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The Administration and Practice of Public Health Nutrition in the Arkansas State Department of Health

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University of Tennessee, Knoxville

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To the Graduate Council:

I am submitting herewith a thesis written by Agnes Willoughby Hinton entitled "The Administration and Practice of Public Health Nutrition in the Arkansas State Department of Health." 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:

Jane R. Savage, Cyrus Maysark

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

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

July 29, 1968

To the Graduate Council:

I am submitting herewith a thesis written by Agnes Willoughby Hinton entitled "The Administration and Practice of Public Health Nutrition in the Arkansas State Department of Health." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Belle Taylor
Major Professor

We have read this thesis and
recommend its acceptance:

Jane R. Savage
Cyrus Maybank

Accepted for the Council:

Vice Chancellor for
Graduate Studies and Research

THE ADMINISTRATION AND PRACTICE OF PUBLIC HEALTH NUTRITION
IN THE ARKANSAS STATE DEPARTMENT OF HEALTH

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
Agnes Willoughby Hinton

August 1968

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The student pays tribute to Mrs. Mary Bell, Senior Nutrition Consultant, Arkansas State Department of Health, for her generous contribution of time and knowledge and for her wise planning of the field experience. Appreciation is also expressed to Mrs. Patricia Raines, Chief Nutrition Consultant, Arkansas State Department of Health, and to all the nutrition staff, for their kindness and interest.

The student gives special acknowledgement to her major professor, Miss Mary Nelle Traylor, for her guidance. Appreciation is extended to Dr. Cyrus Mayshark, Department of Health Education, The University of Tennessee, and Dr. Jane R. Savage, Department of Nutrition, The University of Tennessee, for their assistance. Special gratitude is extended to the student's husband, Mr. Thomas Hinton, without whose continued support and understanding the field experience would not have been possible.

A. W. H.

ABSTRACT

This report provides an analysis of the student's experiences during eight weeks of field training with the Nutrition Service of the Arkansas State Department of Health. The purpose of this field experience was to supplement the student's academic training in Public Health Nutrition. The experience was designed to help the student strengthen her philosophy and understanding of public health by introducing her to the following aspects of an official health agency: (1) the practice of public health at the state and local level, (2) the administrative organization of public health nutrition, and (3) the practice of public health nutrition.

The Arkansas State Department of Public Health was chosen as the training agency as it has an established nutrition program which offers opportunities to observe the functioning of nutrition in the total health program. Experience in dealing with other professional personnel within the agency as well as in other agencies was also offered. In addition, the student was given the opportunity to develop her abilities in carrying out applied nutrition programs with both professional and nonprofessional groups and individuals.

The experience provided the author with the following: (1) an overview of the total state health program and the role of nutrition in this program, (2) an understanding of the overall functioning of a local health department, (3) observation of some of the administrative responsibilities

involved in a state nutrition program, and (4) an opportunity to observe and participate in direct and indirect services in conjunction with nutrition staff members and other paramedical personnel. Through academic training and the field experience, the student has developed knowledge, techniques, and skills which will be most helpful in her future practice of public health nutrition.

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CHAPTER I

INTRODUCTION

The American Medical Association has defined public health as "the art and science of maintaining, protecting, and improving the health of the people through organized community efforts (1)." This is a lofty goal, requiring both idealism and practicality for its fulfillment. Extensive academic programs are available for the student of public health nutrition. However, scientific knowledge of nutrition and the theory of public health must be supplemented by appropriate experience if the gap between scientific health principles and the application of these principles to the masses is to be effectively bridged. To this end, experience providing an overview of the total health program of a state health agency and nutrition's place in this program is needed to give theoretical knowledge greater meaning. The student should become familiar with the activities, organization, objectives, policies, and plan of operation of a health agency. Time should be spent in the field with local staff to observe and develop methods of working effectively with individuals and groups. The student should gain a better understanding of public health from exposure to the following: (1) the practice of public health at the state and local level, (2) the administrative policies and organization of a public health nutrition service, and (3) the actual practice of public health nutrition.

The Arkansas State Department of Health was chosen as the training agency as it has an established nutrition program which offers opportunities to observe the functioning of nutrition in the total health program. Experience in dealing with other professional personnel within the agency as well as in other agencies was also offered. In addition, the student was given the opportunity to develop her abilities in carrying out applied nutrition programs with both professional and nonprofessional groups and individuals.

The following report of the field experience is presented in four chapters. Chapter II is an analysis of the factors determining the policies and programs of the Arkansas State Department of Health and a description of these programs. An analysis of the field experience and its contribution to the student's professional development is presented in Chapter III. Chapter IV is a summary of the experience in relation to the student's objectives and needs.

CHAPTER II

FACTORS WHICH DETERMINE THE POLICIES AND PROGRAMS OF THE ARKANSAS STATE DEPARTMENT OF HEALTH

Before a program can be established to correct or improve the health programs of an area, those problems must be recognized and priorities established. Furthermore, the policies and programs which evolve to fill these needs must be based upon the existing economic, social, and political resources of the state. The vital and health statistics of Arkansas' population and the state's socio-economic and political structure are examined in Part I. Portrayed in Part II is the evolvement of public health programs and services in Arkansas. Part III is a description of the nutrition services available to the state's population.

I. CHARACTERISTICS AND NEEDS OF ARKANSAS' POPULATION

Vital and Health Statistics

A major consideration in the development and justification of health programs should be the health needs of the population as reflected in statistics. The following is a brief account of the characteristics of Arkansas' population as revealed in vital and health statistics.

The live birth rate in Arkansas in 1966 of 19.29 per 1,000 population was slightly higher than the United State's rate, 18.5 (2, 3). While

the death rate from all causes has been on the decline, the 1966 figure still remains higher than that of the United States, 10.25 per 1,000 population as compared with 9.5 (2, 3). More specific information about the mortality rate is shown in Table 1 by a comparison of the rates for the ten leading causes of death in Arkansas in 1966 with their rates for the United States (2, 3). It can be seen that the rates for Arkansas' population exceeds the national average for heart disease, vascular lesions, accidents, and nephritis and nephrosis. Arkansas' mortality rate for diabetes mellitus and diseases of early infancy, however, are lower than the United State's rates.

The fetal death rate in Arkansas in 1965 of 19.6 per 1,000 live births was substantially higher than the national average of 16.2 (4, 3). However, the infant death rate in 1966 was 22.9 per 1,000 live births for Arkansas and 24.0 for the United States (2, 3). Prematurity was the leading cause of infant death in Arkansas in 1966, with 1.02 percent of the infants born alive being premature (2).

Although maternal deaths have been a health problem, they are on the decline. In 1967 there were four maternal deaths in the state (5), a decline from 1966 when there were 17 maternal deaths (2).

Throughout the years midwives have provided services to a significantly large segment of Arkansas' population. Since 1946, when regulations were passed forbidding practice without a permit from the state health department, the number of midwives has declined from 719 to 214 in 1966 (2). All but eight of this number had a permit. Midwives delivered 6.38 percent of the total births in 1966, the lowest figure ever recorded (2).

TABLE 1

A COMPARISON OF THE MORTALITY RATES FOR THE TEN LEADING CAUSES OF DEATH IN ARKANSAS, 1966, WITH THEIR RATES FOR THE UNITED STATES, 1966 (2, 3)

Cause	Rate per 100,000 Population	
	Arkansas	United States
Heart Disease	380.1	375.1
Cancer	150.4	154.8 ^a
Vascular Lesions	144.8	104.6
Accidents	75.0	57.3
Influenza and Pneumonia	32.7	32.8
Diabetes Mellitus	15.8	18.1
Diseases of Early Infancy	14.6	26.1
Other Diseases of the Intestine and Peritoneum	11.0	---- ^b
Birth Injuries	9.6	---- ^c
Nephritis and Nephrosis	8.8	5.5 ^d

^aListed as malignant neoplasms.

^bNo such classification for the United States.

^cUnited State's figure for birth injuries, postnatal asphyxia, and atelectosis is 10.5

^dFigure includes chronic and unspecified nephritis and other renal sclerosis.

Economic Characteristics

No matter how urgent the health needs of a state may be, the degree to which these needs will be alleviated will be affected by the resources available. A large determining factor in the availability of these resources is the economic characteristics of the area and its people.

Arkansas is one of the nation's poorer states. In 1966 the per capita income, \$2,015, ranked fiftieth in the United States, even though this figure represented a gain from \$1,845 in 1965 (3). The total state revenues in the 1966 fiscal year amounted to \$252,917,318 (6). The per capita state tax in 1965 was \$111.15 as compared with a national average of \$135.24 (7). In 1964 Arkansas received a total of \$161,403,000 in federal grants-in-aid (7).

The total amount expended for public health services in the fiscal year 1964 was \$5,002,773. Of this amount, \$2,167,978 were state funds, \$1,052,943 were local funds, \$64,527 came from private agencies, and \$1,717,325 were federal funds (\$817,688 from the Public Health Service, \$880,072 from the Children's Bureau, and \$19,565 from other agencies) (7). In 1963 the per capita expenditure for public health was \$1.66 as compared with a national average expenditure of \$2.26 (8). The 1963 expenditure for public health per \$1,000 of personal income was \$1.13 for Arkansas and \$0.97 for the United States (8).

Arkansas is following the national trend toward increasing urbanization and exemplifies the problem of a traditionally agricultural economy

moving towards industrial development. In June, 1966, the urban population of the state exceeded 50 percent of the total (9). In an effort to attract local industry the Arkansas Development Commission was established in 1955. In addition, laws have been adopted permitting municipalities and counties to vote bond issues for industrial plant buildings(10). Nevertheless, the unemployment rate, or those unemployed per 100 population, in 1967 was 4.6 for Arkansas as compared with 3.8 for the United States (11, 12).

The state has a rich assortment of minerals, including petroleum, natural gas, and coal. Arkansas in 1966 led the nation in the production of bauxite (13). Manufacturing in Arkansas consists mainly of processing raw materials for marketing(10). Agriculture remains important to the economy of the state. Only since 1958 have nonfarm wages and salaries amounted to more than one-half of personal income (10). The chief money crops are cotton, soybeans, rice, hay, and corn. The total market value of crops and livestock in 1964 was \$863,784,000 (13).

The economic problems of the state have intensified health problems and limited the funds available to meet these needs. Increases in personal income and state revenues would provide funds to help in alleviating health problems.

Social Characteristics

The social characteristics of a population should be considered in determining the procedures for executing proposed health programs.

It can be seen from the following brief discussion that social and economic characteristics are interrelated factors, with changes in one condition affecting the other.

The population of Arkansas as of July 1, 1965, was 1,960,000 persons, a decline from the 1940 population. The cause of this decline has been postulated to be migration resulting from the mechanization of agriculture along with a lag in industrial development (9).

Arkansas ranks twenty-seventh among the states in land area. The state includes 53,335 square miles with a population density per square mile of 33.6 in 1960, as compared with 49.7 for the United States as a whole (14). However, the range of density in the state is from 40.9 per square mile to 6.9 per square mile (15). The terrain has influenced population density. For example, the eroded limestone lift found in the northwest Ozark Plateau and the rugged folds of the Ouachita Mountains discouraged railroad development and served to isolate the region. In contrast, the Arkansas valley supported agriculture and was used as an early transportation route. Consequently, this area is more heavily populated than that of the plateau region (15).

Arkansas has a predominantly white population. In 1960 the Negro race accounted for 21.8 percent of the total population (7). However, the racial distribution varies widely among counties.

The average educational level in Arkansas is well below the national average, particularly for males and nonwhites (13). In 1967 the expenditure per pupil, based on average daily school attendance, was \$393, as compared with the United States' average of \$569 (3).

Political Characteristics

Arkansas has 75 counties, each having at least seven elective offices. These include county judge, county clerk, assessor, collector, and treasurer. Each officer serves a two year term. Although the county judge is not literally the chief executive of the county, he can hold a tight rein over county affairs through his influence on the expenditures of the county offices. The judge presides over the county court sessions and the quorum court, consisting of the justices of peace within the county. These courts levy taxes and appropriate funds for the county offices and agencies (including the county health department) (16).

Forty-seven percent of the budget for health programs in Arkansas in 1967 was appropriated by the county quorum court and/or city officials from local general funds (17). The remaining funds came from federal grants and the General Revenue Fund of Arkansas which includes general sales taxes, motor fuel taxes, motor vehicle license taxes, individual income taxes, and corporate income and severance taxes (13).

II. PROGRAMS AND SERVICES OF THE ARKANSAS STATE

DEPARTMENT OF HEALTH

The vital and health statistics indicative of health needs of Arkansas' population, along with the economic, social, and political characteristics of the population, were discussed in the first section of this chapter. The following text will describe the evolvement of health programs for the public.

Historical and Legal Development

The first state board of health in Arkansas was established by the Arkansas Medical Society in 1879. This board was given official status in August of that year by a proclamation from the governor authorizing the board to take any necessary action for the protection of the public from epidemic diseases and asking for donations from the public to finance these activities. The state legislature did establish a board of health in 1881 to continue this work, but appropriations were made for that biennium only. A temporary state board of health was established by the governor around 1910 so that the state might receive a grant from the Rockefeller Foundation for the eradication of hookworm disease. In 1913 the legislature established a permanent Arkansas State Board of Health in response to a resolution by the Arkansas Medical Society (18).

The basic act, Act 96 of 1913, established the professional representation on the board, method of appointment, and other qualifications of members (19). In accordance with this directive, the eleven members of the Arkansas State Board of Health include seven licensed physicians, a dentist, an engineer, a pharmacist, and a registered nurse (19). The governor appoints members from a list of three names submitted for each position by the appropriate professional organization (19). In addition, Act 96 specifically outlines the following functions and duties of the board:

1. To elect a secretary, with the governor's approval, who shall be known as the State Health Officer.

2. To appoint a health officer for each county.
3. To exercise general supervision and control of all matters pertaining to the health of Arkansas' population.
4. To supervise and control the causes and prevention of infectious, contagious, and communicable disease.
5. To direct and control all sanitary matters and measures of quarantine regulation and enforcement, including the authority to prevent the entry of such diseases from outside the state.
6. To operate a Bureau of Vital Statistics to record births, deaths, marriages, divorces, and adoptions within the state.
7. To establish, direct, and operate a state hygienic laboratory.
8. To make reasonable rules and regulations to carry out these duties (19).

Organization

The State Health Officer is administratively responsible to the Arkansas State Board of Health. He serves as the secretary and executive officer of the board and is responsible for enacting board directives (19).

The services established by Act 96 have continued to function. Additional bureaus, divisions, and services have been created as needed. The bureaus and divisions are headed by directors who administer the specific programs. These programs are coordinated by the Assistant State Health Officer, who currently is also the Director of the Bureau of Local Health Services.

Since the 1966 plan of organization, shown in Figure 1, was published, several changes have been made in the structure of the state health department. Health Mobilization Planning, which is not shown on the organization chart, is now under central administration with the program director directly responsible to the State Health Officer. In order to provide more effective and comprehensive services, the programs of Veterinary Public Health and Venereal Disease Control, formerly separate divisions, have now been incorporated into the Division of Communicable Disease Control. An additional change occurred in the Division of Accident Prevention, which was in effect temporarily closed by the resignation of its director. The staff of the Maternal and Child Health Division assumed the responsibility for this program as it relates to children (2). A definite need for a program of accident prevention can be seen from Arkansas' 1966 mortality rate for accidents, 75.0 per 100,000 population, as compared with the national average of 57.3 (2, 3).

Another change is that the Division of Mental Health was removed from the state department of health by a 1966 act of the General Assembly. This act authorized the Arkansas State Hospital to create a similar division which would provide services for community clinics and child guidance centers (20).

The organization of the remaining bureaus and divisions is as shown in Figure 1. Those bureaus and divisions whose programs and services are most directly related to the activities of the Nutrition Service staff are discussed briefly.

STATE

PLAN OF ORGANIZATION

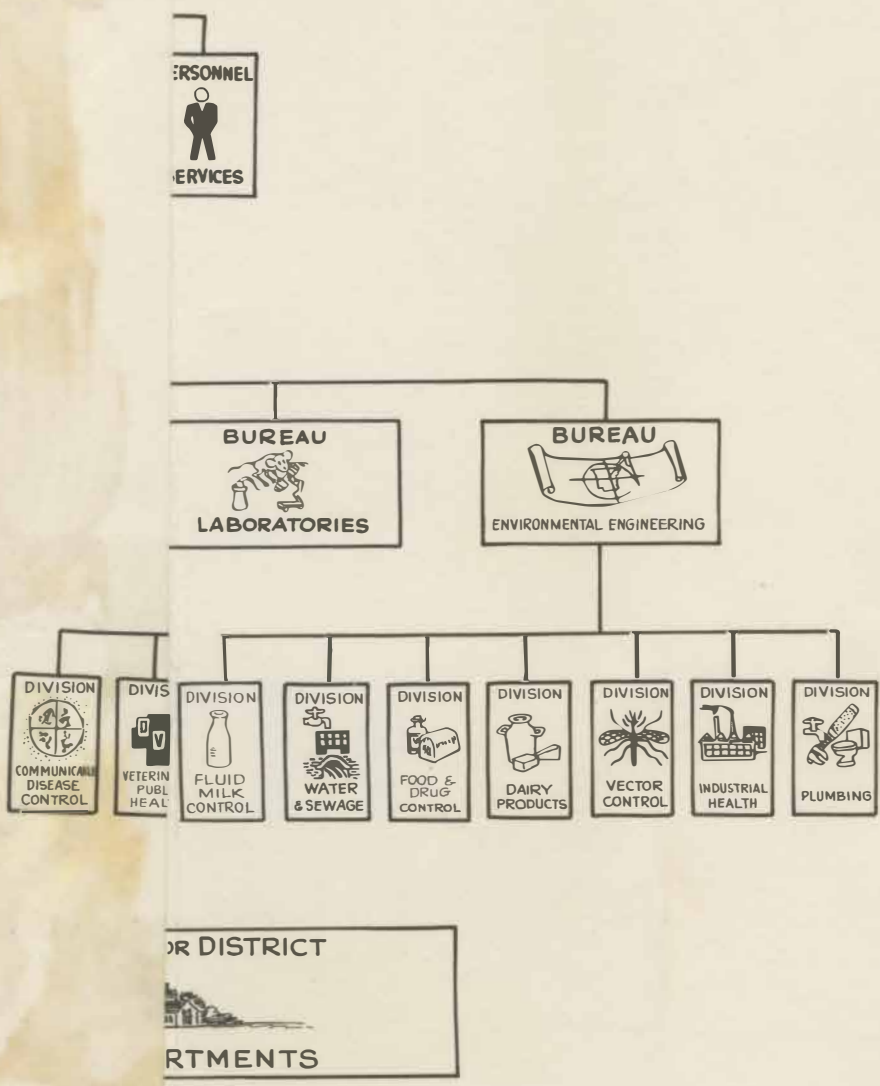
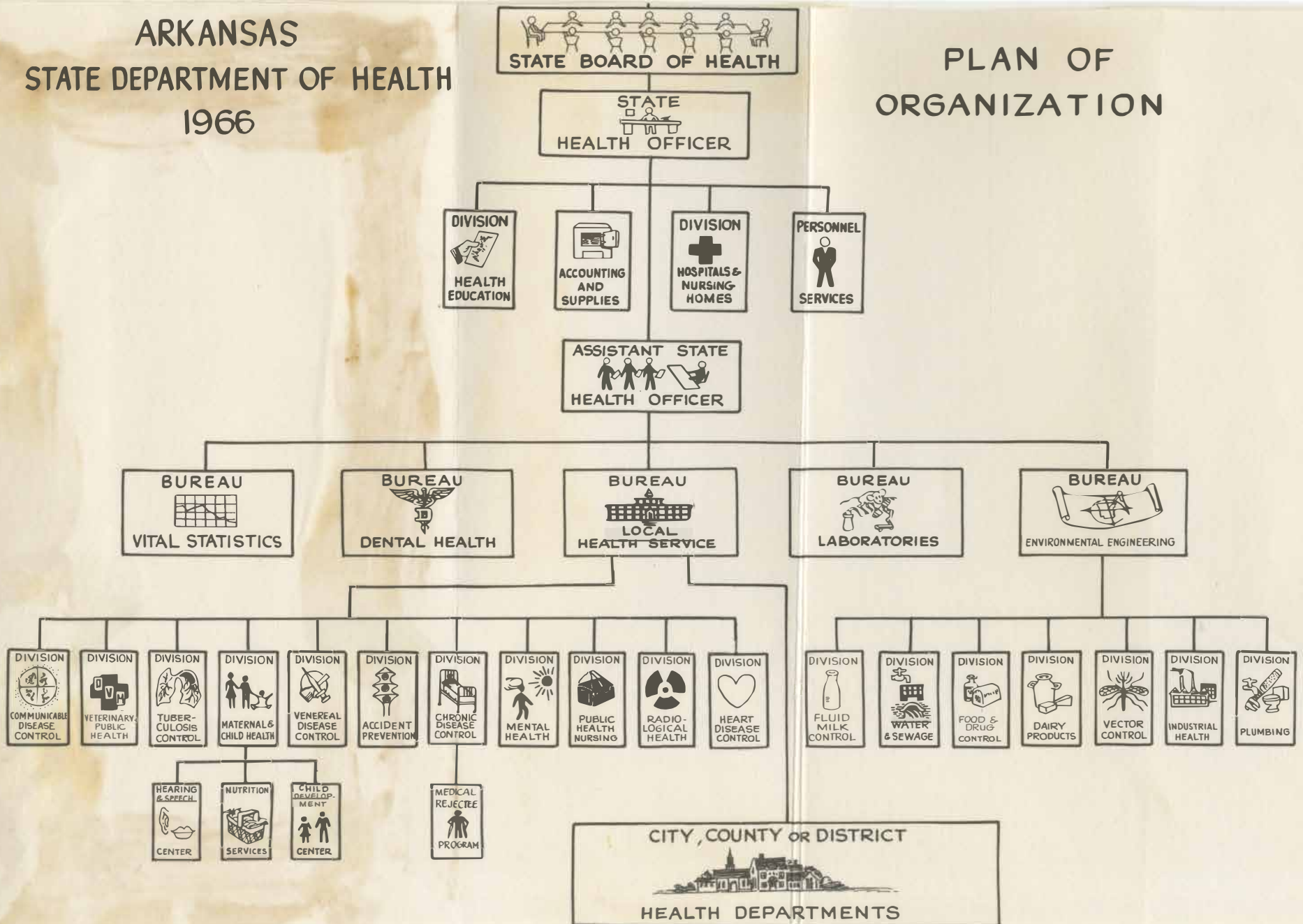


Figure 1. Organizational chart of the Arkansas State Department of Health, 1966.

ARKANSAS STATE DEPARTMENT OF HEALTH 1966

PLAN OF ORGANIZATION



Division of Hospitals and Nursing Homes

The staff of the Division of Hospitals and Nursing Homes is responsible for: (1) inspecting and licensing hospitals, infirmaries, and nursing homes; (2) administering the Hill-Burton Program in Arkansas; and (3) inspecting facilities in the state desiring certification for participation in the Health Insurance Programs for the Aged (Medicare) (2). The staff of this division includes a Dietitian Consultant and a Staff Nutritionist.

The Dietitian Consultant visits all Medicare approved hospitals and extended care facilities every 12 or 18 months, depending upon the classification of the facility. She also aids in the inspection of these facilities for state licensure. The Staff Nutritionist visits all nursing homes not participating in Medicare. Periodically the Dietitian Consultant sends a newsletter containing notices of institutes and correspondence courses, quantity recipes, and pertinent suggestions to all nursing homes and hospitals. Both the Dietitian Consultant and the Staff Nutritionist work toward improving the dietary services offered in hospitals and nursing homes (21).

Bureau of Dental Health

The Bureau of Dental Health provides dental services to hospitalized and homebound patients, the aged, and migrant families. Fluoridation is promoted. Partly because of these efforts, 76 communities now have a fluoridated water supply and seven others have voted to institute fluoridation. Indigent children are given care by 18 clinicians. A cancer

detection program and in-service education for private dentists are also sponsored by the bureau. The staff acts as consultants to programs established by Title I of the Elementary and Secondary Education Act, to Headstart and other Office of Economic Opportunity programs, and to other federal projects (2).

Bureau of Local Health Services

Division of Tuberculosis Control. The Division of Tuberculosis Control provides local out-patient medical service through chest clinics staffed by 29 clinicians, who also provide consultation to private physicians with tuberculous patients. The clinics are established by the local health unit at the request of their medical society and are staffed by area specialists. A unique pilot program was begun at Jefferson County Hospital in July, 1967, to demonstrate the feasibility and effectiveness of general hospital management of tuberculous patients. Hospital discharge is followed by regular medical supervision in health department clinics (2).

Division of Maternal and Child Health. The Director of the Division of Maternal and Child Health supervises a staff of consultants in nursing, school health, vision, speech therapy, audiology, nutrition, psychology, and obstetrics. Since many of the major activities of the division have nutrition components, these services will be explored in more depth than previously mentioned divisions.

A program for the diagnosis and treatment of inborn errors of metabolism is administered by this division. As a facet of this program, public health nurses are instructed in testing for phenylketonuria and in carrying out this testing at well child conferences and on home visits. A program of public education concerning phenylketonuric testing is conducted through consultation with physicians, hospital staffs, Parent Teacher Associations, and other organizations.

School health programs include physical examinations, hearing and vision testing, and conferences between public health nurses and teachers. Staff members participate in the School Health Workshop for graduate and undergraduate students at the University of Arkansas and in a school health nurses workshop. Consultation has been given to the Medical Self-Help Training Program. Following the resignation of the Director of the Division of Accident Prevention in 1966, the Maternal and Child Health Division was given the responsibility for accident prevention programs related to children and supports seven Poison Control Centers throughout the state. Division staff members are administratively responsible for the Arkansas Children's Hearing and Speech Center, a center for the evaluation and treatment of speech and audiology handicaps, and for the Arkansas Child Development Center, a special project for the evaluation of mentally retarded children.

In conjunction with the University of Arkansas Medical School, the division supports a Maternal and Infant Care Project in a ten-county area in central Arkansas for the medically indigent at high-risk. Comprehensive

medical care is provided for each mother and infant by an interdisciplinary team of physicians, an anesthesiologist, public health nurses, and nutritionists. Hospital care is provided at the University of Arkansas Medical Center, including devliery, postpartum care, and complete infant evaluation and care until two years of age.

Nutrition staff members of the Maternity and Infant Care project include a full-time Nutrition Consultant and a half-time Staff Nutritionist. An additional position for a Staff Nutritionist is unfilled. The nutritionists evaluate all new patients and see returning patients on a referral basis. After delivery the mother is counseled regarding breast feeding or formula preparation. Overweight patients may now return after delivery to participate in a special weight reduction clinic.

In 1966 there were 44 family planning clinics established by the local health departments. Three of these clinics were designated as Regional Family Planning Clinics and serve more than one county (2).

The Nutrition Service is under the administrative guidance of the director of this division. The activities of the service will be presented in the next section.

Division of Heart Disease Control. Through federal grants-in-aid the Division of Heart Disease Control assists in the operation of the University of Arkansas Medical Center Cardiac Clinics. Nursing services are available at the clinic or at home to cerebrovascular, heart, and rheumatic fever cases. Professional and lay education programs related

to heart disease are also organized by the division.

Division of Public Health Nursing. Local public health nurses participate in chest clinics, maternity and well child clinics, care and supervision of handicapped and chronically ill children, immunization clinics, family planning clinics, diabetic screening programs, and mid-wife control programs. Further, as of July 1, 1966, the Division of Public Health Nursing was certified to participate in the Home Health Service Program under Medicare. The nurses made an average of 900 visits monthly under this program in 1967 (22).

There were 172 public health nurses employed in local health units and the central office as of March, 1968 (20). This represents a gain of two nurses over the July 1, 1967, figure, when there were eight counties without nursing services, 31 with only one public health nurse, and 36 counties with two or more public health nurses (2).

City, County, or District Health Units

Also placed administratively under the Director of the Bureau of Local Health Services are the city, county, and district health departments. In 1968 there were eight county health units, two city health departments, and 17 district units serving from two to five counties each. These 17 district units include a total of 27 counties. Ten counties are organized only for nursing services. Four of the 75 counties have only part-time services. Only three health departments had a full-time health officer in 1968 (20).

Bureau of Sanitary Engineering

Division of Food and Drug Control. The staff of the Division of Food and Drug Control make sanitary inspections of most food processing plants and school cafeterias in the 32 counties that do not have a local sanitarian and work with local sanitarians on request. Talks on drug safety are made for radio and television audiences, colleges and schools, churches, and other groups. The staff also inspect vending machines (2).

III. THE NUTRITION SERVICE

The main objective of the field experience was to strengthen the student's ability to function as a public health nutritionist through observation and participation in the activities of an actual field unit, the Arkansas Nutrition Service. A brief account of the unit's background, philosophy, organization, and services follows.

History of Administrative Placement

The nutrition unit of the Arkansas State Board of Health was established in 1942. It was placed administratively under the Division of Maternal and Child Health because the supporting funds, administered by the Children's Bureau, were for use in extending health services to mothers and children. The director of this division could also provide consultation and direction on the medical aspects of the program.

Philosophy of the Nutrition Service

The basic philosophy of the Nutrition Service is that improvement of nutritional status will help prevent disease and promote physical

well-being. The Nutrition Service strives to bring about this improvement through the efficient use of resources.

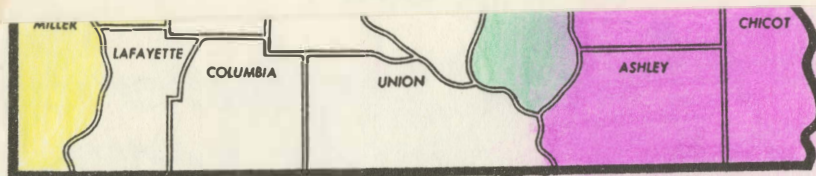
Handicapped by a shortage of qualified personnel and by inadequate salaries, the Nutrition Service has hired available nutritionists on a full or part-time basis for service to the counties convenient to their residence. This realistic policy allows the utilization of available personnel. It is largely because of this approach to staffing that the nutrition program is at its present high level.

Organization of the Nutrition Service

Staff. The Chief Nutrition Consultant is responsible for the nutrition component of the state public health program. Assisting her in the planning, promotion, and implementation of this program is the Senior Nutrition Consultant. Other staff members include two Nutrition Consultants, a Staff Nutritionist, and a Dietitian Consultant, all of whom serve as district nutritionists. Figure 2 shows the geographic area served by each of the nutritionists. A detailed description of each position is found in the Appendix.

Appointments. Members of the Nutrition Service staff are employed under the Arkansas Merit System. Applicants complete a merit system application and state personnel forms. A prospective employee is interviewed by the Chief Nutrition Consultant and the Director of Maternal and Child Health Division. Possession of minimum qualifications and

NUTRITION SERVICE STAFF



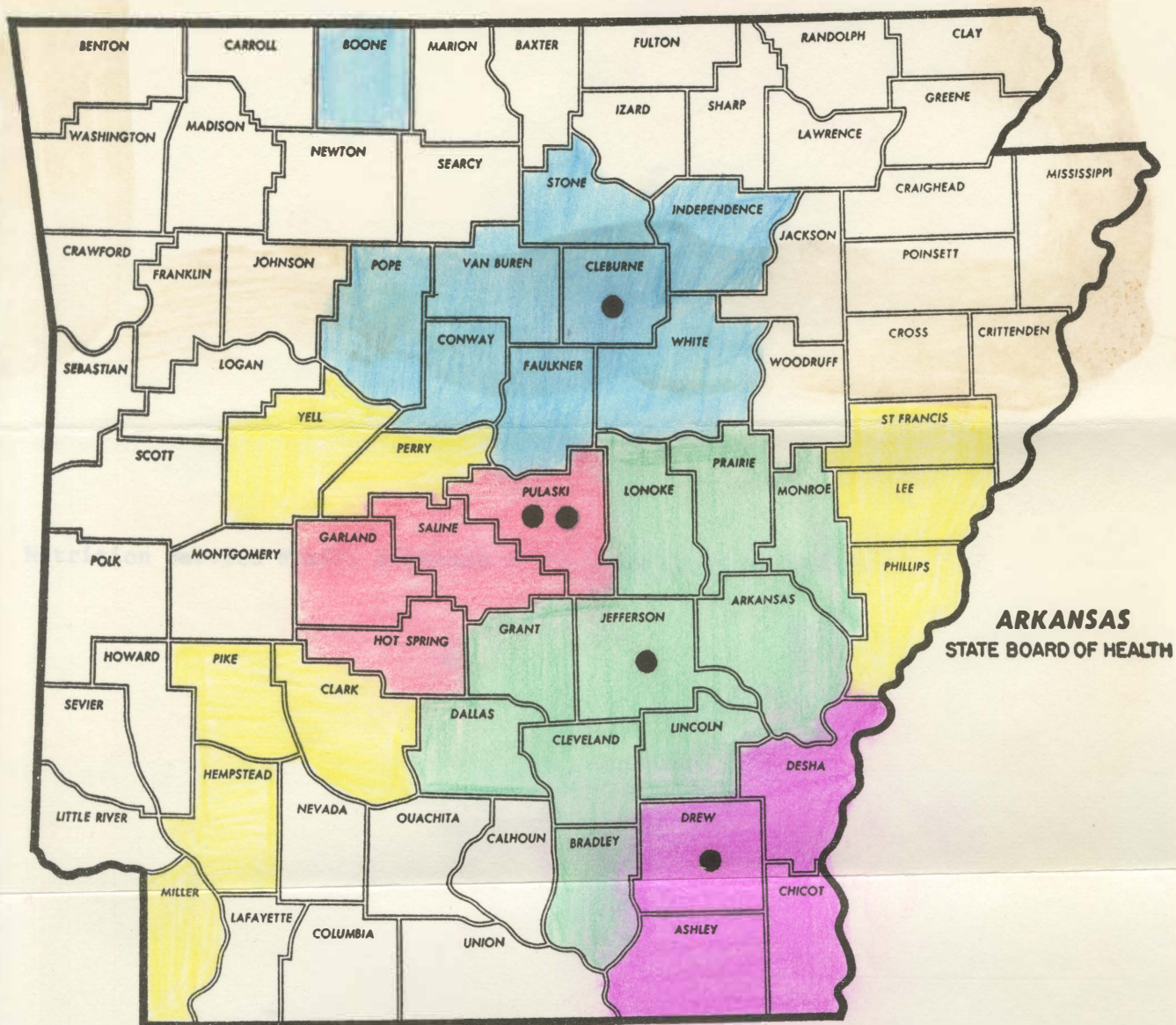
Chief Nutritionist: Mrs. Patricia Raines, Arkansas State Department of Health
 Sr. Nutritionist: ● Mrs. Mary Bell, Little Rock City Health Department

DISTRICT NUTRITIONISTS:

- Mrs. Carolyn Atkinson, North Little Rock Health Department
- Mrs. Kathleen Brown, Jefferson County Health Unit, Pine Bluff
- Mrs. Jo Jackson, Drew County Health Unit, Monticello P/T
- Mrs. Ocrie Lambert, Cleburne County Health Unit, Heber Springs
- County unit headquarters for district nutritionists

Figure 2. Nutrition Service staff, Arkansas State Department of Health.

NUTRITION SERVICE STAFF



**ARKANSAS
STATE BOARD OF HEALTH**

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

Sr. Nutritionist: ● Mrs. Mary Bell, Little Rock City Health Department

- DISTRICT NUTRITIONISTS:
- Mrs. Carolyn Atkinson, North Little Rock Health Department
 - Mrs. Kathleen Brown, Jefferson County Health Unit, Pine Bluff
 - Mrs. Jo Jackson, Drew County Health Unit, Monticello P/T
 - Mrs. Ocrie Lambert, Cleburne County Health Unit, Heber Springs
 - County unit headquarters for district nutritionists

passing of the merit system examinations are required for provisional employment.

All employees of the Arkansas State Department of Health serve a six-month probationary period, at the end of which their performances are evaluated. Thereafter, annual service ratings are required for each staff member.

Qualifications. The minimum requirements for the Chief Nutrition Consultant include a Master's degree specifically related to the public health field and at least five years of experience as a nutritionist. The Senior Nutrition Consultant must have completed at least one year of graduate work related to public health and must have at least two years of experience as a nutritionist. The minimum requirements for a Nutrition Consultant are two years experience as a nutritionist and one-half year of graduate work. A Staff Nutritionist must have a Bachelor's degree in home economics with a major in foods and nutrition or a related degree and one year of experience. The Apprentice or Trainee Staff Nutritionist must have a Bachelor's degree in home economics or a related field with no experience required. The Appendix includes a more detailed description of job qualifications.

Recruitment and orientation. Very active recruitment was carried on until approximately a year ago. At this time it became difficult to justify professional staff time for recruitment since success was limited by a definite lag in Nutrition Service salary increases paralleled with

salary increases in other nutrition positions. The Chief Nutrition Consultant is currently requesting salary increases so that available positions may be made more attractive to qualified personnel. The Chief Nutrition Consultant and the Senior Nutrition Consultant are responsible for individual training or orientation programs for new staff members, including the Maternity and Infant Care Project staff.

Staff education and professional growth. No nutrition program can operate with optimal effectiveness unless the staff members are aware of new developments in nutrition knowledge and communications. Recognizing this need, the Chief Nutrition Consultant directs in-service education and encourages attendance at professional meetings. Ongoing staff education is an integral part of the quarterly nutrition staff meetings. Current literature pertinent to nutrition is circulated among the staff to update knowledge. Each staff member can be reimbursed for travel expenses to an annual out-of-state meeting. Active participation in state professional organizations and meetings is encouraged.

Nutrition staff members may be granted an educational leave without pay for graduate work. Upon approval of the State Health Officer, stipends are available for work towards a Master's degree. Following completion of the degree program, the nutritionist is expected to return to the Nutrition Service staff on a full-time basis for two years. All these opportunities aid in developing the nutritionists' abilities.

Intradepartmental communications. It is important that all divisions of the health department are aware of the problems and activities of other divisions in order that programs may be organized efficiently. To facilitate this exchange of information, the Chief Nutrition Consultant represents the service at monthly staff meetings held by the State Health Officer. Directors of divisions are informed of current health department activities through reports on recognized needs, program progress, and innovations. With this knowledge, the Chief Nutrition Consultant can plan state programs to meet these needs.

The Nutrition Service plans are included in the State Health Plan which is revised biannually. A report from the Nutrition Service is also included in the annual report of the Arkansas State Department of Health.

Because of a need for a tool to better present and evaluate nutrition activities, a new system of coding, adapted from that utilized by the nutritionists of the Michigan Department of Public Health, is presently being initiated. After monthly tabulations of these reports, a statistical analysis of activities will be developed to be used in evaluating services in light of program priorities. An interpretation of this tabulation will be sent to administrators as an illustration of current activities.

Printed materials. One of the aids used to increase the effectiveness of nutrition, education is the use of printed material. Printed

materials are available from the Nutrition Service containing information on: (1) basic nutrition; (2) infant nutrition; (3) nutrition for pregnant and lactating women; (4) feeding of handicapped children; (5) recipes and menu suggestions for modified diets; and (6) menus, recipes, and snacks for day care centers. A leaflet giving directions for recording diet histories and for teaching basic diets was also prepared by the nutrition staff.

One of the most valuable publications of the Nutrition Service is the Arkansas Diet Manual, written with the cooperation of the Arkansas Dietetic Association and the Arkansas Medical Association. Free copies of the diet manual are distributed to new physicians, medical students, hospitals, nursing homes, nutritionists, public health nurses, and libraries within the state. Upon request, the manual is sold to any of the above groups in other states. Physicians and hospital staff members in Arkansas may also request individual diet plans adapted from the diet manual.

Maternal and child health. A priority need for nutrition services in maternal and child health is indicated by the problems of a high-fetal death rate and the incidence of prematurity and the role of nutrition in their prevention. The importance of nutrition during the human growth period is a further indication of nutrition's value in maternal and child health programs. To meet this need both direct and consultative services are offered through prenatal and well child clinics, midwife control programs, programs for premature infants, immunization clinics, and programs for persons with inborn errors of metabolism.

Maternity clinics are conducted through the local health department in 20 counties. Consultation is available to the nurses individually or through area conferences. District nutritionists provide dietary counseling to the patients through individual or group discussions. These maternity clinics offer an opportunity to influence the diet of the mothers and of other household members. Selected patients are visited at home for additional counseling.

Another prenatal program is directed towards midwives, who still serve a significant segment of the population. Nutritionists speak to the classes conducted by public health nurses for midwives concerning prenatal, postnatal, and infant nutrition.

Because of concern over the incidence and seriousness of prematurity, the leading cause of death in Arkansas infants, the nutritionists work with the county programs for premature infants by providing clinic and home counseling of mothers and nursing consultation. One nutritionist works with the Jefferson County Program for Combined Hospital-Home Care for Premature Infants. The purpose of the project is to fully evaluate and stabilize the premature infant in preparation for a safe early discharge to the family with close follow-up by the public health nurse. The nutritionist visits the home upon request to evaluate the nutritional problems and to advise the mother concerning any difficulties. Consultation about feeding premature infants is offered to nurses working with the program.

Adequate nutrition is essential to health, especially during the growth period. Nutritionists attempt to improve nutrition during this

period through individual or group counseling of patients at well child conferences and by providing consultation concerning child nutrition to nurses.

Nutritionists are spending increasing time with patients diagnosed as having inborn errors of metabolism. Advice on diet modifications for metabolic errors and menu planning is available to all families with this problem. Lofenelac is distributed without charge to children with phenylketonuria.

One district nutritionist serves as a member of the medical and paramedical team at the Arkansas Child Development Center which evaluates children suspected of being mentally retarded. A conference is held to pool the judgements of each team member. According to their decision, the child may be referred to another agency, institution, or physicians, or may return for further evaluation and counseling.

Public health nursing. It is through the Division of Public Health Nursing, located under the Bureau of Local Health Services, that many of the programs of the other divisions of this bureau are implemented at the local level. Indeed, the public health nurse in the local unit is largely responsible for direct nutrition counseling through clinic and home visits. The nutritionists provide technical guidance and consultation to these local health nurses. Information is provided through individual consultation on special problems, area nursing conferences, and participation in nursing education programs. Printed material on nutrition will be sent periodically through the central office to all nurses. Home visits are

made with nurses both to provide patient instruction and to demonstrate nutrition counseling and interviewing.

Tuberculosis control. The Division of Tuberculosis Control provides out-patient medical services through chest clinics. Because of a recognized need by the clinician for dietary assistance, one nutritionist counsels patients at the chest clinic in Lee County. Services are available to other counties upon request.

Chronic disease control. Many of the patients served by the Division of Chronic Disease Control need dietary counseling. Direct services are provided by home and office counseling of patients referred by physicians and by counseling in well child and maternity clinics. Group classes are held for diabetics by several nutritionists. The diet manual and modified diet plans, developed by the nutrition staff, are used frequently in working with chronically ill patients. A need recognized by the Chief Nutrition Consultant and the director of this division is for a full-time Dietitian or Nutrition Consultant in this area.

Dental health. The Nutrition Service staff cooperates with the Bureau of Dental Health in the preventive aspect of their program. Consultation is provided on the nutrition component of dental health education. Nutrition staff members review materials and information concerning nutrition and dental health. Information concerning dental health is included in some patient counseling, although there is no separate program.

Food and drug control. Consultation is offered to the staff of the Division of Food and Drug Control on the nutritive content and the labeling of food. Literature research pertaining to the safety and quality of foods is another service available.

Hospitals and nursing homes. The members of the Nutrition Service staff work with the Staff Nutritionist and the Dietitian Consultant of the Division of Hospitals and Nursing Homes in food service supervisors' courses and workshops. Consultative service is also available.

Health Mobilization Planning. The program of Health Mobilization Planning includes a course in Medical Self-Help Training taught to college students, Job Corp trainees, National Guard units, schools of practical nursing, and civic groups. The district nutritionists teach the foods and nutrition section of the course.

Public welfare. Many services are offered to the Arkansas Department of Public Welfare by the nutrition staff. District nutritionists regularly attend clinics held by the Crippled Children's Division in their geographic areas. All new patients attending the clinics see the nutritionists for evaluation and counseling. Returning patients are seen on a referral basis. Aid is also available in the development and evaluation of special feeding devices for handicapped children. When necessary, the nutritionists visit selected patients at home, including those referred from clinics not served by a nutritionist.

The Nutrition Service staff provides consultation concerning feeding children in day care centers to personnel of the Child Welfare Division and to directors and workers in the centers. Nutrition staff members also participate in workshops for center directors. Nutritionists are now preparing educational materials directed towards both parents and staff to be sent every two months to all licensed day care centers in the state. Materials on menu planning are available for distribution to all centers.

Public education. Members of the Nutrition Service staff are available as consultants on nutrition oriented classroom activities, lesson plans for a nutrition unit, and appropriate teaching aids. District nutritionists present nutrition units in some elementary schools as demonstrations to the teacher. Nutritionists also lecture and give demonstrations to home economics classes concerning prenatal nutrition, general nutrition, marketing practices, and careers in nutrition and dietetics. The School Lunch Division of the Arkansas Department of Education is aided through individual and group conferences with state and local staff members.

Agricultural services. The staff of the Nutrition Service work with the Extension Home Economists and the Consumer Marketing Specialists of the Agricultural Extension Service in promoting nutrition education. Nutritionists participate in workshops for county home economists and speak to local clubs of homemakers. Nutritionists also assist with the nutrition component of 4-H Club programs.

The Food Stamp Plan, which was begun in Arkansas in 1963, reached 29 counties as of April, 1968. Expansion into 23 other counties is planned for the near future (24). Through clinic and home counseling of patients the nutritionists try to inform possible clients about the program and to encourage participation. Staff members also provide information to participants in the program concerning low cost, high quality food items in an attempt to promote wise usage of the food stamps. In addition, nutritionists participate in county food stamp nutrition committees. Both the Pulaski County Food Stamp Nutrition Committee and the Saline County Nutrition Education Committee are publishing a periodic fact sheet which contains menus, recipes, and suggestions for wise shopping. These leaflets are distributed at the coupon issuing offices. Nutritionists go to the issuing offices and talk with the food stamp recipients about food purchasing. Talks are also made before professional and lay groups about the Food Stamp Program.

Office of Economic Opportunity programs. The members of the Nutrition Service staff are actively cooperating with the various Office of Economic Opportunity programs in Arkansas. Several nutritionists serve as members of county Community Action Program Committees. Nutritionists work with food service personnel and with teachers in both Head Start programs and with Office of Economic Opportunity day care centers. District nutritionists also teach classes in general nutrition and food preparation to Homemakers employed by this office.

Professional schools. Nutritionists give lectures and demonstrations at schools of nursing, medicine, and pharmacy. In addition, student nurses from the University of Arkansas Medical Center are assigned to health units for field experience. Several of the nutritionists contribute to this field experience through conferences with the student, taking the student nurses on home visits to patients, and supervising the nutrition projects of students.

Colleges and universities. Lectures on public health nutrition as a career are presented by the district nutritionists at both state and private colleges and universities. Information about position vacancies in nutrition is made available to all educational institutions.

Voluntary agencies. The nutritionists in Little Rock and North Little Rock serve as consultants to the nursing staff of the Pulaski County Visiting Nurse Association and give dietary counseling upon request. Nutrition services are available to all voluntary agencies.

Community groups. The district nutritionists lecture to community groups, such as Parent Teacher Associations. At times nutritionists also judge food products at county fairs and local contests for community public relations.

Professional organizations. The Nutrition Service staff is active in the Arkansas Home Economics Association, the Arkansas Dietetic Association, the Southern Association of Children under Six, the Arkansas Public

Health Association, and the American Dietetic Association. In addition, lectures, articles, and printed materials are provided for the Arkansas Medical Society, the Pulaski County Medical Society, and the Pulaski County Medical Society Auxilliary.

Services to local health departments. District nutritionists are responsible for providing nutrition services to local health departments. A basic function of the public health nutritionists is to render consultative and direct services to the local health unit staff. In counties not served by a nutritionist, requests for services are filled through the state office by district staff.

CHAPTER III

AN ANALYSIS OF THE STUDENT'S PARTICIPATION IN NUTRITION SERVICES

A partial account of the field experiences with the Nutrition Service and their contribution to the student's professional growth follow.

Part I is an analysis of the abilities gained through observation and experience. An analysis of a specific service activity is presented in Part II.

I. ANALYSIS OF SKILLS GAINED THROUGH OBSERVATION AND EXPERIENCE

Conferences

The student's field work began with a series of conferences designed to give an overview of the programs and services available through the Arkansas State Department of Health and other agencies. These included discussions with the Chief Nutrition Consultant, the directors of several of the state health department divisions, local health officers, and several leaders in nonhealth department programs. Special problems, recent program changes, and plans for the future were brought out in these interviews. The student gained insight into the attitudes, ideas, and methods of some of the health and welfare leaders in the state. The student's ability to participate in a productive conference was strengthened by these experiences. The amount of background preparation greatly affected the

value of the conference. Studying material on the program, having an organized plan for gaining information, and preparing specific questions were especially helpful.

The student also participated in a conference with several district nutritionists and the Senior Nutrition Consultant to plan printed materials. These included a newsletter to be sent to all day care centers for staff and parent education and an allergy cookbook to be distributed mainly through the University of Arkansas Medical Center Pediatric Allergy Clinic. The session was productive because of preparation and the open exchange of ideas. Tentative plans were completed for all the materials discussed. The student made several suggestions that were incorporated into the preliminary drafts.

Consultation

During the field experience, the student visited several hospitals and nursing homes with the Dietitian Consultant working with the Division of Hospitals and Nursing Homes. Consultation was given to a variety of persons, including a hospital administrator, another dietitian, and food service supervisors. Different techniques were used with each of these persons, depending on the approach suited to the individual situation. The techniques utilized by the consulting dietitian at the Arkansas Children's Hospital were also observed. These experiences helped to give a better idea of the functions of a dietary consultant. Flexibility was seen as an important requirement for the effective consultant. A solid background in administrative dietetics is also necessary for the dietary consultant.

Group Work with Professional and Nonprofessional Persons

The student both observed and participated in group work with several professional and nonprofessional groups. An example of this was working with the Hot Springs County Interagency Committee, comprised of representatives from various social, educational, and health agencies. Through such committees information about community activities can be both obtained and dispersed, and the support of local leaders can be enlisted. A knowledge of group dynamics and an ability to work with other professionals is helpful in such group work. The nutritionist's approach to this committee demonstrated techniques needed for interaction, such as analyzing the power structure of the group.

A slightly different type of group work with professionals was observed at a staff conference at the Child Development Center. The medical team, consisting of a psychologist, a social worker, a pediatrician, a public health nurse, and a nutritionist, evaluated the child and then together decided upon the best course of action. The situation required an understanding of group interaction and an ability to communicate professional concepts. Because those observed possessed these skills, the conference was a good example of a team working together to best serve the patient.

Members of a local weight reduction club requested information on the maintenance of a proper balance between caloric intake and energy output. Because of a particular interest on the student's part in overweight and obesity, she was eager to work with this group. A similar club was

first observed to provide information about the goals and methods of the group. This was valuable in preparing the speech. The ladies asked many questions during and after the presentation and seemed to gain much information. However, the student recognized a need for continuing work with such a group as well as close supervision by medical and paramedical personnel. Only through much guidance and encouragement can the poor but firmly established food habits exhibited by many club members be changed.

The student learned that group activities are flexible and varied. While information about the group is helpful, many times the exact situation cannot be anticipated and the nutritionist must adapt to the individual occasion. The student did feel at ease in most of the groups but is less comfortable with professional workers in other disciplines. Additional collaboration with other professionals should give the student greater self-confidence.

In-Service Education

The student participated in a two-day nutrition staff meeting, at which representatives from the Child Welfare Division of the state public welfare department and the Arkansas Office of Economic Opportunity discussed their programs. The writer told briefly of some of her graduate course work. The interchange of ideas made the meeting worthwhile. Through observation and participation in the staff meeting, the student saw an excellent example of nutritionists and social agency personnel sharing information so that they might better achieve their professional goals.

Counseling Nonprofessional Persons

The student spent much of her field experience in the guidance and counseling of nonprofessional persons. Time was spent in local health departments and clinics talking to patients at well child and maternity clinics. The student also counseled patients at the Maternity and Infant Care Project, at Crippled Children's Clinics, and at a special weight loss study.

Effective guidance and counseling requires adequate background information and an ability to gain rapport with the patient. The first can be gained through surveying the patient's record and discussing the case with other medical workers. The student found that she did need to spend more time in interpreting the records, particularly the annotations. This preparation increased the value of her counseling. Home visits can also be made to see what resources are available so that recommendations are based upon the individual situation. Although visiting patients at home was time consuming, it proved to be of value in selected cases requiring intensive care.

These experiences helped the student develop her ability to gain rapport with the patient. The author liked the direct person to person contact of counseling and seemed to be able to communicate with the patients, especially the younger ones, by the end of the experience.

II. ANALYSIS OF EXPERIENCE WITH THE VISITING NURSES ASSOCIATION

The orientation to the practice of public health nutrition included approximately a week spent with the Visiting Nurse Association, a United Fund Agency. The association is the only Pulaski County agency licensed to provide home nursing services to Medicare patients. Over 150 patients are aided annually. Staff members include the Director, the Assistant Director, and seven nurses. The goal of the staff is to provide bedside nursing care for the sick in the home, to teach nursing procedures, and to counsel the family concerning patient care. This activity was selected because the agency requested nutrition services and because the association could provide work experience with paramedical personnel and with patients.

Development of Plans for Experience

In preparation for this experience, the student scanned current literature for information on geriatric nutrition and the specific problems that might arise, such as tube feeding. In order to learn the background and methods of the association, the student talked with the Director and Assistant Director and observed the orientation of student nurses to the agency.

The planning of the student's activities was delegated to the Assistant Director. With the aid of the staff nurses, she selected patients for the student to counsel. Other activities included presenting an in-service education program to the staff.

Participation in Planned Activities

A major portion of the time with the association was spent visiting patients at home. The student learned that adequate preparation, including reviewing the patient's record and discussing the case with the nurse, was essential to a productive visit. In such conferences nurses may be guided in selecting the cases to be visited so that the nutritionist's time may be better utilized. A wide variety of characteristics was observed among the patients. It was concluded that the individual must be considered when evaluating the case.

An in-service education program was presented to the staff. Because over 90 percent of the patients are older people, the general topic suggested was geriatric nutrition. Based on the examples of cases seen and questions asked, topics covered included general points to consider when evaluating the nutritional status and problems of an older person, basic nutrition as applied to geriatric patients; and adaptation of a basic diet for modified diets. The nurses asked many questions and were receptive to the information presented. The agency director felt that the program was valuable in furthering the nutrition knowledge of the nurses. The student thus gained experience in presenting an in-service program to paramedical personnel.

Working with the Visiting Nurse Association gave the student an excellent opportunity to observe and participate in the work of a voluntary agency providing home nursing care. The student also learned much about the functioning of Medicare. A great need was seen for nutrition services

within such an agency. The student again saw that organization and preparation are essential. The student also saw the value of securing adequate case information. She feels that her ability to contribute to the nutrition component of such programs was greatly enhanced by the knowledge gained through this experience.

CHAPTER IV

SUMMARY AND EVALUATION

The eight weeks of field experience in the Nutrition Service of the Arkansas State Department of Health was a worthwhile, fruitful experience. It provided observation and experience in the actual practice of public health programs, particularly the nutrition component. The student concluded that knowledge, forethought, vision, organization, and skills in communication are necessary to meet health needs effectively.

An overview of the total state health program, including the role of nutrition in this program, was provided by conferences with health officials and by observation of various health department activities. The student gained an understanding of the overall functioning of a local health department through conferences with local health unit directors, nursing supervisors, and sanitarians, as well as by observation and participation in local clinics.

Of particular importance in the development of an appreciation of nutrition's place in the total health department was the opportunity of observing and working with the Nutrition Service staff members. Time spent with the Chief Nutrition Consultant allowed the student to see the complexity of the administrative responsibilities involved in carrying out a statewide program. Work with staff members and other paramedical personnel provided an opportunity to observe and participate in both

direct and indirect services. The student also saw the techniques utilized by different nutritionists in presenting information to diverse groups.

Another contribution of the experience was practice in surveying available resource materials to gain information about the health, socio-economic, and political characteristics of the area to be served. In addition, many of the principles discussed in the classroom were demonstrated. The student observed the practicalities involved in the application of nutrition to a variety of daily living situations. The student also observed how both state and local health programs are developed and how information about available services can be dispersed. All these experiences served to reinforce and broaden the student's knowledge gained through classroom participation.

More specifically, the value of organization and preparation was repeatedly emphasized during the experience. Further, the student recognized the contribution that administrative guidance can make to an effective program.

The student did occasionally feel that her limited experience, particularly in administrative and therapeutic dietetics, was a handicap. Nevertheless, the experience gained in this field training should make a valuable contribution to the student's knowledge about public health nutrition and its application. The student eagerly anticipates working as a public health nutritionist and feels that the field experience was valuable as preparation for her profession.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. House of Delegates, American Medical Association 1948 In: Hanlon, John J. 1964 Principles of Public Health Administration. C. V. Mosby Co., Saint Louis, p. 24.
2. Arkansas State Department of Health 1967 Annual Report, Arkansas State Department of Health, Fiscal Year 1966-1967. Arkansas State Department of Health, Little Rock.
3. U. S. Bureau of the Census 1967 Statistical Abstract of the United States. U. S. Government Printing Office, Washington, D. C.
4. Arkansas State Department of Health 1966 Annual Report, Arkansas State Department of Health, Fiscal Year 1965-1966. Arkansas State Department of Health, Little Rock.
5. Bureau of Vital Statistics January-December, 1967 Monthly Summary of Vital Statistics. Arkansas State Department of Health, Little Rock.
6. Arkansas Department of Revenues 1966 Biennial Report. Arkansas Department of Revenues, Little Rock, p. 7.
7. The Council of State Governments 1966 The Book of the States, 1966-67. Council of State Governments, Chicago.
8. Arkansas Economic Expansion Study Commission 1964 Accelerating Economic Growth in Arkansas. Democrat Printing Co., Little Rock, p. 183.
9. Collett, Kay G. and Henry M. Alexander 1966 The City Manager Plan in Arkansas. University of Arkansas, Fayetteville, p. 1.
10. Packer, Kenneth Whitten 1966 Arkansas. In: Encyclopedia Britannica, vol. 2, ed., W. R. Prece. Encyclopedia Britannica, Inc., Chicago, p. 407.
11. Arkansas Employment Security Division 1968 Census compilations. Arkansas Employment Security Division, Little Rock. (Mimeographed.)
12. U. S. Department of Labor 1968 Census compilations. U. S. Department of Labor, Washington, D. C. (Mimeographed.)
13. Compton, L. 1968 Arkansas. In: Colliers Encyclopedia, vol. 2, ed., L. Shores. The Crowell-Collier Publishing Co., New York, p. 641.

14. Lewis, Boyd, editor 1968 The World Almanac. Doubleday and Co., Inc., New York.
15. Arkansas State Board of Health 1964 Population Information for Mental Health Planning in Arkansas. University of Arkansas, Fayetteville, p. 1.
16. Alexander, Henry M. 1959 Government in Arkansas. Pioneer Press, Little Rock, p. 84.
17. Personal interview with Dr. E. J. Easley, Assistant State Health Officer and Director, Bureau of Local Health Services, Arkansas State Department of Health, April, 1968.
18. Arkansas State Department of Health. 1965 Employees' Handbook. Arkansas State Department of Health, Little Rock.
19. General Assembly 1913 Act 96. State of Arkansas, Little Rock.
20. Maternal and Child Health Division 1967 Maternal and Child Health Plan. Arkansas State Department of Health, Little Rock.
21. Personal interview with Miss Josephine McGill, Dietitian Consultant, Division of Hospitals and Nursing Homes, Arkansas State Department of Health, May, 1968.
22. Personal interview with Miss Sara Lou Butler, Director, Division of Public Health Nursing, Arkansas State Department of Health, March, 1968.
23. Personal interview with Mr. Don Hoogland, State Director, Consumer and Marketing Service, United States Department of Agriculture, March, 1968.

APPENDIX

CHINESE UNIVERSITY OF PETROLEUM

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 statewide public health program, and to do related work as required.

EXAMPLES OF WORK PERFORMED

1. To promote and set standards for statewide 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 statewide 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 for 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 preprofessional 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 statewide 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 statewide 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 one 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 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.

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 the institutions or agencies in the area that have statewide implication.

EXAMPLES OF WORK PERFORMED

1. To participate in promoting and carrying out a statewide nutrition program or a communitywide 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

DEFINITION

Under the general direction of the medical center of the local health agency and under the immediate technical supervision of a nutrition consultant, to perform nutrition services in the local agency and to do related work as required.

EXAMPLES OF WORK PERFORMED

1. To promote and carry out a communitywide nutrition program in public health.
2. To plan and take part in consultation service to other members of the staff and local workers in related fields.
3. To cooperate with other agencies in the community in the formulation of a total nutrition program for the families.
4. To conduct studies and surveys on cost, availability, and use of foods, these studies to be used as guides for setting up nutrition programs.
5. To evaluate the effectiveness of nutrition services and programs.
6. To prepare and assemble nutrition education materials to be used in the community.
7. To plan and conduct staff education in nutrition.

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. One year as nutritionist in the field of public health or welfare, or as home economics trained worker conducting adult education, or as dietitian, or teacher of foods and nutrition, or school lunch-room supervisor provided that person has conducted a nutrition education program. One year of graduate work may be substituted for the year of experience.
3. 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.

^{1/} This 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.

2. Develops and carries out demonstrations and teaching in areas such as food selection, preparation, and budgeting for individuals and groups.
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 statewide 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, and methods for improving dietary aspects of care in hospitals and institutions.
5. To confer with the hospital staff of the Division of Hospitals and Nursing homes, and architects, state and private, on efficient food service layout 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 layout 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 food service units in institutions, and 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 Senior Dietitian Consultant or 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, and methods for improving dietary aspects of care in hospitals and institutions.
4. To confer with the staff of the Division of Hospitals and Nursing Homes 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 and 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 preparation, of cost accounting and budgeting, of selection and use of equipment in food service units in institutions, and of 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 CARE 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

1. 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.
2. 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.
3. Thorough knowledge of human nutrition in health and disease, and application of principles in diet therapy and normal nutrition.
4. Considerable knowledge of social, economic, and cultural factors to be considered in nutrition work with families and individuals; of agencies, universities and professional and lay organizations which have resources to be utilized in developing community nutrition services for families and individuals; of roles of other paramedical disciplines; and of educational methods and their application in in-service training programs and in group work with patients.
5. 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.

EXAMPLES OF WORK PERFORMED

1. Participates with the project team in the overall planning, operation and coordination of services, in administrative staff meetings

and Maternity and Infant Care Project in-service training programs, and in staff case conferences in the Maternity and Infant Care Program.

2. Responsible for planning and implementing nutrition services for maternity patients and infants served by the project.
3. Provides technical consultation in her speciality to all members of the project staff and others.
4. 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.
5. 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.
6. Responsible for adapting therapeutic diets to patients' resources and recommending suitable foods to meet the nutrient requirements in diets prescribed.
7. 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.
8. 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

1. Graduation from an accredited college or university including or supplemented by course work required for a major in food and nutrition.
2. Completion of hospital dietetic internship or training and experience which meets the requirements for membership in the American Dietetic Association.
3. 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.
4. Knowledge of human nutrition in health and disease, and application of principles in diet therapy and normal nutrition.
5. Knowledge of social, economic, and cultural factors to be considered in nutrition work with families and individuals; of agencies, universities and professional and lay organizations which have resources to be utilized in developing community nutrition services for families and individuals; of roles of other paramedical disciplines; and of educational methods and their application in in-service training programs and in group work with patients.
6. 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.

EXAMPLES OF WORK PERFORMED

1. 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.
2. 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, that is, group counselling session in clinics, demonstration of use of donated foods, meal planning and food purchasing under food stamp program.

3. Participates in case conferences and in staff meetings, provides nutrition consultation to other professional staff, prepares reports as required.
4. Assists in the development of nutrition records, procedure manuals and educational materials.

VITA

Agnes Willoughby Hinton was born in 1946 in Vicksburg, Mississippi, where she attended elementary and secondary school. She received her Bachelor of Science degree with a major in Foods and Nutrition from Mississippi State College for Women, Columbus, Mississippi. She worked for the Nutrition Service of the Mississippi State Board of Health as a summer student in 1966. Immediately following graduation, she entered the Graduate School of The University of Tennessee, seeking a Master's degree with a major in Nutrition and a minor in Health Education. The author is married. Upon graduation she will work as a nutritionist for the Baltimore County Health Department, Towson, Maryland.