August 5, 1969

To the Graduate Council:

I am submitting herewith a thesis written by Mildred Louise Walker entitled "Field Experiences and Observations with the Nutrition Division, Maternity and Infant Care Project No. 551, Mobile County, Alabama." 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 Traylor
Major Professor

We have read this thesis
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Vice Chancellor for
Graduate Studies and Research

FIELD EXPERIENCES AND OBSERVATIONS WITH THE NUTRITION DIVISION, MATERNITY AND INFANT CARE PROJECT NO. 551, MOBILE COUNTY, ALABAMA

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

Mildred Louise Walker

August 1969

ACKNOWLEDGEMENTS

The writer wishes to express appreciation to Miss Patricia Schell, Nutrition Consultant, Maternity and Infant Care Project No. 551, Mobile County, Alabama, and her staff for planning and providing a rewarding field experience. Further appreciation is extended to the other staff members of the project and the cooperating personnel from the Mobile County Board of Health. Their cooperative efforts made the experience educational and pleasant.

Special gratitude and thanks are extended to the writer's major professor, Miss Mary Nelle Traylor. Her sincere interest and guidance were most inspiring and encouraging to the writer. Appreciation and gratitude are due to Dr. Cyrus Mayshark, Department of Health Education, The University of Tennessee, and Dr. Jane R. Savage, Department of Nutrition, The University of Tennessee, for their assistance and support throughout the course of study.

ABSTRACT

The major purpose of the field experience in public health nutrition with the Maternity and Infant Care Project No. 551 in Mobile County, Alabama was to facilitate the integration of academic knowledge and practical experience on a professional level. The experiences and observations during eight weeks in this agency have been analyzed in terms of the writer's objectives.

The writer gained a better understanding of the operation and functions of a health project and the role of a public health nutritionist within the organization by working with other disciplines within the agency. As a project, she planned and developed a comparative study of vital and health statistics which are influenced by the quality and availability of prenatal and infant health care.

As a result of the field experiences, the writer gained a broader understanding of the responsibilities and functions of a public health nutritionist within a comprehensive health program. Her field experiences also provided the opportunity to learn about a particular population and its health needs, the Maternity and Infant Care Project and its program, and the relationship of the project to other health agencies and their programs.

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CHAPTER I

INTRODUCTION

The main objectives of the field experience in public health nutrition were to help the writer strengthen her philosophy and understanding of public health and to provide activities to help broaden her understanding of the role of a public health nutritionist within an agency and the community. To achieve these objectives, practical experiences were provided in a health agency under the guidance of a public health nutritionist. The writer was encouraged to apply knowledge in nutrition and her abilities in a professional and yet a practical manner. She was also taught to be alert and aware of her strong and weak areas. Her responsibilities required direct contact with professional and nonprofessional groups and individuals. The field experience was, therefore, a realistic method of involving the writer in planning, implementing, and evaluating activities and her performance as a public health nutritionist.

The writer's field experience was provided by the Maternity and Infant Care Project No. 551, Mobile County, Alabama. Her objectives during the experience were:

a. To become familiar with the community and its public health problems.

b. To become acquainted with the organization and nutrition services of the maternity and infant care project and its relationship to the overall public health program.

c. To strengthen her knowledge and her ability to assume the role of a public health nutritionist within a special health project or other public health programs.

d. To appraise her competency to practice public health nutrition.

This thesis is composed of seven chapters which summarize the writer's field experiences and observations with the Nutrition Division of the Maternity and Infant Care Project No. 551 in Mobile County, Alabama. Chapter II contains the history, objectives, and policies of maternity and infant care projects in general. In Chapter III, the need for a maternity and infant care project in Mobile County, Alabama, is discussed. Chapter IV describes the maternal and infant care program of the project in Mobile County, Alabama. Some aspects of the Alabama Department of Public Health as well as of the Mobile County Board of Health are described in Chapter V. A discussion and an evaluation of the writer's experiences, activities, and a statistical study are the components of Chapter VI. Chapter VII includes the summary and evaluation of the experiences and observations during the field training period.

CHAPTER II

THE HISTORY, OBJECTIVES, AND POLICIES OF MATERNITY AND INFANT CARE PROJECTS

In recent years, increased attention has been focused on the high incidence of mental retardation and other physical defects in infants from low-income families. This heightened concern promoted legislative action and comprehensive health planning by federal, state, and local health agencies to combat the problem. Presently, more than 50 maternity and infant care (MIC) projects have received the sanction and support of the Children's Bureau. (1)

Most of these projects are directed locally by the state or county health agencies. However, they are directly responsible to the Children's Bureau, Department of Health, Education, and Welfare. This federal health agency, by law, is responsible for the overall functions of the projects. It also serves as the intermediate source for financial assistance. Therefore, a review of the pertinent legislative history and the objectives and basic requirements set by the Children's Bureau is important to understanding some aspects of the MIC Project No. 551 in Mobile, Alabama.

I. LEGISLATIVE HISTORY

Amendments to Title V of the Social Security Act

On October 24, 1963, President John F. Kennedy signed into effect Public Law 88-156. This law embodied the desire of the Children's Bureau to amend Title V of the Social Security Act to include plans to combat

and prevent mental retardation and other defects in infants. The amendments were considered and approved (separately) by the House and the Senate on August 27 and October 2, 1963, respectively. The two lawmaking bodies concurred on the amendments on October 15, 1963. (2)

The Act is cited as the "Maternal and Child Health and Mental Retardation Planning Amendments of 1963" (2). It provided a new authorization in Section 531, Part 4, of Title V of the Social Security Act for federal funds to be used specifically for maternity and infant care projects. The appropriations for MIC projects were: $5,000,000 for the fiscal year ending June 30, 1964; $15,000,000 for the fiscal year ending June 30, 1965; and $30,000,000 for each of the next three fiscal years (3).

Title V of the Social Security Act was further amended in 1965 and 1967. The 1967 Amendments authorized Congress to make the following appropriations (for all Title V programs): $250,000,000 for the fiscal year of 1969; $275,000,000 for the fiscal year of 1970; $300,000,000 for the fiscal year of 1971; $325,000,000 for the fiscal year of 1972; and $350,000,000 for the fiscal year of 1973 and each year thereafter. Forty percent of the appropriation for each year (1969-1972) shall be for grants for MIC projects, projects for the health of school and preschool children, and projects for the dental health of children. After July 1, 1972, the states must assume responsibility for these projects and 90 percent of the appropriation shall be for grants to the states to aid in carrying these projects as part of their maternal and child health and crippled children's programs.(1)

Purpose of the Legislation

The main purpose of legislative action was to assist states and communities in preventing and combatting mental retardation caused by complications associated with childbearing. Funds for the grants were appropriated to pay, in part, the costs for providing the necessary health care through approved projects to prospective mothers who have or are likely to have conditions which will make them vulnerable to health hazards. Necessary health care refers to comprehensive prenatal, postpartum, and infant health care. This care is directed mainly to mothers and infants who could not receive necessary health care because they are from low-income families or for other reasons beyond their control. The responsibility of determining who shall receive the services offered by a project rests with the state or local health agency.(2,3)

Recipients of Grants

Funds may be granted to the state health agency of any state or to any political subdivision of the state, providing the state health agency gives its consent. Eligibility for a grant is determined by the Children's Bureau and the amount of the grant may not exceed 75 percent of the cost of any project. The state or locality must finance the remaining 25 percent of the cost.

> In keeping with the Reports of the House Ways and Means Committee and of the Senate Finance Committee the Children's Bureau will take into account the financial ability of the State or locality so that some applicants will be expected to contribute more than the minimum 25% of the cost of the project. General overhead cannot be considered as part of the cost of a project.

Projects are approved to receive grants for a period as short as

seven months or as long as 18 months. The duration of the grant depends on the month, during the fiscal year, in which the original proposal is approved. The initial payment of the grant is made for a period of up to three months; the remaining installments are made monthly, providing a quarterly request is filed by the state or local health agency. (3)

II. OBJECTIVES OF MATERNITY AND INFANT CARE PROJECTS

Broad Objectives

Since no exact determination can be made as to whether the lack of prenatal care is due to the mother's failure to understand its importance or the inaccessibility of health facilities to them, maternity and infant care projects were created to deal with the problem from both points of view. Therefore, the major objectives of the projects are:

a. To seek out the more vulnerable expectant mothers early in pregnancy and provide high-quality and comprehensive health care for them.

b. To increase the accessibility and use of community health resources by minimizing administrative barriers to care.

c. To provide follow-up care for infants at high risk of developing mental or physical defects. (3,4)

Factors Determining the Objectives

Evidence presented to Congress in 1963 included data showing a large number of mothers who received little or no prenatal care. There is "a high association between lack of prenatal care and unfortunate pregnancy outcome" (4). Women who do not receive prenatal care tend to

have a high incidence of complications during pregnancy and deliver prematurely two or three times more often than the average for the nation. It has been shown that premature infants (infants weighing 2,500 grams or less at birth) are especially vulnerable to brain damage, neurological disability, and mental retardation.(3)

High-Risk Factors

Physical conditions, age ranges, and socio-economic factors associated with a high rate of unfortunate pregnancies, prematurity, and infant mortality are the determinants of a high-risk pregnancy. Mothers who are considered at high-risk of developing complications during pregnancy usually have one or more of the following conditions: hemorrhage; toxemia of pregnancy; dystocia; concurrent medical conditions such as anemia, malnutrition, hypertension, diabetes, and infections; RH incompatibility; threatened premature labor; out-of-wedlock pregnancy; history of previous birth of infants with cerebral palsy, metabolic disorders, and other diseases; and pregnancy in women under 16 or over 40 years of age. The outcome of the pregnancy depends on the severity and/or the number of these high-risk factors that the mother experiences. High-risk babies may be babies born to mothers diagnosed as being at high risk during pregnancy, or they may be babies who develop adverse physical conditions, associated with birth, during their first year of life (4).

III. BASIC REQUIREMENTS OF THE CHILDREN'S BUREAU

Application Procedures

The Children's Bureau prepared a special application form (CB-41)

for use in applying for a project grant. Each application must be accompanied by a written plan which gives a descriptive exposition of the geographical area, objectives, eligibility for services, personnel, and a plan for evaluation of the project. A State Agency Consent form is required if the project is to be administered by a local health agency. Applying agencies are encouraged to seek consultation and assistance from the Children's Bureau Regional Medical Director in the development of their proposals and the preparation of their applications. (2)

Project Plans

The character of a project is shaped by its community's needs, resources, problems, and planners (4). However, basic plans should characterize all projects. These plans should make it possible to:

a. Increase the number of maternity clinics.

b. Bring maternity clinics into the neighborhoods where the patients live.

c. Add personnel to improve the quality of care . . .

d. Make available a broad spectrum of diagnostic and specialist consultation services . . .

e. Provide hospitalization during the prenatal period as well as during labor and delivery in hospitals staffed and equipped to provide the quality of care required . . .

f. Relieve overcrowding in public hospitals by providing care for high risk patients in voluntary hospitals.

g. Provide for medical and intensive nursing care for prematurely born and other high risk infants.

h. Provide public health nursing, nurse-midwifery, medical social and nutrition services.

i. Provide dental care.

j. Respond to the special needs of the population served by securing other services such as homemakers services, blood for transfusions, drugs, transportation. (3)

Services provided by MIC projects should be made available to patients who are currently living in the project area. No requirements for legal residence are applicable, nor is any legal commitment required for any part of the care. A patient may apply for admission to the project herself or be referred by others. Registration procedures should be organized so the patients will not have to wait for long periods of time or make multiple trips for this purpose. Clinics should be conveniently located and scheduled. It is imperative that each patient is treated with respect and dignity regardless of her social status or ability to pay. Furthermore, the Children's Bureau, in compliance with Title VI of the Civil Rights Act of 1964, prohibits discrimination based on race, color, or national origin in this program.

The patients' eligibility for hospitalization is determined by the state or local health agency. Since "low-income" in this program means "an income which is not sufficient to enable the family to pay the cost of care without further reducing a low standard of living," the family's income and the cost of medical and hospital care for high-risk patients should be taken into consideration. The health agency should also arrange for the hospitalization of those patients who are expected to bear their own hospital expenses (3).

Nutrition Component

Nutrition services of the project should be related to the existing nutrition program in the local and state health agency. The project

nutritionist should provide a complete evaluation and assessment of each patient's nutritional status, dietary intake, food habits, and ability to follow dietary recommendations. The nutritionist should provide initial and follow-up teaching based on such recommendations that the mother may maintain or improve the diet of herself, her infant, and her family. She should also be able to follow any dietary modification prescribed. The nutritionist is encouraged to give dietary guidance to the project's patients during their stay in the hospital or in other group-care facilities. In addition, it is her responsibility to work through community resources to procure foods or special supplements necessary to meet the dietary needs of the patients.

Other responsibilities of a project nutritionist require participation in program planning; implementing the policies, procedures, and standards of the projects; and evaluation. Her consultative responsibilities extend beyond the project staff to other community agencies which are concerned with services to these mothers and infants. Her duties also include developing educational materials; developing nutrition records and patient records; and analyzing the services and activities for which she is responsible. She is expected to participate in research relating to the project. (5)

Fiscal Policies

It has been stated that federal grants will cover a maximum of 75 percent of the costs of any project. These funds, when approved in the plan and budget, may be used for the direct cost of operating and maintaining the project. Therefore, the following direct costs may be

incurred:

a. Salaries and fringe benefits for full or part-time professional and nonprofessional personnel.

b. Fees for consultants and specialists.

c. Approved travel of personnel, consultants, and specialists.

d. Transportation for patients.

e. All supplies required in the operation of the project.

f. Rental of privately owned facilities where adequate space cannot be provided by the agency.

g. Purchase of care from hospitals and other community resources.

h. Special equipment when it is justified and approved in the budget or plan.

i. Other directly related expenditures, such as telephone service, or mimeographing.

Funds may not be used to construct buildings, pay for depreciation of buildings or equipment, or for general overhead.

The local or state health agency is responsible for any other costs not approved in the plan and budget. (3)

Records and Reports

The participating health agency must keep detailed and accurate records concerning all aspects of the project. For each succeeding year of support, periodic reports (such as statistical, progress, and budgetary) are required by the Children's Bureau Regional Medical Director. These reports are used to evaluate the development of the

project. The outcome of the evaluation determines whether or not the project will continue to receive financial assistance. (3)

CHAPTER III

DETERMINANTS OF NEED FOR A MATERNITY AND INFANT CARE PROJECT IN MOBILE COUNTY, ALABAMA

The eligibility of a health agency to receive federal funds to help finance an MIC project is influenced by many factors--among these are demographic characteristics, vital and health statistics, and the availability and quality of existing maternal and child health services in the community. This chapter presents data which were used to justify the request for an MIC project in Mobile County, Alabama. Some of the more recent information on the demographic characteristics and selected vital and health statistics are also presented in this chapter.

I. CHARACTERISTICS OF THE GEOGRAPHIC AREA AND THE POPULATION

Geographic Area

The geographic area described in the project proposal included all of Mobile County, which is located in the southwest corner of Alabama. The county covers an area of 1,248 square miles which is bound on the north by Washington County, on the east by the Mobile River, on the south by the Gulf of Mexico, and on the west by the State of Mississippi. Included in the county are the city of Mobile and seven small municipalities. The city of Mobile is the second largest city in Alabama and has one of the largest seaports in the nation (6). In 1960 the city of Mobile contained 202,799 of the county's 314,301 residents. The population of Mobile and Mobile County in 1968 was estimated at 250,800 and 363,900, respectively (7).

Population Composition

Of the total population of 314,301 in Mobile County in 1960, approximately two-thirds or 64.2 percent resided in the city and approximately one-third or 35.8 percent resided in areas outside the city (Mobile County). The total population increased 22.1 percent from 1960 to 1968; however, the distribution of the population remained almost the same. Of the estimated population in 1968, 65.2 percent lived in the city and 34.8 percent lived in the county.

Ethnically, the population was composed of 67.1 percent white persons and 32.3 percent non-white persons in 1960. The ethnic composition of the population in 1968 had changed very little. Table 1 shows the population by age group in Mobile County in 1960. Approximately 42.9 percent of the population was 19 years of age or younger. The largest percentage of the population was in the age interval of zero to four (12.4 percent). The female population was more than one-half (51.4 percent) of the total population. Approximately 18.7 percent of the females were within the childbearing age interval of 15-39 years. (7)

Socio-Economic Status

Approximately 73,993 families lived in metropolitan Mobile in 1960. Of this total, 15.3 percent earned less than $2,000 per year; 21.0 percent earned between $2,000 and $4,000 per year; and only 63.7 percent earned $4,000 or more per year. When these percentages are compared to the annual percentages of earnings for the nation--13.1 percent earned less than $2,000, 17.8 percent earned between $2,000 and $4,000, and 69.1 percent earned $4,000 or more--there are no marked differences (8).

TABLE 1

THE POPULATION CLASSIFIED BY AGE GROUPS
IN MOBILE COUNTY, ALABAMA, 1960[a]

Age Group	Male Population		Female Population		Total Percent
	Number	Percent	Number	Percent	
0 - 4	21,539	6.3	21,000	6.1	12.4
5 - 9	18,989	6.0	18,524	5.9	11.9
10 - 14	16,758	5.4	16,692	5.3	10.7
15 - 19	12,074	3.9	12,509	4.0	7.9
20 - 24	8,786	2.9	10,695	3.5	6.4
25 - 29	9,745	3.2	10,691	3.5	6.7
30 - 34	10,314	3.4	11,669	3.8	7.2
35 - 39	10,930	3.6	11,931	3.9	7.5
40 - 44	9,479	3.1	10,046	3.2	6.3
45 - 49	8,883	2.9	9,183	3.0	5.9
50 - 54	7,521	2.3	7,573	2.4	4.7
55 - 59	5,911	1.9	6,045	2.0	3.9
60 - 64	4,074	1.3	4,678	1.5	2.8
65 and over	7,700	2.4	10,362	3.3	5.7
TOTAL	152,703	48.6	161,598	51.4	100.0

[a]Source: Mobile County Board of Health 1960 Records of Vital and Health Statistics. Mobile County Board of Health, Mobile County, Alabama.

Mobile County's main sources of income include heavy industry, such as shipbuilding; paper; importing and exporting; and fishing. Agriculture and commercial businesses also contribute to the income of the county (6).

Vital and Health Statistics

In 1966 a total of 6,556 resident live births were recorded in Mobile County. The birth rate was 17.9 per 1,000 population as compared to 18.7 per 1,000 population for the State of Alabama and 18.5 per 1,000 population for the nation (9). The nonwhite population had a birth rate of 22.9 per 1,000 population, which was 1.5 times higher than the birth rate, 15.5 per 1,000, of the white population (10).

The range of difference between Mobile County and the State of Alabama for infant, neonatal, and fetal death rates was not very great in 1966. The infant mortality rate for Mobile County was 24.9 per 1,000 live births. The neonatal death rate (under 28 days) was 18.0 per 1,000 live births and the fetal death rate was 16.8 per 1,000 deliveries. The infant mortality rate for the state for the same year was 29.2 per 1,000 live births. The neonatal death rate was 19.4 per 1,000 live births and the fetal death rate was 20.0 per 1,000 deliveries. There was no significant difference in Mobile County's infant mortality rate, 24.9 per 1,000 live births, and the rate for the nation, 24.4 per 1,000 live births. Figure 1 illustrates that in 1966 the infant mortality rate for the nonwhite population was 35.3 per 1,000 live births and the infant mortality rate for the white population was 17.7 per 1,000 live births. The neonatal death rate for the nonwhite population was 24.8 and the rate for the white population was 13.4 per 1,000 live births. The fetal death

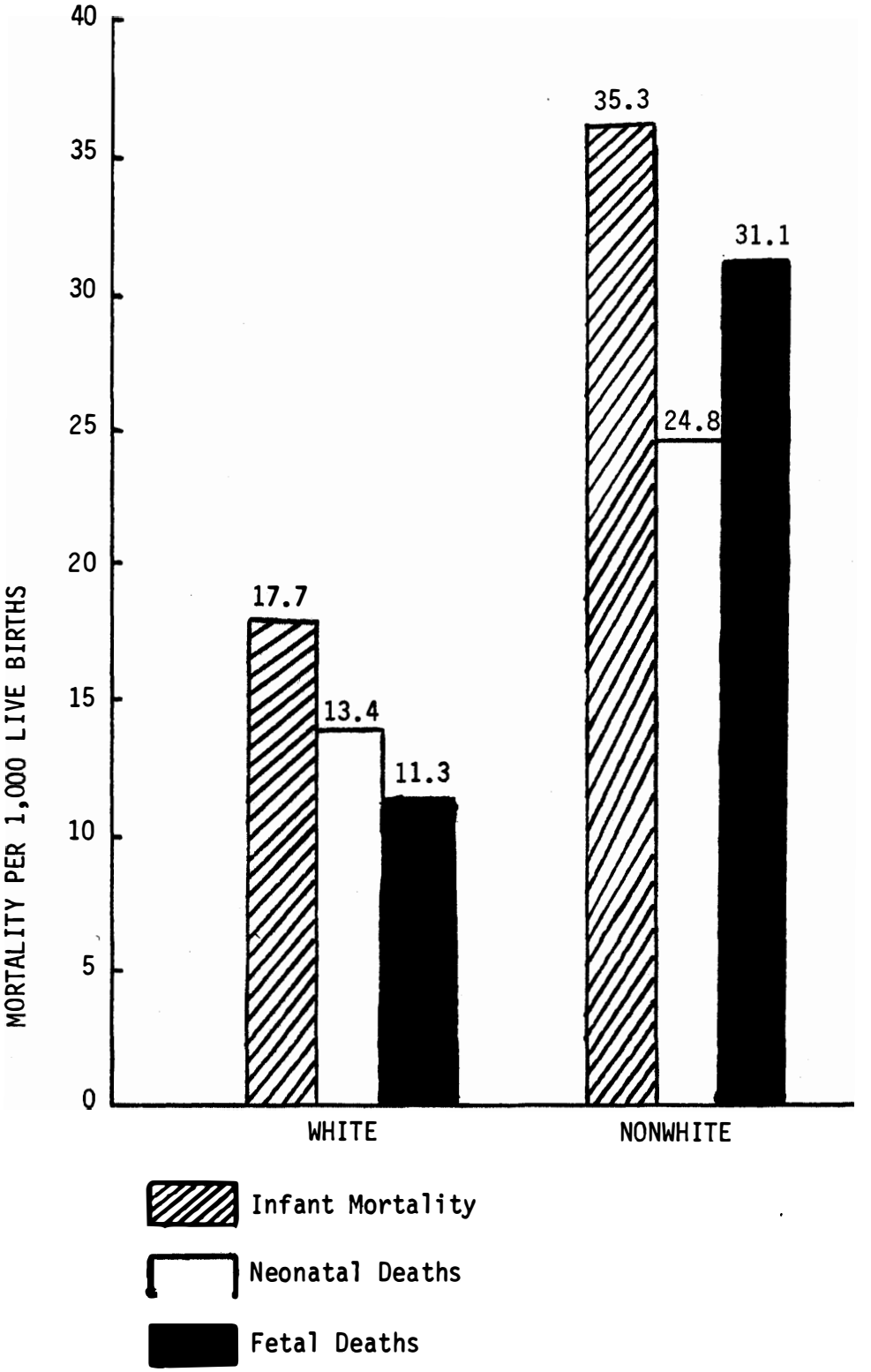


Figure 1. Infant, Neonatal, and Fetal Death Rates Classified by Race, Mobile County, Alabama, 1966.

rate for the nonwhite population was 35.3 per 1,000 deliveries as compared to 11.3 per 1,000 deliveries for the white population. (10) Figure 1 further illustrates that the rates for the nonwhite population were approximately twice as high as those for the white population in 1966.

In 1966 three resident deaths associated with pregnancy and childbirth occured in Mobile County. The maternal death rate was 44.2 per 100,000 live births (10).

Premature infants (infants weighing 2,500 grams or less at birth) tend to be the victims of neonatal deaths more often than infants weighing in excess of 2,500 grams. Of the 6,556 live resident births in Mobile County in 1966, approximately 9.4 percent was premature infants. Of the total 112 infants who died under 28 days of age, approximately 86 or 77.8 percent were premature. Figure 2 shows the percentage of resident live births and the percentage of neonatal deaths by birth weight in 1966. The percentages of live births by weight were as follows: 0.8 percent weighed less than 562 grams; 0.7 percent weighed from 562 to 1,521 grams; 1.8 percent weighed from 1,522 to 2,068 grams; 6.1 percent weighed from 2,069 to 2,500 grams; and 90.5 percent weighed 2,501 grams or more. The percentages of neonatal deaths by birth weight were: 44 percent weighed less than 562 grams; 16 percent weighed from 562 to 1,521 grams; 9.8 percent weighed from 1,522 to 2,068 grams; 8 percent weighed from 2,069 to 2,500 grams; and 21 percent weighed 2,501 grams or more. (7)

Reducing the rate and percentage of illegitimate births and teenage pregnancies is a challenge to concerned public health and other health workers in Mobile County. In 1968 the overall rate for illegitimate

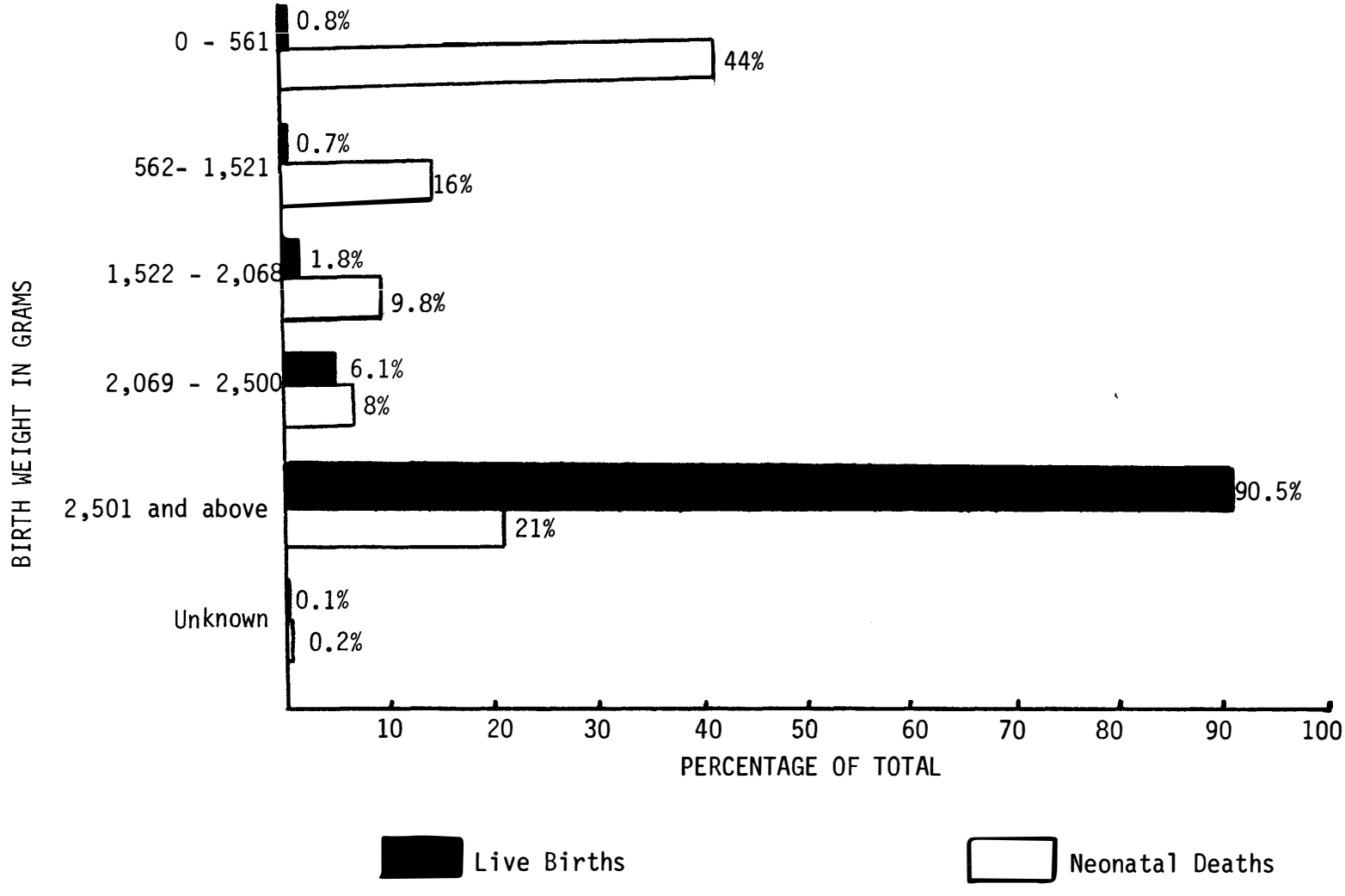


Figure 2. Resident Live Births and Neonatal Deaths Classified by Birth Weight, Mobile County, Alabama, 1966.

births was 190.0 per 1,000 live births. The nonwhite population had an illegitimacy rate of 458.4 per 1,000 live births, which was 9.8 times higher than the white population's rate of 46.8 per 1,000 live births. In the same year, a total of 756 infants were born to mothers who were 19 years of age or younger. These teenage mothers gave birth to 22.7 percent of all the infants born in 1968. Approximately 0.5 percent or 24 mothers were less than 15 years of age and 22.2 percent or 732 mothers were between the ages of 15 and 19 years. (7)

II. MATERNAL AND CHILD HEALTH SERVICES

Obstetrical and Pediatric Services

Prior to 1966, maternal and infant health services for the low-income residents of Mobile County were limited and probably inadequate due to a shortage or professional personnel. However, some services were provided by the Mobile County Board of Health and the Mobile General Hospital, through its inpatient and outpatient clinics (11). There were no infant clinics for the indigent at either location (9). Usually infants were returned to the hospital or health department only to be treated for illnesses. In 1967, Mobile County found it urgent to begin an immunization project to combat and prevent outbreaks of whooping cough, diphtheria, tetanus, polio, measles, and smallpox. A death caused by diphtheria and 24 cases of whooping cough in 1967 provided impetus in the creation of the immunization project. (10)

Nutrition Services

Before the Nutrition Division of the Maternity and Infant Care

Project in Mobile was organized, there was not a nutritionist in the area (12). Occasionally the Extension Home Agent would teach classes to expectant mothers at one of the clinics on the "Basic Four Food Groups" and on "How to Cook Food Properly to Save the Nutrients" (13). The nutritional information or dietary counseling received by expectant mothers attending the outpatient clinics at Mobile General Hospital and at other clinics was given by physicians and nurses.

CHAPTER IV

THE MATERNITY AND INFANT CARE PROJECT NO. 551
MOBILE COUNTY, ALABAMA

The basic characteristics and objectives of maternity and infant care projects have been discussed in Chapter II. This chapter will be devoted to considerations peculiar to the maternity and infant care project in Mobile County, Alabama. Factors under consideration are: the history and development; the administration and organization; the operational procedures; the maternal and infant health program; and the project's accomplishments and limitations.

I. BACKGROUND INFORMATION

History and Development

Before Mobile County received its MIC project, maternity and infant health services from the Mobile County Board of Health were very limited. Funds appropriated by the county and state were insufficient to provide the quantity of services needed and professional personnel were too few to provide the quality of care desired. Furthermore, the majority of the low-income families were financially unable to obtain health care from private sources. (9, 11)

After MIC projects received the sanction and support of legislation to receive federal grants, Dr. Edward F. Crippen (Health Officer from 1965 to 1967) and the administration of the Mobile General Hospital made plans to take advantage of the opportunity to expand and improve maternal and

child health services in Mobile County. Early in 1966, Dr. Crippen submitted a project proposal along with an application for a federal grant to the Regional Office of the Children's Bureau in Atlanta, Georgia. Consultative services from Dr. Harold Klingler, Director, Maternal and Child Health, Alabama Department of Public Health, Dr. John T. Leslie, Regional Medical Director, Children's Bureau, and from many others were helpful in the development of the proposal and the preparation of the application. On June 28, 1966, the project grant was approved effective June 1, 1966. In accordance with the preliminary plans, the Mobile Board of Health through the Alabama Department of Public Health (Bureau of Maternal and Child Health) provided the remaining 25 percent of the budget for the project. (9, 11)

The MIC program began in September of 1966 with approximately 15 staff members. The staff included the Project Director; pediatricians and obstetricians; an acting administrator; a nursing director, nurses, and nurses' aides; and clerical workers. Dr. Crippen served as the Project Director and Mobile General Hospital as the cooperating hospital. Maternal and infant care services were provided at the Mobile County Board of Health (mainly for patients referred by midwives), the Mobile General Hospital, and at three satellite health centers located in low-income areas. The central offices of the project were located at the Mobile County Board of Health. (9,11)

On June 1, 1967, Dr. George W. Newburn, Jr., became the County Health Officer and therefore the Project Director. Under his leadership, the project's services have been expanded. Additional personnel employed include a director of medical social work and a social work assistant,

a nutrition consultant and two staff nutritionists, dental personnel, and additional clerical personnel (14). There are approximately 37 full-time personnel working with the project with additional part-time physicians, dentists, and nurses (15).

After two years the number of patients admitted to the project and the staff had increased to the point that the facilities at the Mobile County Board of Health became overcrowded. On July 1, 1968, the headquarters (MIC Center) for the project was moved to a larger building in Prichard (16).

Administration and Organization

Locally, the project is directed by the Mobile County Health Officer. He is responsible for the programs and activities of the entire project. He must see that the facilities, personnel, and services are adequate to meet the objectives of the project and that the funds are properly used (17). Due to his other responsibilities as the Health Officer, he delegates some of his duties (with supervision) to the Project Administrator. The administrator handles the fiscal and operational aspects of the project (18). The Director of the Bureau of Maternal and Child Health of the Alabama State Health Department represents the State Health Officer and department on the advisory board to the project. The purpose of this board is to coordinate the activities of the project in Mobile County with similar projects and on-going maternal and child health programs in the state (11).

The organization of the project must be viewed from two points: (a) the organization of the project in relation to the other major health

agencies providing services to the project's patients, and (b) the organization of the disciplines within the project itself. Figure 3 gives an overall view of the organization of the project in relation to the delivery of health services to the patients. The organizational complexity of the project is caused by efforts to effectively utilize available manpower, limited funds, and group-care facilities. The Mobile County Board of Health, the Mobile General Hospital, and professionals in the community have cooperated in using effectively manpower and facilities for the project. Data processing, some of the fiscal management, additional nursing services, and dental services are provided by the Mobile County Board of Health at a reasonable cost. Inpatient and outpatient care is provided by the Mobile General Hospital, through contractual arrangements. The project also benefits from the contractual services provided by private physicians. Figure 4 shows the organization of the various disciplines within the project. Six disciplines--medicine, nursing, dentistry, social work, health education, and nutrition--compose the interdisciplinary health team.

Operational Procedures

The initial prenatal visits are made to the Maternity and Infant Care Center. At this time, each patient is seen by a physician, nurse, social worker, and nutritionist. Once a week representatives from the medical, medical-social service, nutrition, and the nursing divisions meet at a post-clinic conference to discuss and evaluate each patient seen the week before. They discuss the patient's needs in relation to

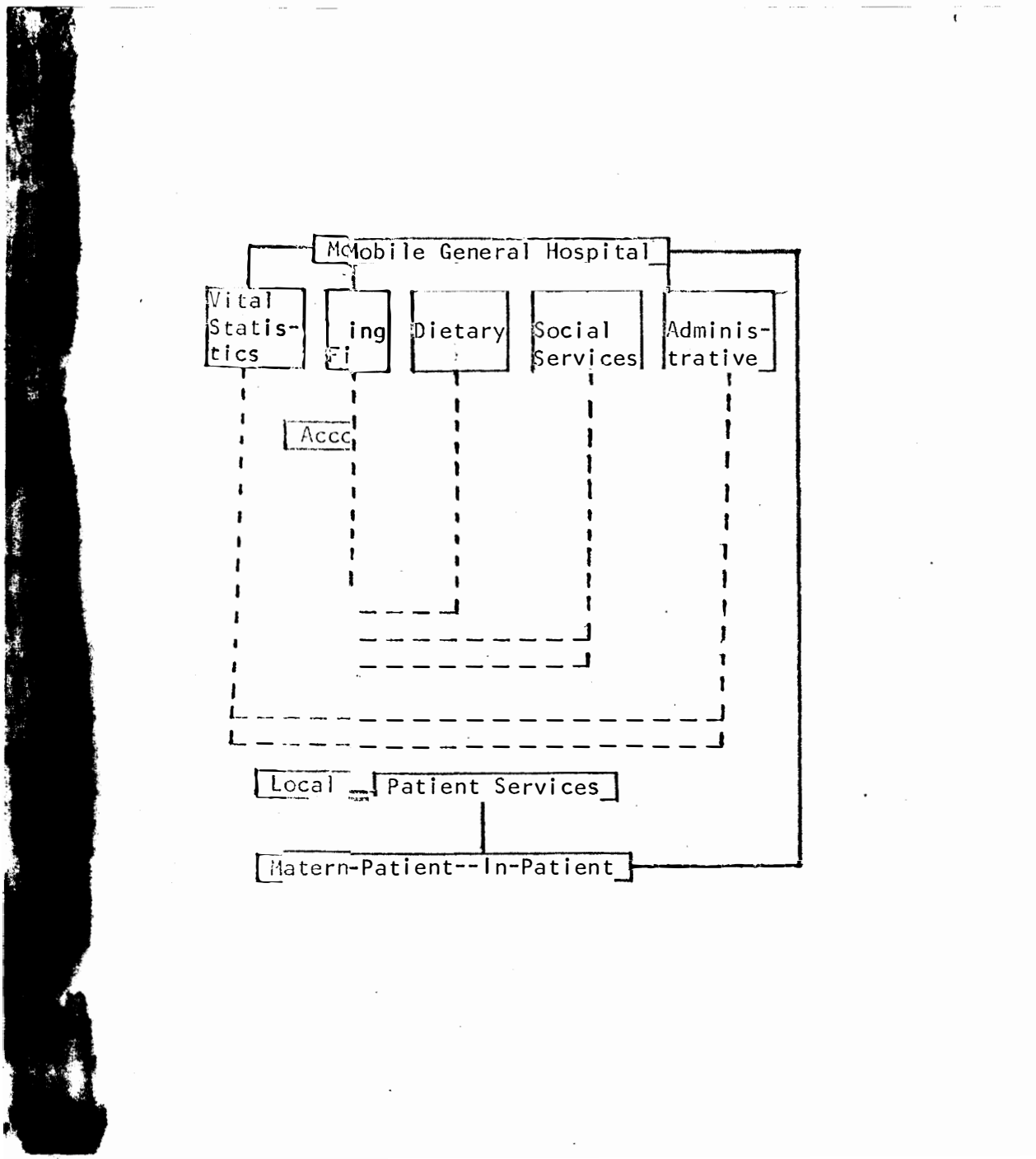
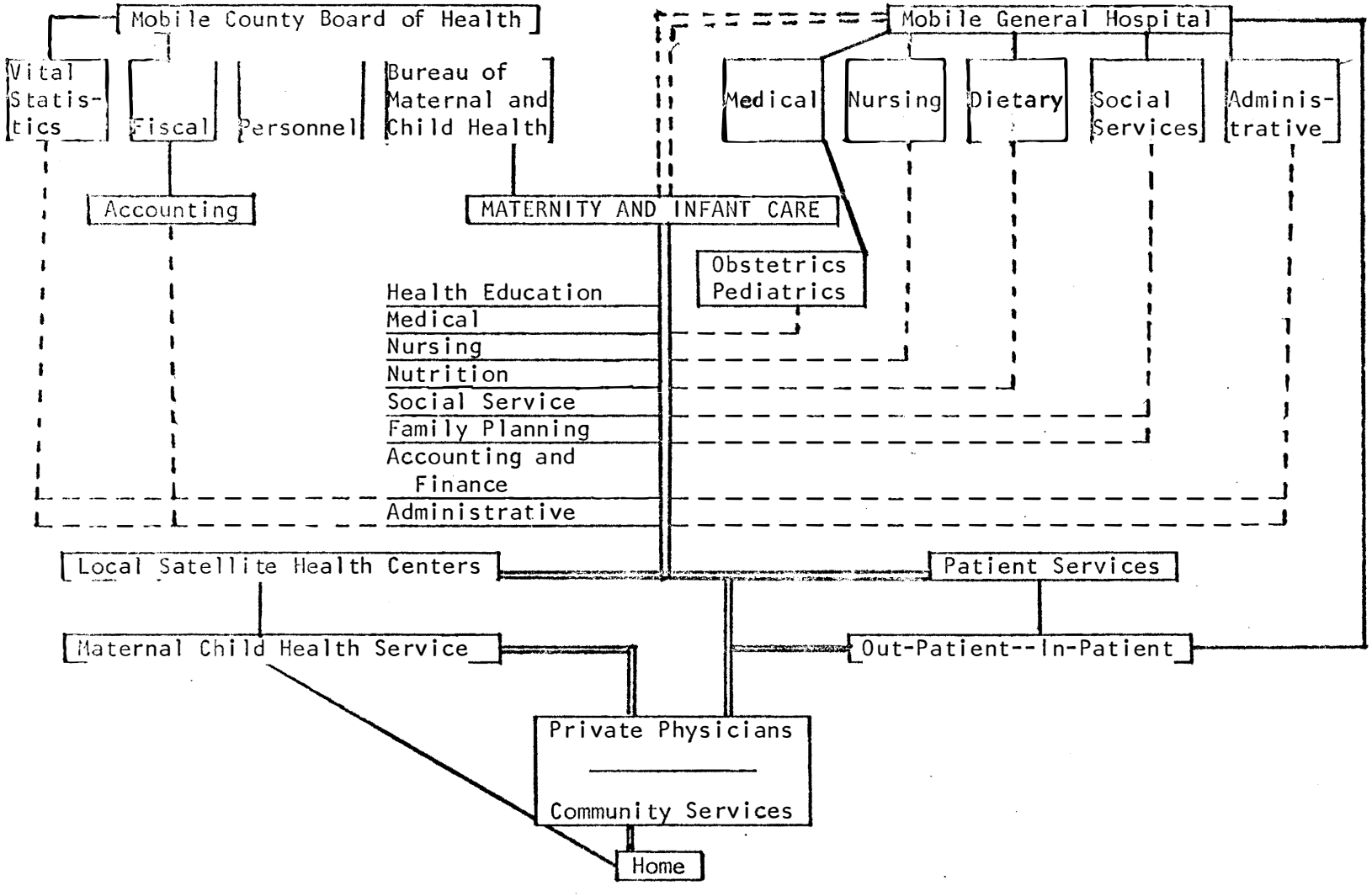


Figure 3. Mobile County Board of Health, Maternity and Infant Care Project No. 551, Organizational Chart.


Mobile County Board of Health
Vital Statis-tics
Fiscal
Personnel
Bureau of Maternal and Child Health
Accounting
MATERNITY AND INFANT CARE
Health Education
Medical
Nursing
Nutrition
Social Service
Family Planning
Accounting and Finance
Administrative
Mobile General Hospital
Medical
Nursing
Dietary
Social Services
Adminis-trative
Obstetrics
Pediatrics
Local Satellite Health Centers
Patient Services
Maternal Child Health Service
Out-Patient--In-Patient
Private Physicians
Community Services
Home

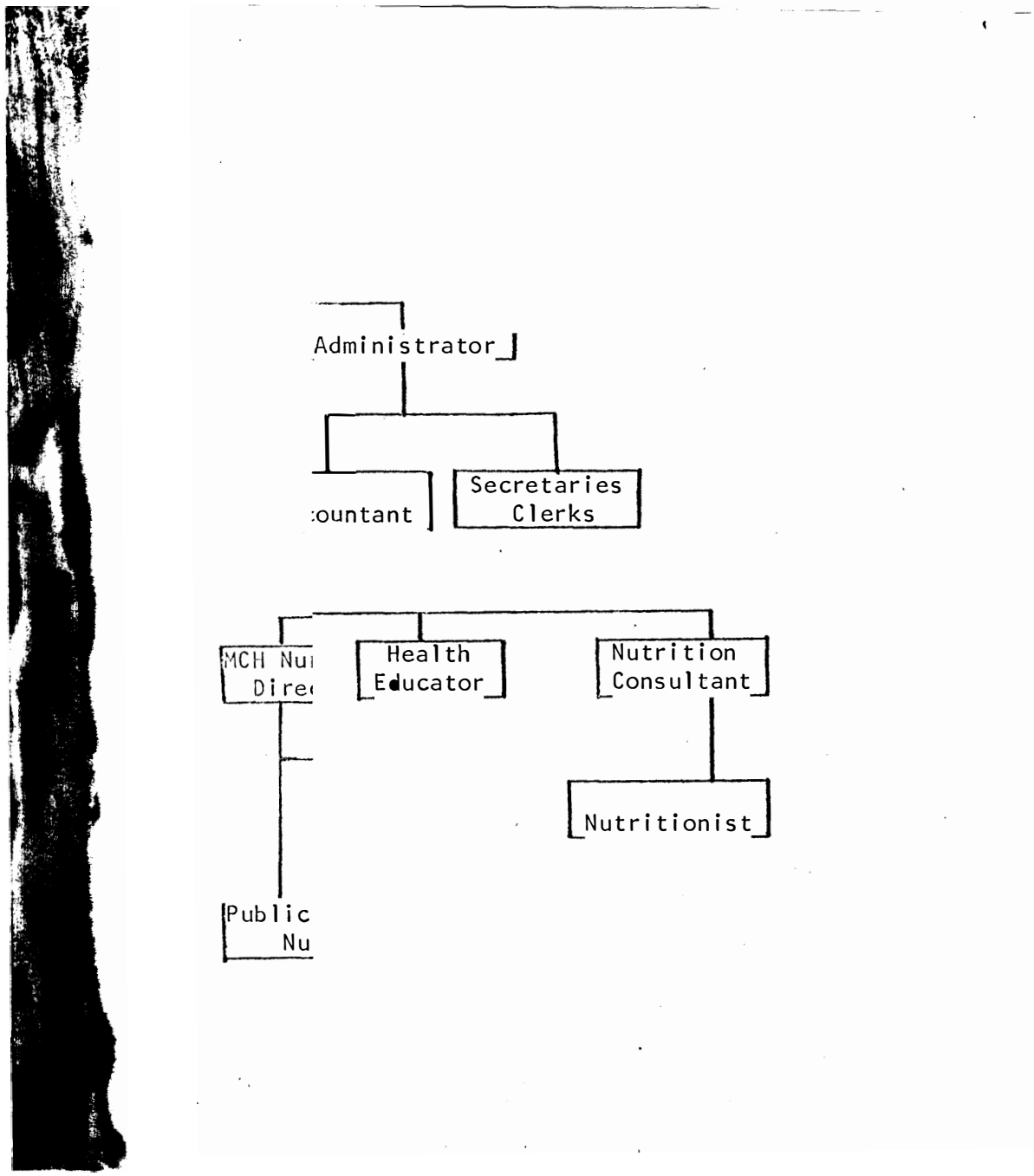
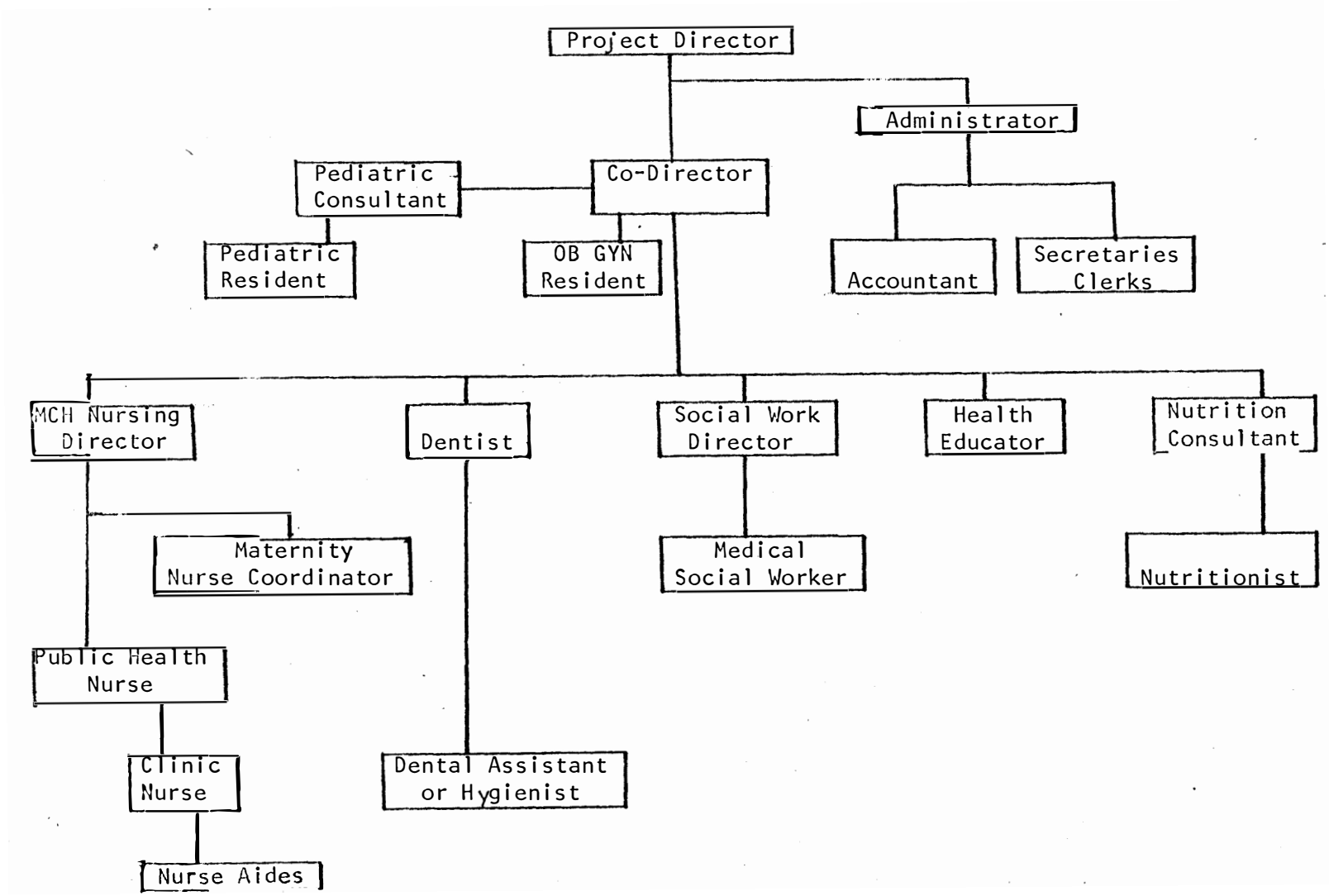


Figure 4. Organizational Chart, Maternity and Infant Care Project No. 551.


Project Director
Administrator
Pediatric Consultant
Co-Director
Pediatric Resident
OB GYN Resident
Accountant
Secretaries Clerks
MCH Nursing Director
Dentist
Social Work Director
Health Educator
Nutrition Consultant
Maternity Nurse Coordinator
Medical Social Worker
Nutritionist
Public Health Nurse
Clinic Nurse
Dental Assistant or Hygienist
Nurse Aides

her medical history, family history, nutritional status, and socio-economic status. Following this interdisciplinary discussion, an individual plan is developed for the management of the patient and the evaluating group decides the admission status of the patient. All applicants are eligible for clinic services if they reside in the county, but hospital care is purchased for only those patients who are determined to be at high risk of developing complications during pregnancy and who are determined to be unable to pay the costs of care. The patient's record and the recommendations for services are reviewed and signed by the Project Director. The patient is then sent a written notice of her admission status and the clinic to which she has been assigned for additional services. Patients are usually assigned to the clinic nearest their home.

If a patient is found to have high-risk factors, or if she is in need of special laboratory tests or further studies, she is referred to the Mobile General Hospital. If hospitalization is needed, the patient is admitted to the obstetrical ward on her initial visit; if the patient has complications which can be treated in an outpatient clinic, she is referred to the high-risk prenatal clinic of the hospital. The public health nurses, the medical social workers, and the nutritionists provide some follow-up care in the homes of patients admitted to the high-risk clinics.

All patients are instructed to go to the Mobile General Hospital for obstetrical care during delivery. Infants born to mothers who are on the project automatically become MIC patients. They are given health care throughout their first year of life. The clinics for both mother and infant are held at the same location.

The maternal medical records are kept at the Mobile General Hospital in order to assure easy access to them at any time a patient is admitted to the hospital for delivery or for emergency treatment. The records are picked up each morning before a clinic begins and are returned in the afternoon. The infants' medical records are kept at the MIC Center; they are carried to and from the center to the other clinic areas in a similar manner. (19) In rendering services to the patients, each discipline is encouraged to seek consultative services or make referrals to other disciplines within the project or to proper agencies in the community.

II. THE MATERNAL AND INFANT CARE PROGRAM

Objectives

The objectives of the Maternity and Infant Care Project No. 551 are very similar to those of the projects in general because the health problems and needs of the population in Mobile County are very similar to those of other areas in the nation. Therefore, the objectives of this particular project are to seek out pregnant women throughout the county and encourage them to utilize the clinic nearest their home for adequate prenatal and post-partum care, to eliminate deterrents to adequate prenatal care, and to provide sufficient clinics in neighborhoods where low-income families are concentrated. (11)

Division of Health Education

The Mobile County Board of Health and the MIC staff have developed a program of continuing education for the public. The program is designed to reach the low-income population. Mass media, such as newspapers, radio,

television, lectures, leaflets, and booklets, are utilized in an effort to enhance the understanding of problems and to inform the public of the programs, activities, and services of the health department and the MIC project. During the months of April and May in 1969, a series of television programs were devoted to the MIC project. Representatives from the various disciplines of the project explained the purposes, programs, and services of their particular divisions. Emphasis was placed on the importance of the services and on how a family or individual may obtain them. (18)

Division of Nutrition

The nutrition services are an integral part of the comprehensive services provided by the MIC project. The major objective of the nutritionists is to work directly with the mothers and infants on an individual basis to help them improve or maintain their nutritional status. Nutrition services of the project are coordinated with the nutrition services of the state. Therefore, consultation is available from the State Nutrition Director.

To aid them in providing and evaluating nutrition services, the nutritionists have developed a prenatal nutrition record form (see Appendix A). The form has been revised periodically. The nutritionists realize the importance of keeping records for evaluation and other purposes. Therefore, records of their nutrition activities are kept on file. These records contain such information as the number of patients seen, the type and number of diet instructions given, and summaries of other activities which are related to nutrition or to the project. Data from these records, which may

be included in the progress reports sent to the Children's Bureau, are sent to the Project Director and to the State Nutrition Director. These data are also useful in planning and implementing nutrition services.

Each nutritionist tries to see the same patient each time she visits the clinic in order to know her and to establish and maintain effective rapport. Therefore, the nutrition services are divided with the nutrition consultant usually providing services to the maternity patients and the staff nutritionist providing the services to the infant patients. (12, 20)

Maternal nutrition services. The weekly maternal clinic schedule provides for three clinics for new patients (maternity-intake) and seven regular maternity clinics. Presently, nutrition services are provided for all the maternity clinics except for three which are held at the Mobile General Hospital and at one of the satellite health centers. Nutrition services are to be extended to these clinics with the employment of the third nutritionist in July, 1969.

The nutritionist sees each patient on her initial visit. She takes a 24-hour dietary recall from the patient and inquires about the consumption of foods from the "basic four food groups." She is also interested in whether the patient has pica--eats dirt, clay, laundry starch, flour, or other bizarre items. These findings are recorded on the dietary record forms. Before any teaching is attempted, the nutritionist reviews the patient's medical and social records, if available. She looks at such recordings as the hemoglobin level, packed cell volume, symptoms of toxemia (elevated blood pressure, edema, and albuminuria), age, weight, birthweight of previous infants, size of family, income, and pertinent social conditions

that might influence the patient's ability to follow dietary instructions. Then the nutritionist models her dietary instructions to meet the needs of the individual. The patient is given a normal diet to follow unless modifications are necessary. On each of the patient's subsequent visits, the nutritionist interviews the patient to evaluate desirable or undesirable nutrition habits. She encourages the patient's desirable habits and tries to motivate her to change habits that are less desirable. If necessary, the diet is modified according to the doctor's orders and explained to the patient. The diet order is usually one of four types: normal, low sodium, low sodium and low calorie, or diabetic.

Nutrition problems found in the maternity patients include obesity, underweight, excessive weight gain or weight loss during pregnancy, and anemia. The nutritionists found that the major nutritional problem is that of a low intake of protein foods of high biological value. Therefore, in teaching the patients, emphasis is placed on the importance of foods such as milk, meat, and eggs. The relationship of inadequate protein to the low birth weights of infants is discussed further in the statistical study in Chapter VI.

Infant nutrition services. There are six weekly infant clinics held in the project area. All of these clinics are serviced by a nutritionist. The nutritionist's major objective is to motivate the mothers to establish good nutrition habits for their infants early in life.

The nutritionist usually sees each infant periodically from one through 12 months, that is, at one, four, six, nine, and 12 months of age. If the infant's weight is abnormal, the doctor has made additional

recommendations, or the mother appears to need more help, additional counseling is given (20). Therefore, all infants' records are carefully reviewed during each clinic to determine if intermediate counseling is necessary. Each time the nutritionist talks with a mother, she inquires about the kind and amount of formula or the kinds and amounts of foods the infant is getting. She is alert for signs of allergies and poor feeding or eating habits. After the interview, she gives the mother a leaflet containing simple feeding instructions and thoroughly explains them. One of the most common problems found is that of overconsumption of milk and a low intake of solid foods, especially meat and vegetables.

Other nutrition services. Besides providing consultative services to the obstetrical residents and other staff members, the nutritionists participate in many community programs. They lecture to classes, professional associations and committees, lay associations and committees, and to the nurses attending inservice training at the Mobile County Board of Health. They are active in organizations which are related to health and nutrition such as the Nutrition Committee. Currently, they are teaching mothers, who are not eligible for other services, of infants with phenylketonuria to follow the phenylalanine-restricted diets. (21)

Division of Clinical Administration

The major function of the Division of Clinical Administration is to see that the clinics are operated smoothly, that the necessary supplies and equipment are available, and that the patients' histories and statistics are adequately recorded and filed. The staff members that are now serving

in this division include the project administrator, the maternity nurse coordinator, clerks, and nurses' aides.

Some clerks are responsible for keeping the statistical records of the project. These statistics include such items as the number of patients admitted and discharged from the project, the number of patients receiving each type of service, the number of deliveries, the birth status of the infants, and the type of immunization each infant receives (19). Other clerks are responsible for keeping the clinics supplied with clinic forms and medical records, registering the patients, and making the patients' appointments according to the doctor's orders (22, 19). The nurses' aides are under the direction of the supervising maternity nurse. They assist the nurses and others by keeping the examining rooms organized and stocked with supplies; rotating the patients from one discipline to another in the clinics; obtaining urine specimens; recording the height, weight, and temperature of the patients; and assisting with some of the clerical work. (23)

Division of Family Planning

The Division of Family Planning combats high birth rates and other conditions such as maternal and infant mortality, mental retardation, illegal abortions, neglected and abused children, parental desertions, and poverty by providing information about family planning methods. There are four family planning clinics in the project area. Three of the four clinics are staffed by a doctor as well as a public health nurse. The services offered at the clinics are physical examinations, tests for pregnancy and cancer, administration of birth control pills and

intrauterine devices, and routine examinations and interviews to determine if the patients are following the directions. (24)

Division of Accounting and Finance

The major functions of the Division of Accounting and Finance are to maintain necessary fiscal and budgetary records. This division prepares monthly reports which reflect the salaries, fringe benefits, expenditures, and other fiscal matters of the project. The division also keeps an inventory of the medical and dental supply items and drugs. (11)

Division of Medical Social Service

> The patient's socio-economic status is one of the factors determining whether she is in a high-risk category. In order to obtain social information which would be pertinent to planning for the total care of the patients, the Medical Social Director or the social work assistant interviews each patient at the time of her initial visit to the clinic. Patients to be seen on subsequent visits are selected by one of three criteria: (a) the patient requests additional service; (b) the medical social service staff anticipates further problems; or (c) referrals are made from other disciplines. Special attention and counseling are given to the majority of the teenage mothers. Service to this group may involve the patients' parents or other members of the family group and occasionally the putative father. (25)

Division of Nursing

The Division of Nursing provides a variety of supporting functions in the care of the patients. The nursing staff is divided into two groups: one services the maternity and post-partum clinics and the other group services the infant clinics. Each group is coordinated by one of the clinic nurses.

Maternity and post-partum services. The activities of the nurses serving the maternity and post-partum clinics cover many areas. The initial

screening of the patients is to obtain the obstetrical history, past medical history, and the family medical history. The nurses talk with each patient about the procedures to follow on their next clinic visits and give them directions for taking prescribed medications. (23)

The nurses assist in the post-partum examination of the mothers. They teach them how to care for themselves and discuss birth control methods or permanent sterilization when it is necessary. Other activities of the nurses include assigning the patients to the various clinics, making referrals to the Mobile General Hospital for special problems, and preparing laboratory samples to be sent to the local or state laboratories. (23)

Infant services. Infants usually make their initial visit to the clinic at one month of age unless they are at high risk of developing complications. The infants are brought to the clinic each month thereafter throughout their first year. The objective of the nurses is to assist the mother in establishing an environment which will enable the baby to thrive and develop normally. The primary method used to educate the mothers is that of group teaching. Small groups are presented lectures and demonstrations on topics such as "Daily Care of Infants," "Care of Skin and Scalp," "Formula Preparation," "Prevention of Accidents," and the "Prevention of Common Diseases and the Importance of Immunizations." In many of the classes, especially in formula preparation, a nurse demonstrates the techniques and asks each mother to return the same demonstration. The nurses who are responsible for services also participate in the immunization project and make home visits to infants who have been born prematurely, who are failing to thrive, or who are referred by a physician. (26)

Division of Pediatrics

Infants are followed in the Division of Pediatrics from birth to one year of age. The main function of the division is to provide physical examinations, medications, and any hospital care which is necessary for the health of the infant. Special attention is focused on normal growth and development (physical and mental), immunizations, allergies, and the diets of the infants.

The physical examination includes measurements of the infant's length, weight, and head circumference and examinations for enlarged spleens, ear infections, dislocated joints, general behavior patterns, and motor development. The usual prescriptions are those for vitamins, nose drops, and vaccines. Occasionally there are cases of infants who fail to thrive. Since the project has been in operation, there have been less cases of diarrhea, and the number of patients admitted to the pediatric ward for pneumonia, meningitis, and surgery have decreased. (27)

Laboratory services. The routine laboratory service for infants at the project's laboratory is urinalysis. Blood samples are taken on the infant's initial visit and sent to the state laboratory in Montgomery, Alabama, for the determination of the phenylalanine and histidine levels. The test for phenylketonuria is required by law. (28)

Division of Obstetrics

The major function of the Division of Obstetrics is to provide good quality medical care to the expectant mothers throughout pregnancy and during the post-partum period. The services of the division include

routine physical examinations and obstetrical care during delivery. The patients are usually scheduled to come to the clinic once a month during the first and second trimesters of pregnancy, twice a month during the first two months of the third trimester, and once a week during the last month of the third trimester of pregnancy. If complications associated with childbearing are present, the patients are seen as often as is necessary. The doctors take the present medical history which is combined with information from the patients' past records to give a complete picture of medical status. Medication and surgery are prescribed as needed by the obstetricians. They also prescribe modified diets. Some of the physical problems that are found in the patients are carious teeth, edema, cervical erosions, and hypertension. Occasionally, the patients' health status is such that permanent sterilization is recommended. (29)

Laboratory services. The routine laboratory services provided at the project's laboratory include an analysis of the blood to determine the hemoglobin, packed cell volume, RH type, and the blood type; and an analysis of the urine for albumin, sugar, or other abnormalities. Other laboratory services are provided at the request of the physician. They may include a glucose tolerance test, a pregnancy test, and a blood urea nitrogen determination. Sometimes additional laboratory services are needed. Cervical and vaginal smears for cytological evaluation are sent to the state laboratory in Montgomery, Alabama. The Mobile County Board of Health provides X-rays, skin tests for tuberculosis, dental care, and treatment for gonorrhea and syphilis. (28)

III. ACCOMPLISHMENTS AND LIMITATIONS

Accomplishments

Some statistics for selected activities taken from periodic reports of the various divisions for the years of 1966 through 1969 have been compiled in Table 2 (30). These statistics help to explain the growth in the program and services and the changes in the population attending the clinics. Some of the project's services, such as dental, nutrition, and social service, were not provided until 1967. Although the number of patients admitted to the project in 1968-1969 had decreased, the services to these patients had increased. The attention given to each individual has been intensive. Since the project has been in operation, from September, 1966, through April, 1969, only 4,956 maternal patients and 4,131 infant patients were admitted to the project, in comparison to the 33,700 maternal visits and 14,777 infant visits to the clinics. The total number of social service interviews (during intake clinics) remained basically the same; however, the number of married patients interviewed had almost doubled by 1969 and far exceeded the number of unmarried patients interviewed. The number of unmarried mothers interviewed had increased approximately 1.5 times and so had the number of adolescent patients interviewed. The number of patients receiving family planning services in 1969 was 17 times the number receiving the services in 1966. The individual nutrition instructions given to maternal patients had almost tripled in 1969 as compared to the instructions given when the program began in 1967. The individual nutrition instructions for infants had doubled. Presently, the nutrition staff sees approximately 80 percent of the maternal patients and approximately 71 percent of the infants coming to the clinics. (30)

TABLE 2

STATISTICS FOR SELECTED ACTIVITIES BY FISCAL YEAR, THE MATERNITY AND INFANT CARE PROJECT NO. 551, MOBILE COUNTY, ALABAMA[a]

Selected Activities	Total	Fiscal Year 1966-1967*	1967-1968	1968-1969**
Maternal				
Patients Admitted	4,956	1,653	1,948	1,355
Clinic Sessions	653	---	363	390
Visits	33,700	7,270	14,451	11,979
Nutrition Instructions	10,166	---	2,567	7,598
Patients in Family Planning Program	7,464	384	1,225	5,855
Appointments for Dental Services	3,373	---	---	3,373
Total Social Service Interviews (Intake)	2,906	---	1,071	1,835
Married Patients	1,426	---	499	927
Unmarried Patients	1,118	---	437	681
Others	362	---	135	227
Adolescent Patients (Primagravides)	572	---	213	359
Deliveries	4,131	896	1,897	1,337
Infant				
Clinic Sessions	490	---	276	214
Visits	14,777	1,064	7,752	5,961
Nutrition Instructions	7,183	---	2,388	4,795

*From September, 1966, through April, 1967.

**From July, 1968, through April, 1969.

[a]Source: Compiled from Periodic Reports by the Various Divisions of the Maternity and Infant Care Project No. 551. Mobile County Board of Health, Mobile County, Alabama, 1966-1969.

Limitations

Through the MIC project, more comprehensive and convenient health services are available to expectant mothers and infants in Mobile County. However, there are limitations imposed by inadequate personnel, physical facilities, and funds. The present clinics are overcrowded and many of the patients have to travel approximately 40 miles for the services. The Division of Nursing is in need of a supervisor to coordinate the nursing services of the project. Currently, the establishment of satellite health centers in some areas of the county is impossible, for each health center must be directed by a certified obstetrician or pediatrician. (29, 17)

Some of the mothers in the project need to be motivated to keep their clinic appointments and to bring their infants to the clinics for their monthly visits (27). Every absentee represents not only a loss of time, but also an increased risk associated with the patient's pregnancy or the child's health.

CHAPTER V

THE ALABAMA DEPARTMENT OF PUBLIC HEALTH AND THE MOBILE COUNTY BOARD OF HEALTH

Orientation to the Alabama Department of Public Health and the Mobile County Board of Health was arranged by the agency advisor. The purpose was fourfold: (a) to become familiar with the histories and organizations of the health agencies, (b) to learn more about the relationship of the agencies to each other and to the MIC projects, (c) to learn more about the nutrition services of the Alabama Department of Public Health, and (d) to get further information on the major health problems of Alabama and Mobile County.

I. THE ALABAMA DEPARTMENT OF PUBLIC HEALTH

History and Development

The initial development of the Alabama Department of Public Health began in 1872 at the annual meeting of the Alabama Medical Association. Dr. Jerome Cochran, City Health Officer of Mobile, expressed his desire to establish a state public health organization unlike that in any other state or nation in the world. He proposed that the public health program, at both the state and local levels, be the responsibility of the Alabama Medical Association. On February 19, 1875, the Alabama General Assembly passed a law which embodied the suggestions of Dr. Cochran and his fellow physicians. The law authorized the Alabama Medical Association to be the

State Board of Health and the county affiliates to be the boards in their respective counties.

Dr. Cochran served as the first chief administrative officer of the state board. In 1879 he became the first State Health Officer. The first county health department was established in Walker County in 1914. By 1938 each of Alabama's 67 counties had established a health department making Alabama the first state in the nation to have health departments in all counties.

The state Committee of Public Health is the executive policy-making body of the state health department. This committee is composed of 11 elected members from the state Board of Health and the Governor, who serves as an ex-officio chairman. The State Health Officer, who is elected to serve a five-year term by the State Board of Health, is the executive officer. His primary responsibilities are to organize and activate a comprehensive public health program for the state, to execute all the policies and laws regulating public health, to keep the Governor informed of state health conditions, and to give general supervision to all county boards of health and county health officers.

Since 1875, the staff of the Alabama Department of Public Health has expanded to include over 1,400 people. These employees serve in 13 bureaus and many divisional units. Only one of these bureaus, the Bureau of Maternal and Child Health, will be discussed in this thesis. Figure 5 shows the organizational structure of the Alabama Department of Public Health in 1968. The bureaus were: Administration, Maternal and Child Health, Dental Health, Laboratories, Vital Statistics, Primary Prevention, County Health Services, Public Health Nursing, Facilities Construction,

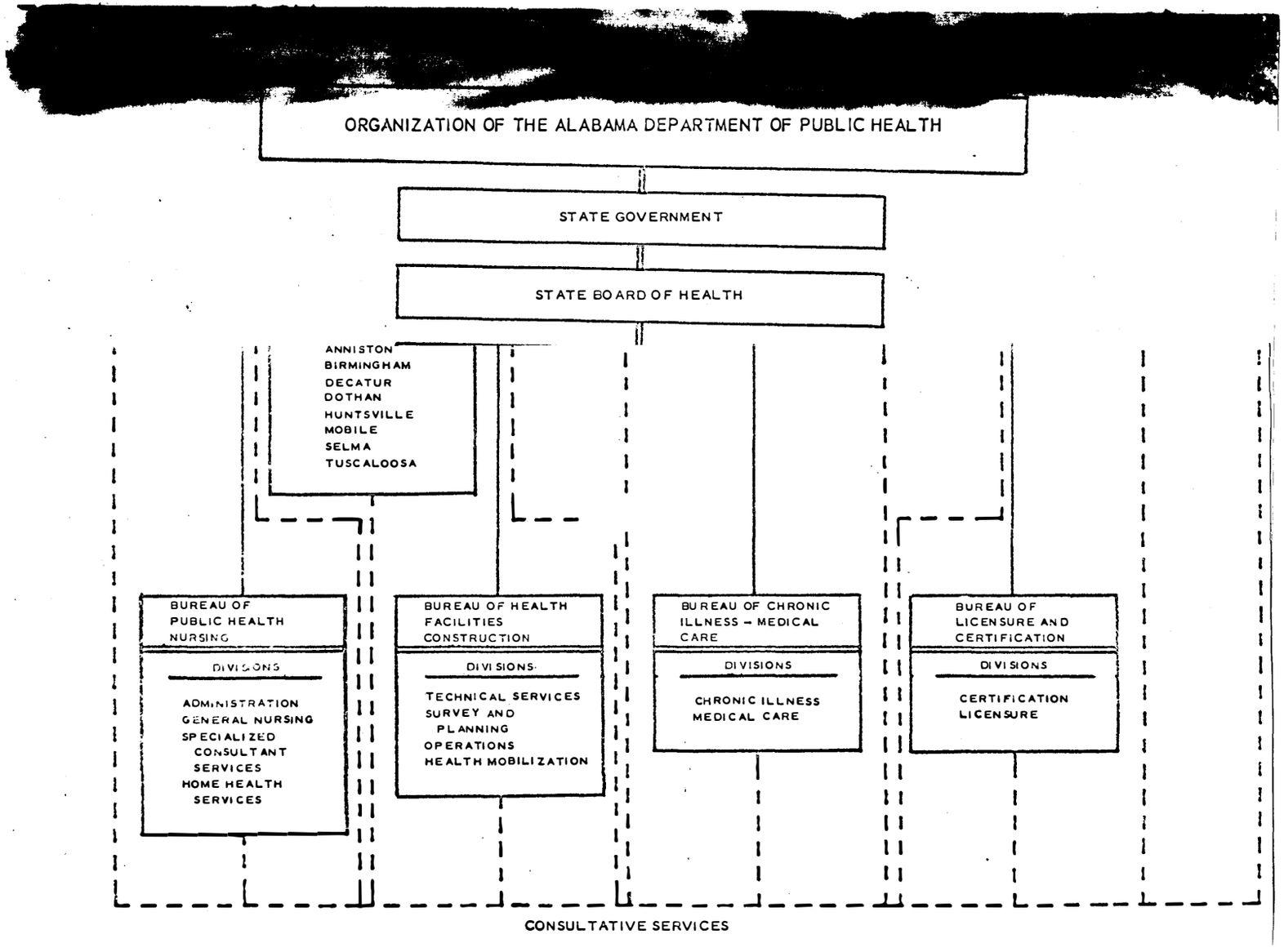


Figure 5. Organization Chart, Alabama Department of Public Health.

ORGANIZATION OF THE ALABAMA DEPARTMENT OF PUBLIC HEALTH

STATE GOVERNMENT

STATE BOARD OF HEALTH

STATE COMMITTEE OF PUBLIC HEALTH

STATE HEALTH OFFICER

WATER IMPROVEMENT COMMISSION

ADMINISTRATIVE OFFICER

BUREAU OF ADMINISTRATION

DIVISIONS

- DATA PROCESSING AND REPRODUCTION
- FINANCE
- PERSONNEL SERVICES

ADMINISTRATIVE OFFICER

BUREAU OF MATERNAL AND CHILD HEALTH

DIVISIONS

- MATERNAL HEALTH
- CHILD HEALTH
- NUTRITION SERVICES

BUREAU OF PREVENTABLE DISEASES

DIVISIONS

- HEART DISEASE CONTROL
- CANCER CONTROL
- TUBERCULOSIS CONTROL
- EPIDEMIOLOGY
- VENEREAL DISEASE CONTROL

BUREAU OF ENVIRONMENTAL HEALTH

DIVISIONS

- PUBLIC WATER SUPPLIES
- GENERAL SANITATION INSPECTION
- VECTOR CONTROL
- RADIOLOGICAL HEALTH AND AIR POLLUTION CONTROL

COUNTY BOARD OF HEALTH

COUNTY HEALTH DEPARTMENT

BUREAU OF DENTAL HEALTH

DIVISIONS

- DENTAL SERVICES
- PREVENTIVE DENTISTRY
- DENTAL HEALTH EDUCATION
- DENTAL PROJECTS AND RESEARCH

BUREAU OF LABORATORIES

DIVISIONS

- BACTERIOLOGY AND VIROLOGY
- STREPTOCOCCI
- TUBERCULOSIS
- SERVICE AND SUPPLY
- SEROLOGY
- SANITATION
- PARASITOLOGY
- MEDIA AND VACCINE
- CLERICAL
- EIGHT BRANCH LABORATORIES
  - ANNISTON
  - BIRMINGHAM
  - DECATUR
  - DOTHAN
  - HUNTSVILLE
  - MOBILE
  - SELMA
  - TUSCALOOSA

BUREAU OF VITAL STATISTICS

DIVISIONS

- RECORDS SERVICES
- STATISTICS REGISTRATION

BUREAU OF PRIMARY PREVENTION

DIVISIONS

- HEALTH EDUCATION SERVICES
- INFORMATIONAL SERVICES
- ACCIDENT PREVENTION
- DRUG AND NARCOTIC CONTROL
- TRAINING AND EVALUATION

BUREAU OF COUNTY HEALTH SERVICES

DIVISIONS

- ADMINISTRATION
- COUNTY MERIT SYSTEM
- SECRETARIAL CONSULTANTS
- IMMUNIZATIONS

BUREAU OF PUBLIC HEALTH NURSING

DIVISIONS

- ADMINISTRATION
- GENERAL NURSING
- SPECIALIZED CONSULTANT SERVICES
- HOME HEALTH SERVICES

BUREAU OF HEALTH FACILITIES CONSTRUCTION

DIVISIONS

- TECHNICAL SERVICES
- SURVEY AND PLANNING
- OPERATIONS
- HEALTH MOBILIZATION

BUREAU OF CHRONIC ILLNESS – MEDICAL CARE

DIVISIONS

- CHRONIC ILLNESS MEDICAL CARE

BUREAU OF LICENSURE AND CERTIFICATION

DIVISIONS

- CERTIFICATION
- LICENSURE

CONSULTATIVE SERVICES

Chronic Illness-Medical Care, and Licensure and Certification. (31)

The Bureau of Maternal and Child Health

The primary function of the Bureau of Maternal and Child Health is to direct and coordinate the maternal and child health services within the state in order to improve the health and well-being of mothers and children. Efforts are directed toward preventing anomalies through the prevention of certain diseases, elimination of certain drugs, improved maternal and infant nutrition, and better prenatal and postnatal care.

The Bureau of Maternal and Child Health serves as an advisory board to approximately five special projects which are being supported by the Children's Bureau. These are: the Macon County Medical Care Program for medically indigent maternity cases, premature infants, and infants up to one year of age; the Diagnostic Clinic for Children at the Children's Center, Montgomery; the Developmental and Learning Disorders Clinic, Department of Pediatrics, University of Alabama Medical Center; the Maternity and Infant Care Project in Mobile County; and the Maternity and Infant Care Project in Birmingham. In addition to its general advisory relationship to the MIC project in Mobile County, the bureau is responsible for handling the overall fiscal arrangements of the project. Local budgetary matters and grant requests to the Children's Bureau are made through the state Bureau of Maternal and Child Health. The fiscal aspects of the project at the University Hospital in Birmingham do not go through these channels, for the project is funded directly from the Children's Bureau.

The bureau sponsors a continuing education program for public health workers and the lay population. They provide educational films,

brochures, booklets, lectures, workshops, and educational services related to maternity care, child care, school health, and immunization. Finding new and improved ways of educating the population and public health workers is an important goal of the Bureau of Maternal and Child Health (32).

Division of Nutrition Services. The Division of Nutrition Services is in the Bureau of Maternal and Child Health. The division is staffed by a director, two nutrition consultants, and one nutritionist. The objective of the Division of Nutrition is to provide effective nutrition services in the promotion of positive health, the prevention of ill health, and the treatment and rehabilitation of individuals. One of the functions of the division is to plan, organize, and execute a nutrition program on the state, area, and county levels based on the health needs of the population and requests of the agencies. Most of the services rendered by the division are performed on a consultative basis. The director consults with the staffs of: schools of nursing and home economics; the state and local health departments; special projects such as MIC; and other agencies, such as the Department of Pensions and Security. The director develops and evaluates educational materials to be used by other nutritionists and public health workers in their local programs. She plays a leading role in planning educational programs and studies to determine food and nutrition needs. Other responsibilities of the director include giving follow-up dietary instructions to mothers of infants having phenylketonuria and recruiting and orienting nutritionists. (33)

Major Health Problems

Studying the leading causes of death in a particular population is one reliable index in determining the major health problems. In 1967 the leading causes of death (in descending order) were: heart diseases; cancer; vascular lesions; accidents; diseases of the arteries; pneumonia; diabetes mellitus; homicide; congenital malformations; and birth injuries, including asphyxia and atelectasis. Feasibility studies in 1966 showed a higher rate than the national average for diabetes in Alabama. The mortality rates associated with diabetes, during the period 1961-1965, rose from 13.9 to 16.8 which constituted a 21 percent increase.

Other health problems are tuberculosis, syphilis, and air pollution. In 1967 the number of tuberculosis cases had increased 13.5 percent as compared to a 14 percent decrease in 1966. This rise may be attributed to increased detection procedures and better participation from the counties in reporting cases. During 1966 Alabama recorded the highest rate in the nation for primary and secondary syphilis. Since then, Alabama has shown a downward trend in the syphilis rate, and by 1967 the state held third place in the primary and secondary syphilis and was twenty-fourth in the nation for total syphilis rates. With the rapid growth in Alabama's cities, industries, and population, the threats of air pollution are more imminent. However, the air pollution program failed to receive the support of the 1967 legislature in passing an adequate control bill. (32)

II. THE MOBILE COUNTY BOARD OF HEALTH

History and Development

The city of Mobile is credited with having one of the oldest

continuous public health organizations in the world. Records show that the city of Mobile had a Board of Health as early as 1824. In 1841, four Mobile physicians petitioned the Legislature for a charter and the Mobile Medical Society was granted articles of incorporation. They were authorized to organize a Board of Health and procure necessary information and advice concerning the health of the city. On June 21, 1841, the Medical Society named three of its members to the Board of Health of the city of Mobile. They received the sanction of the mayor and common council. This organization lead the way for Alabama's public health system. Thirty-five years later, in 1876, an official board of health was appointed. The board was composed of six members. At least four of these six members had to be physicians. The city of Mobile maintained a separate public health organization until 1919 when the consolidated city-county health department, known as the Mobile County Board of Health, was established. There are six members of the Mobile County Board of Health. Five members are physicians who are elected to the Board of Censors of the Mobile County Medical Society. The members of the Board of Censors, in turn, serve on the Board of Health. The sixth member of the Board of Health is the president of the Mobile County Commission. The term of office for the physicians is five years. The terms are staggered to allow a new member to take the office each year. The duties of the board include supervising the enforcement of health laws, investigating outbreaks of diseases, enforcing measures of disease prevention and extermination, and abating all nuisances to public health.

Figure 6 shows the organizational structure of the Mobile County Board of Health. The Health Officer is required by law to be a physician

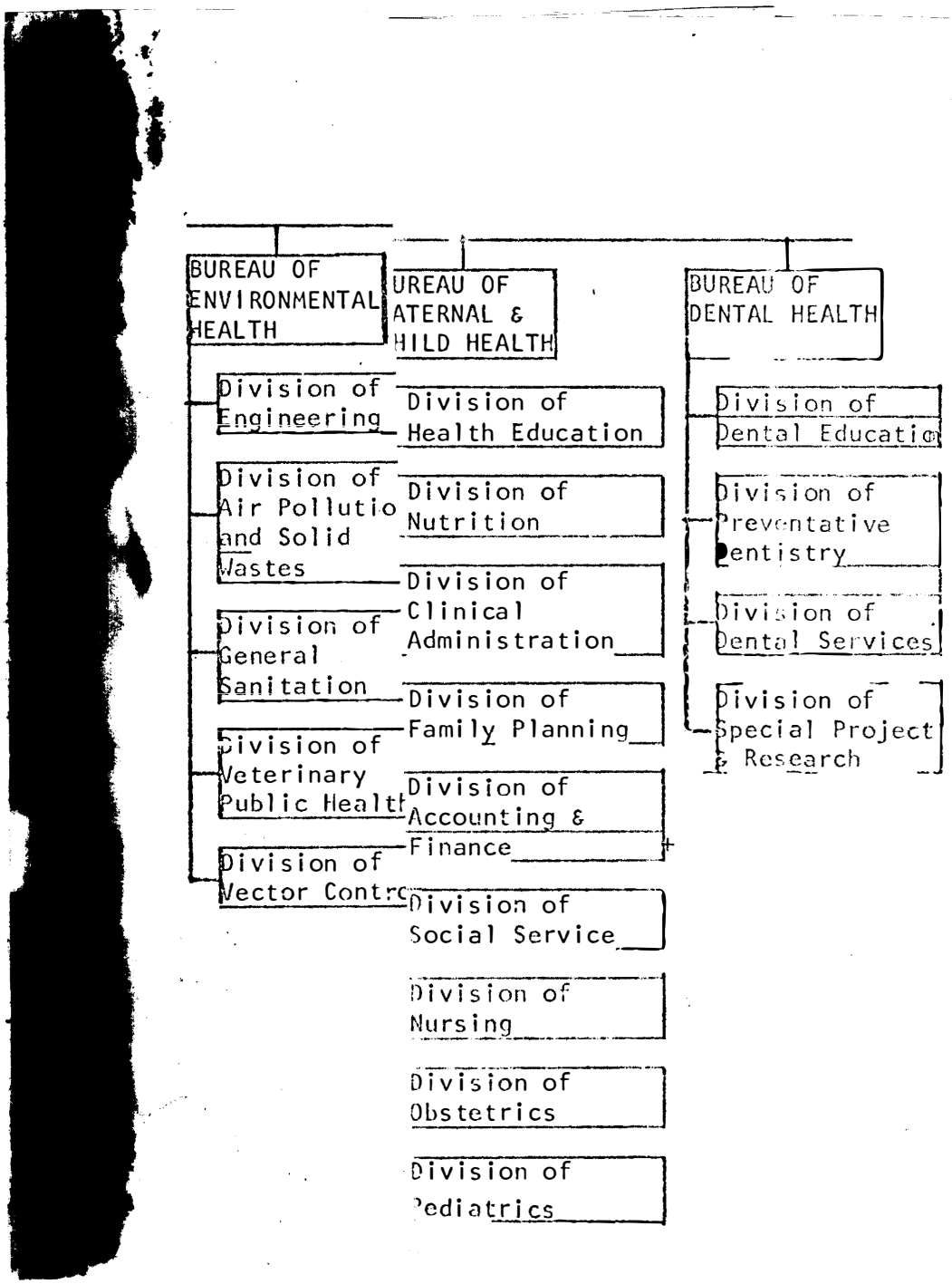
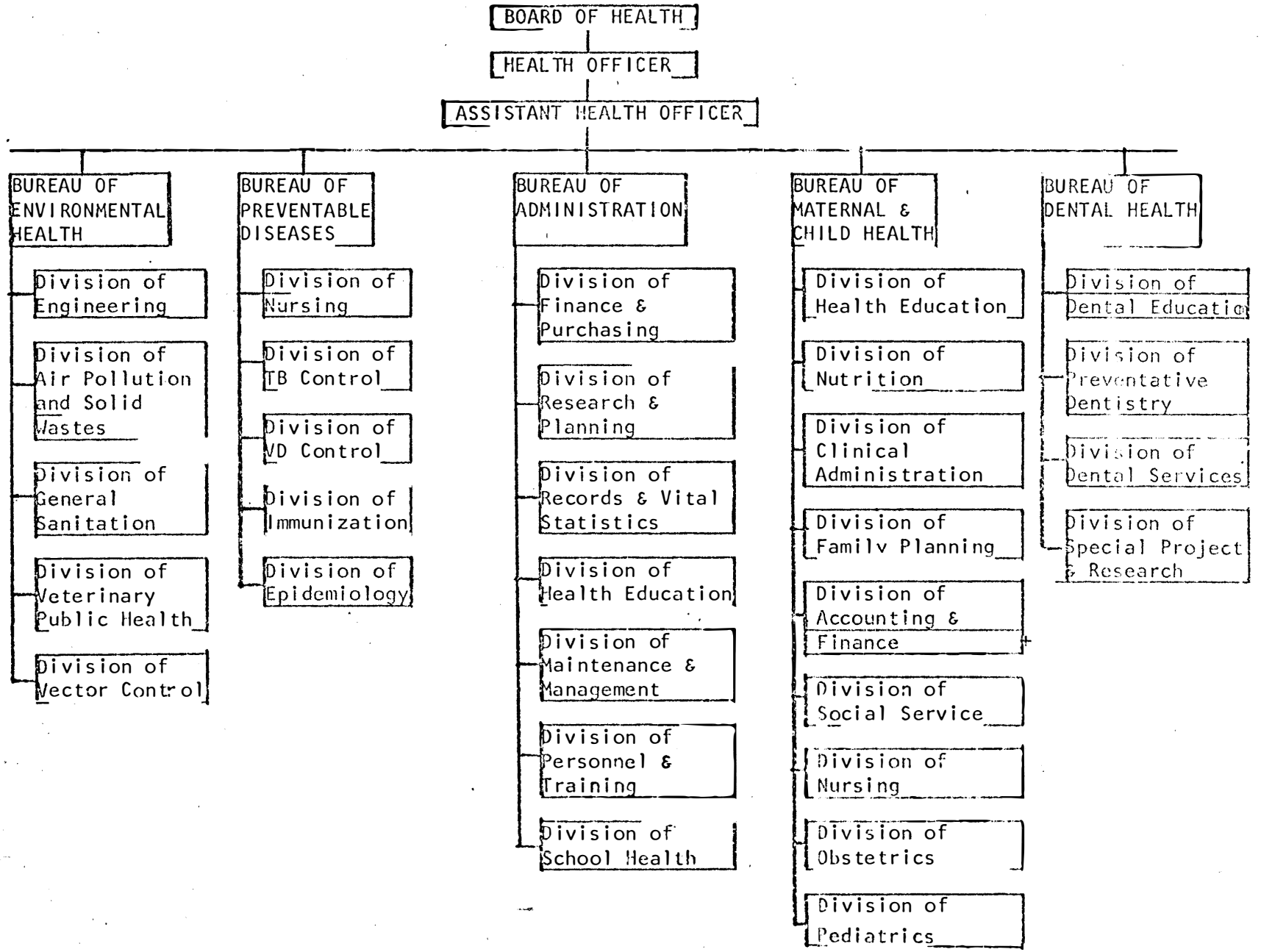


Figure 6. Organization Chart, Mobile County Board of Health.


BOARD OF HEALTH
HEALTH OFFICER
ASSISTANT HEALTH OFFICER
BUREAU OF ENVIRONMENTAL HEALTH
Division of Engineering
Division of Air Pollution and Solid Wastes
Division of General Sanitation
Division of Veterinary Public Health
Division of Vector Control
BUREAU OF PREVENTABLE DISEASES
Division of Nursing
Division of TB Control
Division of VD Control
Division of Immunization
Division of Epidemiology
BUREAU OF ADMINISTRATION
Division of Finance & Purchasing
Division of Research & Planning
Division of Records & Vital Statistics
Division of Health Education
Division of Maintenance & Management
Division of Personnel & Training
Division of School Health
BUREAU OF MATERNAL & CHILD HEALTH
Division of Health Education
Division of Nutrition
Division of Clinical Administration
Division of Family Planning
Division of Accounting & Finance
Division of Social Service
Division of Nursing
Division of Obstetrics
Division of Pediatrics
BUREAU OF DENTAL HEALTH
Division of Dental Educatio
Division of Preventative Dentistry
Division of Dental Services
Division of Special Project & Research

licensed to practice in the State of Alabama. He serves under the rules and regulations of the Mobile County Personnel Board and functions under the guidance of the Board of Health. He is responsible for all the health activities of the bureaus. The responsibilities for the health activities have been delegated to five primary bureaus and their divisions. They are the Bureaus of Administration, Environmental Health, Preventable Diseases, Maternity and Child Health, and Dental Health. In 1969, the Maternity and Infant Care Project No. 551 officially became a division of the Bureau of Maternal and Child Health. (34)

Major Health Problems

The maternal and infant health problems have been described in previous chapters. The other major health problems in Mobile County are very similar to those of the state. The ten leading causes of death (in descending order) are: diseases of the heart; cancer; vascular lesions; accidents; congenital malformations and certain diseases of early infancy; influenza and pneumonia; general arterioschlerosis; senility; ill-defined conditions and other diseases of the respiratory system; and all others. Tuberculosis, venereal diseases, air pollution, and especially water pollution constitute other health problems in Mobile County. (7)

CHAPTER VI

EVALUATION OF PERFORMANCES IN NUTRITION ACTIVITIES

An important aspect of the responsibilities of a public health nutritionist is that of evaluating her performance in nutrition activities. Evaluations can be useful in determining what has been accomplished and what improvements are needed in providing nutrition services. The writer observed and participated in many nutrition activities. She will present and evaluate some of the experiences and observations which contributed to her professional development in Part I of this chapter. Part II will present a statistical study undertaken by the writer during her field experiences.

I. EXPERIENCES IN NUTRITION ACTIVITIES

Consultation with Professional Workers

The writer used the consultation process frequently during her field experience. In most cases she was seeking help on the procedures used to deliver good nutrition services to the patients attending the clinics. One situation in which assistance was requested was in securing accurate dietary recalls from teenage patients who were accompanied by their mothers for the dietary interviews. The patients seemed inhibited by the presence of their mothers. The consultation process included a free exchange of ideas and suggestions between the consultant and the writer (consultee). The consultee related the problem for which she was seeking help. In turn, the consultant related the outcome of her experiences in interviewing

teenagers in the presence and in the absence of their mothers. After the consultee explained her reasons for wanting some of the mothers to hear the dietary instructions, the consultant suggested that the mothers wait in the waiting room during the dietary interview and be allowed to attend the dietary instructions when appropriate. However, the final approach to solving the problem was left to the consultee. Consultation with the nutrition consultant helped the writer to increase her knowledge and her ability to adjust her approach to interviewing and teaching nutrition according to individual need.

Just as the nutrition consultant had indicated, the writer found that teenagers were more relaxed and less hesitant in giving information about their dietary habits, whether they were desirable or undesirable, when alone with the interviewer. Once having interviewed the teenagers alone, it is then advantageous to have the mothers attend the nutrition counseling. Many of the teenagers were very young and had not begun to share the responsibilities of buying and preparing food. Therefore, the mothers, who planned, purchased, and prepared the food, were able to hear the dietary instructions. The writer felt that this procedure may be beneficial not only to the teenager, but to the mother and the other family members as well.

In-Service Education

In-service education is one way of presenting reviews and teaching new information or techniques to a group. The agency advisor provided many educational opportunities for the writer. However, only two examples will be presented.

The Alabama Public Health Association and the Alabama Public Health

Workers' Conference were held in Mobile. Topics concerning the transitions in public health were included on the program. The writer chose to attend the sessions relating to nutrition in public health. The pediatric consultant for the Maternity and Infant Care Project No. 551 discussed the influence of nutrition on the total development of the infant, and the nutrition consultant from the Bureau of Health Manpower, United States Public Health Service, discussed the demands for nutrition services and nutritionists. They held the attention of the group by limiting the content of their presentations to information that was of interest to them. In addition, they were brief and precise in their deliveries. This demonstrated that lectures can be effective with a professional audience.

Many patients have problems securing adequate foods to meet the nutrition requirements of pregnancy, especially if there are children in the family. Since one of the responsibilities of the nutritionist is to work through community resources to provide foods necessary to meet the dietary needs of the patients, she needs to know about the Consumer Marketing Programs in her area. The writer was provided in-service education, along with personnel from a homemaking agency, on the Food Stamp Program. The writer gained a better understanding of the Food Stamp Program by observing in-service education for personnel from a homemaking service.

The food stamp supervisor used an approach which was most effective in helping the group to understand the Food Stamp Program in relation to their particular needs and problems. After giving the introduction and background information about the Food Stamp Program, she analyzed specific cases presented by members of the group and made comments and suggestions accordingly.

Group Work with Professionals and Nonprofessionals

The nutritionist often works with professional and nonprofessional groups. However, the writer only worked with professional groups. During some of the post-clinic conferences, the writer was responsible for presenting the nutrition evaluations of the patients she had interviewed previously. She found it helpful to present the nutrition findings in terms of the patients' intake of foods high in protein and in terms of the number of pounds the patients were over or under the standard weight curve for pregnancy. From her experiences and observations of this group, the writer learned that the nutritionist must consider, in addition to the dietary recall, the results of the patients' laboratory tests, and that she must become cognizant of the other needs of the patients as presented by the other disciplines in the group. Furthermore, the nutritionist must take the initiative in stressing the importance of nutrition in the total evaluation of the patients.

Counseling of Nonprofessional Persons

Approximately one-third of the writer's time was spent counseling the patients attending the clinics. Many of the maternity patients needed modification of the normal diet for pregnancy. Counseling was usually preceded by a review of the patients' medical and dietary records. The counseling itself involved a brief interview and a discussion of any problems encountered in following the diets. In some cases, the discussion led to questions on how to make the food more tasty and on how to provide enough milk to meet the mother's additional requirements during pregnancy along with the requirements for the children in the family. Recommendations

were made for the use of salt substitutes, other spices, colorful foods, and dry milk, respectively. Recommendations that were practical, economical, and acceptable to the patients were effective in helping them to make the necessary adjustments.

Motivating the mothers to reduce the amount of their infants' formulae was at first a challenge to the writer because effective rapport and confidence had not been established. Probably the main causal factor for the lack of rapport and confidence was that the patients had not anticipated a new dietary counselor. As time progressed and the writer and the patients became better acquainted, the counseling results became more positive. The usual counseling procedure was to first explain the importance of solid foods for their nutritive value and for teaching the infant to chew properly. Then the mother was told how to gradually decrease the amount of the formula and at the same time offer the infant more meat, vegetables, and fruit. The purpose of this approach was to prevent the mother from feeling that her child would be hungry without the usual amount of formula, and to encourage the use of foods that would supplement the protein, iron, and other nutrients found in milk.

Conferences for Planning

Good planning is one of the prerequisites to a successful program or project. The objectives of the program or project should be clearly defined and the outline of the duties should be inclusive. The writer observed the nutrition consultant and the staff nutritionist plan for a television presentation on the services of the Division of Nutrition at the Maternity and Infant Care Project. After establishing their goals,

they decided what should be included in the presentation. The next step in the planning process was the division of the content of the program between the nutritionists. Each nutritionist was responsible for organizing the information for her topic, preparing illustrative materials, and condensing her presentation to meet the time limitations of the program. The final step in the planning process was a rehearsal which included combining the various topics and making the necessary adjustments for an effective and coherent presentation. The writer's insight into planning was enhanced by observing these planning conferences. She became more aware of the time required to plan well, the positive results of good communication, and the importance of developing organizational abilities.

II. STATISTICAL STUDY

Purpose of the Study

Some of the writer's time was devoted to a study of the data related to stillbirths, maternal and infant mortality rates, prematurity and the percentage of neonatal deaths by birth weight, and the number and percentage of live births which occurred in the hospital or at home in Mobile County for the years 1966 and 1968. The purpose of the study was to determine any progress, as reflected in these data, since the project began operating in 1966. As stated before, high infant mortality rates, a high incidence of prematurity, and a high incidence of neonatal deaths were among the factors that qualified the county for a federally supported maternity and infant care project. Studying the utilization of hospitals for obstetrical care and delivery may give some indication as to whether the administrative and financial barriers to obtaining such care have been decreased.

Nutrition component. The writer and the nutritionists were particularly interested in the maternal and infant mortality rates, as well as the percentage of premature infants and neonatal deaths. These factors have been found to be closely related and highly influenced by the nutritional status of the mother. Toverud's concept that "the child is nutritionally nine months old at birth" (35) has been supported by many studies on the importance of nutrition during pregnancy to both the mother and the infant.

In 1943, Bertha S. Burke and others presented the results of a study on the relation of the protein content of the mother's diet during pregnancy to the birth length, birth weight, and the condition of the infant at birth. Of the total 216 women whose diets were studied, only 10 percent consumed 85 grams of protein daily, 68 percent consumed less than 70 grams of protein daily, and 38 percent consumed less than 55 grams of protein daily. A significant relationship was found to exist between the protein content of the diet, the birth length, birth weight, and the general physical condition of the infant. Burke and her colleagues found that as the level of the protein content increased there was an increase in the birth length and the birth weight of the infant. The opposite was found to be true when the protein content of the diets decreased. (36) Another study by Burke showed that all the stillborn infants, all the infants who died during the neonatal period (with the exception of one), all the premature infants, all the functionally immature infants, and the majority of the infants with marked congenital defects were born to mothers whose diets were inadequate. This study also showed that not one of the women whose diet was rated as good or excellent had toxemia, 8 percent of the women whose diets were

evaluated as fair had toxemia, and 44 percent of the women whose diets were evaluated as poor had toxemia as well as other complications. Burke suggested that greater attention to the nutrition of pregnant women should also result in lowered maternal morbidity and mortality rates due to the better health of the mother during pregnancy. (37)

Procedure

After consultation with the nutrition consultant, the writer decided to make a comparison of selected data related to maternity and infancy for the years of 1966 and 1968. Vital statistics reports from Mobile County, the state of Alabama, and the United States served as the source of the necessary statistics. The following comparisons were made: (a) the rates for stillbirths, maternal, infant, and neonatal deaths for the white and nonwhite populations of Mobile County; (b) the maternal and infant mortality rates for Alabama, Mobile County, and the United States; (c) the percentage of live resident births by birth weight; (d) the percentage of neonatal deaths by birth weight; and (e) the number and percentage of live resident births by the type and place of obstetrical care.

Results

Figure 7 shows the stillbirth, infant mortality and neonatal death rates by race for Mobile County in 1966 and 1968. The stillbirth rate for the white population in 1968 was unchanged when compared to 1966, while the rate for the nonwhite population showed a reduction of 28.9 percent for the same period. The infant mortality rate for the white population increased 14.1 percent as compared to a 24.1 percent decrease

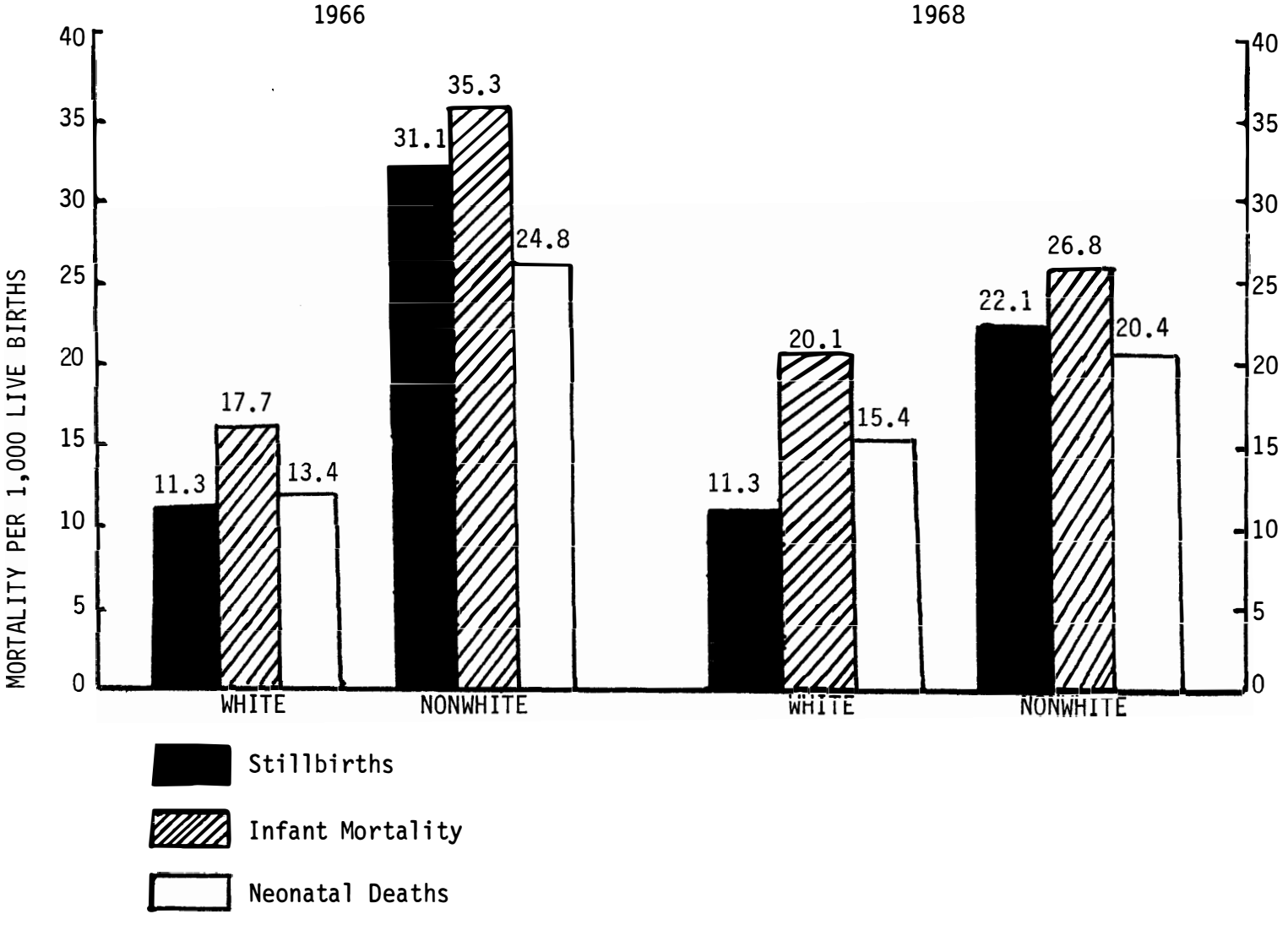
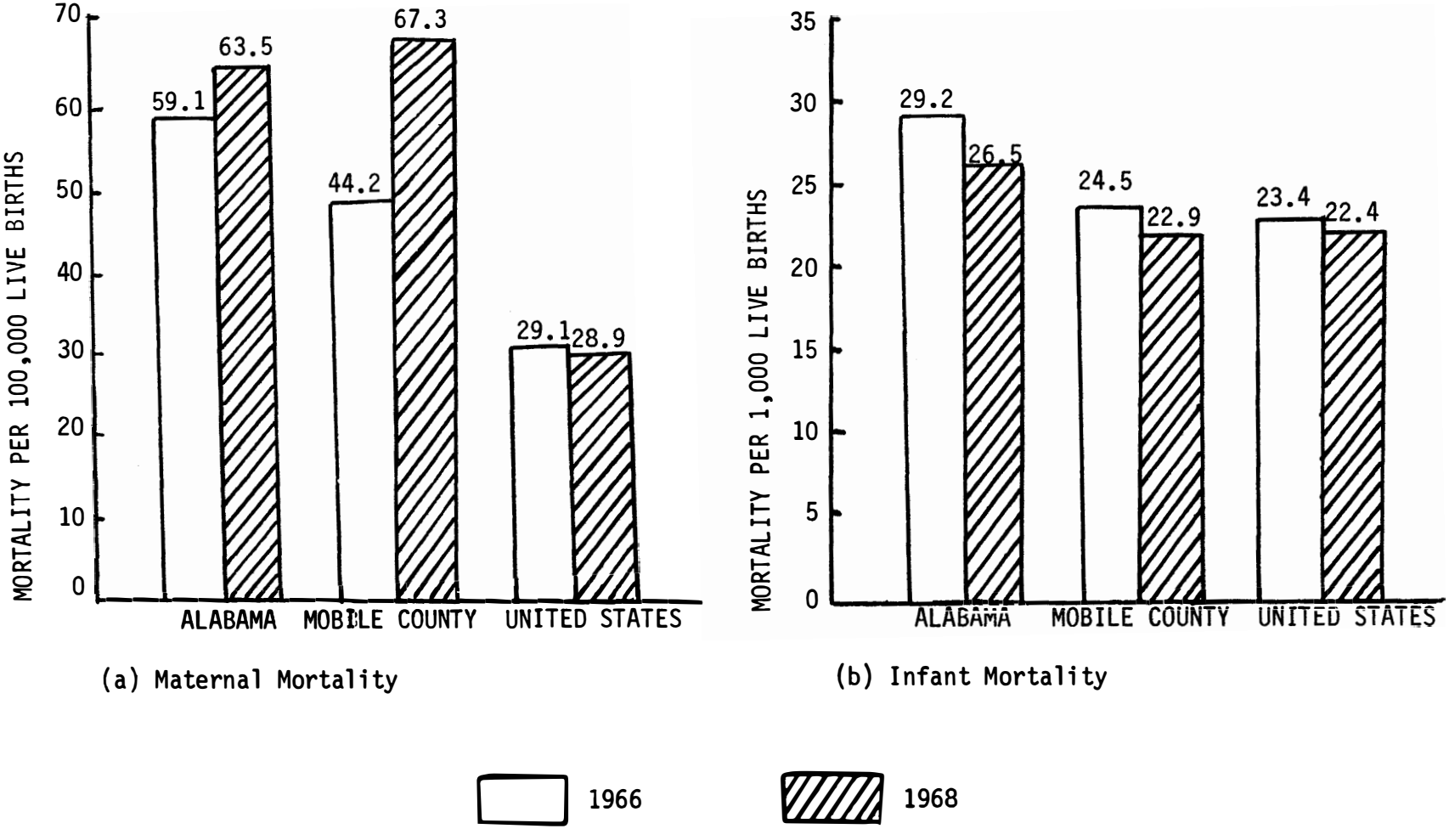


Figure 7. Stillbirth, Infant Mortality, and Neonatal Death Rates Classified by Race, Mobile County, Alabama, 1966-1968.

in the rate for the nonwhite population. The neonatal death rate for the white population increased 14.4 percent as compared to a 17.7 percent decrease in the neonatal death rate for the nonwhite population. With the exception of the stillbirth rate, all the other rates for the white population increased while all the rates for the nonwhite population decreased.

The maternal and infant mortality rates for Alabama, Mobile County, and the United States for 1966 and 1968 are shown in Figure 8. There was little difference in the infant mortality rates (per 1,000 live births) for the three localities. However, the maternal mortality rates showed great contrast. For Alabama the average maternal mortality rates for both 1966 and 1968 was approximately 2.1 times higher than the national average. The average maternal mortality rate for Mobile County for the same years was 1.9 times higher than the national average. In 1968 the maternal mortality rates for Alabama increased only 7.6 percent as compared to a 52 percent increase for Mobile County. The mortality rate for the nation remained basically the same with a slight decrease of 0.7 percent.

The percentage of premature infants (infants weighing 2,500 grams or less at birth) for Mobile County in 1966 was approximately 9.4 and the percentage in 1968 was approximately 9.2. However, Figure 9 shows that the percentage of neonatal deaths for premature infants in 1968 (61.6 percent) was 16.2 percent less than in 1966 (77.8 percent). According to birth weight, there were two significant changes in the percentage of neonatal deaths in 1968. A 14.9 percent decrease with infants weighing less than 561 grams and a 15.8 percent increase with infants weighing more than 2,500 grams.



(a) Maternal Mortality

(b) Infant Mortality

Figure 8. Maternal and Infant Mortality Rates for Alabama, Mobile County, and the United States, 1966-1968.

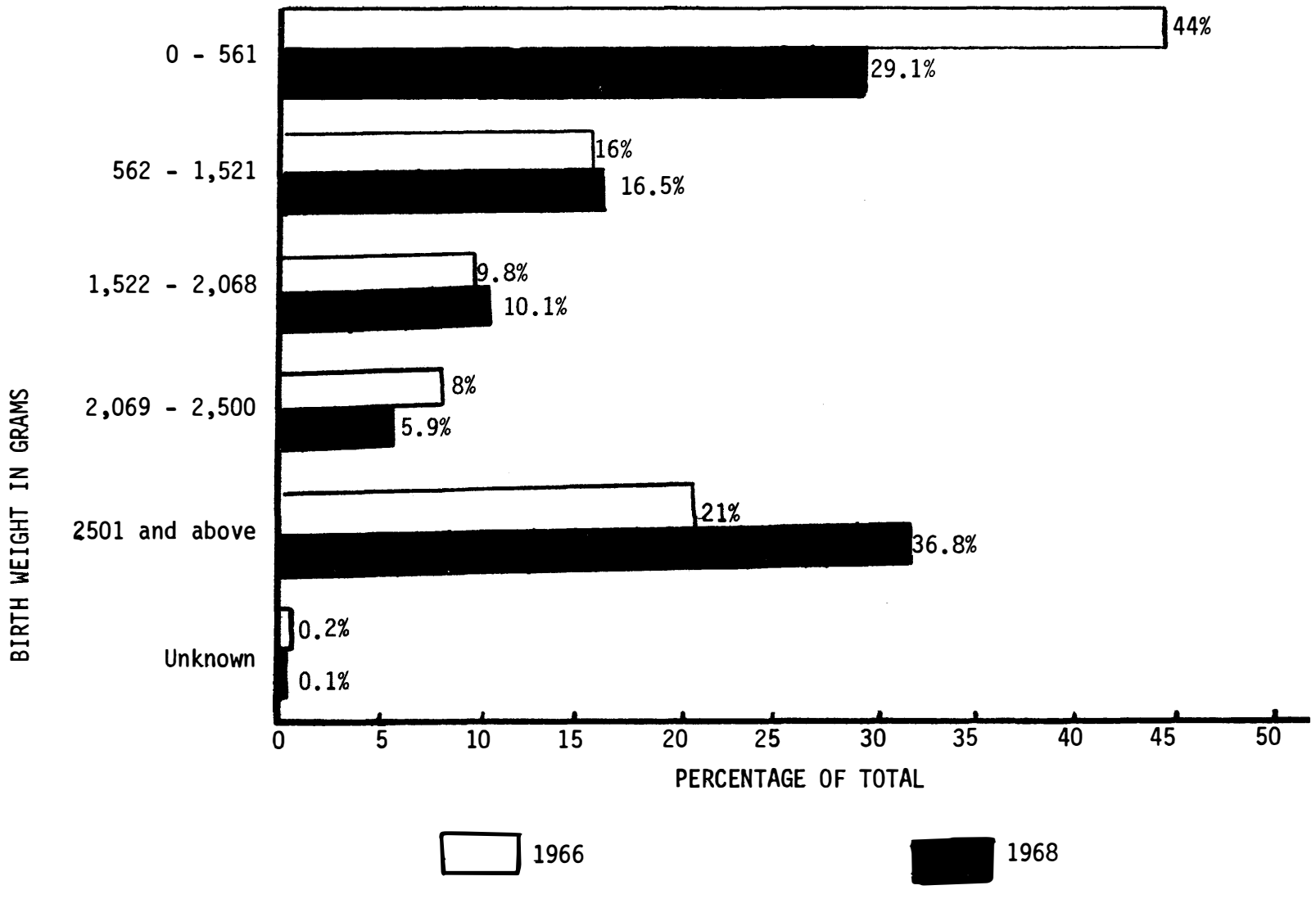


Figure 9. Neonatal Deaths Classified by Birth Weight, Mobile County, Alabama, 1966-1968.

Table 3 shows the number and percentage of resident live births classified by the type and place of obstetrical care for Mobile County in 1966 and 1968. In 1968, 99.5 percent (a 6 percent increase) of the total resident births occurred in a hospital, 0.01 percent (a 98.9 percent decrease) occurred at home with the attention of a physician, and 0.08 percent (a 16.6 percent decrease) occurred at home with the attention of a midwife.

Conclusions

In Mobile County, increases in the mortality rates of the white population as compared to the decreases in the rates for the nonwhite population can probably be attributed to the fact that approximately 75 percent more of the eligible nonwhite persons apply and receive the services of the MIC project than the eligible white persons. The slight change in infant mortality and the high increase in the maternal mortality rates may indicate unsuccessful attempts to reach a large portion of the expectant mothers in the county who have or develop high-risk factors associated with childbearing. The insignificant differences between the birth weights of infants born in 1966 and 1968 as they relate to prematurity magnifies the need for intensive nutrition education along with more effective techniques in motivating the population in Mobile County. The same needs are suggested by the neonatal deaths in the county. Since 1966 much progress has been made in providing and making available hospital care for expectant mothers during childbirth. In evaluating the total utilization of the hospitals, consideration must be given to the individual preferences of the family or the mother which may be based on tradition, superstition,

TABLE 3

THE NUMBER AND PERCENTAGE OF RESIDENT LIVE BIRTHS CLASSIFIED BY THE TYPE AND PLACE OF OBSTETRICAL CARE, MOBILE COUNTY, ALABAMA, 1966-1968[a]

Year	Type and Place of Care	Live Births	
		Total Number	Total Percent
1966	Hospital	6,380	95.6
	Physician (Home)	98	1.5
	Midwife (Home)	184	3.8
	Unattended (Home)	6	.1
1968	Hospital	5,997	99.5
	Physician (Home)	1	.01
	Midwife (Home)	26	.41
	Unattended (Home)	5	.08

[a]Source: Mobile County Board of Health 1966-1968 Records of Vital and Health Statistics. Mobile County Board of Health, Mobile County, Alabama.

and the distance she lives from a hospital.

The lack of progress in lowering the statistics related to maternal and infant morbidity and mortality may be due to the relatively short period that the project has been operating. However, the comparions can be used in developing and expanding the maternal and infant care services of the project.

Evaluation of the Project

The purpose for undertaking the study was accomplished. However, the slight changes in mortality and prematurity rates in some cases and the increases in others were unexpected and disappointing. The writer planned the study without considering the small portion of the population that was receiving the comprehensive and intensive health care of the project. Furthermore, she failed to realize that one MIC project with limited staff members, in relation to the total low-income population would take a considerable period of time to prove itself effective or ineffective.

The study, as presented, was well planned. However, it could have been expanded to include a comparison of the rates for Mobile with respective rates for Jefferson County, Alabama, since its MIC project began operating at approximately the same time, and to include a comparison of the respective rates for a county, comparable to Mobile County, which did not have an MIC project. These comparisons would have helped in evaluating the accomplishments of the program. Furthermore, the comparisons could be used as a basis for examining and altering, if needed, the approaches used to reach mothers and infants from low-income families in these counties.

The experience and knowledge gained through the study were valuable. Outlining the course of the study increased the writer's skill in planning. Comparing the various rates and drawing conclusions increased the writer's skill in evaluation. Reviewing the studies of the effect of the nutritional status of expectant mothers on the maternal and infant mortality rates, prematurity, neonatal deaths, and on the general condition of infants increased the writer's awareness of the needs of the particular population.

CHAPTER VII

SUMMARY

The writer feels that her field experiences and observations were instrumental in strengthening her philosophy and understanding of public health as well as her concept of comprehensive health care. She feels that all of her objectives were successfully accomplished. The writer viewed the physical area of her field experiences as a laboratory, where she was to put her academic knowledge and skills to a test of competence in public health nutrition.

As the writer assumed more and more of the responsibilities of a public health nutritionist and a public health worker, she became aware of the public health problems of the community. As she began to understand the relationships of the local health department, the state health department, and other agencies to the Maternity and Infant Care Project, she gained deeper insight into the administrative aspects of planning, providing, and coordinating public health programs for the health and welfare of a population.

The writer's experiences and observations in nutrition activities were priceless. She became more aware of the role of a public health nutritionist and more devoted to the nutrition profession. Her understanding of the principles of public health nutrition were strengthened by the field experiences provided for her by the field advisor. Furthermore, she learned the importance of getting to know the food habits and

the nutritional problems of individuals in motivating them to alter their food habits.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Department of Health, Education, and Welfare, Children's Bureau, Social and Rehabilitation Service 1968 Services for Children and Families Under the Social Security Act, Titles IV and V. Department of Health, Education, and Welfare, Washington, D. C.

2. Congressional Record 1963 Public Law 88-156, 88th Congress, H. R. 7544, Vol. 109.

3. Department of Health, Education, and Welfare, Children's Bureau 1964 Grants for Maternity and Infant Care Projects: Policies and Procedures. Department of Health, Education, and Welfare, Washington, D. C.

4. Close, K. 1965 Giving babies a healthy start in life. Children, 12: 180.

5. Department of Health, Education, and Welfare, Children's Bureau, Nutrition Section, Guideline For The Nutrition Component of Maternity And Infant Care Projects. Department of Health, Education, and Welfare, Washington, D. C.

6. _____ 1968 Characteristics of Mobile County. In: Mobile, Alabama, Encyclopedia Britannica, Vol. 15.

7. Mobile County Board of Health 1966-1968 Records of Vital and Health Statistics. Mobile County Board of Health, Mobile County, Alabama.

8. Department of Pensions and Security. Welfare Division 1960 Income Records, Department of Pensions and Security, Mobile County, Alabama.

9. Mobile County Board of Health 1967 Project Director's First Year's Report, Maternity and Infant Care Project No. 551. Mobile County Board of Health, Mobile County, Alabama.

10. Mobile County Board of Health 1967 Annual Report: Activities and Accomplishments, Mobile County Health Department, Mobile County Board of Health, Mobile County, Alabama.

11. Mobile County Board of Health 1966 A Proposal to Expand and Improve Maternal and Child Health Services in Mobile County, Alabama. Mobile County Board of Health, Mobile County, Alabama.

12. Personal communication with Miss Patricia Schell, Nutrition Consultant, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

13. Personal communication with Miss Mildred Payne, Extension Home Agent, Mobile County Cooperative Extension Service, Mobile County, Alabama, May, 1969.

14. Mobile County Board of Health 1968 Progress Report, Maternity and Infant Care Project No. 551. Mobile County Board of Health, Mobile County, Alabama.

15. Mobile County Board of Health 1969 Maternity and Infant Care Project No. 551 (Leaflet). Mobile County Board of Health, Mobile County, Alabama.

16. Mobile County Board of Health 1967-1969 Nutrition Service Annual Report, Maternity and Infant Care Project No. 551. Mobile County Board of Health, Mobile County, Alabama.

17. Personal communication with Dr. George W. Newburn, Junior, Project Director, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

18. Personal communication with Mr. L. G. Lightsey, Project Administrator, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

19. Personal communication with Mrs. Ruth Tarleton, Clerk II, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

20. Personal communication with Miss Della Stewart, Nutritionist, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, April, 1969.

21. Mobile County Board of Health 1968-1969 Nutrition Service Annual Report, Maternity and Infant Care Project. Mobile County Board of Health, Mobile County, Alabama.

22. Personal communication with Mrs. Katherine Allen, Clerk II, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

23. Personal communication with Mrs. Hazel Bridges, Clinic Nurse, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

24. Personal communication with Mrs. Eugenia Hobbs, Public Health Nurse, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

25. Personal communication with Mrs. Rosemary Butler, Director, Medical Social Service, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

26. Personal communication with Mrs. Grace Hendricks, Clinic Nurse, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

27. Personal communication with Dr. Hollis J. Wiseman, Deputy Director of Pediatrics, Maternity and Infant Care Project No. 551, Mobile General Hospital, Mobile County, Alabama, May, 1969.

28. Personal communication with Mr. Harry Cichowski, Clinical Assistant, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama, May, 1969.

29. Personal communication with Dr. Phillip D. Martin, Obstetrical Consultant, Maternity and Infant Care Project No. 551, Mobile General Hospital, Mobile County, Alabama, May, 1969.

30. Mobile County Board of Health 1966-1969 Monthly Activity Reports, Maternity and Infant Care Project No. 551, Mobile County Board of Health, Mobile County, Alabama.

31. Alabama Department of Public Health 1968 Health Is Your Business. Alabama Department of Public Health, Montgomery, Alabama.

32. Alabama Department of Public Health 1967 Activities Report. Alabama Department of Public Health, Montgomery, Alabama.

33. Personal communication with Miss Emma Clinkscales, Director, Nutrition Services, Bureau of Maternal and Child Health, Alabama Department of Public Health, Montgomery, Alabama.

34. Mobile County Board of Health 1969 Employee's Handbook. Mobile County Board of Health, Mobile County, Alabama.

35. Martin, E. 1954 Roberts' Nutrition Work With Children, University of Chicago Press, Chicago, p. 209.

36. Burke, B., V. Harding, and H. Stuart 1943 Nutrition studies during pregnancy. IV. relation of protein content to mother's diet during pregnancy to birth length, birth weight, and condition of infant at birth. Jour. of Ped., 25: 506-15.

37. Burke, B. S. 1945 Nutrition and its relationship to the complications of pregnancy and the survival of the infant. Amer. Jour. Pub. Health, 35: 334-40.

APPENDIX

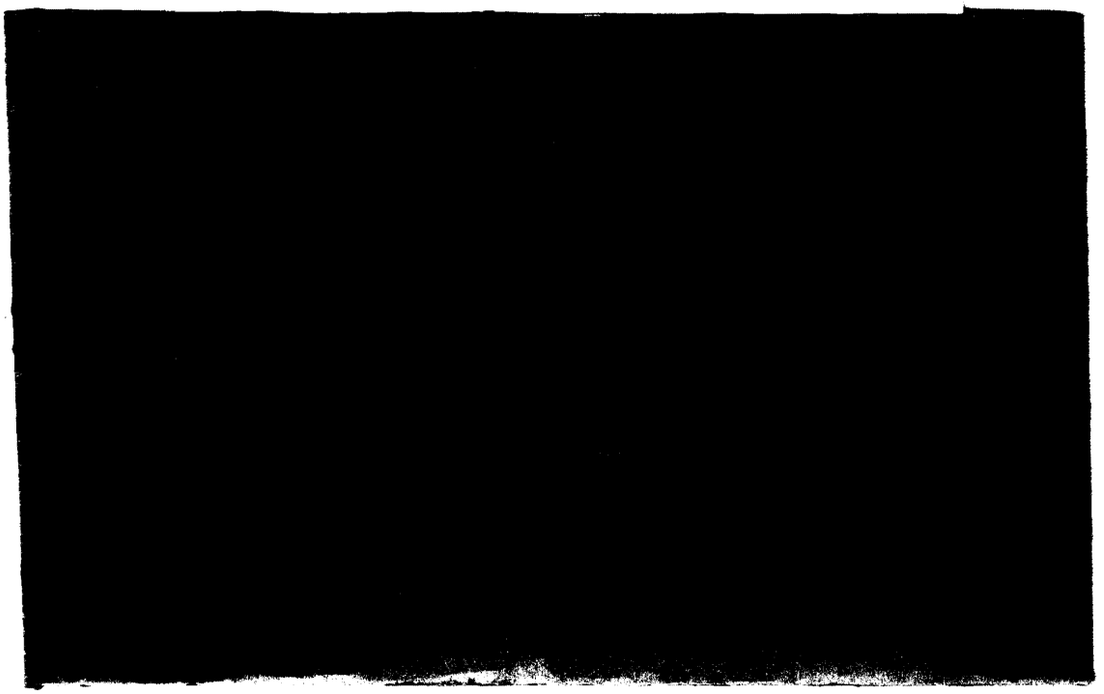


Figure 10. Prenatal Nutrition Record, Nutrition Division, Maternity and Infant Care Project No. 551, Mobile County Board of Health.

MATERNITY AND INFANT CARE PROJECT #551 Clinic_____
Mobile County Board of Health
Prenatal Nutrition Record Delivered_____

NAME_____AGE_____RACE W NW

ADDRESS_____EDC_____PCV_____HGB_____

Marital Status: M CL S W D Sep Education_____Gravida_____Para_____

Number Living in home _____ Person doing cooking _____ Kitchen Facilities_____ Food Stamps_____

24-hour Recall

Morning Snack Noon Snack Night Snack

Prenatal Weight_____Height_____

Evaluation	Date	Weight	N&V	Diet	Recommendations and Comments
Meat_____					
Bacon_____					
Sausage_____					
Eggs_____					
Milk_____					
Green Veg:_____					
Starchy Veg:_____					
Citrus_____					
Other Fruit_____					
Bread_____					
Fat_____					
Sweets_____					
Pica_____					

VITA

Mildred Louise Walker was born April 19, 1945, in Yatesville, Upson County, Georgia. She graduated from Drake High School, Thomaston, Georgia, in 1963. In September of the same year she enrolled in Spelman College, Atlanta, Georgia, where she received a Bachelor of Science degree in Home Economics in 1967.

Following her graduation from Spelman, she was employed as a dormitory director at the college. While serving in this capacity, she received some training in food service through the Campus Chefs establishment on the campus.

In June of 1968, she entered the Graduate School at The University of Tennessee and received the Master of Science degree with a major in Nutrition in August, 1969.