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August 26, 1966

To the Graduate Council:

I am submitting herewith a thesis written by Joan Carolyn Parker entitled "Nutrition Field Experience With the Delaware State Board of Health." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Nelle Traylor
Major Professor

We have read this thesis and
recommend its acceptance:

Harold H. Walker

John T. Smith

Accepted for the Council:

Dean of the Graduate School

NUTRITION FIELD EXPERIENCE WITH THE DELAWARE STATE BOARD OF HEALTH

A Thesis

Presented to

The Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Joan Carolyn Parker

August 1966

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J. C. P.

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CHAPTER I

INTRODUCTION

This report is to summarize the experiences of the student during seven weeks of field work with the Nutrition Consultant of the Delaware State Board of Health. This training period, as a supplement to the academic program, has been instituted to allow the student to participate in the nutrition activities of state and local agencies so that theory may gradually assume greater meaning. Delaware was chosen as the site of field experience because of its small size and the opportunity it offers for learning about and participating in nutrition programs on both state and local levels.

The main objectives of the student in this field work were: (1) to observe and participate in the local and state activities of Delaware so that some ability to function as a nutritionist in a health agency could be developed; (2) to develop an appreciation of the place of nutrition in the total health program of a state agency; (3) to gain some understanding of the duties and responsibilities of a public health nutritionist through observation and participation; and (4) to continue to develop an awareness of the importance of human relationships, the motivation of human behavior, and methods of working effectively with individuals, families, and groups.

The seven week program planned for the student included varied activities designed to help accomplish her objectives. Among these activities were conferences to help her become familiar with the functions, organization, objectives, policies, and plan of operation of the agency. She participated in institutes, workshops, and community activities of health educators. In preparation for this work, she developed and evaluated educational materials. She also assisted in giving consultant service to agency personnel, nursing home operators, and student nurses.

Information concerning Delaware and the State Board of Health is included in the first part of the report. The nutrition program in detail, such as the participation, learning situations, and summary of the student's field work, is included in the latter part. One week of the seven weeks period was spent with the personnel of the Kent County Unit. The activities of this week were interspersed with the other experiences in the report.

CHAPTER II

DESCRIPTION AND HISTORY OF THE AREA AS IT RELATES TO THE DELAWARE STATE BOARD OF HEALTH

I. BRIEF HISTORY

In studying the nutrition program of a health agency, knowledge of the history, the geography, and the socio-economic status of the population is necessary. This information dictates the scope and direction of the program as well as the present health needs of the population and their origin.

Before the white man came to Delaware, it was inhabited by tribes of aborigines or American Indians. The Dutch made the first attempt to establish a colony in Delaware, followed by the Swedes, and finally the British. In 1610 the bay on the east was named for Governor de la Warr of colonial Virginia. The state takes its name from the name of the bay. In 1682 the territory comprising the present state was transferred to William Penn and for a generation was part of Pennsylvania. In 1776 it became an independent state. It is called "The First State" because it was the first state to ratify the Constitution of the United States (1).

There are remnants of many cultures existing in Delaware. It may be described as the United States in miniature with a

blending of the old and new, north and south, and farm and factory. From the beginning people were of diverse nationality and tradition, and many Dutch, Swedish, and English surnames are still found in New Castle County. Knowledge of the cultural roots of a people may be helpful in attempting to influence their behavior patterns.

II. GEOGRAPHY

Delaware is the second smallest state in the Union with a length of ninety-six miles and a breadth of from nine to thirty-five miles. Located on what is known as the Del-Mar-Va Peninsula, it is bounded on the east by the Delaware River, Delaware Bay, and the Atlantic Ocean. On the south and west it is adjacent to Maryland and on the north, Pennsylvania.

One of its three counties, New Castle, is located on the Piedmont Plateau and the other two, Kent and Sussex, are on the Atlantic Coastal Plain (see Figure 1). For the most part it is level, but it is near this northern border where the coastal plain meets the hills of the Piedmont that most of the people of Delaware live. In Kent County, the central portion of the state, more than 60,000 acres are tidal marshland, and the cypress swamps in the extreme south have an area of 50,000 acres (2). In 1798 there was a yellow fever epidemic in Wilmington during which a local doctor warned the inhabitants of the dangers of the marshes around the city one century before the mosquito was proven the vector of

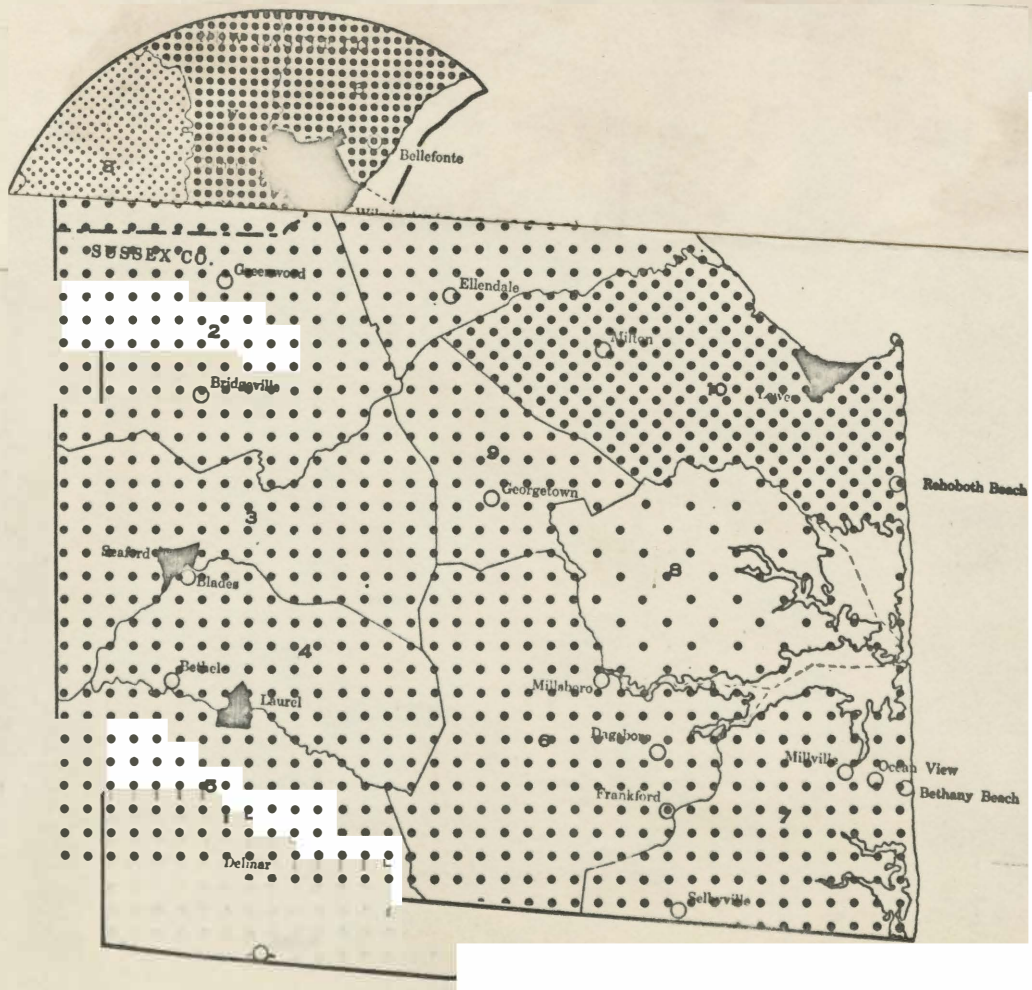
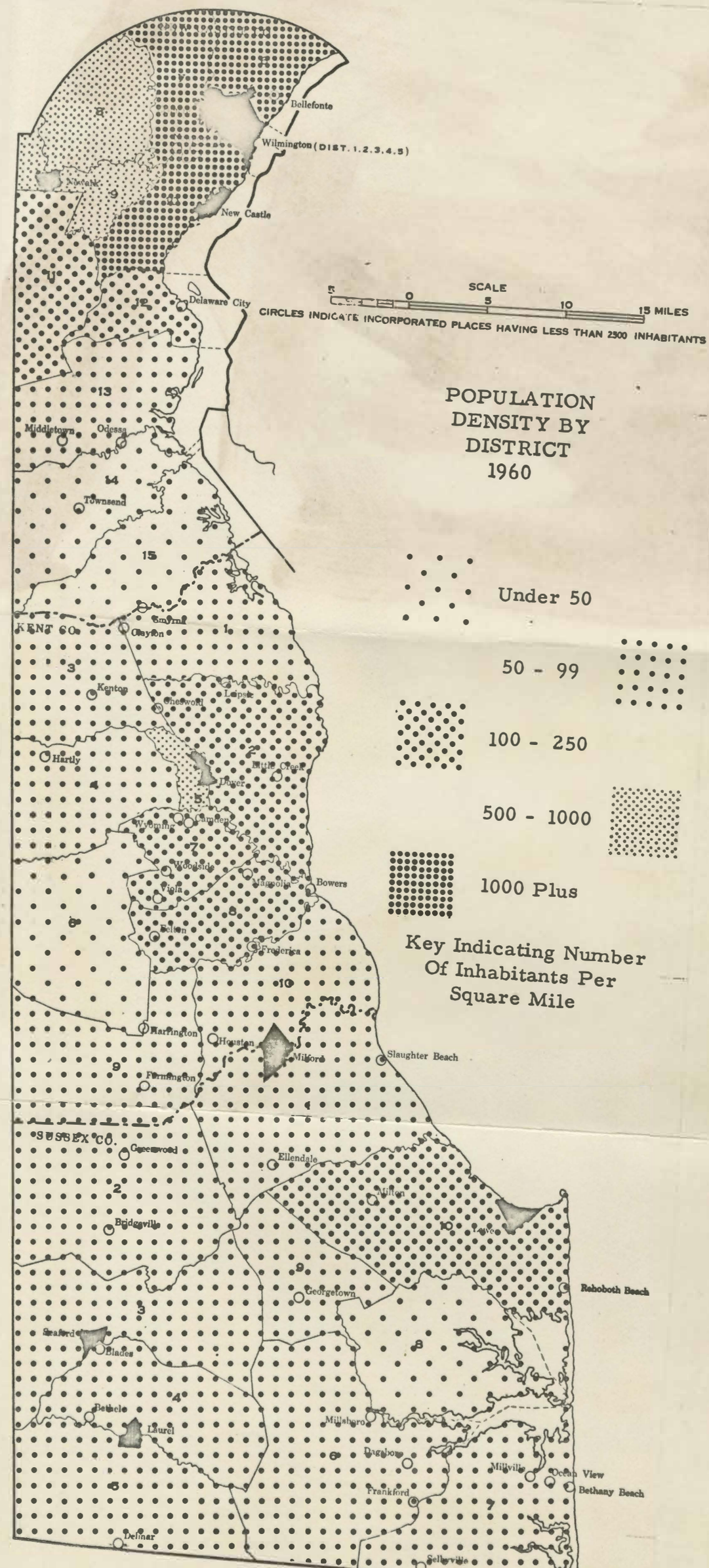


Figure 1. Map of Delaware with population density by district.

DELAWARE

MINOR CIVIL DIVISIONS-REPRESENTATIVE DISTRICTS



yellow fever (3). Mosquitoes are still a problem in Delaware. The long, meandering coastline along the Delaware River and Bay, the shore line of the major inland bays, and the marshes provide an excellent habitat for the salt marsh mosquito, Aedes solicitans. This mosquito has been known to fly ten to twenty miles and this fact, coupled with its recent implication as a vector of Eastern equine encephilitis in New Jersey, has resulted in demands from the public for its control. The activities of mosquito control, however, are complicated by the contamination of shellfish and shellfish growing areas which are important to the Delaware economy.

Delaware has a moderate climate and a long growing season of about six months. Due to these conditions and the small size of the state, Delaware becomes the home of a disproportionately large number of migrant laborers and their families. The workers follow a route from Florida to New York State spending about one fifth of each year in Delaware. These people pose health problems complicated by differences which are ethnic in origin as well as differences in cultural patterns and general habits. Fortunately, information is exchanged with other states along the work route and their health cards are common throughout the United States.

III. ECONOMY

Agriculture is one of Delaware's most important industries. Chief agricultural products are poultry which accounts for

approximately 68 per cent of its farm income, dairy products, truck crops, fruits, and grains. Also important to the economy are fisheries, chemicals, textiles, iron and steel products, leather goods, and pulp and paper (4).

Delaware's favorable tax structure, abundant water supply, highly developed water and road systems, and proximity to large population centers, has made the state very attractive to a wide variety of industries (5). Wilmington is one of the chief chemical manufacturing centers of the world. Some products are dyes, cloth, cloth finishes, cellophane, paints and varnishes. The E. I. duPont de Nemours Chemical Research Center is one of the world's largest. The textile industry, ranking next to the chemicals, includes cotton, wool, nylon, latex, and leather. The Jello Division of General Foods is located in Dover (4).

IV. POPULATION

According to the 1960 census, the population of Delaware was one of the fastest growing in the nation during the decade 1950-60. During the ten year interval its population increased by 40.3 per cent. However, the population growth has not been evenly distributed among the three counties.

New Castle County, including the City of Wilmington, has the largest population of the three counties with 307,446 in 1960 or 69.9 per cent of the Delaware population. An examination of the

of the composition of New Castle County's population indicates distinct differences between the City of Wilmington and the county areas. For example, the city is losing population while the suburban areas are experiencing substantial gains. The population that is moving out of the city tends to be white, young adults, and the better educated. On the other hand, Negroes are moving into the city in significant proportions and they, in the main, are young, poorly educated, and employed in lower skilled jobs. This pattern of population loss in central cities, while the suburbs are growing at rapid rates is a familiar occurrence in America. This means that in the future the city will have increased problems associated with the elderly, the poorly trained, and in general, the socially and economically depressed.

The county outside of Wilmington is attracting young people who tend to be relatively well educated and occupy relatively high status jobs. The very youthfulness of this population creates health and nutrition problems associated with youth.

Between the years of 1950 to 1960, the population of Kent County grew at a faster rate than the other two counties, having 14.7 per cent of the population or 65,651 people in 1960. This increase was in the younger age groups, particularly school-age children. The Negroes are constituting an increasing smaller proportion of the total population of Kent County because the white population is migrating into the county at a faster rate. During

the 1950 decade there was some improvement in the overall educational level of the adult population, but for non-whites the educational attainment is still very low. One of the urbanizing influences has been a substantial reduction in the proportion of the farm labor force and some proportionate increases in managerial, clerical, and sales occupations. Kent County experienced tremendous growth during the 1950's as a result of the Dover Air Force Base, and in all probability the county will continue to grow at a rapid rate as a result of continued and increased economic activity.

The Sussex County population in 1960 was 73,195 or 16.4 per cent of the Delaware population. Although Sussex County is the most rural area of the state, the proportion of people receiving their livelihoods from agricultural enterprise is declining. One of the adjustments being made to this decline is the exportation of the county's young people, particularly among the white sector. This has the tendency to reduce the child-bearing capacity of the white population. In contrast, the non-white population is the youngest in the state. The rural non-whites nationally have high birth rates, and when this is combined with a large proportion in the younger age categories the natural consequence is an ever increasing proportion of Negro infants in the population. Problems which must be faced by the people of Sussex County are its low levels of educational attainment and limited occupational alternatives. Solutions to the problems are of substantial significance

if the county is to attract industry and people to the area, and if it is to retain its young people (6). The nutrition program in this county must be geared to the educational level, age categories, and special needs of this population.

The census of 1960 reported that 65.6 per cent of the whole state's population, or 292,788 people, were classified as urban and the rest as rural. The 1960 census figures show 82.9 per cent as native white, 3.2 per cent foreign-born white, and 13.9 per cent non-white. The non-white population was practically all Negro. New Castle County had 68.9 per cent of the state's population in 1960. The only large city was Wilmington with 95,827 people. In contrast to 1960, the 1950 figure for Wilmington was 110,356, indicating the exodus from the city to the suburbs.

V. EDUCATION

The 1960 census showed that out of 245,692 Delawareans twenty-five years of age and older, only one per cent had no formal schooling of any kind. Other figures showed that four per cent had only one to four years school, fifteen per cent had completed eight years of formal schooling, twenty-five per cent had completed high school, and ten per cent had completed four or more years of college.

The two state-supported institutions of higher learning in Delaware are the University of Delaware in Newark and Delaware State College in Dover. Each of these schools has a College of Home

Economics and offers a course which meets the American Dietetic Association's standards for dietetics majors. Wesley Junior College, a liberal arts school, is located in Dover. Although there are no medical or dental schools, five of the nine hospitals in the state accept interns, and four have schools of nursing. H. Fletcher Brown Technical High School in Wilmington offers state-approved practical nursing courses for both high school students and adult students. Public schools are provided for grades one through twelve, and compulsory school attendance is required of all children between the ages of seven and sixteen years (4).

CHAPTER III

ORGANIZATION OF THE DELAWARE STATE BOARD OF HEALTH

I. STATE BOARD OF HEALTH

The Governor is the head of the administrative structure of the Delaware State Board of Health as he is of all Delaware state agencies. He appoints eight persons for terms of four years each to the State Board of Health. Two members are appointed each year, and the membership is staggered. The Board decides what health programs are needed and outlines the administrative policy which will be followed to accomplish the necessary work in each field of activity.

Four of the members must be physicians, including one from each of the counties and one from the City of Wilmington. The physician from New Castle County must be from outside the City of Wilmington since it is in New Castle County. One member must be a dentist, and three must be women. One woman of the three must have a special interest in child welfare activities, one must be especially interested in the care and treatment of tuberculosis, and the other must have had business experience.

The president and other officers are elected at the annual meeting which is held on the first Thursday of April. Other meetings are held monthly, or if necessary, more frequently.

II. EXECUTIVE SECRETARY

An Executive Secretary who must be a licensed physician with postgraduate training in public health is elected by the Board to serve as State Health Officer and Registrar of Vital Statistics as well as assistant to the Board. The Office of the Executive Secretary has certain functions including the preparation of budgets to meet the cost of programs which the Board decides upon. He must present these budgets to the General Assembly of the state for their action. He must keep detailed records of the expenditures of the funds appropriated. His office is responsible for furnishing the equipment, supplies, housing, and other items for all the divisions and units. He must recruit the key personnel to carry out specific programs. He must coordinate and integrate the work of the various divisions, units, and institutions under the State Board of Health to prevent the over-lapping of services within the agency. He must work with the state administrative staff, General Assembly of the state, division and unit directors, and the personnel of other agencies in planning new health programs. His office gathers information on current developments in the health field and brings new ideas to the Board of Health for consideration in the light of new or increasing demands. His office also maintains records of the activities of the various units and divisions in order that an evaluation may be made of the services (3).

III. DIVISIONS OF THE STAFF

The organization of the staff of the Delaware State Board of Health is divided into eleven technical divisions, an institution, and four local health units (see Figure 2). Each division is headed by a director who is staff advisor to the Executive Secretary and is administratively responsible to him. Emily P. Bissell Hospital, the institution under the auspices of the State Board of Health, is for the isolation and treatment of tuberculosis and allied respiratory diseases.

One health unit is located in each county with the fourth in the City of Wilmington. The director of each county unit is a state employed Deputy Health Officer and is directly responsible to the Executive Secretary. Each unit is staffed with a qualified health officer who is a physician, a supervising public health nurse, staff nurses, clerks, and sanitarians. These units are located as follows: The New Castle County Health Unit is near Wilmington on the grounds of the Emily P. Bissell Hospital; the Kent County Unit is in Dover; and the Sussex County Unit is in Georgetown.

There are two official local health agencies serving the City of Wilmington. The State Board of Health maintains a health unit including a qualified nursing supervisor and nursing staff headed by the Executive Secretary of the Delaware State Board of

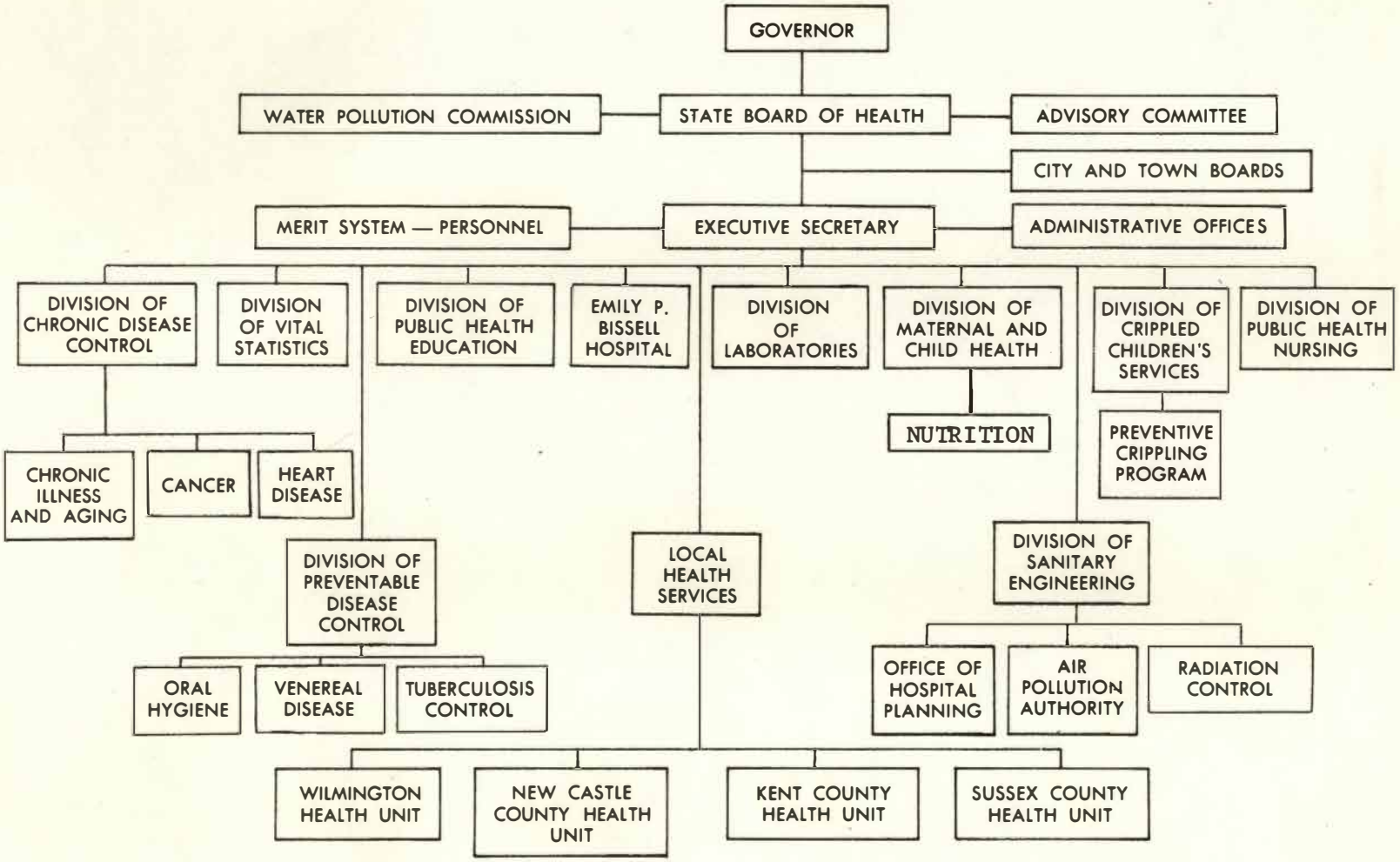


Figure 2. Diagram of administrative structure Delaware State Board of Health.

Health. The nurses in this unit provide services in the areas of maternal and child health, tuberculosis, venereal disease, cancer, heart disease, and crippled children's problems.

The other official agency which is maintained by the City of Wilmington receives and records all vital statistics from within the city, and supervises all communicable disease control work including quarantine, isolation procedure, and immunizations in schools. There is an agreement between the State Board of Health and the City Department of Health on the activities which each will perform with splendid cooperation between the groups. The City Department of Health employees are not under the merit system of personnel administration in Delaware. Nutrition Services is administratively placed under the Division of Maternal and Child Health, yet services are not confined to that division but are extended to all divisions. Certain divisions including the Divisions of Public Health Nursing, Chronic Disease Control, Preventable Disease Control, and Sanitary Engineering use the services more than others (3). An effective nutrition program is dependent upon the cooperation of the staff members of these various divisions in developing the nutrition component of their programs.

CHAPTER IV

NUTRITION SERVICES IN DELAWARE

I. HISTORY AND OVERALL PHILOSOPHY

Although the pursuit of food is the oldest and most basic occupation and preoccupation of mankind, nutrition as a science is only slightly over a century old (7). However, nutrition laboratories throughout the world have been accumulating evidence which shows that the growth of the young of all species, their ultimate size, the structure of their bones and teeth, their ability to withstand infection, their attainment of full physical vigor, and their length of life are all dependent in large measure on their nutrition at the various stages of their life-span (8). As the body of nutrition knowledge expands and changes, the relative importance of nutrition becomes more evident, as well as the recognition that good nutrition is vital to physical and emotional well-being.

In 1937, the Agricultural Extension Service of the University of Delaware conducted a nutrition demonstration in Kent County which aroused public interest in nutrition and its relation to health. The Delaware State Board of Health was challenged to interpret and make use of this scientific information by its dissemination through the most effective channels. In 1938 a full time Nutrition Consultant

was added to the staff (3). Her work was and is to give special emphasis to the relationship of nutrition to maintenance of good health or promotion of better health in the certain population groups reached by the health department, especially through services provided in the fields of maternal and child health, dental health, tuberculosis control, crippled children's services, and chronic disease. The nutrition section of the Plan for Executive Operations, developed and revised periodically by the nutritionists and approved by the Executive Secretary, specifically states that it is necessary to give special emphasis to nutrient intake when growth is taking place, as during pregnancy, infancy, the pre-school age, school age, and adolescence. It further states that it is necessary to give attention to the particular nutritional needs of individuals with tuberculosis, persons with chronic diseases such as diabetes and heart disease, and those with problems of weight control as well as the aging group in the population. Finally, the plan states that it is necessary to give some special thought and interpretation to the field of food fads and the misinformation that is being circulated daily to the public about foods. It is felt that the widespread success of the food quack shows that nutrition education has been only partially successful and that people need help in discriminating between fact and fiction (9).

II. DETERMINATION OF PROBLEMS AND NEEDS

The nutrition program of the Delaware State Board of Health is largely educational, and in trying to influence nutrition practices, the nutritionists find that nutrition problems touch upon social, cultural, economical, and political aspects of society. Since consumers are not necessarily in control of their own food intake, the nutritionists must learn whom to educate as well as when, where, and how. The nutritionists need to help educate the food producer, processor, and distributor, as well as to call on other resources for assistance when food or money rather than education seems to be the pressing present need. Education itself may not be the only measure needed to influence the practice of better nutrition. Because the nutrition problems tend to be related to other aspects of life and thereby become doubly difficult to solve, the nutritionists must realize that it is not their responsibility to deal with all of life, but to define their role in relation to the whole.

Dr. Ruth L. Huenemann of the University of California School of Public Health has categorized the nutrition problems of the United States into four divisions. The first problem is that of overabundance resulting in obesity and overnutrition of certain vitamins. The second category is made up of problems associated with minor morbidity such as those resulting from genetic and metabolic errors. The third division includes social nutrition and food problems associated with difficulties

such as alcoholism, specific age needs, supersophisticated groups, immigrant groups, and the home-bound and chronically ill groups. The final problem area is concerned with the necessity of working aginst faddism and indifference (10).

The Delaware nutritionists observe and try to combat these problems. As discussed previously, the rapid population shifts contribute to the nutrition problems of the state. There are very young groups in specific geographical areas, and definite groups of aging persons in other areas. The move of the educated from the metropolitan areas to the suburbs leaving the cities to the young, uneducated, unskilled, and elder population must be considered in setting up nutrition programs for specific areas. Also, the migrant workers bring nutritional needs into Delaware.

Statistics. In 1963 the maternal mortality rate for Delaware was 0.18 while for the whole United States it was 0.36. In 1964 it was 0.35 for Delaware and 0.33 for the United States. The infant mortality rate in Delaware for 1963 was 24.5 while in the United States it was only slightly higher at 25.2. The Delaware figure for 1964 was 21.4 as compared to 24.7 in the United States. The premature birth rate for Delaware in 1963 was 35.5 as opposed to 35.4 for the United States. These figures, provided by the Director of the Division of Vital Statistics, are all per 1000 live births and are in keeping with the national average. The nutritionists

hope that through the years their work in the Maternal and Child Health Division has been a contributing factor in holding these rates low and will be a future factor in forcing the rates even lower.

III. STAFF ORGANIZATION AND QUALIFICATIONS

Two nutritionists are currently employed by the Delaware State Board of Health; however, one is presently on leave. There are merit system specifications written for the positions of Nutrition Consultant, Nutritionist I, and Nutritionist II. Monies are appropriated through the Division of Maternal and Child Health for the position of Nutrition Consultant and through the Division of Chronic Diseases for the position of Nutritionist I. The Nutritionist II position is not in the budget at the present time.

The Nutrition Consultant is responsible for planning, developing, and directing a state-wide nutrition program and performing related work as required. Her typical duties are to maintain a consultant service in nutrition to all divisions of the State Board of Health, and to plan and take part in consultation service to local public health workers, particularly the public health nurses. She must assemble and evaluate nutrition information, and issue educational materials. She must render consultation and advisory service to other state institutions and agencies such as hospitals, prisons, welfare, youth groups, and others. She

must help plan and take part in programs of in-service training and workshops for public health workers, school lunch workers, homemaker groups, and others. She must act in an administrative capacity in recruiting, training, and supervising other nutritionists on the health department staff. She must work on job specifications and on writing the plan of work. She often supervises field training for students from universities working for their degree in nutrition.

Her training must include the completion of graduate work in an accredited college or university leading to a master's degree in nutrition or public health. Four years of work experience in the field of nutrition, two years of which have been in the field of public health are also required.

The Nutrition Consultant must have a thorough knowledge of the principles of nutrition and food practices, as well as considerable understanding of the operation of nutrition education and service programs. She must have the ability to establish and maintain harmonious working relationships with associates and the general public, to speak effectively before a variety of groups, and to plan and execute a state-wide program of nutrition education. She may be employed if her qualifications meet those of the merit system, and at present the salary range is $6,744.00 to $8,580.00.

Except for differences in salary and training, specifications for Nutritionist I and II are very similar concerning the

nature of work performed, typical duties, knowledge, and ability. In both positions, the nutritionist must, under supervision, assist in carrying out a state-wide program of nutrition and perform related work as required. Her typical duties include assistance in carrying out the duties related to a nutrition program such as: home visits with public health nurses; staff conferences in the health units to promote nutrition activities; consultation on food service, dietary programs, food costs, and personnel needs to nursing homes and other institutions; newsletters on nutrition information; cooperation with other state agencies where food problems are involved; talks for the promotion of good nutrition; preparation of exhibits; and participation in workshops.

Her knowledge would include a good background in the principles and practices of food and nutrition, and elementary knowledge of the function of local health and welfare agencies as well as general knowledge of methods of nutrition education. It would be necessary for her to have the ability to work well with people, and to apply nutrition information and practices to the feeding of individuals, families, and groups. She must be able to prepare and deliver effective talks before groups, to exercise good judgment, and to plan, organize, and execute work efficiently. Finally, she must have the ability to establish cooperative relationships with professional and other groups and with staff members.

The merit system specification for Nutritionist I stipulates a baccalaureate degree from an accredited college or university in home economics with a major in foods and nutrition. Her salary would range from $4,812.00 to $5,844.00. This is considered a training position and the employee is allowed to work in this position for only two years without further education.

The Nutritionist II position requires the same training as the Nutritionist I position plus considerable experience as a nutritionist in a health or social agency, in agricultural extension work, or as a teacher of home economics including foods and nutrition. The completion of one year of graduate study in nutrition and public health at a college or university of recognized standing may be substituted for one year of experience. The existing salary for the Nutritionist II position is $5,568.00 to $7,080.00.

Recruitment. There is no formal method of recruiting personnel. The Nutrition Consultant asks her professional acquaintances for names of potential applicants, and inquires at universities offering training programs. There are no scholarships offered.

Professional Growth. Provisions are made for professional advancement and growth through training and attendance at state, out-of-state, and national meetings. New personnel may be sent to nearby official agencies for in-service training. When the employee filling the Nutritionist I position was hired, she was

sent to an official agency in Pennsylvania for two weeks of training. The nutritionists are allowed one national meeting each year and may choose to go to the national meeting of the American Dietetic Association, the American Public Health Association, the American Home Economics Association, or the national meeting of some closely related group. The nutritionists attend many workshops, institutes, and conferences within the state as well as similar functions in surrounding states.

The Nutrition Consultant is an active member of professional organizations and groups which help her to keep abreast of current activities in her own field as well as in associated fields. The student was invited to attend and participate in the sharing of current information and developments in nutrition and dietetics at one of the Eastern Shore Dietitians' Journal Club meetings. The club meets six times a year and each member comes prepared to discuss the articles in the two current American Dietetic Association Journals as well as any other information or news she wishes to share. The Nutrition Consultant continues professional growth through her active membership in the Delaware State Dietetic Association, the Lay Society of the Diabetes Association, the Delaware State Home Economics Association, and the Association of State and Territorial Public Health Nutrition Directors.

Many professional journals and numbers of pamphlets, newsletters, and reports cross the desk of the nutritionist. She must

read these and make decisions as to filing, discarding, or referring to other personnel for use in their work. In this way she keeps herself informed of the latest developments, ideas, and knowledge in her field as well as related disciplines. The nutritionists are always alert to book reviews and announcements for new books to be added to the library, and help to keep its nutrition section up to date.

Public relations and communications. One of the outstanding charactistics of the nutrition program in Delaware is the system that has been established for intra-agency communications and public relations. The nutrition consultant tries to send a memorandum to the health units on any new nutrition information or dietary development which she feels would be of interest to the health personnel. For example, due to the widespread use of formula diets, and the many questions concerning them, she recently sent a memorandum with information on formula diets to the health officers to be used by the personnel in each unit. Her latest memorandum was to the Executive Secretary concerning standardization of terms used in dietary consultation for phenylketonuric patients.

In reading and scanning the tremendous volume of literature which crosses her desk, she is very careful to refer any articles or publications to another office if she thinks it may interest the personnel. Persons in other divisions, in turn, send her information they find in their publications and reading materials.

The Nutrition Consultant represents her service in administrative staff meetings, and is treated spacially as a division in the biennial report. She also compiles and sends a newsletter about six times each year to the health department staff members throughout the state, to other interested health workers, and in some instances to the Children's Bureau Nutrition Exchange (a packet of nutrition information which is circulated to state health agencies and training institutions in the United States). The student compiled the April newsletter on constipation and diet (see Appendix, Figure 3).

Quarterly and annual reports are made for the Directors of the Divisions of Maternal and Child Health and Chronic Disease Control and for the Executive Secretary. These reports are distributed to the directors of the various divisions of the Delaware State Board of Health and to the federal consultants from the Children's Bureau and the United States Public Health Service to keep them abreast of current activities.

The A. I. duPont Institute of the Nemours Foundation, an endowed institution for hospitalization and education of physically handicapped children, holds monthly cleft palate clinics in cooperation with Crippled Children's Division of the State Board of Health. In collaboration with the staff of the Division of Crippled Children, the Nutrition Consultant developed a booklet on the feeding of cleft palate children.

The Regional Nutrition Consultant of the Children's Bureau suggested and supported this project since DuPont Institute could offer contact with cleft palate patients throughout the state and because the size of the state facilitated personal interviews by the Nutrition Consultant with the families of these patients. The Nutrition Consultant contacted the Director of Nursing who in turn called the supervising nurses together to discuss the possibilities of including the Nutrition Consultant on a visit to each family included in the survey. Meanwhile, the Nutrition Consultant wrote to cleft palate clinics and training institutions throughout the United States for advice and suggestions on developing a questionnaire for surveying feeding problems in families with cleft palate children.

Finally, the Director of the Division of Maternal and Child Health wrote to all the families asking for their cooperation in the interest of helping other people with cleft palate feeding problems, and informed them that they would receive copies of the findings of the group. The Nutrition Consultant interviewed each family, compiled her findings, and wrote a report which was first published in Children, a periodical of the Children's Bureau. The first ten thousand copies of the booklet were mimeographed and distributed by the Delaware State Board of Health, and in 1965 it was revised and printed (see Appendix, Figure 3).

The student cites the steps in the development of the cleft palate booklet to help illustrate some of the necessary arrangements which must be made when working with agencies with interests and objectives similar to the Delaware State Board of Health. Approval and clearance through administrative channels is important to successful programs and smooth working relationships, and the Nutrition Consultant considers good public relations within her organization a primary asset.

The Nutrition Consultant also cooperated with the psychologist and health educator in writing a booklet on child feeding. The Executive Secretary suggested that such a booklet would fill a need in this area and annul the necessity of purchasing such material from other sources. An artist was employed to illustrate this booklet, and it was printed in 1963 (see Appendix, Figure 4).

The nutritionists try to utilize the best teaching methods in their program of work including audio-visual aids such as filmstrips, films, slides, exhibits, food demonstrations, posters, food models, graphs, and charts. The student previewed films and filmstrips, and made an exhibit on good foods for good health which will be used in the display case in the main entrance of the State Board of Health Building.

When a new person joins the staff at the state or local level, he or she visits the nutritionist for orientation and is given a packet of nutrition literature from various sources

including materials printed by the State Board of Health. This material is discussed as to usefullness in various situations, as well as to content. The new personnel, particularly public health nurses, find that they may call on the nutritionist for consultation on particular problems or if necessary, ask her to make a home visit with them. This procedure is also followed with the Visiting Nurse Association in Wilmington.

IV, STATE AND LOCAL PROGRAM PLAN

The overall program plan is divided into three basic areas. The first part involves the integration of Nutrition Services with all other related services in the State Board of Health. The second part is helping to coordinate health department nutrition services with other nutrition services provided by other agencies and organizations. The third area is providing nutrition services to agencies without other nutrition service available.

Integration With Other State Board of Health Programs

Division of Public Health Nursing. The two full-time nutritionists offer consultation services to the many staff members including public health nurses, clinicians, dental hygienists, social workers, and therapists who in turn offer direct nutrition services, but more time is spent with nurses since they come into working contact with more nutrition problems. The Division of Public Health

Nursing plans and provides orientation and in-service education to enable the nurse to function at a high professional level, and works closely with other divisions so that the many personal health programs of the health department can be carried out in terms of a coordinated service to the people. In all that the public health nurse does, emphasis is placed on the promotion and maintenance of health, the prevention of disease and disabling conditions, and comprehensive care of the sick and disabled.

The nurses depend on the Nutrition Consultant to keep them abreast of the current nutrition information and trends, and the Nutrition Consultant schedules time with the division so that she is regularly available for consultation. She is always available by appointment for conferences, and will make a home visit with the nurse if asked. The services of the Nutrition Consultant are available to the nurses of the county health units, the city unit, and the Visiting Nurse Association. She consults with the supervising nurses in each health unit, and keeps the nursing director informed of the nutrition work being done within the units.

One of the Kent County nurses came to the Nutrition Consultant for consultation on a two and one half year old girl with definite leg deformities diagnosed by the doctors as rickets. The nurse asked for dietary suggestions and literature in Spanish for the Spanish-speaking mother. The student accompanied the nurse to the home to observe the effects of pronounced rickets. The student was

able to hold the child and actually feel the contours of the child's legs from the knees to the ankles, and discern the immobility of the ankles.

With the help of the Nutrition Consultant, the nurse had prepared a large chart in Spanish of foods necessary each day for the child as well as the other family members. The nurse also had plans to refer the family to a Spanish-speaking doctor for further reinforcement of the necessary dietary regimen for the entire family.

Division of Maternal and Child Health. The Division of Maternal and Child Health, presently without a director, concerns itself with the problems of maternal and child morbidity and mortality throughout the state. It is particularly concerned with the maintenance and improvement of the standards of local health services for the protection of the health of mothers and children through health education, nutrition service, medical social service, and work with other agencies of the state government. Prenatal clinics and well child conferences are sponsored, and the student had the opportunity of observing these clinics with some participation involving nutrition counseling. There is also a program for the detection of phenylketonuria. All the hospitals in Delaware cooperate in the program by sampling the blood of the babies born in hospitals and having it examined in the State Board of Health Division of Laboratories. Mothers giving birth outside of hospitals are requested to send urine samples of their three week old infant to the laboratory.

Psychological Services offer a testing program to try to determine the mental potential and emotional and social level of the child. Counseling and psychotherapy including parent counseling are given, as well as consultation to other divisions of the health department and agencies such as schools. Psychological Services as well as Nutrition Services are located administratively in this division. The Nutrition Consultant and psychologist exchange news items and have frequent informal conferences on mental retardation. The student attended the Governor's Conference on Mental Retardation in Delaware.

Division of Preventable Disease Control. Included in the Division of Preventable Disease Control is the Oral Hygiene Program. Since dental health is known to affect the general health, appearance, and social adjustment of an individual, and since the control of dental disease and the establishment of good habits of oral hygiene can be accomplished during childhood, the major portion of the Oral Hygiene Program has been planned in the interest of children with a limited number of pre- and post-natal cases. The Nutrition Consultant works closely with the head of the Oral Hygiene Program on educational programs and exhibits. The newsletter for Dental Health Week is always a combination of nutrition and dental health news. The student visited one of the county unit dental clinics. A particular problem at present is the need for fluoridation in parts of the state.

Division of Sanitary Engineering. The objective of the Division of Sanitary Engineering is the protection of the health of the people of Delaware through the sanitary control of their environment. Environmental health is broken into five areas of which one is food sanitation. The Nutrition Consultant is sometimes involved with the in-service training of food service personnel, and she generally attends the food sanitation courses. The student attended one day of a two day course offered during her field work.

The Nutrition Consultant is consulted on milk label changes, soft drink bottle changes, new drinks, vitamin additions, or chemicals used in food processing within the state. She also cooperates with the sanitarians in reporting to them any undesirable conditions she may observe in a nursing home or institution.

Emily P. Bissell Hospital. The Emily P. Bissell Hospital, the state institution for the treatment of tuberculosis, has one quarter of its two hundred beds assigned to persons with chronic respiratory diseases other than tuberculosis including emphysema, chronic bronchitis, and asthma. Hospital facilities and medical care are available to all residents of the State of Delaware who need hospitalization for respiratory problems. The Nutrition Consultant gives consultation services to the dietary department, makes visits to the dietitian when she has questions or problems, and

offers information and stimulation for the food service personnel to enroll in correspondence courses at the Pennsylvania State University for further food service education. She maintains a friendly, cooperative working relationship with the director and staff of the hospital.

Division of Crippled Children's Services. The services of the Division of Crippled Children's Services are available for any child in Delaware under twenty-one years of age. The aim of Crippled Children's Services is to locate and offer treatment to children in need. Therapy includes hospital care, medical and surgical services, after care, and appliances. Every state in the United States has a Crippled Children's Service, but the program in Delaware has an important and interesting difference. There is a close association between the Delaware State Board of Health program and the A. I. duPont Institute. This private clinic and hospital frees Delaware Crippled Children's Service funds for use in other areas, since any Delaware child who needs surgery or medical care for an orthopedic problem may be admitted to the A. I. duPont Institute.

A cleft palate team holds a clinic once a month under the roof of the A. I. duPont Institute. These clinics are staffed by plastic surgeons, orthodontists, pediatricians, speech therapists, and medical social consultants, the last three of which are provided by Crippled Children's Services. Any child in Delaware with cleft lip, cleft

palate, or an orthodontic problem causing a speech defect may be seen through the clinic. In 1964 fifty children with cleft palates were treated.

The Nutrition Consultant worked through this clinic and with the clinic personnel in developing the previously discussed booklet on feeding cleft palate children. The institute makes various referrals of such problems as overweight spina bifida patients, phenylketonuric patients, and cleft palate feeding problems to the Nutrition Consultant for help. The student made several visits with the Nutrition Consultant to homes of patients referred by the institute for direct nutrition services. The student also attended a Crippled Children's Case Conference including the Director of the Division of Crippled Children's Services, public health nurses, speech and hearing therapists, social worker, and psychologist. In certain cases the Nutrition Consultant is asked to attend.

Division of Chronic Disease Control. The program of the Division of Chronic Disease Control, devoted to chronic illness and aging, is greatly concerned with services to nursing homes, convalescent homes, and homes for the aging. Services to these institutions include both consultation and teaching as well as inspection. Nutrition Services schedules regular visits to the homes to evaluate and give help in the dietary departments. Services include help on meal and menu planning, food purchasing, food preparation, special diets, buying of new equipment, and any problem which the nutritionist

might help to alleviate. Another service to nursing homes is a newsletter on feeding the aged which is sent periodically.

The student made four visits to nursing homes and homes for the aging. In two instances the nursing home operators had asked for consultation with the Nutrition Consultant, and in the other two cases, the student visited with the Delaware State Board of Health Nursing Consultant to Nursing Homes. The student was asked to write a report of her observations of the food services at one of the homes as a supplement to the report of the nursing consultant. The nursing consultant and the nutritionist in this program work closely with the Division of Sanitary Engineering and the Fire Marshal in the licensing of nursing and convalescent homes. The nutritionist is responsible for the food service inspection and the other personnel are responsible for inspecting in their area. The Division of Chronic Disease provides funds for the position of Nutritionist I or II so that she is responsible for the services to the nursing homes.

Division of Public Health Education. The Division of Public Health Education has the responsibility of helping maintain a two-way communication between the State Board of Health and the citizens of Delaware. Some of the functions of this division are to arrange for the publication of the biennial reports and to print schedules for health unit clinics, and to distribute clinic schedules to

health departments, physicians, and hospitals. The division compiles a film catalog every two years to be sent to schools, home demonstration agents, colleges, and individual professional persons. A record of film usage is kept, and new films are discussed with department heads, requested for preview, and later may be purchased with the approval of the Executive Secretary. This division organizes a one-day orientation program for new employees about every six to nine months. It is also responsible for securing educational materials from public or voluntary health agencies and commercial organizations. This division takes care of news releases and other types of publicity such as a weekly radio broadcast on health. It also works jointly with the staff of other divisions in preparing health education materials such as the previously mentioned booklet on child feeding.

Coordination With Other Agencies

The second basic area of the overall nutrition program is the coordination of health department nutrition services with those of other official agencies. Included in this part of the plan is the resolution to stimulate interest in nutrition education as part of teacher training through the University of Delaware and the Delaware State College.

Agricultural Extension Service. As the result of requests from various instructors of adult education, the student was able

to participate in the cooperative effort of the Nutrition Consultant and the nutrition specialist of the Agricultural Extension Service of the University of Delaware in work on illustrated recipes using dry milk. These recipes were to serve a dual purpose by increasing the use of donated foods as well as encouraging an interest in learning to read. The set of recipes using dry milk were developed as a pilot project. If well received, illustrated recipes using other donated foods will be developed. Besides working with the Nutrition Specialist on projects such as the illustrated recipes, the Nutrition Consultant also cooperates in other nutrition-orientated programs.

Department of Public Instruction. The Nutrition Consultant maintains a close working relationship with the State Supervisor of School Lunch. She acts as a consultant to the state supervisor on an individual basis, and works cooperatively with her on projects and workshops on both state and district levels. The student attended a State School Lunch Conference which was well attended by school lunch supervisors, managers, and cooks. The Nutrition Consultant attended the conference and sat with the school lunch personnel to observe their reactions to the program. She then conveyed her impressions to the State School Lunch Supervisor. Although a relationship such as this is facilitated in a small state, it is to the credit of the individuals that it exists.

The Nutrition Consultant has been a speaker for these biennial conferences, has taught extension courses for lunchroom personnel, and has cultivated a relationship with these people so that they feel she is their friend. She also furnishes educational materials for them such as posters for their cafeterias. The State Supervisor of School Lunch feels that the secret of the Nutrition Consultant's success lies in her ability to act as a consultant or a resource person without allowing her personality to dominate the whole program or conference. She has cultivated the ability to work effectively through other programs without overwhelming them.

The Nutrition Consultant acts as a resource person to the Home Economics Division of the Department of Public Instruction. The student and Nutrition Consultant visited the home economics department display of a school in New Castle County during their science fair. The home economics teacher appeared quite pleased and the visit cost little in time, but the price of good public relations may lie in such small gestures. This kind of activity also serves to remind the teacher of the availability and interest of the Nutrition Consultant.

In the autumn of 1961-62, the Nutrition Consultant went to the National Nutrition Education Conference in Washington, D. C., with the State Supervisor of School Lunch. As a result of this conference, they spearheaded the establishing of the Nutrition

Education Committee in Delaware. It is made up primarily of school and health personnel from all levels, and has been a very active organization from its inception. Its latest project has been to place nutrition education materials including film catalogs in the school libraries and to encourage their use by the teachers. The student was invited to attend one of the Nutrition Education Committee meetings during which an evaluation to determine the actual use of the materials was decided upon. The first step of the evaluation consisted of letters of inquiry to the librarians of the various schools concerning the use made of the nutrition education materials.

Consultation to Other Agencies

The third area of the nutrition overall plan is providing nutrition services to agencies and institutions without nutrition service available. The current overall plan includes consultant services to the school nurses of Delaware to be planned with the director of the Division of Public Health Nursing who serves as a consultant for school nurses.

State Welfare Department. Help from the Nutrition Consultant has been used in determining standards of monetary assistance for food provided by the State Welfare Department. She has worked with developing a scale of the monetary needs for food for various family situations. She has also developed recipes and methods for the use

donated foods to help families make the best use of them, and has been asked to help families with the interpretation of a diet.

Visiting Nurse Association. Nutrition education through the Visiting Nurse Association includes staff education through staff meetings, orientation of new staff members and student trainees, consultation with nurses on special problems on a limited basis, and some assistance with selection of leaflets or booklets related to nutrition. The Nutrition Consultant frequently teaches one lesson or a series of nutrition lessons to the Visiting Nurse Association maternity classes. Through the public health nurses of the Visiting Nurse Association, the Nutrition Consultant reaches mothers, children, and the chronically ill.

As an example of participation in a specific activity, the student cites a lesson on the nutritional and economical values of milk that she presented to a maternity class. The lesson plan included the use of the blackboard for the comparison of milk prices which the student had obtained from two major grocery markets the previous day, the use of charts showing the nutritive value of milk in comparison to other beverages, and actual dry milk packages and liquid milk cartons for display purposes and examination by the audience. Sources of information for the lesson were books from the library and materials from the Nutrition Services' file. Ice cold banana milk using some of the dry skim milk on display was made

and served to demonstrate a method of camouflaging the natural taste for those who dislike milk.

In discussing the lesson for evaluation of its effectiveness, the student and the Nutrition Consultant concluded that because of the number of questions asked afterward, the lesson had apparently held the audience's attention. Also, due to previous practice of the lesson, the student was able to feel at ease during the presentation.

State institutions. Some state institutions do not have trained dietitians on their staff and consultation is needed regarding the dietary service. The Nutrition Consultant reviews the menus of a state prison periodically. She also at one time taught a series of nutrition lessons to the female inmates.

The student visited and observed lunch at a day care center for severely retarded or uneducable youngsters. The lunch program is for training the children to feed themselves as well as for good nutrition. The institution stipulates no age limit and will accept a youngster with a mental age of between three and four years old or an intelligence quotient of thirty or below. One of the problems, therefore, is divorcing the student from the bottle and introducing him to regular food and feeding habits.

Hospitals. The small hospitals in Kent and Sussex Counties use the Nutrition Consultant for dietary consultation since they do

not employ qualified dietitians. Nursing homes may also call on the Nutrition Consultant for help.

Evaluation of Program

The previously discussed quarterly and annual reports of the nutritionists help them to evaluate their own program.

Evaluation of a program such as this one is particularly difficult since success is never total success nor is failure usually complete failure. The nutritionists must plan their program so that evaluation is possible, and use every measure at hand to judge their own work.

The previously discussed quarterly and annual reports of the nutritionists help them to evaluate their own program by comparing their actual activities with their program objectives. The nutritionists also discuss their plans and problems, and use the opportunities that their common office offers to discuss the effectiveness of various approaches to nutrition education, thereby evaluating their daily activities. Their contacts with nutritionists from other states and programs also offer indirect help in evaluation of their own program by comparison.

CHAPTER V

SUMMARY AND EVALUATION OF FIELD EXPERIENCE

The first objective of the student concerned observation and participation in an actual work situation so that some ability to function as a nutritionist could be developed. The seven week field training period was so planned and executed that it provided quite varied experiences and learning circumstances which were not so unique that the learnings could not be applied to future situations.

The second objective concerned the need to learn more about the health program of a state so that the nutrition program could be relegated to its place within the whole. The student was able to interview the director of each major health program in the state, to attend conferences and programs of diverse health related groups, and to meet informally with many persons from other health disciplines. These contacts helped to orient her to the needs and hopes of other health workers. In becoming acquainted with the aspirations of some of the health workers of Delaware, the student was made aware of the need to understand the whole health program so that all effort may be channeled toward the goals of the group.

During the last week of the students field training, a crash measles-vaccination program included personnel from practically

every division working together to immunize every child of proper age against measles. During these weeks the student became aware of her need to know first her place in the whole health program and then her role in the nutrition program.

The third objective was to gain some understanding of the duties and responsibilities of a public health nutritionist through observation and participation. This report is an attestation to the opportunities the student had to observe the diverse activities of the Nutrition Consultant of Delaware. The student was able to participate in certain activities, and thereby realize the security of close supervision in a new area of work. The student recognized the need for supervision as she ventured into her professional career, and discovered that working with an experienced nutritionist greatly benefited and would continue to benefit her efforts to develop her abilities.

The final objective of the student concerned the continuing effort to develop a heightened awareness of the importance of human relationships, the motivation of human behavior, and methods of working effectively with individuals, families, and groups. Within its small area, Delaware provided a very varied group of people for the student to begin to know and understand, ranging,from the simply living Amish to the sophisticated scientists of DuPont. As the student continued to interview the directors of various programs, she realized that each one at some time during the interview stressed the importance

of this aspect of his work, and several felt that it was the most important. One of the outstanding characteristics of the Delaware Nutrition Consultant is her ability in the promotion of good human relationships, motivation, and effective work with people. The student feels that from her observation and work with the Nutrition Consultant she will be more aware of the opportunities to promote good relationships and more conscious of this important facet of her work.

The student is content that she accomplished her objectives, but expects to continue her professional development. It may be that it is in this seemingly nebulous realm of the behavioral sciences that the efforts of the public health workers ultimately attain failure or success.

> It is when we try to grapple with another man's intimate need that we perceive how incomprehensible, wavering, and misty are the beings that share with us the sight of the stars and the warmth of sun (11).

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APPENDIX

Figure 3. Nutrition Newsletter.

ortable commodes
impropriety
factors

ttern in which suppression of defecation is simpler
nt. The next step for the person who habitually
ecation reflex is the use of laxatives. When the

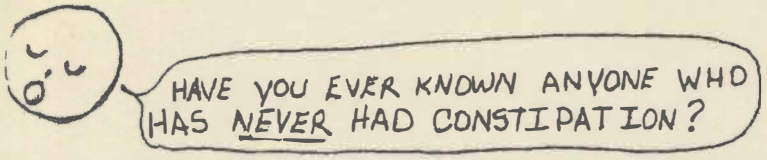
HONEY ARE LAXATIVE?

NUTRITION NEWS

Nutrition Services
State Board of Health
Dover, Delaware

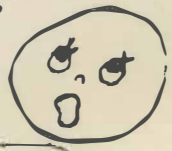
NUTRITION NEWS

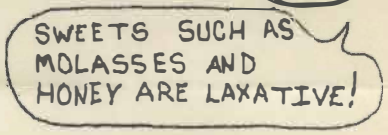
Nutrition Services
State Board of Health
Dover, Delaware
April, 1966



CONSTIPATION

This common intestinal disorder has probably become one of the most prevalent difficulties of modern times. The cause and treatment of the problem should be determined by the doctor, but some suggestions about health habits and food intake may be helpful in overcoming the most common cause of constipation. Outside of degenerative disease of the central nervous system, severe psychosis, the use of ganglionic blocking drugs and morphine addiction, the most common cause of constipation is voluntary suppression of the defecation reflex. Unfortunately this inhibitory activity is essential in the daily routine of civilized society, and disordered bowel habits are quite common in civilized life.





TOILET TRAINING IN INFANCY LEADS TO A POWERFUL DEVELOPMENT OF THESE INHIBITORY ACTIONS, AND REPEATED EXPERIENCES IN SUPPRESSING DEFECATION BECAUSE OF:

- **unaccustomed surroundings**
- **uncomfortable commodes**
- **social impropriety**
- **other factors**

lead to a habit pattern in which suppression of defecation is simpler than its achievement. The next step for the person who habitually suppresses the defecation reflex is the use of laxatives. When the use of laxatives becomes a habit, the laxative may rob the colon of its natural strength and tone. If daily use of a laxative continues for a long time, irreversible loss of tonicity may occur.

CONSTIPATION SHOULD BE A RARE SYMPTOM because the bowel regulates itself if given a chance through:

-- **proper diet**

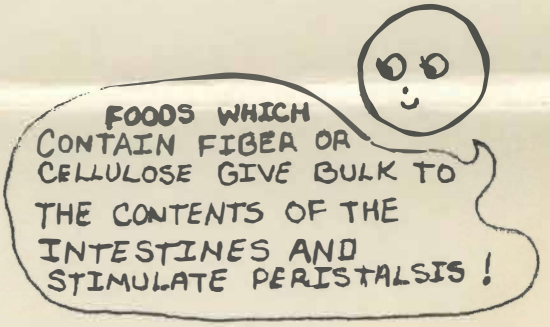
-- **exercise**

-- **sufficient fluids**

-- **good habits of elimination**

Eat a good breakfast! Include a tart, fresh or stewed fruit, whole grain cereal or bread and a hot beverage. Eat lunch and supper at a regular time and include two or three servings of laxative foods such as:

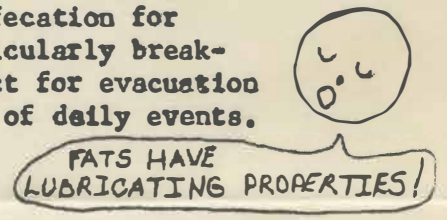
-- fresh fruits with skins
-- berries, currants, raisins
-- leafy vegetables
-- dried beans, all varieties
-- potatoes with skins
-- celery, squash, beets
-- raw cabbage, carrots
-- oatmeal, whole wheat, wheatena
-- bran cereals
-- whole grain bread
-- prunes, figs
-- escarole, endive, lettuce



Take one to two glasses of water, hot or cold, as soon as possible after arising, before lunch and supper, and before retiring.

Little or no exercise is a contributing factor to constipation. Brisk walking with deep breathing is effective. Activities involving bending and stretching of abdominal muscles also help.

Establish a regular habit of elimination: the principal bulwark of therapy for rectal constipation is education. Attention to regular habits of a time for defecation is most important. Defecation for most persons is best accomplished following meals particularly breakfast, but for most people it is more important to select for evacuation whatever time is as free as possible from the pressures of daily events.



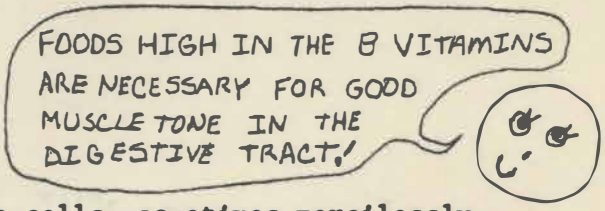
ELDERLY PATIENTS:

Habit patterns of many years standing, may have to be altered, one may need to force the patient to get up earlier in the morning to:

--take some form of physical exercise - for older patients, walking;
--abandon the usual laxatives and cathartics; a bowel movement every third day is normal for some people;
--pay more attention to the defecatory urges (without becoming excessively bowel conscious);
--space out the work day, in such a way as to honor these urges when they arise.

Elderly patients may be feebly motivated to make such sweeping changes without repeated encouragement.

CONSTIPATION IS OFTEN A MANIFESTATION OF INADEQUATE NUTRITION OF THE INTESTINAL TISSUES. In the intestinal tract there are many involuntary "smooth" muscles which, when stimulated, cause stomach and intestinal movements. These wavelike motions keep the partially digested food moving along until the residue reaches the large bowel and is eventually eliminated. All the smooth muscles are made up of living cells which must be nourished at a high level of efficiency if the whole process is to proceed with facility and ease.



Laxatives may stimulate and drive the muscle cells, sometimes mercilessly, whereas usually all the muscle cells need in order to function well is some bulk to work on and good sound nutrition continuously furnished. If all the nerve and muscle cells associated with the intestinal tract are well nourished and healthy, the movement of the materials within the tract is held at a desirable level--the intestinal contents are neither stagnated nor are they moved so rapidly as to impair absorption.

One nutritional factor particularly associated with this process is one of the B-complex vitamins, pantothenic acid. Often, after the stress of an operation, patients are in great pain and difficulty because the intestinal muscles become in effect paralyzed; movements virtually cease, gas accumulates and severe abdominal pain results. It has been found that the administration of suitable doses of pantothenate in this condition often causes intestinal movements to start, the gas is expelled and the normal functioning of the intestine is restored. It is considered to act nutritionally to bring back health to the stressed and deficient intestinal tissues.

Guttorm Toverud made a 5 to 6 year study in Oslo, Norway, and in attempting to improve the nutrition of prospective mothers found that even a modest improvement of human diets greatly benefit in such common ailments during pregnancy as anemia, cramps in legs, numbness of fingers and toes, neuralgic pains, edema, raised blood pressure and constipation.

BABIES:

The breast fed baby is seldom constipated. He may have a movement only once a week but it will be normal in character. A daily movement in the bottle fed baby is not necessary either. Since the stools of such babies are more likely to become dried out and cause difficulty in passage, a change in formula or the introductions of some fruits into the diet may be called for. Evacuation every two or three days may be the normal routine for a baby eating only liquids since there might not be enough stool to afford the stimulation necessary to produce an evacuation. Constipation in older babies may be the result of indiscriminate use of laxatives, suppositories, or enemas in early infancy where there is little justification and practically no need for forcing.

REMEMBER THESE:

-- proper diet

-- exercise

-- sufficient fluids

-- good habits of elimination

Reference used: "Today's Health Guide" by A.M.A. - 1965
"Nutrition in a Nutshell" by Roger J. Williams - 1962

This newsletter was compiled by Miss Joan Parker, graduate student from the University of Tennessee, who is in Delaware for field experience in Public Health Nutrition.

Figure 4. Booklet on Feeding Cleft Palate Children.

FEEDING CLEFT PALATE CHILDREN

Division of Crippled Children
and Nutrition Services
State Board of Health
Dover, Delaware

FEEDING CLEFT PALATE CHILDREN

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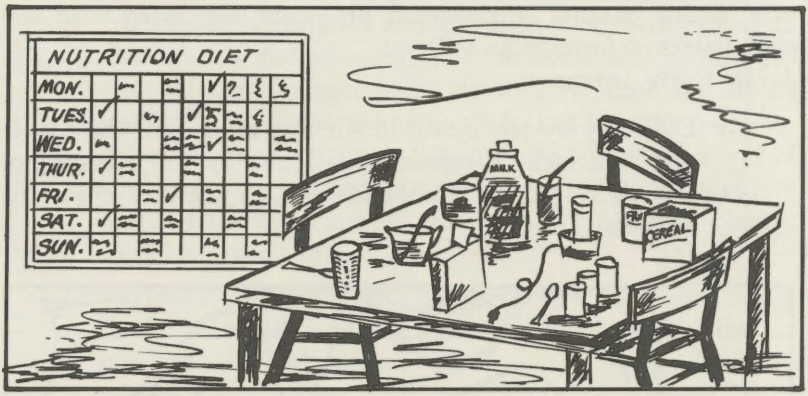


An adequate diet is important for the growth and development of all children, cleft palate children as well as others. Nutrition requires more careful consideration in the cleft palate child because of feeding problems that may be caused by the presence of the cleft.

Importance of a Good Diet

Speaking in general terms, a good diet helps to do the following for the cleft palate child:

1. Build up the strength and resistance which will better enable the child to meet the stress of the surgery he may require.
2. Promote healing after surgery.
3. Strengthen general muscle tone.
4. Promote the development of healthy teeth and gums.

Feeding Experience

The parents of more than fifty cleft palate children in Delaware were interviewed to ascertain what, if any, feeding problems they had encountered. You will be interested to learn of their experiences and receive comments on how to meet or avoid various situations, as well as comments of professional personnel participating in cleft palate clinics.

It is reassuring to note that most children with a cleft palate deformity have little difficulty in feeding. Feeding problems,

when they appeared, were often no different from those minor problems that parents of any child are apt to encounter. However, a few parents encountered problems associated with the cleft palate deformity as follows:

A. In Early Infancy:

1. Difficulty by the infant in sucking milk from the nipple due to a lack of suction occasioned by the presence of the cleft. (Most infants learned to kind of chew the milk out.)

2. Excessive air intake due to the effort and time it took to get the milk from the bottle. This resulted in distention and discomfort. (Frequent burps by sitting infant upright at a 45° angle, to allow air to be expelled. The old method of putting him over the shoulder and patting his back may produce excessive belching and vomiting.)

3. An unnecessary fear on the part of the parent that the baby would choke. (There is no need for alarm. When choking occurs, it may be due to over-feeding in quantity, to rapidity of feeding, or may be caused by milk striking the back of the throat directly. The nipple opening should not be so large that when the bottle is upturned, milk continues to run out rapidly.) Many parents felt they transferred their fear to the infant and thought that other parents should be warned against this.

B. When Solids Were Added:

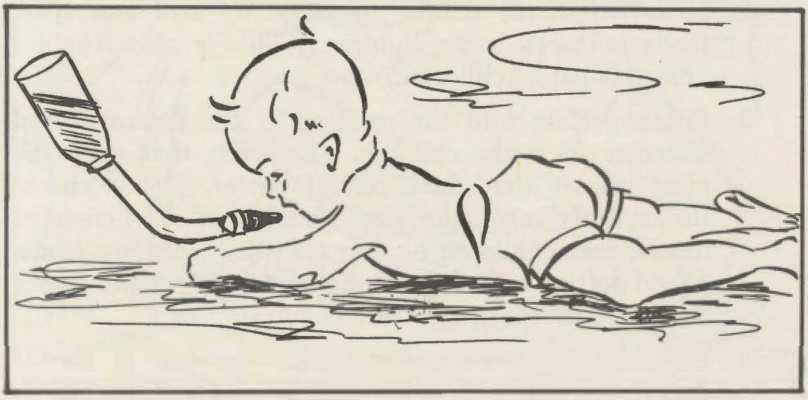
1. Choking sometimes occurred and the children became frightened. (Strained and chopped foods are added to the infant's diet at essentially the same time as for non-cleft infants. Strained foods should be diluted and added gradually; it is not recommended that they be fed from a bottle. Chopped foods, when given toward the end of the first year, should first be mashed. The cleft palate infant like other infants may take a dislike to certain foods or even certain brands.)
2. Irritation of the mouth and nose by acid and spicy foods bothered some children. (This is also true for non-cleft palate children.)
3. Foods getting into the opening in the palate caused difficulty for some children. The foods that gave the most trouble were nuts, peanut butter, cooked cheese dishes, leafy vegetables, peelings on fruits, and creamed dishes. Some children had no difficulty with any foods. (Food getting into the opening does no harm and comes out easily except in very rare circumstances.)
4. Difficulty in chewing most often was due to dental decay (caries) and faulty arrangement of the teeth (malocclusion).
5. Eating in some cases, was such a long, drawn-out process that both parent and child became tired before the feeding was completed. (Patience is necessary.)

Feeding Methods That Worked

1. A large, soft nipple with an enlarged opening was of great help. New nipples were boiled to soften them. The hole in the nipple was generally enlarged. (This can be done by turning the nipple inside out, making an (x) cut with a razor, and then reverting the nipple to its normal position. Another method is enlarging the hole with a heated needle or ice pick. Parents found these methods worked better with old used nipples that had become soft.)
2. Brecht feeders, Asepto syringe or medicine droppers were used by some in the early stages. (The mothers stress that

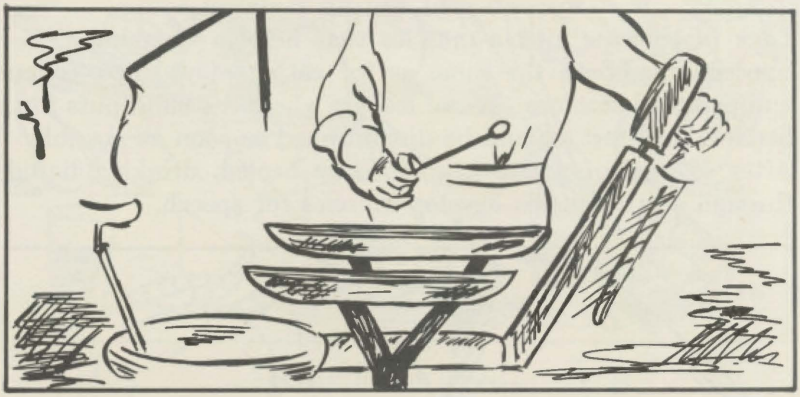
the milk should hit the inside of the cheek, and not the back of the throat. When using these methods, be careful about getting too much milk in the baby's mouth.)

A new type of feeding device, a soft nipple, similar in shape to a lamb's nipple, on a curved J-shaped tube, has been developed at the Institutes of Health at Bethesda, Maryland. The advantage of this feeder is that the infant can be fed while lying prone, with the head raised, until such time as it is able to handle its own secretions better, and can be placed in another position.



3. The position in which the infant was held was important. (The best position for most of the infants was having the body upright and tilted slightly backwards. The parents will have to try various degrees of tilting to find the position which best suits their infant.)
4. Pureed (strained) foods were sometimes given from a bottle with a large hole in the nipple. Some used a plastic bottle which could be squeezed to force the food through the nipple. The foods were thinned with milk, fruit juice or broth. Spoon feeding, with thinning, worked better for some. With some it worked well, when spoon feeding, to have the food soft enough so as the spoon went into the mouth it could be turned over and the food would slide off easily. (Feeding strained foods from the bottle may create a later problem in cleaning the bottle. It is probably better to exercise more patience in spoon feeding and try to avoid feeding strained foods from the bottle).

5. Pureed foods, as such, were not readily handled in some cases. The mothers found that thickening the foods helped. They used vanilla wafer or graham cracker crumbs to do this.
6. In general, the older infant or child should be fed the same as the non-cleft palate child. (However, in some instances, five or six small meals a day rather than three average-sized ones seem advisable so that neither child nor parent become tired by the feeding process.)
7. The importance of teaching the child to eat slowly and to take small bites was stressed by some parents. (This helps to prevent choking; and less food comes out the nose.)
8. Parents also stressed that the child be treated as a normal individual so he will not feel that he is different from the rest of the family. They particularly emphasized that this child not be overly pampered.



Benefits of Cleft Palate Surgery or Dental Appliance

The time of surgery or the placement of a dental appliance will vary and is an individual decision for each cleft palate child. Cleft lips are repaired early, generally, within the first month of life. Surgery on the cleft palate, if performed, is generally done between the age of nine months and four years. Occasionally, a child is treated by the use of a special dental appliance instead of surgery.

1. Children ate better and seemed to enjoy their food more, almost all parents stated.
2. The problem of choking was lessened.
3. Food coming out the nose caused very little difficulty after surgery.
4. The parents stated fewer respiratory infections occurred after surgery.
5. Eating ceased to be such a long-drawn-out process.

Food After Cleft Palate Surgery

Immediately following surgery, the child will probably be on a soft diet. As soon as healing has taken place, the regular diet should be given.

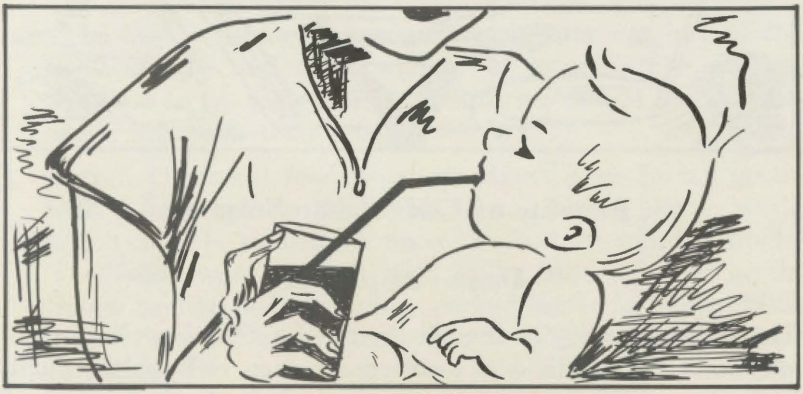
The child should be encouraged to follow a normal pattern of eating. He will also need encouragement to take the foods which caused difficulty before surgery.

Speech and Eating Related

Lack of chewing affects muscles that help in speaking.

Speech organs are the same as for eating—jaws, lips, tongue and palate. Therefore, special feeders where the child puts forth little or no effort, should be discontinued as soon as possible.

After surgery of palate is completely healed, drinking liquids through a straw helps develop muscles for speech.



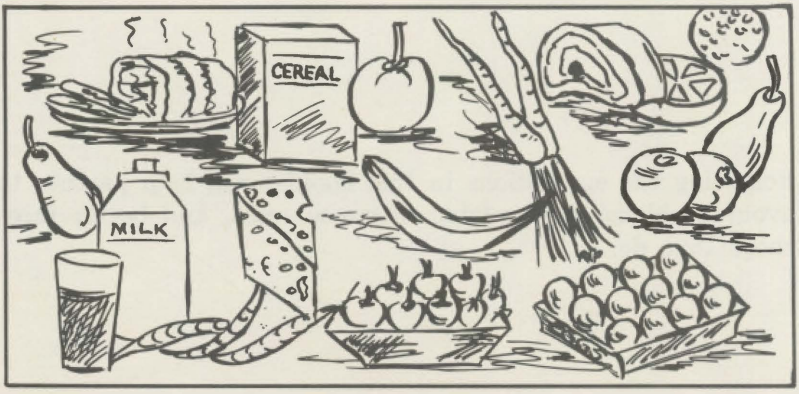
Food and Its Relation to the Teeth

An excess of foods containing starch and sugar, such as candy, soft drinks, pastries, cookies, sugar coated cereals, etc., is known to cause tooth decay. These foods lodge between the teeth or

cling to the tooth surfaces where they are rapidly turned into acid by certain bacteria present in the mouth. This acid, which can dissolve tooth structure, is largely resoponsible for tooth decay.

The limiting of sweets and sticky foods and good oral hygiene help to prevent dental decay. These are more important in the cleft palate child because his teeth are even more cavity prone than are the teeth of other children.

Proper brushing and periodic dental examination of the teeth are important for every child; but this becomes doubly important for the cleft palate child, particularly when he is undergoing orthodontic treatment (Dental treatment to improve the position of the teeth). Braces need special care and cleaning; otherwise caries will develop from food sticking around the bands.



Daily Food Needs

All children need the same kinds of foods. The amount eaten will depend on the age, sex, size and activity.

The *daily* meals should be planned to include the following foods: (In instances where the child may have difficulty with a particular food, its use should be avoided, and a similar food used in its place.)

Milk — 3 to 4 cups (cheese could be part of this; also, in forms other than as a beverage — example — custards, soups or cereals).

Fruits and vegetables — 5 servings (one fruit should be orange, grapefruit, tomato or their juices; one green or yellow vege-

table; one potato; two servings of other fruits or vegetables).

Meat, Fish, Poultry — One serving each day, including liver or other organ meats once a week. Dried beans or peas may be occasional alternates.

Breads and Cereals — Some at each meal (amounts depend on individual need.)

Eggs — 4 or 5 a week (one a day if it is possible)

Butter or margarine — moderate amounts.

Diets Were Low in Some Foods

Milk, citrus or other vitamin C-rich foods (oranges, grapefruit, tomato, raw cabbage, etc.) and green and yellow vegetables were not being eaten in large enough amount by many of the children. Therefore, more careful meal planning, with emphasis on these foods is important.

Following the suggestions in this booklet will help parents to avoid problems that might otherwise arise, and better meet those that do.

5M 6/65 Revised 1965.

Figure 5. Booklet on Child Feeding.

YOUR CHILD WON'T EAT?

Well...

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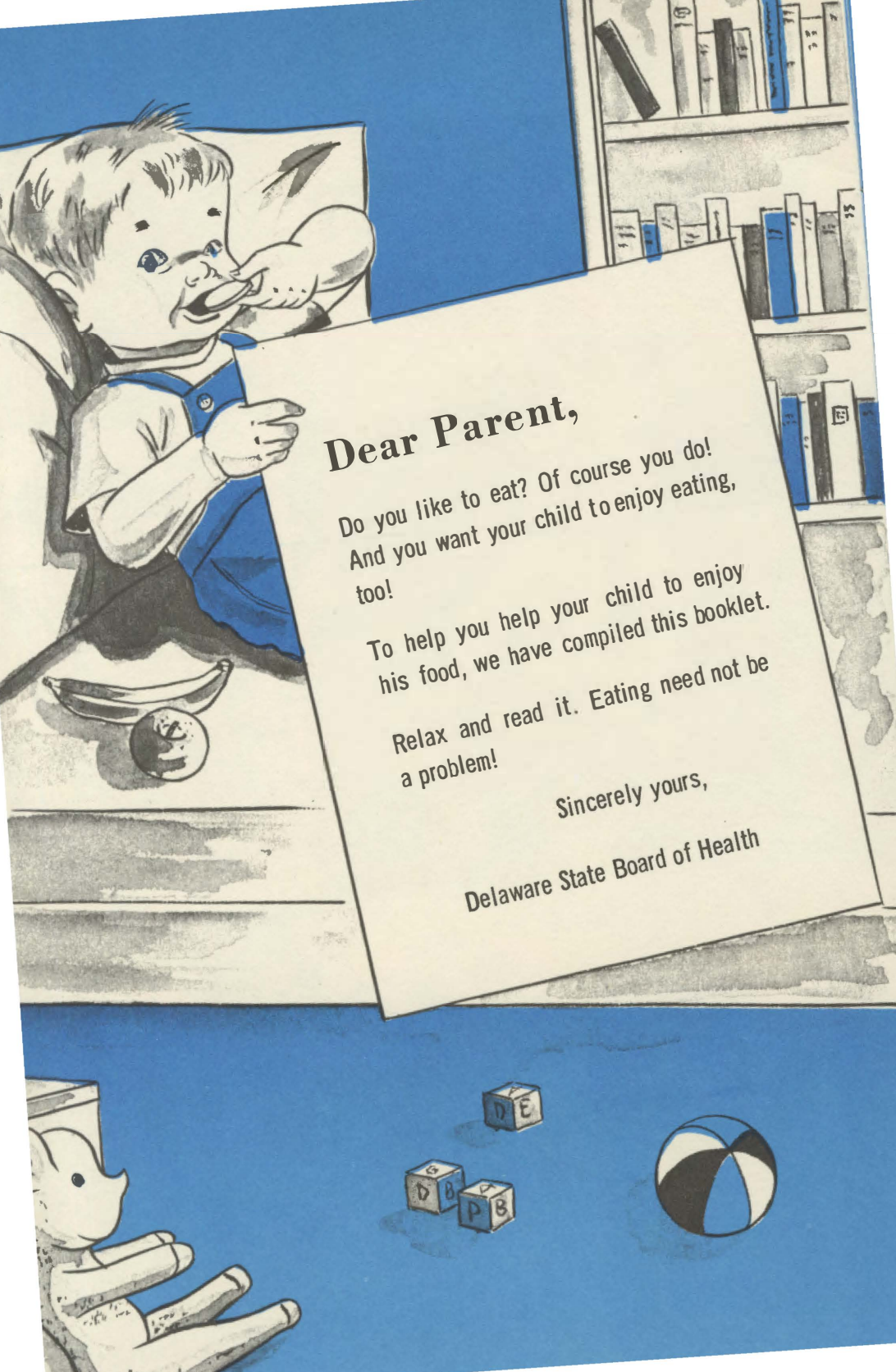
YOUR CHILD WON'T EAT?

Well...?



Dear Parent,

Do you like to eat? Of course you do! And you want your child to enjoy eating, too!

To help you help your child to enjoy his food, we have compiled this booklet.

Relax and read it. Eating need not be a problem!

Sincerely yours,

Delaware State Board of Health

YOUR CHILD WON'T EAT?

Well...

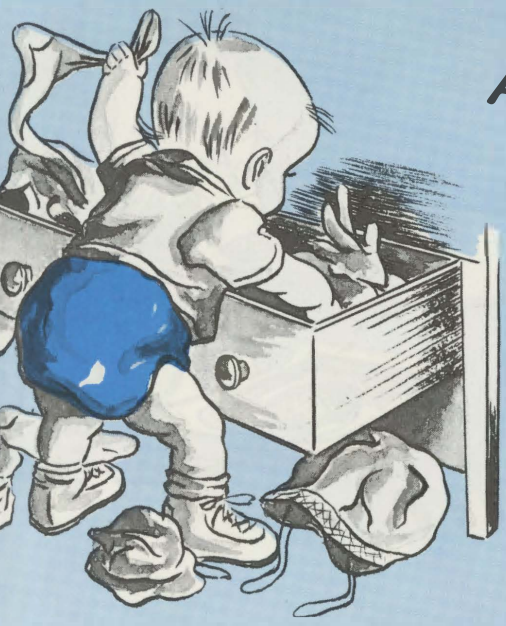
The establishment of good eating habits begins with infancy and continues throughout life.

Usually a healthy child wants food. It is something he should enjoy. The parents' role is not to make the child eat, but to let him eat.

When Growth Slows Down– DON'T WORRY !

Infants grow very rapidly the first year. Since food is necessary for growth - the more rapid the growth, the more food is needed. The average infant will more than double his birth weight during his first year.

In the second and third years the speed of growth slows down, thus the need for food is not as great. Quality of food is very important, since the appetite usually decreases during this period.



ACTIVITY NEEDS VS GROWTH NEEDS NO PROBLEM!

From 1½ to 6 years of age it is normal for a child to want less food.

This may be misunderstood because he probably is more active than he was as a baby, thus parents feel that he needs more food. When growth slows down, the child's appetite probably will slow down too.

Mechanics Of Eating–BE PATIENT!

The development of the child's mechanical ability is infinitely more important than manners during his early years. Parents should not be too concerned about the lack of social graces of a child as he is learning to feed himself.

Do You Think Your Child Is TOO ACTIVE?

The normal activity of the one year old may make it difficult for him to sit long enough to eat his meals. There is no cause for alarm when he interrupts his eating - he will make up for it at his next meal if he is hungry. Let him be the judge.

TOO MESSY?

At age 15 to 18 months he will probably want to feed himself but may not have mastered this ability. Of course, during his learning period his oatmeal and applesauce will be all over his face, in his hair, and on the floor. This is not a happy state of affairs for the mother, but certainly it is part of his trial and error in learning to hit the target. During this period his fingers are more effective than any utensils. He will probably accept being fed foods that need to be taken by spoon if he can have a cup or spoon of his own to handle.

DIFFERENT?

Each child is an individual who develops according to his own pattern. Children vary one from another in acquiring skills and habits. Comparisons often are not valid.

TOO FUSSY?

At about 21 months he starts to be discriminating in his eating. He may accept only one brand of baby food, or he may become partial to a favorite bib, a certain spoon or dish. If the parent does not recognize these desires, the child may cry and refuse to eat. Be alert and cooperate.

UNINTERESTED?

At this age he has an accute awareness of his surroundings. He may be so distracted by all that is going on around him that he will need to eat by himself. On the other hand, a child may eat better with company. Mixing all foods together is a characteristic trick of this age child; however, he may not like the new concoction. Serving only one food at a time will help solve this problem.

A ONE–FOOD EATER?

During the 2 to 3 year period the child may have a finicky appetite. He may want foods served separately without one food touching another on his plate. He may go on food jags - wanting the same thing day after day. This age shows definite food preferences. Foods such as carrots and beets may be the preferred vegetables for both color and sweetness. Meat usually becomes a real favorite, because he is learning to chew better. Go along with these fads without comment. They will pass in time.

TOO INDEPENDENT?

His appetite probably will range from very poor to very good. Pouring his milk, himself, from a little pitcher into a small cup may motivate him to drink his milk more readily than if it is poured for him. At 3 years he feeds himself more efficiently, but parents often overrate his ability and expect too much of him.

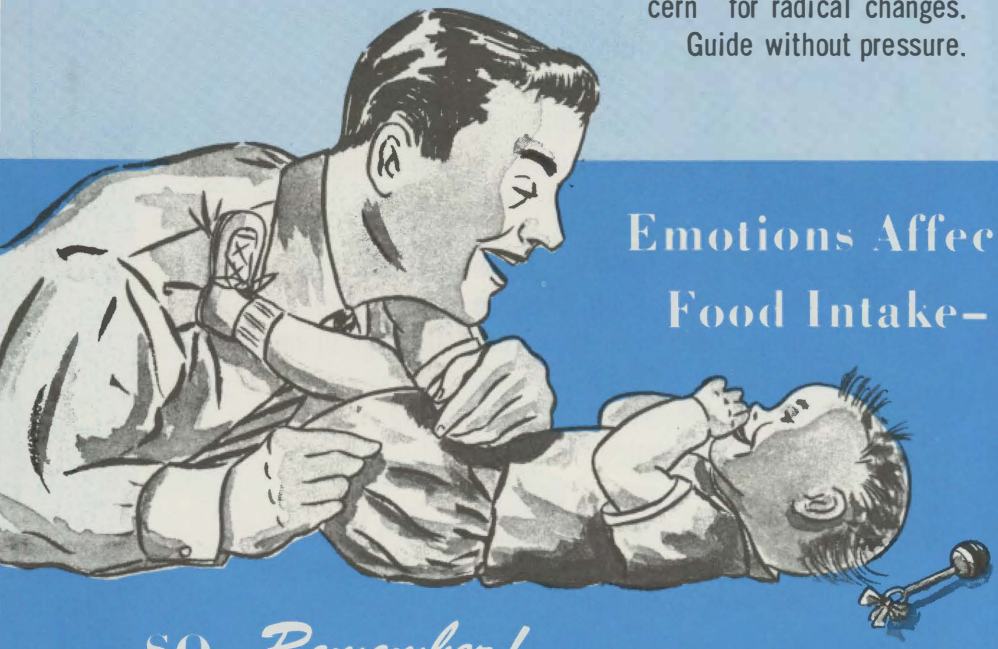
TOO DISTRACTED?

Food to the 4 year old may not be too important. Again his increased awareness of things outside himself tends to attract his attention. He needs a reason to eat. He might want to eat to get big, to race with another child or to finish within a certain time allotment. What four does, he does with speed, even to the drinking of his milk.

This is another phase. Patience works wonders!

TOO INFLUENCED?

At 5 and 6 a child's choice of food is wider. He can eat more acceptably with the family. His food choices are influenced by radio, television, neighbors and very, definitely, by other members of his own family. The appetite usually increases at this age because another growth spurt is beginning. When the child enters school, still more influence affect his eating habits. Adopt a casual friendly manner without apparent concern for radical changes. Guide without pressure.



Emotions Affect Food Intake–

SO *Remember!*

Although food is very imoprtant for nourishment, it is also important in the emotional life of an individual.

Feelings influence appetite. Poor appetite may occur because:

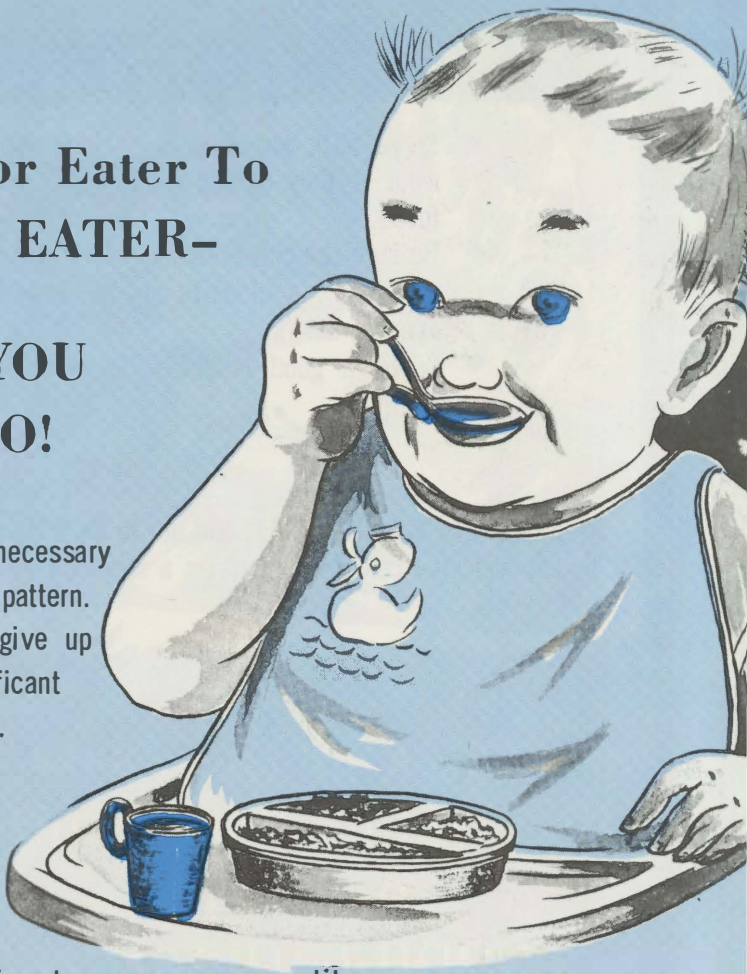
- The child associates mealtime as a period when his misdeeds are discussed.
- Quarrelling at mealtime between members of the family upsets him.
- Refusing food gets him more attention. This could indicate that he needs more love and affection.

- Scolding and nagging arouse a dislike for food.
- Parents discuss their dissatisfaction with his poor eating habits.
- Food is forced on him when he is not hungry, or when he is ill or convalescing.
- Emphasis on good table manners too soon may lead him to associate eating with unpleasantness.
- Exciting events before the meal may divert his interest in food. It might be well to give him time to calm down before expecting him to eat.
- Unfavorable comments concerning food influence his choice.
- Fatigue or sleepiness may cause a child to lose interest in food. (Missing an occasional meal will do no harm.)
- Large portions of food sometimes discourage eating.
- His appetite may vary from one meal to another and from day to day.
- Unfavorable comparison with other children makes him feel inferior.
- Parents disagree on the details of his eating. Nothing upsets a child so much as inconsistency.
- Irregular bowel movements slow down appetite.

From A Poor Eater To A GOOD EATER–

WHAT YOU CAN DO!

Time and patience are necessary to change a child's eating pattern. The parents should not give up if they cannot see significant improvement in a few days.



Some suggestions to overcome poor appetite ---

- Experiment with very small servings of all foods (½ to 1 teaspoon).
- If he has been eating alone, try letting him eat with the family; on the other hand, if the family has been too diverting, let him eat alone.
- Try to maintain a calm, unworried attitude toward the child's eating.
- Let him have some choice in selection of food if possible, and have patience to let him feed himself to the limit of his ability.
- Avoid serving him rich foods and sweets.
- Between meal snacks may need to be eliminated.
- Serve foods the child can handle and chew easily.

- Serve milk and liquids at the end of the meal if they reduce the appetite for other foods.
- Be sure the child is comfortable in his chair and that his utensils are suitable for his age and skills.
- Serve a good breakfast to start the day right.

REMEMBER - "Habit is habit and not to be flung out the window by any man, but coaxed downstairs a step at a time" -
Mark Twain

The Kind Of Food And Its Preparation Make A Difference–

DOES IT LOOK "GOOD ENOUGH TO EAT"?

Prepare food for eye and taste appeal. Unpalatable foods will not be eaten.

Mixtures, such as casserole dishes, are usually unpopular.

Avoid highly seasoned foods.

Gravies and sauces are often rejected.

Temperature of food is important - not too hot or too cold.

Use only one strong-flavored food in a meal, such as cabbage, onion or kale.

At every meal serve one soft food, one chewy food and one crisp food.

FOOD GUIDE

Follow this for healthy, happy eating

The child should be encouraged to like a wide variety of foods. The following is a suggested guide:

MILK	3 to 4 cups daily. Some will be used in cooking and on cereal. In addition to fresh and evaporated milk, dry skim milk may be used in cooking.
EGGS	- at least 4 or 5 a week - 1 a day preferred.
MEAT, fish or poultry	- one serving a day if possible, or 4 or 5 servings a week. Include liver, kidney or heart once a week. Use another egg, cheese or baked beans on days meat is not served.
POTATO	1 or more daily. Bake or boil in skin to preserve food values.
OTHER VEG.	2 or more daily. A leafy green or yellow vegetable 3 or 4 times a week.
ORANGE, grapefruit or tomato	- one serving daily. Canned, frozen or fresh may be used, and offer variety.
BREAD and cereal	3 or 4 servings daily.
MARGA-RINE or butter	- small amount daily on bread and vegetables.

And again we remind you - for a balanced and productive day - Breakfast is a **MUST**.

"Have we helped you?"

We hope so!

Happy Mealtime to you and your family!

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