundation of basic nutrition knowledge, but a greater need for keeping well-informed on current nutrition research, professional and scientific literature, and popular publications was realized by the student. She found one must be able to discuss information of this type with the people with whom one works.

In addition to meeting the student's specific objectives, the field training made her more aware of the need for cooperation among the nutrition staff members, other members of the health team, and community groups working toward the goal of improving the health of the population. A spirit of cooperation among nutrition staff members such as was demonstrated by the Arkansas Nutrition Service is necessary for a nutrition staff to most effectively do its part in reaching this goal. The student feels that observation of the efficient way the nutrition staff in Arkansas utilizes available personnel, resources, and tools to carry out their program made the field experience an extremely valuable supplement to her academic training. Because of this experience, she feels better prepared to accept the challenges and responsibilities of a position as a public health nutritionist.

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APPENDICES

APPENDIX A

JOB SPECIFICATIONS FOR PUBLIC HEALTH NUTRITIONISTS

CHIEF NUTRITION CONSULTANT

Definition

Under the direction of the Director of the Division of Maternal and Child Health, to assume immediate responsibility for planning and carrying out the nutrition aspects of the state-wide health program, and to do related work as required.

Examples of Work Performed

1. To promote and set standards for state-wide nutrition program.
2. To formulate standards of qualifications for nutritionists whose services come within the scope of the State Health Agency.
3. To assist in the selection of nutritionists for appointment and in their assignment to positions in the State (or state and local) health departments; to assist in recruitment of candidates for examination.
4. To assist in the preparation of budget estimates in relation to nutrition services.
5. To supervise the work of other nutritionists in the state and local health departments.
6. To render consultation and advisory service to the directors of all administrative divisions of the State Health Agency that are concerned with nutrition, and through these directors to the staffs of their divisions.
7. To confer with the directors of programs related to nutrition in other State agencies for the purpose of developing a coordinated program of nutrition service on a state-wide basis.
8. To represent the State Health Agency in joint projects with other agencies in the field of nutrition.

9. To plan and take part in programs of in-service training of public health workers and other professional workers concerned with nutrition.

10. To evaluate programs for further professional education of public health nutritionists or the nutrition content of programs of further professional education of other public health workers; to consult with the heads of professional and pre-professional training courses for nutritionists or other professional workers whose preparation includes nutrition.

Minimum Qualifications

1. A Master's degree in nutrition including graduate work specifically related to the public health field.

2. Satisfactory completion of at least five years experience as nutritionist in public health or welfare program or related program in adult education dealing with nutrition. At least one year of the required experience shall have been in public health and one shall have included supervisory or consultant responsibility.

3. Thorough knowledge of the principles of nutrition and individual and community nutrition problems; ability to plan programs of work on an area basis; ability to work with people in coordinating programs and to execute and carry out directive work with a staff.

4. Evidenced by a passing grade in the Merit System examination and an oral interview.

SENIOR NUTRITION CONSULTANT

Definition

To work under the direction of the Chief Nutrition Consultant and assist in planning and promoting the state-wide nutrition program. To work with local nutrition personnel in orientation and in-service training.

Examples of Work Performed

1. To plan and take part in studies and other surveys relating to nutrition or the adequacy of nutrition services, and to make reports.

2. To plan and take part in consultation service to local public health workers and local workers in related fields.

3. To assist nutrition consultants in planning and carrying out a local nutrition program. To assist and evaluate local nutrition services and help in coordinating such programs at local level with other agencies of which nutrition is a part.

4. To render consultation and advisory service to district or local county nutrition personnel in carrying out a coordinated nutrition program on a state-wide basis.

5. To assemble, evaluate, and prepare educational material on nutrition and related subjects.

Minimum Qualifications

1. Bachelor's degree in home economics with major in foods and nutrition, or a bachelor's degree with a major in related subjects such as chemistry, biology, or education plus courses in nutrition and allied subjects equivalent to the requirements for a bachelor's degree in home economics.

2. Satisfactory completion of at least 1 year's graduate work so chosen in relation to the undergraduate work as to qualify the worker especially for the public health field. An accredited course as student dietitian is a desirable addition to, but not a substitute for, the graduate work outlined above.

3. At least two years' experience as nutritionist in a public health or welfare program or as home economics trained worker conducting adult education program in nutrition, one year of which has included supervisory or consultant responsibility. One years' experience as dietitian, teacher of foods and nutrition in college, or as school lunch supervisor may be substituted for one year of the above experience with substitution limited to two years.

4. Thorough knowledge of the principles of nutrition and of individual and community nutrition problems and methods of control; ability to work with people, to make clear and pertinent comments and statements written and oral, to plan and execute work efficiently and to direct the work of a group of employees as evidenced by an investigation and a passing grade in an examination and an oral interview.

NUTRITION CONSULTANT

Definition

Under the direction of the Chief Nutrition Consultant, to be responsible for planning and carrying out a nutrition program in a

large area of the state, or under the general direction of the Medical Director and the general supervision of the Chief Nutrition Consultant, to be responsible for planning and carrying out a nutrition program in a large metropolitan area plus giving consultation service to institutions or agencies in the area that have state-wide implication.

Examples of Work Performed

1. To participate in promoting and carrying out a state-wide nutrition program or a community-wide program in a large metropolitan area.
2. To plan and take part in consultation service to local public health workers and local workers in related fields.
3. To confer with the directors of programs related to nutrition in other agencies for the purpose of developing a coordinated program of nutrition service in an assigned area.
4. To cooperate in joint projects with other agencies in the field of nutrition.
5. To assist in planning and giving in-service training of public health workers and other professional workers who request such service.
6. To assist in evaluating programs for further professional education of public health nutritionists or the nutrition content of further professional education of other public health workers.
7. To assemble, evaluate, and prepare educational material on nutrition and related subjects.
8. To plan and carry out studies and other surveys relating to the nutrition problems in her area.

Minimum Qualifications

1. Bachelor's degree in home economics with major in foods and nutrition, or a bachelor's degree with a major in related subjects such as chemistry, biology, or education, plus courses in nutrition and allied subjects equivalent to the requirements for a bachelor's degree in home economics.
2. Satisfactory completion of at least one-half year of graduate work, so chosen in relation to the undergraduate work as to qualify the worker especially for the public health field. An accredited course as student dietitian is a desirable addition to, but not a substitute for, the graduate work outlined above.

3. At least two years of experience as a nutritionist in the field of public health or welfare, or as a home economics trained worker conducting adult education in nutrition.

One-half year of additional graduate work if it included field work under supervision in a health department may be substituted for six months of the required experience.

One year of experience as teacher of foods and nutrition in college, or as a dietitian or school lunchroom supervisor provided that person conducted a nutrition education program, may be substituted for one year of the required experience.

4. Thorough knowledge of the principles of nutrition and of individual and community nutrition problems and methods of control; ability to work with people, to make clear and pertinent written and oral comments and statements, to plan and execute work efficiently, and to direct the work of a group of employees, as evidenced by an investigation and a passing grade in an examination and an oral interview.

STAFF NUTRITIONIST (APPRENTICE OR TRAINEE)

Definition

Positions in this class afford a period of apprenticeship in nutrition as applied to public health.¹ During this period, the positions are under the close supervision of a qualified Nutrition Consultant.

Examples of Work Performed

1. Participate in an orientation program to learn the overall philosophy and organization of a public health agency and relationship of nutrition services to various program areas. In this connection, observes a wide variety of public health activities and services carried on by nutritionists, physicians, nurses, and other agency staff.

2. Develops and carries out demonstrations and teaching in areas such as food selection, preparation, and budgeting for individuals and groups.

¹This is a limited tenure class. Employees in this class after a designated period of time (normally one year) who do not pursue graduate training in nutrition or who are not selected for the Staff Nutritionist position will be terminated.

3. Assists public health nurses in providing services to patients who have specific food and nutrition problems.
4. Assists in providing services to hospitals and other group care facilities to improve standards of food service and nutrition.
5. Takes part in surveys and studies on relationship of dietary factors to health and disease.
6. Reviews and participates in the development of nutrition educational materials and visual aids and may conduct in-service educational programs.

Minimum Qualifications

1. Bachelor's degree in home economics with major in foods and nutrition, or a bachelor's degree with a major in related subjects such as chemistry, biology, or education plus courses in nutrition and allied subjects equivalent to the requirements for a bachelor's degree in home economics.
2. Knowledge of human nutrition in health and disease; knowledge of principles of institutional food service management; some knowledge of methods used in nutrition and dietary studies; ability to deal tactfully with people; and the ability to present ideas clearly and concisely.

SENIOR DIETITIAN CONSULTANT

Definition

Under the direction of the Division Director concerned and the supervision of the Chief Nutrition Consultant, to be responsible for planning and carrying out a state-wide program of consultation service to hospitals, nursing homes, child caring institutions, state institutions, and other institutions, for the purpose of improving food service and dietary aspects of care in institutions.

Examples of Work Performed

1. In conjunction with the Division Directors and staff concerned, to serve as a specialist in formulating standards pertaining to dietary phases of care, personnel, and facilities in hospitals, nursing homes, child caring institutions, state and other institutions.
2. To plan and render consultation service to persons responsible for feeding individuals in institutions on food purchasing, preparation,

conservation, menu planning, budgeting, special diets, organization of work, training and supervision of employees, and other activities related to food service.

3. To plan and assist in making studies and surveys of food service practices in institutions.

4. To assemble, evaluate, and prepare educational materials on institutional food service, methods for improving dietary aspects of care in hospitals and institutions.

5. To confer with the Hospital Division staff and architects, state and private, on efficient food service lay-out and operation; to review plans and specifications for construction and renovation of new hospitals or other institutions kitchens, storerooms, pantries and dining rooms; to recommend suitable lay-out and physical location of dietetic facilities and specifications for food services equipment.

6. To participate in pre-service and in-service training of managers of food service in hospitals and other group care institutions.

7. To cooperate with other agencies and professional organizations concerned with food service and dietary phases of care of persons in institutions.

Minimum Qualifications

1. Bachelor's degree from an accredited college or university with a major in foods and nutrition or in institutional management, or a bachelor's degree with a major in related subjects such as chemistry, biology, or education, plus courses in nutrition and allied subjects equivalent to the requirements for a bachelor's degree in home economics.

2. Satisfactory completion of a one year internship in hospital dietetics or in institutional management, which training meets the standards for approval by the American Dietetic Association.

3. At least three years of experience in full-time paid employment as a dietitian in a hospital, child caring institution, school feeding program, or other institutional feeding program, one year of which has included supervisory or consultant responsibility. One year of experience as teacher of institutional management in college or as school lunch supervisor may be substituted for one year of the above experience.

4. Considerable knowledge of the principles and practices of dietetics; of principles of nutrition and their application to institutional problems; considerable knowledge of food management in institutions including an understanding of quantity food purchasing, menu

planning, and quantity food preparations, of cost accounting and budgeting and of selection and use of equipment in good service units in institutions, training and management of food service personnel; considerable knowledge of teaching methods and techniques. General knowledge of principles of public health and welfare, of practices and problems of institutional care, all as evidenced by an investigation and passing grade in the subjects.

5. Ability to work with people, to make clear and pertinent written and oral comments and statements, to plan and execute work efficiently and to direct the work of a group of employees, as evidenced by an investigation and an oral interview.

DIETITIAN CONSULTANT

Definition

Under the direction of the Division Director concerned and the supervision of the Chief Nutrition Consultant, to be responsible for carrying out a program of consultation service to hospitals, nursing homes, child caring institutions, state institutions, and other institutions, for the purpose of improving food service and dietary aspects of care in institutions.

Examples of Work Performed

1. To plan and render consultation service to persons responsible for feeding individuals in institutions, on food purchasing, preparation, conservation, menu planning, budgeting, special diets, organization of work, training and supervision of employees, and other activities related to food service.

2. To assist in making studies and surveys of food service practices in institutions.

3. To assist in assembling, evaluating, and preparing educational materials on institutional food service, methods for improving dietary aspects of care in hospitals and institutions.

4. To confer with the Hospital Division on plans for food service departments in new hospitals and other consultation service as needed.

5. To participate in pre-service and in-service training of managers of food service in child caring centers, hospitals, and other institutions.

6. To cooperate with other agencies and professional organizations concerned with food service and dietary phases of care of persons in institutions.

Minimum Qualifications

1. Bachelor's degree from an accredited college or university with a major in foods and nutrition or in institutional management, or a bachelor's degree with a major in related subjects such as chemistry, biology, or education, plus courses in nutrition and allied subjects equivalent to the requirements for a bachelor's degree in home economics.

2. Satisfactory completion of a one year internship in hospital dietetics or in institutional management, which training meets the standards for approval by the American Dietetic Association.

3. At least one year of experience in full-time employment as a dietitian in a hospital, child caring institution, school feeding program, or other institutional feeding program.

4. Considerable knowledge of the principles and practices of dietetics; of principles of nutrition and their application to institutional problems; considerable knowledge of food management in institutions including an understanding of quantity food purchasing, menu planning and quantity food preparations, of cost accounting and budgeting, and of selection and use of equipment in food service units in institutions, training and management of food service personnel; considerable knowledge of teaching methods and techniques, all as evidenced by an investigation and passing grade in the subjects.

5. Ability to work with people, to make clear and pertinent written and oral comments and statements, to plan and execute work efficiently, and to direct the work of a group of employees, as evidenced by an investigation and an oral interview.

NUTRITION CONSULTANT

MATERNITY AND INFANT PROJECT

The project nutritionist is administratively responsible to the Project Director and under technical direction of the Chief Nutrition Consultant, Arkansas State Board of Health.

Qualifications

Training and Experience:

A Master's degree in nutrition from an accredited college or university (preferably) including or supplemented by graduate work specifically related to the public health field. Qualified for membership in the American Dietetic Association.

Four years of professional experience in nutrition or dietetics. Such experience shall have been as a nutritionist in a public health agency, a medical center or other related health agency; as a therapeutic or teaching dietitian in a hospital or related health facility or a combination of these. The required experience shall have included at least one year at a consultant or supervisory level and one year in a public health agency.

Knowledge and Skills:

Thorough knowledge of (1) human nutrition in health and disease, and (2) application of principles in diet therapy and normal nutrition.

Considerable knowledge (1) of social, economic, and cultural factors to be considered in nutrition work with families and individuals; (2) of agencies, universities and professional and lay organizations which have resources to be utilized in developing community nutrition services for families and individuals; (3) of roles of other para-medical disciplines; and (4) of educational methods and their application in in-service training programs and in group work with patients.

Ability to provide professional leadership in her specialty; to initiate and develop work effectively; to work effectively with others; to express ideas clearly; physical fitness commensurate with the activities of the position.

Functions:

Participates with the project team in the overall planning, operation and coordination of services; in administrative staff meetings and Maternity and Infant Project in-service training programs and in staff case conferences in the Maternity and Infant Care Program.

Responsible for planning and implementing nutrition services for maternity patients and infants served by the project.

Provides technical consultation in her specialty to all members of the project staff and others.

Works in liaison with and coordinates the project nutrition services with services of the district public health nutritionists in the project area; and in the University of Arkansas Medical Center with the Chief of Dietary Services, and with the nutritionists and dietitians in the Department of Obstetrics and Department of Pediatrics and others.

Analyzes and evaluates the nutritional and dietary needs of project patients in relation to the families' food customs, income, home facilities and availability of foods; presents and records her findings and recommendations on nutritional and feeding aspects of patient care.

Responsible for adapting therapeutic diets to patients' resources and recommending suitable foods to meet the nutrient requirements in diets prescribed.

Works with Local Health and Welfare Agencies in locating, assisting, developing and utilizing community resources for meeting project families' needs for food, such as donated food commodities, food stamp plan, and for other assistance implicit in implementing recommendations on nutritional aspects of patient care.

Will work with district nutritionist in local communities in the project area providing consultation, direct services, and educational programs for groups as indicated and as related to the program of comprehensive care for project families.

STAFF NUTRITIONIST

MATERNITY AND INFANT PROJECT

The staff nutritionist is under the technical and administrative direction of the chief project nutritionist.

Qualifications

Training and Experience:

Graduation from an accredited college or university including or supplemented by course work required for a major in food and nutrition.

Completion of hospital dietetic internship or training and experience which meets the requirements for membership in the American Dietetic Association.

One year of experience in nutrition or dietetics which included work in therapeutic and normal nutrition or completion of a Master's degree in nutrition as applied to public health.

Knowledge and Skills:

Knowledge of (1) human nutrition in health and disease; and (2) application of principles in diet therapy and normal nutrition.

Knowledge (1) of social, economic, and cultural factors to be considered in nutrition work with families and individuals; (2) of agencies, universities and professional and lay organizations which have resources to be utilized in developing community nutrition services for families and individuals; (3) of roles of other para-medical disciplines; and (4) of educational methods and their application in in-service training programs and in group work with patients.

Ability to provide professional leadership in her specialty; to initiate and develop work effectively; to work effectively with others; to express ideas clearly; physical fitness commensurate with the activities of the position.

Functions:

Obtains nutrition and dietary history of project mothers and infants, records and analyzes her findings, evaluates the patient's dietary and nutritional needs and in consultation with clinical staff suggests changes as indicated; at appropriate intervals re-evaluates the patient's dietary and nutrition needs; maintains adequate nutrition records for all patients she serves.

Provides direct dietary consultation to patients and their families on the selection and preparation of food in relation to nutritional needs, family income, cultural food patterns, home facilities, and modification of diet as prescribed by physician; conducts or participates in group educational programs for patients, i.e., group counselling session in clinics, demonstration of use of donated foods, meal planning and food purchasing under food stamp program.

Participates in case conferences and in staff meetings; provides nutrition consultation to other professional staff, prepares reports as required.

Assists in the development of nutrition records, procedure manuals and educational materials.

APPENDIX B

MISCELLANEOUS NUTRITION PUBLICATIONS



Figure 3. Better Food for Better Health.

Better Food for Better Health !!



FOR ALL THE FAMILY

Nutrition Service
Maternal Child Health Division
Arkansas State Board of Health
1965



**DIET
BEFORE
THE BABY
COMES**

Figure 4. Diet Before the Baby Comes.

DIET FOR CONSTIPATION

A variety of fruits, vegetables and whole grain cereals will help prevent constipation. Six or eight glasses of water or other fluids daily will also help.

GENERAL SUGGESTIONS

EAT 3 MEALS EVERY DAY.

Cook vegetables to save food value—in a small amount of water, in a covered pan, just until they are done.

Eat raw fruits and vegetables often.

Use iodized salt.

Expectant mothers may need additional vitamins and minerals. The doctor will advise you.

DAILY CHECK LIST

Keep this list handy and check it every day to be sure you have eaten everything you need.

FOOD	AMOUNT
Milk	3 or more glasses
Meat or Meat Substitute	3 servings
Fruits & Vegetables Vitamin C Group	1 or 2 servings
Green & Orange Group	1 serving
Other Fruits & Vegetables	2 or more servings
Breads and Cereals	3 or more servings

NOTES

**DIET
BEFORE
THE BABY
COMES**

ARKANSAS STATE BOARD OF HEALTH

Division of Maternal and Child Health
Nutrition Service

1965

WHEN YOU BREAST FEED YOUR BABY

you need more of the right foods to:

- produce the milk your baby needs to help him grow and be healthy.
- give you energy.
- repair your body tissues.

HAVE THESE FOODS EVERY DAY:

- 4 or more glasses of milk
- 2 or more servings of meat or meat substitute
- 6 or more $\frac{1}{2}$ cup servings of fruits and vegetables
 - 1 or 2 servings of dark green or orange vegetables
 - 2 servings of foods rich in Vitamin C
 - 2 or more servings of other fruits and vegetables
- 4 or more servings of breads or cereals

Ask your doctor if you should take more vitamin D.

Do not eat any foods that cause too much gas in you or your baby.

Drink as many liquids as you can each day.

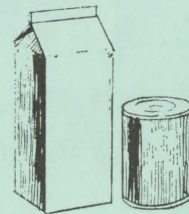
FOOD IS IMPORTANT

The right food helps keep the expectant mother healthy. She is less likely to have trouble during labor and after the baby comes. With the right food she will be more likely to supply enough milk to meet her baby's needs. If she eats the right foods, the baby is more likely to be strong and healthy.

WHAT TO EAT EACH DAY

MILK—3 or more glasses

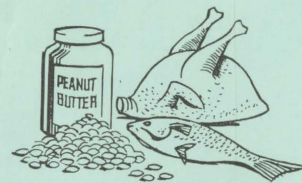
- Whole
- Evaporated
- Dry Skim
- Buttermilk



It may be taken as a drink or used in cooked foods, such as cream soup, custards, and sauces. Yellow cheese or cottage cheese may be used instead of some of the milk.

MEAT OR MEAT SUBSTITUTE

- 3 servings
- Lean Meat
- Poultry
- Eggs
- Liver
- *Peanut Butter
- *Dry Beans & Peas
- Fish
- Cheese



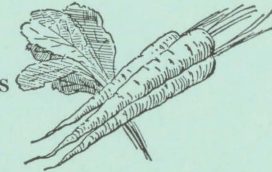
*A small serving of a complete protein food such as milk, eggs, or meat, added to these meat substitutes makes them more nutritious.

VEGETABLES AND FRUITS

4 or more servings a day

One serving of a DARK GREEN OR ORANGE VEGETABLE

- Turnip
- Greens
- Collards
- Kale
- Pumpkin
- Carrots
- Sweet Potatoes
- Spinach



One or two servings of a FOOD RICH IN VITAMIN C



- Orange
- Grapefruit
- Tomato
- Green Pepper
- Cantaloupe
- Strawberries
- Sweet Potato
- Greens

(If you do not have these, have at least two servings of either potatoes cooked in their skins, cabbage, or raw turnips.)

Use **OTHER FRUITS AND VEGETABLES** (fresh, frozen or canned) to complete this group, such as

- Okra
- Corn
- Green Beans
- Squash
- Berries
- Peaches
- Grapes
- Apples



BREAD OR CEREAL—3 or more servings a day



- Loaf Bread
- Cornbread
- Biscuit
- Rice
- Oatmeal
- Rolled Wheat Dry Cereal
- Spaghetti & Macaroni

1 slice of bread, 1 biscuit, 1 piece of cornbread, $\frac{1}{2}$ cup of cereal or rice counts as a serving.

DIET FOR INDIGESTION

To help prevent digestive upsets:

- Eat regular meals.
- Eat slowly and do not overeat.
- Do not eat foods that are greasy, highly seasoned, or very sweet.
- It may be helpful to eat five small meals a day.

DIET FOR WEIGHT CONTROL

If your doctor says you are gaining too much weight, follow these suggestions:

- Drink skim milk or buttermilk.
- Bake, boil or poach eggs.
- Boil or bake potatoes.
- Eat only one piece of bread at each meal.
- Use as little fat in cooking vegetables as possible.
- Do not use sugar on fruit, in coffee, or in tea.

Do not eat:

- Fried Foods
- Sweets
- Fat Meat
- Pastries
- Gravy
- 'Regular' Soft Drinks
- Salad dressings made with oil

Feeding the

**HANDICAPPED
CHILD**

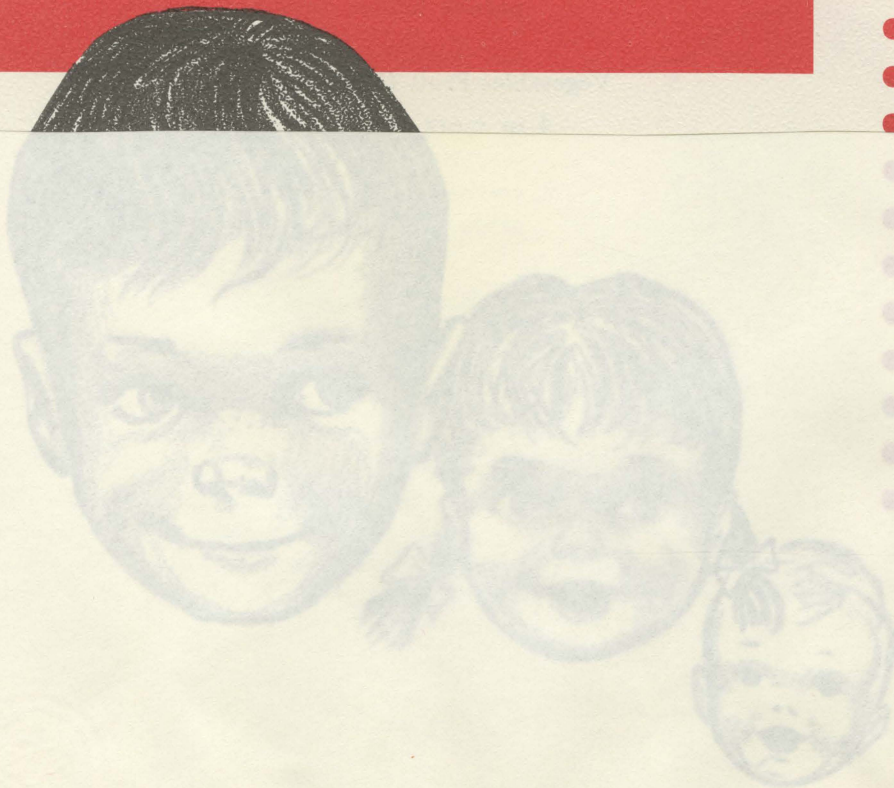


Figure 5. Feeding the Handicapped Child.

Many children are slow in learning to eat. They may also be slow in all their learning. Give the child plenty of time, help and understanding.

Feeding the

**HANDICAPPED
CHILD**



Some children with a handicap have difficulty eating because the motions they used in nursing as newborn infants have remained with them, and they suck and bite down on anything you put in their mouths. They may also push food out of their mouths with their tongues because their tongues still work the way they did when they were babies.

Some children have teeth that fit together very poorly so that it is difficult or impossible for them to chew normally. They have to go on taking liquid or very soft foods until their teeth can be fixed so that they can chew.

The way you feed your child can help him suck, chew, swallow, and use his tongue, jaw and lips better. He uses the same muscles for eating that he uses for talking. If you can help him learn to use these muscles better, it will help him learn to use them for talking. Some of the ways you can do this are discussed below.

WHAT TO FEED YOUR CHILD

These are foods your child needs every day:

Milk Group

children 3 or 4 cups
teenagers 4 or more cups

Meat Group (or alternate)

2 or more servings
meat, cheese, dried beans or peas,
peanut butter, eggs

Vegetables-Fruit Group

4 or more servings
tomato or orange or juices of these
green or yellow vegetables as greens, carrots
other vegetables and fruits and potato

Bread & Cereal Group

3 or 4 servings each day, either whole
grain or enriched

Butter or Margarine

In addition to these the child can have some sweets and fats (not too sweet—cookies, ice cream cones, fruits, etc.) but the other foods above should take first place in his eating.



HOW TO FEED YOUR CHILD

Your child needs to learn to suck well. This helps him use the muscles in the lips and the tongue. Help him close his lips over the nipple or spoon by taking your fingers and pressing his lips together for him, then letting him try this for himself. It may take a lot of practice. You might give him an orange with a hole in it so he can suck the juice out.

He must learn to chew and swallow well. Sit in front of him and help him to do this by placing your hand on his jaw and helping him move it up and down. At the same time, pretend to chew with him so he can watch you. If he has trouble swallowing, rub your hand downward on the outside of his throat. This may help him get the feeling of swallowing. In order to control drooling, he has to learn to keep his lips closed and to swallow.

To help him use his tongue better, feed him part of the meal from one side of his mouth and part from the other side. This helps him move his tongue from one corner of his mouth to the other.

He needs to learn to push the tip of his tongue out past his lips and curl it up toward his nose. You can help him learn to do this by giving him things to lick, being careful not to let him put it in his mouth to suck it, but keep the food on the end of the spoon outside his mouth, so he has to reach it with his tongue. Peanut butter is good to start with because it does not slip off the spoon. Help him bring his head to the spoon so he can pull the food off with his tongue and lips.



HOW TO PREPARE THE FOOD FOR YOUR CHILD

Your child needs the same kinds of food prepared in much the same way as the food given any child.

He should begin with liquid foods, proceed to soft foods, junior foods, and then the same kind of foods as the rest of the family.

If he refuses the food the first time you give it to him, don't be discouraged, but keep giving it to him, always trying to help him learn to eat it. If he wants to, let him eat with his fingers. It is easier at first than holding the spoon or fork.

He may not know what to do with bits of food. Start with hunks of potato, soft cooked meat, peas or green beans that are not mashed, and then add bigger hunks of food and tougher foods such as raw carrots, celery, raw apple, zwieback, etc. as he learns how to chew.

REMEMBER:

- Praise your child when he practices.
- Feed your child like any other child.
- Give him different kinds of foods.
- Feed him the same kinds of foods that other children his age should be eating.
- Let him do all he can for himself.
- Feed him in a relaxed manner; do not hurry him.
- Don't bother about manners; they can come later after he learns to accept foods.
- Good care of your child's teeth is important to his eating. Help him learn to take care of his teeth.



1000 MILLIGRAM SODIUM DIET¹

You may use only one-fourth teaspoon of salt each day. Put this measured amount of salt into a small shaker for use as desired during the 24-hour period. If there is any left at the end of the day, throw it out and start over.²

All foods should be prepared and served without salt (except for the $\frac{1}{4}$ teaspoon each day), soda or regular baking powder. Salt-free bread and salt-free butter or salt-free margarine should be used. Foods with a high natural sodium content, such as meat, milk and eggs, are limited. The only commercially canned vegetables or vegetable juices allowed are low-sodium dietetic.

Do not use laxatives or other medicines unless approved by your physician (many are high in sodium). Do not take sodium bicarbonate (baking soda). Do not use chewing tobacco or snuff (high in sodium). Use a salt substitute only if approved by your physician.

Serve every day:	Do not serve:
<p>MILK: 1 pint whole milk, skim milk or homemade buttermilk. Hot chocolate if made from milk allowance. One-half pint of milk contains 120 mg. sodium.</p> <p>EGGS: One only (includes eggs used in cooking also). 1 egg contains 70 mg. sodium.</p>	<p>More than allowed amount of milk. Commercial butter-milk, commercial chocolate milk, malted milk, "Dutch Process" cocoa. Instant cocoa mixes.</p> <p>Brains or kidneys.</p>

Figure 6. Individual Diet Plan--Arkansas Diet Manual.

1000 MILLIGRAM SODIUM DIET¹

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EGGS: One only (includes eggs used in cooking also). 1 egg contains 70 mg. sodium.	
MEAT OR ALTERNATE: 2 small servings weighing 2 oz. each after cooked (or each 2-oz. serving, $\frac{1}{2} \times 3 \times 2$ in.) 2 oz. of cooked meat, fish or poultry contains about 50 mg. sodium. Fresh, frozen or canned low-sodium dietetic: beef, chicken, duck, lamb, pork, quail, rabbit, tongue (fresh-cooked without salt), turkey, veal, liver (beef, calf, chicken, pork; beef or calf liver allowed not more than once in two weeks); fresh or canned low-sodium dietetic fish, except shellfish. Low-sodium dietetic ham; low-sodium dietetic bacon. Unsalted cottage cheese; low-sodium dietetic cheese. Low-sodium dietetic peanut	Brains or kidneys. Canned, salted or smoked meat: bacon, cold cuts, chipped or corned beef, frankfurters, ham, kosher meats, salt pork, sausage, smoked tongue, etc. Frozen fish fillets (sodium is used in processing them). Shellfish such as: crabs, lobster, oysters, shrimp, etc.

¹When used for cardiac patients, avoid foods that do not agree with the patient or that cause discomfort.

²If you prefer, you may have 2 slices of regular salted bread and 2 teaspoons of regular salted butter or margarine each day, instead of the one-fourth teaspoon of salt.

butter. Dried beans or peas. Lemon juice, herbs and spices may be used as seasonings. Meat or fish may be cooked with unsalted tomato juice, garlic, onion or green pepper.

POTATO OR ALTERNATE: 1 serving or more. White or sweet potato; corn, dried beans or peas; macaroni, noodles, rice or spaghetti (all prepared without salt.)

VEGETABLES: 2 servings or more. Fresh, frozen or unsalted canned. See vegetables under "Do not serve" column. One-fourth teaspoon of sugar added during cooking period helps to bring out the natural flavor of the vegetables. Also, adding $\frac{1}{4}$ teaspoon herbs to 3 cups cooked vegetables improves flavor—as do lemon juice and vinegar. A good low-sodium mayonnaise or oil and vinegar dressing can be made by omitting salt from a standard recipe and substituting any of the spices or herbs allowed.

FRUITS: 2 servings or more, of which one is orange, grapefruit, the juice from one of these, or salt-free tomato or salt-free tomato juice. Use fresh, frozen, canned or dried fruit.

BREAD AND CEREAL: 4 servings or more. Yeast breads and rolls made without salt; low sodium dietetic crackers, biscuit, cornbread, pancakes and waffles made with sodi-

All other cheeses. Salted peanut butter.

Meat extracts, bouillon.

Potato chips, instant potatoes; potatoes fried in salted fat, as bacon fat. Sodium hydroxide is sometimes used in making hominy and grits; check with the miller before using them.

Regular canned vegetables and vegetable juices. The following vegetables in any form: artichokes, beet greens, beets, carrots, celery, kale, mustard or dandelion greens, sauerkraut, spinach, Swiss chard, white turnips. Commercially frozen peas, frozen corn and frozen Lima beans (sodium is used in processing them).

Crystallized or glazed fruit. Maraschino cherries. Dried or frozen fruits to which salt or other sodium compounds have been added (read labels).

Ordinary bakery bread. Canned biscuits. Self-rising flour or corn meal.

um free baking powder; cooked unsalted cereals; instant and regular cream of wheat, grits, oatmeal, rice; puffed wheat, puffed rice, shredded wheat, muffets, unsalted matzohs.

Muffin, pancake or cake mixes. Quick cream of wheat and other quick-cooking cereals containing a sodium compound (read the label). Graham crackers or any other crackers except low sodium dietetic. Pretzels.

Serve if desired:

BUTTER OR MARGARINE: Unsalted butter or unsalted margarine.

SOUPS: Made with allowed foods or unsalted canned soups.

SWEETS: Sugar (white or brown), syrup, honey, pure jelly, jam or marmalade; candy (home made, salt-free, special low-sodium candy, plain hard candy, gum drops, marshmallows, jelly beans).

DESSERTS: Fruits, gelatin desserts made with plain gelatin, unsalted fruit pies; custards, ice cream or puddings (including tapioca) made from egg and milk allowance; cookies, cakes and pies made without salt, soda or baking powder and made from egg and milk allowance.

BEVERAGES: Coffee, tea, coffee substitute.

MISCELLANEOUS: Unsalted nuts. Seasonings listed below. Salad oil, shortening, lard, chicken fat, unsalted cooking fat, low sodium dietetic salad dressing. Cream — limit to 2 Tbsp. daily.

Do not serve:

Regular butter or margarine.

Any other.

Molasses.

Most candies.

Flavored gelatin.

Rennet tablets.

Commercial ice cream,

sherbet,

pudding mixes,

cake, cookies, pie,

etc., prepared

with soda, baking

powder or salt.

Carbonated beverages

vary a great

deal in amount of

sodium. Some

fruit flavored

beverages contain

a sodium preservative.

Read the

label.

Salted popcorn. Relishes,

olives, pickles.

Bacon grease,

salt pork fat, ham

fat, sausage fat.

SAMPLE MEAL PLAN

(To Include Only Foods Listed Above)

Breakfast

Fruit or juice, citrus
Unsalted cereal with
milk¹
Egg
Unsalted toast — un-
salted butter or mar-
garine
Coffee or tea

Dinner

Unsalted meat, fish or
poultry
Unsalted potato or al-
ternate
Unsalted vegetable
Unsalted salad — if de-
sired
Unsalted bread-unsalt-
ed butter or margar-
ine
Dessert (from those al-
lowed) or fruit
Coffee, tea or milk

Supper

Unsalted main dish
containing: Egg (if
not used at break-
fast), meat, fish,
poultry, cheese, pea-
nut butter or dried
beans or peas
Unsalted vegetable(s)
Unsalted salad
Unsalted bread-unsalt-
ed butter or margar-
ine
Dessert (from those al-
lowed) or fruit
Milk
Coffee or tea if desired

Only one-fourth teaspoon salt each day.

¹To be taken from total allowed for day (1 pint).

GENERAL INSTRUCTIONS

1. Most foods have sodium added when they are processed or prepared. Read carefully all information on the label of any processed food. If the label contains the words sodium or soda or the chemical symbol Na, it should be avoided or checked with your physician.
2. Baked products (such as biscuits, cornbread, pancakes, waffles, cakes, and cookies) using sodium-free baking powder can be served if you are not restricted in potassium intake. Check with your physician before using this special baking powder. Some stores and drug stores that handle dietetic foods carry a sodium-free baking powder. If it cannot be found, a pharmacist can prepare some from the formula below. However, the commercial one is cheaper, more convenient and more reliable in leavening quality.

Sodium-Free Baking Powder

Potassium Bicarbonate	39.8 grams
Cornstarch	28.0 grams
Tartaric Acid	7.5 grams
Potassium Bi-tartrate	56.1 grams

Use $1\frac{1}{2}$ times as much as regular baking powder. Add this baking powder toward the end of the mixing time and avoid beating too much.

3. The foods on your diet may need "pepping up" with spices, herbs, lemon, vinegar, sugar, onion and garlic. These can bring out natural flavors of meats, vegetables and other foods.
4. A cookbook that is especially helpful is **The Low Sodium, Fat-Controlled Cookbook** by Payne and Callahan, published by Little, Brown & Co., Boston. It has detailed recipes and there are many tips and tricks for seasoning to make the food taste good in spite of no salt. This book is available at bookstores, or a special paperback edition may be had by sending \$1.50 to Sunkist Growers, Box 2706, Terminal Annex, Los Angeles 54, California.
5. If unable to buy **low sodium bread** from a bakery, or if bakery will not make low sodium bread for you, it can be made using this recipe for 2 loaves:

Combine in large mixing bowl and beat well. Then let cool:

$1\frac{3}{4}$ cups hot water
3 tablespoons sugar
 $\frac{1}{4}$ cup vegetable oil

Combine in a measuring cup, and stir; then add to above:

$\frac{1}{4}$ cup warm water (not hot)
1 package yeast

Add 3 cups sifted flour.

Work in about $2\frac{1}{2}$ cups sifted flour, until there is just enough to prevent sticking to bowl.

Turn onto floured board, round into a ball and cover with a cloth; let stand 10 minutes.

Knead, let rise, mold, let rise in 2 pans and bake at 400° , 30 to 40 minutes.

LIST OF SEASONINGS

You May Use	Do Not Use
Allspice	
Almond extract	
Anise	
Basil	
Bay leaf	
Bouillon cube, low sodium dietetic if less than 5 mg. sodium per cube	Bouillon cube, regular
Caraway seed	Celery salt
Cardamon	Celery seed
Chili powder	Celery leaves, dried or fresh
Chives	
Cinnamon	
Cloves	
Cocoa (1 to 2 teaspoons)	
Coconut	
Curry	
Cyclamate, calcium (sugar substitute)	Cyclamate, sodium (sugar substitute)
Dill	
Garlic	Garlic salt
Ginger	
Horseradish root or horseradish prepared without salt	Horseradish prepared with salt
Ketchup, dietetic	Ketchup
Lemon juice or extract	
Mace	
Maple extract	Meat extracts
Marjoram	Meat sauces
Mint	Meat tenderizers
Mustard, dry	Monosodium glutamate
Nutmeg	Mustard, prepared
Onion, fresh, juice, or sliced	Onion salt
Orange extract	
Oregano	
Paprika	
Parsley	
Pepper, fresh green or red	Pickles
Pepper, black, red or white	
Peppermint extract	
Poppy seed	
Poultry seasoning	Relishes
Rosemary	
Saccharin	
Saffron	
Sage	

Salt substitutes, if recommended by your physician
Sesame seeds
Sodium-free baking powder
Sugar
Tarragon
Thyme
Turmeric
Vanilla extract
Vinegar
Walnut extract
Wine, if allowed

Salt
Salt substitutes, unless recommended by your physician

Soy sauce

Worcestershire sauce

A-1 sauce

Note—read the label on mixed spices to be sure that no sodium compound or unpermitted seasoning is included.

Arkansas State Board of Health
October 1963