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Field Observations and Experiences in the Division of Nutrition, St. Louis County Health Department

Ann Jensen Rhode

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To the Graduate Council:

I am submitting herewith a thesis written by Ann Jensen Rhode entitled "Field Observations and Experiences in the Division of Nutrition, St. Louis County Health Department." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nutrition.

Mary Nelle Traylor, Major Professor

We have read this thesis and recommend its acceptance:

John T. Smith, Cyrus Mayshark

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

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

July 18, 1968

To the Graduate Council:

I am submitting herewith a thesis written by Ann Jensen Rhode entitled "Field Observations and Experiences in the Division of Nutrition, St. Louis County Health Department." 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 Nellie Traylor
Major Professor

We have read this thesis and
recommend its acceptance:

John T. Smith
Cyrus Mayhew

Accepted for the Council:

Vice Chancellor for
Graduate Studies and Research

FIELD OBSERVATIONS AND EXPERIENCES IN THE
DIVISION OF NUTRITION, ST. LOUIS
COUNTY HEALTH DEPARTMENT

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

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

by
Ann Jensen Rhode
August 1968

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A. J. R.

ABSTRACT

This thesis describes and analyzes the student's eight weeks of field training in the Division of Nutrition of the St. Louis County Health Department. It has an established nutrition unit that provided the student with appropriate background experience for her future role as a public health nutritionist.

The field experience gives the student in public health nutrition an opportunity to work with allied health personnel under supervision and to apply the theories and principles of public health learned during the academic year to the practice of public health nutrition in the community. The experience was designed to strengthen the student's philosophy and practical understanding of public health by introducing her to the practice of public health in the official health agency and the community, to the role of nutrition in the health agency, and to the practice of public health nutrition. Experience in working with other professional personnel within the agency as well as other agencies was also offered. The student was given the opportunity to develop both her professional and personal abilities in carrying out applied nutrition programs in the health agency and community.

The experience provided the student with an overview of the total county health program, the role of nutrition in the program, and an opportunity to observe and participate in activities with nutrition

staff members and allied personnel. With this practice and the knowledge acquired in the academic program, the student feels that she progressed toward developing the professional attitudes and skills so necessary for the successful practice of public health nutrition.

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CHAPTER I

INTRODUCTION

Public demand for a healthful environment and for health care commensurate with the progress of science will require qualified health manpower. Only if students are educated with appreciation for the problem of providing preventive, curative, and rehabilitative services in a community setting can they be equipped to provide comprehensive health care in its full scope.

Through such a program of training it is hoped that the practice of public health will approach the ideal expressed in the definition of public health:

. . . an organized community effort . . . to obtain the best possible state of physical and mental health for all citizens of the community, for preventing illnesses whenever such prevention is possible, and for restoring to health those who are sick, and rehabilitating to maximum usefulness those who are disabled (1).

This aim is partly achieved by the opportunity for intimate contact with community health programs and personnel and active involvement in the ongoing program of community services.

The field experience gives the student in public health nutrition an opportunity to work with allied health personnel under supervision and to apply the theories and principles learned during the academic year to the practice of public health nutrition in the community.

Public health nutrition is concerned with the functioning of the science of nutrition in the lives of people. The purpose of the field work is to foster an active approach to the programs and services of public health while learning the interdependent role of nutrition. It emphasizes the interdependence of all aspects of nutrition in public health by illustrating the relationship of the geographic, economic, political, and social environment to the health of the individual and community.

The objectives of the eight weeks supervised field experience were:

1. To study the ecology of the community as it relates to the health and nutritional needs and to observe the role of the nutritionist in meeting these needs.

2. To observe the structure and functions of the St. Louis County Health Department and to learn the various roles of a multidisciplinary health team.

3. To observe the nutrition service within a health agency and to learn its organization and functions.

4. To observe the interrelationship between the official health agency and other community agencies and the coordination of nutrition services between these agencies.

5. To develop ability to carry responsibilities and to function as a nutritionist through participating in nutrition activities and services.

The report of the field experience is divided into four chapters. Chapter II is an analysis of the factors which determine the programs and policies of the St. Louis County Health Department. Chapter III is an evaluation of the performance of the student in relation to needed abilities in public health nutrition. Chapter IV is a summary and evaluation of the student's learning experience in relation to her academic background, past experiences, and the objectives for the field training.

CHAPTER II

FACTORS WHICH DETERMINE THE POLICIES AND PROGRAMS OF THE ST. LOUIS COUNTY HEALTH DEPARTMENT

A necessary basis for evaluation of the health needs of a community is an understanding and appreciation of its past, present, and possible future way of life. As the people and conditions change so do their health needs. St. Louis County copes with its changing health problems by progressive educational efforts and expanded or modified programs. Part I of this chapter examines the nature of the people, part II looks at the nature of public health, and part III emphasizes the nutrition component of the health problems and programs.

I. THE NATURE OF THE POPULATION

Vital and Biostatistics

St. Louis County, surrounding the City of St. Louis on the north, south, and west, has become the suburban outgrowth for the city. The population statistics reflect this growth. According to the United States Bureau of the Census, the total population of St. Louis County on April 1, 1960, was 703,532. On March 17, 1966, the St. Louis Chapter of the American Statistical Association estimated the total population of the county to be 875,000, an increase of 24.4 percent (2). A factor contributing to the tremendous growth is the migration of families into the county from the City of St. Louis and the surrounding countryside.

The age distribution in the county in comparison with Missouri as a whole has implications for county health programs. Table 1 compares St. Louis County and the State of Missouri populations by age group percentage distributions for 1966. Since a larger percentage of the county population is under 18 years of age, health programs must consider the preschool child, school age child, and teenager to a greater degree. While only 7 percent of the population is over 65, the necessity for the geriatric, nursing home, and Health Insurance for the Aged (Medicare) programs should not be underestimated.

Over the 17 year period from 1950-1966, the total number of births increased 55.9 percent. The birth rate increased only during the first part of the period and since 1957 has steadily decreased from 27.1 to the present rate of 17.0 per 1,000 population.

For the same period the number of deaths increased 90.5 percent. Because the total population increased, the death rate leveled at approximately 7.0.

Typical of all suburbia in the 1960's, the majority of county residents are middle class or above. The overall statistics reflect the favorable socio-economic level. Table 2 shows that the birth, infant mortality, stillbirth, and death rates are lower than those for the City of St. Louis, Missouri, and the United States. However, these figures mask the real problems that do exist among the small minority of indigent county residents.

TABLE 1
ST. LOUIS COUNTY AND MISSOURI POPULATIONS BY AGE GROUP, 1966
PERCENTAGE DISTRIBUTIONS (2,3)

Age Group	St. Louis County	Missouri
Under 1	2.4	2.2
1-4	10.0	8.6
5-17	25.4	23.0
18-44	35.2	32.9
45-64	20.0	21.9
65 and over	7.0	11.4
Total	100.0	100.0

TABLE 2
 BIRTH, INFANT MORTALITY, STILLBIRTH, AND DEATH RATES FOR
 ST. LOUIS COUNTY, THE CITY OF ST. LOUIS, MISSOURI,
 AND THE UNITED STATES, 1966 (2)

Rates	Rates Per 1,000 Population			
	St. Louis County	St. Louis City	Missouri	The United States
Birth	17.0	19.2	17.3	18.5 ^a
Infant Mortality	16.2	32.9	23.4	23.4 ^a
Stillbirth	11.1	18.9	13.3	16.2 ^b
Death	7.1	14.5	11.5	9.5 ^a

^aProjected figures.

^bFetal deaths for 1965.

The statistics for this poverty group are lost in the figures for the whole county and cannot be isolated. A clearer picture of the deprived group is found in the figures for the St. Louis County Hospital where free medical care is available for indigent county residents (4). The most striking difference is in the illegitimate birth rate in 1963 of 28.5 for the county as a whole as against 310.2 for the county hospital. Other illustrations for the deprived group are given in Table 3.

The leading causes of infant deaths in 1966 were asphyxia and atelectasis, congenital malformations, infections, and injury at birth. The two maternal deaths were due to complications of pregnancy and the puerperium.

The death rates from selected causes in 1966 are generally similar to those for 1965. A notable exception is the death rate for diseases of the heart which increased from 256.2 to 262.4 per 100,000 population. The first four causes of death are in the same order in 1966 as they were in 1965 and are similar to those for Missouri. The four leading causes of death are diseases of the heart, malignant neoplasms, vascular lesions of the central nervous system, and accidents. Table 4 is a comparison of the 10 leading causes of death in the county and Missouri.

Deaths from chronic diseases are rising. This is reflected in the chronic disease death rates for the age group 45-65 which showed an increase in the rate due to heart disease from 303.7 per 100,000

TABLE 3

A COMPARISON OF SELECTED BIRTH AND DEATH STATISTICS FROM
ST. LOUIS COUNTY HOSPITAL AND THE COUNTY
AT LARGE, 1963 (4)

Selected Rates	Rates Per 1,000 Live Births	
	St. Louis County Hospital	St. Louis County
Stillbirth	19.2	13.2
Perinatal Death	40.3	25.7
Neonatal Death	21.9	12.9
Infant Mortality	27.4	16.5
Illegitimate Birth	310.2	28.5
Maternal Death	--	.6
Premature Birth	109.4	58.7

TABLE 4
 THE LEADING CAUSES OF DEATHS FOR ST. LOUIS COUNTY
 AND MISSOURI, 1966 (2,3)

Cause of Death	Rates Per 100,000 Population	
	St. Louis County	Missouri
1. Diseases of Heart	262.4	446.9
2. Malignant Neoplasms	135.9	179.4
3. Vascular Lesions of CNS	74.1	142.0
4. Accidents	38.1	68.8
5. Pneumonia	26.3	41.9
6. Symptoms, Senility and Ill-defined Conditions ^a	21.7	--
6. Diseases of Digestive System ^a	--	41.7
7. Certain Diseases of Early Infancy	17.0	32.3
8. General Arteriosclerosis	14.7	27.8
9. Diabetes Mellitus	11.7	19.1
10. Cirrhosis of Liver ^a	7.2	--
10. Suicides ^a	--	11.2

^aThe categories for deaths differ between St. Louis County and Missouri at numbers 6 and 10.

population in 1965 to 335.7 in 1966. For the age group 65 and over, there was an increase in the overall death rate from 5,882.3 to 6,187.4 per 100,000 population and there were increases in the rates due to heart diseases (2,647.6 to 2,672.7), malignant neoplasms (923.7 to 1,011.9), and vascular lesions of the central nervous system (781.6 to 877.8). The increasing death rates from chronic diseases call for a high priority program including prevention and treatment.

The incidence of communicable diseases is decreasing and no longer presents a major health problem. The two exceptions are tuberculosis and venereal disease. There were 141 new cases of tuberculosis and 136 new cases of venereal disease in 1966. Because the threat from these two diseases remains static or increases, the emphasis in communicable disease control is on their prevention and treatment.

Government and Political Considerations

St. Louis County was organized into a county by proclamation of Governor William Clark on October 1, 1812, nine years before Missouri was admitted into the Union (5). The City of St. Louis was a part of St. Louis County until 1876, when they were separated under provisions of the 1875 state constitution. The separation was accomplished by a local election, when both a plan of separation and home-rule charter for the city were approved. At the time of separation the legal city limits for the City of St. Louis were permanently fixed.

Prior to 1950, St. Louis County was governed like all rural counties of the state (6). In 1950 the county voted to take advantage of the home-rule privileges granted in the 1945 state constitution. The new home-rule charter provided for a seven-member council to exercise legislative power and a popularly elected county supervisor to be the chief executive. Although the supervisor had extensive executive power, his authority was restricted by the direct election of other county officials.

In 1968 a revision of the charter was approved. In the new charter previously elected posts were made appointive except for the supervisor, councilmen, and prosecuting attorney. This charter establishes lines of responsibility for the county government and permits more real control by the voters.

In addition to the government of St. Louis County and the government of St. Louis City, some 150 governmental units exercise political authority in the area. There are 97 municipalities, 26 school districts, and 18 fire protection districts. Numerous efforts have been made to integrate the government of the city and county to reduce the number of local units in the area, but each attempt has been defeated (5). Figure 1 is a map showing the numerous municipalities in the county.

The functional roles of the county government are performed by the Departments of Administration, Revenue, Public Works, Planning, Parks and Recreation, Public Welfare, Police, Civil Defense, Hospitals,

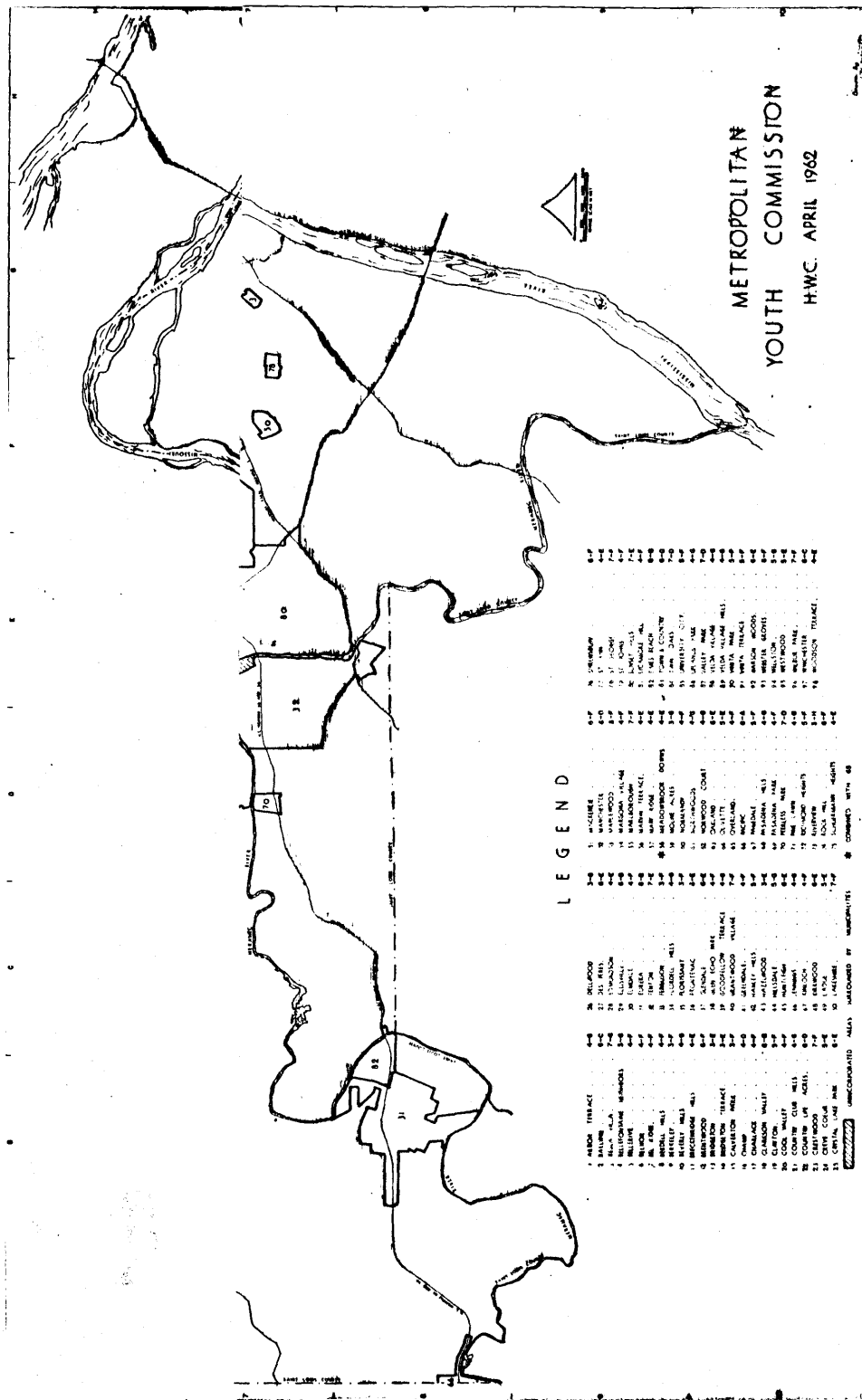
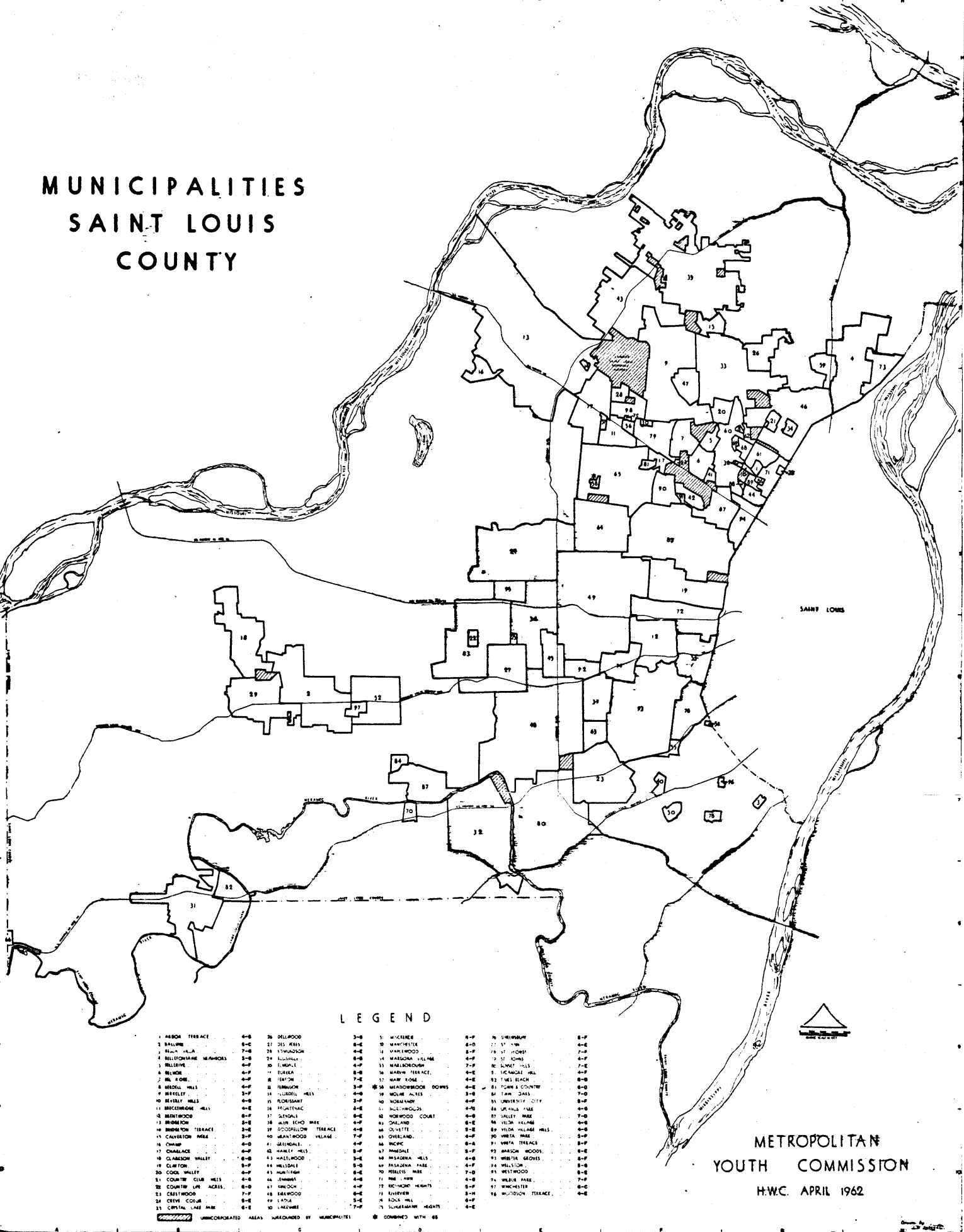


Figure 1. Municipalities in St. Louis County.

MUNICIPALITIES SAINT LOUIS COUNTY



LEGEND

1 HERON TERRACE	4-0	26 DELLEWOOD	3-0	51 WICKESSEE	8-0	76 SHERRYPARK	8-0
2 BALSUM	8-0	27 241 RESS	8-0	52 WAINWATER	8-0	77 ST. LOUIS	8-0
3 BELLA VILLA	7-0	28 ST. WASHINGTON	4-0	53 WALKERWOOD	8-0	78 ST. JAMES	7-0
4 BELLEVILLE MANHOLE	3-0	29 ELLIOTT	8-0	54 WARDENIA VILLAGE	4-0	79 ST. JAMES	4-0
5 BELLEVUE	6-0	30 ELMHURST	4-0	55 WASHINGTON	7-0	80 SUNSET HILLS	6-0
6 BELMOR	4-0	31 EUREKA	8-0	56 WATSON TERRACE	4-0	81 SYCAMORE HILL	4-0
7 BEL RODE	4-0	32 EUSTON	7-0	57 WEAVER LODGE	4-0	82 TWIN BLANCH	8-0
8 BELLEVILLE HILLS	4-0	33 FARMINGTON	3-0	58 WINDSORWOOD DOWNS	4-0	83 TOWN & COUNTRY	6-0
9 BRISTOL	3-0	34 LEBLANC HILL	4-0	59 WYOMING ALLES	3-0	84 LAW DALL	7-0
10 BREVETT HILLS	6-0	35 FLOISSANT	3-0	60 NORMANDY	4-0	85 UNIVERSITY CITY	8-0
11 BRICKSTONE HILLS	6-0	36 FLATTAC	8-0	61 OAK HILLS	4-0	86 SPANNA PARK	4-0
12 BRISTWOOD	6-0	37 SENECA	8-0	62 NORWOOD COURT	4-0	87 SALLE PARK	7-0
13 BRIMSTONE	2-0	38 ALTA RICH PARK	4-0	63 OAKLAND	6-0	88 VILDA VILLAGE	4-0
14 BRIMSTON TERRACE	3-0	39 GOODFELLOW TERRACE	4-0	64 OLIVETTE	8-0	89 VILDA VILLAGE HILLS	4-0
15 CAUTION HILL	3-0	40 HEARTWOOD TERRACE	7-0	65 OVERLAND	6-0	90 VISTA PARK	8-0
16 CHAMP	4-0	41 GREENDALE	4-0	66 INDEPENDENCE	8-0	91 VISTA TERRACE	8-0
17 CHANALACE	4-0	42 HANLEY HILLS	8-0	67 IRONDALE	8-0	92 BRANSON WOODS	8-0
18 CLAREMONT VALLEY	4-0	43 HAZELWOOD	3-0	68 IRONDALE HILLS	4-0	93 WALTER GROVES	8-0
19 CLIFTON	8-0	44 HIGHLAND	8-0	69 PASADENA PARK	4-0	94 WESTWOOD	8-0
20 COOL VALLEY	4-0	45 HUNTER HILL	8-0	70 REBELS PARK	7-0	95 WESTWOOD	8-0
21 COURTYN CLUB HILLS	4-0	46 JENNISON	4-0	71 RICE LAKE	4-0	96 WILSON PARK	7-0
22 COURTYN LAKE ACRES	6-0	47 LINCOLN	4-0	72 ROCK HILLS	8-0	97 WINCHESTER	8-0
23 CRESTWOOD	7-0	48 LINDEN	6-0	73 RIVERSIDE HEIGHTS	3-0	98 WOODSTON TERRACE	4-0
24 CRYSTAL COLONY	8-0	49 LATA	3-0	74 ROCK HILL	6-0		
25 CRYSTAL LAKE PARK	6-0	50 LINDENHURST	7-0	75 SUNSHINE HILLS	4-0		

UNINCORPORATED AREAS SURROUNDED BY MUNICIPALITIES * COMBINED WITH 68

METROPOLITAN
YOUTH COMMISSION
H.W.C. APRIL 1962

and Public Health. Health and sanitation services and parks and recreational facilities are available to all residents of unincorporated areas and to inhabitants of incorporated places under contractual arrangements with municipalities.

The Commissioner of Health heads the Department of Public Health and is appointed by the county supervisor under merit system rules. The commissioner has general supervision over the public health policies of the entire county; enforces health laws and ordinances; maintains such clinics and activities as are needed to promote the health of the county; inspects water supplies and water supply facilities and sewers; and promotes cooperation with municipal departments (5).

The Department of Hospitals is headed by the Hospital Commissioner who has charge and control of all hospital facilities operated primarily for medical care of patients and controls all medical clinics operated by the county except those operated by the health department. St. Louis County Hospital gives free medical and surgical care to indigent county residents.

Economic Characteristics

Location on some of the most important land and water routes of the nation contributed much to the early and subsequent economic development of the St. Louis area (7). The city is the industrial core, but the county is experiencing extensive residential, commercial, and industrial expansion.

Numerous economic activities in the city and county are closely interwoven. Most of the major financial institutions, mass media, cultural centers, and general hospitals are located in the city but serve county residents as well. Still more significant is the large number of people who live in one community and work in another. For example, approximately 14 percent of the employed residents of the city work in the county, while 52 percent of the employed residents of the county work in the city.

Manufacturing, employing more than one of every three workers, is an important element of the local economy (8). The area has a good representation of large firms and small businesses.

Although few are employed in farming and the number of farms has decreased 25 percent since 1960, farming in St. Louis County is a \$100 million business activity which produces an annual net income of approximately \$10 million. One-third of the county land area is farm land.

Total income payments to residents represent the most comprehensive single measure of economic activity. In 1959 the aggregate county income was \$1,802 million (9). The median income was \$7,527. Seven percent of the population had incomes under \$3,000 and 26.7 percent of the population had incomes of \$10,000 or over. The per capita income is \$2,561 which is higher than the per capita income for the United States.

The total St. Louis area has many economic advantages. Since it is situated in the midst of a vast economy, it is close to raw

materials and markets throughout the United States (7). Because the area is at the center of the Mississippi River inland waterway system, it benefits from the low freight rates of barge traffic. In addition it is the second largest railroad and trucking center and is served by eight major commercial airlines.

The total St. Louis area has abundant water resources together with excellent purification and distribution facilities (10). The city is served by a municipally owned water works. Most of the water in the county is supplied by a private company. Water is pumped from the Mississippi, Missouri, and Meramec rivers and from wells throughout an extensive subsurface water-bearing region to serve the total area. Treatment plants presently have a 400-million-gallon daily capacity, which is being increased. These sources are considered adequate for all present and foreseeable future requirements.

Despite its locational advantages, the economic development of the area has been less impressive than that of its competitors (7). This is demonstrated by its slower growth in population, labor force, manufacturing activity, and per capita income.

The relatively slow development reflects somewhat the sluggish industrial growth of the mid-America region. The lagging progress of the immediate hinterland where the St. Louis area does much of its business has retarded the growth of local area industry and commerce.

Another disadvantage is a shortage of suitable and readily available industrial sites. A large portion of St. Louis County is

still undeveloped and much land could be assigned to industrial purposes. The absence of an up-to-date land-use plan and appropriate zoning legislation has prohibited interested industries from finding suitable sites.

Today the city with its mature economy is working to retain its economic base and redevelop and rehabilitate its declining sections. St. Louis County has been growing in a rapid but unplanned manner, thereby creating problems. Because of the high degree of interdependence of the economies of the city and county, their future progress depends on their overcoming this lack of cohesiveness and cooperating to capitalize on their advantages and lessen their disadvantages (7).

Social Characteristics

To understand the nature of the people and the problems of government and public health, it is necessary to consider the rapid social changes that have occurred in the county. The three most important are the sheer expansion of population; the rise in the socio-economic level of the people, and the great alterations in their style of life (7).

Expansion. The population growth of St. Louis County is the result of large-scale in-migration and some natural increase. The greatest growth occurred from migration of people from small towns and rural areas during the 1940's. This influx of people produced a population that is extremely heterogeneous concerning region of birth, rural versus urban experience, nationality background, religion, and color.

The migrants. The largest proportion of the migrants were born in other Missouri counties or in Illinois. During the migration periods, the city has consistently drawn most of its population from the southern states, while the county attracted people from non-southern states. Migration into the county has been disproportionately "white, middle class" while the city migrants are more often Negroes. If the difference in the kinds of population moving into the city and county continues, it will have profound effects upon the public health needs of the populations.

Socio-economic level. The county population includes a very substantial proportion of the people in the middle and upper income brackets. The elevation of the socio-economic level is due to the growing productivity of the economy, the rising educational level, and increasing demand for skilled and technically trained labor.

The educational level is high in the county. The median years of school completed is 11.7 (9). Less than 3.5 percent of the population have completed less than five years of school and more than 48 percent have completed high school.

Way of life. The people in the county show a heavier concentration of the younger, dependent population. They tend to be members of younger families living in their own homes with dependent children. The style of life tends to be child-centered and family-centered, regardless of social rank. Neighborhoods of single-family dwelling units that contain many children and few women working outside the home predominate.

The people have more leisure time for cultural and recreational activities which they pursue vigorously (11). Extensive use is made of the metropolitan area's many parks; recreational programs, libraries, museums, theatres, and musical opportunities.

II. THE NATURE OF PUBLIC HEALTH IN THE ST. LOUIS

COUNTY HEALTH DEPARTMENT

Public health and sanitation are handled principally by two agencies, the health departments of the city and county. Only two county municipalities have their own organized health departments. A study of public health and hospital facilities in the city and county was conducted by the American Public Health Association in 1958 (7). The proposals called for greater cooperation in certain programs, but specifically recommended against merger of the two units.

The Past

Thirty-five years ago the public health work of St. Louis County was directed from a one-room office in the court house (12). A physician, three nurses, a sanitary inspector, a lay quarantine officer, and a clerk made up the entire staff. They attacked wide-spread tuberculosis without benefit of drugs and other medical advances. Travel was slow in the not always dependable cars and few roads were paved. But this small staff provided medical care for all indigent poor and jail patients, made sanitary inspections, and posted placards on homes where contagious diseases were found. Deaths from communicable diseases were not uncommon.

Dr. A. E. Walters was the first full-time health commissioner. Many of his activities showed far-sighted vision and planning to meet public health needs. To him "the true spirit of public health" was to be shared by all the people (12).

The Present

Today the 275 people on the staff aim their efforts at preventing or controlling the incidence of communicable and contagious diseases protecting the health of mothers and children through specific medical, dental, nursing, and nutrition programs; preventing long-term illness and disability; and adding years of useful and healthy activity to each person's life. They aid communities in the improvement of local sanitation conditions; safeguard the purity of food, water, and milk supplies; help emotionally disturbed or mentally handicapped children through specific mental health programs; maintain and analyze vital records; explain to people the existing health problems and show how they can help in eliminating these problems; and maintain research projects designed to find solutions to public health problems (13).

Organization

The St. Louis County Health Department is authorized by the Missouri statutes, the home charter, and county ordinances. A health advisory board serves both the county hospital and the health department, but the health department is administratively responsible to the county council consisting of the county supervisor and seven council members.

Dr. C. Howe Eller is the Commissioner of Health. However, his responsibilities for health are not limited to department activities. Besides having an appointment as Professor of Public Health at Washington University Medical School, he actively participates in metropolitan community health planning and he is a past president of both the St. Louis County Medical Society and the Missouri Public Health Association.

Assistants to Dr. Eller include two assistant commissioners in the Clayton Health Center and a health officer in the North District Health Center. The North District Health Center was established in 1957 to provide public health services to the residents there.

Dr. Eller coordinates a staff of well-trained specialists in the public health field. Physicians, dentists, nurses, health educators, nutritionists, engineers, sanitarians, veterinarians, sociologists, psychologists, psychiatric social workers, medical social workers, health educators, statisticians, x-ray technicians, laboratory personnel, and others staff the seven divisions which make up the St. Louis County Health Department. Figure 2 is the organizational chart for the Divisions of: Preventive Medicine, Public Health Nursing, Dental Health, Environmental Health, Mental Health, Research and Development, and Departmental Services. The director of each division is directly responsible to the commissioner except in the Division of Preventive Medicine and Departmental Services. Each program in these divisions is headed by a supervisor who is directly responsible to the commissioner. Each division is responsible for a variety of programs and services to meet the public health needs of all the people (14).

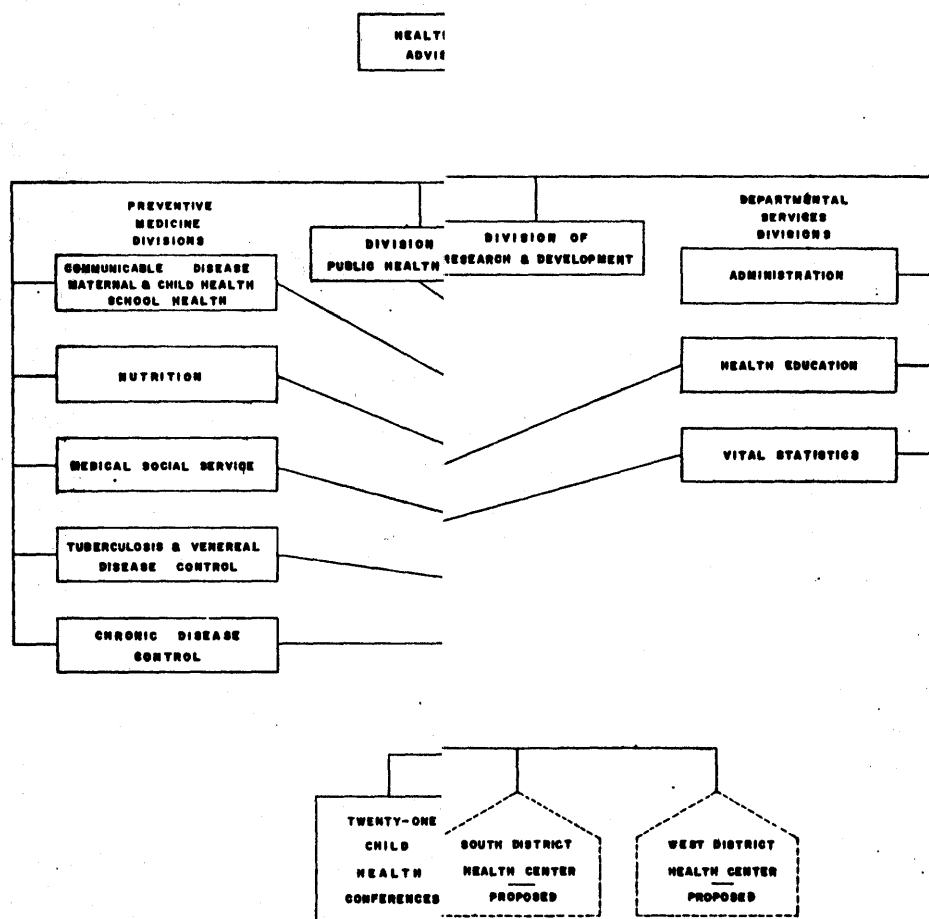
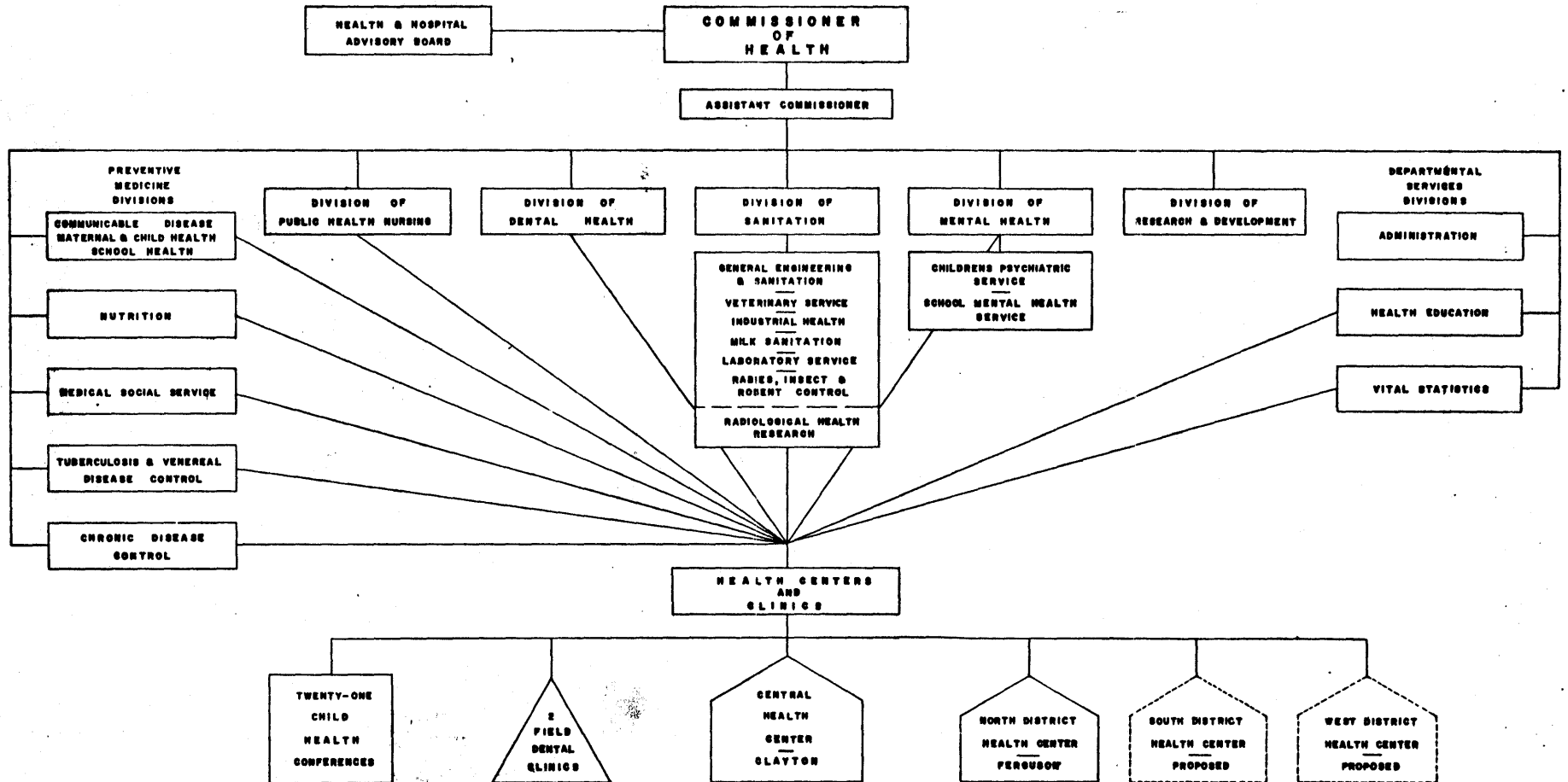


Figure 2. Organizational chart, 1964.

ORGANIZATIONAL CHART

ST. LOUIS COUNTY HEALTH DEPT.



Divisions of Preventive Medicine

Contained within the Divisions of Preventive Medicine are the Divisions of: Communicable Disease Control, Tuberculosis Control, Venereal Disease Control, Maternal and Child Health, School Health, Chronic Disease Control, Nutrition, and Medical Social Service.

Communicable Disease Control. Since communicable diseases are no longer rampaging killers, public health has switched its emphasis from identification and isolation to immunization and education. The department conducts immunization clinics for the medically indigent to provide protection from smallpox, diphtheria, whooping cough, tetanus, and polio. Personnel investigate all communicable disease cases requiring control measures and submit regular reports to the Missouri State Division of Health.

Tuberculosis Control. Tuberculosis is still actively dangerous. Free chest x-rays are given at the health department and at the mobile unit of the Tuberculosis and Health Society. Clinics are held for diagnosis and treatment of tuberculosis and various other chest ailments. Contact and follow-up investigations are done in conjunction with the register of all active cases which the department maintains.

Tuberculin skin testing is done in the county's schools through a cooperative program between the health department, Tuberculosis and Health Society, and the St. Louis Academy of General Practice and School Physicians. This program also studies the behavioral aspects of

tuberculosis. St. Louis County is one of three areas in the country chosen for the development of a special research project concerning patient care.

Venereal Disease Control. Venereal disease can still cripple and kill. The control program is based on finding and treating infected persons, plus investigation of their contacts. An extensive educational program concerning the nature of the disease is aimed at the young adult.

Maternal and Child Health. The goals of the maternal and child health program are continuing health supervision of infants and preschoolers and maintaining the health of mothers. Early participation in prenatal clinics may reduce the complications of pregnancy leading to maternal and infant mortality or morbidity. Health supervision and care for children under five is provided in the child health conferences located throughout the county. Among the services offered are periodic physical examinations, tuberculin testing, and immunizations. When specialized treatment is needed, families are referred to their own private physicians or the appropriate community agency.

Maternity and Infant Care Project. Until the Maternity and Infant Care Project, financed through a federal grant, started providing care, there were considerable gaps in the existing prenatal and infant services for the indigent. Free prenatal care and delivery were available for the indigent who met the eligibility requirements at the

county hospital. Even though eligibility had been established, transportation problems prevented many from going to the hospital. Furthermore, the poor who did not meet the eligibility criteria and could not afford other care had no place to obtain medical supervision.

To plug the holes in the services the project established two prenatal clinics that are more accessible. They provide comprehensive care with attention to the medical, social, economic, and emotional problems of the patients. The project also provides specialized care for the high-risk mother and high-risk infant who otherwise would be unable to obtain the quality of care required.

School Health. Health supervision for school age children is important in maintaining high community health standards. Physical examination clinics, established in accordance with the recommendations of the St. Louis County Medical Society School Health Committee, provide periodic physical examinations for indigent children. These examinations are given in grades one, four, seven, and ten.

School health services relating to mental health, nursing, and dental health are furnished to schools which contract with the health department. Mental health services for understanding and correcting behavior deviations are given on the basis of need and the amount of money available for the service. The dental health program is primarily a health education and screening device. All schools are offered free consultation from a multidisciplinary team for general program planning and specific health problems.

Chronic Disease Control. Chronic diseases strike all age groups and the incidence is rising in the county. The main objective of the program is the prevention or reduction of the personal, social, and economic disability by the promotion and coordination of health services.

The chronic disease control service team is composed of representatives from four disciplines: medicine, nursing, medical social service, and nutrition. The service team is without a medical director so program planning and service are currently hampered.

The health department cooperates with the Visiting Nurse Association in caring for chronic disease patients. When bedside care is the primary need, the patient is referred to the association.

Specialized care is provided in the county's 56 nursing homes for the elderly afflicted with chronic illness. The health department supervises these homes to insure proper standards of operation. Department nurses, sanitarians, and nutritionists, plus the county fire marshall make periodic visits to advise on nursing care, standards of sanitation, adequate diets, and fire safety.

Medical Social Service. Adequate medical care is only part of the answer to public health problems. The patient and his family must often cope with accompanying psychological, social, or financial distress. Medical social workers help individuals and families understand and adjust to the situation. Helping people resolve such difficulties can contribute to successful treatment and to the patient's eventual return to health and productivity.

Division of Public Health Nursing

Public health nurses teach individuals and families good health practices and help them to help themselves. They place major emphasis on the promotion of health and the prevention of disease and disability. Nursing services are part of many programs. Nurses staff the department's numerous clinics, participate in school health services, and assist in the inspection for licensure of all nursing homes. They visit homes to teach new mothers to care for their babies, to demonstrate the care of a sick family member, or to advise and guide families in other health matters including referral for medical services. Department nurses cooperate with other agencies for the community care of a patient.

In-service meetings are a regular part of the nursing program. They keep the staff informed on the most effective methods of patient care and health education.

Division of Dental Health

Healthy teeth are an important part of a person's total well-being. The dental health program involves three types of activities: dental examinations, dental health education, and dental clinics. Schools contract for dental examinations and appraisals of the children's dental needs. Indigent children are given free care in the department's clinics. The schools receive intensive dental health education along with the inspections.

Consultation on planning, initiating, and evaluating the dental health program is offered to all schools. On request programs are given to all schools and community groups.

Division of Environmental Health

To give the people of St. Louis County a clean healthful environment the Division of Environmental Health is the largest division in the health department with an operating staff of 92. This division is allotted 50 percent of the budget.

The Assistant Health Commissioner for Environmental Health is responsible for the programs of the following five subdivisions: General Sanitation Services, Engineering Services, Veterinary Services, Air Pollution Control, and Laboratory Services. All subdivisions provide consultation and enforce environmental health ordinances.

The general sanitation program contracts with 82 municipalities for such services as rabies control, restaurant inspection, and nuisance control. These services require a legal contract between the county and municipality receiving the services. A minimal one-dollar-a-year fee is charged to legalize the contract. Other activities of the General Sanitation Section are inspection and control of milk and water supplies; inspection of schools, motels, and nursing homes; and supervision of sewage disposal systems, public swimming pools, and sanitary landfills.

Engineering functions consist of: consultation to contractors and operators of community plants and pools; reviewing plans for disposal of sewage and swimming pool construction and maintenance; and

checking the purity of public water supplies. Individual wells and cisterns are checked for purity and construction on request.

Because of the many industries, dust, fumes, and gases in the air have been a constant health problem. A federal grant has given impetus to the air pollution program and measurable progress has been made in persuading industry to plan for and install antipollutant devices. Department personnel monitor the degree of atmospheric pollution.

Veterinary services provided in the rabies control program include patrolling for stray dogs and quarantining suspected animals. Inoculation clinics provide vaccine for medically indigent dog owners. Bitten victims receive treatment from the department.

Laboratory services include tests on milk, water, sewage, meats, and other foods. Radiological monitoring is done to determine the level of ⁹⁰Sr-strontium and other radionuclides in milk.

Division of Mental Health

Mental illness in recent years has become one of the major health problems in the county. Resources are available to the adult population, so the health department programs are aimed primarily at children and include children's psychiatric services and school mental health services.

The children's psychiatric service includes a child guidance clinic offering diagnosis and treatment for indigent, emotionally disturbed, and mentally handicapped children. A consultation program is

offered to other county agencies working with children and includes a complete evaluation of the child. The school services are provided on a contract basis and include assistance in the early detection, screening, and evaluation of disturbed children.

Division of Research and Development

The rôle of research is becoming increasingly apparent in the development and success of public health programs. Since Dr. Eller believes that research is the key to determining health needs, the St. Louis County Health Department was one of the first local health departments to start a research program. The division has two basic goals: to learn more about the processes by which a disease or health problem makes its appearance and runs its course in a community and to test the effectiveness of public health programs already in progress.

Projects cover a variety of problems in mental health, chronic disease control, dental health, communicable disease control, radiological health, air pollution, and accident prevention. Money for specific projects is provided almost entirely through federal grants and other outside sources. The program's value lies in the provision of data for programming and implementation.

Division of Departmental Services

Administration. Administrative personnel are responsible for the fiscal business of the health department. Health services are supported basically by a special tax levy amounting to seven cents per

\$100 assessed valuation (15). This tax rate represents an average cost of \$1.54 per year per resident. Revenues other than taxes are collected from licenses, inspection fees, and state general aid. Figure 3 shows the source of health department revenues. Total revenues for 1967 were \$1,961,704 or \$127,136 more than for 1966. This increase was primarily due to the effect of the increase in assessed valuation. Expenditures for 1967 amounted to \$2,034,005. Figure 4 shows expenditures by department and major object.

Health Education. Health problems, such as air pollution, can be solved only if the people are informed and willing to take an active part in improving their own health and that of their families and community. This is the basic concept behind the health education program.

Health educators coordinate the activities and programs of the department with those of community groups and agencies and serve as a public relations medium. They play an active part in interpreting to the public the specialized health services such as the immunization project, air pollution control, and accident prevention. Other activities include distributing health education materials, providing speakers, and keeping the public health materials and publications current and available.

Vital Statistics. Vital statistics provide fundamental data on which to base programs and services. The functions of the Vital Statistics Service are development of basic population data, preparation and analysis of rates with regard to public health problems,

TOTAL REVENUES

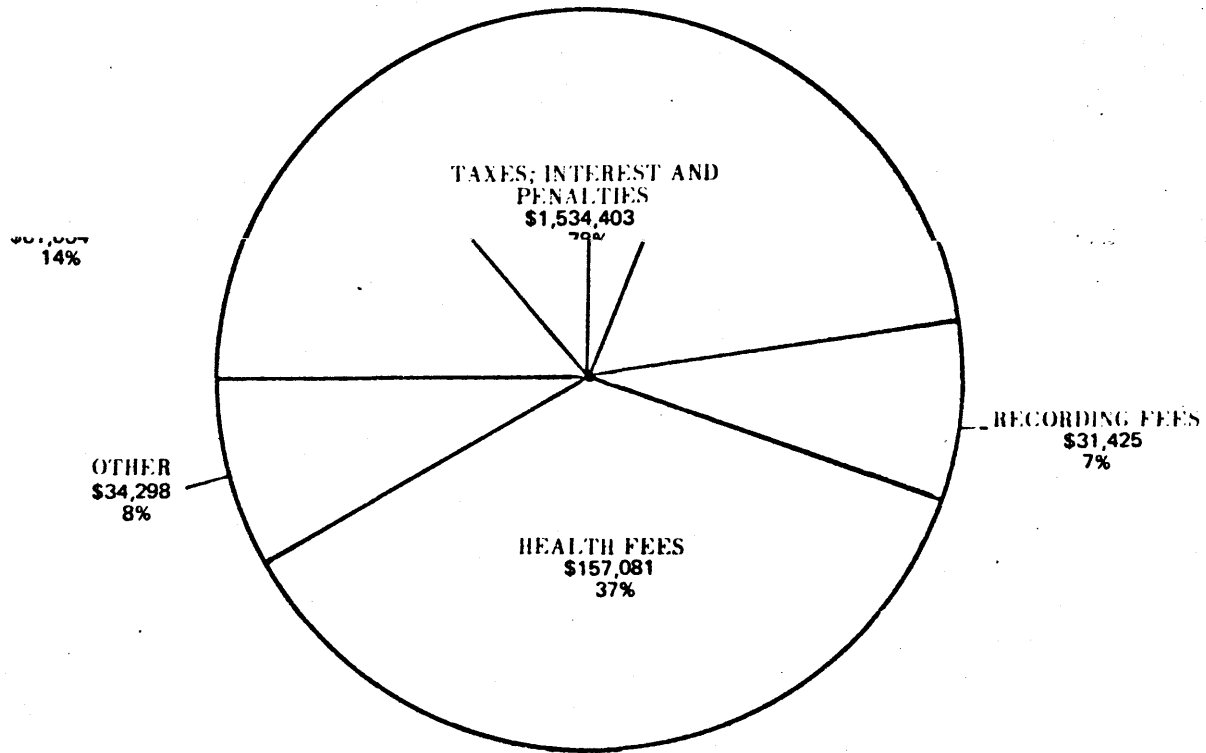
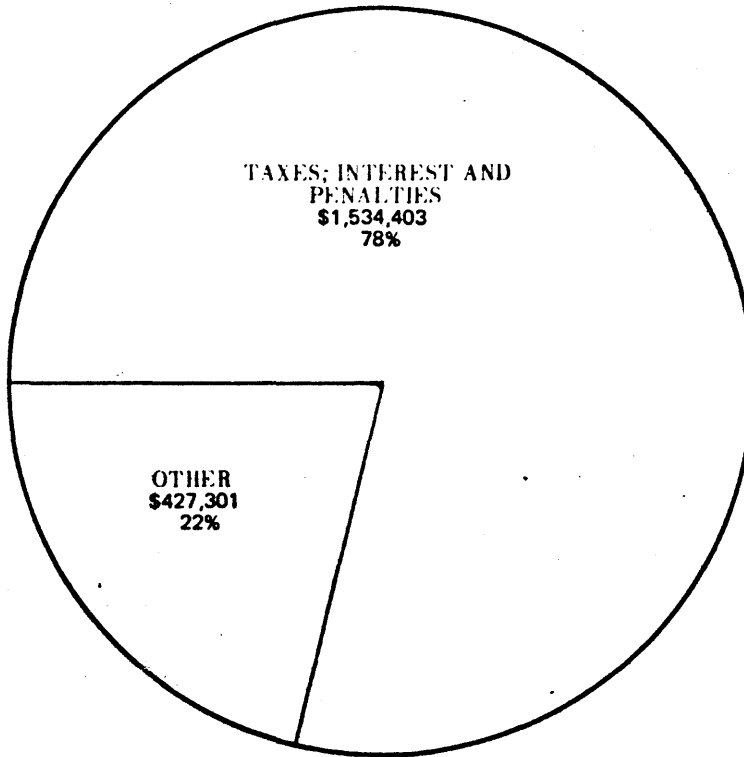
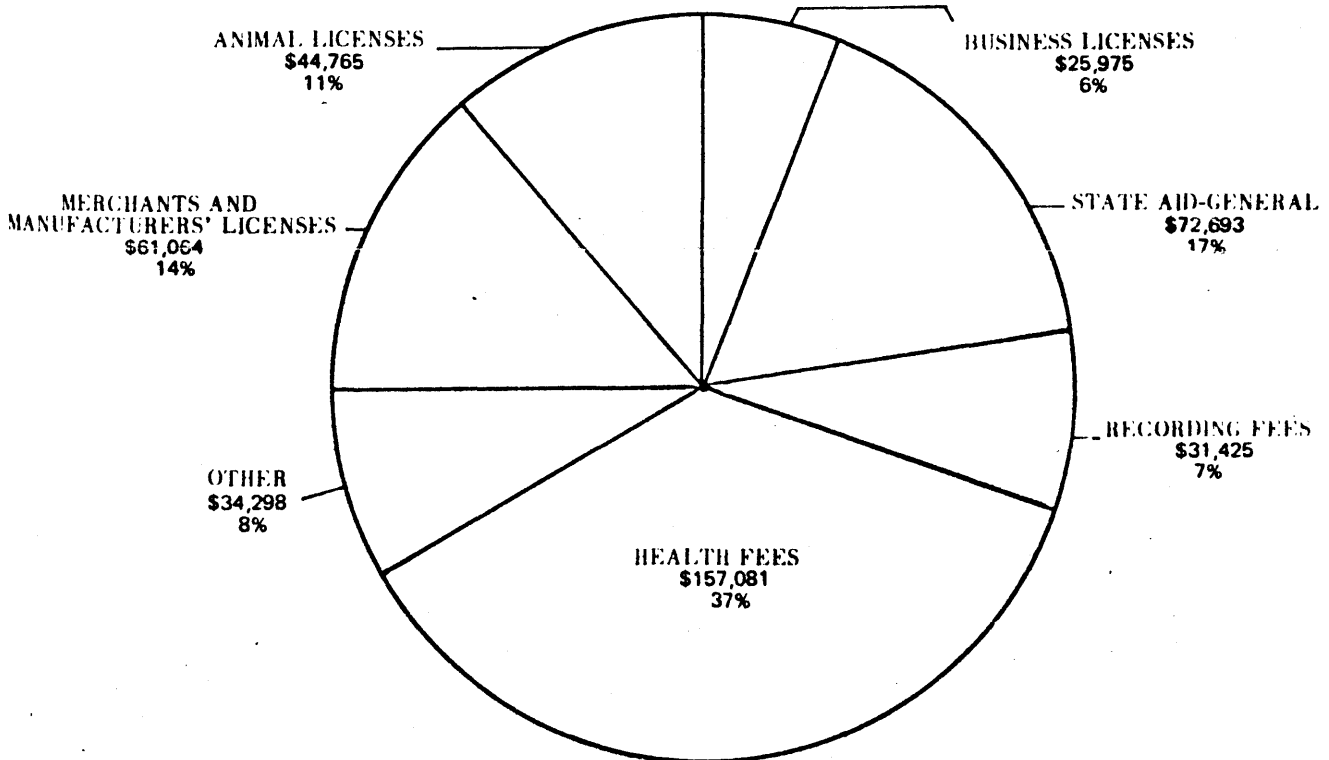


Figure 3. St. Louis County, Missouri, Health Center Maintenance Fund, Revenues, 1967.

TOTAL REVENUES



REVENUES OTHER THAN TAXES



EXPENDITURES BY DEPARTMENT

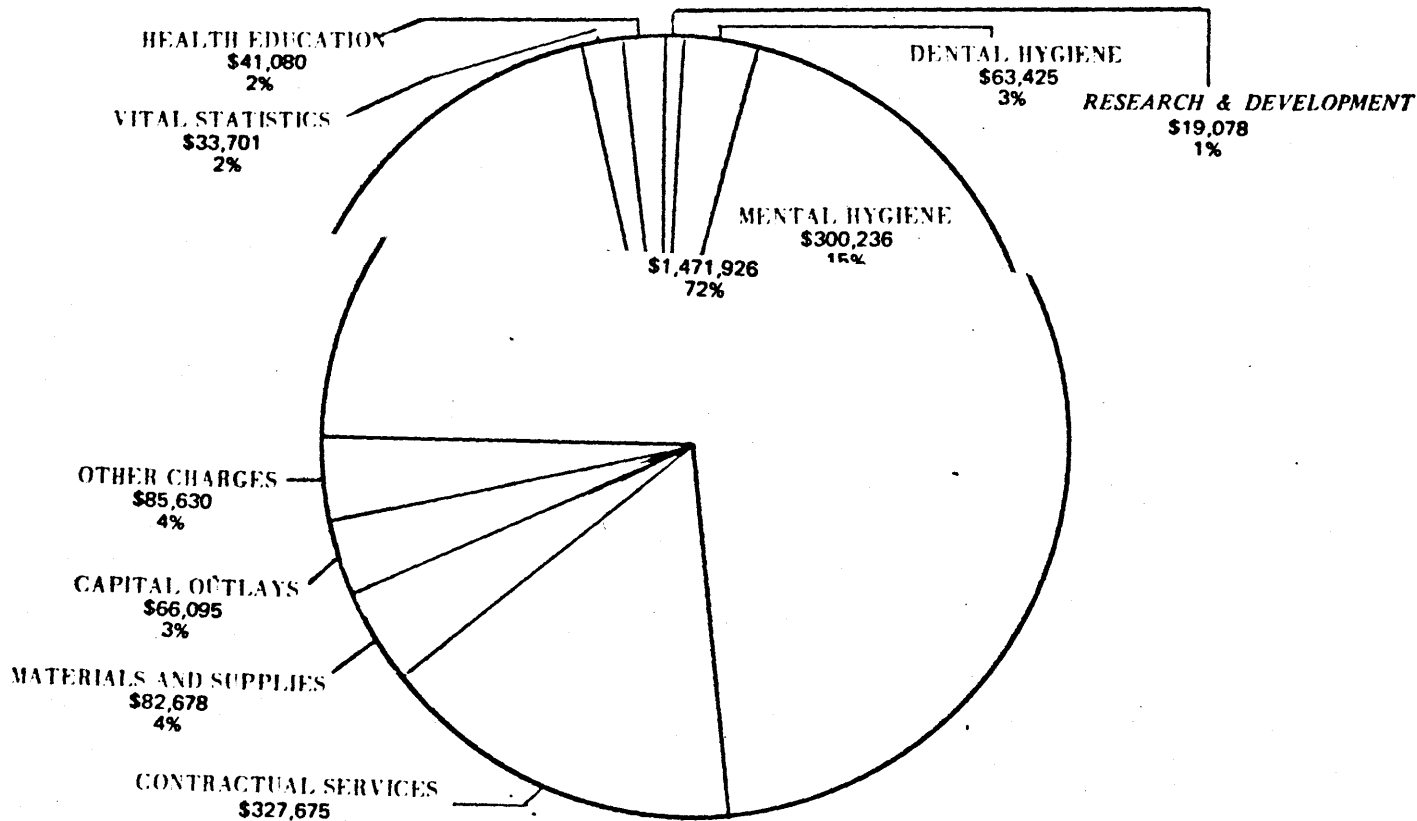
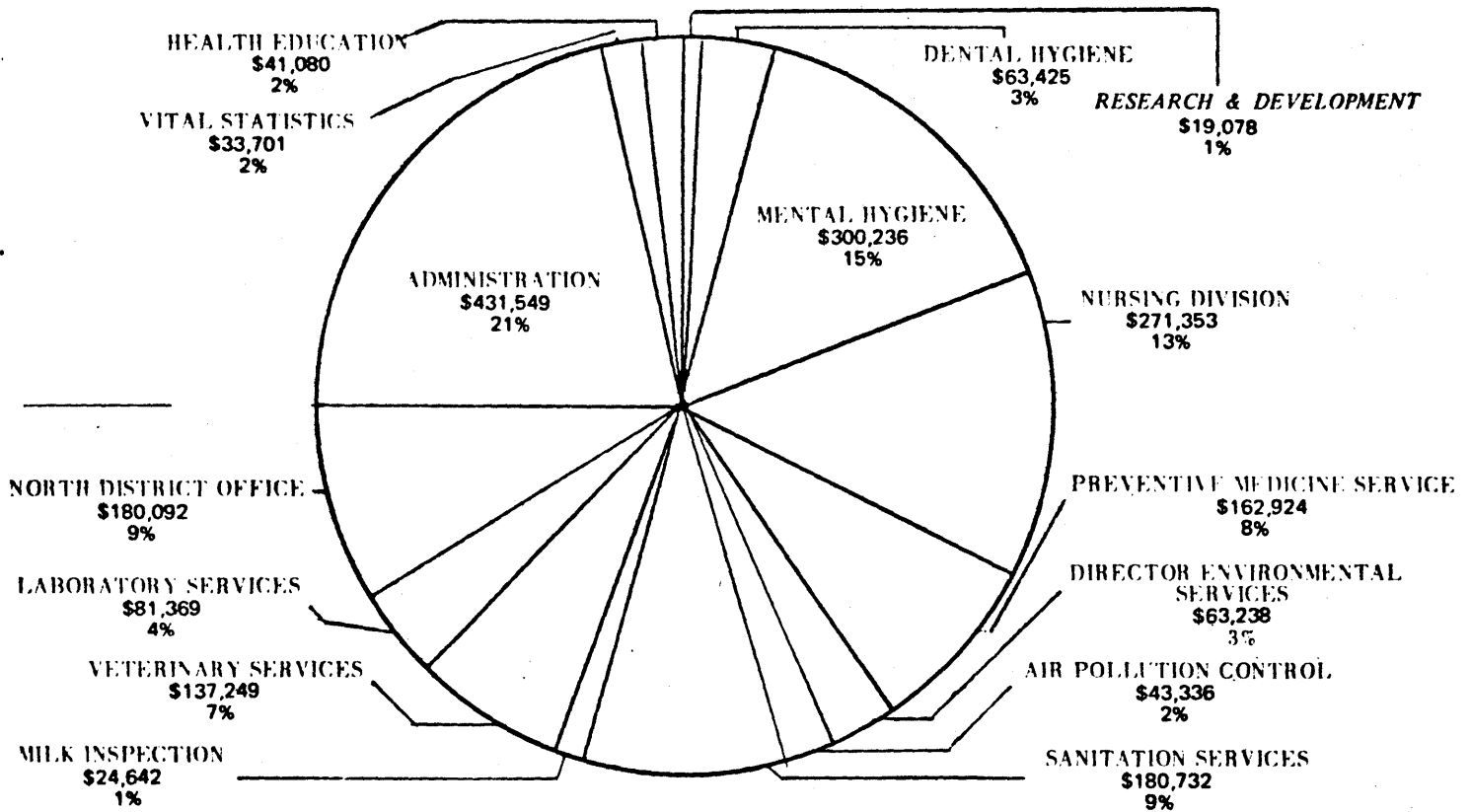
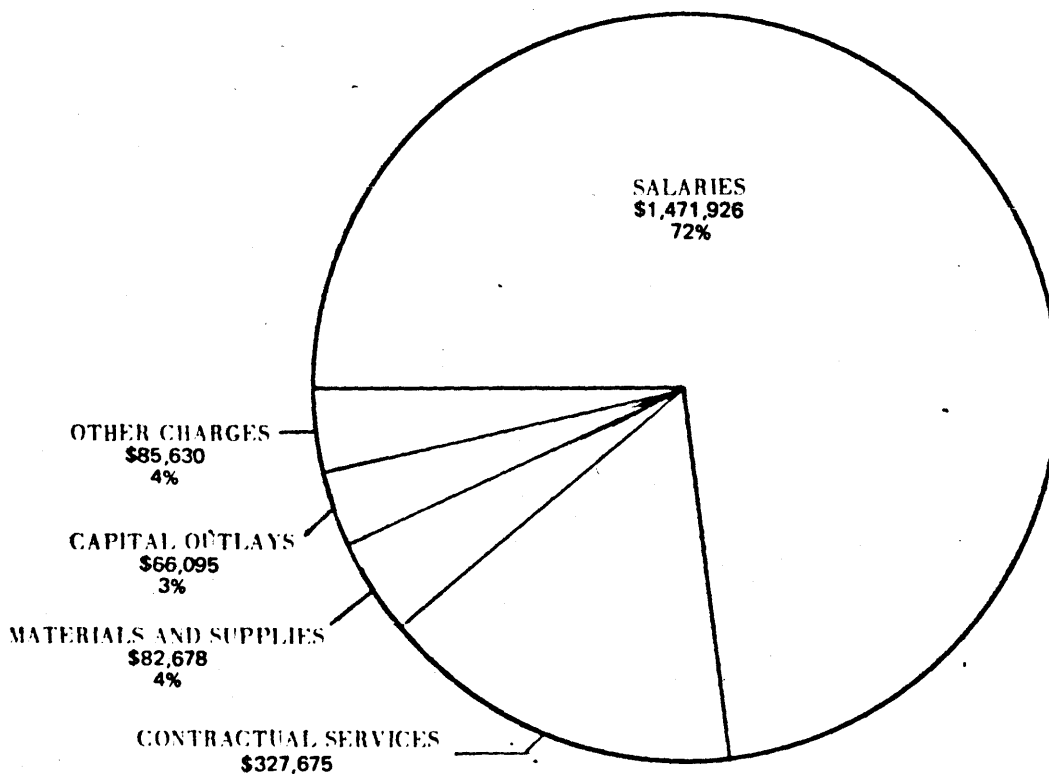


Figure 4. St. Louis County, Missouri, Health Center Maintenance Fund, Expenditures, 1967.

EXPENDITURES BY DEPARTMENT



EXPENDITURES BY MAJOR OBJECT



development and improvement of department records for service statistics, the preparation of statistical reports; evaluation of departmental services and activities; and the development of statistical studies of special health problems.

The service is responsible for collecting data related to births, deaths, population characteristics, and diseases in the county. Certified copies of birth and death records and permits for burial, cremation, and transportation of bodies are issued to authorized persons.

III. THE NATURE OF NUTRITION SERVICES

The Beginning

The St. Louis County Health Department employed its first nutritionist in 1954, but the position was filled for only a brief period. It was not until 1956 when Miss Ruth Brennan, the present Supervisor of Nutrition Services, was employed that the unit was fully established. Through observations, written reports, conferences with staff members, and home visits, Miss Brennan determined community problems and established programs to meet the needs (16). Increased need for services resulted in the establishment of a second position in 1958 and the funding of the Maternity and Infant Care Project in 1966 created a third position. The staff is not confined to specific programs but functions on a generalized basis, sharing service responsibilities.

Dr. Eller, Commissioner of Health, has given the nutrition staff considerable freedom in developing needed services. However,

the growth and broad scope of current programs would be impossible without his strong interest and active support.

Philosophy and Objectives

Good health is more than merely the absence of disease. Since nutrition is a cornerstone of health, nutrition education which may help people to help themselves to better health is the major aim of the nutrition service. The goal is to promote health and prevent disease, particularly in the most vulnerable members of the population, and to improve and maintain health through dietary modification essential to the total treatment of a disease.

The following objectives have been established for the Nutrition Division:

1. To help determine the nutrition needs of individuals and groups of individuals.
2. To establish what programs and services are appropriate to reach short-term goals as well as long-range objectives.
3. To provide the nutrition services most needed for established health programs and to develop the nutrition component of new health programs within the St. Louis County Health Department through consultation with professional staff and direct service to individuals.
4. To coordinate the services of the Nutrition Division of the health department with those of other community agencies having a nutrition component.
5. To provide consultation services to community agencies that provide health related services but do not have professional nutrition services available.
6. To assist with in-service education of professional persons in the health field.

7. To assist with the education of students in the health professions.
8. To evaluate continually the effectiveness of public health nutrition programs (17).

Current programs emphasize maternal and child health and geriatric nutrition through nursing home services.

Organization

Administrative responsibility. The nutrition service is a division in the Divisions of Preventive Medicine. The supervisor of nutrition services is administratively responsible to the health commissioner.

The county health department has local autonomy. Since the staff is appointed on a local basis, they are not administratively part of the Nutrition Service of the Missouri Division of Health. However, the nutritionists of the two services meet periodically to discuss areas of mutual concern.

Qualifications. All nutritionists are appointed under the St. Louis County Merit System administered by the Civil Service Commission. Their job specifications, qualifications, and typical tasks are found in the Appendix.

Dr. Ruth Brennan received her Doctor of Science in Hygiene degree in 1966. The staff nutritionists each hold a Master's degree in Public Health Nutrition. The entire staff has an extensive background in public health experience.

Communication. Staff meetings are held every Tuesday morning to discuss the services and problems of the programs. No regular monthly reports are expected, since minutes of conferences and memoranda provide written evaluation of objectives.

The supervisor attends the monthly staff meeting held by the health commissioner. Current nutrition activities are related to the rest of the health department personnel through a monthly newsletter prepared by the Department of Health Education.

Professional development. Dr. Eller, health commissioner, believes professional education and training is never completed and stresses active participation in professional associations. The entire nutrition staff belongs to the American Dietetic Association, The American Public Health Association, the Missouri Dietetic Association, and the St. Louis Dietetic Association. The supervising nutritionist has served on many committees at all levels, has been executive secretary of the Food and Nutrition Section of the American Public Health Association, and is currently serving on the Committee for Maternal Nutrition of the National Research Council, National Academy of Sciences (16).

The Journal Club, organized by Dr. Brennan, is another medium the staff uses to keep up to date. Members include interested dietitians and nutritionists. They meet monthly to review recent nutrition developments published in various professional journals (18). Members are responsible for written abstracts of articles from their assigned

journals to be distributed at the meeting.

Besides continuing education, Dr. Eller is an advocate of close cooperation between institutions of higher learning and public health agencies. The supervising nutritionist also holds a joint faculty appointment as Instructor in Nutrition, School of Medicine, and Associate Professor of Nutrition, School of Nursing, Washington University (16).

Major Programs and Activities of the Nutrition Service

Program plans are established according to community needs and available personnel. Needs are determined and priorities established through special studies, application of available statistical data, conferences, and informal discussions with other department personnel.

Nutrition services are integrated with programs of other health department divisions as well as those of other official and voluntary health, educational, and social service agencies. The nutrition service program is discussed in the following pages.

Overall activities. Orientation of new personnel to the nutrition service is an important function of the nutritionists. They inform the orientees of the numerous services available from the service, emphasize the interdependence of the divisions, and briefly describe a community nutrition problem.

Since there are only three nutritionists on the staff, services for many programs must be limited to consultation. The programs receiving primarily consultative services are the Divisions of Dental

and Mental Health, Health Education, and Medical Social Service. For instance, the nutritionists help medical social workers plan nutritionally adequate low-cost diets.

An important factor in a successful education program is effective visual aids and teaching materials. If reliable, valid, and suitable materials are available from other agencies, the nutrition staff will utilize these rather than duplicating efforts. Materials from the United States Government Printing Office and the St. Louis Dairy Council are the main sources of outside literature. The nutritionists also develop material for special requests or problems. For example, materials have been developed for nursing homes as a result of inspections, consultations, and requests.

Nursing homes. The St. Louis County Health Department is the official agent of the Missouri Division of Health for the inspection and licensure of nursing homes in the county (19). The nutritionists, as members of the inspection team, have the authority to refuse to license a home if it does not meet acceptable standards. However, the regulations and inspections are used mainly as tools for education. The nutritionists point out various problems, explain why there is a problem, and advise on correction.

In 1954 an intensive survey was made of every home. In most of the homes the food served was sufficient in quantity, but the quality was below desirable standards. It was quite apparent that the nursing home administrators needed many skills which they had little opportunity

to develop except by unguided experience. A series of educational meetings was developed for the primary purpose of teaching the administrators that good nutrition is one of the major factors in maintaining health and promoting physical rehabilitation of older people. Good food is more than physical nourishment, but contributes to the happiness and satisfaction of the residents. >

The nutritionists have continued these meetings with small groups having similar homes, education, and previous work experience. The sessions cover various topics such as modified diets, menu planning, food preparation, purchasing, and sanitation. Sessions are held monthly to discuss topics selected by the members. The nutritionists give a short presentation followed by a share and compare session.

With the advent of Medicare some of the homes have employed consulting dietitians. The nutrition service holds periodic workshops for these consultants similar to the sessions held for the administrators. The nutritionists help homes locate a consultant on request.

The nutritionists have developed many materials for the homes. These include menu planning procedures and forms, "Menu Planning Suggestion Lists," and "Supper or Luncheon Menus."

Maternal and child health. The nutrition staff plays an active role in the care given prenatal patients attending the two Maternity and Infant Care clinics in the county. The patients need dietary and nutrition counseling to help them meet the added requirements for the

physiological stresses of pregnancy. Individual counseling is given to every patient attending the clinics. The nutritionists help patients develop an understanding of their food habits and the modifications needed to achieve an adequate diet. The nutritionists often discuss food selection and buying for the benefit of the entire family as well as the patient. To supplement the individual counseling and teaching sessions the nutritionists conduct planned group sessions.

The ultimate success of the nutrition program depends on the understanding and cooperation of all the members of the clinic health team. The nutritionists use the post-clinic conference to underline the importance of nutrition to the patient's total welfare.

The nutritionists serve children and their parents indirectly through the public health nurse at the child health conferences. The nutritionists also conduct group teaching sessions at the conferences. Helping families cope with special dietary needs imposed by social, mental, and economic conditions is a part of the service offered. The nutritionists work with the nurses and make home visits to help parents provide an adequate diet for their families.

Nursing service. A major aim of both the nursing service and the nutrition staff is to provide effective health guidance and counseling to families and individuals. Since good nutrition is a prerequisite for health, the programs of these two services are closely interwoven.

The nutrition staff works mainly with the Division of Public Health Nursing through consultative services. When the field nurses

encounter a complicated nutrition problem, they come to the nutritionists for consultation. Direct family or individual counseling by the nutritionists is initiated usually to demonstrate nutrition counseling to the staff nurse or to help families cope with complex problems.

The nutritionists take an active part in the nursing in-service education program. During these programs the nutritionists keep the nursing staff informed of advances in food and nutrition research, bring new techniques and materials to their attention, and help the staff share common problems and possible solutions. The nutritionists attend other nursing in-service sessions to learn different aspects of the family nursing service and familiarize themselves with the problems the nurses face in the field.

Chronic disease control. A significant proportion of the population of St. Louis County is affected by chronic illness. Dietary modifications and treatment are a fundamental part of the management of these diseases.

The nutritionists are members of the chronic disease service team including public health nurses, a physician, and medical social workers. The nutritionists assist in the appraisal of patient and family food practices, and make suggestions on selection and preparation of food in relation to nutritional needs, family income, cultural food patterns, and home facilities. They participate in case conferences, provide nutrition consultation to the other professional

staff, participate in group educational programs, and assist in the development of educational materials.

A nutritionist is currently involved in a joint study with the chronic disease nurse consultant to determine the knowledge, habits, and needs of the diabetic patients attending the diabetic clinic at county hospital. They will use the results of the study to plan a series of programs for the patients.

Research. The St. Louis County Health Department is one of the few local health departments in the country currently engaged in active research on the public health needs of the community. The nutrition service has studied the nutritional status of patients in nursing homes; the dietary habits of the chronically ill persons living in their own homes, and the adequacy of the school lunches served to children in a low economic area. The supervisor is responsible for planning, directing, evaluating, and reporting the results of such studies.

The nutrition supervisor is currently involved in a joint study with Dr. Robert Shank, Professor and Head of the Department of Preventive Medicine, and Dr. John Holloszy, Assistant Professor, Department of Preventive Medicine, Washington University, to determine the effect of exercise on appetite and obesity. The nutritionist is responsible for taking and analyzing the detailed diet records and histories of the subjects. Hopefully, the results of this small pilot study will substantiate requests for funds to conduct a larger, more detailed project.

School health program. The nutritionists help the school nurses, teachers, and administrators plan ways to include nutrition education in the total school health program. Consultation may involve requests for help in such areas as recommending sources of authentic nutrition information and reference materials, locating community resources, developing suitable classroom projects, and interpreting the educational values of the school lunch program. The nutrition staff has developed and sent to every school a booklet "Nutrition Education in Schools--Suggested Resources." This booklet is available to anyone on request.

The nutritionists also receive referrals from the physical examination clinic held for indigent school children. Most referrals are for counseling of obese children and their parents. A summary of the physician's findings and the nutrition consultation is returned to the school nurse for follow-up activities.

Environmental health. The Division of Environmental Health and the Division of Nutrition are both interested in the welfare of nursing home patients. They both function as members of the nursing home inspection team and as such work closely together. The sanitarians, when inspecting a home, may see food service problems which they will refer to the nutritionists. The nutritionists, in turn, refer to the sanitarians any problems dealing with sanitation which they observe.

Coordination of nutrition services with other agencies. The nutrition staff works with the St. Louis County Department of Welfare

through the social service section. Their case workers refer families with food budgeting problems.

The nutrition staff works with the Missouri Crippled Children Association indirectly. The referrals come to the nursing division. When there are dietary problems the nurse refers the family to the nutrition service.

The nutrition staff participates in the St. Louis County Diabetic Association's annual program in cooperation with the St. Louis Dietetic Association. The program is held for diabetics in the county. Besides participating in the formal program, the nutritionists conduct question and answer sessions following the program.

The nutritionists have also participated in programs for parents of crippled children sponsored by the Cerebral Palsy Association. These programs have covered nutrition of the handicapped child and the adaptive devices which facilitate eating.

The nutritionists take part in the yearly workshop for food service managers held by the Catholic Hospital Association. This year the program covered the role of the dietetic consultant in nursing homes.

The nutrition staff has often been invited to present guest lectures to classes at the University of Missouri. Classes have been given on normal nutrition for the school age child and adolescent and on the role of nutrition in dental health.

The nutritionists work with the interns from the Barnes Hospital Dietary Department. They spend a day with the nutritionists to observe

a phase of the public health program. The interns usually observe a nutritionist on a nursing home inspection visit or in a maternity clinic. The supervising nutritionist speaks to the Barnes and the St. Louis University interns on the broad concepts of nutrition and its role in public health.

Community groups often invite the nutritionists to present a program. They have spoken to Parent Teachers Associations, weight control groups, and others.

The nutritionists have a reciprocal arrangement with home economists working for extension service, newspapers, and private companies. When they receive a question on diet therapy it is referred to the county nutritionists. In return, nutritionists refer some questions on recipes and food preparation to the home economists. A staff nutritionist is a member of the Nutrition Education Committee composed of members from all areas of food and nutrition or home economics in the metropolitan area. This committee promotes nutrition education.

Students come from all areas of the United States to receive their public health field training in the St. Louis County Health Department. Besides training their own field students, the nutrition staff assists in the pre-service orientation of nursing, social work, medical, and health education students. The nutritionists emphasize diversified experiences in both generalized public health programs and in public health nutrition.

Child Development Clinic

Another agency in the community with an important nutrition component in its program is the Child Development Clinic. This clinic is financed by a federal grant and is an out-patient diagnostic facility for mentally retarded children. The nutritionist, as a member of the clinical team, evaluates the total nutritional needs of the mentally retarded child and delineates the role of nutrition in the treatment and rehabilitation of these children.

The nutritionist evaluates the nutritional status of each child on the basis of medical and laboratory data, analysis of dietary records, and observed meal time practices. She assesses the past and present dietary practices and the developmental progress on the child as indicated by his self-feeding abilities. She also assists the family in obtaining needed foods or supplies through appropriate community resources and prescribes the child's therapeutic diet regimen planned to meet the needs of the "whole child" and his family. The nutritionist also has total responsibility for the dietary management of the phenylketonuric patients.

Visiting Nurse Association of Metropolitan St. Louis

The Visiting Nurse Association offers bedside nursing care in acute, chronic, and communicable diseases; physical therapy; occupational therapy; speech therapy; social work; Home Health Aide service; and nutrition consultation. This agency receives referrals from the county hospital and health department for bedside nursing care. The

nutritionist consults with the nurses on interpretation of all modified diet orders and nutrition needs as indicated, plans diets according to the patient's individual pattern of eating, and develops dietary plans with families needing a review of their food budget.

Program Evaluation

Methods for measuring the quality and impact of nutrition services are fundamental to program evaluation. However, accurate and valid tools are difficult to design and administer. The problem facing the nutrition service is measuring the changes in nutritional status and, when such a change is observed, determining how much is due to nutrition service. It would be most desirable to create built-in evaluations for all programs and services, but this is extremely difficult when dealing with factors that are as elusive as observable changes in nutritional status. Nevertheless, facts relating past and present services to current programs are necessary for effective program planning and administration.

The nutrition staff keeps program and service statistics to determine the numbers and types of demands for service. Each nutritionist keeps a daily record which is a brief description of services offered. The staff wants to determine how meaningful these records actually are and what changes should be made to make them more useful in tabulating service statistics.

Comprehensive reports on programs at continuous intervals is another method of measuring progress. When the nutrition service

started working with nursing homes, they did simple studies to determine a base line for evaluating further work with the homes. Future comprehensive reports will measure any progress.

The Maternity and Infant Care Project has funds available to develop and evaluate new ways for giving service. Currently the nutritionists keep detailed nutrition and dietary records on every patient attending the clinic. Hopefully, these records will be the basis for further research and evaluation.

A subjective, but valuable, method for program evaluation is constructive criticism. The nutritionists have built a professional relationship with their co-workers. They see the nutritionists as members of a team. Because of such relationships they feel free to make suggestions and comments on nutrition programs that would strengthen the services. The nutrition staff is alert to their program weaknesses and strengths and are continuously striving for improvement.

CHAPTER III

AN ANALYSIS OF THE STUDENT'S EXPERIENCE IN PUBLIC HEALTH NUTRITION

Through orientation and observation the student was able to broaden her perspective in public health nutrition in the health agency and the community. Actual practice enabled the student to improve her skills in providing nutrition services. A brief account of the experiences plus an assessment of their value to the student's self growth is included in the following chapter. Part I includes the student's experiences in the professional practice of public health nutrition. An evaluation of the student's field project is given in part II.

I. EXPERIENCE WITH THE PROFESSIONAL PRACTICE OF PUBLIC HEALTH NUTRITION

Consultation with Other Professional Workers

Consultation is the vehicle most frequently employed to extend nutrition services. The student observed several conferences with the health department staff. She has chosen to discuss one session because it best illustrates the value and limitations of the consultation process.

A public health nurse was giving service to a high school in a low-income area. She requested help in organizing a weight control

club for overweight students. The nurse's main interests were nutrition information on weight control, an opinion on the organization of the club, and support for the project itself.

During the session a number of important attitudes and facts were revealed. The student observed that the nurse herself was overweight and learned that she was a member of a Take Off Pounds Sensibly Club. She wanted to model the teenage club after the structure of the TOPS group and had not waited to consult with the nutritionist before going ahead with her ideas. A general announcement had been made in a school assembly concerning the overweight students and a number of them had been unnecessarily embarrassed. The nurse also had already talked to the school lunch cooks about attending the club meetings and serving less starches at lunch time.

With this background the nutritionist provided the nurse with references and background information on weight control and reference materials for the students. The nutritionist encouraged the nurse to keep the club a private matter between the students involved and herself. The nutritionist suggested that school-lunch personnel could help in the lunch room but not to bring them into actual group sessions. She pointed out some of the factors in the adult TOPS group that might be embarrassing to the teenager and encouraged comprehensive planning before proceeding further.

The value of this experience lay in observing some of the important considerations involved in effective consultation. The

purpose of the meeting was to share ideas in an attempt at solving a public health problem. It involved building a working relationship with another member of the public health team. The importance of previous actions, organization, attitudes, communication, and tact in keeping this relationship strong and ongoing was apparent. The experience demonstrated that the effectiveness of consultation was limited by all these factors.

In-service Education

In-service education is a broad title given to activities designed to further knowledge and stimulate professional growth for agency personnel. Programs given may vary with the needs and interests of the group.

The student attended the orientation to the nutrition service for student nurses. The nutritionist clarified the difference between nutrition and diet and emphasized the interdependence of nutrients within the body. She gave a brief review of the functions of the nutrition service within the health department and the community.

Another session was the orientation of new personnel conducted by the Health Education Division. The student was asked to report on the Nutrition Division. This gave the student an opportunity to present an impromptu talk. Since a nutritionist must often think on her feet and be flexible enough to handle many situations, this experience was valuable.

Dr. Eller presented a program on the meaning and implications of comprehensive planning and implementation in health care. This discussion made the student realize the intricate and delicate relationships of the public health program with various agencies. It brought home the point that the community is an entity which cannot be carved-up and parceled-out to various agencies. It also underlined the weakness in some of the past health programs. The student realized that nutritionists will have to play a role in future health planning to insure continued effective and up-to-date services to the community.

The student's participation in in-service education with members of the nutrition service and the Division of Nursing increased her knowledge of total health care, clarified her understanding of the term "comprehensive," and gave her ideas for her future participation in in-service programs.

Group Work with Nonprofessional Groups

Group work is unpredictable. When a nutritionist is asked to present a program, she is often faced with unknowns including the expected content of the talk, time allowed, facilities, and the background of the group. By familiarizing herself with the situation beforehand and being alert to feedback, the capable nutritionist can adapt her program and presentation to the level and expectations of the group.

In one case observed by the student, the nutritionist had received a request to speak to a local weight control club. Members

were interested in learning about low calorie food which could also be served to their families. The program presented was based on the Basic Four Food Groups and the different foods high in nutritive value but low in calories. The comments and questions following the meeting indicated that the members had learned some valuable concepts in weight control and that the talk had stimulated an awareness of the value in maintaining good nutrition while reducing.

The student observed all three nutritionists and was impressed by the variety of skills each used for maximum effectiveness. The student noted that each spoke in a manner which fitted her personality, demonstrated her adaptability to meet the needs and level of the group, and used good judgement in picking a presentation fitting the group. The ideas and concepts derived from these observations will be invaluable to the student's future practice.

Guidance and Counseling Nonprofessional Persons

In the past the student has had experience in interviewing patients attending maternity and other health department clinics. During her field work the student had varied experiences in counseling patients through participation in the Maternity and Infant Care Project and the physical examination clinics. Since these services were given under the direct supervision of the nutritionist, they reinforced the student's previous work experience. The main contributions of these experiences was their value in acquainting the student with the cross section of the population served by the health

department and the comments of the nutritionist for improving interviewing techniques.

The limitations of these experiences were related to the time factor involved in the field experience. In order to observe as many health department activities as possible, it was necessary to limit the student's direct service activities.

II. AN EVALUATION OF THE STUDENT'S FIELD PROJECT

The field project assigned to the student during her experience allowed her to assume the responsibility for program development and to contribute to an area of need. There were several possibilities open to the student including child health conferences, maternity and infant care clinics, the Child Development Clinic, or the nursing home program. After discussing the community needs with the nutrition staff, the student chose to teach a prenatal class.

In order to choose a topic of the most value to the patients, background information was needed. The student conferred with the nutrition staff to determine the most appropriate areas. The student also attended the clinics with a nutritionist to observe the physical organization, the number and type of personnel present, and the clinic activities. The student studied several clinic charts to gain an understanding of the patients' background and educational level. She then talked with the public health nurse to determine her views on the nutritional needs of the patients. The patients were also interviewed to determine their interests.

The patients were interested in and needed materials on infant feeding. The title of the presentation was "Food Baby Needs." After choosing the topic for discussion, the student reviewed pertinent references.

After discussing with the nutrition staff effective visual aids and teaching materials, a bar graph was prepared showing the nutritive value of different food groups. Each food group was shown on transparent overlays that revealed the relationship between foods needed for adequate nutrition.

Both the discussion material and visual aids were geared to the patients' educational level. The lesson was very informal with time allotted for questions. The student found the group very receptive. All seemed to be interested in the material discussed and in the visual aid used.

The student presented two classes. In many respects the opportunity to discuss the same subject twice was one of the most valuable experiences which the student had. It provided a basis for observing the student's ability to evaluate and change her technique in response to the needs of the group. The student felt she made significant gains in adapting her teaching methods to varying situations.

CHAPTER IV

SUMMARY AND EVALUATION

The eight weeks' field experience in the St. Louis County Health Department was another step in the learning process. It gave the student a comprehensive orientation to the philosophy and practice of public health. The student learned that communication, leadership, organization, comprehensive planning, and evaluation all function together to guard the public's health.

During the experience the student worked with nutritionists and allied health personnel to apply the theories and principles learned during the academic year to the practice of public health nutrition in the community. The extended range of experiences strengthened and clarified the student's concepts of the services offered by the public health nutritionists and other public health workers. She observed how the specialized health programs are interwoven with the program of other community agencies and organizations. The experience demonstrated to the student that basic health needs can be met in a variety of ways.

The public health nutritionists were observed as educators. They were continuously trying to promote an awareness of nutrition problems, to stimulate the desire to improve dietary practices, to expand nutrition education, and to extend the existing knowledge of others in the

health profession. The student learned necessary techniques and skills for taking health education to the people.

With the practice and knowledge accumulated through previous experience, academic education, and the field training, the student feels that she progressed toward developing the professional attitudes and skills so necessary for the successful practice of public health nutrition. The student learned the value of continuous self-evaluation for professional and personal growth. Because of all her experiences, the student feels more competent in her chosen profession.

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APPENDIX

JOB SPECIFICATIONS

NUTRITIONIST II

DEFINITION

This is a responsible professional and administrative work in directing a county-wide program in public health nutrition.

An employee in this class is responsible for planning, organizing, coordinating, and directing a comprehensive program in public health nutrition. Work includes developing and implementing plans and policies for the improvement of nutrition practices in the county, coordinating the nutritional services program with the overall public health program and with programs of other agencies and community groups, and coordinating consulting techniques and programs. Work requires considerable public contact. Supervision is exercised over subordinate professional clerical personnel. Work is performed independently under the administrative direction of the Commissioner of Health who reviews program plans and accomplishments through conferences and review of reports.

EXAMPLES OF WORK PERFORMED

Plans, organizes, and directs the county public health nutrition program.

Prepares reports and recommendations for the formulation of policies, plans, and procedures.

Plans and participates in in-service training and orientation programs in nutrition for public health personnel.

Provides consultative and advisory nutritional services to public health nurses, other health department staff, and nursing home staff and cooperates with school administrators as a member of the health department's school health team, which provides consultation to schools requesting help in their school health service program.

Confers with physicians, dentists, nurses, and others on programs and nutritional problems.

Consults with officials of local school districts and with other public and private agencies to promote and encourage interest in the public health nutrition program.

Supervises field experience for nutrition graduate students and provides consultation and instruction to students assigned to field work duties in the health department.

Develops, prepares, and distributes educational materials on nutrition such as, newspaper releases, pamphlets, articles, reports, and radio and television scripts; promotes interest in nutrition by demonstrations, films, and other visual aids; prepares charts, posters, and exhibits; attends conferences and meetings; and lectures to community groups.

Plans, directs, evaluates, and reports results of dietary studies and surveys.

Collects and analyzes statistics, supervises the collection and maintenance of records, and prepares research reports.

Develops the budget for the division and orders supplies and equipment.

Performs related work as required.

REQUIRED KNOWLEDGE, ABILITIES, AND SKILLS

Thorough knowledge of the principles and practices of nutrition and dietetics.

Considerable knowledge of current developments in public health nutrition.

Considerable knowledge of the principles and practices of public health administration as related to nutrition.

Knowledge of community health problems.

Ability to plan, organize, and direct an education and consultative public health nutrition program.

Ability to coordinate the activities of the nutrition division with other divisions of the health department.

Ability to apply nutrition principles and practices to public health problems.

Ability to understand and interpret pertinent public health laws and regulations.

Ability to prepare educational and publicity materials, to deliver effective talks before interested groups, and to present material through

the use of various media, including radio, television, slides, motion pictures, exhibits, and demonstrations.

Ability to establish and maintain effective working relationships with other departmental personnel, subordinates, professional and educational groups, and the general public.

Ability to express ideas clearly and concisely in oral and written form.

MINIMUM EXPERIENCE AND TRAINING

Four years of professional experience as a nutritionist or in teaching nutrition, including one year of supervisory or administrative experience in a public health agency; and such training as may have been gained through graduation from an approved four year college or university with major course work in foods and nutrition, supplemented by graduate work to the level of a Master's degree in Public Health; or any equivalent combination of experience and training.

JOB SPECIFICATIONS

NUTRITIONIST I

DEFINITION

This is professional nutrition work of an educational and consultative nature in the public health nutrition program.

Employees in this class are responsible for promoting a program of education in public health nutrition in an assigned district. Work includes providing consultative services in nutrition practices and food management, conducting and participating in clinic conferences, participating in clinics for special projects, making home visits, and conducting or participating in surveys and studies involving food or nutrition. Work involves considerable public contact. Work is performed with considerable independence under the general supervision of a professional and administrative superior and is reviewed for adherence to accepted practices and established policies through conferences, reports, and observation of results obtained.

EXAMPLES OF WORK PERFORMED

Analyzes needs and develops nutritional services as part of a public health nutrition program.

Provides consultative and advisory nutritional services to public health nurses, nursing home administrators and personnel, school administrators, teachers, school lunch supervisors, and public health clinic staff.

Confers with physicians, dentists, nurses, and others in planning nutrition programs.

Makes home visits and gives instructions regarding special diets, food budgets, and menu planning.

Inspects nursing homes in an assigned district for compliance with state dietary regulations involving licensure.

Participates as a member of a team in public health clinics established under grant programs and conducts conferences at clinics.

Participates in in-service training and orientation programs in nutrition of public health personnel.

Conducts or participates in studies and surveys relating to food and nutrition.

Prepares or assists in the development, preparation, and distribution of educational materials on nutrition such as, newspaper releases, pamphlets, articles, reports, and radio and television scripts; promotes interest in nutrition by demonstrations, films, and other visual aids; prepares charts, posters, and exhibits; attends conferences and meetings; and lectures to community groups.

Maintains records and prepares reports.

Performs related work as required.

REQUIRED KNOWLEDGES, ABILITIES AND SKILLS

Considerable knowledge of the principles and practices of nutrition and dietetics.

Considerable knowledge of current developments in public health nutrition.

Some knowledge of community health problems.

Ability to apply nutrition principles and practices to the feeding of individuals, families, and groups.

Ability to understand and interpret pertinent public health laws and regulations.

Ability to assist in the preparation of educational and publicity materials; to deliver effective talks before interested groups; and to present material through the use of various media, including radio, television, slides, motion pictures, exhibits, and demonstrations.

Ability to establish and maintain effective working relationships with other departmental personnel, interested groups, and general public.

Ability to express ideas clearly and concisely in oral and written form.

MINIMUM EXPERIENCE AND TRAINING

Two years of professional experience as a nutritionist or in teaching nutrition; and such training as may have been gained through graduation from an approved four year college or university with major course work in foods and nutrition, supplemented by work to the graduate level of a Master's degree in Public Health; or any equivalent combination of experience and training.

VITA

Ann Jensen Rhode was born in Boone, Iowa, in 1943. She graduated from Charles City Community High School in 1961 and received her B. S. degree in Foods and Nutrition from Iowa State University in 1965. The author took her dietetic internship at the University of Alabama Medical Center in Birmingham, graduating in 1966.

After graduating from her internship, the author worked one year for the Florida State Board of Health as a nutrition resident. In 1967 she entered the Graduate School of The University of Tennessee to work toward a Master of Science degree in Nutrition.

The author is a member of the American Dietetic Association and the Florida Dietetic Association.

She is married and makes her home in Cocoa, Florida.