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Nutrition Field Experience with the Division of Indian Health, Oklahoma City Area

Wanda Lee Dodson
University of Tennessee, Knoxville

To the Graduate Council:

I am submitting herewith a thesis written by Wanda Lee Dodson entitled "Nutrition Field Experience with the Division of Indian Health, Oklahoma City Area." 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 Mayshark

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

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

August 1, 1968

To the Graduate Council:

I am submitting herewith a thesis written by Wanda Lee Dodson entitled "Nutrition Field Experience with the Division of Indian Health, Oklahoma City Area." 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 Nell Trayler
Major Professor

We have read this thesis and recommend its acceptance:

Jane R. Savage

Cyrus Mayshark

Accepted for the Council:

Helen B. Smith
Vice Chancellor for
Graduate Studies and Research

NUTRITION FIELD EXPERIENCE WITH THE DIVISION OF INDIAN HEALTH, OKLAHOMA CITY AREA

A Thesis

Presented to

The Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Wanda Lee Dodson

August 1968

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ABSTRACT

The topics for investigation were the organization and programs of the Division of Indian Health in the Oklahoma City Area and the role and responsibilities of a public health nutritionist. A field experience of eight weeks was designed for the student to observe and participate in the activities of the Division of Indian Health in the Oklahoma City Area and in the Talihina Service Unit. Data were collected through conferences, interviews, observations, visits, and readings.

The Division of Indian Health in the Oklahoma City Area provides preventive, curative, and rehabilitative services to approximately 73,000 Indians living in the states of Oklahoma, Florida, North Carolina, Mississippi, and Kansas. There are more than 30 tribes with individual tribal characteristics residing in these states. The Indian population is young and has a median age of 20 years. The health status, median family income, and educational attainment is generally lower for the Indian than the non-Indian population.

The Division of Indian Health, located in the Medical Services Branch of the Public Health Service, Department of Health, Education, and Welfare is the official agency concerned with the health of the Indian people. The Division staff is assigned to seven areas. Each area is organized to provide comprehensive health services including hospitalization, out-patient medical care, public health nursing, dental, nutrition, health education, pharmaceutical, medical social services, and environmental health

services to the Indian beneficiary. The goal is to raise the health status of the Indian to the highest possible level. To facilitate the administration of health programs, the Oklahoma City Area, like other areas, is divided into service units that are the basic unit of operation.

The Nutrition and Dietetics program provides services in both prevention of illness and treatment of Indian patients. The nutritionist guides individuals and groups toward better health through improved nutrition and helps keep the staff up-to-date in nutrition. The dietitian is especially concerned with the diet of hospitalized patients and management of the dietary department. An effort is made to see that each patient leaving the hospital on a modified diet understands it, and that the diet is adapted to his eating habits, food preferences, and home food supply in so far as possible.

The Oklahoma State Department of Health, local health departments, University of Oklahoma Medical Center, Crippled Children's Services, Bureau of Indian Affairs, and Office of Economic Opportunity are other agencies that are concerned with the health and well being of the Indians and that provide services for them. The Indian is encouraged to utilize all the health and community resources that are provided him as a citizen of the county, state, and nation.

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CHAPTER I

INTRODUCTION

This document is a summary of the student's field experiences with the Division of Indian Health in the Oklahoma City Area. The student chose to observe the Indian Health Program because it had a medical and dietetic program that the student felt would enhance her preparation for public health nutrition work. The student had no previous experience and limited course work in the dietetic field and had never worked directly with the medical profession. The Division also provided opportunities to observe and participate in services and experiences that are common to any public health agency.

The student's objectives were: (1) to become familiar with the organization and programs of the Division of Indian Health, especially the Nutrition and Dietetics Branch; (2) to learn the role and responsibilities of a public health nutritionist; (3) to become acquainted with the methods and procedures used in assessing nutritional and health needs; (4) to develop some understanding of the relationship of nutrition to medical practice; (5) to continue gaining knowledge in techniques of motivating and teaching individuals, families, and groups; and (6) to learn some of the food habits and patterns of the Indians in Oklahoma.

Field experience of eight weeks was designed to meet the needs and objectives of the student, allowing her to observe and participate in the nutritional activities at the area and service unit levels. The student

had the opportunity of broadening her knowledge of medicine and dietetics by observing the activities of the Department of Dietetics at the University of Oklahoma Medical Center. Visits to local health departments provided insights into another agency that is concerned with Indian health.

This document contains six chapters. Chapter I sets forth the objectives of the student in her field experience. Chapter II contains vital and health statistics and historical, social, and cultural characteristics of the Indian people in the Oklahoma City Area; Chapter III deals with the organization and programs of the Division of Indian Health. The history, philosophy, objectives, and program of the Nutrition and Dietetics Branch as well as the student's participation in program activities are found in Chapter IV. The programs of other agencies that work with the Indians are briefly described in Chapter V, and Chapter VI is a summary and evaluation of the student's field training.

CHAPTER II

CHARACTERISTICS OF INDIANS IN THE OKLAHOMA CITY AREA

I. THE INDIAN POPULATION

American Indians live in every one of the 50 states. Most of them reside in the 23 states which have Federal Indian Reservations: the majority west of the Mississippi River; and in Alaska where Indians, Eskimos, and Aleuts collectively comprise the "Alaskan Natives." No real definition of Indian as a racial group exists. The Indian population differs according to various considerations which could enter into a definition: degree of Indian blood, membership in a tribe, and whether the individual lives as a member of an Indian community. The 1960 United States Census, unlike earlier censuses, using a self-enumeration technique, allowed for the individual himself to identify his racial origin. Outside of Alaska approximately 509,100 persons identified themselves as Indians, 453,000 in the 23 Federal Indian Reservation States and 56,100 in the remaining 25 states and the District of Columbia. Alaska, which became a state in 1959 was enumerated at the same time as the other states. Thus, some 43,000 were identified as "Alaskan Natives." In 1965, the Division of Indian Health estimated the population in the 23 Federal Reservation States to be 490,000 and the "Alaska Native" population to be 45,000 (1).

Indians living in the states of Florida, Kansas, Mississippi, North Carolina, and Oklahoma are served by the Oklahoma City Area Division of Indian Health. There are approximately 119,200 Indians living in these states. Some 73,000 are beneficiaries of the Division of Indian Health. An Indian must be certified eligible before the Division can assume responsibility for his medical care. Eligibility differs with tribes, but the standards are similar and are based on the degree of Indian blood, tribal enrollment, and acceptance as an Indian in the community. Income is not a determining factor for eligibility.

In Oklahoma there are 67 Indian tribes of which 29 tribes still retain their identity (2). There are four predominant tribes located in Kansas (Kickapoo, Iowa, Potawatomie, and Sac and Fox), two in Florida (Miccosukie and Seminole), one in Mississippi (Choctaw), and one in North Carolina (Cherokee). Each tribe possesses its own individual organizations and characteristics and is dissimilar in varying degrees from every other tribe.

Indian tribes in Oklahoma represent two divisions of Indians, the "Hunters of the Plains" and the "Woodland Tribes." The "Hunters of the Plains" were the tribes that lived between the Mississippi River and the Rocky Mountains. The Comanche, Apache, Cheyenne, and Arapaho were of the first division. The "Woodland Tribes" lived east of the Mississippi and are represented by the "Five Civilized Tribes" (Cherokee, Choctaw, Creek, Chickasaw, and Seminole) (2).

II. HISTORY

It is no happenstance that Oklahoma is the state with the second largest Indian population. There are proofs that some prehistoric Indians once lived in Oklahoma. Excavations of mounds near Spiro in 1936-38 yielded objects indicative of a culture more than a thousand years old. Designs on pottery, baskets, and ornaments were strangely like those of the old Mayan culture in southern Mexico (2).

Tribes from all parts of the United States have been moved to Oklahoma because at various times in history the leading politicians have believed that the removal of all tribes to a specific territory would solve the land problems for both the white man and Indian. As early as 1804, President Jefferson was authorized to propose to Eastern tribal leaders free land in the newly acquired Louisiana Purchase for cession of their land east of the Mississippi River. By 1809, tribes north of the Ohio River had ceded millions of acres to the government and had begun wandering westward.

Some of the tribes of the northeast were migratory but in the southeast, where the "Five Civilized Tribes" were predominant, the Indians were well established with their own governments and a high standard of living. They had no desire to move to western lands, but treaties were finally signed in the 1820's and 30's. The respective tribes were removed, some at gunpoint, under the auspices of the federal government to Indian Territory. The journeys were made over rough, wild, unsettled country of vast swamps, dense forests, impenetrable canebrakes, and swollen rivers.

Epidemics and deaths of the weak, lame, and crippled permanently decreased the population of the "Five Civilized Tribes." A few Indians were able to escape the round-ups and remained in their native land and this is the reason that there are small Indian populations in North Carolina, Florida, and Mississippi.

Indian Territory was designated, by treaty in 1830, as the land west of Arkansas to the 100th meridian, south to the Red River, and north to the present state of Kansas. Soon after arriving in Indian Territory, the "Five Civilized Tribes" reorganized and established their nations with capitals. Printing presses were reassembled, schools and churches were reorganized, and agricultural and commercial practices were modified to conform to the complex economic system. According to one authority the Indians never showed any resentment against the government that had driven them into exile (3). But to this day, the Indians have not forgotten the awesome events that happened more than a century ago.

Many other tribes were driven into Indian Territory, but probably no other tribes had the hardships of the "Five Civilized Tribes." In 1859, when the Texas Territory was annexed, the Anadarko, Caddo, Kichai, Waco, Tawakoni, Tonkawa, Shawnee, and Delaware tribes were removed to the western part of the Indian Territory.

As white settlers moved into the midwest, Indian tribes in Kansas, Iowa, and Nebraska were relocated. In 1869, the Osage, Kaw, Sac, Fox, Shawnee, Potawatomi, Ponca, and Pawnee settled in Indian Territory that had by this time become known as the Oklahoma Territory. The term Oklahoma stems from a Choctaw Indian word meaning "red people" and was first applied to the Indian Territory in 1866.

Over the years Congress passed acts that provided for allotment of Indian reservation lands in severalty. The surplus acres were subsequently ceded to the United States and were opened up to white settlers, and due to severalty no Indian Reservations exist in the state. Presently, less than 3 percent of the state population is Indian, but a great many more people have Indian ancestry for nowhere else in the United States will one find as much intermarriage between white people and Indians.

III. AGE

The Indian population is young (Table 1). The median age for Indians in the Oklahoma City Area is 20 years as compared with nearly 30 years for the general population in the United States (1). Until age 20 there are slightly more males than females but from this age until death the trend is reversed. After age 69 there is a sharp decrease in the number of both males and females.

IV. HEALTH STATUS

The health status of the Indian people is generally lower than for non-Indians. The health status of a people is sometimes judged by the infant mortality rate. The total infant death rate for the Oklahoma City Area in the 1966 calendar year was 30.8 per 1,000 live births. The neonatal death rate for Indians compares favorably with that of the United States, but the postneonatal rate is higher. In 1964, the postneonatal rate was 7.0 for the general population, and 19.4 for the total Indian population (1). The main causes of infant death are pneumonia, gastritis, duodenitis,

TABLE 1

ESTIMATED BENEFICIARY POPULATION BY AGE AND SEX,
OKLAHOMA CITY AREA, JULY 1, 1968 (4)

Age in Years	Total Population	Male	Female
< 1	2,150	1,090	1,060
1-4	8,790	4,580	4,210
5-9	9,180	4,330	4,850
10-14	9,550	4,810	4,740
15-19	7,650	3,880	3,770
20-24	4,280	1,990	2,290
25-29	3,420	1,610	1,810
30-34	3,330	1,420	1,880
35-39	3,620	1,770	1,850
40-44	3,400	1,530	1,870
45-49	3,750	1,790	1,960
50-54	3,120	1,520	1,600
55-59	2,910	1,530	1,380
60-64	2,270	1,230	1,040
65-69	2,410	1,180	1,230
70-74	1,540	750	790
75-79	1,270	750	520
80-84	550	280	270
85 +	340	160	180
Total	73,500	36,200	37,300

enteritis, colitis, and immaturity. During the summer months diarrheas are contributing causes of infant death. These causes of death are sometimes associated with the home environment that has inadequate sanitation, crowded housing, lack of safe water supply, and limited facilities for practicing modern hygiene (1).

The Indian birth rate in the Oklahoma City Area varied from 22.9 in Florida to 36.9 in Oklahoma, in 1963. The birth rate for the Indian population in the 23 Federal Indian Reservation States was 43.1 in 1964.

The Division of Indian Health uses the International Classification of Diseases and categorizes health problems by the Q Value (Disease Coefficient Priority Rating). The Q Value is used to give a numerical expression to a health problem and is used to rank the relative importance of a disease.

The calculation of the Q Value takes into consideration the disease ratio, crude mortality rate, loss of production potential, length of stay in hospital, in-patient days, out-patient visits, and population. The Q Value gives a truer picture than crude mortality rate and the values can be compared with other populations that use the same system. The Oklahoma City Area Disease Coefficient Priority Rating (Q Values) and crude mortality rate for 1966 are presented in Table 2.

The five diseases with the highest Q Value are: accidents, infective and parasitic diseases, diseases of the respiratory system, diseases of the digestive system, and complications of pregnancy. The death rate in 1966 for the Area was 8.5 per 1,000 population. The five major causes of death with crude mortality rates based on records of first diagnosis

TABLE 2

DISEASE COEFFICIENT PRIORITY RATING
AND CRUDE MORTALITY RATE (5)

Disease Classification	Q Value	Crude Mortality*
Accidents, poisonings, etc.	240	144.9
Infective and parasitic diseases	139	41.4
Diseases of respiratory system	90	55.2
Diseases of digestive system	89	52.4
Complications of pregnancy	78	2.8
Allergic, endocrine and nutritional	57	62.1
Certain diseases of infancy	44	46.9
Diseases of circulatory system	43	225.0
Diseases of genitourinary system	31	40.0
Mental and psychoneurotic	30	8.3
Symptoms, senility and ill defined	28	40.0
Neoplasms	25	118.8
Diseases of nervous system	24	87.0
Diseases of skin and cellular tissues	23	2.8
Diseases of bones and organs of movement	22	4.1
Diseases of blood and blood forming organs	7	6.9
Congenital malformations	6	13.8

*Per 100,000 population.

by physicians were: diseases of circulatory system--225.0, accidents--144.9, neoplasms--118.8, diseases of nervous system--87.0, and allergies, endocrine, and nutrition related deseases--62.1.

Data compiled by the Division of Indian Health show that diabetes mellitus accounts for a higher percentage of admissions in hospitals in the Division's Oklahoma City Area than in other areas of the Division of Indian Health (6). In April, 1968, the diabetes rate per 1,000 population in the Area was 37.5 which is three times the national rate of 12.4. Mayberry reported that diabetes appeared to be higher in Seminole Indians both in Florida and Oklahoma than in the white population in Oklahoma (7). The highest rate in the Area is 58.6 in the Talihina Service Unit where the Choctaw tribe is predominant. Drevets found that diabetes was significantly more prevalent in full-blood Choctaw females than in mixed bloods with no significant difference between full-blood males and mixed-blood males (6). The diabetics were significantly more obese than nondiabetics (6,7). The average age for diagnosis is 48.9 years for females and 50.2 years for males. Diabetes before 20 years of age has appeared to be almost nonexistent (6).

The leading reason for hospitalization in the Area during the 1966 fiscal year was for deliveries and complications of pregnancy and puerperium. Approximately 98 percent of registered births occur in hospitals, but the majority of women seek prenatal care late in pregnancy or not at all. It is estimated that about 10 percent of the women receive no prenatal care. Other women do not seek medical care until some problem such as excessive weight gain, toxemia, hypertension, or urinary infection occurs. The

average length of stay in the hospital for deliveries, with or without complications, was 7.7 and 7.2 days, respectively, in 1966. Unidentified complications occurred in approximately 22 percent of the deliveries.

Mental and psychoneurotic diseases rank 10th in Q Value in the Area as shown in Table 2, page 10. Alcoholism is more common in some tribes than others. Among such groups family life is unstable, divorce and child desertion and neglect are common. Children are forced into assuming the responsibilities of adults at an early age. A public health nurse stated that it is not infrequent for a 10-12 year old girl to assume the full responsibilities of feeding and caring for a family. Girls from such backgrounds are likely to become mothers at 13-15 years of age.

Some emotional disorders emerge in children as a result of broken homes and early life experiences. Glue sniffing and other deliquent behavior are observed. Wagner stated that problems of mental health, alcoholism, and family medical-social problems are intensified for a people in transition from one culture to another (8).

Poor dental hygiene is readily recognized among Indians. One dental officer stated that the prevalence of dental diseases and dental abnormalities of Indians are equal to and in many localities greater than for the non-Indian population. This was said not to be due to any chemical deficiency of the teeth. Negligence of oral hygiene was considered to be the main problem, perhaps due to a lack of appreciation and knowledge of the importance of good dental hygiene on the part of the Indian. Some Indians cannot afford dental care and others fear it. Poor food habits,

such as the consumption of refined carbohydrates at frequent intervals, contribute to caries also.

V. ECONOMIC CHARACTERISTICS

The median family income among the Indian population is commonly lower than for the non-Indian population. It is generally assumed that Indians in Oklahoma are economically better off than Indians in any of the other states in the Area. The median family income of Indians in Oklahoma in 1959 was $1,939 while the median for all races in Oklahoma was $4,620. Some of the Indian people live on land with marginal or no economic potential or in an area where employment opportunities are limited to occasional or seasonal work (1). The majority of the Indians in Oklahoma hold sub-professional jobs in small industry, or on farms and ranches. Not all Indians are poor and unskilled laborers. There are some wealthy Indians, and Indians employed in highly skilled and technical fields. Many of the Indians in Oklahoma are highly respected colleagues of their white contemporaries in all professions.

VI. SOCIAL CHARACTERISTICS

Through a gradual process of acculturation the Indians in Oklahoma have become generally well accepted in the community, so that now there is a minimum of discrimination. Some of the older folk still cling to their ancient customs, but most of the younger generations are well adapted to modern customs, habits, and dress (9).

The medical staff is not without competition from the native medicine men who practice on a fairly sophisticated plane, relying on herbs and medicines rather than incantations. Even in this branch of medicine, specialization has made its inroads; and Kartchner found that one medicine man treated only high blood pressure and arthritis while another limited his practice to chest ailments (9). Kartchner was accumstomed to finding multiple scared areas on patients' bodies that were indicative of native medicine practices.

Some Indians have beliefs about man and his environment and the ecological balance that exists between them; they are, for the most part, contrary to established medical theories. Such cultural barriers inhibit understanding of modern medical concepts such as the germ theory. Many patients have little concept of accurate knowledge concerning the cause of disease and the measures which afford protection (8). When it is difficult for an Indian to accept curative medicine theories, it becomes even more difficult to talk with him about preventive theories.

The church is significant both as a spiritual and social institution. In some rural communities the church is the major institution that affects the lives of the people.

Tribal activities are still influencing the Indian. Most tribes hold tribal meetings monthly or quarterly. During the summer months pow-wows are a prominent activity for the young and old alike in Oklahoma. Families drive for miles to participate in the festivities of dancing, games, and eating that may last from two days to a week or more. Some participants set up tent-camps around the grounds. The pow-wow season

produces its own brand of clinical problems. Infectious diarrheas, insect bites, and minor injuries are increased to almost epidemic proportions at some camps.

Within the past 20 years general interest in tribal history, traditions, arts, and crafts has revived and grown among the Indians themselves, and a deeper appreciation and understanding has been aroused among the white citizenry (2). Arts and crafts which once were a part of life for American Indians are being revived to a limited extent as a means of providing income. Workshops are set up so that skills of weaving, bead work, pottery, and basketry can be taught. The Chahta Arts and Craft Association at Idabel, in southeastern Oklahoma, has a group of about 100 Indians perfecting their skills.

VII. EDUCATIONAL CHARACTERISTICS

In Oklahoma the median number of school years completed for Indians of both sexes, in 1959, was 7.6 years, whereas the median number of years completed by all races in Oklahoma was 10.4 years. Only 46 percent of Indians in comparison with 77 percent for all races finished grade school in Oklahoma (1).

Indian children may attend the public schools under the general classification of white children by the Oklahoma State Constitution and the majority do attend public schools (2). When money is available, the Bureau of Indian Affairs builds schools in areas where there are a large number of children who are otherwise without access to a school. Boarding schools and dormitories for children attending public schools have

been established to provide education for boys and girls from extremely isolated communities. Some of the Indian students attending boarding schools in Oklahoma are from other states. Not all applicants are accepted in boarding schools. Blood quantum is one of the factors considered. An increasing number of Indians are seeking higher education and many return to help their own people attain a better way of life.

VIII. TRIBAL COUNCILS

The American Indian is a citizen of the United States and has all the rights and privileges of citizenship. He is subject to the same laws and government as every other citizen within a state or county. Indian citizens have attendant responsibilities of voting, performing military service, and, by and large, paying taxes (10).

The organized tribes located within the boundaries of Oklahoma are under the jurisdiction of several Area Field Offices or Agencies, of the Bureau of Indian Affairs, Department of Interior. One Area Office is located at Muskogee and serves the tribes of the eastern part of the state and the Choctaws in Mississippi and the other office is located at Anadarko and serves the tribes of the western part of the state.

Tribal councils still function where a tribe has not terminated its legal affairs with the federal government. Tribal councils, with an elected chief and officers, conduct and carry out policies that affect only the Indians. The council represents the tribe and creates policies for land, enrollment, and other matters.

The tribal councils are becoming involved in health programs of the Division of Indian Health by establishing health committees. The committees are providing an important link by making known the health needs and desires of the Indian people to the Division of Indian Health.

CHAPTER III

THE DIVISION OF INDIAN HEALTH

Federal health services for Indians began under War Department auspices in the early 1800's when Army physicians took steps to curb smallpox and other contagious diseases of Indian tribes in the vicinity of military posts (11). The transfer of the Bureau of Indian Affairs from the War Department to the Department of Interior in 1849 stimulated and emphasized the nonmilitary aspects of Indian health. The need for preventive health services was given official recognition in the 1880's. In 1955, responsibility for the health care of American Indians and Alaska Natives was transferred to the Public Health Service, Department of Health, Education, and Welfare, through the enactment of Public Law 568 by the 83rd Congress of the United States. The same law provided for the Surgeon General's Committee on Indian Health. The Surgeon General established the Division of Indian Health under the Bureau of Medical Services (10).

The goal of the Division of Indian Health is to raise the health of the Indian and "Alaska Native" to the highest possible level (11). The Public Health Service set two major objectives for Indian health: (1) to provide a totally comprehensive health service which would include curative, preventive, and rehabilitative medical care of the highest possible quality; and (2) to encourage and increase Indian and "Alaska Native" participation in every phase of the program--in planning, operating, and evaluating services at all levels (12).

I. SURGEON GENERAL'S ADVISORY COMMITTEE ON INDIAN HEALTH

The Surgeon General's Advisory Committee on Indian Health advises the Surgeon General on health matters, on related welfare problems, and on cultural patterns that have a bearing on the conduct of the Indian Health Program (13). The committee is composed of nine members, who are appointed for a four-year period, plus the Surgeon General who serves as chairman ex-officio. Members are selected by the Surgeon General from a list of recommended names provided by the Chief of the Division of Indian Health. The list is made up of Indian and non-Indian community leaders, medical and allied medical specialists, and state or local health officers (13). One of the distinguished members of the committee is the Chief of the Choctaw Tribe. The committee meets annually.

II. ORGANIZATION OF DIVISION OF INDIAN HEALTH

The Division of Indian Health is presently under the direction of Dr. E. S. Rabeau, Assistant Surgeon General. The Office of the Director plans, develops, and directs the Indian Health Program; coordinates Division activities with other governmental and nongovernmental agencies and tribal governing bodies; evaluates program needs, accomplishments, and personnel development; and coordinates technical training for beneficiaries to qualify them for service in the Indian Health Program.

The Division of Indian Health is organized, as shown in Figure 1, to provide comprehensive health services including hospitalization, outpatient medical care, public health nursing, dental, nutrition, health

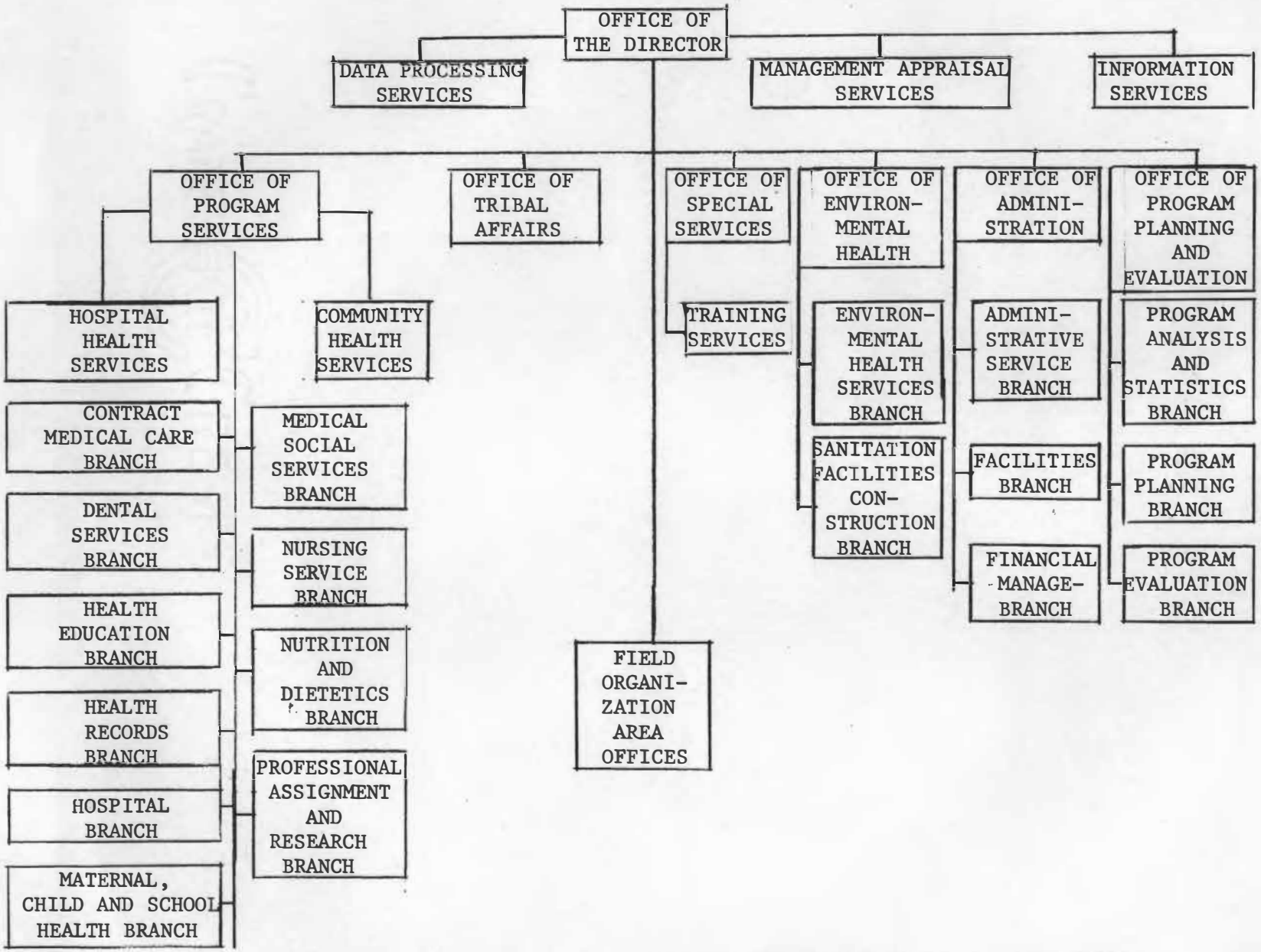

Figure 1. Division of Indian Health functional chart, January 1967.

education, pharmaceutical, clinical social service, and environmental health services (11).

The Division's staff is divided into seven field areas with area offices as shown in Figure 2. Each of the areas is organized along the lines of the Division of Indian Health and is responsible for administering the health program to the Indians under its jurisdiction. To facilitate the administration of the health program, Indian health areas are broken down into service units. These are defined geographic areas usually centered around a single reservation. The Indians look to the health facilities in the service unit for all of their health needs (11).

III. OKLAHOMA CITY AREA

The Division of Indian Health in the Oklahoma City Area operates eight Public Health Service Indian Hospitals and several Public Health Service Indian Health Centers and Stations. The Indian hospital is the center of preventive and curative medical services. An Indian health center is a facility, physically separated from a hospital, where one or more clinical treatment services are available at least 40 hours a week. An Indian health station is physically separated from a hospital or health center and provices one or more clinical services regularly but for less than 40 hours a week. The health services provided at these direct-care facilities are supplemented by the services of numerous private hospitals, pharmacies, physicians, and dentists through contractural arrangements. Supplementations of preventive services provided directly by the Division of Indian Health staff is also made possible by contracting with various health departments.

Figure 2. Areas and field offices of the Division of Indian Health.

The organization of the Oklahoma City Area is similar to that of the Division headquarters (Figure 3). Personnel in the Office of the Indian Health Area Director are the Director, the Deputy Area Director, and the Executive Officer. The line of responsibility is from the Director to the Deputy Area Director and from him to the Director of the Service Unit. Within the organization there are five basic Offices of operation: Program Services Activities, Environmental Health, Tribal Affairs, Administrative Service Activities, and Program Planning and Evaluation.

A brief description is given of each office. The Office of Program Services is under the direction of the Deputy Area Director and includes the eight program branches. Environmental Health Services Branch and Sanitation Facilities Construction Branch make up the Office of Environmental Health. The Chief of the Office of Tribal Affairs acts as a liaison between the Division of Indian Health and individual Indian tribes. The Office of Administration contains the Branches of Personnel, Finance, Administrative Service, and Construction and Maintenance. The Office of Program Planning and Evaluation is concerned with planning, gathering of statistics, and evaluating the Area and service unit programs. Based on the student's observations and experiences at both the Area and service unit levels some of the programs will be discussed further in the following sections.

Office of Tribal Affairs

The Office of Tribal Affairs works to prevent or reduce misunderstandings and problems that occur when working with many and varied Indian tribes. The major task of the Chief, with Area and service unit

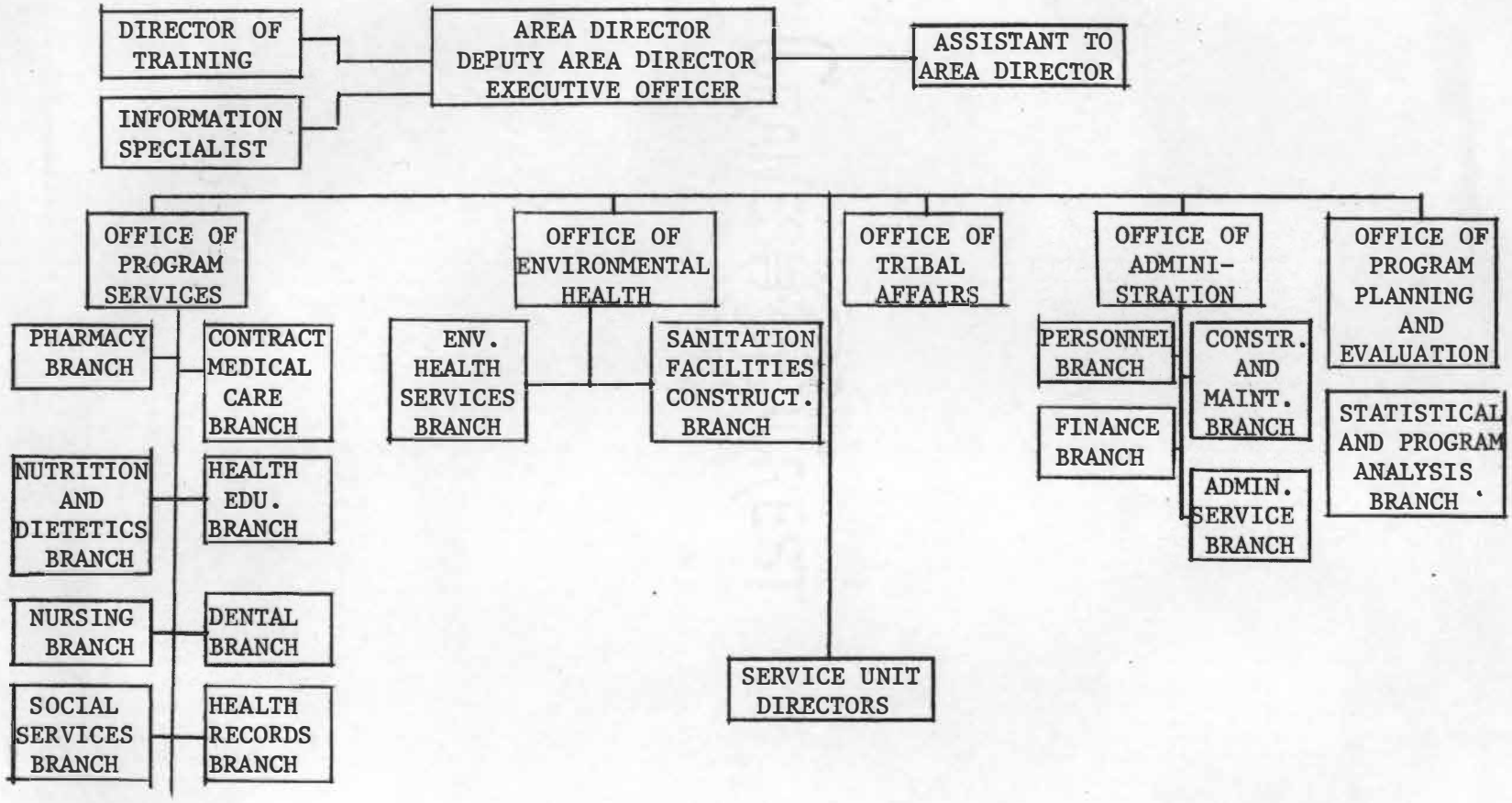

Figure 3. Oklahoma City Area organizational chart, December 1967.

staff, is one of promoting understanding, sensitivity, and empathy with the Indian people so that effective program development can be implemented. On the other hand, he works with the tribes to develop understanding and organized support of Division of Indian Health policies and programs.

Office of Environmental Health

The current environmental health program provides an integrated program of environmental health services and sanitation facilities construction for the individual Indian family through on-premise and institutional activities. The program is service unit oriented so that better coordination with the service unit director, public health nurse, health educator, and other service unit staff can provide more comprehensive health services to the Indian people.

Environmental health activities are directed toward helping Indian communities and people correct and/or upgrade environmental conditions that have detrimental effects on their health. Activities include surveys, construction of water systems and waste disposals, accident prevention, food sanitation inspection, radiological survey activities, vector control, epidemiological investigation, rabies control, and community and individual cleap-up campaigns.

Public Law 86-121, The Indian Sanitation Facilities Act, was enacted in 1959. The purpose was to provide for an accelerated environmental health program by giving the Public Health Service, Division of Indian Health, authority to construct sanitary facilities for the Indian people, and to encourage and develop among them a desire and ability to use and maintain these sanitary facilities.

Under Public Law 86-121, an Indian family may select sanitary facilities from one of two plans. Plan I, with minimum facilities, includes a safe and sanitary water source, pump, water storage tank, sink and stand, waste disposal, sanitary privy, and an approved garbage pit. Plan II includes safe and sanitary water source, pressure pump installation, water storage tank, sink and stand, waste disposal, toilet, septic tank with underground disposal field, and an approved garbage pit. Each construction project is undertaken cooperatively by the Public Health Service and the respective Indian tribe in all facets of planning and implementation (10). Under each plan the beneficiary has to contribute labor, money, or materials which usually amount to about 30 percent of the costs (10). Meetings are conducted to teach participating families how to use and maintain the new facilities.

The student made visits to homes where Plans I and II had been completed. In most instances, Indians are proud of their new facilities and use them to best advantage.

The Division of Indian Health is responsible for sanitary facilities (water and plumbing) in mutual self-help houses. In the Talihina Service Unit the student visited some of these houses. The Choctaw Housing Council, an auxuliary group of the Bureau of Indian Affairs, sponsored the Mutual Self-Help Housing for the Indians. A contract was made by the council with a contractor to provide material and some labor, and the participants had to own the house site and give labor toward the construction of the new house. The frame houses have three bedrooms and the major kitchen and bathroom appliances, with built-in cabinets. After occupancy, the family will make small payments to the council until the contract is closed.

Office of Program Services

The Office of Program Services includes Dental, Medical Social Services, Nursing, Health Education, Pharmacy, Contract Medical Care, Nutrition and Dietetics, and Health Records Branches. Well-qualified people direct and carry out programs in each branch. Field experiences in some of the branches will be discussed.

Dental Branch. The main emphasis of the dental program is correction, prevention, and education. The program is primarily for children, but limited services are provided for adults. As money is available, contract dental services are provided in localities where services are needed.

Corrective dental services include cleaning, filling, extracting, and checking the teeth. The major emphasis of the preventive program has been making the teeth more resistant to decay by the oral addition of fluoride. Fluoridation programs in Indian schools in Mississippi and North Carolina are presently in effect. Fluoride tablets are being given the children. Some fluoridation projects have been conducted in Oklahoma. The natural water supply in some parts of the state has as much fluoride as two parts per million. The Division of Indian Health works cooperatively with the Bureau of Indian Affairs and local government officials to promote the fluoridation of central water supplies in communities that have large Indian populations.

The aim of the educational program is the prevention of dental caries and peridontal diseases by: decreasing the frequency of eating

highly refined carbohydrates, encouraging good oral hygiene following eating, supplementing the diet with fluoride, a well-balanced diet, and utilization of available dental care facilities. The basic objective is to help the Indian family realize the need and importance of good dental health so that good oral hygiene will be practiced. Dental education services include the teaching of oral hygiene to children in schools and to patients that are seen in the hospitals, health centers, and stations. The personnel, time, and facilities are limited; therefore, the educational and the total dental program is curtailed.

In 1967, in the Talihina Service Unit, 15 percent of those who started dental care completed the treatment recommended by the dental officer. Those completing treatment were about 6 percent of the total Service Unit population. It has been estimated that in the Area about one-fourth of the needs for dental service are being met. More staff, facilities, and money are needed to carry on the dental health program with its growing needs.

The dental officers are aided by dental assistants in carrying out the dental program. The Division of Indian Health has training programs for Indian dental assistants in Utah, Kansas, and Alaska. Following a year of training the graduate dental assistant assumes duty in a Public Health Service Hospital.

Medical Social Services Branch. The Indian Health social worker's focus is upon the Indian patient and the social factors which threaten or have affected his health; the social problems which his illness creates

for him and his family; and the social, psychological, and cultural obstacles which may limit his capacity to make use of medical treatment (14). Through direct services to patients, the social worker helps individuals cope with their personal and family problems.

The social worker represents to the Indian patient and his family a connecting link between the Division of Indian Health and the established social and health agencies in the home community. An Indian is encouraged to utilize all the health and community resources that are provided him as a citizen of the county, state, and nation. He is expected to use his private insurance, welfare benefits, Veterans Administration services, or Health Insurance for Aged when possible. One of the primary objectives of the Public Health Service, through the Division of Indian Health, is to assist Indian beneficiaries in the transition from special federal health services to private, community, and state health resources. When necessary, the Division supplements and reinforces the utilization of community services to the maximum benefit of Indian patients (12).

Alcoholism is an important problem in some service units. Indian Health currently does not have a formal program for treatment of alcoholism, but the social worker may help the patient receive care from an agency that provides this service. The situation is similar for mental health. The medical-social worker may serve as a consultant to groups studying and working with alcoholics, mental illness, and other social problems.

Nursing Branch. The nursing staff consists of registered nurses, public health nurses, licensed practical nurses, nurses aides, and contract

public health nurses. The nurses work with other health personnel to provide a comprehensive nursing care program with continuity of services.

Indian Health nursing services are provided on a family centered basis to individuals and groups in their homes, in Public Health Service hospitals, clinics, community centers, and churches. Public health nurses participate in special child health clinics, prenatal clinics, and diabetic classes held in Public Health Service Indian Hospitals and Clinics to improve the quality of patient care through assuring continuity of nursing service between hospital and home (15).

The student observed the work of public health nurses in the Talihina and the Clinton Service Units. The number of public health nurses in the Division of Indian Health is small, and most of the public health nursing services provided in Oklahoma are by contract public health nurses working through county health departments. Since all nursing needs of the Indian cannot be met, emphasis is placed on the maternal and infant aspects of care. Each nurse establishes priorities for services based on an analysis of health needs and problems unique to her area. She must plan for her services to coincide with those of other local and allied workers (15).

The student made home visits with the public health nurse to follow-up new born infants. Indian babies born in Public Health Service Hospitals are referred to a public health nurse who visits the family soon after hospital discharge. The aim of the referral system is to get infants under health supervision at an early age so that infections and other health problems may be prevented. It is hoped by this practice that infant mortality will be reduced.

The Division of Indian Health was commended by the PHS WORLD recently for the great strides made in lowering the infant mortality rate among the Indians. Members of Indian health teams--from physicians to nutritionists--campaigned to get mothers to accept prenatal services and to have their babies delivered in hospitals. They also have educated the Indian in proper care and feeding of babies and have helped families to improve their home environment and personal health habits. The public health nurse has played an important role in the health education of mothers (16).

The Public Health Service provides nurses' training on different levels for Indians. There is a basic training program in practical nursing, and advanced programs for licensed practical nurses are offered in clinical nursing and field health. Nursing assistants are trained on the job to do simple nursing procedures and housekeeping duties. Both the licensed practical nurse and nursing assistants assume duties that allow the physicians and registered and public health nurses to use their time more effectively.

Health Education Branch. The health educationist shares the responsibility of informing the Indian of the existence of Indian Health services and motivating the Indian to use these services. The educationist is instrumental in helping the Indian develop an awareness of health problems and needs.

The educationist works with staff members in helping them select and choose appropriate teaching methods and in preparing and/or obtaining

resource and teaching materials. A small but excellent library is maintained at the Area level and the chief of each branch maintains a good collection of references.

The public health educationist plans and organizes programs that will help people change poor health practices for better ones or to take proper action to protect or improve their health. The educationist in the Talihina Service Unit has organized a maternal and child health program. The program is for expectant mothers while they are awaiting delivery in the hospital and includes medical, nursing, nutrition, dental, and health education instruction.

Area Public Information Specialist

The Information Specialist maintains contact with Area news media and plans how best to inform the general public about the service units, Indian needs, and Indian Health programs. She also works with Area staff to develop news stories and publications. The items are shared regularly with official leaders of Indian tribal groups and with related health agencies who voluntarily cooperate with the Public Health Service for medical services (17).

Formerly, "Talking Leaves," a monthly illustrated Area newsletter was published. The purpose was to inform Public Health Service personnel, editorial writers, Indian leaders, and the officials of related organizations and agencies serving Indians of the progress being made in the Oklahoma City Area with Indian Health programs. Back issues of the newsletter were useful in the orientation of new personnel or students. The publication of the newsletter has been temporarily suspended.

Service Unit

A service unit is the basic unit of organization in the Division of Indian Health. The Oklahoma City Area is subdivided into 11 service units (Figure 4). It is at the service unit level that the health program for the Indians is implemented. The student spent one month of her field experience in the Talihina Service Unit in southeastern Oklahoma and will use this unit to illustrate the organization and functions of a unit. Service units vary greatly from area to area and even within an area, but there are similarities.

The Talihina Service Unit is composed of 16 counties and serves an Indian beneficiary population of approximately 10,640. The Choctaw and Chickasaw are the predominant tribes living in these counties. The 114-bed Public Health Service Indian Hospital at Talihina is the headquarters for the staff and the basic medical care facility for Indians in the unit.

The hospital and field staff of about 175 employees includes the Service Unit Director, seven medical officers, a dentist, two pharmacists, nurses, a public health nurse, dietitian, public health nutritionist, health educationist, sanitarian, engineer, laboratory technicians, statistician, clinical social worker, medical records librarian, maintenance and administrative personnel. A public health nurse, a medical officer, and a pharmacist are stationed in the field.

Most of the medical staff is composed of Commissioned Officers in the Public Health Service who are spending two years with Indian Health. Every physician chosen for the program is fully trained and has completed his internship at a well-recognized medical institution. Further, the doctor has expressed a keen desire to work in Indian Health (12).

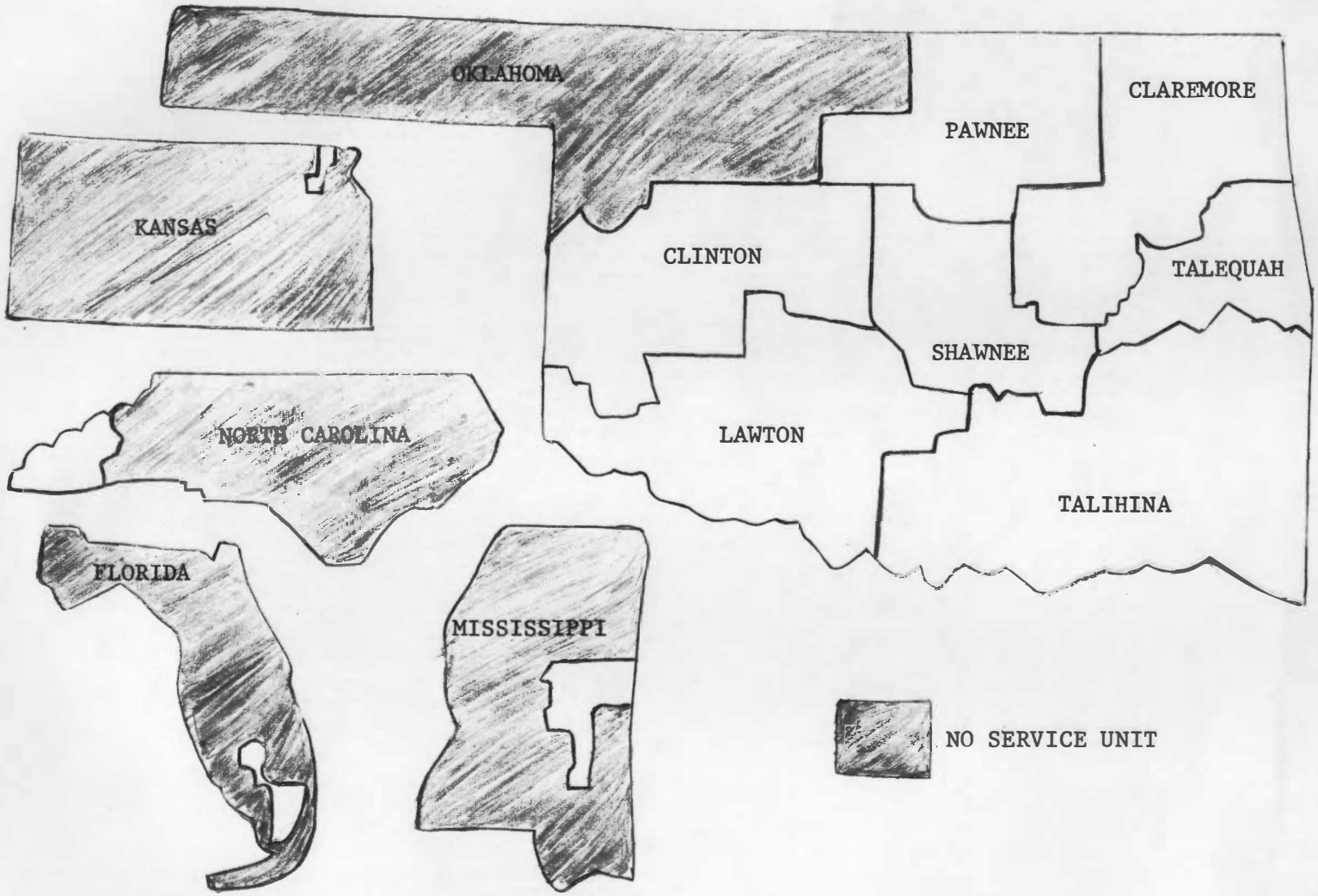

Figure 4. Oklahoma City Area service units.

The hospital provides general medical, surgical, obstetrical, gynecological, and pediatric services. The out-patient department provides general medical care. Health centers and health stations are located over the Service Unit in order to bring medical services closer to the people. Health stations are located at Tishomingo, Coalgate, Idabel, and Broken Bow, and provide general medical services to the Indians. General medical services and a pediatric clinic are conducted at the Service Unit's only health center at Antlers. The average number of patients seen in the center and stations per month is approximately 1,000.

Personnel who man the health center and stations generally consist of a medical officer from the hospital or field, licensed practical nurse, and a nursing assistant or secretary. The public health nutritionist makes periodic visits. The public health nurse, assigned to a two-county area, visits the health stations at Coalgate and Tishomingo.

Other health centers are located at the Indian schools and include Jones Academy and Ardomore. A school nurse is located at Jones Academy; medical services are provided to both schools by medical officers who make weekly visits.

The student observed four regular medical clinics and one pediatric clinic at various health stations and at the health center. She spent some time with each of the personnel, but most of her time was devoted to observing the medical officer in charge. The most prevalant medical problems as seen by one medical officer were overweight, obesity, diabetes mellitus, cardiac problems, high blood pressure, arthritis, and respiratory and other infections.

CHAPTER IV

NUTRITION AND DIETETICS BRANCH

I. HISTORY

In 1955, there were dietitians in 11 of the 56 Indian Hospitals and one nutritionist was employed by the Division of Indian Health. The remaining 45 hospitals functioned independently without guidance or consultation from a dietitian. Most of the hospital kitchens were staffed with Indian cooks and workers who had little or no formal education, no training in food production service, or dietetics. There was no standard diet manual from which doctors could order diets or which the cooks could use as a guide in filling the order (18).

Too little effort was made to serve the patient foods that were acceptable to him, that took into consideration his cultural food patterns, and his specific nutritional needs. Actually little was known about what many patients ate at home or had available to eat. At this time there were almost no professional resources available to help the medical staff gain insight into nutritional and food problems (18).

In 1956, shortly after the transfer of Indian Health to the Public Health Service, Dr. James R. Shaw and Dr. J. O. Dean, Chief and Assistant Chief respectively of the Division of Indian Health, created the Nutrition and Dietetics Branch with Dr. Bertyln Bosley as Chief of the Branch. These men and other staff realized that without the knowledge of the relationship

of food to health, the Indian neither could nor would endeavor to obtain the kind and amount of foods essential to good growth and development, the maintenance of health, and resistance to infections. They recognized that emphasis on nutrition was essential in the preventive health aspects of the program, as well as in medical care (18).

II. PHILOSOPHY AND PURPOSE

The Nutrition and Dietetics Branch exists because of the awareness that application of scientifically sound principles of nutrition is an essential component of every well-planned health program, both therapeutic and preventive. Nutrition is a significant factor in raising the level of health of Indian beneficiaries. The nutrition and dietetics program of the Division of Indian Health is planned so as to coordinate into one program the three aspects of nutrition essential to improvement and continued maintenance of nutritional well-being of Indians, namely: research, prevention, and diet therapy (19).

The purpose of the Nutrition and Dietetics Branch is to: (1) identify nutrition needs through an evaluation of the existing nutritional state and practices of Indian beneficiaries; (2) intepret to the Indian and to those concerned with service to them the role of nutrition in the attainment and maintenance of good health and to show its role in relation to other health services; (3) conduct a scientifically sound, practical, and efficient program; (4) coordinate the various phases of nutrition research, nutrition education, preventive and therapeutic nutrition measures, and to coordinate the dietetic and food service component of the total health program and to

maintain consistency in technical content, methods, and procedures, referrals, and follow-up; and (5) evaluate continuously the services and procedures necessary to maintain quality of performance and to assure application of new scientific knowledge in the Branch when appropriate (19).

III. OKLAHOMA CITY AREA NUTRITION AND DIETETICS BRANCH

The Nutrition and Dietetics Branch in the Oklahoma City Area was formed in 1960. Presently the professional staff includes the Area Chief of the Branch, Area Dietary Consultant, Public Health Nutritionist in the Talihina Service Unit, and four dietitians located in the largest hospitals in the Area: Talihina, Lawton, Talhequah, and Claremore. The Deputy Indian Health Area Director, a physician with public health training, is Chief of the Office of Program Services, with administrative responsibility for the Nutrition and Dietetics Branch.

The Area Nutrition and Dietetics Chief serves as a specialist, consultant, and advisor to the Indian Health Area Director and the Area office and field staff on matters pertaining to nutrition and dietetics (19). She has many administrative responsibilities including formation and implementation of specific policies, procedures, and operational standards for the Branch that are consistent with Division policies. The chief participates in Area program planning by: contributing information that is indicative of the nutritional status, needs, and problems of the Indian; by setting up objectives; and by integrating and coordinating the nutrition program with other program services.

The Area Dietary Consultant serves as a specialist to the chief on matters pertaining to hospital food service operations, provides technical consultation and assistance as required to the Indian Health Area Director, service unit directors, and field hospital staffs. She gives technical consultation to hospitals, helps conduct workshops for professional staff and nonprofessional food service employees, and participates in orientation and on-the-job-training for food service workers (19).

Determination of Nutritional Problems

In 1967, the Surgeon General's Advisory Committee on Indian Health noted that nutritional problems are still identified as one of the beneficiaries' major health problems (20). Nutrition is one factor involved in the numerous health problems which prevents the Indians from attaining the same health standards enjoyed by non-Indians. Bosley questioned whether nutritional practices over the years have resulted in altered physiology which is partially responsible for the high incidence of diabetes and cholecystitis found among Indians (19).

The extent and severity of nutritional problems have not been measured in the Oklahoma City Area, but clinical impressions and some small studies give some indications (21). A high incidence of diabetes and gallbladder disease are found in some groups, and obesity and anemia are prevalent in others. From a questionnaire sent to 11 Service Unit Directors in 1965, the extent of obesity in diabetics was estimated to be 84 percent in four of the service units in Oklahoma. Obesity as seen in prenatals was reported to be about 60 percent. Anemia in prenatals varied

from an estimated 60 percent in Philadelphia, Mississippi, to 10 percent in the Shawnee Service Unit. Malnutrition as an underlying cause of illness in infants and preschool children has not been determined. The Service Unit Director at Philadelphia suspected a very high percentage of malnutrition in infants and preschool children.

Program Objectives

Some of the objectives of the Nutrition and Dietetics Branch for the 1968 fiscal year were:

1. Participation in Area program planning. Incorporation of nutrition services in plans of action when appropriate.

2. Interpretion of current program and goals of Nutrition and Dietetics Branch to new staff.

3. Consultation to Area and to service unit staffs and Bureau of Indian Affairs, on request.

4. Study of needs in data collection for program planning base.

5. Development of nutrition field program at Talihina.

6. Attempt at improvement of staffing in hospital dietary departments.

7. Assistance in introducing automatic data processing for nutritional and cost accounting of subsistence for all hospitals.

8. Completion and evaluation of Area diet manual.

9. Planning for in-service training for Division of Indian Health and Bureau of Indian Affairs staff as requested and funds allow.

10. Development of, or otherwise to obtain, nutrition education materials that meet service units needs.

These program objectives are implemented through the activities of the nutrition and dietetics staff.

Nutrition and Dietetics Program Activities

The nutrition and dietetics services are combined into one operational plan. However, in this document the student will discuss each separately.

Dietetics program. The dietetic part of the program involves the nutrition of the hospitalized patient and the management of the hospital dietary department. The dietitian is responsible for nutrition education of the hospitalized patient and of patients in the out-patient clinic of the hospital. The dietitian is concerned with meeting the nutritional needs of hospitalized patients, and in the Oklahoma City Area Indian hospitals more than half of the patients are on modified or pediatric diets (Figure 5). With such a large percentage of modified diets, it is difficult for the dietitian to give an adequate amount of teaching time to each patient. An effort is made to see that each patient leaving the hospital on a modified diet understands it, and that the diet is adapted to his eating habits, food preferences, and home food supply in so far as possible.

Patient education is done on an individual and/or group basis. The student made rounds with the dietitian at the Talihina hospital to observe individual diet instructions. Visits were also made to patients on house diets to get the patients' reaction to food served and to see if there might be a better way of providing nutrition and dietary services. The foods served in the hospital are used as an example to give the patient an idea of foods that make up a well-balanced diet or a modified diet. The

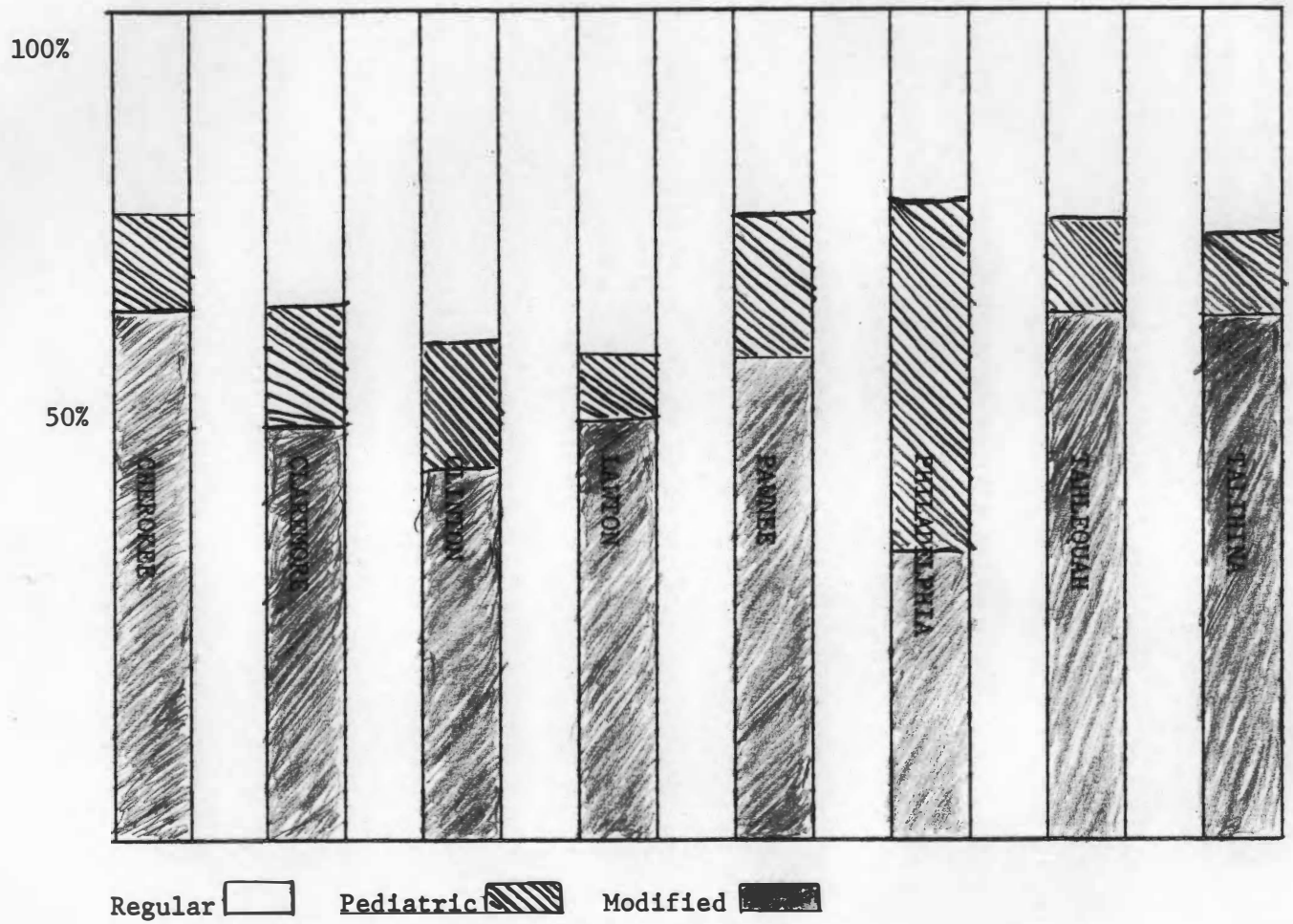

Figure 5. Percent modified diets in Oklahoma City Area hospitals, fiscal year 1967.

objective is to help the Indian develop an understanding of the importance of the establishment of sound dietary practices as one means of attaining better health.

This type of educational program has been beneficial to the Indian, for many of them have made a sincere effort to learn their diet by making careful observations and by keeping written records of foods served to them in the hospital. Upon dismissal from the hospital the patient is provided written diet lists and instructions.

The student observed the dietitian working with groups. A diabetic clinic is conducted weekly in the Talihina hospital out-patient department. The patients come to the hospital without breakfast for laboratory tests, the nurse observes the patients administering insulin or oral medication, and a breakfast is served in the hospital cafeteria for the patients. The dietitian observes the patients selecting their breakfast from foods available within the limitations of their diet plan and can use this opportunity to teach or reinforce a patient's understanding of his diet. Formerly, a class for diabetics was conducted following the breakfast. If a patient has some problem in following his diet or if changes are made in the diet by the physician, the patient is referred to the dietitian for individual consultation.

The dietitian provides education for staff as well as patients. The dietitian in the Tahlequah Indian Hospital instructed, for example, medical officers at their request in principles of diet therapy in six lessons.

A diet manual, that has been planned to serve as a practical and scientifically sound guide to the medical, nursing, and dietary staffs in

the dietary aspects of total patient care in Public Health Service Indian Hospitals in the Oklahoma City Area, will be available in the 1969 fiscal year. The manual will provide for better coordination in ordering and filling dietary requirements.

Of the eight hospitals in the Area, four do not have dietitians. The Area Dietary Consultant works closely with the Food Service Supervisors, the Director of Nurses, and the food service workers to provide an efficient dietary program in these hospitals. The Director of Nurses, under the direction of the Area Nutrition and Dietary Consultants, is in charge of patient education and carries the responsibility for the day-to-day operation of the dietary department when there is no dietitian.

The student visited a small hospital that had no dietitian with the Area Dietary Consultant. Consultant services were given to the medical staff and nursing director. Patients with pronounced dietary problems were counseled, and assistance was given the food supervisor regarding modified diets, food purchasing, and management. The student observed the counseling and consultant services as well as the preparation and serving of food to patients.

The allocation of funds to individual hospitals for food is controlled by the Nutrition and Dietetics Branch. Approximately one dollar per ration, that is three meals and nourishment, is allotted for hospital subsistence. Nutritional and cost accounting is done monthly by dietitians or under the supervision of the Area Dietary Consultant. A system is used in the hospitals for determining and reporting the nutritional adequacy together with cost per ration (19). Nutritional and cost accounting is being changed to automatic data processing.

The dietitian is generally in charge of the formula preparation. Nurses are commonly responsible for teaching formula preparation to mothers while they are in the hospital.

Nutrition program. In January 1967, the first public health nutritionist at the service unit level in the Oklahoma City Area assumed her duties at Talihina. Like most other staff she is a Civil Service employee meeting merit qualifications and classified according to education, training, and experience. The nutritionist's office is in the hospital. Administratively, she is directly responsible to the Service Unit Director who is trained in hospital administration; and technically she is responsible to the Area Nutrition and Dietetics Chief. The nutritionist supplements and expands the teaching of the dietitian. She may give follow-up diet instructions to patients after they return home to provide continuity of teaching. The medical record and the hospital staff provide the nutritionist with the patient's medical history and previous instruction. The nutritionist may visit the home to learn more of the environmental and social situations influencing the diet. The nutritionist may make recommendations and share impressions with hospital and field staff.

The nutritionist determines the nutritional problems and needs of the Indian through study and analysis of health conditions, food resources, and food practices. In the Talihina Service Unit this was partially determined through taking diet histories of patients in the out-patient department and clinic, and through discussion with hospital staff, public health nurses, and other health workers. Statistics and medical records furnished insights and substantiated opinions.

The nutritionist works cooperatively with the medical officers, with the dentist, hospital and field nurses, and health educationist, in the maternal and child health program. During the student's field experience a biweekly nutrition program for patients in the obstetric ward was planned to provide information on nutritional needs of individual family members and on growth and development of children at all ages. Nutritional needs of pregnancy and lactation, nutrition for prevention of dental caries, overweight, and obesity have been subjects of the programs. In informal sessions the nutritionist works hard to draw out the patient's real attitude toward food, food habits, and practices so that discussion and information can be of real value to them. By knowing the Indian people the nutritionist is able to make practical suggestions that the Indian can understand and adapt to his condition and environment; therefore, the Indian can be more successful in his attempt to follow the nutrition instructions.

The nutritionist is instrumental in developing community activities such as group meetings and demonstrations to promote nutrition education and to improve family food practices. Informal nutrition sessions are conducted where ever there is time or opportunity such as in hospital or clinic waiting rooms. Because Indian participation in local community programs and activities is low, and in some places nonexistent, it is difficult to establish groups. The tribal group and church are the two accepted organizations, and for many years have been the only organizations available to the Indian in some places. Group dynamics becomes extremely important in getting a group together or attempting to develop community activities.

Direct nutrition counseling is given patients in the out-patient department and at field health stations and centers. Counseling is most frequently given on controlled calorie, diabetic, bland, and low sodium diets. Instruction in child feeding, with concentration on the infant six months or older and the preschool child, is given. Prenatal diet instruction is primarily devoted to controlling the calorie level and to addition and distribution of protein in the food intake. The student did some direct patient conseling on various occasions.

There have been so many therapeutic problems that the nutritionist has had little time to devote to planning and organizing a preventive nutrition program. A comprehensive program is being planned as the nutritionist analyzes the needs, problems, and resources that determine the scope of the program. A comprehensive program is concerned with the nutritional status of all the people not just the sick ones. Program planning involves mobilizing the health team to a course of action that tells what is to be done, how, by whom, when, for whom, where, and results expected. This course of action has been identified as the best means of meeting objectives and promoting the nutritional status of people.

Statistical and narrative reports, nonstandardized, are made monthly and annually. The reports are a form of evaluating and provide a way of setting priorities for future work as well as being a means for informing Service Unit, Area, and Headquarters staffs of program procedures, accomplishments, and needs.

Educational material. The nutrition and dietetics staff at the Area and service unit levels develops or joins with others in developing

materials for use in teaching patients and families. Educational materials are developed as a need or demand is made. Cultural factors, current food practices, food availability, cooking and storage facilities, and reading levels are all taken into consideration as materials are developed (22).

"Food for Baby--First Six Months" (Figure 6, Appendix, page 74) is an example of materials prepared and used by the Nutrition and Dietetics Branch. The content of educational material is in keeping with the professional philosophy of the staff. An effort is made to involve the staff in planning and pretesting materials so that the final product is the work of a group instead of an individual. Illustrations in pamphlets are made so they do not limit the publication to any tribal groups. As educational materials are distributed to patients and clients, explanations are made to aid the individual or family in understanding and in applying the information.

Educational materials from other agencies and organizations are evaluated and used when appropriate. The nutrition and dietetics staff advises other concerned staff members of the educational references on nutrition and related subjects available from the Area Office and from other agencies. It is the responsibility of the nutritionist to see that all those teaching nutrition are using up-to-date, accurate information that is suitable for the Indian beneficiary. She strives for coordination of nutrition teaching so that all staff are teaching the same information.

Consultant services. The Branch provides consultant services upon request to Area and service unit personnel and to the Bureau of Indian Affairs. For example, the Bureau of Indian Affairs may request consultation

on school feeding programs. In most Bureau of Indian Affairs schools home economics teachers are in charge of the school cafeterias, and in most instances they have limited training in quantity cookery and institutional management. The responsibility for food service frequently falls on the cooks who vary in ability to provide high quality meals. The Division of Indian Health and the Bureau of Indian Affairs have a joint School Health Committee that discusses the health problems of the school children. School feeding programs are being discussed with the committee by the Chief of the Nutrition and Dietetics Branch.

Consultation is frequently requested by nurses. The student observed and participated in two consultations. The student traveled with the Area Chief to the Clinton Service Unit where the public health nurse had requested information on nutrition for good dental health, low sodium, and prenatal diets. On another occasion the nurse at the Concho Indian Boarding School requested information on teaching a nutrition class for obese teenage girls. The nutritionist helped the public health nurse think through the situation and problems relating to diets and provided her with information so that she could effectively deal with the nutritional problems. Under the leadership and guidance of the chief, the student discussed the use of donated foods and how they might be used.

The organization, activities, and resource materials being used in the class for obese girls was discussed with the school health nurse. Guidance, directives, and encouragement were given her. Upon request the student prepared a short illustrated talk for the class of eight obese girls. The purpose of the talk was to encourage the girls in their efforts

to lose weight. One girl had lost 52 pounds over a six-month period and others had not been so successful. Since the girls ate all their meals at the school cafeteria, the student presented some pointers on how they might select foods from the cafeteria line leaving some of the unnecessary calories behind.

Training for Nutrition and Dietetics Staff

In-service training. The Area Chief and Area Dietary Consultant conduct an annual workshop of about three days duration for dietitians and nutritionists. The workshop is geared to the immediate and anticipated needs of the staff in such areas as evaluation of educational material, program planning, food service administration, and cost and nutritional accounting. Informal in-service training occurs when the Area Chief or Consultant visits in a service unit, or when service unit staff come to the Area Office.

All new employees in the Division of Indian Health are given a short introduction to the Nutrition and Dietetics Branch during orientation. It is hoped that each employee will know the functions of the Branch, where to go for consultation services, and how to refer nutrition problems to the public health nutritionists and dietitians.

Out-of-service training. The staff is encouraged to request out-of-service training for attendance at the American Hospital Association Institute in Dietary Administration, or for attendance at state and national conventions, workshops, short courses, and seminars. Some long-term, a

semester or longer, training is possible. Request for out-of-service training is made to the Area Training Committee for approval of the use of Area training funds.

The staff is encouraged to be active members in professional and related organizations. The nutritionists, dietitians, and student attended the Oklahoma Dietetics-Oklahoma Restaurant Association meeting, where Miss Helen Ger Olson, Chief of the Nutrition and Dietetics Branch, was a guest speaker on "Nutrition for the First Americans." The immediate past president of the Oklahoma Dietetics Association is the Chief Dietitian at the Claremore Indian Hospitals.

IV. A STUDY OF FOOD HABITS IN THE TALIHINA SERVICE UNIT

A special project was planned in the Maternal and Child Health program at the Indian Hospital at Talihina. The program had been organized to provide dental, nutritional, medical, and health education programs to prenatal patients while they were awaiting delivery. Because of long distances to the hospital and uncertainties of date of delivery many women come to the hospital one or more weeks before delivery.

The student's plans were to take nutritional histories of some of the patients in order to learn about some of their food habits, food resources, and nutritional needs and problems. The physician in charge of obstetrics was interested in having an estimation of sodium intake of the women prior to their entering the hospital. The student was to teach two informal nutrition classes to the women.

The student made rounds with the physician in charge of the obstetric ward to meet the women and to get an evaluation of their medical condition. The medical history of each patient was read. A questionnaire was compiled (see page 75 in the Appendix) and interviews were begun. During the first week six women were interviewed, and the student used her findings as a basis for planning the first class with the group. The objective of the class was to encourage women to include animal protein foods in each meal. Economical sources of protein were shown and reasons for adding it to the diet were discussed.

During the second week of the student's project the enrollment in the obstetric ward was very low, and no patients were available for interviewing or for the second class. Even though the project did not proceed as planned, the student gained some experience and basic information.

The compiling of the questionnaire and the taking of dietary histories were new experiences for the student. The questionnaire was compiled for a particular audience, the prenatal patients, and took from one to one and one-half hours to complete. To the prenatal patient time was not a major element and comprehensive histories could be taken. The form would not be suited for out-patient prenatal patients because of the time element.

The student improved her skill in taking dietary histories which was beneficial on occasions when she was asked to do patient counseling at clinics or out-patient departments. Taking a 24-hour dietary recall from a patient was meaningful and basic to diet counseling.

The nutritional information gotten from the patients was a recall of foods eaten and served in the home before coming to the hospital. For

some patients the time span was a week or more, and some questions were related to the beginning of pregnancy. Information received was of a general nature. The student and the nutritionist discussed some of the results of the questionnaires.

The questionnaires provided insufficient information for making any generalizations about food habits and patterns of patients in the obstetric ward. The student desired further information so that some general conclusions could be made. To get a more comprehensive picture of available food resources, meal patterns, and nutritional problems of prenatal patients, the student talked with the nutritionist, medical officers, nurses, Indians, and others. Monthly reports of the nutritionist were read and provided an excellent source of information. A summary of information obtained is presented in the following sections.

Food Resources

The food resources available for the prenatal does not differ from that of the general population. From observation and direct contact with patients the nutritionist at Talihina believes the majority of families seen have sufficient funds to purchase adequate food. Whether the money is spent for foods that would make for an adequate diet is questionable. Questions relating to income are sometimes misinterpreted by the Indian as being a means of determining eligibility for health services. Therefore, the nutritionist has limited information about financial resources.

The percentage of Indians receiving donated foods in the Talihina Service Unit is estimated at about 10 percent. Those on public assistance

programs are automatically eligible and retired people are likely to be getting the foods. In December 1967, the following foods were being distributed: white beans, butter, cheese, cornmeal, flour, lard, canned chopped meat, nonfat dry milk, rice, rolled oats or wheat, grits, seedless raisins, and in April 1968, instant potatoes were added. No food stamps were available in Oklahoma.

In Oklahoma, pregnancy and lactation have been cleared as emergencies by the welfare department. One extra can of meat and one extra package of nonfat dry milk can be issued to the mother each month during pregnancy and lactation. Physicians or county health nurses must notify the welfare department of such cases. The mother is eligible for the extra food only if she is eligible for the total program.

The foods purchased by families receiving commodities are often not those needed to supplement the commodity pattern. In one instance, the nutritionist noted that commercial bread, macaroni, crackers, soft drinks, and chicken-noodle soup were the items purchased.

Most families have adequate refrigeration and cooking equipment. The student observed that the kitchen equipment seemed to be in better condition than other furniture in the house.

There are few large supermarkets in this Service Unit. Most of the stores are privately owned and the larger ones provide a wide variety of foods. In the extreme rural areas the people are restricted to small stores that have few or no fresh or frozen vegetables, fruit, and meat. Meat is delivered once a week and is only available for a short time. The rural stores usually have a variety of luncheon and canned meats and

fish. Other protein foods include: dry beans and peas, milk, cheese, and eggs. Potatoes, cereal products, soft drinks, and snack foods are usually in large supply.

Gardens are planted by many people, especially the older people and established families. Chiefly vegetables are grown, and the surplus is canned or frozen. Many women are still canning low-acid vegetables by the hot-water bath method. During the spring, poke and wild onions are an important part of the diet. These vegetables may be eaten once or twice daily while in season.

Wild berries and plums, home or locally grown apples, pears, and peaches and bananas are the chief fruits used. There are some commercial orchards in the southeastern part of the state.

Hunting and fishing make a small contribution to the diet. Fishing is the most common recreational activity in southeast Oklahoma. Lakes and ponds are prevalent and there are many successful fishers whose freezer contains fish. During hunting seasons rabbit, squirrel, and deer become a part of the diet. Any surplus is canned or frozen.

Meal and Food Patterns

Meal and food patterns of the prenatal patient is like that of the majority of Indians in southeast Oklahoma and does not appear to be different from non-Indians at the same economic level. Generally two large meals are prepared daily, breakfast and an evening meal. High carbohydrate snacks are consumed frequently by many families, including the mother. Most pregnant women do not make any changes, if at all, in the types of foods eaten until

they seek prenatal care which is often late in pregnancy. Those that make changes generally add more milk to the diet.

Drevets inquired into the diet of the full-blood Choctaws and found that their food consisted primarily of beans, fat pork, lard, and starches. It is common practice for them to fry fat pork and then to fill the frying pan with water and flour. The fat-laden gravy is then either dipped up with several large Choctaw biscuits, which are four to five inches in diameter, or poured over cooked beans. Whether the Choctaws have two or three meals daily, many eat each meal as if it were their last. It is probably that some may consume 4,000 calories or more. The Choctaw diet, by average United States standards, contains little protein but much carbohydrate and fat (6).

Most of the cooking in Indian homes in the Talihina Service Unit is done on-top-of-the-stove. Foods generally have flour and/or fat added to them. Some women use vegetable oil because they believe it has no calories. Meats are often rolled in flour or cornmeal and fried in pork drippings. Potatoes are commonly cooked by frying or stewing. Eggs are either fried or boiled, but in either instance they are hard cooked. Vegetables are boiled with addition of large amounts of drippings. Wild onions and eggs is a favority delicacy among the Choctaw. Chopped onions are mixed with water and lots of bacon grease and fried until tender; the eggs are added and scrambled. Raw vegetables are seldom eaten or used in salads. These Indians like and will eat salads, but they are seldom prepared or eaten in the Indian home.

Many of the Indian women say they cook more on weekends than any other time, and this may be due to having more time, receiving the pay check, or because of church dinners or family gatherings. Tables are heavily loaded with food, especially sweets, at family, church, and social dinners.

Native Indian dishes such as tonchi labona, bunaha, and tanfula hawuskko are seldom prepared by young women and only once or twice a year by the older women. These dishes are served more often during periods of celebration and for special occasions (23).

Nutritional Problems

Nutritional problems during pregnancy are weight gains and low protein intakes. Obesity or overweight is not limited to pregnancy but is found among all age groups and is magnified by pregnancy. The causes of obesity are many and varied, but the high fat and high carbohydrate diet typical of the Choctaw and other Indian tribes contributes to the problem.

A lack of animal protein and the poor distribution of animal protein within the diet is commonly indicated in dietary histories. All or the most of the day's protein is consumed at one meal. Some families have large amounts of animal protein the first part of the week, for one or two days, and no animal protein the remainder of the week. Families on donated foods often have animal protein only at the first of the month.

The obstetrician, presently in charge at the Indian hospital at Talihina, reported that hematocrits of less than 30 are seldom seen. If the women receive prenatal care, vitamins with iron are often prescribed. There are no known incidences of pica among the Indians in the Talihina Service Unit.

CHAPTER V

OTHER AGENCIES THAT WORK WITH INDIANS

I. OKLAHOMA STATE AND LOCAL HEALTH DEPARTMENTS

Most of the 77 counties in Oklahoma have a health department. Types and amount of services vary from one to another, but all provide home visitation and general and immunization clinics. Indians may receive services from the public health department just as any other citizen.

In the Oklahoma City-County Health Department, the public health nurses and the Visiting Nurses Association are combined and called the Visiting Nurse Service. The program is under the general direction of the Medical Director of the Oklahoma City-County Health Department. Each nurse carries out a generalized program of nursing service, including preventive health services and nursing care of the sick in the district assigned, regardles of the source of her salary.

The public health nutritionist in the Oklahoma City-County Health Department shares the facilities of the Visiting Nurse Service. The student spent three days with the nutritionist in order to see the scope of program and activities in a county health department. Some of the activities observed by the student were consultation, patient counseling, program planning and evaluation.

The public health nutritionist gives consultation on menu planning, food preparation, and service to the Community Action Program Day Care

Centers. Much of her time is spent in giving consultant services to nursing homes. Instruction is given mostly on modified diets; however, menu planning and serving attractive meals are stressed in many homes. Recently the nutritionist was asked to give dietary consultation to a home for mentally and physically retarded children where most of the occupants were receiving formulas or tube feedings.

The student observed a well-child clinic with the city-county nutritionist. One nurse was stationed at the clinic to give consultation to the mothers while another nurse performed clinical duties in another room. This arrangement made for a more relaxed atmosphere conducive for consultation. The student also attended and observed a well-child clinic that had a contract pediatrician.

The nutritionist meets with health teams composed of nurses and nursing aides to discuss particular problems of patients and families. Sometimes the nutritionist can give necessary information on diet problems so that the nurse can handle the nutritional problems or a home visit by the nutritionist may be necessary.

II. UNIVERSITY OF OKLAHOMA MEDICAL CENTER

DEPARTMENT OF DIETETICS

The University of Oklahoma Medical Center provides medical care and treatment for both in-patients and out-patients who are legal residents of Oklahoma and are financially unable to pay for medical care. There is one wing of the hospital for patients who can afford to pay for medical care. Indians may be referred to the Center. The student visited and read

medical records of a 12-year-old Indian girl with refactory rickets. The student spent three days observing the Department of Dietetics. The dietetic staff is large enough for specialization in administrative, therapeutic, clinical, and educational areas. The student had conferences with different dietitians and observed some of their duties. The main objective of the department is to meet the dietetic needs of the patient, making a maximum contribution to his recovery from illness and assisting in his rehabilitation.

A nutritional history is routinely obtained for each patient that enters the hospital. The patient's food likes, dislikes, eating habits, and patterns are checked and an effort is made to relate hospital feeding to the pattern commonly practiced by the patient. Dietitians instruct patients in diet and on improving food habits.

The hospital has selective menus for general, soft, full liquid, low sodium, and diabetic diets from which patients may select their meals. Children over 11 years of age on a general diet are offered a selective menu also.

An evaluation of the patient's food consumption is prepared by the Department of Dietetics after each meal and made available to nursing services for recording in the patient's chart. The purpose of the record is to maintain communication with nurses and physicians on the patient's food intake. Dietetic record sheets are inserted into a patient's chart to communicate such dietary observations as might be requested by the physician.

The teaching dietitians conduct nutrition classes in the nutrition clinic for out-patients. The student observed the weekly diabetic clinic. Clinic patients selected their breakfast at one of the hospital cafeterias, especially set up for this purpose. A dietitian or dietetic intern observed the patient selecting his foods and evaluated the selected meal with the patient in terms of his diet plan. The patient could ask questions or the dietitian could clear up misunderstandings and minor problems relating to the diet. The information collected by the dietitian was summarized on a form and was included with the patients medical chart so that nurses and physicians could readily see how the patient was tolerating his diet and could make necessary modifications.

Following breakfast the diabetics could attend a class taught by a dietitian and nurse. Patients with particular dietary problems were referred to the dietitian for individual counseling or readjusting the diet to meet the patient's needs. Following the clinic the nurse, dietitian, and physician discussed and evaluated the patients seen and referrals were made for follow-up if necessary.

The student attended a Grand Round at Children's Memorial Hospital, a part of the medical center. The case presented by the physician had no nutritional component. The student observed the pediatric dietary facilities and the dietitian explained the factors that are taken into consideration in planning food services for infants and children.

The Clinical Research Center, a ten-bed unit in Children's Memorial, is especially designed, staffed, and equipped for multicategorical, multi-disciplined, clinical investigation. The student had a conference with the

clinical dietitian and toured the center. The student later attended Clinical Research Day, a program to discuss some of the clinical investigations being conducted. A United States Senator from Oklahoma was a featured speaker whose subject, "Health and the Changing Society," had many implications for the public health nutritionist.

III. CRIPPLED CHILDREN'S SERVICE

Crippled Children's Service is administered by the Department of Public Welfare and provides medical care services to married or single persons under the age of 21 years of age who are unable to obtain essential care. The service includes hospital care, medical and surgical services, and equipment for rehabilitation. The crippled children's program in Oklahoma is unique in that all physicans give their services free as agreed upon by the State Medical Society. The nutritionist, upon request, follows up referral cases from Crippled Children's Service.

IV. BUREAU OF INDIAN AFFAIRS

The Bureau of Indian Affairs, a part of the Department of Interior, is not responsible for the health program for the Indian people. However, some of their programs are related to the health and welfare of the people. The goal of the Bureau of Indian Affairs is to elevate the Indian into his rightful place in the community. The activities of the agency are: management of land trust and other property, education, construction, social services, and employment.

Land holdings belonging to Indian tribes are held in trust by the United States government. The land is managed, supervised, and protected so that the Indian is not exploited. The land cannot be bought or sold without approval by the Bureau of Indian Affairs.

Approximately 70 percent of the funds of the Bureau of Indian Affairs go to support education for children and adults. Schools have been discussed in Chapter II, and only adult education will be emphasized here.

Adult education is provided through Bureau of Indian Affairs contract services with the University of Oklahoma, and Oklahoma State University Extension Service. Extension agents are hired to work predominately with Indians in counties where there is a large Indian population. An Extension team consisting of a Home Demonstration Extension Agent and a 4-H Club Agent serve two or more counties. The Home Demonstration Agent is concerned with education in different phases of home economics through individual or group contact. The agent in southeastern Oklahoma has six organized groups of women who meet regularly and receive training on a regular basis on some phase of home economics that helps solve a particular problem or meet an identified need. The agents work with groups that do not meet on a regular basis and cooperate with other groups and agencies to provide information to the Indians. The student observed agents giving lessons on moving and storage to a group of Indians that were moving into their new mutual self-help houses. Nutrition and foods lessons are included at various times.

Extension agents are concerned with development of youth and adult leadership. One of the goals of Extension is to provide guidance, education, and leadership so that the people may identify and solve their own problems.

The Bureau of Indian Affairs has adult vocational educational programs to train the bread winner in a vocation. A new type of program where the whole family is moved to the training site is being initiated with the trend toward training the whole family. Presently there are three centers in the United States that provide this plan.

The Bureau of Indian Affairs, in cooperation with state employment service agencies, assists industry in the recruitment of qualified applicants to meet personnel requirements. The Bureau has an on-the-job-training program through which industrial enterprises with established programs may be reinbursed at an agreed upon rate for the cost of training eligible Indian employees.

The social services provided by Bureau of Indian Affairs are counseling in such areas as marriage, family matters, and finance, and coordinating social services provided by the state, county, and other agencies. A temporary emergency fund for Indian families who need immediate aid is provided. This fund is terminated when aid from another source can be provided.

V. OFFICE OF ECONOMIC OPPORTUNITY

Through the Office of Economic Opportunity grants have been made for the establishment and partial staffing of health departments in counties without public health services. The purpose was to start health services so that it might stimulate people to see the need for health services and for the county to meet the financial requirements to maintain a public health department.

In the Talihini Service Unit the student visited homes with a home visitor, who is employed by Office of Economic Opportunity but is under the direction of the health department. The home visitor canvasses her assigned territory to gather information that is indicative of the health status of the family. While in the home the home visitor also informs the family of the services that the public health department has to offer. If the family is in need of medical aid it is encouraged to seek care, and referrals are made to proper agencies or individuals.

The student also made home visits with a family planning aide who is an Office of Economic Opportunity representative working under the direction of a health department. Visits are made to homes where the husband and wife are encouraged to seek further information about family planning from their private doctor or to attend family planning clinics at the health department.

Oklahomans for Indian Opportunity was organized in 1965 as a non-profit educational corporation and was funded in 1966 by a grant from the Office of Training and Technical Assistance, Community Action Program, Office of Economic Opportunity. Community development, work orientation, and youth development have been the major areas of concentration.

The community development program of the Oklahomans for Indian Opportunity was designed to develop leadership among Indians for identification and solution of local problems. In relation to health, the organization has worked with the Public Health Service to provide and establish clinics in areas with no or limited services. Proposals have been made for more outpatient facilities for Oklahoma City and Tulsa (24).

Child day-care centers, recreational programs, training and adult education programs have been established. Community-clean-up campaigns have been conducted in some areas.

The youth program has concentrated on providing leadership opportunities for Indian young people in grades 7-12. Work orientation programs, designed to combine on-the-job-training with extensive adjustment counseling for the job trainee in such subjects as finances, budgeting, employer-employee relationship, dress, and grooming have been successful in preparing young people for the labor force.

CHAPTER VI

SUMMARY AND EVALUATION OF FIELD EXPERIENCES

The first objective of the student was to become familiar with the organization and programs of the Division of Indian Health, especially the Nutrition and Dietetics Branch. The student had conferences with the Deputy Area Director and Chiefs of the majority of the Area Offices and Branches. Each person briefly discussed the organizational structure, philosophy, and program services so that the student obtained an overall view of the programs that made up the organization. The Nutrition and Dietetics Branch is an integral part of the total health program and is coordinated with other program services.

The second objective was to learn the role and responsibilities of a public health nutritionist. The student had an opportunity to observe the diverse actvities of three nutritionists, two in the Division of Indian Health and one in a county health department. The nutritionists were teaching and guiding individuals and groups toward better health through improved nutrition. The observation and participation in the different activities of the nutritionists gave the student some practical experience so that theory could take on greater meaning.

To become acquainted with the methods and procedures used in assessing nutritional and health problems in the Division of Indian Health was a third objective. Methods most commonly used were vital statistics, sampling techniques in the out-patient department, professional judgment, and opinions

of the Indian beneficiary. The student identified some of the nutritional problems of the prenatal patients in the Talihina Service Unit by using some of the above methods.

The fourth objective was to develop some understanding of the relationship of nutrition to medical practice. The student went on medical rounds, mainly to pediatric and obstetric wards, observed physicians at general medical and pediatric clinics, and attended team conferences where the medical and dietary components of disease were discussed. A prescribed diet is a part of medical treatment and is based upon a diagnosis. Some physicians believe nutrition is one of the most important environmental factors affecting health. It is the responsibility of the nutritionist, dietitian, and medican staff to coordinate services so as to provide the best possible patient care.

To continue gaining knowledge in techniques of motivating and teaching individuals, families, and groups was the fifth objective. The field training experience gave the student opportunities to participate in nutritional activities. Consultation was given under the guidance of the Area Chief to a public health nurse on use of donated foods. On another occasion the student was consultant to a school health nurse at an Indian boarding school.

A class was taught for obese girls at an Indian school, and a class for prenatal patients was taught an an Indian hospital. Both of these teaching activities provided challenges in motivation and teaching methods and techniques. The experience in patient counseling on modified diets for mothers and infants were learning experience also.

The sixth objective was to learn some of the food habits and patterns of the Indians in Oklahoma. Some dietary histories were taken in order to get an idea of food habits, food resources, food preparation methods, and nutritional problems. The student gained information on compiling questionnaires and developed some skill in interviewing as well as knowledge of food habits and patterns.

The field experience planned by the Division of Indian Health helped the student realize her objectives. The excellent learning experiences have better prepared the student to fulfill the responsibilities and role of a public health nutritionist.

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APPENDIX

Figure 6. Food for baby--first 6 months.

DIETARY HISTORY

Date_____
Name_____Number_____Tribe_____
Address_____Town_____County_____
Age_____Weight_____Height_____Gravida_____Para_____
Weight before pregnancy_____ Hb._____ _____

1. Do you think you are gaining enought weight?___Too much weight?___
   Too little weight?___during pregnancy?

2. After pregnancy, do you want to weigh the same?___less?___
   more?___than before pregnancy?

3. Have you ever been on a diet?____When?____What kind of diet?____
   Did you have any problems staying on the diet?_____If so, what?
   _____

4. Are there any foods that disagree with you?_____
   How?_____

5. What foods do you dislike?_____

6. How many meals do you usually eat each day?_____When?_____

For Questions 7 through 10 name foods, amounts, and how prepared:

7. What do you usually eat for breakfast?_____
   _____
   _____

8. What do you usually eat for dinner?_____
   _____
   _____

9. What do you usually eat for supper?_____
   _____
   _____

10. What foods do you eat between meals?_____
    _____

11. Do you eat about the same amount of food each day?_____

12. Did you change your food intake when you became pregnant?_____
    If so, how?_____
    _____

13. Do you have a craving for any food?____What?_____
Do you have a craving for starch?____Coffee Grounds?____Dirt?_____
Clay?____Other_____? Do you know anyone that has eaten any of these?_____

14. How many people live in your home?_____What are their ages?_____

15. With whom do you eat your meals?_____

16. Who prepares or helps prepare your meals?_____

17. Do you like to cook?_____What do you like to cook?_____
What do you dislike to cook?_____

18. How often do you buy groceries?_____Where?_____
Who buys groceries?_____Do you have a grocery list before shopping for groceries?_____

19. How much money is usually spent on food each week?_____

20. Do you receive commodities?_____What commodities do you use?_____
_____
Is there any commodity food that you would like to make better use of?_____What?_____

21. Do you have cows?____Chickens?____Rabbits?____Garden?____Home canned or frozen foods?____If yes, what kinds?_____
_____

22. Do you have a refrigerator?____Freezer?____Stove?____Oven that works?____Broiler?_____

23. What type of water system do you have? Well?____City?____Cistern?__
Spring?____Do you have water in the house?____Hot water heater?_____
Bathroom?_____

24. Are you (or your husband) employed?____If yes, what do they do?_____
What is your income per month? Less than $100____$100-149_____
$150-199_____$200-249____$250-299____$300-349____$400 or more_____

25. How many grades did you complete in school?_____

DIETARY HISTORY

In the following list, check the foods the patient eats, frequency, and how food is prepared.

	Per Day	Per Week	Per Month	Method Prepared
1. Milk: whole or sweet_____ skim_____ buttermilk_____ powdered_____ chocolate_____	___	___	___	_____
2. Meat: beef_____ chicken_____ lean pork_____ ham_____ fish_____ squirrel_____ deer_____ rabbit_____ liver_____	___	___	___	_____
3. Eggs: fried_____ poached_____ cooked in shell_____ other_____	___	___	___	_____
4. Cheese: cottage_____ yellow_____	___	___	___	_____
5. Peanut butter_____	___	___	___	_____
6. Fresh fruit: oranges_____ grapefruit_____ apples_____ bananas_____ pears_____ plums_____ watermelon_____ other_____	___	___	___	_____
7. Canned or cooked fruit: apples_____ apricots_____ berries_____ fruit cocktail_____ peaches_____ pears_____ prunes_____ raisins_____ other_____	___	___	___	_____
8. Fruit juice: orange_____ grapefruit_____ other_____	___	___	___	_____
9. Raw vegetables: carrots_____ celery_____ lettuce_____ onions_____ tomatoes_____ other_____	___	___	___	_____
10. Raw vegetables: carrots_____ greens_____ green beans_____ green peas_____ okra_____ squash_____ cabbage_____ poke_____ wild onions_____ dock_____ other_____	___	___	___	_____

	Per Day	Per Week	Per Month	Method Prepared
11. Starchy vegetables: corn_____ potatoes: baked_____boiled_____ fried_____mashed_____salad_____ other_____	___	___	___	_____
12. Dry beans and peas: blackeyed_____limas_____ navy_____pinto_____other_____	___	___	___	_____
13. Soups: homemade_____canned_____	___	___	___	_____
14. Bread: white___whole wheat_____ biscuits_____cornbread_____ crackers_____rolls_____	___	___	___	_____
15. Cereals: cooked_____ ready to eat_____	___	___	___	_____
16. Fats: butter_____margarine_____ bacon grease_____lard_____ oil_____shortening_____ mayonnaise_____other salad dressing_____gravy_____	___	___	___	_____
17. Fat meats: bacon_____salt pork____ sausage_____	___	___	___	_____
18. Sweets: sugar_____honey_____ jelly_____perserves_____ syrup_____sorghum_____	___	___	___	_____
19. Saccharine or sugar substitute_____	___	___	___	_____
20. Desserts: cake_____cobbler_____ cookies_____ice cream_____ jello____pie_____pudding_____	___	___	___	_____
21. Candy: chocolate_____hard_____ with nuts_____other_____	___	___	___	_____
22. Beverages: coffee____tea_____ kool aid_____soda pop_____ malts and milk shakes_____ diet drinks_____	___	___	___	_____

	Per Day	Per Week	Per Month	Method Prepared
23. Miscellaneous: nuts_____ corn chips_____potato chips_____ olives_____pickles_____ other packaged snacks_____	___	___	___	_____
24. Alcoholic beverages_____ beer_____other_____	___	___	___	_____

Comments:_____

VITA

Wanda Lee Dodson was born at Monticello, Kentucky, May 27, 1939, and attended elementary and secondary schools in Wayne County, Kentucky. In 1957, she entered Berea College, Berea, Kentucky, to obtain a Bachelor of Science Degree in Professional Home Economics. After graduating in 1963, she was employed by the University of Kentucky Extension Service as Home Demonstration Extension Agent in Lewis County. In 1965, she became an Area Extension Agent Specializing in Foods and Nutrition and worked in a six-county area in northeastern Kentucky until she entered the Graduate School of The University of Tennessee in the summer of 1967.