

EIGHTY-FIFTH ANNUAL REPORT

OF THE

Department of Health

OF THE

STATE OF NEW JERSEY

1962



STATE OF NEW JERSEY

DEPARTMENT OF HEALTH

TRENTON, N. J., September 1, 1963

*To His Excellency Governor Richard J. Hughes:*

*To the Senate and General Assembly of the State of New Jersey:*

LADIES AND GENTLEMEN:

This is the Annual Report of the Department of Health for the calendar year 1962. Since this marks a change from reporting for fiscal years to reporting for calendar years, this report covers the period from July 1, 1961 to December 31, 1962. Subsequent reports will cover the calendar years.

Respectfully submitted,

ROSCOE P. KANDLE, M.D.,  
*State Commissioner of Health.*

Department of Health of the State of New Jersey  
Public Health Council

Fiscal Year 1962-1963

NELSON S. BUTERA, P.E., <i>Chairman</i> .....	Morristown
JOHN J. CANE, D.D.S., <i>Vice-Chairman</i> .....	Phillipsburg
ERMA T. DILKES, <i>Secretary</i> .....	Sewell
C. BYRON BLAISDELL, M.D. ....	Deal
MICHAEL S. KACHORSKY .....	Manville
ANTHONY P. MILLER, JR. ....	Pleasantville
HARRY J. ROBINSON, M.D. ....	Union
KATHLEEN SLETTELAND .....	Ridgewood

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ROSCOE P. KANDLE, M.D., *State Commissioner of Health*

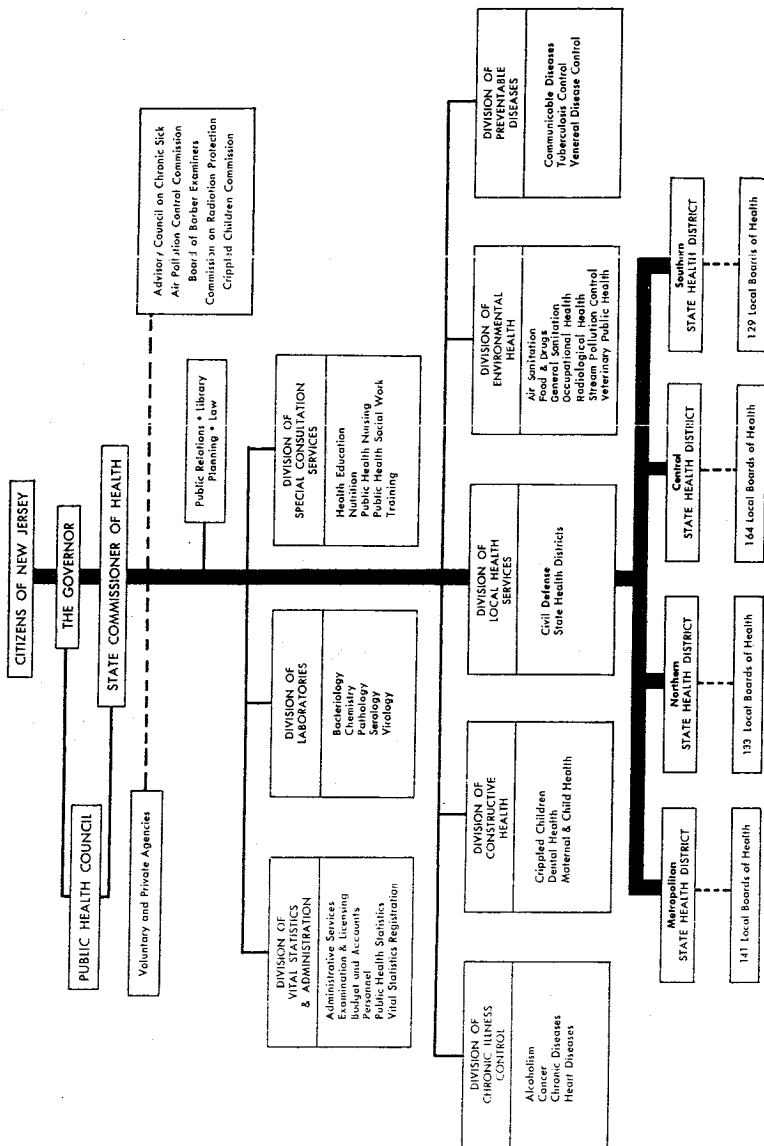
Table of Contents

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EIGHTY-FIFTH ANNUAL REPORT OF THE DEPARTMENT OF HEALTH  
OF THE STATE OF NEW JERSEY, 1962

	PAGE
Division of Chronic Illness Control .....	9
Division of Constructive Health .....	59
Division of Environmental Health .....	91
Division of Laboratories .....	141
Division of Local Health Services .....	167
Division of Preventable Diseases .....	195
Division of Special Consultation Services .....	247
Division of Vital Statistics and Administration .....	271

In the text, tables are numbered according to Program.



## Annual Meeting Public Health Council

The annual meeting of the Public Health Council was held on July 9, 1962. The following officers were elected for the fiscal year 1962-1963: Nelson S. Butera, Chairman; John J. Cane, Vice-Chairman; Mrs. Erma T. Dilkes, Secretary.

The membership of the Public Health Council is as follows:

	Address	Term of Office Expiration Date
Nelson S. Butera	Morristown	June 30, 1963
C. Byron Blaisdell, M.D.	Deal	June 30, 1964
Harry J. Robinson, M.D.	Union	June 30, 1964
Mrs. Kathleen Stetteland	Ridgewood	June 30, 1965
Anthony P. Miller, Jr.	Pleasantville	June 30, 1966
Mrs. Erma T. Dilkes	Sewell	June 30, 1967
John J. Cane, D.D.S.	Phillipsburg	June 30, 1968
Michael S. Kachorsky	Manville	June 30, 1968



## Division of Chronic Illness Control

ROSCOE P. KANDLE, M.D., *Acting Director*

### *Programs:*

Alcoholism Control .....	WILLIAM J. HARRIS, M.P.H. <i>Program Coordinator</i>
Arthritis and Allied Disorders .....	MARGARET H. EDWARDS, M.D. <i>Program Coordinator</i>
Cancer Control .....	STELLA BOOTH, M.D. <i>Program Coordinator</i>
Chronic Disease Control .....	ROSCOE P. KANDLE, M.D. <i>Acting Program Coordinator</i>
Diabetes-Endocrine and Metabolic Disorders .....	ARTHUR KROSINICK, M.D. <i>Program Coordinator</i>
Diseases of Nervous System and Special Senses .....	MARGARET H. EDWARDS, M.D. LEON FRASER, M.D. <i>Program Coordinators</i>
Heart and Circulatory Diseases .....	ALVIN A. FLORIN, M.D. <i>Program Coordinator</i>
Restorative Services .....	CURTIS F. CULP, M.D. <i>Program Coordinator</i>

### *Public Health Nurse Consultants:*

(Assigned from Public Health Nursing  
Program, Division of special Consultation  
Services) .....

CLEORA C. BROWN, R.N.  
PATRICIA E. HANNA, R.N.  
ELIZABETH T. HARRIS, R.N.  
VIOLA B. MACK, R.N.

*Note:* A Program for Restorative Services was established to consolidate general services for adults with those of children. The related work of the Division of Chronic Illness Control and the Crippled Children's Program is thus coordinated through the direction of Dr. Curtis Culp, who is also Director of the Division of Constructive Health and the Crippled Children's Program. This Program includes organized home care activities, speech and hearing, and services to nursing homes. The report will be found in the report of this Division.

Chronic Illness Control activities in dental health will be found in the report of the Dental Health Program in the Division of Constructive Health.

## Division of Chronic Illness Control

### *Cooperative Community Projects*

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The Chronic Illness Control Program in this state has continued to pursue the prevention of disability as a basic goal of public health. Since a great deal of the prevention of disability occurs in general hospitals, this Division has dealt directly with hospitals, primarily using the grant-in-aid mechanism. More recently, there has been a deliberate special emphasis on strengthening generic or more generalized services in the prevention of chronic illness program, at the same time that the traditional disease centered programs have been expanded. The passage of the Federal Community Health Services and Facilities Act of 1961, which is quite similar to the 1952 New Jersey Prevention of Chronic Illness Act, has made it possible for this Division to intensify its support of community health facilities.

During this 18-month period, grant-in-aid contracts were in effect with 71 agencies, including 25 community hospitals, 18 homemaker agencies, 14 nursing agencies, and 14 other organizations in a total amount of approximately \$490,000 (Table 1). These grants helped the local agencies in initiating or strengthening programs for the rehabilitation of the alcoholic; early detection of glaucoma and low vision rehabilitation; screening tests for the early detection of diabetes; early detection of pulmonary disease by routine chest x-ray examinations of hospital patients; specialized techniques in connection with the diagnosis and treatment of cancer and cardiovascular disease; provision of consultant physical therapy services, nutrition counselling, nursing services, homemaker services, and volunteer friendly visitor services for the chronically ill and aged; a pilot project in the development of a standardized statistical reporting and cost accounting system for homemaker services; and special studies in arthritis, cancer, diabetes, and heart disease.

Table 1. GRANT-IN-AID CONTRACTS

(Name of Agency and Type of Service)

ACADEMY OF MEDICINE OF NEW JERSEY :

Professional education program.

ALL SOULS HOSPITAL, MORRISTOWN :

Rehabilitation service for alcoholics.

- ATLANTIC CITY VISITING HOMEMAKER SERVICE:  
Homemaker program.
- ATLANTIC CITY VISITING NURSE ASSOCIATION:  
Stroke program.
- AMERICAN RED CROSS, CAMDEN COUNTY CHAPTER:  
Nutrition counselling.
- VISITING HOMEMAKER SERVICE OF BERGEN COUNTY:  
Standardized statistical reporting and cost accounting system.
- BERGEN PINES COUNTY HOSPITAL, PARAMUS:  
Rehabilitation service for alcoholics.
- VISITING HOMEMAKER SERVICE OF BURLINGTON COUNTY, INC.:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- HOMEMAKER SERVICE DEPARTMENT OF FAMILY COUNSELLING SERVICE, CAMDEN:  
Stroke program.  
Standardized statistical reporting and cost accounting system.
- CAMDEN VISITING NURSE ASSOCIATION:  
Consultant physical therapy service.  
Public health nursing services for the chronically ill and aged.
- CAMP NEJEDA FOUNDATION:  
Summer camp for diabetic children.
- CENTRAL BERGEN VISITING NURSE ASSOCIATION:  
Consultant physical therapy services.
- VISITING HOMEMAKER SERVICE OF CENTRAL UNION COUNTY, INC.:  
Standardized statistical reporting and cost accounting system.
- CHILDREN'S SEASHORE HOUSE, ATLANTIC CITY:  
Stroke program.
- CHR-ILL SERVICE, INC., EAST ORANGE:  
Information counselling and referral service for alcoholics.  
Resident homemaker service.  
Standardized statistical reporting and cost accounting system.
- CLARA MAAS MEMORIAL HOSPITAL, BELLEVILLE:  
Diabetes screening program.
- COLLINGSWOOD COMMUNITY NURSING SERVICE:  
Stroke program.

- COOPER HOSPITAL, CAMDEN:  
Stroke program.
- DONNELLY MEMORIAL HOSPITAL, TRENTON:  
Rehabilitation service for alcoholics.
- EAST ORANGE HEALTH DEPARTMENT:  
Cytology program.
- VISITING NURSE ASSOCIATION OF EASTERN UNION COUNTY:  
Follow-up services for cytology program.
- ELIZABETH GENERAL HOSPITAL:  
Cytology program.
- FAMILY SERVICE ASSOCIATION, ATLANTIC CITY:  
Information, counselling and referral service for alcoholics.
- VISITING HOMEMAKER SERVICE OF HUDSON COUNTY, INC.:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- VISITING HOMEMAKER SERVICE OF HUNTERDON COUNTY, INC.:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- HUNTERDON MEDICAL CENTER, FLEMINGTON:  
Routine chest x-ray of in-patients, out-patients and hospital personnel.  
Screening tests for cancer.  
Cytology teaching center.
- JERSEY CAPE VISITING HOMEMAKER SERVICE:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- MERCER COUNTY CHILD GUIDANCE CENTER:  
Juvenile diabetic study.
- VISITING HOMEMAKER SERVICE OF MIDDLESEX COUNTY:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- MIDDLESEX COUNTY VISITING NURSE ASSOCIATION:  
Consultant physical therapy services.
- MIDDLESEX GENERAL HOSPITAL, NEW BRUNSWICK:  
Diabetes screening program.  
Early identification of streptococci for prevention of rheumatic fever.

- VISITING HOMEMAKER SERVICE OF MONMOUTH COUNTY, INC. :  
Standardized statistical reporting and cost accounting system.
- MONMOUTH COUNTY ORGANIZATION FOR SOCIAL SERVICE :  
Consultant physical therapy services.  
Public health nursing services for the chronically ill and aged.
- VISITING HOMEMAKER SERVICE OF MORRIS COUNTY :  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- MORRISTOWN MEMORIAL HOSPITAL :  
Rehabilitation service for alcoholics.
- MOUNTAINSIDE HOSPITAL, MONTCLAIR :  
Rehabilitation service for alcoholics.
- NEWARK BETH ISRAEL HOSPITAL :  
Cytology program.
- NEWARK EYE AND EAR INFIRMARY :  
Glaucoma detection and research.
- VISITING NURSE ASSOCIATION OF NEWARK :  
Diet Counselling.
- NEWCOMB HOSPITAL, VINELAND :  
Rural cardiology service.  
Cytology program.
- NORTH HUDSON PUBLIC HEALTH NURSING SERVICE :  
Public health nursing service for the chronically ill and aged.
- NURSING SERVICE, RIDGEWOOD :  
Consultant physical therapy service.
- VISITING HOMEMAKER SERVICE OF OCEAN CITY :  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- HOSPITAL CENTER AT ORANGE :  
Cardio-pulmonary laboratory.  
Home care program for cardiovascular disease patients.
- PASSAIC GENERAL HOSPITAL :  
Day Hospital for diabetics.
- VISITING HOMEMAKER SERVICE OF PASSAIC COUNTY :  
Standardized statistical reporting and cost accounting system.

- PENNSYLVANIA HOSPITAL, PHILADELPHIA :  
Professional educational programs in chronic illness and aging.
- VISITING NURSE ASSOCIATION OF PLAINFIELD AND NORTH PLAINFIELD :  
Consultant physical therapy services.
- PLANNED PARENTHOOD ASSOCIATION OF MERCER COUNTY :  
Screening tests for cancer.
- B. S. POLLAK HOSPITAL, JERSEY CITY :  
Cytology teaching center.  
Screening tests for cancer.  
Pulmonary neoplasm study.
- PRESBYTERIAN HOSPITAL, NEWARK :  
Cytology teaching center.  
Screening tests for cancer.  
Isotope laboratory.  
Cancer training sessions.
- COMMUNITY HOMEMAKER SERVICE, PRINCETON :  
Standardized statistical reporting and cost accounting system.
- ROOSEVELT HOSPITAL, METUCHEN :  
Rehabilitation service for alcoholics.
- RUTGERS—THE STATE UNIVERSITY :  
Homemaker training courses.  
Refresher courses in diet therapy.  
Course in physical and social aspects of rehabilitation.  
Field work training for medical social work students.  
Community diet counselling.  
Study of social concomitants of diabetes among women.  
Volunteer Friendly Visitor training course.  
Scholarship in medical social work.
- SAGE VISITING HOMEMAKER SERVICE :  
Homemaker program.  
Standardized statistical reporting and cost accounting system.
- ST. CLARE'S HOSPITAL, DENVERLE :  
Medical social service.
- ST. MICHAEL'S HOSPITAL, NEWARK :  
Rehabilitation service for alcoholics.

ST. VINCENT'S HOSPITAL, MONTCLAIR:  
Anti-Coronary Club.

SETON HALL UNIVERSITY, COLLEGE OF MEDICINE AND DENTISTRY:  
Rehabilitation service for alcoholics.  
Scientific studies in field of arthritis.  
Diagnostic tests for cancer of gastro-intestinal system.  
Special studies in field of heart disease.

SHORE MEMORIAL HOSPITAL, SOMERS POINT:  
Cytology program.

HOMEMAKER SERVICE OF SOMERSET COUNTY, INC.:  
Homemaker program.  
Standardized statistical reporting and cost accounting system.

SOMERSET HILLS VISITING NURSE ASSOCIATION:  
Consultant physical therapy services.

SOMERSET VALLEY VISITING NURSE ASSOCIATION:  
Consultant physical therapy services.

SUSSEX COUNTY BOARD OF FREEHOLDERS:  
Public health nursing services for chronically ill and aged.

TRENTON VISITING NURSE ASSOCIATION:  
Consultant physical therapy services.

TRI-COUNTY SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, ATLANTIC CITY:  
Stroke program.

VISITING HOMEMAKER ASSOCIATION OF NEW JERSEY:  
State-wide homemaker program.  
Homemaker Executive Development Seminar.

WEST JERSEY HOSPITAL, CAMDEN:  
Rehabilitation service for alcoholics.  
Stroke program.  
Cardio-pulmonary function laboratory.

### Alcoholism Control Program

A significant development in New Jersey in the field of alcohol and alcoholism during the past 18 months has been the removal of the Center of Alcohol Studies from Yale to Rutgers—the State University. The Center is recognized as the outstanding academic unit dealing with alcohol. It is composed of the Publications Division which publishes the *Quarterly Journal*

of *Studies on Alcohol*, the only scientific periodical in the field; the Laboratory of Applied Biodynamics, where physiologic research on alcohol and alcoholism is conducted; and the annual Summer School of Alcohol Studies, a month-long course designed to meet the needs of most of the professional groups working in the field of alcohol or alcoholism. Other members of the staff are outstanding researchers in the areas of sociology, psychology, and education. Intensified collaboration with the Center on projects of mutual concern and interest is anticipated when completion of its new building, scheduled within the next year, brings under 1 roof the departments and divisions now scattered in various temporary locations on the New Brunswick campus.

The problem of alcoholism continues to be 1 of the most prevalent public health problems in New Jersey, estimated to affect 244,000 persons. New Jersey still ranks second in the nation with an estimated rate of alcoholism of 6,060 per 100,000 adults 20 years of age and over, using the Jellinek formula.

During the summer of 1961, a medical advisory committee on alcoholism was appointed by the Commissioners of Health and Institutions and Agencies. These physicians bring insight from the specialties of psychiatry, internal medicine, industrial medicine, general practice, and administrative medicine. Products of this committee were the preparation of a state-wide plan of alcoholism control and a plan for an alcoholic service in a community general hospital. The Committee further suggested that the Department of Health organize a group of physicians to be known as medical advisors who would be available to hospitals and physician groups to discuss the treatment of alcoholism, assist hospital staffs to develop alcoholic services, participate in training programs for residents, internes and nurses, and provide consultation on individual alcoholic patients if the consultation is to be used as a teaching device. This has been done.

### Rehabilitation Services

There were 6,455 patients served during this period by services sponsored by this program:

5,190 persons were seen in the 9 out-patient alcoholism treatment centers located in community hospitals. Staffed by trained social workers, part-time physicians and consulting psychiatrists, the centers provide medical treatment, group therapy, and casework services for alcoholic patients and their families. In addition, the centers act as the coordinating agency in the community for dealing with the many problems created by alcoholism. 1,265 persons attended weekly group meetings conducted by a field representative from this program in 4 tuberculosis hospitals, 1 county jail, 1 county workhouse, and the in-patient unit at the New Jersey Neuro-Psychiatric Institute.

A breakdown of the success of treatment of the 5,190 patients seen in the 9 out-patient centers has been made. The criteria used in making this determination are the degree of improvement in the patient's drinking, his social adjustment including family relationships, his employment record, and his physical health. The results are as follows:

50.4 percent showed marked or reasonable improvement;

23.3 percent showed no improvement;

26.3 percent were unknown because their contact with the treatment center was too brief.

Work has continued with local agencies and community groups, including the Monmouth County Mental Health Association, looking toward the establishment of an out-patient clinic in conjunction with a general hospital.

Additional personnel have been added to the staffs in 2 clinics, namely a part-time psychologist at the Donnelly Memorial Hospital and a part-time social worker at West Jersey Hospital.

Plans were completed for the addition of a social work trainee to the out-patient clinic at Roosevelt Hospital. The worker is a first year student under the 3 year program at the Rutgers School of Social Work and will be with the clinic for at least 18 months during his training, with the likelihood that he will continue with the program upon completion of his studies.

A grant was made available to the Chr-III Service Council on Alcoholism to assist in employment of a full-time staff member to coordinate the service of the Council. The Council is an information, referral, and short-term counseling service for alcoholics. Referrals are then made to the appropriate agencies in the community.

A grant from the Department has enabled the Family Service Association of Atlantic City to develop an information, referral, and counseling center on a part-time basis. With the exception of Alcoholics Anonymous, this is the only community resource for the alcoholic in the Atlantic County area. The staff includes a psychiatric social worker, a consulting psychiatrist, an internist, and a secretary. When the program has been able to demonstrate to the community the need for further resources for the alcoholic, it is anticipated that the information center can be put on a full-time basis. The eventual development of an out-patient alcoholism clinic in conjunction with a community general hospital is foreseen.

At Seton Hall, out-patient services are not yet functioning. In-patient treatment in the medical department and the research being conducted by members of the medical school staff continue. During the past year, the following studies have been underway to determine:

1. The biochemical mechanism of delirium tremens.
2. The effect of ethanol on vitamin and fat metabolism.
3. The influence of DPN glucogen and sorbitol and ethanol and acetaldehyde oxidation.
4. The mechanism responsible for conversion of fatty liver of the alcoholic to cirrhosis.

#### *Educational Activities*

There were 265 individuals who received training in alcoholism and alcohol education at workshops and summer schools in New Jersey. These included teachers, nurses, school nurse teachers, judges, psychologists, physicians, social workers, parole officers, rehabilitation workers, and clergymen.

The Department has placed several prints of 6 films on alcohol and alcoholism in the State Museum Library. These films are available to any school or organized group on request. During this period, there were 1,076 film showings with attendance of 46,111 persons.

Seventy-six lectures were given by program personnel to organized groups such as service clubs, church groups, Alcoholics Anonymous groups, hospital staffs, and professional organizations.

Publication of "Alcoholism—A Treatment Digest for Physicians," a quarterly publication for practicing physicians has been continued. Articles on alcohol and alcoholism have appeared in the Department publication, PUBLIC HEALTH NEWS. These articles will reach a wide range of interested individuals who do not receive the Digest. During the past year, a Directory of Treatment and Rehabilitation Resources for the Alcoholic in New Jersey was distributed to all practicing physicians, judges, magistrates, social and welfare agencies, public health nursing agencies, and parole and probation officers and to clergymen on request. Approximately 11,000 copies were distributed.

#### *Program Emphasis*

Efforts to strengthen the clinics by providing additional workers as needed have been continued. The shortage of trained psychiatric social workers has severely hampered the program in the past. It is anticipated that the social work trainee program now underway at Roosevelt Hospital will help to fill this gap.

There are still a number of areas in the state, particularly in the northwest and southeast, that are in need of treatment resources for the alcoholic. The program in Atlantic City may demonstrate another method of providing a service in areas where it has not been possible to establish a full-time, out-

patient clinic in conjunction with a community general hospital. Additional education activities for the coming year include half-day institutes for agency personnel in the Southern and Metropolitan Districts and a 3-day workshop for local health officers and appropriate State Health Department personnel, the latter to be made possible by a technical assistance project grant from the United States Public Health Service. If the teachers' workshop during the spring semester at Glassboro State College proves successful and there is sufficient response and interest, attempts will be made to extend the program to State Colleges in other parts of the state.

### Program on Arthritis and Allied Disorders

Since its inception in March, 1958 the Arthritis Program has cooperated with agencies, institutions, and private organizations in efforts directed toward education, rehabilitation, stimulation of research and facility expansion, and continued cooperation with other agencies.

#### Education

In cooperation with members of the New Jersey Arthritis Project, a Directory of Arthritis Services in New Jersey was published. More than 5,600 copies have been distributed upon request.

The Arthritis Information and Attitude Study, being conducted in cooperation with the Division of Rheumatology of Seton Hall College of Medicine and Dentistry, completed its first stage. Through this project, statistical information is obtained on the types of arthritis, age distribution, and inquiries are made as to the source of the patient's knowledge concerning arthritis.

The Proceedings of the Fifth Symposium on Arthritis, held at Bergen Pines County Hospital, Paramus, were distributed to interested individuals and agencies.

The booklet "Strike Back at Arthritis" continues to be in demand. To date, more than 5,200 copies have been sent to individuals and agencies.

#### Workshops and Symposia

In cooperation with Bergen Pines County Hospital, an Arthritis Symposium was held and was attended by more than 100 persons representing various social, health, and welfare agencies. Presentations were given on "Epidemiology and Medical Management of Arthritis," "Prevention of Disability and Rehabilitation of Arthritis," "Surgical Rehabilitation of the

Arthritic Patient," and "Social and Community Needs of the Arthritis Patient."

The Second Postgraduate Seminar in Arthritis and Related Diseases in conjunction with the Seton Hall College of Medicine and Dentistry, the New Jersey Rheumatism Association and the New Jersey State Department of Health, was held on November 4, 1962 in Newark. Subjects discussed were "Degenerative Joint Disease" and "Gout." Approximately 275 physicians attended.

#### Research

Assistance has been continued to the Division of Rheumatology of Seton Hall College of Medicine for the services of a research nurse and laboratory technician. A summary of program activities for the period July 1, 1961 through December 31, 1962 follows:

Table 1. SUMMARY OF WORK

Types of Tests Performed:	
Joint fluid analysis .....	235
Rheumatoid Factor test .....	2,550
Rheumatology research test .....	5,400
	8,185
Clinical Categories of Patients Tested:	
Rheumatoid arthritis .....	1,800
Degenerative joint disease .....	365
Rheumatic fever .....	127
Gout .....	290
Other .....	510
	3,092

#### Cancer Control Program

Two urgent aspects of the cancer problem: (1) reduce the time between the onset of symptoms and diagnosis; and (2) reduce the time between diagnosis and *proper* and *adequate* treatment.

This is true for all age groups. It may be possible to reduce these 2 time sequences now that the older patient will be able to obtain care through New Jersey's use of the Kerr Mills law and will be less hesitant to appear at the doctor's office or appropriate hospital clinic.

Responsibility will still be placed in the hands of the family physician and the local or special hospital.

Older people have catastrophic illnesses other than heart disease and they require more frequent hospitalization and increasingly longer periods for hospitalization and more terminal care than any other age group. Members of this age group are much less able to care for themselves and they have less family help and less economic aid than younger age groups.

#### Lung Cancer and Smoking

Data confirm the correlation of lung cancer and smoking as an etiological factor. This correlation was first made by various statistical workers in the field. There is now agreement about this in England, Sweden, and Norway as well as in the United States.

Whether one can change the habits of individuals who have been smoking for 20 years or more is debatable.

An all-out effort should be made to educate young persons so they will not start smoking and if they already have, to discontinue. The youngster gets confused. He is told not to smoke. He finds that many who tell him not to smoke are themselves smokers.

Smoking is not only related to lung cancer but to other medical illnesses including heart disease, and this aspect should be emphasized as well as the cancer angle.

#### Cytology

##### Training Program

Training of cyto-technicians, which takes place at the Presbyterian Hospital of the United Hospitals, Newark, is an annual project. From July 1, 1961 to December 31, 1962, 11 technicians were sent to the course by 9 hospital pathologists in the state.

A training manual using colored photomicrographs was published which has received widespread professional acclaim.

##### Programs for Early Detection and Special Study

The conventional Papanicolaou techniques and classifications for diagnostic purposes are used.

#### Cytological Smears

In some hospitals these smears are done on all admissions, in others they are done in a screening program, and others, as one of the diagnostic procedures.

Community hospitals in which the Cancer Control Program supports Papanicolaou smears by grants-in-aid are shown in the following tables:

Table 1. CYTOLOGICAL SMEARS  
JULY 1, 1961-DECEMBER 31, 1962  
Miscellaneous Specimens

Total Slides	Type of Specimen	Total No. Patients	Negative I, II, II-III	Suspicious III	Positive III-IV, IV, IV-V, V
1,142	Bronchial	260	152	34	19 39 9 7
725	Chest fluid	105	49	19	13 16 3 3
234	Ascitic fluid	36	27	4	1 2 2 0
26	Esophagus	4	2	0	1 0 1 0
8	Urine	2	1	0	1 0 0 0
2,133		405	231	57	35 57 15 10
					( )
					117

Grand Total of Slides:

Sputum ..... 13,500  
Other specimens .... 2,133

15,633

Class description:

- Class III-IV: Cells seen suggestive for malignancy.  
Class IV : Cells seen that are fairly typical for malignancy.  
Class IV-V : Cells seen that are classical for malignancy, but few in number.  
Class V : Cells seen that are classical for malignancy, and in abundance.

Table 2. SPUTUM CYTOLOGICAL SMEARS  
JULY 1, 1961-DECEMBER 31, 1962  
POLLAK HOSPITAL, JERSEY CITY

#### SPUTA

Total number of patients ..... 1,056  
A series consists of 3 sputa specimens from each patient.  
Four slides are prepared from each specimen—12 slides per series.

	Number of slides		
1,003—patients had 1 series	12,036		
39—patients had 2 series	936		
12—patients had 3 series	432		
2—patients had 4 series	96		
1,056	13,500		
Breakdown as to classification:			
Total	Negative I, I-II, II, II-III	Suspicious III	Positive III-IV, IV, IV-V, V
1,056	756	85	72 91 37 15
			215



Table 3. CERVICAL CYTOLOGICAL SMEARS

JULY 1, 1961-DECEMBER 31, 1962

HUNTERDON MEDICAL CENTER, FLEMINGTON

	Number Patients	Number Slides	Classification					O
			I	II	III	IV	V	
Vaginal and cervical .....	6,430							
Other .....	311							
	6,741	14,104	(1,668*	107*	14*	8*	8*	2*)

\* Covers only July 1, 1962-December 31, 1962.

Table 4. ELIZABETH GENERAL HOSPITAL—CERVICAL SMEARS

	Number Persons Examined	Classification				
		I	II	III	IV	V
*July-December 1962 .....	66	58	4	3	1	0

\* Started July 1962.

Table 5. CYTOLOGICAL SMEARS

JULY 1, 1961-DECEMBER 31, 1962—CERVICAL SMEARS

ST. ELIZABETH HOSPITAL, ELIZABETH

Type	Number Patients	Number Slides	Number Negative	Number Suspicious	Number Positive
Vaginal .....	86	172	163	8	1
Cervical .....	47	94	92	2	0
Other .....	130	263	215	43	5
	263	529	470	53	6

*East Orange*

A joint project for cytological diagnosis of uterine cancer was started for clinic patients in March, 1961. This project is sponsored by this Department in cooperation with East Orange General Hospital and East Orange Department of Health.

Table 6. UTERINE CYTOLOGICAL SMEARS, EAST ORANGE

JULY 1, 1961-DECEMBER 31, 1962

No. of Patients	Classification						Unsat.	Deferred
	I	II	II-b	III	IV	V		
806	166	569	36	16	0	0	18	1

Table 7. CYTOLOGICAL SMEARS

JULY 1-DECEMBER 31, 1962\*

SHORE MEMORIAL HOSPITAL, SOMERS POINT

Total No. Patients	Classification				
	I	II	III	IV	V
73	71	1	1	0	0

\* Project started May, 1962.

July 1, 1961 - December 31, 1962

*Hammonton Clinic*

The Hammonton Clinic performs routine Papanicolaou tests on all pregnant females in low economic brackets attending the out-patient clinic. The Newcomb Hospital analyzed 156 smears taken on females at the Hammonton Clinic during this period.

*Voluntary Agencies*

Voluntary agencies performed routine Papanicolaou tests on 100 cases.

*Radiobiology and Nuclear Medicine*

The Radiobiology Department of the Presbyterian Hospital of the United Hospitals, Newark, is supported in part by the Cancer Control Program. This support is carried out by means of grant-in-aid funds to the hospital for the employment of a highly trained physicist who serves as a consultant to the Department and other institutions on request. The increase in the services rendered by the Radiobiology Department is shown by the large patient load in isotopes and in deep x-ray therapy. (See Table No. 8.)

Radiobiology activities for diagnosis and treatment are also aided by isotope equipment on loan to the Saint Barnabas Hospital, Newark and the West Jersey Hospital, Camden, by this Department. (See Tables No. 9 and No. 10.)

## DEPARTMENT OF HEALTH

Table 8. CLINIC LOAD  
 JULY 1, 1961-DECEMBER 31, 1962  
 Presbyterian Hospital of the United Hospitals, Newark  
 (Including Black-Stevenson Clinic)

	Number Patients	Number Treat- ments	Number Clinic Visits
Presbyterian Hospital Case Load			
<i>Diagnosis</i>			
Evaluations for cancer		3,900	
Malignant	3,171		
Non-malignant	729		
Black-Stevenson Clinic			
Clinic visits—follow-up			3,322
<i>Radiation Treatment</i>			
* Patients receiving radiation therapy	1,306		
* Number of therapy treatments		19,954	

\* These figures give an example of what the work load means to a community hospital when an adequate cancer service is developed.

- A. Each treatment involves the following team for each visit:  
 Physician, physicist, nurse, technician and clerk. A single total course of treatment for each particular cancer lesion requires daily treatments lasting from 6 to 8 weeks.
- B. An evaluation of the progress of the patient following treatment is carried out by an elaborate follow-up clinic system, which continues for 5 years and more.
- C. This includes follow-up patients receiving therapy as well as follow-up on patients not in treatment at this time.

Table 9. WORK LOAD IN ISOTOPES

At Community Hospitals where Cancer Control Program has Projects

JULY 1, 1961-DECEMBER 31, 1962

Hospital	Purpose of Procedure	Number of Patients
Presbyterian, Newark	Diagnosis	483
	Therapy	54
Saint Barnabas, Newark	Diagnosis	58
	Therapy	5
West Jersey, Camden	Diagnosis	241
	Therapy	23

## DIVISION OF CHRONIC ILLNESS CONTROL

Table 10. RADIOLOGICAL HEALTH PROGRAM IN CANCER

Monitoring of Equipment and Personnel

JULY 1, 1961-DECEMBER 31, 1962

Hospital	Number Tests on Equipment	Number Persons Monitored
Presbyterian, Newark	30	48
Saint Barnabas, Newark	Equipment and working area checked	Personnel checked monthly
West Jersey, Camden	Machines—monthly Counter area—weekly	24 Monthly

Table 11. GASTROENTEROLOGY

Seton Hall College of Medicine and Dentistry, Jersey City

JULY 1, 1961-DECEMBER 31, 1962

Diagnosis and detection tests for cancer of esophagus, stomach, duodenum and colon.

Number Patients	Number Slides	Classification		
		Negative	Positive	Unsatisfactory
221	1,547	178	35	8

Table 12. RESEARCH

Cytological Smears

NEWCOMB HOSPITAL, VINELAND

JANUARY 1, 1962-DECEMBER 31, 1962

Number Persons Examined	Classification				
	I	I-II	II	III	IV V
1,002	655	62	282	1	0 2

This study, which began January 1, 1962, will reveal information on the special age group 18-30, using the Papanicolaou technique. Also, this will indicate the prevalence of cancer in the middle income group of females as contrasted with studies on lower income groups.

*Research*

July 1, 1962 - December 31, 1962

*The Human-Dog Study of the Lymphoma-leukemia group of diseases is continuing.* This involves the cooperation of some veterinarians in the state who continue to send tissue obtained from dogs. This tissue is prepared in the State Laboratory and is then sent to the Pathologist of the Rutgers University Veterinary Laboratory for diagnosis. The diagnosis is returned to the veterinarian who originally sent in the tissue. The design of the follow-up part of this study still has to be done. The raw data are being collected.

Table 13. HUMAN - DOG STUDY

Specimens from dogs processed .....	54
Slides made from above specimens .....	216

*Chemotherapy project in a community hospital**Newark Beth Israel Hospital*

July 1, 1961 - December 31, 1962

*Pilot Study*

This pilot project was attempted in a community hospital, where the staff and the administration are anxious to develop a team of workers to enable them to carry out advanced cancer therapy techniques.

The study is concerned with the application of known therapeutic agents to tumors in a specific region of the body. The therapeutic agents were to be applied regionally by the continuous infusion methods devised by Sullavan.

Patients with head and neck tumors as well as those with brain tumors were to be the subjects. The main and relatively crude single criteria used for selecting these patients was that all other treatment modalities had been given a fair trial and this was to be the last resort. It implied, therefore, that this study was chiefly concerned with palliation rather than with cure. The chemotherapeutic measures would not be used in conjunction with either surgery or radiation therapy.

Five cases were treated last year. There were 2 brain tumors, 1 palate, 1 larynx and 1 tumor of the right mastoid. The drugs utilized were Methatrexate, 5 Fluorouracil and Thio-Tepa.

It is not possible to draw conclusions as to the effectiveness since there are too few cases. None of these cases is comparable either as to stage of the disease, the site of the tumor, the extent of the surgery or the plan of the

therapy given. There are still further variables such as the uncontrolled factor of the internal environment.

The hospital was able to organize a team, which could, with further practice and experience, carry out effectively these more advanced therapeutic procedures on properly selected patients.

*Cancer Registry*

A county cancer registry, based on 5,000 cases retroactive to January 1962, was set up in Bergen Pines County Hospital, Paramus. All the hospitals of Bergen County are cooperating by sending reports of cancer cases to this registry. Equipment and supplies for this registry were furnished on lend lease by this Department.

The Program Coordinator and the Medical Records Librarian of Bergen Pines, who is in charge of this registry, are conducting a study of the quality and accuracy of the reporting of cases to the registry, and an analysis of information obtained will be made.

**Nursing Activities of Program***Clinical Observation Program*

There were 140 public health and hospital nurses from all areas of New Jersey who visited Black-Stevenson Clinic and Presbyterian Hospital of the United Hospitals of Newark for 1 day's observation in the latest techniques used in the detection and treatment of cancer. This includes instruction in the Radiation and Isotope Department.

*Lung Cancer Institute*

Approximately 120 nurses attended a nursing institute on Cancer of the Lung in South Jersey. This meeting was co-sponsored by the American Cancer Society, New Jersey Division, the Nurse Education Committee of South Jersey, and this Department.

Cigarette smoking as a major cause of the increase of lung cancer incidence, as evidenced by epidemiological, experimental and statistical data, was stressed.

*In-Service Education*

The Public Health Nurse Consultant conducted three in-service education programs for 40 nurses. These included demonstration of nursing techniques in the care of cancer patients. Consultation was provided to nurses at two cancer clinics.

*Pathological Tissue Service*

Cancer funds support the pathological tissue laboratory in the Department.

Table 14. SLIDE SUMMARY

July 1, 1961 - December 31, 1962

Slides prepared .....	12,674
Slides stained .....	12,102
Specimens processed .....	1,278
Slides distributed throughout state .....	10,313

*Death Certificates*

The Program Coordinator acts as liaison between hospitals and the Public Health Statistics Program in furnishing copies of death certificates from cancer. There were 598 photocopies furnished to hospitals in New Jersey and out of state. This service is an attempt to help to complete hospital records, and to assist in maintaining case registries for completeness of follow-up on cancer patients. In addition, 391 cases were searched by the Public Health Statistics Program, but records were not available.

*Education**High School Students' Survey of Smoking Patterns*

## PART I

Part I was a survey conducted by a group of high school seniors especially interested in science. The subject matter of the survey was "Patterns of Smoking" in the high school population in Newton, New Jersey.

The scientific aspect was stressed by the Program Coordinator of the Cancer Control Program. The survey was conducted by the students themselves with guidance from their teacher, the Consultant in Community Organization in the Northern District and consultants whose services were used for this project.

Following the completion of this project, the data were relatively crudely analyzed and the report was written by the students, aided by the teacher, District Consultant in Community Health Organization, and the consultants. The topic was "Patterns of Cigarette Smoking."

## PART II

The objective of Part II was to relate the survey to lung cancer. This part was devoted to the use or application of the survey data to the problem of Lung Cancer and Cigarette Smoking.

The Program Coordinator proceeded to demonstrate how survey data, as collected in this study, are used in an epidemiological study of lung cancer.

Three lectures were given. The first showed the importance of the medical case history as the oldest and still the most important source of data for this problem, or any other medical problem. The second lecture discussed the other sources of data that are utilized in studies; namely, death certificates, animal experimental data, and laboratory data. The third lecture was devoted to the survey, emphasizing its relation to the other sources of data and the relatively recent application of survey data to the study of medical problems. This has occurred mainly in the last 20 years. The relative degrees of accuracy, the problems of interpretation, and the interrelation of all sources of data as applied and used in the study of the lung cancer problem were elaborated. The concepts of cause and effect versus statistical correlation were introduced as scientific concepts and these concepts applied to the data from surveys and other data. In this manner, Parts I and II of the project are tied together.

This pilot study in health education is acknowledged to be rather elaborate, time consuming and certainly not replicated easily in all high schools in all communities.

Its importance lies in the fact that besides being a health education project, placed in a community high school, it gave a group of students an understanding of a scientific method now becoming increasingly important in science, and indoctrinated them by objective means with the medical information now current on the relationship between lung cancer and smoking.

It is hoped this dual approach will be more effective in encouraging the teenage student to *stop smoking* or not to begin to smoke.

The success of this approach can really only be evaluated if in two years' time another survey is made on the same population in the school, then 2 years older; then determine from the repeat survey what changes in smoking patterns or attitudes, if any, have occurred and what influence the survey had on the students' present habits and change of habits.

*Symposium*

The Academy of Medicine of New Jersey and this Department sponsored a symposium on "Carcinoma of the Uterine Body and Cervix" in Newark. Two hundred physicians attended.

*Public Education**Pamphlets Published*

Two new pamphlets, published by this Department, received wide distribution on request—"Cytology Manual" and "Radiation Information for Nurses."

In addition, over 15,000 pamphlets were distributed to medical and non-medical persons. Among these, many pamphlets on smoking and lung cancer were sent to high school students.

#### *Film Showings*

During the year July 1, 1961-June 30, 1962, 117 films on cancer detection were shown to 5,163 persons.

The Mercer County Medical Society and its Auxiliary cooperates yearly with the Mercer County Chapter of the American Cancer Society and this Department in sponsoring a cancer education program at Lit Brothers Store, Trenton. Five local physicians participated in the question period which followed 2 films—"Breast Self-Examination" and "Time and Two Women." Approximately 250 attended.

### **Chronic Disease Program**

#### *Friendly Visitor Program*

As a further step toward meeting the needs of the homebound chronically ill and aged, this Department initiated a program of assistance to community health and welfare agencies to recruit and train Volunteer Friendly Visitors. A unique feature of this program is that it does not require the establishment of any new agencies. The Division of Chronic Illness Control coordinates the program which is administered by a State Committee of volunteer professional and lay persons appointed by the State Commissioner of Health. The State Committee has developed publicity materials, established guidelines for participating agencies, and set up local planning committees. The Volunteer Friendly Visitors are recruited by local health and welfare agencies who will be responsible for assignment and supervision of volunteers. In cooperation with the Extension Division of Rutgers—the State University, formal training courses will be provided on a county or regional basis to participating agencies. The training course manual was completed and the first courses are scheduled for early in 1963.

#### *Visiting Homemaker Program*

There were 612,833 hours of homemaker service provided to 7,146 families by the 17 local homemaker services in the state during the period July 1, 1961 through December 31, 1962. In cooperation with the Visiting Homemaker Association of New Jersey and personnel of the District offices, efforts continue to develop homemaker agencies in the six counties now lacking these resources.

In order to devise a common system of reporting which would be useful to all homemaker agencies and would present a state-wide picture of the visiting homemaker program and to assure sound fiscal operation and balanced budgets for these agencies, development of a standardized statistical reporting and cost accounting system was undertaken during the year. This Department made available to the agencies the necessary forms, training sessions, consultation services, and moderate financial assistance during the demonstration period. A manual presenting the forms and procedures for this system is now being prepared and will be ready for distribution early in 1963.

The Training Course for Homemakers, conducted by the Extension Division of Rutgers—the State University and subsidized by this Division, has been given 24 times and attended by 360 homemakers during this period. More than 1,500 women have participated in these courses since they were initiated 9 years ago.

The second Homemaker Executive Development Seminar sponsored by the Visiting Homemaker Association of New Jersey, Inc., Rutgers—the State University, and the State Department of Health in cooperation with the U. S. Public Health Service, was held in Princeton. This 3-day in-residence training institute was attended by administrative personnel of local homemaker services in the state and, upon request, was extended to representatives of public health and welfare agencies in other states. Participants in the institute included personnel from Connecticut, Massachusetts, New York, and Pennsylvania, as well as members of Public Health Service from Washington and New York.

The pilot project in Resident Homemaker Service being conducted by Chr-III Service, Inc., East Orange, with financial assistance from this Department, has now completed 2 years of operation. During the period of this report, live-in service was provided to 68 cases, 91 percent of whom were females. Diseases of the heart and circulatory system and pregnancy were the 2 diagnostic classifications reported in more than 50 percent of these cases. In addition, 39 cases, 92 percent of whom were females, received long hour service. Thirteen diagnostic classifications were reported in this group with 28 percent classified as pregnancy; 21 percent neuropsychiatric and personality disorders; 13 percent diseases of the heart and circulatory system; and the remaining 38 percent were divided among 10 other diagnostic groups.

Of the 122 applications received but for whom no service was provided, 5 percent were requests for information only and homemaker was not an appropriate service in 34 percent. Homemaker was an appropriate service in the other 61 percent of these cases but lack of finances prohibited service being rendered in more than half of this group.

Difficulty in recruiting live-in homemakers and time required for intake and supervision were cited as continuing problems in this type of program.

#### *Nursing*

The North Hudson Public Health Nursing Service which was established with financial assistance from this Department to provide comprehensive public health nursing services for 5 adjoining communities, namely, Guttenberg, North Bergen, Secaucus, Weehawken, and West New York, is now operating and has additional help from a federal grant. A total of 626 public health nursing visits has been made since service to the public began August 1, 1962.

Financial assistance to provide public health nursing services to the chronically ill and aged has also been provided to the Sussex County Board of Chosen Freeholders, the Monmouth County Organization for Social Service, and Camden Visiting Nurse Association.

#### *Physical Therapy*

Consultant physical therapy services were made available to nine visiting nurse associations through grants-in-aid from this Division. In this demonstration program, public health nurses are taught selected physical therapy procedures as prescribed by a physician, thus extending nursing care to prevent deformity and disability and promote rehabilitation of chronically ill and aged patients. During the 9 months that this program has been in operation, 554 visits have been made to 212 new patients referred by 168 different physicians. Fifty-one percent of the patients served were diagnostically classified as diseases of the heart and circulatory system; 14 percent, diseases of the nervous system; 14 percent, diseases of the bones; 10 percent, accident; and the remaining 11 percent were divided among 7 other categories.

#### *Professional Education*

The Postgraduate Courses for Physicians held for many years in cooperation with St. Michael's Hospital, Newark, and the New Jersey Academy of General Practice, have been repeated. These courses, designed to acquaint the practicing physician with the most recent developments in the field of chronic diseases, consist of clinical conferences, case presentations, and round table discussions. Subjects covered and attendance are as follows: "Recent Advances in Clinical Medicine"—43; "Recent Advances in Clinical Cardiology"—56; "Acute Cardio-Respiratory Failure with Resuscitation"—31; "Advanced Clinical Electrocardiography"—29; "Medical Electronics"—7.

Sixty-four persons representing 25 agencies in the state participated in the 2 courses on "Physical and Social Aspects of Rehabilitation" conducted

through the Extension Division of Rutgers—the State University in cooperation with this Department. Each course consisted of 12 weekly sessions and was open to employees, volunteers, and board members of hospitals and health, educational, correctional, and social agencies.

A series of postgraduate lectures for physicians was held at Newcomb Hospital, Vineland, in cooperation with the New Jersey Academy of General Practice. Approximately 144 physicians attended the 6 sessions.

The New Jersey Academy of Medicine with support from this Division has sponsored three symposia, each attended by approximately 200 professional persons. The subjects were: "Current Therapy of Cerebro-Vascular Accidents"; "Carcinoma of the Uterine Body and Cervix"; and "Rheumatoid Diseases."

#### *Social Service*

St. Clare's Hospital, Denville, became the first hospital in Morris County to establish a social service department offering case work service to hospital and clinic patients and their families who have social or emotional problems related to their medical care. This program was instituted with financial assistance from this Division and extensive planning and consultation by personnel of the Northern District Office. The service has been interrupted because of the resignation of the social worker and difficulty in recruiting a qualified replacement.

During the 9 months period in which the program was active, 53 patients received service. Thirty-three, or 62 percent, of these were referred to the program by physicians, with other sources of referral being hospital personnel, the patient or a relative, and community agencies. Diagnostic classifications of the patients served were various but cardio-vascular disease accounted for 34 percent of the cases; orthopedics, 17 percent; cancer, 13 percent, and neurological disorders, 11 percent.

For the first time, this year a training stipend in medical social work was made available by this Department through the Graduate School of Social Work of Rutgers—the State University. This scholarship program for students who are planning professional social work education in the field of medical care and who need financial assistance with their education was initiated to help alleviate the critical shortage of professional social workers employed in medical and health-related agencies in New Jersey.

The Graduate School of Social Work of Rutgers—the State University again this year conducted the Summer Experience in Social Work Program with assistance from the Division of Chronic Illness Control. This program, designed to aid in the recruitment of scarce health personnel, makes it possible for undergraduate students who are interested in and have a good potential

for becoming social workers to spend the summer months working in social agencies. One hundred and twelve applications were received for this year's program from which 48 students, primarily college sophomores and juniors, were placed in 15 different agencies. The final evaluation of the program indicated an over-all feeling of satisfaction on both the part of the students and agencies.

### Diabetes Program

A summary of the activities of the Diabetes Control Program for the period July 1, 1961 to December 31, 1962, is as follows:

#### I. Case-Finding Activities

##### a. Diabetes Detection Week

1. The Ninth Annual State-wide Diabetes Detection Drive was observed during November 12 to 18, 1961. This was a joint effort of the Medical Society of New Jersey, New Jersey Diabetes Association and the New Jersey State Department of Health.
2. The Tenth Annual State-wide Diabetes Detection Drive was observed November 11 to 17, 1962 and was jointly sponsored by the Medical Society of New Jersey, the New Jersey Diabetes Association, New Jersey Association of Osteopathic Surgeons and Physicians, New Jersey Dental Society and the New Jersey State Department of Health. There were 13,144 blood specimens collected, resulting in the identification of 54 previously unknown diabetics. Approximately 1,200 Dreybaks were distributed. This device will be discontinued as a mass screening method. The returns have not been adequate to justify their use by the Diabetes Control Program. The details of test results are attached. (See Workload Data, Tables 1 and 2.)

##### b. Year-Round Diabetes Screening Programs

1. The Diabetes Detection Unit at the Middlesex General Hospital continued to operate well. The populations screened now include in-patients and out-patients of the Middlesex General Hospital as well as community groups such as industrial employees, service clubs, etc.
2. The Diabetes Detection Unit at the East Orange Health Department has continued to use the Clinitron for blood screening. (See Tables 3 and 4.)

3. Negotiations with other hospitals and health departments have aimed at starting new diabetes detection units. Glover-Edwards Glucose Test Kits have been placed in the following:

Public Health Nursing Service of Hoboken  
 Memorial General Hospital, Union  
 East Orange Health Department, East Orange  
 Verona Health Department, Verona  
 Edison Township Health Department, Edison

#### c. Short Term Diabetes Screening Projects

Diabetes blood screening programs were completed as follows:

New Jersey State Prison, Trenton  
 Middlesex County Fair, Milltown  
 Farmers' Fair, Harmony  
 Rancocas Valley Screening, Levittown  
 Atlantic County Tuberculosis and Health Association—  
 factories and streets  
 New Jersey Congress of Parents and Teachers, Atlantic City  
 New Jersey Welfare Council, Asbury Park

#### d. Demonstration Screening Projects

##### Blood Bank Project

A grant-in-aid was given to Clara Maass Hospital, Belleville, to evaluate the blood bank as a source of people for the screening of diabetes mellitus. There are 4 blood banks cooperating in this study in northern New Jersey. As of this writing, approximately 3,000 tests have been performed. Case follow-up has proved to be exceedingly difficult in this project. As of this writing, no new patients with diabetes mellitus have been found. It would seem that we were unduly optimistic about this study as a source of finding new patients with diabetes mellitus.

#### II. Educational Activities

##### a. Professional Education

1. The film "Diabetes and Its Long Range Control," sponsored by the New Jersey State Department of Health, was shown on 75 occasions during the period July 1, 1961 to December 31, 1962. Panel discussions were held after many of the showings, includ-

## DEPARTMENT OF HEALTH

ing groups of educators, nurses, students, graduate students, etc. This film was selected by the film committee of the American Medical Association and the Puerto Rico Medical Association for showing at the annual convention of the Puerto Rico Medical Association. Requests have come also for use in physicians' educational programs in Pakistan and Mexico.

There were 26 prints of the film sold and 91 showings outside the State of New Jersey during this same period, through the distribution facilities of Medical Film Guild, Ltd. Utilization and Distribution Section, National Medical Audiovisual Facility made 76 loans of the film to 32 states to an audience of approximately 6,500 persons.

A companion piece to the film, a 44-page booklet with the same title as the film, was printed for distribution to most of the professional persons in the State of New Jersey. The booklet is being used nationally in connection with the film. It was reviewed favorably by a number of national journals, including *PUBLIC HEALTH REPORTS* and the *JOURNAL* of the American Medical Association.

2. **Training Program for United States Public Health Personnel.** A cooperative agreement between the United States Public Health Service, Diabetes and Arthritis Program, and the New Jersey State Department of Health was signed for the purpose of training United States Public Health Service personnel in New Jersey. During the fiscal year 1961, 1 field representative had a year of training in the Diabetes Control Program. During fiscal year 1962, 4 field representatives, a registered nurse, and a public health physician were assigned to the program for training. This consisted of an intensive didactic period of training for 3 months, followed by field work and program activities for 2 field representatives and the public health physician who remained in New Jersey. The nurse was assigned to the Diabetes and Arthritis Program in Washington and 2 field representatives were assigned to Texas and Mississippi respectively.
3. **Symposia and Training Conferences**
  - a. **Interrelationship of Oral and Metabolic Diseases**, sponsored by New Jersey State Dental Society and the Diabetes Control Program of the New Jersey State Department of Health.

## DIVISION OF CHRONIC ILLNESS CONTROL

- b. **Ninth Annual Symposium on "Liver and Diabetes"** was held at the Mountainside Hospital, Montclair, with 150 physicians and nurses in attendance.
  - c. **Symposium on Diabetes and the Lower Extremity** was held at Jersey City Medical Center, Jersey City. Speakers from the Mayo Clinic, Jewish Memorial Hospital, Women's Medical College, and the Graduate School of Medicine, University of Pennsylvania addressed a group of approximately 100 physicians and nurses.
  - d. **Symposium on the Interrelationship of Oral and Systemic Disease**, at Rutgers—the State University, New Brunswick. Lecturers from the Graduate School of Medicine, University of Pennsylvania, Tufts University School of Dental Medicine, Cleveland Dental Clinic Foundation, and the Seton Hall College of Medicine and Dentistry, addressed a group of approximately 100 physicians and nurses.
  - e. **Symposium on the Employability and Insurability of the Diabetic Patient**, sponsored by the New Jersey State Department of Health in cooperation with the New Jersey Diabetes Association.
  - f. **Tenth Annual Symposium on Diabetes Mellitus in Children and Young Adults** was held at the Prudential Plaza Building, Newark. Prominent professional persons from the University Hospitals of Cleveland, Seton Hall College of Medicine and University of Pittsburgh School of Medicine addressed a group of approximately 125 physicians and nurses.
4. **Patient Education**
    - a. The Diabetes Control Program supported preliminary preparations for a pilot project in patient education at the Passaic General Hospital. A grant-in-aid provided funds for the training of a licensed nurse and technician to be sent to Joslin Clinic in Boston, Massachusetts for a period of training. The plan is to develop a "day hospital," specifically for the training of diabetic patients in self-management and in all aspects of their disorder.
  5. **Citizen Education**
    - a. Many requests for the booklet "Diabetes and the School Child" were filled. These booklets are used primarily by



## DEPARTMENT OF HEALTH

the parents of diabetic children and school nurses and teachers. Numerous requests for non-professional literature for diabetic patients, their families and other interested persons were filled.

### III. *Activities of the Program Coordinator*

The Program Coordinator was appointed as a special consultant to the Diabetes and Arthritis program of the Division of Chronic Diseases, Department of Health, Education, and Welfare. Through this assignment the Program Coordinator was appointed a consultant to the Educational Science Division of U. S. Industries, Inc., for a project of the Public Health Service for an automatic tutoring program. In this capacity, the Program Coordinator rewrote and updated the old United States Public Health Service booklet "Taking Care of Diabetes" and then, working with a writer for U. S. Industries, Mrs. Miriam Sierra-Franco, the material was prepared in the appropriate form for the AutoTutor(R) teaching machine. The teaching machine program, "Taking Care of Diabetes," is mainly applicable to diabetic patients, but is also useful for people who would benefit by insights into the problems of the diabetic, such as student nurses, medical social workers, health educators, dietitians, medical students, medical technicians, dentists, and relatives of diabetics.

A second United States Public Health Service project with U. S. Industries concerned itself with an automatic tutoring program for physicians and other professional persons. The information in this program was based on the booklet "Diabetes and Its Long Range Control," written by the Program Coordinator. Again, the Program Coordinator worked with Mrs. Sierra-Franco in preparing the material for the teaching machine. At the present time, this program is going to be field tested by a research organization, probably in Boston.

### IV. *Research and Special Projects*

#### a. *Adjustment Problems in Juvenile Diabetes*

A pilot research project entitled "Adjustment Problems in Juvenile Diabetes" was completed by the Child Guidance Center of Mercer County in conjunction with the Diabetes Control Program. Forty juvenile diabetics from 2 to 20 years with a mean age of 11 and a standard deviation of 4.7 were the subjects of the study. A diagnostic team included a child psychiatrist, psychologist, and a psychiatric social worker. The evaluation was done by the Program

Coordinator of the Diabetes Control Program in conjunction with personal physicians. Diagnostic tests included interviews by psychologists, social workers, psychiatric interviews, intelligence and personality tests, and evaluation of school and medical data. The results of the study are being prepared for publication in a psychiatric journal.

The study provided a number of hypotheses which obviously deserve further evaluation. As a result, a request for a project grant was submitted to the National Institute of Mental Health for further studies to validate the hypotheses. Furthermore, the study pointed up a national need which will be discussed at a forthcoming workshop of 50 national experts in mental and behavioral sciences. This will be held in Princeton, under the joint sponsorship of the United States Public Health Service, Diabetes and Arthritis Program, the National Institute of Arthritis and Metabolic Diseases, the New Jersey State Department of Health, Diabetes Control Program and the Child Guidance Center of Mercer County.

#### b. *Diabetic Neuropathy Study*

An epidemiological study of diabetic neuropathy was started by the Program Coordinator. To date, approximately 300 persons have been studied, half of them being diabetic patients. At the present time, the data are being punched out on IBM cards and will soon be tabulated.

#### c. *Diabetes and Visual Loss*

The Program Coordinator has concluded evaluation of the records of diabetic patients registered with the New Jersey State Commission for the Blind. These data are being tabulated for the years covering 1956 through 1961.

#### d. *Study of Diabetic Women*

A grant-in-aid was established for Edward Wellin, Ph.D., of the Sociology Department at Rutgers—the State University, for a study of diabetic patients. This will be an interview study by a post-graduate student in nutrition and a student in medical social work. Subjects will be diabetic women from an intact household between the ages of 21 to 50 with a history of diabetes of 1 year or more. The project is still being pursued.

V. *Other Activities*a. *Public Health Nurse Consultant Activities*

Consultation service and in-service education programs have been provided for nurses in both official and non-official community nursing agencies. Opportunities for case-finding and responsibilities in follow-up of the diabetic patient and his family have been discussed. In one instance, a program of consultation and in-service education was provided for 2 Army Health Center nurses, as a result of interest in case-finding and follow-up of diabetic patients and relatives living in a military area.

On a larger scale, a program meeting, attended by more than 200 nurses, was presented by the Diabetes Program at the request of the Nurse Education Committee of South Jersey. The public health nurse participated in the planning and served in liaison capacity to both the committee and the Diabetes Program. The day-long program included discussion of medical, nursing, and public health aspects of diabetes control.

Two surveys relating to nursing have been completed and reported. The first, concerning need for follow-up of the diabetic patient at home, involved participation of 27 official and voluntary public health nursing agencies. The report was published in *PUBLIC HEALTH NEWS*. The second survey, concerning acceptance of diabetic candidates as nursing school students, was accomplished with help of 51 schools of nursing, both professional and practical, in New Jersey. The report has been submitted for review and possible publication.

b. *Nutrition in the Diabetes Program*1. *Consultative Services*

Assistance in planning and interpretation of the diabetic diet was given to dietary department staff members in hospitals and food service supervisors in homes for aged as part of nutrition consultation service. Emphasis was placed on the use of educational materials for individual patient teaching.

2. *Diet Therapy Refresher Courses*

Three diet therapy refresher courses were presented in New Jersey during 1962, in various locations in the state, by Rutgers—the State University and the State Department of Health. The courses were planned to meet the needs of clinic

and therapeutic dietitians desirous of keeping up to date on diet therapy techniques, and to provide refresher materials for dietitians not currently working but willing to take part-time employment as home and family duties permit. Also included was assistance in techniques in diet counseling and interviewing as preparation for diet counseling projects. Medical and dietary aspects of diabetes were included in each course, and were presented in part by diabetes and nutrition program personnel.

3. *Diet Counseling Projects*

At the present time there are five diet counseling projects functioning in the state, with plans being formulated for establishing others. These projects provide counseling for patients of private physicians on a fee for service basis, for clinic patients, for in-service education for public and private nursing agencies, and group classes in diet therapy. Instruction for diabetic patients is part of the total counseling service, and is provided on referral from the physician. Staff education in diabetic diet planning and interpretation is available to workers in health and welfare agencies.

VI. *Grants-in-aid*

A grant-in-aid was provided to the New Jersey Diabetes Association for the services of a physician and nurse at Camp Nejedda, the diabetes summer camp at Stillwater, New Jersey.

## DEPARTMENT OF HEALTH

## DIABETES CONTROL PROGRAM

Table 1. DIABETES DETECTION WEEK, 1961 AND 1962

Venous Screenings	Number Tested	Positive Reactors	Newly Diagnosed Diabetics	Known Diabetics	Potential Diabetics	Diagnosis Not Determined	Negative	Follow-up Incomplete
<i>1961 Detection Drive</i>								
Counties of New Jersey	4,795	45	20	19	1	1	3	1
Newark Health Department	1,517	46	...	...	...	...	...	46*
East Orange Health Department	1,072	52	...	...	...	...	...	52*
Totals	7,384	143	20	19	1	1	3	99
<i>1962 Detection Drive</i>								
Counties of New Jersey	4,254	75	8	35	...	...	...	32
Middlesex Hospital	586	22	...	...	...	...	...	22*
East Orange Health Department	695	19	...	...	...	...	...	19*
Hoboken Health Department	225	12	...	...	...	...	...	12*
Totals	5,760	128	8	35	...	...	...	85
Diabetes Detection Week 1961 and 1962 Totals	13,144	271	28	54	1	1	3	184

\*Follow-up being done by local facilities.

## DIVISION OF CHRONIC ILLNESS CONTROL

## DIABETES CONTROL PROGRAM

Table 2. DIABETES DETECTION WEEK, 1961 AND 1962

Dreypak Screening	Number Tested	Positive Reactors	Newly Diagnosed Diabetics	Known Diabetics	Potential Diabetics	Diagnosis Not Determined	Negative	Follow-up Incomplete
<i>1961 Detection Drive</i>								
Southern District	150	5	2	...	2	1	...	...
Central District	43	1	...	...	...	...	1	...
Northern District	64	5	1	...	1	1	2	...
Metro. District	1,483	38	2	2	5	1	25	3
Bergen County TB & Health Assn.	13,221	536	113	75	...	24	306	18*
Totals	14,961	585	118	77	8	27	334	21
<i>1962 Detection Drive</i>								
Southern District	30	5	...	...	...	...	...	5
Central District	611	26	1	1	1	...	3	20
Northern District	439	9	...	1	...	...	1	7
Metro. District	14	...	...	...	...	...	...	...
Totals	1,094	40	1	2	1	...	4	32
Diabetes Detection Week 1961 and 1962 Totals	16,055	635	119	79	9	27	338	53

\*Follow-up being done by local facilities.

## DEPARTMENT OF HEALTH

DIABETES CONTROL PROGRAM  
Table 3. DIABETES SCREENING PROJECTS, 1961

Venous Projects

	Number Tested	Positive Reactors	Newly Diagnosed Diabetics	Known Diabetics	Potential Diabetics	Diagnosis Not Determined	Negative	Follow-up Incomplete
MCOSS Hobby Show	189	10	3	1	3	...	3	...
N. J. Restaurant Association	54	1	1	...	...	...	...	...
Washington, N. J. Industries	243	3	1	1	...	1	...	...
Paterson Health Department	408	19	...	...	...	...	...	...
Essex County Health Fair	1,296	16	...	...	...	...	...	19*
Middlesex General Hospital	5,700	41	10	14	...	...	...	16*
East Orange Health Department	219	5	1	...	4	...	5	12*
Totals	8,109	95	16	16	7	1	8	47

\*Follow-up being done by local facilities.

## DIVISION OF CHRONIC ILLNESS CONTROL

DIABETES CONTROL PROGRAM  
Table 4. DIABETES SCREENING PROJECTS, 1962

Venous Projects

	Number Tested	Positive Reactors	Newly Diagnosed Diabetics	Known Diabetics	Potential Diabetics	Diagnosis Not Determined	Negative	Follow-up Incomplete
New Jersey State Prison	443	1	1	...	...	...	...	...
Middlesex County Fair	497	8	4	...	...	4	...	...
Warren County Fair	645	6	3	...	...	...	2	1
Rancocas Valley Hospital	34	1	1	...	...	...	...	...
Atlantic County	2,268	22	7	8	1	...	1	5
Congress of Parents & Teachers	232	4	1	2	...	...	...	1
Asbury Park Welfare Council	184	1	...	...	1	...	...	...
Bergen Pines Hospital	153	8	...	...	...	...	...	...
Middlesex Hospital	8,118	80	33	30	...	...	...	8
East Orange Health Department	136	2	1	...	1	...	7	...
Totals	12,710	133	51	40	3	14	10	15
Venous Projects Totals 1961 and 1962	20,819	228	67	56	10	15	18	62

\*Follow-up being done by local facilities.

### Program on Heart and Circulatory Diseases

More people die of heart disease than from any other cause. Heart attacks are the leading cause of death for men in the so-called prime years of life. Atherosclerosis is the leading cause of heart disease. Deaths from all causes in New Jersey during 1961 totalled 60,814; from heart disease 26,533; for heart and circulatory diseases 33,682.

Activities of the Heart and Circulatory Disease Program emphasize coronary artery disease, congestive heart failure, rheumatic fever, management and treatment of the stroke patient, professional education, dietary education, workshops for lay and professional groups.

The staff was augmented by a public health physician and health educator assigned by the U. S. Public Health Service; and a full-time nutrition consultant, supported by the state.

#### *Coronary Artery Disease*

The Anti-Coronary Club at St. Vincent's Hospital, Montclair, is progressing in its study of dietary and metabolic factors in coronary artery disease. The number of patients has increased to 150 men aged 20—50 with documented myocardial infarctions. These men are being treated with fat-modified diets. Such guides, are of course, experimental. The project biochemist has been analyzing selected foodstuffs for fatty acid composition by gas liquid chromatography. These studies are helping to fill a notable gap in basic nutritional information since much of the material currently available is based on studies done some time ago with less accurate chemical techniques. It is hoped that the studies can be coordinated with others of a similar nature being done elsewhere in the country. Initial studies have been concerned with commercial margarines, mayonnaises, and peanut butters.

The Club's experience with fat-modified frozen foods (part of which was published in the *Journal of the American Medical Association*) has aroused great interest among investigators. Biochemical studies are being strengthened with the addition of an ultracentrifuge to the laboratory.

Plans are also being made for electronic data processing of the large volume of data being accumulated by the study.

The Project is operating under a research grant from the U. S. Public Health Service with assistance from the State Department of Health.

#### *Congestive Heart Failure*

Support has been provided to the research project at St. Michael's Hospital on early congestive failure of a basic physiologic nature and for the

creation of a congestive failure clinic. A clinic such as this brings together physicians and dietitians to help give comprehensive care in the treatment and prevention of failure in cardiac patients.

A project on congestive heart failure at Presbyterian Hospital concerned with screening of patients in preclinical failure from those in frank clinical failure and thus enabling earlier preventive therapy has been established. The program is being financed with state and federal funds. A complete report on the specified 40 selected cases is available.

#### *Rheumatic Fever and Rheumatic Heart Disease*

A research and service program was established to test the advisability of using the fluorescent antibody technique as a means of providing rapid and accurate identification of Group A beta hemolytic streptococcal infections in the pediatric age group. A fee of one dollar per specimen is paid by the family. The primary goal is to determine how this technique may facilitate control and prophylactic treatment of streptococcal infections and hopefully reduce the incidence of rheumatic fever, through sounder medical treatment.

The program, which was initially set-up with physicians of New Brunswick and Cranford and the State Laboratory, was later extended to Westfield, where the fluorescent antibody method was discontinued because of its impracticability when not done in the State Health Department Laboratory. Conventional culturing and Lancefield Groupings replaced the fluorescent technique.

More than 7,500 specimens were received and analyzed. Support was given to the State Laboratory and the Middlesex General Hospital laboratory to provide this useful service in Union and Middlesex Counties so that the continuance of a sound demonstration streptococcal control program was assured.

A long-term project on infectious diseases has been established in Levittown, New Jersey, financed through a grant from the National Institutes of Health. Routine respiratory bacteriology and fluorescent antibody identification for streptococci on a no-fee basis for private physicians in the community are included. Thus far, a high incidence of streptococcal infections has been found. Twenty percent of 100 specimens submitted in the first two weeks have been positive for Group A. In addition, the role of various viral agents in respiratory and other acute illnesses in the community are being determined. The study is an ambitious one extending over two years and will net useful information. The public health physicians on loan to the Department from Public Health Service have been actively engaged in these two projects.

The public Health Nurse Consultant has cooperated with the Rheumatic Fever Committee of the State Heart Association in participation in meetings and conferences, and in the organization of a program for public health nursing follow-up in rheumatic fever control. Preparation, distribution and interpretation of guides for this follow-up have been part of her activities.

#### *Programs for Stroke Patients*

One of the most comprehensive projects of the Heart Program is the demonstration and service of early treatment and management of patients with a diagnosis of cerebrovascular accident. Nurse, physiotherapist, social worker, homemaker, speech therapist, and occupational therapist all converge on a problem under the direction of a specialist in physical medicine. To date, 161 patients have been admitted to the project in Camden County, and 156 patients have received early rehabilitation care.

In contrast to the hospital-based program in Camden County, a clinic program has been established in Atlantic City with a total of 18 patients to date. This area was selected because of the high incidence of elderly population and the relatively large number of stroke patients, many of whom received little or no treatment prior to this project.

A grant from this program to the Home Care Program of the Hospital Center at Orange makes home care services possible for patients who are without resources for needed restorative care. The public health nurse consultant attends the team conferences and collects data for an extended report on what services are needed for this group and to what extent the services are effective in helping patients attain goals.

These demonstration projects, it is hoped, will convince the communities of the value and effectiveness of early, intensive, preventive and restorative techniques in the care of these patients.

#### *Dietary Education*

Four diets, adapted from the New Jersey Diet Manual developed by this Department—bland diet, low calorie diet, fat restricted 1,800 calories, and fat restricted 2,600 calories—were sent to selected physicians, hospitals, and other para-medical groups. These diets, in pads of 40 sheets each, are now offered at a low cost to all physicians and hospitals. Approximately 1,200 pads have been sent upon request.

Many years after the development of sodium restricted diets for heart failure, there are still large gaps in the appreciation of sodium restriction. This applies not only to the patients, but to physicians as well. The modern day physician has too little time to devote to dietary evaluation and explana-

tion of low sodium or fat modified diets. Therefore the distribution of diet pads and the New Jersey Diet Manual, which is in its second printing, is considered a great help. A total of 9,600 Diet Manuals have been distributed on request. Plans are being made for a revision of the Manual before its third printing. The 1963 Revised Dietary Allowances of the National Research Council will soon be available and can be incorporated in the Manual.

Three refresher courses for dietitians and nutritionists, consisting of lectures by well-qualified physicians and nutritionists and visits to nutrition clinics, were conducted with the cooperation of Rutgers—the State University. The total enrollment for the 3 courses was 108. This provides a reservoir of trained personnel for local diet counselling services. Such a service has been developed in Middlesex County with the cooperation of Douglass College and local physicians. This is a demonstration project, hopefully to be organized in all 21 counties in New Jersey. The addition of a full-time nutrition consultant has helped considerably in the promotion of this phase of the Heart Program.

#### *Education and Training*

Courses for physicians, interns, residents; training programs for nursing supervision in chronic disease institutions and nursing homes in cooperation with the Division of Constructive Health; and workshops for lay and professional, medical and para-medical groups were held.

In cooperation with St. Michael's Hospital, Newark, and the New Jersey Academy of Medicine, refresher and advanced courses were offered on electrocardiographic diagnosis, phonocardiographic diagnosis, and some of the newer diagnostic techniques and treatment of heart disease. The total population of practicing physicians, interns, and residents was circularized with announcements of these courses; a total of 166 participated.

A symposium on "Current Therapy of Cerebrovascular Accidents" was held in East Orange under the sponsorship of this Department and the New Jersey Academy of Medicine with a grant from Merck, Sharp and Dohme Postgraduate Program. Approximately 350 physicians and auxiliary medical personnel were in attendance.

One of the most ambitious of the educational activities was that of conducting three workshops, one in each of three of the State Health Districts, on the subject, "Continuity of Care of Patients with Stroke and with Congestive Heart Failure." The continuum of services needed in the care of the stroke and congestive heart failure patient, beginning at the time of diagnosis and extending from hospital to home using all available community supportive services through joint planning and action, was presented by outstanding speakers, panel discussants and through organized group discussions. Ap-

proximately 500 attended the three workshops which were financed by a grant from the Public Health Service. Proceedings of one of the workshops were published in **PUBLIC HEALTH NEWS** and have attracted wide interest. The public health nurse consultant was actively involved in the initial planning and final summation of all three workshops.

In-service education programs relating to various aspects of nursing in heart disease and annual program meetings for nurses have been developed with county chapters of the New Jersey Heart Association with the assistance of the public health nurse consultant. The film, "This is Nursing," has been shown in relation to these programs.

Approximately 20,000 copies of the booklet, "Strike Back at Stroke," have been distributed to physicians, hospitals, nursing agencies and other health and welfare agencies as a result of an announcement making the booklet available. It is interesting to note that the booklet has been useful to physicians in their offices, in nursing homes, in hospitals and in hospital teaching of interns.

Two exhibits, one on rehabilitation of the stroke patient and the other on heart disease and resources available, have been developed.

#### *Future Plans*

In addition to the two stroke programs already in operation, it is hoped that hospital-based programs for stroke patients may be established in other areas of the state.

Community diet counseling services are being planned for patients of private physicians on a fee for service basis and for patients referred by out-patient clinics and health and welfare agencies. Patients are to be accepted only on referral by a physician. A well-qualified nutritionist will be available for diet counseling.

A program in cooperation with the New Jersey Heart Association and its local chapters, for the distribution of their booklet on fat modified diets, has been planned. A concerted campaign to stimulate interest in the booklet and assure its widespread distribution and correct use is being developed.

Another urgent problem is the prevention of rheumatic fever through proper prophylaxis. It is hoped to provide demonstration studies involving payment to visiting nurse associations for follow-up of cases not under medical supervision and for the purchase of penicillin for adults who are medically indigent. This is to be done with the cooperation of the New Jersey Heart Association and its local chapters.

A screening program to delineate coronary-prone male state employees is being organized.

Case-finding through proper diagnostic evaluation by qualified cardiologists continues to be a primary goal in the rehabilitation of children and young adults through corrective cardiac surgery. Grant-in-aid for trained qualified cardiologists will continue on a partial basis.

A closed cardiac resuscitation project is being organized with the assistance of the Heart Disease Control Program of the U. S. Public Health Service. The area selected for this study is New Brunswick. Medical and paramedical services available will be used for this study.

A survey of sodium concentration in public drinking water supplies in New Jersey is being developed. There is particular interest in the relation of sodium in drinking water and congestive heart failure.

### **Program on Neurological Diseases**

#### *The Program*

Epilepsy has remained the primary interest of this Program. Within recent years, there has been gradual expansion of ideas and activities to broaden the scope of this Program to include other neurological diseases.

Disorders of the special senses which at one time were a part of the Program have been transferred to the Crippled Children's Program.

There is rising interest in the electroencephalograph machine as a diagnostic tool in nervous disorders. Hospital requests for machines are continuing to remind the Program of hopeful neurological expansion. During the period of this report, no additional machines have been placed with hospitals, which leaves our total placement at 17. Ownership of these 17 machines was transferred to the hospitals. Machine replacement will be the responsibility of the hospital.

#### *Cooperative Agencies*

The New Jersey Consultation Service for Convulsive Disorders has continued to cooperate with the Program. The activities of the Convulsive Services have been focused, to a great extent, toward hospitals where machines have been placed by the Neurological Disease Program. Cooperation with the Consultation Service permits a bilateral approach to educational as well as service activities which come under the sponsorship of the State of New Jersey.

The Consultation Service for Convulsive Disorders served 426 patients referred by 411 physicians. There were 73 clinic sessions, and 477 examinations made.

*Education*

The Neurological Disease Program sponsored the following:

Two symposia on electroencephalography were held at the Neuro-Psychiatric Institute. These were arranged by the Neurological Disease Program. Both were highly successful in terms of content and attendance.

A program entitled "The Diagnosis and Treatment of Parkinsonism" at the Burlington County Hospital.

A program entitled "Neurological Disorders" at St. Clare's Hospital, Denville.

A Directory of Epilepsy Services in New Jersey was prepared and distributed.

Proceedings of the EEG Symposia were distributed as were a multitude of educational materials on epilepsy.

*Electroencephalograph Reports*

A summarized and statistical report of the 17 hospitals where EEG machines were placed is as follows:

Table 1. CLINICAL DIAGNOSIS OF PERSONS WHO HAD ELECTROENCEPHALOGRAPH EXAMINATIONS

	<i>Number</i>
Convulsive disorder .....	3,442
Trauma .....	637
Cerebrovascular disorder .....	437
Tumor .....	341
Other neurological disorder .....	1,878
No neurological disorder .....	2,238
Total .....	8,973

Table 2. INTERPRETATION OF ELECTROENCEPHALOGRAPH EXAMINATIONS

	<i>Number</i>
Normal .....	4,747
Abnormal .....	4,313
Focal .....	2,200
Diffuse .....	1,874
Compatible with convulsive disorder .....	2,143

**Restorative Services Program**

The Restorative Services Program is located functionally in the Division of Chronic Illness Control but the Program Coordinator is the Director of the Division of Constructive Health.

Through a Consultant Nurse and 2 Special Project Nurse Coordinators especially trained in Restorative Nursing Service, educational and in-service training programs have been made available to the nursing homes, medical institutions, and homes for the aged in the state. These services were provided on the basis of 20 days of in-service training to each such facility served. Since the inception of this phase of the Program, 37 facilities have been afforded these services.

Through contracts with 4 visiting nursing associations, similar in-service educational and training programs have been provided to 16 other facilities. Services of these nurses have been made available, on a 1-day a week basis, to each facility for 20 days.

Through a grant-in-aid contract with Columbia University, School of Public Health and Administrative Medicine, New York City, a 20-session course for nursing home administrators was held for 34 nursing home administrators.

The Program also underwrote the cost of sending a local public health nurse and 2 hospital nurses to the 3-week course on "Physical Rehabilitation Methods for Nurses" conducted by the Institute of Physical Medicine and Rehabilitation of New York University Medical Center.

In cooperation with the Hospital Center at Orange, educational and training programs have been made available to public health nurses, nursing home and hospital nurses in Restorative Nursing Services. Three such 2-week courses were made available to 30 nurses in 1961; 2 3-week courses were made available to 18 nurses in 1962; and 2 3-week courses were made available to 19 nurses in 1963. During the 2 1963 courses and a part thereof, a 2-day session of "Restorative Services for the Arthritic Patient" was made available to some 33 physical therapists and/or occupational therapists.

The 2 Program Project Nurse Coordinators have conducted in-service education and training programs for 13 hospitals and nursing homes. These have been set up as 1-day a week programs at 2-week intervals.

In cooperation with the Children's Seashore House in the use of the facilities of this rehabilitation center, 2 additional 2-week educational and in-service training courses were provided for public health, hospital and nursing home nurses in the southern part of the state.



A 1-day symposium on Restorative Services was held at the Kessler Institute for Rehabilitation, West Orange, New Jersey in 1961 for physicians and nurses. The attendance was 107.

Through the Project Nurse Coordinators, an Activities of Daily Living Nursing Bag was developed for nursing personnel providing restorative services in nursing homes and in home care. This Bag has been provided to all nurses cooperating in the Program.

Our Consultant and Project Nurse Coordinators have made numerous presentations on Restorative Services to national, state, and local agencies.

The Program has initiated Hospital, Nursing Home, and Home Care Programs: in Paterson, through the Paterson Board of Health, involving 3 hospitals; at Hunterdon Medical Center; at Monmouth Medical Center; and at Camden County General Hospital. Through such services, more than 2,500 days of nursing home and home care services have been made available to those in the programs. The Program also assisted Passaic County and Newark Beth Israel Hospital in developing home care programs.

The Program has cooperated with 2 medical facilities in underwriting the cost of providing diagnostic evaluation services for patients in geriatric institutions. The objective was to determine the number of cases that might profit through the provision of Restorative Services and eventually be returned to their homes.

The Program has cooperated with the Licensed Nursing Home Association of New Jersey, Incorporated and the New Jersey Hospital Association in providing 2 1-day institutes on "Hospital-Nursing Home Relationship."

The Program has, through contract, underwritten dental diagnostic evaluation of the nursing home population of Monmouth County. This is to be extended to an additional county.

The Program has provided pamphlets and brochures pertinent to the previously mentioned educational and training efforts.

In cooperation with the U. S. Public Health Service, the Program participated in a Nursing Home Food Service Evaluation Project. The purpose was to develop a short and valid questionnaire which could be used by persons with no formal training in dietetics to evaluate the quality of food service in nursing homes. This project was carried out in cooperation with the District Consultants in Public Health Nutrition and the State Consultant in Public Health Nutrition. This service was provided to 12 nursing homes.

### Research Studies in Which the State Department of Health Is Engaged or Which it Helps to Support

1. Study of the effects of an altered diet on the cholesterol and other lipid levels of men, and their survival, who have had one or more coronary attacks. Known as Anti-Coronary Club Study. Supported by a grant from the National Heart Institute.
2. A study in Levittown, N. J. of acute illnesses in a community; to determine whether there are criteria to predict a disease outbreak and, if so, whether effective measures can be developed to prevent such an outbreak. Supported by a grant from the United States Public Health Service.
3. A study of the occurrence of Eastern Encephalitis (EE) in mosquitoes, wild birds and domestic fowl and of occurrence of both silent and overt infections in humans. Supported by Department of Health and a grant from National Institute of Allergies and Infectious Diseases.
4. A study of adjustment problems of children with diabetes. Supported by the State Department of Health.
5. A study of the prevalence of caries in teeth of children under ten years of age in Easton, Pennsylvania, where the water has been fluoridated for ten years, and in Phillipsburg, New Jersey, directly across the Delaware River, where the water is not fluoridated. Supported by the State Department of Health.
6. Two related studies on tuberculosis control were completed in the period covered in this report. One of these, "A Study of the Program for the Control of Tuberculosis in New Jersey," was supported by the Department, the State Department of Institutions and Agencies, and the New Jersey Tuberculosis and Health Association, Inc. The other, "State Aid for the Care of Tuberculous Indigents in County Institutions in New Jersey," was done for the Department by the Bureau of Economic Research of Rutgers—the State University. Supported by the United States Public Health Service, the State Department of Health, and the New Jersey Tuberculosis and Health Association.

## Division of Constructive Health

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CURTIS F. CULP, M.D., M.S., *Director*

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Crippled Children Program ..... CURTIS F. CULP, M.D., M.S.  
*Program Coordinator*

Dental Health Program ..... DAVID R. WALLACE, D.D.S., M.P.H.  
*Program Coordinator*

DONALD R. COWAN, D.D.S.  
*Assistant Program Coordinator*

Maternal and Child Health Program ..... RENEE ZINDWER, M.D., M.P.H.  
*Program Coordinator*

## Division of Constructive Health

### *Introductory Statement*

The Programs of the Division of Constructive Health, in their objectives, share the basic concept of prevention, early diagnosis, and the provision of restorative services.

In attempting to fulfill this mission, it has been clearly demonstrated that the activities of the Program must not only be closely coordinated, but that there must be combined effort on the part of all governmental, private, philanthropic and professional groups throughout the state in attempting to meet the needs of those requiring such services.

### **Crippled Children Program**

#### *General Statement*

The objective of the Crippled Children Program is to provide recommended medical rehabilitation services to the physically handicapped whose disabilities may be corrected or alleviated. Maximum accomplishment of this objective is attained through cooperation with state, county, and municipal representatives of hospitals, rehabilitation facilities, private, philanthropic, and professional groups.

#### *Community Services and Program Activities*

In accordance with the definition of a crippled child and within the diagnostic categories as accepted and approved by the Program, there were 21,506 children registered with the Program at the end of 1962. Of this number, 10,654 children received services.

In the form of supportive services, the Program participated in the following activities:

#### *Cerebral Palsy Consultation Diagnostic and Follow-up Clinics*

The Program participated in 9 diagnostic and follow-up clinics, which were open to all children in the state referred by physicians desiring such services. These clinics were held in Newton, Jersey City, Trenton, and Long Branch.

This service was provided through 5 physicians specially trained in the field of cerebral palsy.

*Hospitalization and Convalescent Care*

The Program assisted in underwriting 21,349 hospital bed days and 28,283 convalescent bed days for 915 children. The total expenditure for these services was \$624,852.12.

Of this amount, state and federal contributions were \$318,104.10; contributions by the county boards of chosen freeholders were \$273,040.70; and contributions on behalf of parents, private, and philanthropic agencies were \$33,707.32.

*Prosthetic Devices, Bracing and Appliances*

Such services were provided for 1,270 children through the purchase of 2,280 such appliances at a total cost of \$166,099.62. State and federal contributions amounted to \$78,721.81 and contributions of the county boards of chosen freeholders \$69,778.83. Contributions on the part of parents, private, and philanthropic agencies amounted to \$17,598.98.

*Nursing Services*

Nursing services are provided under the Program by:

1. Local Public Health Nurses under the supervision of State Public Health Nurse Supervisors.
2. Nurses provided by private and official agencies having a cooperative arrangement with the Program.
3. Contract agreements with the Program on the part of 40 local private nursing agencies.

During the past 18 months, those agencies having contracts with the Program made a total of 13,375 visits to crippled children registered with the Program at a total cost of \$51,092.11. Reimbursement for the cost of this service was made entirely on behalf of the Crippled Children Program and such reimbursement was made on a cost per visit basis or based on the charges made by the agency for comparable nursing services within the community.

In addition, the Program provided consultative services to all nursing agencies working with the Program through its 2 Nurse Consultants.

*Psychological Services*

Direct psychological consultation services were provided 107 handicapped children.

The Program Psychologist participated in conferences, lectures, and demonstrations to various local groups within the state on diagnostic problems in the field of psychology.

**Special Projects***Cleft Palate Evaluations*

Through the use of the team approach to rehabilitation of the total individual, the Program continued its assistance in the pre and post operative evaluation of cleft palate and selected dental facial deformities.

Financial support was afforded a total of 72 such cases through the Center of Reconstructive Surgery at St. Barnabas Hospital in Newark, the Department of Plastic Surgery at Cooper Hospital in Camden, and the Department of Plastic Surgery of Mercer Hospital, Trenton.

In support of this team approach, the Program also assisted in providing 3,919 speech therapy sessions for 129 children.

*Cardiac Surgery*

The Program is participating in the provision of diagnostic evaluation and necessary follow-up cardiac surgical procedures for children having congenital malformations of the circulatory system in 4 hospitals in the state; namely, Orange Memorial Hospital, Orange; Passaic General Hospital, Passaic; United Hospitals of Newark—Presbyterian Hospital Unit, Newark; and St. Michael's Hospital, Newark. Reimbursement for the cost of these services amounts to \$23,550 and is underwritten entirely on the part of the Crippled Children's Program.

*Physical Therapy*

In support of total rehabilitation services being afforded the handicapped children, the Program has provided physical therapy services through Mountainside Hospital, Montclair; Morristown Memorial Hospital, Morristown; and Warren Hospital, Phillipsburg.

As a result of these projects, 48 children were afforded approximately 832 physical therapy treatments.

Table 1. CASE NUMBER AND PAYMENT OF HOSPITAL, CONVALESCENT HOME  
AND APPLIANCE SERVICES FOR PERIOD 7/1/61—12/31/62

<i>Hospital, Convalescent Care</i> —Total Number of Children .....	915
Total Bed Days .....	51,108
<i>In-Patient</i>	
Number of children receiving hospital services .....	708
Number of bed days .....	23,064
<i>Convalescent Home</i>	
Number of children receiving convalescent services .....	207
Number of bed days .....	28,044
<i>Payment of Bed Days (Hospital and Convalescent Home)</i>	
Total .....	\$624,852.12
State and Federal Funds .....	\$318,104.10
County Boards of Chosen Freeholders .....	273,040.70
Total payments from tax sources .....	\$591,144.80
<i>Private Contributions</i>	
Local Chapters of Polio Foundations .....	\$7,223.49
Parents .....	23,073.33
Elks Lodges .....	296.00
Insurance .....	2,688.50
Others .....	426.00
Total Contributions .....	\$33,707.32
<i>Appliances</i> —Total Number of Children .....	1,270
Total Number Purchased .....	2,280
Total Payments .....	\$166,099.62
State and Federal Funds .....	\$78,721.81
County Boards of Chosen Freeholders .....	69,778.83
Total payments from tax sources .....	\$148,500.64
<i>Private Contributions</i>	
Parents .....	\$11,664.03
Local Chapters of Polio Foundations .....	4,168.94
Elks Lodges .....	1,151.01
Miscellaneous .....	615.00
Total payments from private sources .....	\$17,598.98
<i>Drugs</i> —Total Number of Children .....	2
Total Payments .....	\$283.96
State and Federal Funds .....	\$107.90
County Boards of Chosen Freeholders .....	161.86
Total payments from tax sources .....	\$269.76
<i>Private Contributions</i>	
Cystic Fibrosis Foundation .....	\$14.20

Table 2.

July 1, 1961—December 31, 1962

## Section I—Children Who Received Clinic, Hospital and Convalescent Services, and the Number of Services:

<i>Services</i>	<i>Number Children</i>	<i>Number of Visits or Days</i>
Clinic .....	9,845	19,921 visits
Hospital .....	691	21,591 Days
Convalescent .....	208	28,788 Days
Duplicated Count of Children and Services	10,744	70,300 Units
Unduplicated Count of Children .....	10,515	

## Section II—County Residence of Children Receiving Clinic, Hospital and Convalescent Services.

Total Number of Children .....

<i>County</i>	<i>Number of Children</i>	<i>County</i>	<i>Number of Children</i>
Atlantic .....	50	Middlesex .....	674
Bergen .....	1,181	Monmouth .....	546
Burlington .....	352	Morris .....	492
Camden .....	740	Ocean .....	72
Cape May .....	21	Passaic .....	132
Cumberland .....	19	Salem .....	36
Essex .....	2,849	Somerset .....	333
Gloucester .....	213	Sussex .....	90
Hudson .....	968	Union .....	949
Hunterdon .....	102	Warren .....	74
Mercer .....	626	Military .....	3

Section III—Distribution of Children (New and Old Cases) Receiving Clinic, Hospital and Convalescent Services by Number, Race and Age.

	<i>Number Children</i>	<i>Age in Years</i>				
		<i>Under 1</i>	<i>1-4</i>	<i>5-14</i>	<i>15-20</i>	
Total .....	10,515	434	2,788	5,429	1,866	...
<i>Race</i>						
White .....	8,455	333	2,096	4,397	1,631	...
Other .....	2,048	101	688	1,025	234	...
Number who received physician's services for the first time .....	2,789	434	1,184	970	203	...
Number who had received physician's services in previous years .....	7,724	...	1,604	4,459	1,658	...

## Section IV—Distribution of Children Receiving Clinic, Hospital and Convalescent Services by Diagnosis Group, Sex and Age.

Report Group Code No.	Diagnosis Group	Total	Sex		Age in Years				Unknown
			Male	Female	Under 1	1-4	5-14	15-20	
	Total .....	10,515	5,768	4,748	434	2,787	5,429	1,866	...
0130	Late effects of tuberculosis of bones and joints .....	35	18	17	...	2	14	19	...
0818	Late effects of acute poliomyelitis .....	1,056	616	440	1	41	621	393	...
2840	Late effects of rickets .....	18	10	9	...	7	9	3	...
3510	Cerebral Palsy .....	2,237	1,217	1,020	6	426	1,355	450	...
3590	Other diseases of the nervous system and sense organs, except eye, ear, and mental disorders .....	109	52	58	12	41	35	22	...
3989	Deafness and impairment of hearing ...	158	85	73	...	39	108	11	...
4090	Rheumatic fever, acute .....	167	76	91	...	3	113	51	...
5339	Disorders of occlusion, eruption and tooth development .....	20	7	13	...	...	13	7	...
7200	Arthritis and rheumatism except rheumatic fever .....	85	45	40	1	10	43	31	...
7309	Osteomyelitis and periostitis, except tuberculous .....	44	24	21	...	7	29	9	...
7459	Curvature of spine, except congenital or late effect of poliomyelitis or tuberculosis .....	192	57	136	1	2	102	88	...
7499	Other diseases of the bones and organs of movement, except congenital malformation .....	501	354	147	2	37	322	141	...
7510	Spina bifida and meningocele .....	294	148	146	27	89	131	48	...
7530	Congenital malformations of the circulatory system .....	509	269	240	27	159	254	70	...
7540	Cleft palate and hare-lip .....	868	480	388	72	259	432	106	...
7571	Congenital dislocation of hip .....	250	63	187	13	97	116	25	...

Report Group Code No.	Diagnosis Group	Total	Sex		Age in Years				Unknown
			Male	Female	Under 1	1-4	5-14	15-20	
7584	Clubfoot, congenital or unspecified .....	1,637	921	716	151	744	646	97	...
7585	Flatfoot, congenital ..	78	50	28	2	25	45	7	...
7599	Other congenital malformations .....	1,715	961	754	109	696	762	139	...
7609	Injuries at birth, intracranial and spinal, except cerebral palsy and epilepsy .....	9	5	5	1	4	4	1	...
7619	Other injuries at birth, except cerebral palsy and epilepsy .....	162	88	75	13	53	62	35	...
9400	Burns .....	115	67	48	1	20	69	25	...
9980	Other morbid conditions due to accidents, poisonings, and violence .....	151	105	46	...	9	79	63	...
9991	Other diagnosed diseases, injuries, or handicapping conditions, except provisional or deferred diagnoses .....	109	53	56	3	21	58	27	...

## Dental Health Program

## Introduction

The primary objectives of a Dental Public Health Program are: (1) to stimulate an awareness of the dental public health needs of society, (2) to disseminate authoritative information on the resources and methods available to meet these needs; and (3) to facilitate development and testing of new and improved resources and methods. The Dental Health Program in New Jersey has attempted to fulfill these objectives by the various activities which are a part of the Program. These activities may properly be described under the headings of dental health education, dental treatment, prevention and research.

## Dental Health Education

The Dental Health Program, in cooperation with the local dentists, conducted dental inspections for pre-school children in 5 counties during the past year, namely, Camden, Gloucester, Ocean, Passaic, and Warren. In each of these programs, the child and the parent were instructed on good dental health practices (Table 2).

The Program participated in the promotion of fluoridation in all areas of the state. There were 3 referenda to test community acceptance of fluoridation. The Dental Health Program provided consultation to groups in each community who were active in the referenda. These services also consisted of supplying educational materials and programs of community organization.

The Dental Health Program participated in several training courses for nurses from health departments and other agencies.

The Dental Health Program, in cooperation with the 2 dental schools in New Jersey and other agencies, carried out postgraduate courses and symposia in various fields of interest in dentistry. "The Dentist and Oral Cancer" was 1 of these courses conducted at Fairleigh Dickinson University School of Dentistry. Another course, "Dentistry for Handicapped Children," was held at Seton Hall College of Dentistry. Its purpose was to demonstrate to practicing dentists the management of dental problems in handicapped children and the care of such children in private dental offices and institutions. Two symposia were held: "Dental Care for the Geriatric Patient" in cooperation with the New Jersey State Division of Aging; and, "The Interrelationship of Oral and Systemic Disease" in cooperation with the Diabetes Control Program of the State Department of Health.

The dental health education program in the Phillipsburg schools continued during the past year and the interest in dental health prevailed among the students.

#### *Dental Treatment*

The Dental Health Program assisted in providing treatment services for school children in 18 counties by using the services of 66 dentists in their private offices, 17 dentists in dental clinics, and 8 dentists in mobile clinics and dental trailers. In all of these, the treatment services came about as a cooperative effort of the community and the Dental Health Program (Table 1).

In a cooperative program with the Crippled Children's Program, dental services were provided for crippled children in Cooper Hospital, Camden; Monmouth Medical Center, Long Branch; All Souls Hospital, Morristown; and Seton Hall College of Dentistry, Jersey City.

Dental treatment was provided for the children of migrant laborers in Cranbury, Fairton, and Woodstown during the summer months when the migrants were in New Jersey (Table 2).

#### *Prevention*

The prevention of dental disease was emphasized throughout the treatment and educational programs sponsored by the Dental Health Program.

Prevention of malpositioning of the teeth is one of the reasons for the provision of space maintainers as a part of the treatment program. This appliance will enable the unerupted teeth to come into their proper position in the jaw, thereby preventing a series of unfavorable circumstances from developing.

The Dental Health Program is carrying out a program of promotion of fluoridation with the New Jersey Public Health Association and the New Jersey State Dental Society. This program has consisted of providing information on the local engineering aspects of instituting fluoridation, and providing consultative services to governing bodies and other community groups.

#### *Dental Research*

The Dental Health Program, in cooperation with the Pennsylvania State Department of Health, is conducting a research program in benefits of fluoridation in the cities of Phillipsburg, New Jersey and Easton, Pennsylvania.

In cooperation with the Sociology Department of Rutgers—the State University, a study is being made in the dental care aspects of the chronically ill.

#### *Cooperation With Other Agencies*

The Dental Health Program cooperated with the Crippled Children's Program in providing rehabilitation services for patients with cleft palates, and in providing complete dental services for handicapped children.

The Dental Health Program cooperated with the Division of Chronic Illness by participating in training courses for nurses.

The Dental Health Program cooperated with the Maternal and Child Health Program, the Division of Preventable Diseases, the Department of Education, and the Department of Labor and Industry in providing a dental treatment program for children of migrant workers.

The Dental Health Program cooperated with the Diabetes Control Program in a symposium, "The Interrelationship of Oral and Systemic Disease," for dentists and physicians.

The Dental Health Program cooperated with the Division of Aging in conducting a symposium on "Dental Care for the Geriatric Patient."

The Dental Health Program continued the established liaison with the Dental Director in the Department of Institutions and Agencies to coordinate efforts of the 2 departments.

The Dental Health Program continued with Fairleigh Dickinson University School of Dentistry and Seton Hall College of Dentistry in providing courses in areas of special interest in Dental Health.

Source of Funds

To accomplish the above program activities involved the use of federal and state funds in the amount of \$243,603, and local contributory funds of \$152,413.

Statistical Data

(See Tables 1, 2, and 3 following.)

Table 1. TREATMENT PROGRAM STATISTICAL DATA  
July 1, 1961 to December 31, 1962

Programs by Counties and Communities	Program Initiated	Present Type of Program*	Dentists	School Districts	Total Operating Hours	Examinations	Visits	Total Operations	Children Treated	Cases Completed	Percentage of Cases Completed
Atlantic .....	1947	Mo. Cl.	1	3	635	899	1,370	3,386	166	97	58
Bergen .....	1943	P. O.	3	3	397	3,554	775	1,587	163	81	50
North Arlington .....	1940	Cl.	1	1	787	2,048	2,105	1,880	203	286	91
Rutherford .....	1945	Cl.	1	1	211	4,205	170	629	51	49	96
Burlington .....	1942	P. O.	5	5	334	2,956	517	1,524	234	93	40
Burlington City .....	1943	Cl.	2	1	234	523	732	1,067	263	74	28
Camden .....	1943	Tr.	1	12	1,092	6,262	1,775	6,162	1,026	955	93
Lawnsdale .....	1944	P. O.	1	1	49	31	81	315	26	8	31
Cape May .....	1944	P. O.	7	11	479	465	865	1,898	307	116	38
Cumberland .....	1955	Tr.	1	10	1,170	1,762	1,850	2,074	1,190	473	38
Essex-Orange .....	1944	Cl.	2	1	695	315	1,503	4,003	317	249	78
Hunterdon .....	1945	Mo. Cl.	1	1	833	15,572	1,056	2,650	522	326	62
Middlesex .....	1940	P. O.	5	4	426	688	868	903	308	184	46
Monmouth .....	1942	Tr. Cl.	1	1	368	2,156	673	1,473	194	87	45
Kidzie Keep-Well Camp .....	1942	Tr. Cl.	1	1	365	600	1,028	1,388	520	164	31
Morristown .....	1941	P. O.	10	12	932	10,633	1,555	3,752	570	334	58
Union Beach .....	1945	Cl.	2	1	200	3,276	531	1,345	210	10	69
Callier Foundation .....	1946	Cl.	1	1	180	2,001	344	600	132	33	17
Morris .....	1946	Cl.	1	1	71	68	143	203	50	26	44
Ocean .....	1943	P. O.	20	26	1,539	875	2,868	6,701	877	523	60
Trailer .....	1944	P. O.	6	4	261	334	501	1,194	101	87	45
Passaic .....	1946	Tr. P. O.	2	13	890	451	1,700	6,017	507	296	58
Bloomington .....	1942	P. O.	2	2	158	1,657	1,066	778	173	9	12
Salem .....	1944	Cl.	2	1	208	149	342	736	113	23	20
Somerset .....	1955	Cl.	1	13	132	242	242	823	241	0	0
Warren .....	1942	Tr. P. O.	1	9	1,324	10,810	1,415	3,163	451	442	77
Phillipsburg .....	1947	Tr. P. O.	7	17	954	431	1,416	4,263	481	359	47
Phillipsburg .....	1947	Tr. P. O.	1	8	1,357	468	912	4,725	228	163	47
Phillipsburg .....	1954	Cl.	2	1	537	34	37	221	65	34	62
TOTALS (18 Counties)			91	199	16,928	74,944	27,630	66,722	10,130	5,671	56

\* Code for Type of Program: P. O.—Private Office; Cl.—Clinic; Mo. Cl.—Motorized Mobile Clinic with dental equipment; Tr.—Non-motorized Mobile Clinic with dental equipment; Tr. Cl.—Stationary trailer type clinic.



Table 2. PRE-SCHOOL DENTAL INSPECTION PROGRAM

Counties	Number of School Districts	Number Examined	Number Requiring Treatment	Percent Requiring Treatment	Number of def Per Child	Number of Dentists
Camden	4	467	209	48	2.5	1
Gloucester	15	1,349	625	46	2.3	16
Warren	20	806	488	61	3.5	11
Ocean	11	474	273	57	3.1	6
Passaic	6	1,447	616	42	2.9	5

Camden County—Only four communities participated in the Pilot Pre-School Dental Inspection Program conducted in the Fall of 1962.

Gloucester and Warren Counties conducted the above inspections during the Spring of 1962. Ocean and Passaic Counties conducted the above inspections during the Spring and Fall of 1962.

Table 3. MIGRANT DENTAL TREATMENT PROGRAM FOR CHILDREN OF MIGRANT WORKERS July 9, 1962 to August 26, 1962

	Cumberland County Fairton	Salem County Woodstown	Middlesex County Cranbury	Totals
Number of Dentists	1	(1)*	1	2
Number of Examinations	122	102	62	286
Number of Visits	191	185	189	565
Number of Extractions—Permanent	0	0	6	6
—Deciduous	24	16	7	47
Number of Fillings —Amalgam	7	26	141	174
—Others	0	0	5	5
Number of Temporary Fillings	0	0	20	20
Number of Linings	0	0	81	81
Number of Prophylaxis	122	102**	62	286
Number of Fluoride Treatments	0	56	160	216
Number of Children Treated	122	102	62	286
Number of Cases Completed	114	86	27	227
Percentage of Completed Cases	93.4	84.3	43.5	79.3

*Funds Allotted*

2—Participating Dentists	\$3,272.00
2—Dental Assistants	748.80
Cost of Dental Supplies	233.13
<b>Total</b>	<b>\$4,253.93</b>

\*Same dentist worked in two counties.

**Maternal and Child Health Program***Hospital Consultation Services*

In 1955, the Maternal and Child Health Program initiated a consultation service to hospitals, at first concentrating upon care of premature infants, but soon expanding to include the entire maternity and newborn services. In December, 1960, further extension of the consultation service to hospital pediatric services took place. All hospitals in New Jersey with maternity and newborn units have been covered, except military installations. Furthermore, periodic consultation visits are made to maternity homes, which provide no delivery service, but prenatal care. A substantial number of hospital pediatric services have also been provided consultation.

Initial consultation visits to a maternity and newborn or pediatric unit, as a rule, extend over several days. These initial visits are followed up by periodic revisits, some of which, too, may be extended visits, although most of them are one-day visits.

Requests for additional consultation services for a variety of problems are being received from hospitals. These requests, as well as many letters from hospital administrators, nursing directors, and physicians, attest to the usefulness of this program activity.

During the report period (July 1, 1961–December 31, 1962) the following services were rendered:

*Maternity and Newborn care*

64 hospital visits  
6 maternity home visits

—74 consultation days

*Pediatric care*

38 hospital visits

—83 consultation days

The following is a summary table, by calendar years, of the activities of the hospital consultation service since its initiation:

Table 1. HOSPITAL CONSULTATION SERVICE, 1955-1962

Year	Number of Hospitals Visited	Number of Hospital Visits
1955	1	1
1956	17	28
1957	33	48
1958	26	35
1959	60	81
1960	69 (Pediatrics—4)	88 (Pediatrics—4)
1961	65 (Pediatrics—25)	86 (Pediatrics—30)
1962	79 (Pediatrics—22)	91 (Pediatrics—27)

For a number of years, the Maternal and Child Health Program sent an inquiry to hospitals in which deliveries occurred, asking a number of questions pertaining to the maternity services. Selected statistical data, some of the comparing statistics reported by the hospital with those obtained from birth records by our Public Health Statistics Program, have been regularly distributed to the hospitals, grouping the hospitals by size of service (number of deliveries) and identifying them only by code number, releasing to each hospital administrator his own code number. Thereby, the hospitals could compare their own data with those of other hospitals of similar size obstetrical service.

In 1962, a questionnaire was circulated to the administrators inquiring as to the interest and use of the tables. The following table is a result of the returns.

Table 2. QUESTIONNAIRE RATING OF STATISTICAL TABLES

Number of Questionnaires Sent: .....	90
a. Number Returned .....	89
b. Number Still Out .....	1

I. Interest in Statistical Tables:

a. High .....	57
b. Moderate .....	26
c. None .....	6

II. Statistical Tables Discussed with:

a. Obstetrical Staff .....	79
b. Pediatric Staff .....	53
c. Nursing Staff .....	46
d. Record Librarian .....	39
e. Other (specify) .....	12
1. Medical Staff	6. Administration (3)
2. Pathologist	7. Board of Governors
3. General Staff	8. General Staff
4. OB Residents	9. Executive Committee
5. Attending Staff	
f. None .....	2

III. Hospitals Requesting Additional Copies:

a. Total of Hospitals .....	45
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IV. Statistical Tables Requested:

a. Selected Statistics .....	40
b. Live Birth, Fetal Deaths, etc. ....	43
c. Live Births .....	41
d. Fetal Deaths .....	31

In October, 1961 a letter was sent to all physicians, hospital administrators, directors of nursing services and nursing educators in New Jersey, regarding oxygen administration to newborn infants. This letter was a revised issue to one originally mailed out in 1955.

Midwives

In 1962, there were 62 licensed midwives registered to practice in the state. This was the same as in the preceding year. By the end of November, 1962 (no December figures available at the time of preparation of this report), 5 midwives were active, having delivered 14 infants. All of these midwife deliveries had physicians' clearance.

Midwife activities by State Health Districts were as follows:

Table 3. ACTIVE MIDWIVES BY STATE HEALTH DISTRICTS, 1960-1962

State Health District	Number of Active Midwives			Number of Infants Delivered by Midwives		
	1960	1961	1962*	1960	1961	1962*
Central	4	4	2	5	5	2
Metropolitan	3	2	2	6	9	10
Northern	1	2	..	1	6	..
Southern	2	1	1	4	6	2
State Total	10	9	5	16	26	14

The following table shows the midwife activities over the past 13 years:

Table 4. ACTIVE MIDWIVES, 1950-1962

Year	Number of Active Midwives	Number of Midwife Deliveries
1950	67	
1951	49	382
1952	42	253
1953	40	222
1954	35	153
1955	29	129
1956	29	98
1957	19	72
1958	25	72
1959	17	42
1960	12	27
1961	12	16
1961	9	26
1962*	5*	14*

\*Inclusive November, no December data available as yet.

Supervision of midwives is provided by Public Health Nurses.

*Unattended Births*

The problem of births unattended by licensed physicians or midwives is increasing and of serious concern, because an unattended birth presents a hazard to both mother and child. In 1961, there were 199 unattended births to New Jersey residents registered on birth certificates, compared to 127 in 1960. Most of the increase occurred in Essex County. The data for 1962 were not completely available at the time of preparation of this report.

The problem of unattended births appears to be considerably larger than would be indicated in the above figures. The knowledge of the problem is incomplete without the knowledge of unattended stillbirths. This information, however, cannot be obtained from fetal death certificates, for these *must* be signed by a physician. Furthermore, we do have indications that many more unattended births occur in transit to a hospital, the birth certificate being signed by a physician upon arrival at the hospital. All unattended births coming to the attention of the Department through birth certificates are being investigated. In addition, a few such births came to our attention through local public health nurses.

From the following tables "Unattended Live Births for 1961," it can be seen that a very large proportion of women having had no trained attendant at births also had no prenatal care (43%) and that the neonatal death rate among these births was very high indeed (70.3/1000 live births).

Table 5. Unattended Live Births, 1961, State Total

District	Total Number Unattended Births	Marital Status		Mother's Age						Report From District		Report Rec'd.		Prenatal Care			Deaths		Reasons Given For No Medical Care*							
		M	S	Under 15	15-19	20-24	25-29	30-34	35-Over	Yes	No	Complete	Incomplete	Yes	No	Not Stated	Neonatal	Maternal	Precipitate	Premature	Financial	Religious	O. W.	Miscellaneous	Not Stated	
Central	10	12	4		2	0	5	2	1	10		15	1	0	8	1	2		0	2			4	5	1	
Metropolitan	157	120	37	1	15	49	51	23	18	157		126	31	70	50		11		75	19	4	2	2	22	3	
Northern	4	3	1			1	1		2	4		4			4		1		1	1	1		1	2		
Southern	22	17	5		3	4	6	3	6	22		10	3	4	15				6		3	3	1	0		
Grand Total	199	152	47	1	20	60	63	28	27	190		164	35	86	77	1	14		88	22	8	5	8	35	4	

\* Several reasons may apply to a given case and in some instances reasons may not be recorded.

## DEPARTMENT OF HEALTH

Table 6. Unattended Live Births, 1961, Central State Health District

County	Total Number Unattended Births	Marital Status		Mother's Age						Report From District		Report Rec'd.		Prenatal Care		Deaths		Reasons Given For No Medical Care*								
		M	S	Under 15	15-19	20-24	25-29	30-34	35-Over	Yes	No	Complete	Incomplete	Yes	No	Not Stated	Neonatal	Maternal	Precipitate	Premature	Financial	Religious	O. W.	Miscellaneous	Not Stated	
Burlington	7	5	2			3	3	1		7		6	1	3	3				3	1			1	1		
Mercer	6	4	2			2	2	1	1	6		6		1	4	1	2		1				3	3	1	
Monmouth	1	1				1				1		1		1											1	
Ocean	2	2			2					2		2		2					2	1						
Grand Total	10	12	4	4	2	0	5	2	1	10		15	1	0	8	1	2		6	2			4	5	1	

\* Several reasons may apply to a given case and in some instances reasons may not be recorded. May, 1962.

## DIVISION OF CONSTRUCTIVE HEALTH

Table 7. Unattended Live Births, 1961, Metropolitan State Health District

County	Total Number Unattended Births	Marital Status		Mother's Age						Report From District		Report Rec'd.		Prenatal Care		Deaths		Reasons Given For No Medical Care*								
		M	S	Under 15	15-19	20-24	25-29	30-34	35-Over	Yes	No	Complete	Incomplete	Yes	No	Not Stated	Neonatal	Maternal	Precipitate	Premature	Financial	Religious	O. W.	Miscellaneous	Not Stated	
Bergen	2	2					2			2		2		1	1					1				1		
Essex	139	106	33	1	12	44	44	21	17	139		111	28	68	43		8		70	16	2	2		19	2	
Hudson	2	2				1	1			2		1	1	1					1							
Passaic	4	3	1			2	1		1	4		3	1	2	1				1					2		
Union	10	7	3		3	2	3	2		10		9	1	4	5		3		3	3	1		2		1	
Grand Total	157	120	37	1	15	40	51	28	18	157		126	31	76	50	11			75	19	4	2		22	3	

\* Several reasons may apply to a given case and in some instances reasons may not be recorded. May, 1962.

## DEPARTMENT OF HEALTH

Table 8. Unattended Live Births, 1961, Northern State Health District

County	Total Number Unattended Births	Marital Status	Mother's Age					Report From District		Report Rec'd.		Prenatal Care		Deaths		Reasons Given For No Medical Care*										
			Under 15	15-19	20-24	25-29	30-34	35-Over	Yes	No	Complete	Incomplete	Yes	No	Not Stated	Neonatal	Maternal	Precipitate	Premature	Financial	Religious	O. W.	Miscellaneous	Not Stated		
Morris	1	M			1			1		1		1			1						1					
Somerset	1						1			1																
Sussex	2	2				1	1	2		2								1	1	1						
Grand Total	4	3 1			1 1	1 1	2 4			4							1 1 1	1 1 1	1 1 1	1 1 1						

\* Several reasons may apply to a given case and in some instances reasons may not be recorded.  
May, 1962.

## DIVISION OF CONSTRUCTIVE HEALTH

Table 9. Unattended Live Births, 1961, Southern State Health District

County	Total Number Unattended Births	Marital Status	Mother's Age					Report From District		Report Rec'd.		Prenatal Care		Deaths		Reasons Given For No Medical Care*									
			Under 15	15-19	20-24	25-29	30-34	35-Over	Yes	No	Complete	Incomplete	Yes	No	Not Stated	Neonatal	Maternal	Precipitate	Premature	Financial	Religious	O. W.	Miscellaneous	Not Stated	
Atlantic	9	8 1		2 1	1 2	2 4	0 4			6 3		6 6					1				2				
Camden	5	3 2		1 2	1 1	1 1	5 5			5 5		1 4					1		1 1 1	1 1 1	1 1 1				
Cape May	1	1				1 1	1 1			1 1															
Cumberland	3	2 1			2 1	2 1	3 3			3 3		1 2					2								
Gloucester	2	2		1 1	1 1	1 1	2 2			2 2		1 1					1		1 1	1 1	1 1				
Salem	2	1 1				2 2	2 2			2 2		1 1					1		1 1	1 1	1 1				
Grand Total	22	17 5		3 4	6 3	6 6	22 22			19 15		4 15					6		3 3 3	1 1 1	1 1 1				

\* Several reasons may apply to a given case and in some instances reasons may not be recorded.  
May, 1962.

Table 10. Unattended Live Births, 1961, All Districts

District	Total Number Unattended Births	Subsequent Med. Supv. Mother			Subsequent Med. Supv. Infant			Total No. With Prenatal Care	Prenatal Care Started By Month											
		Yes	No	*N. S.	Yes	No	*N. S.		2	3	4	5	6	7	8	9	*N. S.			
Central	10	8	5	3	6	7	3			1							1			
Metropolitan	157	47	75	35	91	33	33	76												
Northern	4	2			1	2	1													
Southern	22	9	9	4	9	9	4	4												
Grand Total	199	68	80	44	107	51	41	86												

\* N. S.—Not Stated.  
\*\* Deceased.

Data on unattended births were compiled since 1959. The following table is a gross summary:

Table 11. UNATTENDED BIRTHS, 1959-1962

	Number of Unattended Births			
	1959	1960	1961	1962*
State Total	73	127	199	178
Central State Health District	23	21	16	23
Metropolitan State Health District	27	76	157	144
Northern State Health District	3	3	4	4
Southern State Health District	20	27	22	17

\* Exclusive of December births and late reports.

*Maternal Deaths*

The Maternal and Child Health Program works cooperatively with the Special Committee on Maternal and Infant Welfare of the Medical Society of New Jersey in the study of deaths occurring in women during pregnancy, delivery or the puerperium. Fifty-one such deaths were reported and studied for 1962. In some of these, the cause was unrelated to the maternity cycle. These studies reveal that, despite the dramatic decline of the maternal death rate over the past decades, the irreducible minimum has not been reached. Preventable factors still operate in many of these deaths.

The 1961 maternal death rate was 0.3 per 1,000 live births, the same as in the preceding year and the lowest recorded for New Jersey. At the time of the writing of this report, information on the 1962 maternal death rate is not as yet available.

Acting upon the recommendation of the Medical Society of New Jersey, a letter was issued in May, 1962 to all physicians and hospital administrators, requesting the reporting of pregnancy at the time of death or 6 weeks preceding the death, regardless of whether or not the pregnancy was related to the death. This will allow for better follow-up of maternal deaths.

*Mental Retardation*

1. The Child Evaluation Clinic at Morristown Memorial Hospital, which was planned and developed with the assistance of the Maternal and Child Health Program, began functioning in September, 1959. This clinic was the team approach to the diagnosis, evaluation, and follow-up of mentally retarded children. The clinic director is a neuro-pediatrician. Other members of the team are pediatricians, a psychiatric social worker, and a psychologist. Limited public health nursing services were provided.

Other medical specialist consultation services and necessary laboratory facilities are available at the hospital.

A total of 311 children were evaluated by the end of 1962. The evaluations of 273 of these children were underwritten in toto or in part by the Maternal and Child Health Program. In addition, 57 were in the process of being evaluated and 17 were on the waiting list at the end of the calendar year, 1962.

## 2. *Phenylketonuria*

Phenylketonuria is one of the conditions in the group called "Inborn Errors of Metabolism" which are genetically determined. A child affected with this condition is unable to properly metabolize the amino acid phenylalanine, which is one of the building blocks of all naturally occurring food proteins, including milk. The abnormal metabolism of phenylalanine leads to abnormally high blood levels of the amino acid and this, in turn, by a mechanism to date unknown, has a toxic effect upon the brain, leading to mental retardation. If the condition is discovered very early in life and treatment is instituted promptly, consisting of replacing regular bulk and other protein foods with a diet low in phenylalanine, mental retardation can be prevented in many instances. The condition "Phenylketonuria" is rare (estimated to be one in 20,000 to 25,000 births), but it is a cause of mental retardation for which a specific method of prevention is available.

During the report year, the following programs have been initiated, leading to early discovery and treatment:

- a. Screening for phenylketonuria was introduced in Child Health Stations.
- b. Contracts have been signed with St. Christopher's Hospital in Philadelphia and the Babies Hospital Unit of the United Hospitals in Newark for the diagnosis, treatment and follow-up of children with phenylketonuria. To the extent to which families need assistance, the program assumes the financial responsibility for those children in whom the condition has been found early enough, so that prevention of mental retardation may be possible. This includes provision of diet formula.
- c. A nationwide study to determine the effectiveness of a method developed by Dr. Robert Guthrie of the University of Buffalo for the discovery of phenylketonuria in newborn infants has been set up under the sponsorship of the U. S. Children's Program. It is anticipated that 400,000 infants will be thus tested. New Jersey is participating by testing 10,000 infants. The Maternal and Child Health Program, coordinating this effort, had made arrangements with 5 hospitals (Morristown

Memorial Hospital, Morristown; Helene Fuld Hospital and St. Francis Hospital, Trenton; Fitkin Memorial Hospital, Neptune; and West Jersey Hospital, Camden) for taking blood-drop samples of all newborn babies on the 3rd or 4th day of life (after they had at least 48 hours of milk feedings) and requesting the mothers to submit urine samples subsequently. The laboratory work is done by the State Department of Health Laboratories.

A senior bacteriologist was sent to Dr. Guthrie's laboratories in Buffalo for training in the laboratory testing method. This testing project was initiated in October and it is anticipated will continue for a year.

- d. Arrangements have been made with the Division of Laboratories for instituting blood phenylalanine level determinations. Necessary equipment has been purchased with Maternal and Child Health funds.

### *Migrant Health*

Three pediatric clinics for children of agricultural migratory workers were set up in conjunction with the school programs for these children at Cranbury, Fairton, and Woodstown, following cooperative planning with representatives of the State Department of Education. The services consisted of complete physical examinations of all children attending schools, as well as a few pre-school children, who were brought to the school for this purpose, and included treatment of minor conditions, provision of protective immunizations against diphtheria, pertussis, tetanus, and poliomyelitis, as indicated. Dental services were also provided, but are recorded elsewhere. Tuberculin testing was also done on these children. Referrals for further medical care were made, as needed. A total of 432 were examined by the physician. Two hundred and forty-six of these saw the physician again for a variety of purposes.

Additional Maternal and Child Health services were provided to families of agricultural migratory workers through the following Public Health Nursing organizations: The Burlington County Public Health Nursing Association, the Monmouth County Organization for Social Service, the Middlesex County Visiting Nurse Association, and the Princeton Visiting Nurse Association. The Monmouth County Organization for Social Service, in addition to rendering public health nursing services, provided child health conferences and prenatal clinic services to these people. These services were rendered on basis of contract with the Department.

Two fully qualified Public Health Nurses were appointed by the Migrant Program during the summer to assist in evaluating health needs of migrant workers and problems encountered in meeting these needs. Much of the needs

and problems was in the area of maternal and child health. These nurses also provided direct public health nursing services in many instances and, after evaluation of needs, initiated referrals to appropriate local health agencies. Most cases encountered in this experience were in the maternal and child health category, with the single largest category being prenatal patients. The Public Health Nurse Consultant, Maternal and Child Health, also was active in developing and coordinating the nursing services to migratory agricultural workers.

The following table gives statistical information on the services thus rendered:

Table 12. Services Rendered at the School Clinics for Migrant Children, 1962

Age	First Visits	Re-visits	Total Attendance	Seen by Physician	Seen by Nurse only	D. P. T.				Polio				Tuberculin Test	Referred For		
						1st inj.	2nd inj.	3rd inj.	Booster	1st inj.	2nd inj.	3rd inj.	Booster		Medical	Dental	
Under one																	
One to Four	90	49	139	139		32	27	9	2	30	27	4	2	46	8		
5 and Over	342	197	539	539	3	72	71	61	16	68	75	41	38	157	32	45	
Total	432	246	678	678	3	104	98	70	18	98	102	45	40	203	40	45	

### Educational Activities

#### 1. Conferences and Lectures

- a. A very successful program, "Volunteer Services in Pediatric Units," was held in conjunction with the Tri-State Hospital Assembly in Atlantic City in April, 1962. This meeting was co-sponsored by the American Academy of Pediatrics, New Jersey Chapter; the New Jersey Hospital Association, the New Jersey Association of Hospital Auxiliaries; and the New Jersey Association of Directors of Hospital Volunteers. The program had been planned with representation from these organizations. More than the registered 179 persons attended, including auxiliaries, volunteer directors, hospital administrators, and physicians.
- b. Two 1-day sessions were held for nurses in the Central State Health District on the subject "The Adolescent and His Family," in April

and May, 1962. At the 1st session, 58 agencies were represented with 131 in attendance. At the 2nd session, 52 agencies were represented with 125 in attendance.

- c. Program Coordinator lectured to medical students at Seton Hall on "Pediatrics in the Community."
- d. The Program assisted the New Jersey Academy of Medicine financially in a conference on "Perinatal Mortality."
- e. Program personnel assisted in planning a program "Perinatal Mortality for Nurses" as one of the regular Maternal and Child Health Council, New Jersey League for Nurses' meeting.
- f. The three Public Health Nurse Consultants assigned to the Maternal and Child Health Program participated in an epidemiology course for nurses in Monmouth County, discussing selected Maternal and Child Health statistics.
- g. Public Health Nurse Consultants assigned to the Maternal and Child Health Program spoke at a variety of in-service training sessions for nurses, including the following groups: Morristown Visiting Nurse Association, Southern District Nursing Supervisors, Camden County Staff Nurses, Hunterdon County School Nurses, Middlesex County and Ocean County Nurses, Hospital and Public Health Nurses in the Northern State Health District.
- h. The Public Health Nurse Consultant, Pediatrics, participated as a panel member in a discussion of "The Premature Infant" at the Conference on Obstetric, Gynecologic and Neonatal Nursing, arranged by District III of the American College of Obstetrics and Gynecology.
- i. The Public Health Nurse Consultant, Maternal and Child Health, attended the Premature Institute, New York Hospital for two weeks and spent one week at the Connecticut State Department of Health to observe the nursing activities in that Department's Maternal and Child Health Program.
- j. Program Coordinator spoke at the Annual Meeting of the Gloucester County Association for Retarded Children on the subject "Phenylketonuria."
- k. Program Coordinator served as a resource person at the National Health Forum held in Cleveland. The Forum dealt with "Accident Prevention."
- l. Public Health Nurse Consultant, Maternal and Child Health, spoke at the Annual Meeting of the Parent-Teacher's Association's County Health Chairman.



2. *Foreign Visitor*

Upon request of Harvard University's School of Public Health, arrangements were made for field observations for one of the students, who had just obtained his M.P.H., majoring in maternal and child health. He was a physician from Egypt.

3. *Material Prepared and Published During the Report Period*

The following materials were prepared and published by the Maternal and Child Health Program:

- a. "Recommended Procedures for the Establishment and Conduct of Child Health Conferences."
- b. "A Selected Pediatric Bibliography."
- c. "A Selected Bibliography for Hospitals."
- d. "Selected Readings on Children in Hospitals" (a bibliography).
- e. "Routine Immunizations of Infants and Children" (booklet).
- f. "Table of Recommended Immunization Schedule."
- g. Three leaflets for parents, explaining immunization reactions (English and Spanish).
- h. "Mental Retardation Institute for Social Workers" (January, 1962 issue of Public Health News).
- i. "Children in Hospitals" (October, 1962 issue of Public Health News).
- j. Listing of Child Health Stations in New Jersey by county, community and location, giving days and time of conference services, issued in August, 1961 and October, 1962.

Considerable interest in materials produced by the Program has been expressed throughout the United States, Canada, and other countries.

4. *Health Education*

Health Education is considered a very important function of the Maternal and Child Health Program. A variety of health education activities relating to Maternal and Child Health was carried out by District Personnel.

The Maternal and Child Health Program has purchased and distributed a variety of health education pamphlets on various aspects of maternal and child care and on sex education. In addition, a substantial number of film prints on various aspects of child growth and development have been made available through the State Museum to large audiences. Other educational firms are handled directly by the Program.

The following statistics pertain to the fiscal year 1961-1962 (information on the last 6 months of 1962 is incomplete):

Pamphlets distributed .....	105,750
Film prints made available through State Museum .....	115
Number of film showings .....	3,579
Total attendance .....	162,716

*Survey of Prenatal Care in Trenton*

In cooperation with the Trenton City Health Department, a survey was conducted to determine the extent of prenatal care received by Trenton residents and to find out existing barriers, which may deter women from seeking prenatal care. The population sample examined consisted of all women who were Trenton residents and who delivered during the months of April and May, 1962. As soon as birth certificates were received by the Trenton Health Department, women who had delivered were visited by a public health nurse, who completed a questionnaire on each case. Women who delivered a stillbirth or whose baby had died were visited by the Public Health Nurse Consultant, Maternal and Child Health.

The information from the questionnaire was transmitted to machine-punched cards and statistical analysis provided by the Public Health Statistics Program. A report of the study is in preparation.

*Field Activities on Local Level*

The operation and administration of the Department-sponsored Maternal and Child Health activities on local level are the responsibility of the 4 State Health Districts. At the end of the report period, there were 270 Child Health Stations throughout the state. In 64 of these, the Department has paid for physicians' services on contract basis with local health agencies. These contracts are renewed yearly, but are to be amortized within a period of 3 years, by the end of which local communities assume full financial responsibility.

The work of the District Consultant Pediatricians, appointed first in 1959 and assigned to the 4 State Health Districts, has resulted in considerable improvement of the quality of services rendered at the various Child Health Stations. During the report period, a 2nd District Consultant Pediatrician was assigned to the Metropolitan State Health District.

A statement of Departmental policy regarding Child Health Stations was issued in October, 1960 and was widely distributed. The statement made reference to content of services to be rendered, uniformity of standards and principles of procedures, consultation services available from the Department to all agencies rendering Child Health Conference services, financial assist-

ance available from the Department and expansion of Child Health Conference services.

Pediatric consultation services had been expanded considerably during the report period, particularly to larger communities which had requested such consultation for the 1st time.

Nursing consultation to the Child Health Conferences has been provided by the Public Health Nurse Consultant, Maternal and Child Health, and the District Nursing staff.

Consultation regarding maternal and child health nursing activities has been provided to health departments and nursing agencies through the supervisory nursing staff of the State Health Districts as well as the public health nursing consultants assigned to the Maternal and Child Health Program.

#### *Statistics*

Statistical material, also of great importance and concern to the Maternal and Child Health Program, is included in that portion of the Departmental Report which deals with the activities of the Public Health Statistics Program.

## Division of Environmental Health

ALFRED H. FLETCHER, M.S., in Engineering, *Director*  
ROBERT S. SHAW, M.P.H., *Assistant Director*

#### *Programs:*

Food and Drugs .....	MILTON RUTH, <i>Chief</i>
Food .....	FRANCIS A. TIMKO <i>Program Coordinator</i>
Drug, Device and Cosmetic .....	RICHARD J. RUSSO, M.S.P.H. <i>Program Coordinator</i>
Meat Inspection .....	MILTON RUTH <i>Program Coordinator</i>
Milk .....	HOWARD ABBOTT, M.P.H. <i>Program Coordinator</i>
Shellfish .....	RICHARD E. BELLIS <i>Program Coordinator</i>
Stream Pollution .....	ERNEST R. SEGESSER <i>Program Coordinator</i>
General Sanitation .....	ALFRED H. FLETCHER, M.S. <i>Acting Supervising Engineer</i>
Camp and Bathing .....	ANTHONY T. LEAHEY <i>Program Coordinator</i>
Potable Water .....	JOHN WILFORD <i>Program Coordinator</i>
Solid Waste .....	JOHN ZEMLANSKY, M.S. <i>Program Coordinator</i>
Ragweed and Poison Ivy .....	JOHN ZEMLANSKY, M.S. <i>Program Coordinator</i>
Housing .....	NORMAN SILVESTER <i>Program Coordinator</i>
Air Sanitation .....	WILLIAM A. MUNROE <i>Program Coordinator</i>
Occupational Health .....	E. LYNN SCHALL, M.P.H. <i>Program Coordinator</i>
Radiological Health .....	WILLIAM H. AAROE, M.P.H. <i>Program Coordinator</i>
Veterinary Public Health .....	OSCAR SUSSMAN, D.V.M., M.P.H. <i>Chief</i>

## Division of Environmental Health

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The broad objectives of the Division of Environmental Health are to foster planning, construction, maintenance, and operation of the physical structures that support community life and protect and promote health; to prevent transmission of animal diseases to humans; and to encourage programs to promote healthful environmental conditions generally. More specifically, this includes activities to improve and properly maintain water supplies, liquid and solid waste disposal systems, bathing places, housing, milk, shellfish, meat and other food and drug supplies; to prevent and control air pollution and radiation hazards; to promote health and control unhealthful conditions in industry; to uncover through epidemiological study and research the mode of transmission of animal diseases to humans and practical methods of control; and to foster programs to deal with other environmental health problems such as ragweed, poison ivy, insects, and rodents.

Steps were taken in July, 1962 to further strengthen the Stream Pollution Control Program in order to meet the changing patterns and priorities in the control of stream pollution, emphasizing particularly stream valley and area planning, and in the urgent problems of sanitary and industrial waste disposal, and to assure the best use of available sanitary engineering skills. The Assistant Director, Division of Environmental Health, has over-all responsibilities for the Stream Pollution Control Program in addition to specific responsibility for the development of a state plan for sewerage and industrial waste disposal by drainage basins.

A Supervising Engineer was appointed to serve as Program Coordinator of the Stream Pollution Control Program.

All full-time stream pollution control engineers were assigned to work under the direct supervision of the Supervising Engineer.

The Division is organized into 7 major units or Programs as follows: Food and Drugs, Occupational Health, Air Sanitation, Radiological Health, Stream Pollution, General Sanitation, and Veterinary Public Health. The activities are grouped into the following Programs and activities:

<i>Food and Drugs</i>	<i>Occupational Health</i>
Milk and Milk Products	<i>Air Sanitation</i>
Shellfish	<i>Radiological Health</i>
Meat and Poultry	<i>Stream Pollution</i>
Food	
Drug Manufacturing and Wholesaling	

*General Sanitation*  
 Bathing-Camp  
 Housing  
 Potable Water  
 Ragweed and Poison Ivy  
 Solid Waste Disposal

*Veterinary Public Health*  
 Rabies  
 Other Animal Diseases  
 Insect and Rodent Control

Codes are drafted and when approved are recommended for adoption by local boards of health by reference. The following is a list of recommended codes pertaining to environmental health in existence to date:

Retail Food Handling	Coin-Operated Dry Cleaning Machines
Smoke Control	Individual Sewage Disposal Systems
Weed Control	Individual and Semi-Public Water Supplies
Plumbing	Maintenance of Swine
Swimming Pools	Garbage and Refuse Collection and Disposal
Nuisance Control	Vending Machines
Housing	

Advisory Committees were appointed to up-date 2 codes, the standards required by Chapter 199, P. L. 1954 for individual water supplies and sewage disposal, and the rules and regulations governing the submission of plans for public water and sewerage systems.

The recommended Code on Trailer Camps was replaced by a new Chapter IX (Mobile Home Parks) in the State Sanitary Code.

During this 18-month period, 2 new Codes were completed by Advisory Committees and were adopted and recommended by the Department to local boards of health for adoption by reference. One of these, the Housing Code, was drafted and approved under the supervision of the Department of Health and the Department of Conservation and Economic Development and must be adopted by ordinance by the municipal governing body and the responsibility of enforcement may be assigned to the local board of health. The other code, adopted and recommended, was for Coin-Operated Dry Cleaning Machines.

### **Air Sanitation Program**

#### *Air Pollution Commission*

The New Jersey Air Pollution Control Commission was created pursuant to statute in 1955. Air pollution as it applies to New Jersey has been generally classified into 4 major categories as follows:

1. Smoke and odor from open burning.
2. Smoke and fly ash resulting from combustion of fuels.
3. Dust, gases, vapors, fumes, and odors resulting from chemical and industrial operations.
4. Pollens of allergenic significance.

Recently, the Commission has included a 5th category—motor vehicle exhaust.

The New Jersey Air Pollution Control Commission has promulgated a Code prescribing standards of performance in the areas of open burning, smoke, and fly ash control. Chapter VI of the Code deals with all other forms of dusts, gases, vapors, fumes, and odors from industrial operations, and provides the means for dealing with obvious sources of such air pollution which result in demonstrable harmful effects.

The State Department of Health is the enforcement agency for the codes promulgated by the Commission.

During the past 2 years, the Commission has concentrated its efforts on the development of standards for the control of dusts and particles from industrial processes. There are no satisfactory precedents for the promulgation of emission standards for dusts. It has been necessary for the Commission to develop a unique approach. The form of regulation now under consideration includes such factors as stack height, distance from stack to plant boundary, and potential effect of the dust on health, property, and comfort. If this approach is successful, the Code might, in addition to providing a minimum state standard for air pollution control, provide an effective procedure for the use of zoning and planning agencies.

A Second Progress Report of the New Jersey Air Pollution Control Commission and the New Jersey State Department of Health was published in December, 1961. It outlines in detail the responsibilities and accomplishments of the Commission and the State Health Department since the adoption of the Air Pollution Control Act in 1954. This illustrated 35-page pamphlet has received wide distribution in New Jersey and throughout the country.

Experiences to date of the State Department of Health in the administration of the 1954 Act demonstrated the need for certain amendments to provide for more effective enforcement procedures for dealing with violators of the New Jersey Air Pollution Control Code. Recommendations for amendments to the Act were made by the Commission, and in the 1962 session of the Legislature the Act was amended to provide for what is hoped will be more effective and efficient enforcement procedures.

#### *Department Enforcement Activities*

During the past 18 months, the Department has conducted over 5,000 investigations which resulted in 492 persons, industries or firms being cited for first violations of the New Jersey Air Pollution Control Code and 229 for repeat violations. Two-thirds of the violations involved open burning of

refuse or open burning associated with salvage operations. The total number of violations cited for open burning has shown a downward trend over the past few years. This source of air pollution remains as one of major concern. It is estimated that 328 cases involving open burning were satisfactorily terminated during the period of this report.

About one-fourth of all violations were for excessive smoke emissions; 59 of these are known to have been corrected. Fly ash resulting from the combustion of solid fuels represented a small fraction of the total air pollution problem. Only a few plants in the state are known to be operating without adequate controls. It is believed that these will be resolved soon.

Air pollution from sources other than those for which standards have been promulgated represents an ever increasing load for enforcement activity. Over 60 percent of the 436 complaints received by the Department were investigated and acted upon under the broad provisions of the Air Pollution Control Code (Chapter VI) which prohibits air pollution based upon demonstrable effects. Of 269 sources investigated, the Department instituted action against 58 industries or commercial operations and 37 were successfully resolved following the installation of such air pollution control devices as: water scrubbers for foundry exhausts, bag collectors for dusty operations, chemical air scrubbing devices for acid mists, and chemical treatment or filtration for odor control. In some instances, control was effected by process changes. Commercially available control devices do not exist for many types of processes and extensive research in control procedures has been instituted by a number of large industries as a result of the Department's actions.

There were 259 office conferences held with persons charged with being in violation of one or more of the requirements of the New Jersey Air Pollution Control Code; 22 formal hearings were held in those instances where the matters could not be disposed of in conference. Nineteen Department Orders were issued as a result of hearings. Failure of violators to comply with Department orders resulted in 17 chronic offenders being referred to the office of the Attorney General for prosecution.

In several instances, detailed surveys involving measurement of air contaminants in the outdoor air were conducted in an effort to establish the nature and degree of an air pollution problem and the potential sources. Such studies were conducted in Union County, Middlesex County, and Burlington County. One study involving house paint discoloration in the Trenton area was carried out jointly with the Pennsylvania State Department of Health as a cooperative effort to resolve a problem involving suspected sources of air pollution on both sides of the Delaware River in the vicinity of Fieldsboro.

### *Outside Agency Cooperation*

An increasing amount of the Department's activity in the field of air pollution control has been that connected with providing consultation services to or actively participating in the work of voluntary organizations or semi-official agencies whose interests in air pollution are either intra or interstate in scope. The increasing interest in the interstate aspects of air pollution can be demonstrated by the fact that the Interstate Sanitation Commission is conducting a study of air pollution in the Metropolitan New York-New Jersey area, and the Metropolitan Regional Council has adopted a platform recommending extensive air monitoring and an air pollution alert system. A voluntarily created organization known as the New York-New Jersey Cooperative Committee on Interstate Air Pollution, composed of official representatives of the State Departments of Health in New York and New Jersey and the City of New York, has been meeting regularly and has developed working agreements for dealing with certain types of inter-jurisdictional air pollution problems. In recent months, PENJERDEL, an organization created to deal with the growth problems of the 388 counties and local governments in the Delaware Valley area extending from Trenton, New Jersey to Wilmington, Delaware, has included air pollution among its interests. Preliminary proposals have been developed for a comprehensive air pollution survey in its area of concern. The technical staff of the Department of Health's Air Sanitation Program will continue to take part in the work of this organization.

### *Research*

Research projects being carried on in the scientific community designed to correlate air pollution levels with health have been started or are in the planning phase. In this connection, the Department is working closely with representatives from universities or medical schools. The past year and a half has seen accelerated activity in many civic and official organizations throughout the state and in adjoining states. Providing consultation and taking active part in these activities have placed challenging technical requirements on the Air Sanitation Program staff.

A 34-site air monitoring system established by the Department in 1961 has been in continuous operation. This research project is designed to provide data on the soiling characteristics or smoke levels throughout the state. Being a research project without precedent, considerable difficulty has been experienced with mechanical aspects in the operation of the network. However, most of the problems have been overcome and data are being gathered continuously. In addition to serving a purpose for the Department's activi-

ties, the data gathered from this project have been requested by meteorological and medical people for use in special studies being carried on by them.

The significance of motor vehicles as a serious potential source of air pollution in New Jersey is not yet clearly understood. All new automobiles sold in New Jersey in 1963 have been equipped voluntarily by the manufacturers with devices to control emissions from engine crankcases. The Air Pollution Control Commission and the Department have developed plans for one very detailed comprehensive air monitoring station which, if constructed and operated, would be helpful in providing some baseline information to determine the needs in New Jersey for further controls in automobiles. The Department and the Commission have entered into negotiations with an organization of industries in New Jersey which is considering financing the capital costs associated with the development and operation of the comprehensive air monitoring station.

### Summary

In summary, there has been progress made to control air pollution in New Jersey. Many sources of air contamination have been eliminated or greatly reduced. However, much more remains to be done by way of code development and improved administration. The work of the Commission in the past year and a half has laid the groundwork for additional codes. It is hoped that these can be developed and implemented within the next year.

The cost of air pollution control can be high to industries who must modify processes or install expensive devices. It can be expensive to the public who might be called upon to assume the costs for the control of emissions from motor vehicles. Improved methods for refuse disposal required to reduce air pollution will also be costly to the public. It is vital, therefore, that the control of air pollution be brought about with careful consideration to the economic aspects and that the degree of control be consistent with a well defined need. Research work of the Department of Health includes assembly of data to demonstrate these needs.

Table I. ENFORCEMENT SECTION ACTIVITIES, AIR SANITATION PROGRAM  
JULY 1, 1961-DECEMBER 31, 1962

Activity	Chapter of Code				Totals
	II	IV	V	VI	
Complaints investigated	107	46	14	269	436
First violations	310	135	0	47	492
Follow-up investigations	3,996	562	32	181	4,771
Repeat violations	165	52	1	11	229
Cases closed	328	59	6	37	430
Conferences	140	23	5	91	259
Hearings	21	1	0	0	22
Referrals to attorney general	17	0	0	0	17

### Nature of Operations

Industrial	676	457	42	527	1,702
Salvage	2,320	37	0	9	2,366
Commercial	1,474	129	4	95	1,702
Government	279	33	11	13	336
Other	213	103	1	30	347

Chapter V: Registrations received—11  
Registrations reviewed—14  
Registrations investigated—23  
Registrations stack tested—1  
Registrations completed—1

### Food and Drugs

#### General

Responsibilities and activities of the Bureau of Food and Drugs are divided into 5 separate Programs as follows:

1. Drugs, devices and cosmetics.
2. Food (other than milk, meat, ice cream and shellfish).
3. Meat.
4. Milk and ice cream.
5. Shellfish.

Each Program is administered under authority granted by laws and regulations governing sanitation and licensing of specific industries and labelling of food and drug products pursuant to statutory authority. The following tabulation shows the number of licenses, permits, certificates and registrations issued and the revenues during the period:

Table I. LICENSES, PERMITS, REGISTRATIONS, AND REVENUES  
JULY 1, 1961-DECEMBER 31, 1962

Establishment	Licenses	Permits	Cert.	Regs.	Revenue
Ice cream plants	2,799				\$23,500
Goat milk plants		28			280
Milk plants		892			22,300
Refrigerated warehouses and locker plants	162				8,750
Narcotic drug manufacturers and wholesalers	123				1,110
Drug manufacture and wholesale plants				475	92,555
Egg breaking establishments	76				no fee
Creameries and Pasteurizing plants	82				no fee
Non-alcoholic beverage bottling plants	328				no fee
Shellfish establishments			428		no fee
Slaughterhouses	391				no fee
Totals	3,961	920	428	475	\$148,490

Penalties in the amount of \$5,350.00 were collected for violations of our laws and regulations.

*Legislation*

Legislation defining and authorizing the manufacture, labelling, and sale of special dietary frozen foods was enacted by amending R. S. 24:10-62. In addition, the Drug Manufacturing and Wholesale Registration Act (N.J.S.A. 24:6B) was amended to reduce the registration fee to \$25.00 for firms whose gross annual drug business did not exceed 3 percent of the gross annual business.

*In-Service Training*

Two representatives of the Drug, Device and Cosmetic Program successfully completed a 14-day course at the Federal Narcotic Training School in Washington, D. C. Another representative completed a week long training conference dealing with examination and classification of frozen eggs sponsored by the U. S. Food and Drug Administration at St. Louis, Mo., and is accepted as an expert by that agency. In addition, the Drug and Food Program Coordinators completed conference leadership courses presented by the Department.

*Emergency*

Personnel from the Food, Drug, Milk and Shellfish programs were diverted at the time of the emergency created by the March 6-7, 1962 Atlantic coastal flood to work with personnel from the State Health Districts and civil defense personnel, local health officers and county public health coordinators, to assure the continued safe operation of certain affected essential environmental health services. Activities of these persons were limited to shellfish handling establishments, drug manufacturers, wholesalers and retailers, and places where alcoholic beverages were stored or offered for sale.

The condemnation and destruction of flood contaminated alcoholic beverages was successfully carried out in cooperation with U. S. Alcohol and Tobacco Tax, State Beverage Tax, Central Program, State Health Districts and local board of health and police personnel.

**Drug, Device and Cosmetic Program**

Chapter 52, P. L. 1961 (N.J.S.A. 24:6B) was signed by the Governor and became law on June 3, 1961. This law required the registration of all drug manufacturing and wholesale drug businesses in this state. Machinery for administration of the new law was developed.

During this 18-month period, 475 drug businesses registered for 507 locations. It is anticipated that there will be in excess of 500 registrants within the next few months. Because of the heavy workload, the Drug Pro-

gram staff was increased from 1 full-time person who was the Program Coordinator, to a staff of 4 field men, 2 clerks, and the Program Coordinator.

During this period, approximately 400 initial inspections and approximately 50 additional reinspections have been completed, for a total of 450. Two manufacturing drug operations were closed by an order of the Commissioner because of the grossly unsanitary conditions which were found during routine investigation and inspection. Both of these drug manufacturers are going out of business. The Newark police were assisted in the investigation of the theft of drugs from a leading drug firm in New Jersey. Also, a well-known pharmaceutical firm and local police were assisted in recovering stolen drugs from a New Jersey drug firm which was registered under N.J.S.A. 24:6B. Drugs adulterated with insecticides which had been distributed throughout the State of New Jersey and in 12 other states were recalled from the market. These adulterated drugs were manufactured by a New Jersey drug firm which was also manufacturing insecticides.

Large quantities of counterfeit perfume which had been seized several years ago have been turned over to the Monmouth County prosecutor's office. The defendants in this case pleaded guilty.

The Department cooperated with the U. S. Veterans Administration in embargoing over 200,000 misbranded drugs received by them from a New Jersey manufacturer. The drugs in question were destroyed under supervision.

Penalty fees of \$500 were collected for 10 samples which were in violation. A penalty of \$50 was collected from a drug store for breaking an embargo of this Department.

Approximately 200 samples of various drug products were collected by Program personnel. Analyses were reviewed for compliance with legal or self-proclaimed standards and labels were examined to determine if they were false or misleading in any manner. Export certificates numbering 160 were prepared and issued by the Department for a number of New Jersey manufacturers in order that they might meet requirements for shipping to foreign countries. Three field men devoted full time to the inspection of wholesale drug manufacturers and the fourth man devoted his entire time to narcotic work.

Considerable time was spent in conducting or cooperating with the Federal Food and Drug Administration and other agencies in approximately 35 special investigations.

During this first year of operation under the new registration law, an effort was made to strengthen the Program's narcotic control activity by sending a field man to the Federal Narcotic Training School in Washington, D. C. Upon completion of the course, this man devoted almost his entire time to narcotic licensees in New Jersey. The program of control over the

manufacture of narcotics and their distribution has been substantially strengthened. An inspection of each of the narcotic establishments was made prior to the renewal date of the license with ample time to correct any difficulties. Narcotic licensees are not issued a renewal license until after an on-the-spot inspection. Narcotic licenses of 2 drug operations in New Jersey were suspended. One license has been reinstated following the installation of the necessary safeguards.

Under Chapter 112, P. L. 1962, the Commissioner of Health was given the power to alter the status of certain narcotic drugs. On September 10, 1962, the Commissioner promulgated a regulation removing the drug "Dihydrocodeinone" from the "exempt" status, thus placing it under full narcotic control which is in conformity with the recently enacted Federal Narcotic Legislation.

In June, 1962, Section 4 of N.J.S.A. 24:6B was amended, establishing a reduced registration fee for registrants whose gross total annual business in drugs does not exceed 3 percent of their gross total annual volume in business. It is anticipated that renewal registrations which are due early in 1963 will produce a number of renewal registrants which may qualify for the reduced statutory fee.

John V. Scudi, Ph.D. has served as a Consultant to assist in training and strengthening the pharmacological, toxicological, and other technical phases of the program. Dr. Scudi has had many years' experience with several leading pharmaceutical manufacturers and his assistance to the Program has been significant.

The Department cooperates with local boards of health and other state and federal agencies in joint investigations of matters of mutual concern by the exchange of information affecting the participating agencies.

### Food Program

Sanitary requirements for the production, preparation, storage and handling of food are a responsibility of the Department. Egg breaking, non-alcoholic beverage bottling and bottled water plants, refrigerated warehouses and locker plants are licensed by the Department. Samples of food are collected for analyses for bacteriological and chemical adulteration and compliance with established or self-proclaimed standards of quality and identity. Labels of food products are also reviewed for compliance with laws and regulations intended to prevent deception and to inform the consumer fully.

Over 2,000 results of analyses of samples of food other than milk products, ice cream, and shellfish were reviewed for compliance. New and revised labels proposed for use by industry, and submitted to this office for review and

comment, were examined and comments offered regarding compliance with applicable laws and regulations.

The March 6 and 7, 1962 Atlantic Coast flood imposed a heavy burden upon the Department in connection with the re-establishment of essential health services in the affected areas. Initial efforts of Departmental personnel were devoted to placing embargoes on all commercial stocks of flood damaged food to prevent its use for human consumption and to avoid creation of nuisances through decomposition.

Special attention was directed toward inventorying and segregating salvageable alcoholic beverages from those which had been submerged in the floodwaters. Personnel from the Department of Health worked in cooperation with local police and health representatives, State Alcoholic Tax agents and representatives of the U. S. Alcohol and Tobacco Tax unit. Each of these agencies was interested in the orderly and legal disposition of all contaminated or damaged wine, beer and whisky. Following placement of blanket embargoes in all liquor establishments where necessary, teams consisting of federal and state tax agencies, local board of health and State Health Department personnel, inspected the embargoed materials, segregated salvageable from damaged merchandise and made arrangements for inventories of condemned materials. Arrangements were also made for transportation and destruction by crushing and burial of the adulterated products, usually with local police escorts.

Table 1. STATISTICAL SUMMARY OF WORK PERFORMED

Total number of liquor establishments visited .....		716
Total number of embargoes placed .....		146
Total gallons—all beverages destroyed .....		43,254
Total dollar value of destroyed beverages .....		\$120,216.00
Material destroyed by product:		
<i>PRODUCT</i>	<i>GALLONS</i>	<i>VALUE</i>
Whiskies .....	2,143	\$48,730
Wines .....	2,971	6,933
Sparkling wines .....	87	1,280
Vermouth .....	195	1,557
Beer and Ale .....	37,858	61,761
Totals....		\$120,261

The campaign of field testing ground meats for detection of added sulphur dioxide, a substance prohibited by law, was continued. A total of 1,066 such examinations was made, resulting in collection of 31 positive samples, 2.9 percent of the total. Confirmation of the screen tests by laboratory determination enabled the Department to collect 24 penalties totaling \$2,050 from the



persons found violating this section of our law. Supplementing this program, a drive was initiated to eliminate the fraudulent practice of substituting excessive quantities of fat for meat in ground meats. Using the U. S. Department of Agriculture standard of a 30 percent maximum, analyses were made of 138 samples of ground meat. Twenty samples, or 14.5 percent, were found in excess of the 30 percent maximum. Warning letters for 1st offenders were sent to each of the persons whose products were found in violation. Resampling enabled the Department to collect 3 \$50 penalties for violation of our adulteration laws. Because of the high incidence of adulteration found on the market, the Department purchased 2 fat testing devices for use in the field. These instruments will permit Departmental personnel to make screening examinations on the spot and collect legal samples of products found to contain excess fat. This will greatly reduce the number of samples submitted to the laboratory and will permit laboratory personnel to devote additional time to other duties. It is planned to recommend the purchase of additional devices for use in all of the Districts. Agents of the Department continued to cooperate with federal, state, and local agencies by making special or joint investigations, collecting special samples for analyses and placing embargoes on fire damaged or otherwise adulterated or misbranded food. In cases where embargoes were placed at the request of federal officials, the embargoes were continued until seizure of the articles was effected by the U. S. Marshal or otherwise disposed of in compliance with the law. Technical and consultative services were also provided for other state agencies, industry, and the consuming public in matters relating to wholesomeness of food and plant sanitation.

An advisory committee of local health officers was appointed to review and update the existing Retail Food Handling Code of 1952. It is contemplated that the standards in the new code will be in agreement with those in the Public Health Service Food Sanitation Manual of 1962.

The following table lists the type and number of food establishments other than meat, milk, and shellfish establishments, inspected for sanitation by representatives of the Department during the 18-month period:

Table 2. FOOD ESTABLISHMENTS INSPECTED  
JULY 1, 1961-DECEMBER 31, 1962

Eating establishments .....	531
Egg breaking plants .....	217
Non-alcoholic beverage bottling and bottled water establishments .....	434
Refrigerated warehouses and locker plants .....	125
Cider plants .....	84
Other .....	771
<b>Totals .....</b>	<b>2,162</b>

**Meat Program**

During the period July 1, 1961 to December 31, 1962, 87 red meat slaughterhouses and 304 poultry slaughterhouses were licensed by the Department.

All establishments were inspected during the period covered by the report, including meat inspection evaluations at establishments requiring such services. Water samples were also secured at all establishments that have private water supplies.

In connection with the regular inspection program, the Department again cooperated with the New Jersey Department of Agriculture in the State Seal of Quality Program for locally grown turkeys. This program requires meat inspection as part of their quality requirements and permits the use of the official State Seal of Quality on carcasses meeting the program requirements. Twenty-three licensed poultry slaughterhouses operated under the program.

The Department continued to cooperate with industry by subsidizing the meat inspection course given by Rutgers University. This resulted in a substantial increase in the number of licensed meat inspection personnel available to the industry. Due to a reduction in applications for the course and the number of meat inspectors available to the industry, the Department does not plan to offer the course again until need is demonstrated.

Licenses were denied 3 poultry slaughterhouses due to serious stream pollution problems. Two of the establishments took corrective action satisfactory to the Department; the 3rd discontinued operation.

The following is a breakdown of Program activity for the period covered by the report:

Table 1. PROGRAM ACTIVITY  
JULY 1, 1961-DECEMBER 31, 1962

Number of applications received, red meat .....	87
Number of licenses issued, red meat .....	87
Number of applications denied or pending .....	0
Number out of business .....	0
Number of applications received, poultry .....	306
Number of licenses issued, poultry .....	304
Number of applications denied or pending .....	2
Number out of business .....	22
Number of sanitary inspections .....	1,005
Number of other visits .....	677
Number of water samples collected .....	180
Number of meat inspection evaluations .....	66

General sanitation has continued to improve and most establishments are operating at a satisfactory level. No serious meat inspection irregularities were reported.

There was a total of 3,386,275 red meat animals slaughtered in New Jersey in 1962; 3,137,806 or 92 percent were processed in plants operating under federal supervision whereas 248,468 (8 percent) were slaughtered in plants operating under New Jersey State supervision.

The statistics concerning poultry indicate that of the 7,503,932 fowl slaughtered, 5,416,814 (72 percent) were slaughtered in plants operating under federal supervision and 2,087,118 (28 percent) were processed in plants under New Jersey State supervision.

An analysis of the percent of the various classes of animals condemned under New Jersey and federal inspection systems indicates that although the percentages under both systems are very low, a few general conclusions can be drawn concerning the differences.

Cattle condemnations are higher due mainly to the fact that plants operating under the supervision of licensed New Jersey meat inspectors slaughtered dairy cattle which are old, hence the disease rate is higher than federal houses which slaughter primarily young beef. The majority of calves slaughtered in plants operating under supervision of New Jersey licensed meat inspectors are from dairy farms and are very young, whereas, in federal plants, an older, more mature type of calf is processed.

One percent of poultry is condemned in federal plants compared to 0.5 percent in New Jersey plants. This is due to the fact that a vast majority of laying hens are slaughtered in federal plants. The disease rate is much higher in hens which have out-lived their usefulness as egg producers. In New Jersey supervised plants, younger fowl are slaughtered, thus, a lower disease rate.

Table 2. SUMMARY OF ANTE AND POST-MORTEM INSPECTION FOR ALL CLASSES OF ANIMALS  
CHART I

Kind of animal	Antemortem Inspection				Post-mortem Inspection			Total	Parts
	Passed	Suspected	Condemned	Total	Passed	Condemned	Total		
Cattle	436,003	67	6	436,009	436,533	70	436,003	10,897	
Calves	319,470	49	30	319,500	319,302	108	319,470	888	
Swine	1,429,224	531	33	1,429,257	1,425,237	3,987	1,429,424	78,011	
Sheep	1,200,873	91	36	1,200,900	1,200,506	397	1,200,873	99,034	
Poultry	7,431,640	554	72,283	7,503,932	7,351,044	70,755	7,431,390	1,327	
Total	10,817,819	1,292	72,388	10,890,207	10,733,222	84,347	10,817,769	190,157	

Percent of Condemnation N. J. State Inspection Cattle ..... .2 Calves ..... .14 Sheep ..... .2 Swine ..... .03 Poultry ..... .5	Percent Condemnation Federal Inspection (all states) Cattle ..... .009 Calves ..... .048 Sheep ..... .013 Swine ..... .001 Poultry ..... .1	Percent Condemnation N. J. Federal Plants Cattle ..... .04 Calves ..... .013 Sheep ..... .003 Swine ..... .029 Poultry ..... .1
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## DEPARTMENT OF HEALTH

CHART II

<i>Cattle—Antemortem</i>	<i>Total</i>	<i>Passed</i>	<i>Suspect</i>	<i>Condemned</i>
State	19,071	19,067	24	4
Federal	416,923	416,921	43	2
Exempt	615	615	0	0
	<u>436,609</u>	<u>436,603</u>	<u>67</u>	<u>6</u>
<i>Cattle—Postmortem</i>				
State	19,067	19,030	37	518
Federal	416,921	416,888	33	0
Exempt	615	615	0	0
	<u>436,603</u>	<u>436,533</u>	<u>70</u>	<u>518</u>

Major causes for condemnation of parts: Pneumonia

Liver conditions—Abscesses  
—Telangiectasis

Abscess  
Pyemia  
Mastitis

Major diseases and conditions resulting in carcass condemnation:

Enteritis  
Emaciation  
Pericarditis  
Pneumonia  
Pyemia

## DIVISION OF ENVIRONMENTAL HEALTH

CHART III

<i>Calves—Antemortem</i>	<i>Total</i>	<i>Passed</i>	<i>Suspect</i>	<i>Condemned</i>
State	95,579	96,452	14	27
Federal	222,705	22,702	35	3
Exempt	1,216	1,216	0	0
	<u>319,500</u>	<u>120,370</u>	<u>49</u>	<u>30</u>
<i>Calves—Postmortem</i>				
State	95,552	95,414		138
Federal	222,702	222,672		30
Exempt	1,216	1,216		0
	<u>319,470</u>	<u>319,302</u>		<u>168</u>

Major causes for condemnation of parts: Liver abscesses  
Injuries  
Lungs  
Pneumonia

Major diseases and conditions resulting in carcass condemnation:

Enteritis  
Gastritis  
Peritonitis  
Pneumonia  
Emaciation  
Immaturity  
Contamination

CHART IV

<i>Swine—Antemortem</i>	<i>Total</i>	<i>Passed</i>	<i>Suspect</i>	<i>Condemned</i>
State	118,983	118,956	21	27
Federal	1,308,962	1,308,956	510	6
Exempt	1,312	1,312	0	0
	<u>1,429,257</u>	<u>1,429,224</u>	<u>531</u>	<u>33</u>
<i>Swine—Postmortem</i>				
State	118,956	118,916		40
Federal	1,308,956	1,305,009		3,947
Exempt	1,312	1,312		0
	<u>1,429,224</u>	<u>1,425,237</u>		<u>3,987</u>

Major causes for condemnation of parts: Heads (T.B.)  
General conditions  
Parasitic Livers  
Pericarditis  
Abscess

CHART V

Sheep—Antemortem	Total	Passed	Suspect	Condemned
State	11,513	11,509	0	4
Federal	1,189,216	1,189,184	91	32
Exempt	180	180	0	0
	<hr/>	<hr/>	<hr/>	<hr/>
	1,200,909	1,200,873	91	36
Sheep—Postmortem				
State	11,509	11,483		26
Federal	1,189,184	1,188,843		341
Exempt	180	180		0
	<hr/>	<hr/>		<hr/>
	1,200,873	1,200,506		367

Major causes for condemnation of parts: Injuries  
Parasites  
Abscesses  
Arthritis  
Septicemia

Major diseases and conditions resulting in carcass condemnation:  
Icterus  
Pneumonia  
Injuries  
General conditions  
Enteritis

CHART VI

Poultry—Antemortem	Total	Passed	Suspect	Condemned
State	258,932	258,774	0	158
Federal	5,416,814	5,355,266	0	61,548
Exempt	1,828,186	1,817,609	554	10,577
	<hr/>	<hr/>	<hr/>	<hr/>
	7,503,932	7,431,649	554	72,283
Poultry—Postmortem				
State	258,524	257,009		1,515
Federal	5,355,266	5,280,043		75,223
Exempt	1,817,609	1,814,592		3,017
	<hr/>	<hr/>		<hr/>
	7,431,399	7,351,644		79,755

Major causes for condemnation of parts: Bruises  
Injuries  
Emaciation  
Degeneration

Major diseases and conditions resulting in carcass condemnation:  
Infectious diseases  
Degeneration  
Inflammatory diseases  
Bruises

Milk Control

During the period covered by this report, the trend toward consolidation, merger, and shut down of milk plants continued, resulting in a net loss of 47 milk plants under permit (16 in-state and 31 out-of-state). In addition, 7 applications for new milk plants were denied on the basis of inspection.

Paradoxically, there were many requests received from dairy farmers in New Jersey for information and plans for bottling raw milk for sale to consumers and for installing new pasteurizing and processing equipment, reportedly in an effort to supplement their income. Although the sale of raw milk is discouraged, the number of dairies selling raw milk to people who come to the farm is on the increase. The sale of raw milk, however, is a very insignificant part of the total sale of milk.

The Department continued to cooperate with the United States Public Health Service by inspection of milk plants and ice cream plants for listing as sources of supplies for interstate carriers and federal installations, and as Interstate Milk Shippers.

The routine testing for pesticide and penicillin residues in milk and milk products, together with the educational program developed jointly with the New Jersey Department of Agriculture, the milk industry, the Extension Service of Rutgers University, and the New Jersey Health Officers Association, and industry testing programs were effective in reducing such residue in milk. As a result, the testing program now consists in the spot-checking of milk supplies.

The presence of radionucleides in milk was used by certain societies to dramatize their opposition to the testing of atomic weapons. Routine samples of pasteurized milk, obtained by this Department as part of the United States Public Health Service Radiological Surveillance Network, have continued to show levels of radioactive materials well below established maximums. In the event that radioactive levels in milk show an increase in the future during the routine testing program, a plan developed for expanded sampling and testing of raw milk supplying areas will be initiated.

Examinations to determine the acceptability of new milk processing, handling and dispensing equipment were made jointly with a committee of the New Jersey Health Officers Association.

Personnel participated in the United States Public Health Service Annual Conference of State Milk Sanitation Survey Officers, work of the Farm Practices Committee of the New York State Association of Milk and Food Sanitarians, and as consultants to various committees of the New Jersey Health Officers Association.

Official agencies in New Jersey making inspections of milk plants under reciprocal inspection agreements with the Department submitted reports of 380 inspections of out-of-state plants and 349 inspections of in-state plants.

The Reciprocal Milk Sampling Program, in which 12 municipal health agencies cooperate, resulted in reports of analyses of 6,724 samples of milk and milk products being submitted by those agencies for review and collation.

The activities in the reciprocal programs of inspection and sampling result in all local boards of health in the state being advised quarterly of the status of all milk plants selling milk and milk products in New Jersey.

Table 1 shows the number of inspections made and samples collected in the Program during this period by Department personnel:

Table 1. INSPECTIONS, July 1, 1961—December 31, 1962

Milk Plants .....	476
Dairy Farms .....	3,768
Ice Cream Plants .....	2,426
Samples Collected .....	3,308

### Shellfish Program

Inspection of shellfish growing areas, classification of growing waters, sanitary control of harvesting, handling and sale of shellfish and patrol of areas condemned for the harvesting of shellfish are the primary functions of the Program.

In addition to our New Jersey Laws and Regulations, all phases of the Program must meet the requirements set forth in the United States Public Health Service Manual of Recommended Practice for the Sanitary Control of the Shellfish Industry, in order that the State Program may be endorsed by the United States Public Health Service, permitting the names of New Jersey shellfish firms to appear on the list of certified shippers for interstate commerce. This was accomplished during the period covered in this report.

Investigations of shellfish growing areas were carried on, including water sampling, shellfish sampling, sanitary surveys, float studies, dye studies, and other investigative procedures. Sanitary inspections of certified shellfish shippers and shuckers were continued. Patrol of areas condemned for the taking of shellfish was carried out on land and by boat.

The number of sanitary surveys completed and begun was increased considerably over previous years. New and better equipment was purchased and the services of 2 part-time field representatives and summer employees enabled the Program to increase both the quality and quantity of work

performed. The services of additional part-time personnel in the field laboratories enabled the laboratories to handle the increased sampling load.

In August, 1961, a revision of all the condemned area charts was completed. In addition to the normal distribution procedures, each license agent for the Department of Conservation and Economic Development was supplied with charts for distribution to persons purchasing shellfish harvesting licenses.

In 1962, the program began a revision of the sampling station charts covering the entire coastline of New Jersey in order to better reflect bacteriological conditions in the bay waters. These new charts were prepared in advance of actual survey work and have proved very effective in actual use. Charts of the following areas were prepared during the reporting period:

- a. Navesink River
- b. Lower Barnegat Bay
- c. Upper Little Egg Harbor
- d. Lower Little Egg Harbor
- e. Great Bay
- f. Area from Great Bay south to Absecon Inlet
- g. Area from Corson Inlet south to Sea Isle City

The patrol of areas condemned for the harvest of shellfish has been revised. Agreement was made with the Commissioner of Conservation and Economic Development to have patrol work for the Program carried out using personnel and equipment of the Division of Shellfisheries. As a supplement to their activities, a detail of New Jersey State Police has been used full time in the Raritan Bay area. Other supplemental patrols have been carried out by local police departments, Division of Fish and Game, Bureau of Navigation and U. S. Coast Guard personnel, including helicopter patrols. Our Shellfish Program personnel also supplemented the other patrol activities.

In the Fall of 1962, the Shellfish Program initiated supervision over the expanding Bay Scallop industry in the Barnegat Bay area. In the last few years, the number of Bay Scallops growing in the Little Egg Harbor, Barnegat Bay area began to increase gradually. By 1961, there were enough scallops to be of some significance as a commercial product. Reports indicated that in 1962 there would be an even larger growth, and baymen began to show an interest in the scallop as a commercial item. The Shellfish Program undertook to work along with the industry in its embryonic state and make certain that the public health would be protected during the development of this new industry. It was determined that baymen were interested in shucking the scallops as well as harvesting them. Program personnel outlined what type of building would be adequate for this purpose and what type of equipment

and facilities would be necessary. Initial inspections revealed that none of the interested scallopers had the proper facilities for handling them. Program personnel then worked closely with the industry during construction of buildings and installation of facilities. They advised them on the type of equipment to buy and acceptable handling and packaging methods. At the end of 1962, 34 persons had provided scallop shucking houses and had demonstrated that they could operate them in a sanitary manner. The names of the approved scallopers appeared on an informal approved list which was distributed to the various market areas.

In March, 1962, a severe storm battered the New Jersey coast causing widespread damage. As a result, all shellfish waters in the state were closed and the harvest of shellfish banned as a protective public health measure. The waters were reopened, area by area as they were found to be safe. All of the establishments certified for handling of shellfish were contacted and the extent of flooding and damage was determined. None of the affected establishments were allowed to work until it had been properly rehabilitated as prescribed by the Department and inspected. Water supplies at establishments suspected of being inundated by floodwaters were tested before the establishment was allowed to resume operations. Shellfish and shellfish products were examined and determinations made as to their suitability for human consumption. Necessary action was taken to dispose of those items not fit for consumption.

- 164 inspections were made
- 19 licenses were temporarily suspended
- 30 well water samples were analyzed (all satisfactory)

Table 1. ITEMS EXAMINED AND ESTIMATED VALUES

<i>Examined</i>	
465 bushels of clams in the shell .....	\$3,255.00
360 gallons of shucked oysters .....	3,240.00
53,903 cases canned minced clams .....	285,685.90
6,595 cases canned chopped clams .....	90,681.25
13,195 cases canned clam juice .....	58,717.75
<i>Total</i> .....	\$441,579.90
<i>Destroyed</i>	
7 gallons shucked oysters .....	\$63.00
<i>Returned to the Water</i>	
342 bushels clams in the shell .....	\$2,394.00

*Examined and Found Free from Flood Damage*

123 bushels of clams in the shell .....	\$861.00
353 gallons shucked oysters .....	3,177.00
45,051 cases canned minced clams .....	238,770.30
5,173 cases canned chopped clams .....	71,128.75
12,237 cases canned clam juice .....	54,454.65
<i>Total</i> .....	\$368,391.70

*Reconditioned*

8,852 cases canned minced clams .....	\$46,915.60
1,422 cases canned chopped clams .....	19,552.50
958 cases canned clam juice .....	4,263.10
<i>Total</i> .....	\$70,731.20

Program personnel also assisted with other emergency flood details. Sanitary survey work was accomplished as follows:

- a. A complete sanitary survey was completed in the Shrewsbury River.
- b. A bacteriological survey was made in the Navesink River to complete a sanitary survey of that area.
- c. Limited bacteriological investigations were made in Sandy Hook Bay as well as float studies and general investigations.
- d. A complete sanitary survey was made covering the area from Hereford Inlet south to Cape May Inlet.
- e. A complete sanitary survey was made of the Jenkins Sound—Great Sound area.
- f. A complete sanitary survey of Tuckerton Cove was made showing winter conditions. The results allowed the area to be opened during the winter season.
- g. A complete sanitary survey was made of Upper Little Egg Harbor and Manahawkin Bay.
- h. A complete sanitary survey was made of Lower Little Egg Harbor.
- i. A complete sanitary survey was made of the Brigantine area extending from Great Bay south to Absecon Inlet.
- j. A partial sanitary survey was made of the area from Corson Inlet south to Sea Isle City showing winter conditions. It will be necessary to complete the survey during the summer months.
- k. A partial sanitary survey was made of the Lower Barnegat Bay area from Forked River to Locheil Creek. It will be necessary to complete the survey during the summer months.

Close liaison has been established with the Stream Pollution Control Program stressing increased emphasis on construction and proper operation and closer supervision of sewage treatment plants affecting shellfish waters.

Numerous meetings, conferences, and planning sessions were held with local authorities, industry representatives, U. S. Public Health Service and other departments as well as other programs within the Department of Health. Most significant were the many meetings involved in the initial planning to develop workable depuration of shellfish. This program would allow the harvest of shellfish from waters not meeting our present standards, for purification before marketing. The depuration program is still in the formative stages of planning. However, Department of Health, industry and related personnel are very interested in following through with a workable plan. A feasible depuration plan will do much to allow the New Jersey shellfish industry to survive by allowing the harvest of vast quantities of shellfish currently in condemned waters.

The following table shows the number of shellfish certificates issued, the number of sanitary inspections made, the number of samples collected for bacteriological analyses, and the number of patrol hours performed by Program personnel.

Table 2. WORK SUMMARY

Number of certificates issued	
Interstate .....	284
Intrastate .....	110
<i>Total</i> .....	394
Shucker Packer .....	30
Shellstock Shipper .....	285
Reshipper .....	72
Repacker .....	7
Number of sanitary inspections .....	333
Number of samples collected for analyses	
Shellfish .....	485
Potable water .....	125
Shellfish growing waters .....	14,926
Number of patrol hours by program personnel .....	2,017

### Camp and Bathing Program

#### *Lake Bathing*

Continuing a trend which has been in evidence since the inception of the activity in 1952, the number of lake bathing places certified by the

Department increased to 65. This represents 12 more than for the year 1961, or a gain of double that recorded for that year. As in the past, each place certified was awarded an official State Department of Health certificate, plus a large sign for public display during the bathing season stating, "This Bathing Lake meets standards of the New Jersey State Department of Health."

The trend is considered to be significant and indicative of an increased awareness of the activity and the desire on the part of lake owners and operators to make available bathing facilities featuring safety, general sanitation, and water of good bacteriological quality. Public relations value is also a factor which must be taken into account. Participation in the certification program is voluntary on the part of lake owners and operators. During the season, the names and locations of places certified by the Department were made available to the public through stories in the press.

#### *Camps*

A total of 249 camps were known to the Department during the camping season of 1962. Of these, 213 were found to have satisfied the requirements for certificates of approval and were duly recognized. These figures represent increases of 12 and 11, respectively, over the 1961 figures.

The new requirements promulgated in March, 1962, for day camps and resident camps were used as a guide by Departmental personnel in their inspections and appraisals. A standard inspection sheet was issued for uniformity and convenience.

#### **Housing Program**

A State Housing Code was drafted, reviewed by advisory committees, and adopted jointly by the State Departments of Health and Conservation and Economic Development as a recommended code to municipalities for Adoption by Reference. The municipality, in adopting the Code, would assign responsibility for enforcement to the board of health or to some other designated department or official. Copies of the Code, together with suggested ordinances to assist municipalities which desire to adopt the Code by reference, are available for distribution to interested municipal officials.

This uniform State Housing Code meets a great need in New Jersey. In order to qualify for federal assistance in urban renewal, a community must adopt a "Program for Community Improvement (Workable Program)" containing 7 major objectives, including adequate codes and ordinances effectively enforced.

The Department has cooperated with municipal health officials who are interested in improved housing conditions in support of the total health

effort in their community. Several municipalities have used this uniform housing code.

The Department has also cooperated in the approval of plans for water supplies and sewage disposal systems for new and expanded schools. This work has involved approximately 100 schools.

The Department has worked with local boards of health in approving plans for the proper construction of water and sewage facilities at approximately 100 housing developments. This and other responses to requests for assistance have involved inspections of approximately 400 individual water and sewage systems.

Continued assistance and support have been given to a number of municipalities having special problems in dealing with very poor housing conditions. Surveys and reports have been made, public meetings attended, and official conferences held to stimulate action to correct these conditions.

### Potable Water Program

The greatest single industry in New Jersey, if measured in tons of product sold, is the production and distribution of public water supplies. Of the more than 6 million persons residing in this state, it is estimated that almost 5 million are dependent upon public sources for their supply of water for potable and domestic purposes, requiring a total production of over 2 million tons per day of this vital commodity by the approximately 450 public water supplies under the jurisdiction of the New Jersey State Department of Health.

Departmental personnel are actively engaged in promoting community water supplies in established communities and in encouraging the initial provision of such water supplies in new realty developments, in lieu of dependence upon individual well supplies which cannot be relied upon to consistently produce a water of acceptable bacteriological quality. Emphasis is being placed upon the improvement of water quality in existing supplies, particularly in relation to the installation of iron and manganese removal units, pH adjustment, and the control of tastes and odors. During the inspections of existing water supply systems, a closer investigation is being made to determine if there are deficiencies in storage facilities or in the pressure and volume of delivered water. Representations are made to the particular water purveyor requiring their correction.

The success of this work can be gauged by the fact that during the period under review over 350 construction, derivation, and distribution permits were issued for 228 separate projects with an estimated total construction cost

of over \$28,000,000. Eighteen new public water supply systems were established. Eight new water treatment plants were constructed for school supplies. A breakdown of these projects is shown in Table 1.

Table 1. POTABLE WATER PROJECTS APPROVED

No. of Permits for combined projects .....	360
Estimated total construction cost for projects approved .....	\$28,409,583.00
New comprehensive water supply system .....	18
New school supplies .....	32
New sources of supply .....	80
New water treatment plants .....	47
New water storage units .....	42
General additions and alterations .....	33
Transmission and distribution systems .....	26

During this period all stock forms and form letters have been reviewed. Many have been updated, revised, and simplified to improve Departmental procedures and reduce the workload on field personnel and typists. In cooperation with Rutgers—the State University, several informational documents pertaining to water supply and water treatment have been produced, some of which have been jointly published. Procedures have been established for the closer cooperation of this Department with the Public Utilities Department and the Division of Water Policy and Supply, Department of Conservation and Economic Development, for the control of public water supplies. The New Jersey Potable Water Standards were updated and revised, and are notable in that, for the first time in any state, they contain a recommended maximum concentration for hardness.

An Advisory Committee was appointed in March, 1962 to review the current "Rules and Regulations for the Preparation and Submission of Designs for Sewer Systems, Sewage and Industrial Waste Treatment Plants and Water Supply Systems and Water Treatment Plants."

Educational aspects of the work have included the addressing of public meetings by Program personnel to encourage the establishment of community water supplies, and the presentation of talks and papers at meetings of professional groups. In-service training was carried out for Program personnel in relation to the inspections of vessel, railroad, and airline watering points and water supplies used by interstate carriers.

The Program has intensively cooperated with the Dental Health Program in the promotion of fluoridation as a prophylactic measure for the control of dental caries. Governing bodies and public meetings have been addressed by Program personnel. Technical data regarding fluoridation have been provided for many municipalities.



The Program has also actively cooperated with the Chronic Disease Program in the determinations of sodium concentrations in public water supplies in relation to their effect upon persons with chronic heart disease. Assistance was afforded the Division of Preventable Diseases in investigating an outbreak of infectious hepatitis.

Greater protection of public water supplies has been assured by obtaining the cooperation of the State Board of Mortuary Science in banning the use of hydro aspirators for the draining of body cavities, etc., unless they are equipped with built-in vacuum breaker and backflow prevention devices.

The flood emergency in March, 1962 presented a challenge to the Program in the evaluation of damage and pollution of affected public water supplies, the institution of emergency disinfection measures, and the ultimate supervision of the repair and rehabilitation of damaged systems. This challenge was admirably met by field personnel of the District offices who worked many hours overtime.

Routine inspections of public water supplies, water treatment plants and school supplies have been maintained, together with frequent sampling to assure continued bacteriological and chemical quality. The statistical data pertinent to this phase of Program responsibility are included in Table 2.

Table 2. SUMMARY OF FIELD WORK, ETC.

Field Inspections of public water supplies .....	806
Field Inspections and contacts re private and semi-public supplies ...	1,058
Field Inspections of school and institutional supplies .....	42
Field Inspections of Interstate Carrier Water Supplies .....	257
New Well Tests .....	57
Original physical (cross) connections. Inspections made and Permits issued .....	19
Renewal physical (cross) connections permits issued .....	246
Monthly water treatment plant operating reports reviewed .....	7,199
Bacteriological water sample results interpreted .....	11,009
Chemical water sample results interpreted .....	1,293
Orders issued .....	14

### Ragweed and Poison Ivy Program

Twenty-two pollen collection stations were in operation during the 1961 growing season. All slides from each station were counted for ragweed pollen counts for each day of the season. A report with tabulated results was issued with comments on the significance of the results.

A survey of ragweed and poison ivy growth in Seaside Park (a seashore community) was conducted during the Summer of 1962 at the request of

the municipal officials. A total area of less than 2 acres of ragweed growth was found and approximately one-half acre of scattered poison ivy growth. The local municipal officials decided on a control program. Results showed that Seaside Park was made free of the ragweed and poison ivy at a cost of less than \$50.

Departmental personnel participated in a number of conferences relative to surveys and control programs as well as in the program of the Northeast Weed Control Conference in New York City.

The Department was represented at a meeting with the Field Studies Branch of the Division of Air Pollution of the Public Health Service in Cincinnati, Ohio. The meeting was called to discuss methods for evaluating the effectiveness of ragweed control activities in reducing the prevalence and/or severity of pollinosis caused.

### Solid Waste Program

Chapter 8 of the State Sanitary Code was revised by the Public Health Council in 1962. This revised chapter recognizes the problems associated with operating sanitary landfills on soft and unstable lands, such as swamps and marshes. A realistic, practical approach to the operation of landfills in tidal marshes was effected. The regulations dealing with operations on firm ground were strengthened.

In cooperation with the New Jersey State Municipal Contractors Association, 2 courses in solid waste collection and disposal were given at Rutgers—the State University at the University Extension Division at Newark. The 1st course was held during the fall term in 1961 and the 2nd during the fall term in 1962. Seventy-eight men who received certificates for completing this introductory course will be eligible to take the advanced course planned for the Spring term in 1963. Students attending this course are from all walks of life and business. They are refuse collectors and refuse disposal area operators, municipal officials and employees, and local and state health officials as well as professional engineers.

A technical working committee of the Solid Waste Program was formed with representation from municipal and private refuse collection and disposal operations, the New Jersey Pest Control Association, and the New Jersey Mosquito Extermination Association. Meetings are held monthly to discuss problems which are or may be associated with the collection and disposal of refuse in the state.

A colored motion picture film (16 millimeter) with sound was made by the New Jersey State Municipal Contractors Association in cooperation with

municipal officials of Hillside, New Jersey, and the New Jersey State Department of Health. The film entitled "The Forgotten Service" runs for 12 minutes and discusses the refuse collection and disposal operations.

Improvement in the operation of refuse disposal areas is being made by inspecting and rating refuse disposal areas. The use of the rating method measures the transitional stages of a refuse disposal area to that of a sanitary landfill operation with a high rating. A new form for legal action has been devised and is based upon the regulations of Chapter 8 of the State Sanitary Code as an enforcement technique. Ratings are primarily used to show progressive development in these operations by showing an improvement over a period of time.

Refuse disposal areas have progressively improved by frequent inspections, field conferences at the site, and informal hearings at the district offices.

A survey of the data on refuse disposal areas at the close of the calendar year of 1962 shows the following for the state:

1. Total number of refuse disposal areas .....	396
2. Total number of municipal operations .....	215
3. Total number of private operations .....	181
4. Total number of refuse disposal areas closed .....	130
5. Total number of municipal operations closed .....	59
6. Total number of private operations closed .....	71
7. Total number of municipalities not having refuse disposal areas .....	307
8. Total number of municipal incinerators .....	15
9. Number of municipal bulky waste incinerators or burners .....	3

Two hundred sixty-seven refuse disposal areas or approximately 70 percent of the total number of disposal areas received ratings in the upper quartile.

Fifteen municipal incinerators serve 16 municipalities or 12 percent of the population. The remainder of the population, 88 percent in the 552 remaining municipalities, are served by 396 refuse disposal areas and 3 bulky waste incinerators or burners.

A particularly acute problem is the large volume of solid waste disposed of daily in the Jersey Meadows. The largest solid waste disposal operations in the state are operated in the soft tidal marshes of these meadowlands.

### Occupational Health Program

The primary responsibility of the Occupational Health Program is to assist New Jersey employers in providing healthful working conditions for their employees and, through their medical programs, to sustain these individuals at their optimum health. A concerted action has been taken against

toxic concentrations of substances handled within industry and conditions that may be detrimental to workers.

About 8 percent of the industries in the state support an occupational disease prevention program of their own. Expansion of occupational health services is required to cope with the increase in the number of industries, the number of new chemicals being developed and introduced, the changing methods and new developments in manufacturing, the changing environment of the workers and the need for evaluation of these environments for possible health hazards.

The statistical summary for the period July 1, 1961, to December 31, 1962 shows a decrease in the number of industrial establishments given service when compared to the previous 18-month period. However, increased assistance was given to local health departments in the evaluation of local problems and in particular to studies of coin-operated dry cleaning establishments to minimize hazards to the workers and the public.

The number of occupational diseases investigated increased by 50 percent and the number of industrial plants in which health programs were promoted also increased as a result of having a full-time occupational health physician and part-time nurse.

Activity in the occupational health laboratory is reflected in the upward trend of diagnostic analyses of lead poisoning in children performed in cooperation with the Poison Control Centers. Four hundred determinations were made for hospitals in the state.

### Community Surveys

Community surveys were initiated by local health officials in an attempt to meet requirements of the Minimum Standards of Performance for Local Health Departments. The industrial hygienist making the survey usually was accompanied on industrial plant visits by local health department personnel. This experience has equipped local health employees with the ability to make an initial approach to industry and at the same time emphasized the need for specialists to evaluate occupational health hazards and problems.

During the period of this report, all industries were surveyed in Somerville, Boonton, Woodbridge, Keyport, Lyndhurst, and Union. Continuing are Cape May County, begun in June, 1962, and Camden in October, 1962.

Statistics are being compiled on each survey. Data secured from 88 industries in Union Township, Union County, New Jersey, are discussed. This community is an example of well planned industrial areas either along 2 railroads or in the development of industrial parks.

Table 1. STATISTICAL SUMMARY OF ACTIVITIES JULY 1, 1961 THROUGH DECEMBER 31, 1962

Field Activities	18-mo. period July '61-Dec. '62	Adjusted Previous 18 mo.	Change	Percent Change
Number of industrial establishments given service	462	535	- 73	- 13.8
Number of employees in establishments visited	92,230	112,107	-19,877	- 21.5
Number of workers affected by services	53,480	73,480	-20,000	- 37.5
Number of other places and areas visited	134	50	+ 84	+ 62.8
<i>Plant Environmental Services</i>				
Introductory visits	405	414	- 9	- 2.2
Industrial hygiene surveys	402	413	- 11	- 2.7
Technical study of hazards	208	242	- 34	- 16.4
Noise and vibration	36	58	- 22	- 67.0
Consultation only (advisory)	6	10	- 4	- 66.7
Follow-up on recommendations	11	11	0	0
Total	1,068	1,148	- 80	- 7.6
Environmental recommendations	1,719	1,862	- 143	- 8.31
<i>Field Determinations</i>				
Atmospheric contaminants	1,828	1,860	- 32	- 1.24
Physical conditions	2,150	2,442	- 292	- 13.8
Total	3,978	4,302	- 324	- 8.1
<i>Laboratory Analyses</i>				
Routine	289	418	- 129	- 45.0
Diagnostic	775	324	+ 451	+ 58.0
Research	34	1,474	- 1,440	- 4230
Total	1,098	2,216	- 1,118	-101
<i>Worker Health Services</i>				
Promotion of plant health programs	274	101	+ 173	+ 63.0
Consultation on medical aspects	23	23	0	0
Consultation on nursing aspects	23	37	- 14	- 61.0
Consultation with local health dept. on plant health services	7	11	- 4	- 57.0
Other	7	8	- 1	- 14.3
Total	334	180	+ 154	+ 48.0
Occupational diseases investigated	44	22	+ 22	+ 50.0
Occupational diseases reported	466	561	- 95	- 20.5
<i>Related Activities</i>				
Meetings attended	125	149	- 24	- 19.2
Publications	6	4	+ 2	+ 33.3
Lectures and demonstrations given	28	38	- 10	- 35.6
Attendance at above	478	2,103	- 1,625	-340
Office consultation services and inquiries handled	2,233	1,285	+ 948	+ 42.5

Medical programs were in evidence in a larger percentage of plants than would be expected in other communities. One explanation would be the proximity of a hospital maintained by a casualty insurance company with which 36 of the 88 plants are affiliated.

In this period, the most frequent exposures encountered during surveys were noise and toxic solvents. Revisits were made to 25 percent of the plants for a more thorough study of the exposures. The concept of noise as an occupational health hazard is new and not fully realized by labor or management. Preventive measures are not always engineered into the design even of new plants.

Each industry visited received a comprehensive report which contained a statement of conditions found with a discussion of the potential health hazards. Engineering recommendations designed to protect the health of the worker and improve the working environment and recommendations for an adequate medical program were indicated.

A copy of each report was sent to the local health department and where it has an interest to the State Department of Labor and Industry.

#### *Coin-Operated Dry Cleaning Establishments*

Early studies of this type of self-service facility indicated the possibility of a public health hazard in exposure to the toxic solvent used. These studies also indicated that such equipment can be installed and operated in such a manner that this hazard can be greatly reduced or eliminated. To assure this, a committee of health officers and Program representatives prepared an ordinance for adoption by reference. This Code was approved on March 13, 1962 and is being widely accepted. Assistance was given to local health authorities of 41 communities in the evaluation of dry cleaning establishments.

#### *Community Noise Performance Code*

Expansion of industry and the encroachment of dwelling units on or into industrial areas have resulted in many requests for assistance in this type of enforcement. Communities which have adopted noise performance codes during this period are West Paterson, Fair Lawn, Erlton, Ringwood, Belleville, and Wyckoff.

#### *Occupational Health Bulletins*

The Department issued bulletins on occupational hazards and on subjects of health promotion and protection for workers in industry. The mailing list for bulletins, including about 1,600 industrial plant personnel, increased to nearly 1,800. Due to unusual demand, a second printing of the bulletin on *Beryllium* was necessary. Requests have been received to reprint for general distribution the bulletin on *Foot Health*.

*Occupational Loss of Hearing*

As mentioned in the summary of exposures encountered in the survey of industries in Union Township, noise has not been fully recognized as a cause of an occupational disease. Department personnel have pursued a plan to prevent occupational loss of hearing. This procedure is based on an evaluation of the exposure in relation to a criteria that represent a threshold limit for noise. Evaluations are now stated on a chart entitled "Allowable Exposures in Hours per Week."

Several industries, following our recommendations, have added audiometric tests of hearing to their preplacement physical examinations in order to prevent further loss of hearing to workers already having impaired hearing. A large insurance company is considering similar equipment for its branch hospitals and a large pharmaceutical company is adopting a comprehensive hearing conservation program.

*Beryllium Case Registry*

In cooperation with the Massachusetts Institute of Technology, Beryllium Case Registry, personnel of this Department conducted case studies involving visits to homes, hospitals, doctors' offices and industrial plants for follow-up information on 12 cases of beryllium poisoning.

*Specific Occupational Health Studies*

The working environment of 4 inspection stations was surveyed and evaluated for the Department of Law and Public Safety, Bureau of Motor Vehicle Inspection. Nine stations remain to be studied.

Dangerous concentrations of carbon monoxide gas were found in a building where midget auto races were held. The local health department, on the basis of these findings, ordered the enterprise closed.

Several brands of cement used in the assembly of plastic models or toys in kits were analysed. Ten different toxic solvents were found in general use. Practically all have a narcotic affect on inhalation.

*Activities of Special Interest*

Examples of other investigations made by the Program include: an investigation of a death attributed to tetraethyl lead exposure during routine tank cleaning; an investigation of a death attributed to a relatively non-toxic dry cleaning agent; the generation of ozone in a photocopying machine and as a masking agent in libraries; an investigation of an allegation of poisoning from the spraying of a household insecticide; and assistance in the establish-

ment of a medical center at Newark Airport. The Department also studied: a mildew problem in a recreation center; an exposure to mercury in preparing fillings in a dental school; vibration damage from a rubber mill; and gasoline odors in homes and a department store. Also, the Department rendered advice in the establishment of a medical program for a large department store; investigated several cases of aplastic anemia in relation to job exposure; and investigated a lung disease attributed to hair sprays (thesaurosis).

**Radiological Health Program***Commission on Radiation Protection*

The Commission on Radiation Protection was authorized by Chapter 116, Public Laws of 1958, known as the Radiation Protection Act. The Commission was organized October 6, 1958 and has been actively engaged in discharging its duties and responsibilities since that time. The Department has rendered administrative support to the Commission as provided for in the Radiation Protection Act.

*Commission Amends New Jersey Radiation Protection Code*

Pursuant to the provisions of the "Radiation Protection Act," the Commission held a public hearing September 22, 1961 on a proposed amendment to Chapter I, General Requirements, and a proposed Chapter II, Special Requirements, New Jersey Radiation Protection Code. The Commission subsequently adopted and promulgated an amendment to Chapter I, and Chapter II, New Jersey Radiation Protection Code, with an effective date of February 1, 1962. This was the first time regulations covering the construction and use of X-ray apparatus employed by the medical and dental professions were legally in effect in New Jersey.

*Radiation Protection Act Amended*

On December 4, 1961, Chapter 124, Public Laws of 1961, was enacted. This act amends Chapter 116, P. L. 1958, and authorized the State of New Jersey to make an agreement with United States Atomic Energy Commission whereby New Jersey would assume certain licensing and regulatory activities previously conducted by the Commission.

For the past year, the Commission on Radiation Protection has been engaged in amending the present New Jersey Radiation Protection Code to bring about compatibility of the Code with the regulations of the Atomic Energy Commission. Toward this end, a public hearing was held November

30, 1962 on a proposed amended Chapter I, General Requirements, and a proposed amendment to Chapter II, Special Requirements, New Jersey Radiation Protection Code. The Commission is currently reviewing all comments submitted in order to determine the final wording of the amendments.

#### Registration of Radiation Producing Machines

The first registration of radiation producing machines took place in November, 1959. The number of radiation machines registered during this 18 months period was 1,399. A total of 8,196 machines have been registered as of December 31, 1962. The number and type of Registrants is shown in Table 1.

Table 1. NUMBER OF RADIATION MACHINES REGISTERED BY TYPE OF REGISTRANT

Type of Registrant	No. of Machines Registered	
	July 1, 1961 to December 31, 1962	Total as of December 31, 1962
Dentist .....	719	3,694
Physician .....	286	2,103
Hospital and Institution .....	217	1,010
Industry .....	38	712
Chiropractor .....	39	230
Chiropodist .....	66	243
Veterinarian .....	30	149
College or School .....	4	55
Total .....	1,399	8,196

Plans are virtually completed for having X-ray machine installation data key-punched on IBM cards for quick extraction. Special IBM listings of X-ray machines are in use to provide ready reference and a convenient way of making additions and deletions thereto.

#### Registration of Radioactive Materials

Registration of radioactive materials was started in April, 1960. A total of 53 registrations for radioactive materials was processed from July 1, 1961 to December 31, 1962. Table 2 gives a breakdown of the registrations handled and the totals to date:

Table 2. NUMBER OF REGISTRANTS OF RADIOACTIVE MATERIALS BY TYPE OF REGISTRANT

Type of Registrant	Registrations Processed	
	July 1, 1961 to December 31, 1962	Total as of December 31, 1962
Industry .....	23	200
Hospital or Institution .....	13	64
Medical Doctor .....	11	59
Civil Defense Agency .....	1	7
State or Federal Agency .....	1	9
College .....	4	9
Total .....	53	348

Considerable effort is being made in locating and registering radium sources in use at hospitals and private offices of physicians.

#### Field Inspections and Code Compliance (X-ray Machines)

Inspections of 5,249 X-ray installations were made during the report period to determine compliance with Code requirements. Table 3 gives the breakdown on these inspections.

Table 3. INSPECTIONS OF X-RAY MACHINES BY TYPE OF REGISTRANT

Type	No. Inspections Made	
	July 1, 1961 to December 31, 1962	Total as of December 31, 1962
Industry .....	42	44
Physicians .....	727	829
Dentists .....	2,282	2,787
Chiropractors .....	222	222
Chiropodists .....	228	228
Veterinarians .....	27	49
Institutions .....	1,035	1,090
Total .....	4,563	5,249

The Department is currently ascertaining how many X-ray machines are in use in secondary schools, junior colleges, and colleges in New Jersey. Inspection of machines located will be promptly scheduled and registration accomplished.

## Code Compliance Inspection Results (X-ray Machines)

Table 4 below gives a breakdown of the number of items of noncompliance by type of registrant as determined by field inspections.

Table 4. ITEMS OF NONCOMPLIANCE BY USER OF X-RAY MACHINES  
DETERMINED FROM JULY 1, 1961 TO DECEMBER 31, 1962

Item of Noncompliance	TYPE OF USER									
	Indus-try	DDS	M.D.	D.C.	DSC	DVM	Hosp.	Govt. Agency	Total	% Defects
Inadequate Filtration ...	6	131	376	52	87	16	181	35	884	12.5
Inadequate Collimation ...	2	167	76	6	17	1	80	16	365	5.2
Exposure Switch Outside Shielded Area .....	5	0	350	87	117	13	21	2	595	8.4
No Bucky Slot Cover ...	3	0	262	0	0	2	54	9	330	4.7
Short Timer Cord .....	0	206	40	1	3	2	9	2	263	3.7
No Personnel Monitoring Devices .....	0	1	7	0	0	0	10	4	22	0.3
No Cumulative Timer on Fluoroscope .....	3	0	448	1	0	4	89	17	562	8.0
No Therapy Interlocks ..	0	0	54	0	0	0	33	5	92	1.3
Inadequate Target-to-Skin Distance .....	0	527	29	1	0	1	66	15	639	9.1
Excessive Patient Dose/Rate Fluoroscope .....	3	0	519	1	0	8	136	29	696	9.9
Timer Energizes Tube in "off" Position .....	1	99	77	30	57	5	25	5	299	4.2
No Unilluminated Border on Fluoroscopic Screen .....	2	0	465	1	0	4	97	23	592	8.4
Areas Not Posted .....	0	0	43	0	0	0	44	7	94	1.3
Inadequate Protective Clothing .....	1	0	221	2	0	3	52	12	291	4.1
Miscellaneous*	16	179	851	30	31	14	124	29	1,274	18.9
Total Items of Noncompliance .....	42	1,310	3,818	212	312	73	1,021	210	7,058	100.0

\* Includes: recalibration records, excessive exposure, leaky tube housing, holding patients, units not registered, shield not permanently mounted.

Table 5 below gives a breakdown of the total number of items of noncompliance as of December 31, 1962 for a number of categories of use as determined by field inspections by Program personnel.

Table 5. ITEMS OF NONCOMPLIANCE BY USER OF X-RAY MACHINES  
CUMULATIVE TOTAL DETERMINED TO DECEMBER 31, 1962

Item of Noncompliance	TYPE OF USER									
	Indus-try	DDS	M.D.	D.C.	DSC	DVM	Hosp.	Govt. Agency	Total	% Defects
Inadequate Filtration ...	6	383	409	60	89	34	252	63	1,296	15.6
Inadequate Collimation ...	2	339	93	13	17	8	121	26	619	7.5
Exposure Switch Outside Shielded Area .....	5	0	352	87	117	14	29	4	608	7.3
No Bucky Slot Cover ...	3	0	277	0	0	6	77	13	376	4.5
Short Timer Cord .....	0	255	42	1	3	4	12	3	320	3.9
No Personnel Monitoring Devices .....	0	2	7	0	0	0	15	4	28	0.3
No Cumulative Timer on Fluoroscope .....	3	0	470	1	0	7	123	26	630	7.6
No Therapy Interlocks ..	0	0	56	0	0	0	53	9	118	1.4
Inadequate Target-to-Skin Distance .....	0	614	29	1	0	1	92	24	761	9.2
Excessive Patient Dose/Rate Fluoroscope .....	3	0	522	1	0	8	137	29	700	8.5
Timer Energizes Tube in "off" Position .....	1	100	77	30	57	5	32	5	307	3.7
No Unilluminated Border on Fluoroscopic Screen .....	2	0	484	1	0	5	135	36	663	8.0
Areas Not Posted .....	0	0	43	0	0	0	64	12	119	1.4
Inadequate Protective Clothing .....	1	0	230	4	1	12	80	22	350	4.2
Miscellaneous*	16	248	854	31	31	22	143	39	1,384	16.9
Total Items of Noncompliance .....	42	1,941	3,945	230	315	126	1,365	315	8,279	100.0

\* Includes: recalibration records, excessive exposure, leaky tube housing, holding patients, units not registered, shield not permanently mounted.

## Field Inspections (Radioactive Materials)

One hundred fifty-two field inspections were conducted at installations handling radioactive materials, including 53 inspections at installations using materials controlled under the Atomic Energy Commission licensing and regulatory Program. A breakdown of these inspections is given in Table 6 below.

Table 6. RADIOACTIVE MATERIAL INSTALLATIONS FIELD INSPECTIONS

<i>Type of User Inspected</i>	<i>Number of Inspections July 1, 1961-December 31, 1962</i>
Industry .....	63
Physicians .....	25
Hospitals .....	55
Schools .....	9
Total .....	152

*Radiological Health Laboratory Activities*

The Radiological Health Laboratory is responsible for the routine collection and assay of environmental samples for radioactive materials content. The laboratory processed 4,779 samples according to the following breakdown.

Table 7. RADIOLOGICAL HEALTH LABORATORY  
ENVIRONMENTAL SAMPLES PROCESSED  
JULY 1, 1961 TO DECEMBER 31, 1962

<i>Type of Sample</i>	<i>Number</i>
Water Supplies:	
Public Water Supplies:	
Surface Water	288
Surface Silt	252
State-wide streams	
Water	234
Silt	198
Air Samples:	532
Special Environmental Samples	
Water	296
Silt	114
Vegetation	130
Soil	136
Milk	2,548
Vegetables	1
Precipitation	23
Contamination	
Wipes	17
Total .....	4,779

The laboratory made 5,134 determinations on the samples obtained as given in Table 8 below.

Table 8. RADIOLOGICAL HEALTH LABORATORY  
ROUTINE ASSAY DETERMINATIONS  
JULY 1, 1961 TO DECEMBER 31, 1962

<i>Determination</i>	<i>Number Made</i>
Gross Alpha Activity .....	2,183
Gross Beta Activity .....	2,730
Strontium-90 .....	65
Strontium-89 .....	65
Barium-140 .....	65
Iodine-131 .....	26
Total .....	5,134

In addition to the routine determinations, 284 special determinations were made as given in Table 9 below.

Table 9. RADIOLOGICAL HEALTH LABORATORY  
SPECIAL DETERMINATIONS  
JULY 1, 1961 TO DECEMBER 31, 1962

<i>Type of Determination</i>	<i>Number</i>
Wipe samples—Gross Beta Activity .....	80
Milk—Research—Iodine-131 .....	20
Milk—Research—Sr <sup>89</sup> , Sr <sup>90</sup> , Ba <sup>140</sup> .....	30
Water—Research—Sr <sup>89</sup> , Sr <sup>90</sup> , Ba <sup>140</sup> .....	30
Air—Research—Gross Alpha and Beta Activity .....	124
Total .....	284

In addition to the above, radioactivity determinations were made on a steak bone and a portion of fish, submitted through the Division of Local Health Services. The samples were submitted by residents of the state suspecting contamination of the food scraps with radioactive materials. Neither sample was contaminated and the persons concerned were promptly notified and their anxiety dispelled.

*Technical Conferences Held*

Ninety-five technical conferences were held to provide relevant information to representatives of industry, various professions, and governmental agencies.

*Unusual Occurrences*

A staff member discovered a leaking radium source while making a routine inspection at a hospital. Hospital officials were notified and the leaking source was disposed of before it could cause a contamination problem.

A staff member discovered a fluoroscope having an extremely high table top dose rate while on a routine inspection. This machine measured 180 Roentgens per minute while the New Jersey Radiation Protection Code requires not over 5 Roentgens per minute. The dose rate through the fluoroscopic screen was 1,500 milliroentgens per hour while the Code specifies not more than 20. The Department was successful in having the use of this machine immediately discontinued and the apparatus promptly repaired and altered so that it would meet requirements.

*Fluoroscopic Shoe-Fitting Machines Banned*

Effective February 1, 1962 Chapter II, Special Requirements, New Jersey Radiation Protection Code, bans fluoroscopic shoe-fitting machines. Section 20 of Chapter II reads as follows: "No person shall operate, permit to be operated, maintain or display any fluoroscopic shoe-fitting machine."

The use of such apparatus results in exposure to unnecessary radiation. New Jersey residents are urged to report the use of such devices to the Department promptly.

*Federal Radiological Health Assistance Received*

July, 1962 marked the first time direct federal assistance to the Radiological Health Program was received. This assistance was in the form of an outright grant of \$35,400 in federal funds to be used for a progressive program in radiological health. As a result of this grant, the Department was able to place an order for an expensive apparatus greatly needed to improve laboratory assay capabilities.

*Program Notes*

A World Health Organization Fellow from Australia spent a week observing program operations, including the instrumentation used and the conduct of field inspections and laboratory assay procedures.

A physician in the Ministry of Health of India spent 2 days with the Department reviewing radiation protection operations and administrative procedures.

**Stream Pollution Control Program**

The following administrative changes were made:

The Assistant Director of the Division of Environmental Health was assigned over-all responsibilities for the Stream Pollution Control Program in addition to specific responsibility for the development of a state plan for sewerage and industrial waste disposal on a drainage basin basis.

The Supervising Engineer was appointed Program Coordinator of the Stream Pollution Control Program.

Public health engineering positions previously assigned to State Health District Offices and used for Stream Pollution Control Program activity were assigned to the Division of Environmental Health.

Supervision of the staff in routine surveillance of sewage treatment plants is the responsibility of the Program Coordinator.

After review, the Department issued permits for the construction and operation of 332 sewerage projects having a combined estimated cost of \$67,000,000.

Nineteen permits to locate factories or workshops within potable watershed areas were issued.

Orders of Necessity were issued to 37 municipalities permitting them to exceed their bonded indebtedness to construct necessary sewerage projects.

Eighteen formal orders were issued to municipalities and industries requiring abatement of water pollution.

Nine formal orders were issued to municipal boards of health requiring the cessation of nuisances and source of foulness caused by improper functioning of individual sewerage facilities.

Five stream pollution cases were referred to the Attorney General for appropriate legal action.

Sixty-five new sewage or industrial waste treatment plants were completed and placed in operation. This brings to 580 the number of such treatment facilities in operation in New Jersey. The total amount of treated effluent being discharged into New Jersey waters is estimated at over a billion gallons a day.

Approximately 600 stream samples were obtained from major New Jersey streams and tributaries. In addition to routine surveillance of all existing sewage and industrial waste treatment plants, together with other investigatory



work, Department engineers were involved in a number of major surveys and studies. Intensive studies were either initiated, completed or are still under way in the waters of the Delaware River estuary, Raritan Bay, and the Arthur Kill. Studies made in the Arthur Kill in cooperation with the Interstate Sanitation Commission were necessary as a first step to obtain abatement of pollution of the Arthur Kill. The Department's program of abatement in this 13-mile stretch of interstate waters will be one of its most ambitious undertakings involving many industries and municipalities.

Comprehensive sanitary surveys of shellfish waters continue to be a major activity of the Program. A number of such surveys were completed and others are still in process. The Stream Pollution Control Program works closely with the Shellfish Control Program in carrying out these surveys.

The Federal Construction Grant Program, including the Accelerated Public Works Program for depressed areas, provided approximately \$7,000,000 to aid in the construction of 22 sewerage projects. This increase in federal grant funds was intended to provide additional employment through construction of public works in depressed labor market areas.

The Department contracted with the U. S. Geological Survey for that agency to analyze thousands of stream samples taken by the Department over past years. It is hoped this study will establish trends of quality changes in New Jersey's streams. The Department also contracted with a consulting engineering firm to make a study of the influence of existing sewage treatment plants discharging into Atlantic Ocean recreational waters. This study will aid in determining whether existing seashore community sewage treatment facilities are still adequate despite the tremendous increase in population over the years.

Department engineers spent considerable time in assessing damage of public works as a result of the March, 1962 storm.

The law requiring the Department to issue permits prior to the location of an industry on a potable watershed was amended in July, 1962 and now requires that such permits must be obtained for the location of industry on any watershed of the State of New Jersey.

Considerable progress was made in requiring municipalities discharging sewage effluents into shellfish waters to improve their method of plant operation and surveillance. This has already resulted in the installation of automatic equipment to aid in determining the effectiveness of disinfection. Steps were also taken to improve the type of operation and extent of treatment of sewage effluent being discharged into ocean bathing waters.

The State Advisory Committee on Sewage Disposal appointed late in 1960 submitted its report in March, 1962 to Governor Hughes outlining the

problems and needs of sewage disposal in New Jersey, together with recommendations to solve these problems.

An Advisory Committee was appointed in March, 1962 to review the current "Rules and Regulations for the Preparation and Submission of Designs for Sewer Systems, Sewage and Industrial Waste Treatment Plants, and Water Supply Systems and Water Treatment Plants."

The Department intensified its efforts to encourage municipal sewerage planning on a regional or valley-wide basis where indicated. Close cooperation has been maintained with such organizations as the Mercer County Citizens' Sewer Study Committee, the Regional Sewer Study Committee for the Shrewsbury River, the Stony Brook-Millstone Watersheds Association, the Monmouth County Planning Board, and State and Regional Chamber of Commerce groups.

### Veterinary Public Health Program

The Program on Veterinary Public Health is aimed at preventing animal disease transmission and in gaining information relative to non-infectious diseases of animals that may be useful in better understanding similar conditions in humans. It is also directed toward developing a better understanding of the diseases of animals that may be or are transmitted to humans. These diseases are known collectively as the zoonoses. The Program acts as an administrative, consulting, coordinating and research unit designed to investigate and prevent these diseases. These activities are accomplished through the cooperation of (a) Veterinary Public Health Program Unit; (b) District Public Health Veterinarians and Rabies Control Wardens; (c) other programs in the Department, and (d) personnel from other departments in the state having related functions.

The Program also acts in an advisory capacity to the Meat and Milk Programs.

### *Rabies Control*

Bat rabies continues to be endemic in New Jersey. To survey the situation, Program personnel collected bat specimens from various parts of the state. The Division of Laboratories disclosed positive findings in six bats during the period of July 1, 1961 to December 31, 1961. During the calendar year 1962, laboratory findings disclosed positive rabies in 9 bats. These bats originated from 12 municipalities, in 7 counties and involved 7 species of bats.

In August, 1962, rabies virus was also isolated from a raccoon found in the Washington Crossing State Park, Hopewell Township, Mercer County.

Program and District personnel intensified their efforts in promoting canine anti-rabies vaccination clinics throughout the state and especially in the areas where wild animal rabies was found. Approximately 58,000 dogs were vaccinated from July 1 to December 31, 1961, and 122,000 dogs were vaccinated in 1962, for an 18-month total of approximately 180,000 dogs vaccinated in clinics organized by cooperative state and local health authority efforts.

Table 1. CASES OF RABIES IN ANIMALS BY YEARS AND STATES

Calendar Year	New York	Pennsylvania	Delaware	New Jersey
1946	1,175	502	1	276
1947	696	293	0	94
1948	568	147	1	112
1949	515	31	0	67
1950	1,022	102	0	5
1951	539	241	0	0
1952	337	300	7	1
1953	437	27	2	0
1954	472	38	0	0
1955	517	167	26	0
1956	306	99	46	1
1957	202	21	5	0
1958	261	55	0	0
1959	478	43	1	0
1960	455	18	0	1
1961	90	14	0	7
1962	111	58	0	10

#### *Psittacosis*

Psittacosis is a virus disease transmitted to people primarily from birds of the psittacine family and secondarily from pigeons and turkeys. This Program enforces the provisions of Chapter III, State Sanitary Code, in the control of psittacine birds. Before January 1, 1962, birds of the psittacine family could not be imported into New Jersey unless accompanied by a certificate issued by the state or nation of origin or an authorized agency indicating such birds had not been transported from an area in which psittacosis existed and that it had no reason to believe that such birds might be infected with or recently exposed to the disease.

This requirement could seldom be officially complied with because the psittacosis virus is endemic in practically all areas of the United States and other nations. Research studies have resulted in the development of a feeding schedule of Tetracycline Hydrochloride in bird seed that reduces to an

insignificant level the psittacosis virus in previously infected birds. Paragraph 2, Regulation 4, State Sanitary Code, permits the State Department of Health to prescribe conditions under which psittacine birds may be imported from an area declared to be infected with psittacosis. In line with this authority and the above research, a set of procedures specifically outlining feeding and treatment schedules was formulated to permit the importation of psittacine birds whenever a health certificate could not validly be issued as required by paragraph 1, Regulation 4, of the State Sanitary Code. The birds would be treated and thus be safe for distribution in New Jersey.

One aviary of pigeons was found to be infected with psittacosis virus. In addition, 2 humans in contact with parakeets and 1 pigeon breeder were infected with psittacosis.

#### *Eastern Viral Encephalitis Research*

The Arbor Virus Transmission Pattern Study completed its first full year of operation. A 3-year grant totaling \$178,000 for financing the project was awarded by the National Institute of Health. The project is a joint effort on the part of the Programs of Virology and Veterinary Public Health. The Veterinary Public Health Program assigned 2 Senior Public Health Veterinarians, an entomologist, and seven field representatives to this study. The Department of Conservation and Economic Development, Division of Fish and Game provided a wildlife research assistant and rendered valuable assistance by assigning other representatives to assist in trapping small mammals in the study area. The Chairman of the Department of Biology, Douglass College, Rutgers University, was engaged as an ornithological consultant.

The 4 study areas are located at Estell Manor, Atlantic County; Brigantine National Wildlife Refuge, Galloway Township, Atlantic County; Forked River Game Farm, Lacey Township, Ocean County; and Great Swamp, Harding Township, Morris County. The design of the project is as follows: Wild birds were netted at each study site, blood specimens were drawn; the birds were banded and released. Chickens in the vicinity of the areas were bled periodically during the summer season. Mosquitoes were trapped in light traps and in resting-box traps. Small mammals, snakes, and amphibians were trapped and bled. This phase of the research will be accelerated during 1963. All specimens were submitted to the Program on Virology of the Division of Laboratories. Ecological surveys are being made at each site.

Table 1. BREAKDOWN OF BIRDS, MAMMALS, AMPHIBIANS AND CHICKENS  
CAPTURED AND BLED IN EACH STUDY AREA

No. of Mammals and Amphibians .....	457
No. of Wild Birds .....	5,325 captured and bled, July 1 to December 31, 1961 7,255 captured and bled, January 1 to December 31, 1962
	12,880 Total captured and bled during 18-month period
No. of Chickens .....	800
No. of Mosquitoes speciated for virus isolation .....	36,869
No. of Pools of other Arthro- pods for virus isolation .....	500

#### *Trichinosis*

Trichinosis transmitted to humans through improperly cooked pork continues to be serious. Forty-eight human cases were investigated. Forty-two cases were involved in an outbreak in Middlesex County. All 42 cases had eaten smoked "kolbase" prepared by the same processor without further cooking. An investigation into the source of the pork revealed that all sources of supply, with one exception, one slaughtered only grain-fed hogs. The exception was traced to a local slaughterhouse operator who had supplied a small amount of trimmings from pigs raised in New Jersey. Having purchased the pigs from local auctions, it was not known whether they were garbage or grain-fed pigs. Two of the remaining 6 of the 48 cases contracted the disease from eating cooked fresh pork sausage; 2 did not eat pork but claimed to taste raw hamburger, and the suspected food in 2 cases was unknown.

### Division of Laboratories

ELMER L. SHAFFER, PH.D., *Director*

MARTIN GOLDFIELD, M.D., *Assistant Director*

Bacteriology Program .....	JOHN H. SPOONER <i>Program Coordinator</i>
Chemistry Program .....	JOHN J. NELSON, M.S. <i>Program Coordinator</i>
Pathology Program .....	E. L. SHAFFER, PH.D. <i>Acting Program Coordinator</i>
Serology Program .....	ELEANOR E. THOMAS <i>Program Coordinator</i>
Virology Program .....	J. NORMAN WELSH, M.S. <i>Program Coordinator</i>

## Division of Laboratories

### *Report of the Director*

This report, comprising activities for 18 months ending December 31, 1962, is of particular significance to the Director as his last formal accounting before leaving the service of the state. One cannot face such a task without expressing a feeling of great satisfaction at the accomplishments in the Division during the past decade, yet with a suppressed concern as to goals yet to be attained.

The most noteworthy and historic accomplishment was the completion of the plans for our new building. The Director commends the contributions made by our major staff members, whose efforts went beyond the call of duty. Much time and work were expended in the repeated refining of plans, specifications and actual investigation into the best use of funds for utilities, space, and equipment.

With few exceptions, the tempo of our service programs was heightened despite the frustrations of our present space and physical shortcomings. All demands for services were properly met, and on time.

The development and application of the fluorescent staining method in the rapid identification of microorganisms have been attained for such as Streptococcus Group A, beta hemolytic, E. coli serotypes and in rabies. Pilot work has been initiated in the F.T.A. (Fluorescent treponemal antibody) test for syphilis. We are now beginning to evaluate the use of the fluorescent-inhibition test in toxoplasmosis. The potential of this rapid and precise method is yet to be applied in our virus studies, but we are conscious of the needs for this development and are planning accordingly.

Rabies continues to be found in the bat population and is of concern to the public and to health officials. These findings serve to alert us all to a greater degree of surveillance in our domestic animals, so that the fine record of this state will be maintained in the eradication of this disease.

The laboratory support for the surveillance of stream pollution, including shellfish waters, has been intensified as a result of greater field operations. We have met all demands, in our central and seashore branch laboratories, including demands for weekend and holiday services. It is anticipated that these will continue at an accelerated pace.

Syphilis and tuberculosis are diseases marked for programs of eradication. The laboratory implications in these diseases are traditional and paramount.

There is need for the most effective laboratory support and of the highest order of competence in the state laboratories and in all other local laboratories. Approved laboratories in syphilis serology have shown a rising degree of performance competence as elicited by our intensive evaluation-assistance activities. In the field of microbiology, there is evidence of a lesser degree of satisfactory performance. There is need to expend more emphasis in this field in those laboratories enjoying state approval.

Despite our long record of interest, participation, and entrepreneurship in systematic refresher training and continuing education in laboratory methodology, these projects have suffered some decline due to staff participation in planning for new buildings. However, we have organized and carried through courses in medical mycology, parasitology, modern tuberculosis methodologies, and fluorescent antibody techniques. Local laboratory personnel eagerly await our formulation of such educational programs. It is anticipated that these will be revived on a more intensive basis and under more favorable conditions in the new building, where adequate provisions for classrooms and laboratories have been planned. In addition to formal refresher courses, our doors are always open for the reception of scientists and technologists for individual bench training in the various programs. We have many such coming to us for varying periods from one day to several weeks of training.

Of vital concern to all laboratories is the need for expansion of State leadership in the field of laboratory evaluation. Voluntary evaluation of 50 licensed laboratories is being satisfactorily continued and efforts are being made to enlarge this group. Emphasis is being placed on the constructive aspects of this program and some results have been attained that have served as a stimulus to proceed further. Given proper authority, this program should eventually develop compulsory legislation.

Blood bank evaluation on a voluntary basis has continued. With the advent of proposed legislation for the licensing of all blood banks by this Department, accreditation of all blood banks will be compulsory. Such control has been shown by recent events to be in the public interest. While such programs have overtones of a policing nature, the prime objective should be emphasized, namely, to contribute constructively to the raising of performance standards. Our own laboratories are regularly evaluated by the United States Communicable Disease Center and by the Sanitary Engineering Corps of the Robert A. Taft Center in Cincinnati, Ohio, in serology, bacteriology, mycology, parasitology, etc. These results indicate satisfactory performance. At present the Communicable Disease Center is initiating a more intensive program for all state laboratories.

The pleasant and productive relationships with local laboratory personnel through individual contact and with organized groups are a matter of pride

because of their rarity in other places. These relationships must be maintained and expanded to yield mutual understanding and respect. We have much to contribute and much to receive from such liaison. While we admire our handiwork, we cannot be complacent. We must be aware of the demanding need for functional improvement in our own and all other laboratories in the public health and related medical fields. As elsewhere, there is need for real leadership, coupled with statesmanship, which it may be our lot to assume and to merit.

In several previous reports, we have quoted the statutory requirement of our laboratories to engage in investigation and research. The Virology Program has enjoyed several important grants to sustain field and laboratory studies pertaining to the viral problems in the state coupled with an epidemiological and ecological approach. The spirit of research must permeate more deeply into our other programs if we are to move forward with the rapid advances in the biological and chemical sciences.

When the new building is available for use, the Division should resume its administrative responsibility for the environmental health laboratories. This authority was temporarily yielded some years ago because of difficulties in location relative to the central office.

The individual reports, following these introductory comments, outline the activities in the 5 Bureaus of the Division and will give more detailed information and statistical data. These are the objective measurements of accomplishments, but they cannot render a complete picture of the dedicated effort of employees to fulfill assigned tasks. Only the Director can have an over-all view of these activities and how they blend into the picture of public health in this state. Here, he wishes to express his appreciation to all the employees in the Division whose efforts have contributed greatly to the degree of success we have attained. He wishes also to express thanks to the other Divisions of the Department with whom we have enjoyed the partnership effort on the public health team. Vale, and farewell!

### Bacteriology Program

#### *Highlights*

The Bacteriology Program has shown a steadily increasing workload during the last 18 months. There has been an over-all 9 percent increase in specimens and examinations made. The demand for services increased in 9 of 12 categories of work. This increase has been especially reflected in examination of animal heads for rabies caused by finding a number of positive cases of bat rabies; the examination of shellfish waters in our branch laboratories at

Bivalve and Tuckerton with the overflow coming to the central laboratory; and in samples for potable water, stream pollution, and sewage effluent tests in the sanitary bacteriology unit.

Tuberculosis, enteric bacteriology, staphylococcus phage typing, blood agglutinations, and nose and throat bacteriology produced an 8 percent increase in communicable disease specimens in the central laboratory.

Fluorescent antibody techniques for the diagnosis of rabies was initiated after a senior bacteriologist spent 2 weeks in Albany at the New York State Department of Health in November, 1961 studying the technique. The method proved an important procedure for rabies identification, especially in bat brains. Thirteen bats were found positive between July, 1961 and December, 1962.

A definite program of evaluation of official municipal and county laboratories conducting milk bacteriology under the Milk Program Reciprocity agreement was completed and split milk product samples submitted twice to each laboratory.

In March, 1962, during the spring recess at Douglass College, the Bacteriology Program participated in 1-week intensive refresher courses in parasitology and mycology for 50 selected hospital laboratory personnel from all parts of the state. The courses were most enthusiastically received with requests for more of a similar type.

In April, 1962, the senior bacteriologist studied the phenylketonuria screening (PKU) test with Dr. Robert Guthrie in Buffalo. This screening is a nationwide program coordinated by the Children's Bureau of the United States Department of Health, Education, and Welfare was begun in October 1, 1962. Ten thousand new babies are to be tested, with 5 hospitals in New Jersey participating.

In December, 1962, Dr. Elaine Updike, of Public Health Service's Communicable Disease Center, conducted a 2-day review of methodology in the Bacteriology Program. She offered recommendations in staphylococcus phage typing and streptococci culture techniques have been carried out.

A bacteriologist and assistant bacteriologist have been added from rabies funds and a laboratory technician from PKU funds because of added volumes of work in the Bacteriology Program. Two part-time assistants were used as additional aides in the increased shellfish work at the shore laboratories during the summer.

#### Trends

Indications are that work loads will continue to increase.

#### Total Specimens and Examinations

There were 117,238 specimens consisting of 371,637 examinations made in the Bacteriology Program during the 18-month period. During the first 12 months, 74,968 specimens and 240,842 examinations were made compared with 64,653 specimens and 199,184 examinations made the previous 12 months.

#### Numerical Summary

Total specimens refers to the number of specimens received in various categories; the total of examinations is given to show more clearly the volume of work involved; for instance, all tuberculosis specimens are subjected to a microscopic spread examination and also culture; these figures are added as separate examinations. All animal brains for rabies are examined microscopically for rabies, but all those that have been exposed to persons receive mice inoculations intracerebrally; these are counted as separate examinations.

The bacteriological, parasitological, and agglutination specimens and examinations made in the Bacteriology Program were in the following categories:

#### M. Tuberculosis Identification

Stained spreads of sputa and other secretions and excretions:

	Total	Positive	Negative	% Positive
	22,828	1,101	21,727	4.82%
				Examina-
<i>M. tuberculosis</i>				Specimens
Total.....			22,828	48,631
Sputum spreads .....			21,397	21,397
Body fluids .....			1,431	1,431
Cultures .....				22,677
Animal inoculations .....				1,403
Sensitivity tests .....				388
Neutral Red tests .....				741
Virulence tests .....				594

Cultures listed above were:

	Total	Positive	Negative	Uns.	% Positive
Sputa .....	21,967	1,629	20,114	224	7.33
Urine .....	20,682	1,597	18,889	196	7.91
Gastric .....	788	5	762	21	0.63
Bronchial Washings .....	232	8	220	4	3.44
Pleural Fluid .....	33	5	28	...	15.15
Spinal Fluid .....	104	1	103	...	0.96
Miscellaneous .....	19	2	17	...	10.52
	109	11	95	3	10.09

## Guinea Pig Inoculations (Raw or Treated Specimens)

	Total	Positive	Negative	Uns.	% Positive
	1,330	298	914	118	22.4
Sputa .....	113	11	90	12	9.73
Urine .....	415	7	352	56	1.68
Gastric .....	111	3	104	4	2.07
Bronchial Washings .....	15	4	10	1	20.
Pleural Fluid .....	52	1	45	6	1.92
Spinal Fluid .....	14	2	10	2	14.25
Miscellaneous .....	65	8	54	3	13.88
Virulence .....	545	262	249	34	49.9

## Enteric Diseases

Total Specimens	Total Examinations
16,667	16,667

## Enteric Bacteriology

(Feces and Urine)	Total	Positive	Negative	Unsatisfactory
	14,596			
Ova and Parasites .....	1,857	174	1,662	21
Occult Blood .....	46	3	43	...
Cultures for identification .....	164	161	2	1
Salmonella .....	7,298	247	6,851	200
Shigella .....	7,298	35	7,063	200
Sensitivity tests .....	4	...	...	...

This work includes the more complete identification of Salmonella into their respective group and *S. typhi* types. The Program now also identifies Salmonella into their specific species. The assistance of the United States Public Health Service, Communicable Disease Center at Atlanta, Georgia, on questionable results is used and appreciated.

## Species Identification

	Culture for identification and serotype	Isolated at State Lab.
Salmonella Gr. A		
<i>S. paratyphi</i> A .....	1	3
Salmonella Gr. B		
<i>S. chester</i> .....	2	
<i>S. derby</i> .....	1	2
<i>S. heidelberg</i> .....	11	5
<i>S. san diego</i> .....	1	2
<i>S. saint paul</i> .....	2	
<i>S. typhimurium</i> .....	76	51
<i>S. typhimurium</i> var. <i>copenhagen</i> .....		4
	94	67

	Culture for identification and serotype	Isolated at State Lab.
Salmonella Gr. C <sub>1</sub>		
<i>S. cholerae suis</i> var. <i>kunzendorf</i> .....	4	1
<i>S. infantis</i> .....	2	3
<i>S. montevideo</i> .....	1	6
<i>S. oranienberg</i> .....	3	4
<i>S. thompson</i> .....		2
	10	16
Salmonella Gr. C <sub>2</sub>		
<i>S. blockley</i> .....	3	9
<i>S. muenchen</i> .....	1	1
<i>S. newport</i> .....	4	37
	8	47
Salmonella D		
<i>S. enteritidis</i> .....	2	9
<i>S. typhi</i> .....	11	66
	13	75
Salmonella Gr. E <sub>1</sub>		
<i>S. anatum</i> .....	2	2
<i>S. give</i> .....	1	4
	3	6
Salmonella E <sub>2</sub>		
<i>S. binza</i> .....		14
<i>S. newington</i> .....	1	11
	1	25
Salmonella G		
<i>S. cubana</i> .....	1	
<i>S. worthington</i> .....	1	4
	2	4
Other Salmonella Groups		
<i>S. alachua</i> .....		1
Salmonella Totals:	132	244
Shigella Gr. B		
<i>S. flexneri</i> 2a .....	3	6
2b .....	5	
3a .....		1
	8	7

	<i>Culture for identification and serotype</i>	<i>Isolated at State Lab.</i>
Shigella Gr. D		
<i>S. sonnei</i> .....	4	30
Shigella Totals: .....	12	37
Arizona		
26:H23-30 .....		3
Arizona Totals: .....		3

### *Staphylococcus Phage Typing*

This activity increased over a comparative period of last year. Dr. Updike, in reviewing the program in December, advised discontinuing the number of concentrated specimens. This is being done and will result in fewer examinations on specimens this coming year.

	<i>Total Specimens</i>	<i>Total Examinations</i>
	7,349	190,392
	<i>Phage Typing</i>	
	<i>Plain</i>	<i>Concentrated</i>
	6,035	949
	<i>Phage Typing Determinations</i>	
	<i>Plain</i>	<i>Concentrated</i>
	144,840	45,552

### *The Identification of Streptococcus Group by Fluorescent Antibody Titration*

<i>Total Specimens</i>	<i>Total Examinations</i>
2,599	6,000

This activity was discontinued for a portion of the 18-month period. On recommendation of Dr. Updike, it is now being performed on routine specimens received at the Central Laboratory.

The table shows source and results on specimens tested:

	<i>F.A.</i>		<i>Concentrate</i>	
	<i>Total</i>	<i>Positive</i>	<i>Total</i>	<i>Positive</i>
Cranford .....	699	59	699	53
New Brunswick .....	461	31	461	24
Westfield .....	1,439	433	1,439	429
	2,599	523	2,599	506
		20.1%		19.1%

### *Comparative Study on Swabs*

Over a 3-month period, a total of 446 double swabs were used to note the reproducibility of our results. Three combinations of swabs were used with the following results:

1. Paired State Swabs—187 specimens examined with 97.8 percent agreement with Fluorescent Antibody test and 96.8 percent agreement with precipitin test.

2. State Swab and Commercial Swab—117 examined with 97.4 percent agreement with F.A. test and 95.7 percent agreement with precipitin test.

3. State Swabs and "Swubes"\*—142 specimens examined. This study had to be thrown out because the "swubes" exhibited a toxicity which inhibited the growth of all organisms on 84 specimens by conventional culturing.

### *Blood Agglutinations*

Blood agglutination tests are performed for typhoid-O and H antigens, paratyphoid, A and B, undulant fever, tularemia and Weil Felix reactions for typhus and Rocky Mountain Spotted Fever.

Following is the performance chart:

	<i>Total Specimens</i>		<i>Total Examinations</i>		
	6,252		10,147		
	<i>Total</i>	<i>Positive</i>	<i>Negative</i>	<i>Uns.</i>	<i>Examinations</i>
Typhoid Fever .....	1,998	206	1,765	27	3,996
Paratyphoid Fever .....	1,997	70	1,913	14	3,994
Undulant Fever .....	2,003	27	1,970	6	2,003
Tularemia .....	25	0	25	...	25
Rickettsial Fever .....	129	37	86	6	129
(Weil Felix)					

### *Nose and Throat Cultures*

Diphtheria, Diphtheria Virulence, Hemolytic Streptococci, and Sensitivity Tests:

	<i>Total Specimens</i>		<i>Total Examinations</i>		
	12,544		15,818		
	<i>Total</i>	<i>Positive</i>	<i>Negative</i>	<i>Uns.</i>	<i>Examinations</i>
Diphtheria .....	6,648	10	6,487	151	6,648
Diphtheria Virulence .....	...	...	2	...	2
Tellurite .....	...	...	...	...	3,272
Nose & Throat Bact. ....	1,462	419	1,024	19	1,462
Sensitivity Tests .....	21	...	...	...	21
Hemolytic Strep. ....	4,386	785	3,569	32	4,386
Vincent's Angina .....	27	0	23	4	27

\* A sterile disposable outfit consisting of a cotton tipped swab stick in a plastic-capped plastic tube.



*Gonorrhoea Spreads*

Total Specimens		Total Examinations	
6,109		7,142	
Positive	Negative	Uns.	% Positive
1,033	4,978	98	17

*Rabies*

We had a large increase in animal heads submitted for rabies examination during this period. This was due to finding a number of bat brains positive for rabies. Five bats were found positive that were received in this laboratory during August through October, 1961. Seven positive brains were identified on bats received during July through November, 1962. One raccoon was found positive. This makes a total of 13 wild animals found positive in New Jersey during the 18-month period. Eight hundred and thirty-three animal heads were received during the first 12-month period; 577 have been examined so far during the last 6 months, a 78 percent increase.

Total	Positive	Negative	Uns.	Total Examination
1,410	13	1,336	61	7,283

Examinations include mice inoculations and fluorescent antibody titration examinations for rabies. The fluorescent antibody work aided in the diagnosis of the 8 brains found positive for rabies since July, 1962.

The State Sanitary Code requires, under Chapter IV, Reg. 6(e) that: "Animal brains examined for rabies and found to be Negri-negative shall have a suitable portion thereof inoculated into mice in those circumstances where there is record of a bite or intimate human or animal contact." This has been routine procedure in the Bacteriology Program for years. Every local, private or hospital laboratory making this type of examination should follow the requirements of the State Sanitary Code, or if unable to do so, submit suitable brain portions carefully refrigerated to the Division of Laboratories with all information and data with request for animal inoculation.

Examinations for rabies were made on the following number and species of animal: bats, 424; dogs, 233; cats, 165; hamsters, 154; rodents, 118; squirrels, 100; rabbits, 61; raccoons, 27; chipmunks, 27; moles, 23; foxes, 22; woodchucks, 13; skunks, 13; guinea pigs, 9; muskrats, 8; monkeys, 3; opossums, 3; hogs, 2; and 1 each of weasel, cow, chinchilla, and a pigeon.

Swiss mice, 18 days old, are inoculated on all wild animal brains, or suspected or unsatisfactory for microscopic examination where the animal has bitten or had intimate contact with humans. There were 4,240 such inoculations performed.

*Phenylketonuria Screen or PKU*

Phenylketonuria or PKU as it is commonly called is a rare inherited disorder occurring once in every 10,000-20,000 live births. Such an individual lacks an enzyme which converts phenylalanine to tyrosine. The unconverted phenylalanine collects in the body damaging the developing brain. Such accumulation leads to severe mental retardation that is irreversible.

The purpose of the test is to measure the phenylalanine level in the blood and urine early enough to place such individuals with high levels on a special diet and prevent this brain damage.

The test is an agar diffusion microbial assay, employing small filter paper discs impregnated with blood or urine on the agar surface to determine abnormally high blood concentrations of the amino acid phenylalanine.

A blood filter specimen taken 3 to 4 days after birth and a urine filter specimen taken 3 weeks after birth are required of each baby. As of December 31, 1962, 1,738 blood specimens and 917 urine specimens have been tested.

There have been no positive blood tests. There were 5 presumptive positive urine specimens. On retest, 1 proved negative. The other 4 are still under study.

*Miscellaneous Specimens*

Other specimens and examinations may be grouped as follows:

	Total Specimens		Total Examinations	
	Total	Positive	Negative	Uns. Total Examinations
		1,397		1,469
Bacterial Infections				
(body fluids) .....	641	372	206	63
Sensitivity tests on above ...	...	...	...	72
Cultures for identification				
(other than enteric) .....	539	...	...	539
Food Bacteriology .....	57	1	56	57
Mycology .....	75	17	57	75
Other .....	85	27	51	7
				85

*Bacteriological Analysis of Waters, Wastes, Dairy Products, Shellfish and Shellfish Waters, in the Central Laboratory and Branch Laboratories*

	Total Specimens	Total Examinations
Waters .....	37,428	65,433
Dairy Products .....	19,519	29,864
Shellfish .....	4,012	7,241
Shellfish .....	534	1,602
Shellfish Waters .....	13,363	26,726

Central laboratory water specimens and examinations were from the following sources:

	Total Specimens	Total Examinations	
	19,519	29,864	
Public .....	7,967	Shellfish Waters .....	2,762
State & Co. Inst. ....	237	Sewage .....	1,166
Schools .....	652	Streams .....	1,427
Camps .....	595	Wastes .....	96
Ice Cream Stands .....	25	Private, L.H. & D.H.O. ....	3,248
Dairy Plants .....	61	Millipore Filter .....	45
Poultry Plants .....	49	Algae .....	45
Bottled Water Plants .....	4	Shellfish .....	13
Pools .....	46	Experimental .....	26
Bathing Areas .....	615	Experimental enterococcus .....	249
State Parks .....	70	Miscellaneous, ice, etc. ....	6
Slaughterhouses .....	115		

Central Laboratory Dairy Products

Total Specimens	Total Standardized	Total Below Standard	Average Percent Below Standard	Total Examinations
4,012	3,845	242	6.3	7,241
Total	Satisfactory	Below Standard	% Below Standard	
Milk .....	1,656	1,543	113	6.8
Skim Milk .....	482	459	23	4.6
Chocolate Milk .....	357	319	38	10.6
Buttermilk .....	2	2	0	0
Cream .....	475	428	47	10.
Half and Half .....	128	118	10	8
Penicillin Residual ...	676	670	6	0.8
USPHS Split Samples	39			
NJ State Split Samples	25			
Experimental Milks ..	78			
Frozen Eggs .....	69	64	5	7
Dried Eggs .....	2			
Dietary Supplement ...	5			
Toxicity Tests .....	3			
Other .....	15			

A review of below standard milk products shows a steadily decreasing percentage of such findings. Hopefully, this may indicate an improvement over the years of the product due to the sampling program.

Total Specimens and Examinations Made at the Bivalve and Tuckerton Branch Laboratories:

	Total Specimens	Total Examinations
	13,897	28,328
Bivalve .....	5,195 Shellfish 442 " waters 4,753	10,832
Tuckerton .....	8,702 Shellfish 92 " waters 8,610	17,496

Laboratory Approval

Certain of New Jersey laws and regulations of the State Sanitary Code require that laboratories, in order to perform certain examinations, shall be approved by the New Jersey State Department of Health.

There are 128 local laboratories approved by the State Department of Health. Of these, 67 are hospital laboratories, 51 private laboratories, 4 county hospital laboratories and 6 municipal laboratories.

Four new laboratories were approved after evaluation during the 18-month period.

Mailing Cases

Over 396,000 mailing cases for the collection and transmission of specimens by mail were supplied to physicians, District State Health Offices, and local health departments.

Approximately 13,000 liters of various kinds of media were produced and supplied during the year.

Chemistry Program

Table 1. SUMMARIZED STATISTICS, JUNE 1, 1961-DECEMBER 31, 1962

Character of Samples	Number of Samples	Number of Determinations
Milk and Dairy Products	2,604	6,349
Other Foods	896	2,175
Drugs	96	315
Waters and Wastewaters	6,026	39,896
Blood Sugars (Clinitron)	12,904	13,070
Urine Sugars (Dreypak)	2,595	2,595
Miscellaneous*	765	1,218
<b>Totals</b>	<b>25,886</b>	<b>65,618</b>

\*Includes methods development, evaluation specimens, collaborative studies, other urinalyses and research.

*Character and Trend of Workload*

The total numerical work load for the 18 months covered by this report reflected no significant change as compared to the previous year and a half.

Table 2. NUMERICAL WORKLOAD, 18 MONTHS

<i>Period</i>	<i>Total Number of Samples</i>	<i>Total Number of Determinations</i>
January 1, 1960-June 30, 1961	26,588	64,746
July 1, 1961-December 31, 1962	25,886	65,618

Looking beyond these bare totals, however, interesting shifts in the individual types of work are to be seen. In the first 12 months of this report period, analyses on milk and milk products increased 48 percent as compared to the prior year; some 1,400 additional determinations were conducted on waters and wastewaters, for an increase of 6 percent.

Urine sugar screenings, using Dreykaps, decreased 75 percent over the previous year as a result of the Diabetes Detection Program's shift of emphasis to blood screening. Accordingly, blood sugar screening by the Clinitron increased 18 percent during the first 12 months and, during the last 6 months of this period, over 80 percent of the Clinitron specimens handled for the last 2 years combined have been processed.

Actually, the best measure of the magnitude and direction of our workload is the number of determinations conducted on all specimens except those processed for the purpose of diabetes detection. These latter determinations, simple or automated, vary by thousands from year to year; their inclusion in total figures can be misleading.

Thus, we note that this dominant area of the workload (excluding diabetes screening), comprising about 80 percent of the total, increased about 6 percent for the first 12 months, over the year before, and has leveled off for the last 6 months.

*Highlights*

A voluntary evaluation and quality control program was initiated in March, 1962 in cooperation with the New Jersey Association of Clinical Laboratory Directors. Participating laboratories, which number about 50, are sent "unknown" specimens on approximately a monthly basis to evaluate their clinical chemistry procedures. Each study is terminated by preparing and forwarding a summary consisting of a statistical analysis and a commentary so that each director may determine his laboratory's relative proficiency in terms of the group mean. This program is conducted on a

confidential basis by identifying laboratories by code number only. Its aim is one of self-improvement.

The routine determination of serum phenylalanine levels was inaugurated in September, 1962. This service, rendered through our Maternal and Child Health Program, is extended to infants showing presumptive positive phenylketonuria screening tests and to patients undergoing diet therapy for PKU.

The determination of sodium levels in all public water supplies was initiated in August, 1962 so that physicians may have this information readily available relative to scheduling low-sodium diets for cardiac patients. Sodium analyses are conducted on water samples submitted biennially for a complete chemical determination. It is anticipated that this service will be completed and deleted at the end of the 2-year period.

Eight members of the Diabetes Detection Program received instruction and training in blood sugar testing.

Two laboratory technicians from state and county hospitals were instructed in milk analysis, including phosphatase, fat and solids determinations.

A chemist employed by industry was oriented in the synthetic detergent in water analysis.

Two analysts from a private laboratory visited to observe the procedures for water color, odor, and turbidity measurements.

Three technicians from a food industry were indoctrinated in the biochemical oxygen demand test.

Seven inspectors from a local health department were instructed in the proper use of a field testing kit which had been acquired by their unit.

*Collaborative Studies*

1. An evaluation of methods for determining metals in water (Analytical Reference Sample No. 2; U.S.P.H.S.). Included were procedures for aluminum, cadmium, chromium, copper, iron, lead, manganese, and zinc.
2. An evaluation of methodologies for determining trace elements in water (Analytical Reference Sample No. 1; U.S.P.H.S.). Study embraced arsenic, beryllium, boron, and selenium.
3. The determination of D.D.T. residues in milk (U.S.P.H.S.).
4. Phosphatase determinations on split milk samples (U.S.P.H.S.).
5. Ten evaluation specimens, furnished monthly by the Council on Clinical Chemistry of the American Society of Clinical Pathologists, were processed to monitor our own blood chemistry procedures. These included calcium,

carbon dioxide content, chloride, cholesterol, inorganic phosphorus, potassium, protein, sodium, true glucose and urea nitrogen.

6. Two studies pertaining to the detection of pesticides on crops are currently in progress. One relates to substituted urea herbicides such as Monuron; the other to an organic fungicide, Captan. Both evaluations are being conducted by the Association of Official Agricultural Chemists.

Table 3. NUMBER AND CHARACTER OF SAMPLES EXAMINED IN FOOD AND DRUG LABORATORY  
JULY 1, 1961 TO DECEMBER 31, 1962

	<i>Above Standard</i>	<i>Below Standard</i>	<i>Total</i>	<i>Determ.</i>
<i>Milk and Dairy Products:</i>				
Milk—Chemical	597	4		
Milk—Chemical & Phosphatase	1,276	27		
Milk—Chem., Phosp. & Pesticides	62	1		
Milk—Phosphatase	36	1		
Milk—Chemical & Pesticides	11			
Milk—Pesticides	2	10		
Chocolate Milk—Phosphatase	221			
Cream Phosphatase	334	5		
Goat Milk—Chemical & Phosphatase	10	1		
Milk Preservatives	4			
Buttermilk—Phosphatase	2			
<b>Total</b>	<b>2,555</b>	<b>49</b>	<b>2,604</b>	<b>6,349</b>
<i>Other Foods:</i>				
Ice Cream	163	4		
Ice Milk	7			
Sherbet	2			
Meat	224	72		
Whip Topping	1			
Green Peas	4			
Fruit Juice	6			
Bread Crumbs	2			
Pickles	2			
Frozen Eggs	15	6		
Peach Preserve		1		
Calorie Diet	5	3		
Potato Salad	1			
Feed (animal)	1			
Corn	20			
Turnip Greens	2	2		
Carbonated Beverage	33	7		
Vanilla Extract		8		
Tomatoes	1			
Cider	73	1		
Butterscotch Powder	1			
Ices	2			

	<i>Above Standard</i>	<i>Below Standard</i>	<i>Total</i>	<i>Determ.</i>
Bread	1			
Peaches	20			
Cocoa	1	1		
Green Beans	2	1		
Figs	2	2		
Broccoli	8			
Tomato Puree		10		
Cheese	3			
<i>Other Foods:</i>				
Coumarin	22			
Cake Mix		1		
Bread Wrapper	1			
Macaroni	3			
Potatoes	33	19		
Seasoning Fortifier	2	1		
Candied Sweet Potatoes		1		
Canned Corn	1			
Fish Cakes	2			
Yogurt	1			
Asparagus	11			
Eskimo Pies	2			
Seltzer Water		1		
Granulated Sugar	1			
Sour Cream	27			
Spices	9			
Blackberries	1			
Grapes	8			
Cabbage	3			
Nuts	23			
Lasagne	1			
Manicotti	1			
Ravioli	1			
<b>Total</b>	<b>755</b>	<b>141</b>	<b>896</b>	<b>2,175</b>
<i>Drugs:</i>				
Paregoric	2	2		
Vitamins	3			
Drugs (Pesticides)	8	64		
Crystallose		1		
Codeine Sulphate	1			
Sodium Amobarbital	3			
Distilled Water	7			
Castor Oil		1		
Cough Drops	2	1		
Lecithin Vitamin Prep.	1			
<b>Total</b>	<b>27</b>	<b>69</b>	<b>96</b>	<b>315</b>

	Above Standard	Below Standard	Total	Determ.
<i>Miscellaneous:</i>				
Urines—(State Police Recruits)	133			
Urines (Other)	1			
Blood Glucose	154			
Blood Serum (Calcium & Potassium)	1			
Blood Urea Nitrogen	30			
Phenylalanine	16			
Piperonyl Butoxide	8			
Soda Container	1			
Phosphatase Referee	16			
Experimental	404			
Dog Feces	1			
<b>Total</b>	<b>765</b>		<b>765</b>	<b>1,218</b>
<i>Diabetes Detection:</i>				
Urine Sugars (Dreypaks)	2,520	75		
Blood Sugar (Clinitron)	12,736	168		
<b>Total</b>	<b>15,256</b>	<b>243</b>	<b>15,499</b>	<b>15,665</b>
Total Milk & Dairy Products	2,555	49	2,604	6,349
Total Foods	755	141	896	2,175
Total Drugs	27	69	96	315
Total Diabetes Detection	15,256	243	15,499	15,665
Total Miscellaneous	765		765	1,218
<b>Total</b>	<b>19,358</b>	<b>502</b>	<b>19,860</b>	<b>25,722</b>

Table 4. NUMBER AND CHARACTER OF SAMPLES ANALYZED IN WATER AND SEWAGE LABORATORY July 1, 1961 to December 31, 1962

	Public	Miscellaneous	Camp	State & County Instit.	Dairy	Bathing Water	Slaughter-house	State Park	School	Bottled Water	Stream	Sewage	Trade Waste	Sand	Experimental	Total	Determinations
1961 July	41	36	13			7	0	1			92	24	34	4		261	1,943
August	95	58	4			1					90	61	13	2		323	2,088
September	97	41	1			1	1		2		68	45	42	0	2	300	2,000
October	86	37			1			1	0		56	109	36	4		339	2,235
November	89	36	1						2		96	63	21			318	2,173
December	76	28							3		61	37	13			218	1,680
1962 January	91	64									27	118	44	2		340	2,133
February	63	54					1	1	0		6	128	12	1		275	1,418
March	59	102							2		64	45	28			300	2,097
April	86	65							7		80	79	10	2		329	2,711
May	93	56	1						1		32	91	51	4		329	2,350
June	73	62	19			2		1	3		147	84	35	3		420	3,068
July	120	48	20	4		2					39	88	21	1		343	2,327
August	138	61	2			1			2		83	173	4			404	3,204
September	113	83		1	1				6	1	327	55	8			595	1,590
October	132	53			4		2		8	1	202	26	3	1		432	1,813
November	88	40		1	2				3		45	40	19	3		247	1,882
December	52	63			1				5	1		41	6			169	1,015
<b>Total</b>	<b>1,605</b>	<b>993</b>	<b>61</b>	<b>6</b>	<b>9</b>	<b>14</b>	<b>13</b>	<b>4</b>	<b>62</b>	<b>3</b>	<b>1,515</b>	<b>1,307</b>	<b>399</b>	<b>33</b>	<b>2</b>	<b>6,026</b>	<b>39,896</b>

### Pathology Program

This Program is being re-evaluated by the Department and the Society of Pathologists. This is necessitated by the apparent decline in facilities available for those physicians (pathologists) who have been using them. Changes in emphasis are being considered which, it is hoped, will bring renewed participation. The major objective of this Program, as stated at its inception, is to enhance the professional responsibilities of pathologists in the early and accurate diagnosis of malignant disease. It is a part of this Division's support of the continuing education of all laboratory personnel, technical and professional.

The Annual Slide Seminar sponsored by the New Jersey Society of Pathologists and the New Jersey State Department of Health was held on December 1, 1962 at the Essex House, Newark, New Jersey. Dr. A. C. Allen, Director of Laboratories, Brooklyn Jewish Hospital, Clinical Professor of Pathology, New York State University Medical School, was moderator. About 150 physicians attended.

Some of the cases presented were selected from the files of the New Jersey Tumor Registry, maintained by the Pathology Program.

The Bureau of Pathology has cooperated with Dr. Jack G. Makari, Director of Research, Muhlenberg Hospital, Plainfield, New Jersey, in experimental work to be reported to the Atomic Energy Commission. The work involved the processing of 257 tissues to completion.

Pollen counts were completed on 346 slides for the Division of Environmental Health. The number of pollen grains per square centimeter was reported for each slide.

In cooperation with the Virology Program, 32 histological specimens of the central nervous system were received, of which 28 were processed. Hemaloxylin and Eosin and special stain slides were made.

The short term objective, "The Slide of the Month," is a continued activity in which all pathologists are sent a micro slide, together with consultant opinions, prepared by the Pathology Program.

In cooperation with the Cancer Control Program, 55 cases were processed for the Lymphoma Project.

During the course of the year 2 technicians visited the laboratory for observation and training in histological procedures.

Requests also were received for the following:

1. Staining Techniques
2. Special Stains

The Bureau of Pathology has supplied the necessary material as requested.

Table 1. ITEMIZED ACTIVITIES, BUREAU OF PATHOLOGY  
JULY 1, 1961 TO DECEMBER 31, 1962

	July 1, 1961 to June 30, 1962	July 1, 1962 to December 31, 1962	Total
No. Contributions to tumor registry .....	316	145	461
No. Consultation cases .....	182	42	224
No. Slides prepared .....	7,343	5,331	12,674
No. Slides stained .....	7,451	4,651	12,102
No. Specimens processed .....	730	548	1,278
No. Requests for special staining .....	39	12	51
No. Slides distributed .....	6,670	3,643	10,313
No. Slides stained with sp. stains .....	552	194	746
No. Special stains used .....	19	10	29
No. Pollen count slides .....	166	180	346

### Serology Program

Primary and secondary syphilis are increasing; concomitantly, there is a trend to question more reactive reports as biologic false positives as evidenced by the increase in Kolmer tests using the Reiter treponemal antigen (KRP). This year 3,754 KRP tests were performed, an increase of 19.3 percent. Some cases still remained unresolved, their specimens showing discrepancies between the standard tests (STS) and the KRP. Reports on the Fluorescent Treponemal Antibody (FTA) test indicate that it compares favorably with the TPI test in sensitivity and specificity and that it can be a practical test to be performed in the public health laboratory. This year, a fluorescence microscope was purchased and the principal serologist was sent to the Venereal Disease Research Laboratory in Atlanta, Georgia, for a 3-week training period in the FTA technique. We shall perform the FTA test on those specimens where discrepancies exist between the standard tests and the KRP. A practical and comprehensive evaluation of the FTA and KRP tests will result. In addition, it shall be a valuable auxiliary test that will strengthen either the validity of the serologic findings or the diagnosis of the biologic false positive.

One hundred and twenty-six approved laboratories, the Venereal Disease Research Laboratory, and the laboratory technicians of the Serology Program participated in the intrastate evaluation survey of 1962. The Camden branch laboratory prepared and mailed the specimens for that program (14,080 specimens): 10 unknown specimens plus a known control serum, with its pattern of results for the individual tests, sent each month for a period of 10 months. The State laboratory in Trenton was the control laboratory

where the results were recorded and tabulated. One hundred sixteen laboratories, or 91.3 percent reported satisfactory results in 1 or more tests. This was an increase of 5 laboratories, or 2.5 percent, over last year. In conjunction with this program, 11 laboratory technicians visited the serology laboratory to observe procedures and to do bench work in complement fixation (Kolmer test). One laboratory technician reviewed the Kline and D.D.R.L. (Venereal Disease Research Laboratory) techniques.

The Camden branch of the Serology Program has been housed in the Municipal Hospital, as was the Camden Department of Health Laboratory. In December, the Municipal Hospital was closed and both laboratories had to be moved. Space was allotted in Convention Hall, Camden, to be shared by the 2 groups—a room for laboratory work, a room for washing and sterilization and a 3rd room for the storage of reagents and glassware. Additional space was given to store the remaining supplies.

Supporting the Venereal Disease Program, 1,113 specimens from migrants were tested of which 119 were reactors, roughly 10 percent. A survey of the Essex County Jail, consisting of 3,724 specimens, produced 402 reactors, a reactivity level of 10.7 percent. TheUSR (unheated serum reagin) test was performed on 262 specimens brought from the Caldwell Prison as a survey. This test, a highly sensitive one, can be performed on the serum without inactivation in the water bath for 30 minutes. The reactors by this test were then repeated by the V.D.R.L. technique and tested quantitatively. This study yielded 25 reactors, a percentage of 9.5.

The investigation of an outbreak of trichinosis in the Carteret-Woodbridge-Perth Amboy area in March and April, 1962 contributed to the 50 percent increase in tests for trichinosis. Two hundred fifty slide agglutination tests (Suessenguth-Kline) were performed for that disease. Of those specimens, 39 cases were reported to the Veterinary and Communicable Disease Programs for investigation.

Five unknown specimens were sent to the 51 laboratories (255 specimens) participating in the evaluation of Rh and blood grouping procedures of blood banks.

The total specimens and tests for the routine standard tests for syphilis decreased but slightly this year. The indications are that we have reached a levelling-off period and that any variation is due to the activities of the Venereal Disease Program. Private and hospital laboratories used the facilities of the serology laboratory to a greater degree for complete testing of their reacting specimens. Premarital specimens increased for the 3rd consecutive year, this year by 3,154. The number of Rh and blood grouping determinations increased by the same number since those tests were performed in addition on premarital specimens as a civilian defense measure.

Table 1. EIGHTEEN-MONTH WORKLOAD

	12 Months Statistics July 1, 1961- June 30, 1962	6 Months Statistics July 1, 1962- December 31, 1962	18 Months Statistics July 1, 1961- December 31, 1962
Total specimens (syphilis)	203,652	106,991	310,643
Total tests (syphilis)	212,267	118,243	330,510
Premarital specimens	53,069	28,363	81,432
Prenatal specimens	38,953	18,712	57,665
Rh and blood grouping	53,069	28,363	81,432
Total Protein	845	384	1,229
Cold Agglutinins	71	64	135
Antistreptolysin titers	228	119	347
Heterophile Antibody tests	2,419	1,295	3,714
Kolmer using Reiter Protein Antigen (KRP)	3,754	1,989	5,743
Leptospirosis	542	181	723
Trichinosis	231	68	299
Q Fever	72	66	138
C. F. tests for Psittacosis & Rickettsias	480	171	651

### Virology Program

Some indication of the expanding work load in the Virology Program is shown in the appended table. However, the limitations of space and trained professional personnel seriously hamper the realization of the full potential of this Program. The proposed laboratory facilities in the new Health-Agriculture building and increased academic training in virology should remedy these deficiencies.

In addition to diagnostic service in virus diseases and consultation on viral problems to the physicians and hospitals of the State, the Virology Program is currently engaged in 2 long-term studies, aided by grants from the National Institutes of Health. One study, in collaboration with the Veterinary Public Health Program and other state agencies, continues to furnish valuable information on the status of arborviruses in New Jersey. Eastern encephalitis, one of these arborviruses, caused the 1959 outbreak among humans in this state.

The other study, made in cooperation with the practicing physicians of a homogeneous residential community\* in south central New Jersey, is providing base line information and an epidemiologic index for the rest of the state.

\* Levittown, N. J.

A series of scientific papers based on the data obtained in these studies is in preparation.

There is every indication that the direct diagnostic services in virology will increase in volume and there is equal assurance that investigation (research) activities will expand. Experience has indicated, as stated in previous reports, that service elements and research studies are mutually contributory to the total problem of the epidemiology and control of viral diseases.

Table 1. WORKLOAD, VIROLOGY PROGRAM

	<i>Fiscal 1960-1961</i>	<i>Fiscal 1961-1962</i>	<i>July, 1962 December, 1962</i>	<i>Total July, 1961 December, 1962</i>
Specimens Received	4,398	7,076	12,187	19,263
Tests Performed	75,807	88,942	88,306	178,848
Type of Test:				
Virus Isola- tion and Identification	18,757	56,928	72,744	129,672
Serologic	57,050	32,014	15,562	47,576

Division of Local Health Services

JESSE B. ARONSON, M.D., M.P.H., *Director*

MARIE A. SENA, M.D., M.P.H., *Civil Defense Administrator*

STATE HEALTH DISTRICTS

- Central ..... ISIDOR MARKOWITZ, M.D., M.P.H.  
*District State Health Officer*
- Metropolitan ..... MIRIAM SACHS, M.D., M.P.H.  
*District State Health Officer*
- Northern ..... HARRY R. H. NICHOLAS, B.S.  
*District State Health Officer*
- Southern ..... HUGH D. PALMER, M.D., M.P.H.  
*District State Health Officer*



## Division of Local Health Services

The primary function of the Division of Local Health Services is to assure the well being of citizens and visitors of this state by stimulating the development and maintenance of effective community health services in all areas of the state and to meet needs of all citizens so that their health is protected, and so that disease is controlled and disability is minimized. The Director of the Division operates through the staffs of the 4 State Health District Offices. Each of the Districts is staffed with a complement of professional consultants in each of the major public health disciplines. The staff of the Division presently consists of 79 professional and 37 office workers. Its major functions are:

1. Advising with and bringing to the attention of community health agencies both official and voluntary, municipal and county officials, civic organizations and citizens generally, public health problems and needs, making known to them acceptable methods of meeting these problems and needs, and assisting them in definitive health planning. The Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments which have been promulgated by the Public Health Council in accordance with the New Jersey statutes are the authoritative basis for these activities. Screening type surveys of local health services using an evaluation schedule based upon the Recognized Public Health Activities and Minimum Standards of Performance are being made by a special survey team attached to the Division.

2. Establishing and maintaining productive working relationships with state-wide organizations which are active or interested or which may become active or interested in the status and development of local public health services. Intensive activities are carried out in cooperation with the New Jersey Health Officers Association and the New Jersey Public Health Association.

3. The development of concepts and methods to stimulate the development and maintenance of effective local public health services in a state whose local government organization is exceedingly complex and varies from municipality to municipality.

4. Development of and administration of a system of grants-in-aid to local health agencies, both official and voluntary, designed to stimulate the initiation and expansion of demonstration programs and projects that will point out more effective methods of providing local health services. State aid

has been a major source of stimulation to initiate improved and extended health services in local communities. The further development of the grant-in-aid method and the maximum integration of state aid projects as they apply to local areas should be a major tool carrying out the objectives of this Division.

5. Maintaining a competent staff of professionally trained workers in the several public health disciplines for guidance and consultation to communities.

6. Carrying out specifically assigned activities of the State Department of Health Programs. Specific assignment of activities is contained in the written Departmental Programs and is based upon the following criteria:

In general, those Program activities which are or should be a local agency responsibility shall be a District office operation; whereas, those Program activities which are, and are likely to continue to be, permanently a responsibility of State Government shall be a direct operation of the central Program units. Those local activities which are State Government responsibilities and which are in a developmental stage requiring maximum cooperation of local officials and agencies and maximum popular support may for that stage be assigned as a District office responsibility. The provision of such services is therefore made a part of the over-all effort to induce communities to engage in and maintain a full program of local health services consistent with local needs.

During the past year and one-half, there has been a consistent trend toward meeting this goal. Further progress in reorganizing and modernizing health department activities has proceeded in Trenton, Camden, and Paterson, Cape May County, and Cumberland County. The Health Department of Elizabeth is being reorganized with a complete overhaul of the nursing services.

Municipal and county officials, boards of voluntary health agencies and interested citizens are working out plans to provide needed services in many parts of the state. This progress will necessarily be influenced adversely in the absence of a significant appropriation of state aid on a continuing basis. The property tax as the sole source of support for local health services is totally inadequate in poorer communities—those with the greatest and most critical health service needs.

As a major unsolved problem in public health today, chronic illness control activities require maximum staff activity. The Public Health Nursing, Medical Social Work, Nutrition, and Community Organization consultants on the District staff are all involved in this effort, directing their efforts toward effectively coordinating these activities among the medical and allied health professions, hospitals and other health agencies in the community. Special efforts are being made to develop new programs of community health services for chronic diseases and the aged that may participate in assistance available through recent federal legislation. These activities are

limited only by the staff time available. This limitation is particularly a factor in the Metropolitan District.

#### *Report of Survey Team*

With the adoption of Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments by the Public Health Council, effective April 1, 1961, it became necessary to determine the extent of compliance by local boards of health.

In order to evaluate compliance, a fact finding apparatus was set up within the Division of Local Health Services. The first step was to construct a survey schedule so that the health services available to the citizens of each municipality could be measured as objectively as possible in terms of the standards. The next step was to staff a survey team and to develop administrative techniques for carrying on the surveys.

In June, 1961, a survey team was organized. The initial team consisted of 3 persons; a Senior Sanitarian, a Public Health Nurse Supervisor, and a Field Representative. Since the death of the Field Representative the team consisted of a Senior or Principal Sanitarian and a Public Health Nurse Supervisor. It was recognized immediately that, faced with 567 municipalities, we must necessarily be satisfied with a screening type of appraisal rather than a survey in depth. Such an evaluation would bring out the deficiencies as measured against the "standards." It was also recognized that the facts brought to light must serve 2 purposes. They must serve to inform the board of health, the governing body, and the citizenry, of deficiencies in health services. They must also serve as evidence, if and when, the Commissioner should find it necessary to recommend to the Attorney General that legal action be instituted to compel compliance.

In order to conduct a quantitative survey, the following procedure was instituted:

A survey calendar is set up. The staff of the State Health District Office arranges appointments for the members of the survey team to meet with local health agency personnel in each of the communities to be surveyed.

The team learns of problems of which District personnel are aware.

The survey team then makes the visits and gathers the information necessary to complete the survey schedule. A preliminary draft of the evaluation is prepared by the survey team and submitted to the District State Health Officer for editing.

An appointment is then made by the District staff for the team and a representative of the District to meet with key officials of the municipality

to review the findings. This discussion serves to disclose errors and misunderstandings of fact. It also informs the officials of the problems revealed and permits them to plan to rectify the situation. In most instances, the conference has been a primary lesson in public health. A final corrected report is then prepared and copies sent to the local board of health and governing body.

Sixty evaluation surveys have been made by the survey team in rural and suburban communities as indicated in the following table:

Table 1. COMMUNITY EVALUATIONS BY DISTRICT

District	Central	Metropolitan	Northern	Southern	Total
Surveys	32*	6	12	10	60

\*Includes one resurvey

As a result of the survey review meetings, local boards of health have recognized how they can comply with "Minimum Standards" in an economically feasible manner. The Boards are to be commended for their interest in providing better health services for their citizens as evidenced by the following:

*Central District*—One board (Jackson Township) has adopted 4 "Model" codes to update its health services and another (Lawrence Township) has arranged for additional nursing service.

*Metropolitan District*—A board of health (Washington Township) has purchased nursing services from a qualified visiting nurse association.

*Northern District*—A full-time Health Officer was employed by a local board which did not previously have one (Bridgewater Township) and another board contracted for nursing services.

Protection of the health of the residents of New Jersey demands that every area of the state be served by a local health agency organized to provide "Recognized Public Health Activities" meeting "Minimum Standards of Performance" and operated under the direction of a full-time licensed health officer.

Experience of the survey team indicates that surveying contiguous municipalities in a selected area, especially in less densely populated areas, with the objective of encouraging regional or county health units, holds the most promise for providing full-time public health services most economically to the citizens of these areas of the state.

*District Activities*

The 4 State Health Districts are responsible for State Health Department activities in the communities in the counties they serve. Their staffs are charged with the following major functions:

1. To assist in the development of community health organization to make the people of the community cognizant of the needs, to evaluate these needs, and to recommend facilities and services to meet needs.
2. To promote a coordinated program of optimum local health services.
3. To guide and advise local health agencies, both official and voluntary, in all phases of organization and program.
4. To maintain a competent staff of professionally trained workers in the several public health disciplines to whom communities can direct requests for guidance and consultation.
5. To carry out the Programs of the State Department of Health by performing all assigned activities of these Programs, to integrate the activities of the several Programs in terms of the problems, needs, and priorities within any area of the state.
6. To assist in conducting evaluations of the local and state health programs.
7. To bring to the attention of the coordinators of the State Health Department Programs the problems and needs in the various local areas of the state, enabling them to develop such programs so that they will more closely meet the real needs of our communities and citizens.

The professional staff of the 4 State Health Districts is shown in the following table:

Table 2. DISTRICT PROFESSIONAL STAFF

Title	Total	Central	Metropolitan	Northern	Southern
District State Health Officer . . . . .	4	1	1	1	1
District Chief Environmental Health . . . . .	4	1	1	1	1
Principal Public Health Engineer . . . . .	4	1	2	1	vacant
Senior Public Health Engineer . . . . .	1	..	..	..	1
Principal Sanitarian . . . . .	2	vacant	vacant	1	1
Senior Sanitarian . . . . .	6	3	1	1	1
Sanitarian . . . . .	7	1	3	2	1
Assistant Sanitarian . . . . .	2	2	vacant	..	..
Public Health Veterinarian . . . . .	4	1	1	1	1
Rabies Control Warden . . . . .	5	1	2	1	1
District Consultant Community Health Organization . . . . .	5	1	2	1	1

Title	Total	Central	Metropolitan	Northern	Southern
District Consultant Medical-Social Rehabilitation .....	4	1	1	1	1
District Consultant Public Health Nutrition .....	4	1	1	1	1
District Chief Public Health Nurse	4	1	1	1	1
Public Health Nurse Supervisor ..	12	1	4	4	3
Public Health Nurse .....	1	1	..	..	..
Senior Public Health Physician ...	4	..	4	..	..
Physical Therapist .....	..	..	..	..	..
Industrial Hygienist .....	1	..	1	..	..
Assistant Industrial Hygienist .....	..	..	..	..	..

The areas of operation of the Districts and the percentage of the state's population in each District is as follows:

<i>Central 22.5%</i>	<i>Metropolitan 53.1%</i>	<i>Northern 9.4%</i>	<i>Southern 14.8%</i>
Burlington	Bergen	Hunterdon	Atlantic
Mercer	Essex	Morris	Camden
Middlesex	Hudson	Somerset	Cape May
Monmouth	Passaic	Sussex	Cumberland
Ocean	Union	Warren	Gloucester
			Salem

The Districts carry out activities as part of the various Departmental Programs. These activities and their accomplishments are recounted in the sections of the Annual Report reserved for these Programs. District activities noted in this section of the Annual Report relate to the major efforts to develop community health services.

### Southern State Health District

Continued public interest and concern in the development of local health services have been translated into significant progress. Prior to May, 1960, there was only 1 full-time health officer in the District, covering 1.4 percent of the District population. At the end of this report period, there were 5 positions (1 not filled) for full-time health officers, covering over 336,000 people or 37 percent of the District population.

Further efforts were made to seek compliance with the Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments. Selected communities in Camden, Cumberland, and Salem Counties were surveyed by the Department Survey Team to determine compliance with the Minimum Standards. Survey findings and recommendations

were discussed at follow-up meetings with the boards of health and with municipal officials.

A major activity of the District staff was in response to the needs arising from the storm and disaster along the shore on March 6, 1962. The entire environmental health staff worked long and hard during the period following the storm and flood. They cooperated closely with the Cape May County Public Health Coordinator. Throughout the emergency, contact was maintained with all local boards of health and municipal officials in the seashore counties.

Emergency packaged water supplies were obtained from the Milk Industry Association of New Jersey. These half-gallon units were distributed to evacuation centers and other vital points where water was lacking or was of suspect quality. An industry supplier provided 6 portable hypochlorinators and accessories, which were used to establish and maintain safe public water supplies where chlorination was needed. As a consequence, most public water supplies were able to maintain uninterrupted near normal service during the emergency. Damaged food stocks, drugs and other items that might have posed a hazard to the public health were inspected, embargoed, and destroyed, as indicated. Sanitarians supervised food handling facilities at emergency and evacuation centers. Engineering personnel maintained surveillance over municipal sewage treatment facilities so that maximum service would be maintained. Following the immediate emergency, District staff cooperated in surveys conducted by the County Public Health Coordinator. These efforts were largely responsible for the rapid restoration of normal services in the storm-affected areas.

The families closely associated with a known carrier of typhoid fever and a possible carrier were evacuated and promptly brought under surveillance in their temporary homes elsewhere in Cape May County, Camden County, and Philadelphia. Two of our Public Health Nurse Supervisors served the needs of evacuees, in the Bridgeton Armory, whose dwelling units in South Port Norris had been flooded.

During the storm emergency, there was excellent cooperation between the District staff and the County Public Health Coordinator of Cape May County, who also served under the County Civil Defense Coordinator, for health and medical matters. The experience in Cape May County provided a forceful demonstration of the vital role which a county health unit can play in effectively meeting emergency public health situations. County and local officials were again convinced of the wisdom of their action in 1960 in setting up the county health department.

A Conference on "Our Neighbors the Puerto Ricans" was held on March 2, 1962 in Bridgeton. All 6 Southern District counties plus Burlington County

were represented, in addition to guests and observers from other areas of the State and from New York and Pennsylvania. The conference proceedings were published in the August, 1962 issue of *Public Health News*, Departmental publication.

#### *Atlantic County*

On April 11, 1962 the District State Health Officer spoke to the Atlantic County Board of Chosen Freeholders at the suggestion of the local Council of Community Services, regarding ways in which the county's municipalities could take action to provide the Recognized Public Health Activities and meet the Minimum Standards of Performance. The position of Public Health Coordinator had been created by the Freeholders on March 8, 1961 but has not yet been filled.

#### *Camden County*

The results of a survey conducted by the Public Health Services Committee of the Health and Welfare Council of Camden County indicated by the Fall of 1962 that several boards of health were interested in participating in a county health unit. If such a unit were formed, their citizens, plus those already covered in Camden and Haddonfield would amount to about 45 percent of the total county population, which was over 392,000 in the 1960 Census.

On July 1, 1961, a full-time health officer was employed by Camden, a city of 117,000. This position in South Jersey's largest city had been vacant since the death of the previous incumbent in 1954. On March 21, 1962 the health officer resigned and on August 1, 1962 a new man started his duties as Health Officer of Camden.

At the suggestion of the Mayor, a formal survey was made of the environmental health section of Camden's Health Division. This was done by the District State Health Officer during the period when the city had no health officer, and the report was delivered to the Director of Camden's Department of Health, Recreation, and Welfare on August 8, 1962. Both he and the new health officer indicated their intention to utilize the recommendations in the survey report as a basis for upgrading the city's environmental health activities.

#### *Cape May County*

Because of a vacancy in the Public Health Coordinator position the Board of Chosen Freeholders requested assistance. On June 26, 1961 the District State Health Officer had assigned the District Consultant in Community Health Organization to supervise the staff and activities of the Coordinator's office. This coverage was maintained until January 15, 1962, on a 3-day-a-week

basis. On January 15, 1962, a new full-time Public Health Coordinator of Cape May County was appointed. He formerly served on the staff of the Virginia State Department of Health. In mid-1962 a 9-member Public Health Advisory Committee was named by the Board of Chosen Freeholders to work with the Cape May County Public Health Coordinator. It included among its new members 3 physicians and a dentist, and a representative of the county government.

On July 17, 1962 the Cape May County Freeholders passed a resolution calling for a study of water resources and sewage disposal in the county. With the aid of federal funds, a study is planned with a view of eventually setting up sewage treatment systems covering large areas of the county.

On December 28, 1962 a meeting was held with the Cape May County Freeholder Director, the County Public Health Coordinator, and the Public Health Advisory Committee to consider conducting a self-survey of health services and needs in the county under the auspices of the National Commission on Community Health Services. Unanimous endorsement for such a self-study was given by the local representatives.

#### *Cumberland County*

In June, 1961 the Board of Chosen Freeholders of Cumberland County had passed resolutions creating a county health unit, an initial budget of \$23,000, and the position of Public Health Coordinator. The new unit was set up on July 1, to serve over 69,000 people in 13 municipalities, i.e., all of the county except the City of Vineland, which had its own Health Officer. Cumberland thus joined Cape May and Atlantic to become the 3rd county in the District to officially create the Public Health Coordinator position. A grant-in-aid contract was signed with the Board of Chosen Freeholders, and on July 1, 1961, a full-time Health Officer was employed as County Public Health Coordinator. A stenographer was employed and later a Sanitary Inspector, Grade I. In each case, the participating local boards of health paid one-third of the costs to the Board of Chosen Freeholders, the apportionment being on a per capita basis. A contract with the Cumberland County Freeholders was signed by Fairfield Township for the year 1962. This meant that all municipalities in the county, except 1 small township, had the services of a licensed Health Officer.

#### *Gloucester County*

In September, 1961, the Woodbury Board of Health passed a resolution requesting the Freeholders to set up a county health unit. Woodbury thus became the 13th of the 24 municipalities in Gloucester County to take such action. These municipalities represent well over half the population of the county.

This information was presented to the Board of Chosen Freeholders, and promotional efforts were made through the Freeholders' Public Health Committee by interested local citizens and by District staff.

#### *Salem County*

At the request of the County Counsel for official information regarding appropriate ways of financing the proposed county health unit, the Director of the Division of Local Health Services gave oral and written advice, and the District State Health Officer provided tabulations showing the expected contribution by each participating municipality, based on the Equalized Assessed Valuations of real property in the county, and a proposed grant from the State Department of Health.

#### **Northern State Health District**

The 18-month period between July 1, 1961 and December 31, 1962 was characterized by intensive activities in detailed practical analysis of and planning for effective local health services. Real understanding has emerged. Activities can now be focused in practical planning for administrative operations, needed man-hours, budget, etc. There was also much effort and activity to dovetail and expand the services of various agencies in the District in order to provide more comprehensive and qualitative services.

The public health nursing activities of the District, while facing new challenges, sought also to perform old functions more effectively. All of the medical programs, the newer home nursing and medical care programs, newer dimensions and expansion of existing services made more evident the need for nursing services in the home. The organizing of services, recruiting and continuous education of nurse personnel to provide quality service, coordinating with other community resources, supplementing by physical therapy, Homemaker, and Friendly Visitor services, all challenged the leadership.

Surveillance and direct service activities of environmental health personnel have been blended in a cooperative mix of demonstration, interpretation, and education together with routine program requirements. Direct results of this re-orientation of activity can be seen in the camp and lake bathing programs, particularly in the local competition for recognition of quality of performance in meeting and exceeding the standards. Also, governing bodies of municipalities indicate awareness of needs to provide adequate domestic and industrial waste treatment facilities and potable water system. Although state and federal aid in this area has been of some assistance, practical activity by District staff in local application has stimulated local thinking and successful action in this regard.

The following activities indicate some of the major efforts of the staff in the development of community health resources:

Evaluation survey meetings were held in 8 municipalities in the District between January and July, 1962. These included Madison (Morris County); Montgomery, Bound Brook, Somerville, Watchung (Somerset County); Clinton (Hunterdon County); and Hackettstown (Warren County). All of the municipal officials involved indicated interest in determining a workable course of action to meet the standards and willingness to comply with some aspects of the recommendations without too much delay.

A full-time health officer was hired by Bridgewater Township (Somerset County); after several further conferences, arrangements were made for some nursing supervision through the Family Nursing Service for Clinton (Hunterdon County); a review of services and needs for Somerville (Somerset County) with the Health Officer and Director of the Somerset Valley Visiting Nurse Association resulted in proposed plans for a community survey early in 1963.

More than one-half of the 133 municipalities in the District have called upon members of the District staff for assistance in interpretation of the Minimum Standards and for their implementation in specific areas. (In the Northern District, 64 percent of the municipalities are under 5,000 population, contrasted with 52.5 percent for the State as a whole.)

#### *Hunterdon County*

District staff assisted the Hunterdon County League of Women Voters in its survey activities of health services, resources, and facilities during 1961. After compilation and analysis of the data during early 1962, the final report and recommendations were presented to the membership of the League and to the County Board of Freeholders in June, 1962. During the summer months, the League met with the Freeholders. Early in the Fall, the Freeholders appointed a Study Committee representative of the health needs in the county. By the end of 1962 this Committee had made plans for reviewing the various patterns and possibilities for organizing county health services. Plans have been made by the County Board of Freeholders to appoint also an advisory group of consultants to the Study Committee during January, 1963.

The Hunterdon County League of Women Voters displayed the Minimum Standards exhibit and their survey and report at the County Fair in September, 1962. Detailed records of the League's survey activities, methods and media were compiled by the Hunterdon County League and made available to the State League which was anxious to provide guidance to 8 of its affiliates undertaking studies of health or welfare.

*Morris County*

Since this county has the greatest number of qualified personnel and organized agencies, District activities encompassed expansion and improvement of service and facilities, as well as coordination of agency program activities.

Some of the activities in which efforts were directed included expansion of service areas for supervised public health nursing through municipal contracts; assumption by selected hospitals and agencies of rehabilitation activities including physical therapy; nutrition counselling in hospital and agency programs; improvement of nutrition practices, particularly in hospitals, county welfare homes, nursing homes and schools; maternal and child health orientation for welfare personnel; coordination of tuberculosis and heart program activities by both official and voluntary agencies; development of child health conference facilities in the Chester area; improved surveillance and investigation of communicable diseases; and joint planning for in-service training and health education programs.

*Somerset County*

During the summer and fall of 1961, District staff worked with the Somerset County Study Committee, appointed by the Board of Freeholders, in developing a proposed contract, budget, and other data for a county health service. The report and recommendations were presented to the Freeholders in December, 1961, and included a proposal for a county coordinator. The Somerset County Medical Society passed a resolution favoring establishment of the county health service in January, 1962. The Somerset County Board of Freeholders discussed the report and recommendations of the citizens committee at an executive session on February 6, 1962. The County Board felt there was need for service in the area of public health. Further action was delayed until December, 1962 at which time plans were made for reactivation of the health services study committee and for promotional activities in regard to the proposed plan.

This county has gained 3 new full-time health officers during this period. Hospital and agency activities in areas of chronic disease prevention and screening, as well as communicable disease education and surveillance have increased with assistance from District staff. There has been coordination and cooperation in selected aspects of maternal and child health and nutrition with welfare personnel.

*Sussex County*

Throughout the fall of 1961 and all of 1962 the District staff has been working with the Sussex County Board of Freeholders on specific health

problems and over-all plans, including dental health, tuberculosis, public health nursing service, infectious hepatitis, and home care programs. Some immediate and impelling needs, particularly in dental health, tuberculosis and infectious hepatitis, required coordination of efforts with the school administration, as well as with professional organizations.

A public health nursing service under the County Board of Freeholders was established in the county on a full-time basis as of July 1, 1962 and the dental health and tuberculosis programs were reorganized through cooperative planning of the County Board of Freeholders, County Superintendent of Schools, and local school administrators, as well as District and Program staff.

*Warren County*

During the summer of 1961, District staff assisted the Warren County Health Planning Committee—representative of the local boards of health—in setting up proposed organization and by-laws for a regional commission, budget, and possibility of local contracts. However, because of lack of agreement, possibilities of joint action were not considered favorable at this time.

During the year 1962, the staff gave assistance to the Health Committee of Warren County Welfare Council which had been working on a combined comprehensive public health nursing agency and homemaker service. Budget, personnel data, etc., were prepared for the use of the Committee in both nursing and homemaker services aspects. However, this also did not culminate in definitive action by the end of this period, although District staff is still continuing assistance.

**Central State Health District**

Personnel changes on the District staff have been numerous. A new District State Health Officer was assigned in April, 1962. A new District Consultant, Public Health Nutrition, was assigned to replace the former nutritionist who was transferred to the Heart Program. A District Chief Public Health Nurse was assigned to fill the vacancy due to transfer of the former District Chief to the Crippled Children's Program. Personnel changes on the environmental health staff have also been numerous, particularly among the sanitarians. Because of resignation, transfer and retirement, it has been necessary to hire and train new personnel. During this period, a new Public Health Veterinarian was also assigned.

However, in spite of the numerous personnel changes, the District has been involved in many activities and has provided advisory and consultative services to a great number of public and private agencies. This cooperative effort has resulted in the stimulation of many activities and the establishment of local health services which had never been provided in this District.

Emphasis was placed upon surveying as many local boards of health as possible to determine their degree of compliance with the Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments in New Jersey. Thirty-three municipalities were surveyed in the Central District. During the latter part of the report period, it was decided that it would be more beneficial to select the communities to be surveyed within a particular county or region, rather than to select at random. A major recommendation of the survey report, especially those concerning the less densely populated communities, was that it would be more financially feasible for them to band together for public health services and form a larger health organization with a full-time, qualified health officer and other public health personnel who would then render adequate health services. It was recognized that since most of the less densely populated municipalities did not meet the "Minimum Standards" and could not individually support or provide adequate public health services, the suggested arrangement was the most practical one.

With this in mind, neighboring communities in Middlesex and Ocean Counties were surveyed. It is planned that the deficiencies of existing health services in Ocean County will be brought to the attention of not only the local health officials and governing bodies, but to the Board of Chosen Freeholders, presenting them with a composite picture and requesting that they consider securing the services of a qualified, full-time health officer as Public Health Coordinator. As a result of the surveys, the communities in Middlesex County, particularly those south of the Raritan River, appear to lend themselves to the formation of a regional health organization. The Central District will continue its efforts to promote formation of such a unit.

In order to increase public understanding of the importance and need for communities to comply with the Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments, numerous meetings were held with interested citizen groups and voluntary agencies such as chambers of commerce, parent-teacher associations, in addition to local governing bodies and boards of health.

#### *Burlington County*

The Burlington County Heart Association was assisted by the District in a project concerning persons on low-sodium diets. The County Medical Society also participated. In 1961, the Public Health Nursing Association for Burlington County assumed supervision of all agencies with whom they had subcontracts for crippled children's services. This nursing organization also increased its services to the migrants in the summers of 1961 and 1962. The Burlington County Parent-Teacher Association selected as a health project a county-wide self-survey of the health facilities available. Local units

will prepare reports which will eventually be consolidated into a county report. The District was responsible for securing their participation and supplied the survey forms. Through the efforts of the District, the Burlington County Tuberculosis and Health Association appointed a qualified social worker on a part-time basis. This is the first agency of this type in New Jersey to offer case-work services to patients and their families.

A fluoridation referendum won in Levittown Township and this community will have the fluoride content of its public water supply optimally adjusted. The success of this undertaking was due largely to a group of interested citizens in the community who developed a well-thought-out plan and public relations effort.

#### *Mercer County*

The City of Trenton, under its change from a commission form of government to mayor and council, has agreed to consider the fluoridation of its public water supply. This consideration was stimulated by State Department of Health representatives. Since the resignation of Trenton's Health Officer on July 1, 1962, the District State Health Officer has been rendering health officer services until a new health officer can be obtained. The District personnel have been performing committee assignments in a comprehensive health program for occupants of Trenton's low-cost housing for the aged.

A Friendly Visitors program has been organized by the Central New Jersey Chapter of National Multiple Sclerosis Society with assistance from the District.

A member of the District staff, at the request of the Regional Medical-Social Work Consultant of the National Foundation, has worked with members of the St. Francis Hospital staff in defining their responsibilities in the Congenital Defects Evaluation Clinic of the hospital.

District efforts made possible the addition of nursing service in West Windsor Township through the purchase of public health nursing services from the Princeton Visiting Nurse Association.

#### *Middlesex County*

A diet counselling service was established at Douglass College, New Brunswick. This service is available to physicians and health agencies in the area. Actual patient instruction is given to referred patients by a nutrition instructor and graduate students of the college.

District personnel participated in a career conference held at Douglass College for recruitment of persons into the nutrition field. Representatives from the New Jersey Home Economics Association, New Jersey Dietetic



Association, 4 New Jersey colleges, and Home Economics College Clubs were present.

Fluoridation meetings were held in several communities at the request of parent-teacher's association, League of Women Voters, Junior Chamber of Commerce and local officials. As a result of a successful referendum, Highland Park Borough has installed equipment for the adjustment of the fluoride content in the public water supply.

The recommendations for the development of a unified public health nursing service in Middlesex County were included in the Comprehensive Study Report submitted by the Community Welfare Council of New Brunswick and vicinity in October, 1961. To achieve this goal and implement the recommendations, meetings were held which included personnel from the State Department of Health and representatives from the Community Welfare Council, Visiting Nurse Association in Middlesex County, Roosevelt Hospital, and health officers of the larger municipalities in the county. To determine the feasibility of implementing the recommendations, a consultant from the National League for Nursing was engaged toward the latter part of 1962. She offered consultation services on a number of organizational and personnel policy problems. Her services and findings had not been completed by the end of the year.

#### *Monmouth County*

The Monmouth County Organization for Social Service instituted a mobile health unit which was taken to farms employing migrant workers. This method of rendering services was highly successful in providing immunizations, intradermal testing for tuberculosis and physical examinations for the migrant population.

The District participated with the Welfare Council of Monmouth County in gathering material in a community survey of the health status of people 65 years and over; 1,584 persons were involved. Findings indicated 11 percent were bedfast, 20 percent were semi-ambulatory and 69 percent ambulatory; the latter 2 groups had rehabilitative possibilities.

District personnel have participated and planned with the Monmouth County Heart Association in the Annual Cardiac Seminar for Nurses. Attendance at these seminars has been high, and many attending have expressed interest for the program to be continued.

Serious substandard housing in the county, which was cited in a Grand Jury Presentment in 1955, was finally eliminated. After many years of continued effort by local and state health officials, these unsanitary and degrading hovels will no longer be available for human habitation.

#### *Ocean County*

The damaging high flood tide in March, 1962, resulted in many extra man hours of time by District personnel. Water and sewage disposal plants were inspected and approved before home owners were permitted to return after being evacuated. Assistance, pertaining to sanitary and healthful living quarters of evacuees, was given to local relief workers. Food and drug supplies which had been storm damaged were embargoed and destroyed when such action was indicated. Much valuable information was obtained from this disaster experience which will be of help should similar situations arise in the future.

District personnel have actively participated and assisted the Health Committee of the Greater Toms River Chamber of Commerce in some of its long-range health programs. Consultation has initially been given to this organization regarding employment of a full-time, licensed health officer as Public Health Coordinator, fluoridation, and establishment of recognized health activities on a county basis.

#### **Metropolitan State Health District**

Helping each community meet the minimum standards of performance in recognized public health activities remains the greatest over-all challenge for the District staff. Since December 14, 1959, the date on which the resolution prescribing standards and activities for local health departments was adopted by the Public Health Council, emphasis has been placed upon education and fact-finding with all groups concerned with public health on the local level. The popular opinions held by many citizens as well as boards of health, such as "We are a small community, therefore we do not need health service" and "Our people can afford to pay privately for what they need," call for special treatment and discussion. Minimum Standards have provided the key for direct deliberation with boards of health, governing bodies, and citizens' groups. The results of many such conferences reflect a better understanding of the problem and more willingness to work toward the goals which will assure every citizen of the best practical facilities in public health.

Data from annual reports of local boards of health indicate the following number of boards of health that are making plans for establishing or strengthening recognized public health activities where the need exists: In Bergen County, 46 of 70 municipalities have undertaken some type of survey to evaluate local health services; 38 have made some type of plan toward providing standard activities. In Essex County, all 22 municipalities have evaluated services; 11 indicate steps taken toward compliance with the law. In Hudson County, 10 of 12 municipalities have surveyed services; 10 have

taken steps toward improving standards. In Passaic County, 15 or 16 communities have undertaken some kind of survey of their program. The District has promoted special conferences directed at the large poorly organized "up-county" area, urging that the program be unified and staffed with adequate, qualified, full-time personnel. In Union County, 17 of 21 communities report surveys to evaluate local health services; 5 indicate efforts being made to meet required standards. Examples showing initiative taken by citizen groups can be cited in Montclair and Englewood. In Englewood, the Public Health Committee, a subcommittee of the Community Development Committee on Englewood, instituted plans to survey all health facilities in the community. The Evaluation Schedule was selected as the guide to be used in the evaluation of services. The Committee, a citizens' group, has worked with the local health department and the Departmental Survey Team in compiling data. The final report is now being drafted by the Committee. In Montclair, the Citizens Advisory Committee to the Health Department conducted a survey using the Evaluation Schedule as a guide for determining needs in local program. As a result of this study, plans have been made to improve substandard housing, work toward the fluoridation of the town's water supply, and to consider a health education project in chronic illness control.

#### *Community Nursing Activities*

A change in the pattern of public health nurse supervision from the District office was implemented July, 1962. The routine visits to specific health departments by the District Public Health Nurse Supervisors were discontinued. All communities were notified of the availability of nursing consultation on a request basis. Assignment of Public Health Nurse Supervisors to the Elizabeth Health Department, Nutley Health Department, and the Home Care Program, Passaic City followed the modification in District policy.

#### *Hudson County*

The North Hudson Public Health Nursing Agency has been established as a voluntary organization designed to provide a generalized nursing service for the North Hudson area. It was incorporated November 28, 1961. The Reverend William Geiger of Union City was elected president of the board of trustees. The administrator of the North Hudson Hospital offered office space for the agency. A nursing director was selected to administer the program and was employed June 4, 1962. Five physicians appointed by the Hudson County Medical Society comprise the Medical Advisory Committee. Services on a limited basis started in August, 1962 with the employment of

a qualified public health nurse. A supervisor and 3 staff nurses were added in September, 1962.

#### *Essex County*

The Essex County Health Officers Association, in cooperation with the Essex County Vocational and Technical School, instituted a plan for providing teacher training courses for local health department personnel, qualifying them to teach on the vocational school level. A subcommittee of the Essex County Health Officers Association developed a manual on food handling and sanitation for use as a guide in teaching food establishment personnel. This plan established a uniform program for the county.

#### *Union County*

The Union County Health Officers Association requested the Union County Vocational-Technical School to assist in sponsoring training courses for food service personnel in the county. As a result of this request, teacher training courses were set up by the Vocational-Technical School. One class, which included 11 health officers and sanitarians, has been completed. Six members of this class were certified for teaching classes in food sanitation.

#### *Passaic County*

The Health Officer of Paterson organized a committee described as a joint citizens' effort in combating various food-borne diseases resulting from food handlers. The committee developed a plan including: (1) Preparation of an ordinance requiring all persons engaged in the preparation and handling of food to secure a certificate of food handler training. The Board of Health adopted the Ordinance on December 10; (2) Development of plans for educational courses leading to the required certificate of food handler training. The first teacher training course for health department personnel conducted in cooperation with the Department of Vocational Education, Paterson Board of Education has been completed, qualifying 13 persons for teaching food handler courses; (3) Organization of a working conference for managers of food service establishments. The conference held on October 1 was attended by about 100 persons.

#### *Bergen County*

The Division of Public Health and Preventive Medicine at the Bergen Pines County Hospital has continued to progress slowly but consistently. This plan incorporates public health services within the hospital framework. These may be purchased on a cost-based contract. Eight municipalities now contract for services. The Director of the Division serves as administrator of the services under the general direction of the Medical Superintendent of the

Hospital. His duties include supervision of staff personnel, public health consultation to local health departments, officials and other health agency personnel. He also serves as municipal health officer for the contracting municipalities. The District staff has met with approximately 17 separate boards of health. Other facilities, such as the Regional Health Commission #1 and the Northwest Bergen Regional Health Commission, have been explored with surrounding communities.

### Grants-in-Aid

The total amount expended for grants-in-aid through the Division of Local Health Services during the year and one-half ending December 31, 1962 was \$87,892.30. Contracts for the support of local child health conference services accounted for \$19,793 of this amount.

Exclusive of grants for child health conferences, 8 new contracts were consummated. One of these gave financial assistance to the Board of Freeholders of Cumberland County for the employment of a county public health coordinator, a sanitarian, and a clerk. Four contracts were entered into to implement local public health nursing programs. The recipients of these grants were the Visiting Nurse Association of Morris County, the Board of Freeholders of Burlington County, the Visiting Nurse Association of Plainfield and North Plainfield, the East Orange Health Department, and the Board of Freeholders of Cape May County.

The remaining 2 new contracts were with the Board of Health of East Orange for conducting field training courses in sanitation for employees of health departments and with the Camden County Chapter of the American Red Cross for the employment of a nutritionist.

Six contracts which expired during the fiscal year were renewed for another year, usually at a reduction in the amount of the previous grant. These included the following named organizations as grantees: The Hunterdon County Public Health Association, the Somerset Valley Visiting Nurse Association, and the Board of Health of Washington Township, Warren County—all three for nursing services. Other renewals were with the Board of Freeholders of Cape May County for county public health services, with the Board of Health of East Orange for services of a public health educator, and with Rutgers—the State University for conducting training courses in public health. The total amount expended in payments under the contracts referred to above was \$68,099.30. The distribution of this amount by type of service is shown in Table 3, by type of receiving agency in Table 4, and the payments to each grantee are shown in Table 5.

Table 3. GRANTS-IN-AID BY TYPE OF SERVICE

For	No. of Contracts	Amount
Public Health Nursing .....	7	\$24,130.86
County Public Health .....	5	25,770.17
Education and Training .....	3	15,348.33
Nutrition Services .....	1	2,849.94
Total .....	16	\$68,099.30

Table 4. GRANTS-IN-AID BY TYPE OF RECEIVING AGENCY

For	No. of Contracts	Amount
County Boards of Freeholders .....	5	\$25,770.17
Boards of Health .....	4	14,901.61
Visiting Nurse Associations .....	3	14,325.38
Public Health Association .....	2	8,752.20
County Chapter, Red Cross .....	1	2,849.94
State University .....	1	1,500.00
Total .....	16	\$68,099.30

Table 5. GRANT-IN-AID PAYMENTS  
For the 18 months ending December 31, 1962

Contract Number	Grantee	Fiscal Year Ending June 30, 1962	July 1, 1962 to Dec. 31, 1962	Totals
<i>For County Health Services</i>				
Cape May County:				
D-113	Coordinator .....	\$1,741.66	\$1,399.92	\$3,141.58
D-114	Sanitarian .....	3,900.54	1,256.00	5,156.54
D-115	Clerk .....	1,228.00	462.00	1,690.00
157E	Supr. Nurse .....		1,746.64	1,746.64
Cumberland County:				
D-79	Coordinator, Clerk and Sanitarian .....	10,791.26	3,244.15	14,035.41
Sub-totals .....		\$17,661.46	\$8,108.71	\$25,770.17
<i>For Public Health Nursing</i>				
D-194	Burlington County Public Health Nrg. ....	\$421.98		\$421.98
D-203	East Orange Board of Health .....	715.36		715.36
D-72	Hunterdon Public Health Association .....	6,094.22	\$2,236.00	8,330.22
D-166	Morris County Visiting Nurse Assoc. ....	2,457.90	2,949.48	5,407.38
D-238	Plainfield-N. Plainfield V. N. A. ....	512.00		512.00
D-155	Somerset Valley V. N. A. ....	5,604.00	2,802.00	8,406.00
D-71	Washington Township .....	337.92		337.92
Sub-totals .....		\$16,143.38	\$7,987.48	\$24,130.86

Contract Number	Grantee	Fiscal Year Ending July 1, 1962		Totals
		June 30, 1962	to Dec. 31, 1962	
<i>For Public Health Education and Training</i>				
D-127	East Orange (Educator)	\$6,049.96	\$2,799.96	\$8,849.92
195C	East Orange (Training)	4,998.41	.....	4,998.41
D-57	Rutgers-State University	1,500.00	.....	1,500.00
Sub-totals		\$12,548.37	\$2,799.96	\$15,348.33
<i>For Nutrition Services</i>				
86C	Camden County Red Cross	\$2,849.94	.....	\$2,849.94
Grand Totals		\$49,203.15	\$18,896.15	\$68,099.30

### Child Health Conference Services

Forty-three grant-in-aid contracts with local health agencies for the support of child health conference services which expired during the one and one-half years ending December 31, 1962 were renewed for another year. The amount of each grant was reduced by one-third. New grants were made to the Boards of Health of Paterson City, Winfield Township, Chester Township, and Pemberton Township. The total amount expended for child health conference services was \$19,793.00. The distribution of this amount by municipalities is shown in the following table.

Table 6. PAYMENTS FOR CHILD HEALTH CONFERENCE SERVICES  
July 1, 1961 to December 31, 1962

Grantee	Amt. Paid	Grantee	Amt. Paid
<i>Central District</i>		<i>Northern District</i>	
Burlington City	\$484.00	Boonton Town	\$336.00
Edison Twp.	1,484.00	Butler Boro	264.00
Ewing Twp.	312.00	Chester Twp.	24.00
Hamilton Twp.	308.00	Phillipsburg Town	984.00
Lawrence Twp.	196.00	Riverdale Boro	168.00
Mt. Holly Twp.	256.00	Washington Boro	312.00
Monmouth County, Org. for Social Service	1,160.00	Total	\$2,088.00
Pemberton Twp.	60.00	<i>Metropolitan District</i>	
Riverside Twp.	152.00	East Paterson Boro	\$660.00
Washington Twp.	176.00	East Rutherford Boro	156.00
Total	\$4,588.00	Harrison Town	336.00
<i>Southern District</i>		Hawthorne Boro	324.00
Alloway Twp.	\$168.00	Hillsdale Boro	156.00
Atlantic City	1,452.00	Kearny Town	1,176.00
Bellmawr Boro	384.00	Englewood City	1,380.00
Bridgeton City	312.00	Lodi Boro	660.00
Clayton Boro	288.00	New Milford Boro	720.00
Gibbsboro Boro	168.00	N. Arlington Boro	336.00
Gloucester Twp.	300.00	Paterson City	560.00
Gloucester City	600.00	Prospect Park Boro	156.00
Lawnside Boro	168.00	River Edge Boro	364.00
Millville City	264.00	Rutherford Boro	437.00
Monroe Twp.	200.00	S. Hackensack Twp.	168.00
Winslow Twp.	504.00	Wallington Boro	168.00
Woodbine Boro	204.00	Winfield Twp.	180.00
Total	\$5,012.00	Woodridge Boro	168.00
		Total	\$8,105.00

### Civil Defense and Disaster Control

#### *Medical and Health and Special Weapons Service*

Highlights of the year included the emergency program for the March Coastal Storm and Flood Disaster; further progress in the State Medical and Health Training Programs with increased emphasis on staff training at state and county levels; participation in the recently initiated United States Public

Health Service Program of quality evaluation, replacement of dated items, and substitution and deletion of other items of the 83 and 200 bed Civil Defense Emergency Hospital Units; the joint development, organization, and promotion of the Medical Self Help Training Program; and participation in the State Manpower Mobilization Conference and the Public Shelter Program.

#### *March Coastal Storm and Flood Disaster*

A 19-page pamphlet "Cleaning Up After Hurricane and Floods," containing recommendations with reference to safe re-entry and re-use of flood damaged properties, was prepared. Over 10,000 copies were distributed through local civil defense and local health channels. Local radio stations announced the availability of this guide. The United States Public Health Service received permission to duplicate and distribute this guide in other affected states.

Communities which had trained public health people were able to achieve a more speedy restoration of essential health services. The value of having a specific person designated to be Coordinator of County Civil Defense Medical and Health Services was proven in Cape May where this responsibility had been given only weeks before to the newly appointed County Health Coordinator.

#### *Training Program*

##### *Biological Warfare Defense*

Acquisition of 2 Leitz fluorescent microscopes permitted initiation of training to personnel of 8 private and State Department of Health laboratories in the fluorescent anti-body technique.

##### *Radchem Defense*

Orientation in emergency handling of radiation incidents was given to each of the new classes at the State Police Academy. A special training device to stimulate rescue operations in a fallout contaminated area was developed jointly with the State Police and the State Rescue Center at Hammonton. Guidance was given in the establishment of a state, county, and local radiological monitoring network. Members of the Staff of Radchem Planning and Operations Office attended the United States Department of Defense Regional Meetings and gave technical consultation in the survey of costs of maintenance and calibration of radiac instruments.

#### *Medical Self Help Training Program*

During the shelter period and the early post-shelter period, when medical care requirements will far exceed the state's ability to provide normal health

services, individuals and families will find it necessary to provide for many of their own health needs. The goal of Medical Self Help Training Program, developed by the United States Public Health Service, is to prepare at least 1 member of each family so that they, insofar as possible, will be able to provide for their own health needs when deprived of a physician's services. The pilot project was launched early in March with a simultaneous introduction by several school systems of the Medical Self Help into their physical education and health training classes. Our goal is to have a member of each family trained by the end of 1964. Over 3,000 persons have already received such training.

Exhibits, film strips, and other visual aids were available at 2 county medical society health fairs, the Annual Conference of Local Health Officials, several schools of nursing, Congress of Parent-Teacher Associations, and several municipalities.

#### *Expanded Function Training*

The greatest promise in the reduction of the anticipated disparity between numbers requiring medical and health care and the number of professional personnel available to provide such care is in the training of all health manpower to perform specifically assigned job responsibilities. Orientation to the assignments, training and deployment of non-medical health personnel, as approved by the American Medical Association, was given to the Northern Jersey Industrial Nurses; Catholic Nurses of Mercer County; Administrative Section of New Jersey State Nurses' Association; staff of Bergen Pines County Hospital; nurses at Jersey City State College; Schools of Nursing at Rutgers University and Seton Hall University, East Orange Hospital, Orange Memorial Hospital, and Cooper Hospital, Camden; Conference of Central Jersey Industrial Nurses and Management; the New Jersey Society of Podiatrists; and the School of Pharmacy, Rutgers University. Preliminary arrangements have been completed for the biannual training of junior and senior dental students at the School of Dentistry, Fairleigh Dickinson University.

#### *200-Bed Civil Defense Emergency Hospital*

Orientation lectures and an inspection tour of the training unit was given to the Passaic-Essex-Sussex County School of Nurses; students at Schools of Nursing of Seton Hall University, Orange Memorial Hospital, East Orange Hospital, etc. Slides and visual aid materials were made available to several hospitals for the training of their staff.

DEPARTMENT OF HEALTH

*County Civil Defense Workshops*

The Control Center Medical and Health Service Staff training at county workshops in Middlesex, Monmouth, Ocean, Atlantic, Burlington, Camden, Hunterdon, Somerset, Mercer, Bergen, and Passaic Counties were modified to give specialized information on current developments in the planning and stockpiling phases. Interest among local health officers has increased to the point that the post of deputy director of Civil Defense Medical and Health Services has been accepted by local health officers in several communities.

*Education of Public*

Technical consultation in Radchem and Medical and Health aspects was given to the Adult Education Program. Technical educational material was prepared for their use. Technical consultation and guidance in Community Disaster Planning was given to Civil Defense Committees of the Trenton hospitals; of the Hightstown high school, and of the Jamesburg Parent-Teacher Association. To promote understanding of medical and health problems and recommended remedial action, lectures and demonstrations by the Director of Medical and Health Services and members of his staff were given on radio, television, and at annual conventions and local meetings of interested groups. Technical information of public dissemination, training, news releases, etc., was prepared for use by the Director of Civil Defense and his staff.

*Assignment of U. S. Public Health Service Representative*

The Director of Health Mobilization of United States Public Health Services has assigned a full-time representative to this program to assist in the coordination of the Service's Civil Defense Emergency Hospital Inspection Program and the Medical Self Help Training Program. He will also assist in the promotion and implementation of community health programs.

**Division of Preventable Diseases**

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WILLIAM J. DOUGHERTY, M.D., M.P.H., *Director*

*Programs:*

Communicable Disease Control .....WILLIAM J. DOUGHERTY, M.D., M.P.H.

Tuberculosis Control .....JAMES E. PETERMAN, M.D., M.P.H.  
*Program Coordinator*

Venereal Disease Control .....DAVID P. HAMMOND, B.A.  
*Health Program Representative*

## Division of Preventable Diseases

### Tuberculosis Control Program

#### *Morbidity, Mortality, and Trends*

The year 1961 saw the adoption in New Jersey of intermediate goals in support of the long term goals set by the Arden House Conference to eliminate tuberculosis as a public health problem. One of the intermediate goals was to achieve a 9 percent reduction each year in New Jersey's active tuberculosis case rate, thus resulting in not more than 10 cases per 100,000 population by 1970. The first year's effort produced only a 4.2 percent decline in the 1961 rate for active cases. The rate for 1961 was 25.2 per 100,000 population as compared with 26.3 in 1960. Had a 9 percent decline in the 1961 active case rate ensued, there would have been 1,514 active cases rather than the 1,570 cases actually recorded. The rate would have been 24.4 per 100,000 population.

There were reported 3,120 total cases of tuberculosis, including 1,570 cases of active disease and 88 cases of probably active disease. There were 389 deaths due to tuberculosis. Morbidity and mortality experience in the most recent years is apparent in the following table.

Table 1. TUBERCULOSIS CASES AND DEATHS, NUMBERS  
AND RATES, NEW JERSEY, 1956-1961

Year	Estimated Population <sup>1</sup>	Deaths		Total Cases <sup>2</sup>		Active Cases <sup>2</sup>	
		Number	Rate <sup>3</sup>	Number	Rate <sup>3</sup>	Number	Rate <sup>3</sup>
1956	5,605,000	522	9.3	3,354	59.8	1,888	33.7
1957	5,728,000	519	9.1	3,543	61.9	1,806	31.5
1958	5,851,000	443	7.6	2,790	47.7	1,622	27.7
1959	5,974,000	433	7.2	2,909	48.7	1,619	27.1
1960	6,098,000	354	5.8	2,928	48.0	1,601	26.3
1961	6,221,000	389	6.3	3,120	50.2	1,570	25.2

<sup>1</sup> Estimated population based on final 1960 Census count.

<sup>2</sup> Newly reported cases only shown for each year.

<sup>3</sup> Rate per 100,000 estimated population.

Eight New Jersey counties, having 46.5 percent of the state's population, accounted for slightly more than 63 percent of the total active and probably active tuberculosis cases in 1961. Each of these counties had a rate higher than the state's active and probably active case rate of 26.7 per 100,000 population.

Incidence rates for these counties follow the range from 27.2 for Passaic County to 49.7 for Essex County.

Tuberculosis continues to be a public health problem of the cities. Better than half of the 1,658 newly reported tuberculosis cases with clinical activity designated as active or probably active occurred in residents of 18 cities. Of these cities, having a population of approximately 50,000 or more, 10 experienced a case rate higher than the rate of 26.7 recorded for the state. The rates ranged from 33.8 for East Orange to 90.3 for Newark. Twice as many males, 1,113 cases, as females, 545 cases, constituted the total active and probably active tuberculosis cases reported in 1961. The incidence rate per 100,000 population was 36.5 for males as compared with a rate of 17.2 for females.

Active tuberculosis continues to be a problem in childhood in New Jersey. In 1961, there were 93 cases among children under 4 years of age. The rate for children in the age group 1-4, 15.6 per 100,000 persons. The rate of 7.5 cases per 100,000 children under 1 year of age signifies that there are pockets of intense person to person transmission in areas where newborns are contracting this illness.

The rates increase rapidly from a rate of 17.2 per 100,000 in the age bracket 15-24 to a rate of 42.8 per 100,000 persons 65 years of age and over.

The increase in cases reported in 1961 to a level of 3,120 as compared to the 2,928 cases in 1960 may be due in great part to the providing of chemotherapeutic drugs for the treatment of tuberculosis patients who are unable to afford their cost. The system of recording drug requests with the Department provided information on previously unknown cases and thus constituted a new case finding method, particularly for boards of health that had no previous knowledge of the cases.

Tuberculin skin testing of children and the follow-up particularly of the families of reactors in the young age group have resulted in finding previously unknown cases.

Tuberculosis morbidity and mortality tabulations included in the report of the Division of Vital Statistics and Administration show deaths and death rate cases and case rates, extent of disease, clinical status, bacterial status, and age distribution for the state and its counties.

#### *Community X-ray Surveys by Department*

Selective X-ray surveys under Departmental auspices.

There was a total of 8,639 screening X-rays taken in 1961. Six cases of active tuberculosis were discovered and 64 cases of inactive disease found. A summary is presented in Table 7.

In 1962, the only screening films taken were in association with the Migrant Health Program. Here 1,448 screening X-rays resulted in 3 cases of active tuberculosis and 2 cases of inactive tuberculosis.

#### *Community X-ray Surveys by Other Agencies*

The New Jersey Tuberculosis and Health Association reported for its year ending March 31, 1962, a total of 130,626 screening X-ray examinations. Their county affiliates who handled these surveys referred 2,958 persons with suspicious pulmonary lesions for further medical examination. A total of 41 cases of active tuberculosis were discovered.

#### *Hospital Admission X-ray Screening*

A substantial effort was expended between July, 1961 and June, 1962 to improve the manner in which hospital admission X-ray examinations were reported to the Department. Fifteen hospitals participated in this program, reporting 59,559 admission X-ray examinations. Fourteen thousand four hundred and fifty-one persons were referred for further medical examination due to abnormalities of the heart or lungs, a referral rate of 24 percent. This is in part due to the age of the persons screened. Many were persons over 45 years of age.

Tuberculosis was suspected in 10.6 percent of persons. The follow-up of these persons to a final diagnosis is difficult but a sampling of 242 persons with abnormalities revealed 31 cases of tuberculosis previously known and 11 newly reported cases.

New administrative programs are being developed and field tested to amplify the deficiency and yield of the activity.

#### *Tuberculin Testing*

In 1961 and 1962, the New Jersey State Department of Health stressed the use of the tuberculin test as an epidemiological tool and a case-finding method.

In the 2 calendar years, a total of 117,118 persons were tested in schools, clinics, industry, jails, and child health conferences: 68,029 in 1961 and 49,089 in 1962.

There were 6,715 reactors discovered: 4,448 in 1961 and 2,267 in 1962. The percentage age distribution is presented in the following table:



Table 2. PERCENT TUBERCULIN REACTORS BY AGE  
NEW JERSEY, 1961-1962

Age	Year	
	1961	1962
Under 1	3.6	4.0
1-4	5.2	3.0
5-9	1.2	1.3
10-14	2.1	2.4
15-19	2.6	2.5
20-24	13.5	11.5
25-29	19.1	21.5
30-34	26.3	24.3
35-44	36.7	36.0
45-64	43.7	46.5
65 +	34.4	58.7

Among the reactors, the search for tuberculosis continued. A total of 76 cases of active tuberculosis and 159 cases of inactive pulmonary tuberculosis were discovered.

Variations occurred in reactor rates among various population groups.

Children in school have low reactor rates. In 1961, among 21,496 children, age 5-9, the reactor rate was 1.0 percent. On the same group in 1962, 15,920, the rate was 1.0 percent. In the 10-14 age group in 1961, the rate was 1.7; in 1962, 2.0 percent.

Among children in child health conferences, the rates are well under 1.0 percent, whereas in clinics, childhood rates are as high as 6.0 percent, probably due to the fact that children exposed to tuberculosis are sent to clinics and their exposure increases their chance of being positive.

Adult rates vary also with age and the population tested. However, it is very apparent that adults are not universally tuberculin positive, and the effect of years of tuberculosis control activity is apparent in rates in persons under 30 years of age of 22 percent or less.

*Contact Investigation*

Contact investigation is one of the most fruitful ways of finding new cases of tuberculosis.

In Hudson County, in the 2-year period January, 1961 to December, 1962, there were 1,357 contacts brought to examination with the discovery of 33 cases of active tuberculosis.

A seventh grade child in Elizabeth was diagnosed in the St. Elizabeth Hospital clinic as having active tuberculosis. The patient was admitted to

the John E. Runnells Hospital. Investigation revealed that the Junior High School involved had a student body of over 1,400 youngsters in the 7th, 8th, and 9th grades. Approximately, 90 to 95 percent of the patient's time was spent in a home room group and thus it was decided not to study the entire school.

The home room group of 30 students was tuberculin tested and 4 reactors were discovered. One of the reactors was the brother of the patient. Two other reactors had a history of tuberculosis already under treatment in their families. One child had no history of tuberculosis in the family.

Contact investigation with the patient's family revealed that 1 of the patient's brothers, age 20, had far advanced active tuberculosis. This undoubtedly was the source of this child's infection.

Discovery of a case of far advanced active tuberculosis in an elementary school pupil motivated the health officer and the Board of Education of Carteret to request the assistance of the Tuberculosis Control Program in the conduct of compulsory tuberculosis screening in the school. The tuberculin test by hypospray jet-injector administered on January 15 to 914 students and 60 teachers and employees disclosed 22 student and 21 adult tuberculin reactors. All 43 reactors have been X-rayed and no evidence of tuberculosis was found.

The follow-up examination of families and other close associates of 4 kindergarten and 1st grade reactors in the October tuberculin testing in South River Schools revealed 1 active case of tuberculosis in a patient.

*Tuberculosis Case Register*

On December 31, 1961, there were 15 county tuberculosis case registers in existence. A year later, in 1962, only Salem and Sussex Counties remained to be registered. The development of the Essex County Tuberculosis Case Register brought over 2,000 patients under registration in that county.

Pertinent information from the tuberculosis case registers is summed up in the following table:

Table 3. TUBERCULOSIS PATIENTS  
UNDER REGISTRATION, NEW JERSEY  
1961-1962

Status	1961	1962
Total	12,180	15,498
Hospitalized	1,262	1,852
Non-Hospitalized	10,918	13,646
Active	658	1,092
Probably Active	192	268
Probably Inactive	296	340
Inactive	9,772	11,593
Non-Pulmonary		416

It is noteworthy that in 1962, over 400 non-hospitalized cases of active tuberculosis were added to the register system. This means that periodic accounting of clinical status and examination status, as well as drug therapy, is now possible for these patients.

The degree of supervision of tuberculosis patients by public health agencies and physicians is evidenced in the following table:

Table 4. PERCENTAGE OF NON-HOSPITALIZED CASES OF ACTIVE TUBERCULOSIS BY EXAMINATION STATUS  
NEW JERSEY, 1961-1962

Status	1961	1962
Total	100.0	100.0
Not Due for Examination	57.0	60.0
Overdue up to 12 months	17.0	15.0
Overdue 12 months or more	11.0	4.0
No Date Assigned	15.0	21.0

A significant change was accomplished in returning to medical examination a large number of patients who had lapsed from examination for a period in excess of 1 year. The high percentage of persons with no dates assigned for examination reflects the recent addition of new case registers. This is a customary finding in the early phase of registration. It may be anticipated that most of these patients will be returned to examination promptly.

It is noteworthy that in 1961 and 1962, over 60 percent of non-hospitalized cases of inactive tuberculosis were returning to examination on time.

The sputum status of non-hospitalized cases of active tuberculosis has been a matter of concern. The following table presents data on sputum status.

Table 5. PERCENTAGE OF NON-HOSPITALIZED CASES OF ACTIVE TUBERCULOSIS BY SPUTUM STATUS  
NEW JERSEY, 1961-1962

Sputum Status	1961	1962
Total	100.0	100.0
Studied within 6 months	30.0	58.6
Studied over 6 months	50.0	27.5
Not Studied	20.0	13.9

A significant increase in the percentage of cases having sputum examinations was observed in 1962.

The percentage of cases who had not been studied was reduced in 1962. In part, this occurred due to identification of primary active tuberculosis cases for whom sputum examinations are not required and more aggressive attention to sputum studies at the time of initial diagnosis.

In 1962, an effort was made to determine the number of non-hospitalized cases of active tuberculosis that were receiving drug therapy. These data were collected and evaluated in all but 1 large register. In this register, the status of 272 patients was undetermined. However, 650 cases with active tuberculosis are recorded on drug therapy. Additional evidence indicates that 1,537 cases of inactive tuberculosis are also receiving drug therapy.

The Passaic County Tuberculosis Case Register was subjected to an intensive analysis in June, 1962. It revealed that of 1,522 cases in the county, 824 were located in the City of Paterson; 168 of these cases had active tuberculosis. A study of distribution of cases by census tracts revealed that in a population of about 145,000, 68 percent of the prevalent active tuberculosis could be found among approximately 29,000 persons living in 9 census tracts. The prevalence rate for active tuberculosis in the state is approximately .45 per 1,000. In the involved census tracts in Paterson, the rates vary from 2.0 to 9.7 per 1,000.

Two elementary schools in the area were tuberculin tested in December. It was found that 8.0 percent of all children and 4.0 percent of kindergarten children were reactive, a rate of 4 to 5 times the state average.

These data led to development of an extensive surveillance of the involved census tracts to discover and maintain treatment of the cases of active tuberculosis located there.

#### *Health Investigation*

In June, 1961, the Department entered into a contract with the Hudson County Tuberculosis and Health League, Inc. for the services of a Health Investigator.

The Health Investigator followed patients with active tuberculosis whose medical status was not current, others who had lapsed from medical supervision, and those who needed assistance in returning to a hospital.

The Health Investigator also worked with local boards of health, municipal attorneys, and the health officers of Hudson County in developing information necessary for court commitment of recalcitrant tuberculosis patients.

This task was made exceptionally difficult by the transfer of patients from the B.S. Pollack Hospital to the State Sanatorium, Glen Gardner. The numbers of patients discharged from the State Sanatorium for disciplinary reasons is high. The investigator's workload was increased by the need to observe these patients and seek court orders for commitment.

In November, the U. S. Public Health Service granted funds for services to tuberculosis patients in Jersey City. The Health Investigator was assigned to assist in the orientation of personnel newly employed for the project. Three

additional investigators are now assigned in Jersey City as well as a medical social worker. All have been oriented to the tuberculosis problem of the city and steps by which cases can be relocated and returned to treatment.

The Health Investigator had a case load at the end of December of 361 cases awaiting some form of investigative or health education activity.

### *Diagnostic and Curative Services*

Diagnostic, treatment and consultation services are available in more than 60 clinics in all 21 counties, under sponsorship of health departments, sanatoria, general hospitals, county governments, and tuberculosis associations.

In 1961 and 1962, there were a total of 237,715 clinic visits made. In 1961, 41,100 persons visited a clinic, with 122,192 clinic visits. In 1962, 39,193 persons visited a clinic, with 115,523 clinic visits. Attendance information is presented in Table 6.

Table 6. Chest Clinic Attendance, 1959-1962

	* State Clinics				All Clinics			
	1959	1960	1961	1962	1959	1960	1961	1962
Number of Persons New to Clinic	10,068	12,467	5,290	11,012	39,368	37,741	41,100	39,193
Previously Known to Clinic	7,112	6,098	3,888	8,595	25,846	28,930	30,706	31,864
Number of Clinic visits	19,015	29,178	10,326	20,462	118,877	115,090	122,192	115,523

\* Clinics served by clinicians from Tuberculosis Control Program.

### *Tuberculosis Drugs*

Para-amino salicylic acid and Isoniazid became available for tuberculosis patients who could not afford them on January 1, 1961. These drugs are available through 66 biological distributing stations.

In the period January 1, 1962 to December, 1962 a total of 8,545 bottles of PAS and 33,641 bottles of Isoniazid have been dispensed to patients. Initially, many patients were discovered who were unreported as cases. In December, 1962 this situation occurred in less than 1 percent of requests. It has been estimated that on December 30, 1962 nearly 2,000 persons were receiving drugs through the biological stations. This service has been the most substantial step forward made in a number of years.

### *Tuberculosis Nursing*

There is evidence that tuberculosis nursing has made great strides in the amount and quality of services rendered to citizens of New Jersey.

The "Goals and Standards for the Control of Tuberculosis in New Jersey" have had tremendous implications for nursing responsibilities and as such,

have guided efforts to initiate and promulgate activities relevant to areas of case detection and patient care.

Need for more information, direction, and demonstration has been exemplified by many requests for group teaching and individual conferences. Nursing responsibilities, procedures, and techniques were interpreted to carry out administrative programs in case detection by the tuberculin test. Appraisal of this method of case detection showed that nursing agencies worked cooperatively and completely to bring reactors and their associates to examination. As a result of combined efforts, the state has greater knowledge regarding "sensitivity rates," and most commendable is the fact that children and adults, previously unknown, are now under treatment.

With greater knowledge of the status of reported active cases, as a result of initiation and review of case register activities, many patients were brought to medical and nursing supervision. This area of nursing has shown the greatest contribution to the public health and to closer working relationships with the State Department of Health, physicians, clinics, sanatoria, and boards of health.

Contact investigation of newly reported active pulmonary cases have expanded and improved; and, in many agencies, missed contacts of old cases were followed with good results. The appraisal of this function cannot be measured statistically in most areas; nevertheless, local nursing conferences with review of their records, revealed diligent efforts and gratifying success in finding new cases with this method.

### *Investigation of Bovine Tuberculosis*

Two reports were received by the Northern State Health District indicating that bovine tuberculosis had been diagnosed in herds of milk cattle. In 1 herd, 22 cattle were positive to tuberculin and of this number, 12 showed visible lesions upon slaughter.

Six families had received milk from this herd. Arrangements were made to provide for tuberculin testing and further X-ray examination of all members of these families. In the 2nd report, 12 of 71 cows were reactors. Fourteen persons were listed as contacts.

A total of 53 persons were brought to examination. The great majority were tuberculin negative. Adult reactors were found to have no pulmonary tuberculosis. One child was found to be tuberculin reactive and showed an infiltrate in the lung that was extremely suggestive of tuberculosis. The child was placed on Isoniazid chemotherapy and observed for a number of months. Ultimately, follow-up examinations proved the chest lesion to be non-pulmonary.

*Tuberculosis Council of New Jersey*

The Tuberculosis Council of New Jersey was formed on March 24, 1961. It consisted of representatives of the New Jersey State Department of Health, State Department of Institutions and Agencies, State Department of Education, New Jersey Tuberculosis and Health Association, New Jersey Health Officers' Association, and the Medical Society of New Jersey.

The first action taken by the Council was a thorough discussion of the New Jersey goals for the control of tuberculosis, together with an agreement that the goals would be promulgated throughout the state and that the State Health Districts would hold meetings with local officials and others for the purpose of explaining the New Jersey goals. The Council reaffirmed recommendations for tuberculosis screening of school populations in New Jersey, which had originated in the Interdepartmental Committee of the Departments of Health and Education.

The Council was instrumental in arriving at a decision to conduct a study of the tuberculosis treatment facilities in New Jersey. This study was sponsored by the New Jersey State Department of Institutions and Agencies, the New Jersey State Department of Health, and the New Jersey Tuberculosis and Health Association. A grant for the study was requested from the United States Public Health Service.

Another function which came within the cognizance of the Tuberculosis Council was a study of the present grant-in-aid system for county hospitals. It was conducted by Dr. Harry S. Stark, of the Bureau of Economic Research at Rutgers University.

*Tuberculosis Sanatoria Directors*

A meeting was held on December 3, 1962 with the sanatoria directors from many of the sanatoria in the state. Included in this meeting were representatives of the Tuberculosis and Health Associations, the State Department of Institutions and Agencies, New Jersey Health Officer's Association, and the New Jersey State Department of Health. Many of the problems associated with the management of tuberculosis patients within the hospital were brought to attention. Questions related to the management in the community of patients who had been discharged against medical advice or for disciplinary purposes were considered. This meeting is one of the first at which the problem of recalcitrant patients was thoroughly discussed with the varying community groups responsible for management of patients. A subcommittee was established to inquire further into the problem and to evolve criteria to cover commitment proceedings.

*Survey of Facilities for the Control of Tuberculosis*

The State Department of Health, in cooperation with the State Department of Institutions and Agencies and the New Jersey Tuberculosis and Health Association, undertook a study of the program for the control of tuberculosis in New Jersey. A committee of outstanding experts in the field of tuberculosis was assembled. This committee included Dr. J. Burns Amberson, General Director of the New York Tuberculosis and Health Association; I. J. Brightman, M.D., Assistant Commissioner, Chronic Disease Services, New York State Department of Health; Julia M. Jones, M.D., Visiting Physician, Chest Service, Bellevue Hospital, New York City; Robert L. Yeager, M.D., Medical Director, Summit Park Sanatorium, Pomona, New York; and J. A. C. Gray, M.D., Captain, Medical Corps, United States Navy, retired.

The committee organized on June 9, 1962 and formulated an approach to the study of tuberculosis control methods in the state. Throughout the summer of 1962, this committee worked with many persons and agencies in the state, gathering information necessary to properly describe the strengths and weaknesses of the state programs and formulating fundamental recommendations.

At the end of 1962, the report had been prepared in draft stage. This report will exert a marked influence upon the course of tuberculosis control activity in the state in the period 1963-1970.

Table 7. X-RAY SURVEYS—FOLLOW-UP AND DIAGNOSIS SUMMARY, 1961

Survey No. and Location	Persons X-rayed	Suspects Referred		Suspects With Established Diagnosis		Tuberculosis Prevalence Rate/10,000 X-rayed		Cases of Tuberculosis Unreported		Established Diagnosis			Other Diagnosis			Diagnoses Not Established			
		No.	Per Cent	No.	Per Cent	All Cases	Active Cases	No.	Per Cent	Tuberculosis	Cardias	Neoplasms	Other Path.	No Disease					
New Jersey	8,639	421	4.9	321	76.2	84.5	6.9	11	15.1	73	6	64	3	24	8	92	124	100	
State Health Districts																			
Central	4,559	183	4.0	145	70.2	103.1	11.0	6	12.8	47	5	42	0	5	3	44	46	33	
Metro	2,061	178	6.7	130	73.0	52.6	0.0	3	21.4	14	0	11	3	17	2	31	60	48	
Southern	1,419	60	4.2	46	70.7	84.0	7.0	2	10.7	12	1	11	0	2	3	17	12	14	
Counties																			
Atlantic	1,410	60	4.2	46	70.7	84.0	7.0	2	10.7	12	1	11	0	2	3	17	12	14	
Essex	178	35	6.7	130	73.0	52.6	0.0	3	21.4	14	0	11	3	17	2	31	60	48	
Mercer	892	35	4.0	35	100.0	147.4	11.3	3	23.1	13	1	12	0	0	0	9	13	0	
Middlesex	570	35	6.0	31	88.6	120.9	0.0	1	14.3	7	0	7	0	1	0	10	7	4	
Monmouth	2,871	82	2.9	55	67.1	48.8	10.4	0	0.0	14	3	11	0	4	1	11	25	27	
Ocean	227	31	13.7	24	77.4	572.7	44.1	2	15.4	13	1	12	0	0	2	8	1	7	

Communicable Disease Program

Hepatitis

In the 2-year period ending December 31, 1962 there were 3,676 cases of viral hepatitis reported. Three thousand four hundred sixty-six cases were classified as infectious while 210 cases were associated with blood or its components in one of several ways.

Extensive localized outbreaks of infectious hepatitis were investigated involving the Raritan Bay, Camden, Sussex, and Morris Counties, Manalapan Township, and the cities of Newark and Camden.

The investigations of blood related hepatitis led to a conclusion of an outstanding court trial and the demonstration of narcotic addiction among commercial blood donors in Paterson.

Table 1. CASES OF HEPATITIS BY COUNTY OF RESIDENCE  
NEW JERSEY, 1961

County	Total	Infectious	Serum
State Total	2,188	2,088	100
Atlantic	31	28	3
Bergen	123	119	4
Burlington	43	41	2
Camden	174	169	5
Cape May	9	9	0
Cumberland	17	16	1
Essex	502	476	26
Gloucester	28	26	2
Hudson	239	233	6
Hunterdon	9	8	1
Mercer	64	53	11
Middlesex	132	126	6
Monmouth	153	149	4
Morris	153	150	3
Ocean	28	26	2
Passaic	62	54	8
Salem	4	4	0
Somerset	54	52	2
Sussex	69	69	0
Union	209	196	13
Warren	6	6	0
State Inst.	23	23	0
Military	56	55	1

Table 2. NEW JERSEY STATE DEPARTMENT OF HEALTH  
CASES OF HEPATITIS BY COUNTY OF RESIDENCE

NEW JERSEY, 1962

County	Total	Infectious	Serum
State Total	1,488	1,378	110
Atlantic	17	13	4
Bergen	28	25	3
Burlington	60	54	6
Camden	193	188	5
Cape May	1	1	0
Cumberland	7	4	3
Essex	349	318	31
Gloucester	14	13	1
Hudson	121	114	7
Hunterdon	15	15	0
Mercer	49	40	9
Middlesex	43	41	2
Monmouth	65	64	1
Morris	112	109	3
Ocean	12	10	2
Passaic	66	39	27
Salem	12	12	0
Somerset	9	9	0
Sussex	197	197	0
Union	74	68	6
Warren	2	2	0
State Inst.	15	15	0
Military	27	27	0

Table 3. Number of Cases of Hepatitis by Month of Onset and Age, New Jersey, 1961

Type and Age	Total	Number of Persons — Months												
		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Unk.
Total	2,188	240	334	200	202	226	131	100	122	124	126	144	161	1
Serum	100	6	11	11	9	3	9	8	10	4	9	9	11	..
Infect.	2,088	243	323	249	193	223	122	101	112	120	117	135	150	..
Under 20	704	52	58	61	60	56	37	45	56	61	60	73	85	..
Over 20	1,384	191	265	188	133	167	85	55	56	59	57	62	65	1
Clam Positive	497	92	133	91	53	60	26	9	7	10	1	5	5	..

Table 4. Number of Cases of Hepatitis by Month of Onset and Age, New Jersey, 1962

Type and Age	Total	Number of Persons — Months												
		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Unk.
Total	1,488	173	125	182	128	118	109	99	116	101	116	111	104	..
Serum	110	11	3	16	8	14	5	2	7	8	6	11	12	7
Infect.	1,378	162	122	165	120	104	104	97	109	93	110	100	92	..
Under 20	693	109	59	91	63	44	59	47	48	44	56	46	27	..
Over 20	685	53	63	74	57	60	45	50	61	49	54	54	65	..
Clam Positive	63	4	6	6	4	7	3	3	4	8	10	4	4	..

Table 5. NUMBER OF CASES OF HEPATITIS BY SEX AND AGE, NEW JERSEY, 1961

Type and Age	Total	Male	Female
Total .....	2,188	1,301	887
Serum .....	100	47	53
Under 20 .....	4	3	1
Over 20 .....	96	44	52
Infectious .....	2,088	1,254	834
Under 20 .....	704	375	329
Over 20 .....	1,384	879	505

Table 6. NUMBER OF CASES OF HEPATITIS BY SEX AND AGE, NEW JERSEY, 1962

Type and Age	Total	Male	Female
Total .....	1,488	802	686
Serum .....	110	60	50
Under 20 .....	12	9	3
Over 20 .....	98	51	47
Infectious .....	1,378	742	636
Under 20 .....	693	362	331
Over 20 .....	685	380	305

### *Infectious Hepatitis*

In December, 1961, a final tabulation of cases of hepatitis revealed that there had been 2,088 cases of infectious hepatitis reported to the Department. Seven hundred and four of the patients were under 20 years of age. The distribution according to sex was relatively equal. One thousand three hundred and eighty-four were over 20 years of age; in this group, 63 percent of cases were males. This unique factor led to discovery of an outbreak of shellfish-borne hepatitis in the early months of the year. In the latter part of the year, from July to December, the sex differences appeared to even out primarily as the result of diminished exposure to shellfish-borne infectious hepatitis. Among the 2,088 persons with infectious hepatitis, there were 30 deaths. Among 8 deaths investigated, a history of eating raw clams within the incubation period of infectious hepatitis was obtained in 1 case.

Among the 704 cases of infectious hepatitis occurring in patients under 20 years of age, there seemed to be a constant incidence throughout the year. In contradistinction among the 1,384 cases of adult infectious hepatitis, the seasonal incidence was quite marked in the period of January through May of 1961, varying between 265 cases in the month of February and 133 cases

in April. In subsequent months of the year, the monthly incidence ranged between 55 and 65 cases a month.

In 1962, there were 1,378 cases of infectious hepatitis. Fifty percent of the patients were under 20 years of age. In the distribution according to sex, there were 742 male cases compared to 636 female cases. Among the 1,378 cases, there were 12 deaths. Eleven deaths occurred in persons over 20 years of age.

In contrast to the year 1961, there were only 63 cases of hepatitis that could be related to the ingestion of raw clams. Among the persons under 20 years of age who were affected by this disease, there seemed to be no clear cut pattern of seasonal incidence. The monthly incidence ranged between 45 and 74 cases per month, paralleling the monthly incidence observed in the last half of 1961.

### *Raritan Bay*

Investigation of infectious hepatitis in adults in the spring of 1961 led to the epidemiological conclusion that clams taken from Raritan Bay were responsible for many infections. Accordingly, Raritan Bay was closed to clamming on May 1, 1961 and was not subsequently reopened. After the closing of Raritan Bay, the incidence of adult infectious hepatitis cases having a history of eating raw clams diminished rapidly. In the month of May, 60 cases were reported. In the months between July and December, no more than 10 cases in any 1 month gave a history of ingesting raw clams within the incubation period of infectious hepatitis.

In the later months of the year, final steps were taken in the shellfish-borne hepatitis investigation. Information given by 423 patients permitted the tracing of the clam sources. Of the 423 patients, 87 percent ate clams from a restaurant or market that had a source of supply consistent with the Raritan Bay. Fifty of the 368 patients ate clams that could have come from Raritan Bay only.

Evidence supporting the relationship of Raritan Bay clams and hepatitis was found when the attack rate of adult hepatitis in New Jersey was analyzed by county. It revealed that the rates were highest during the first 6 months of 1961 in the counties that were the chief market area for Raritan Bay clams.

### *Institution Follow-Up*

An outbreak of infectious hepatitis in an institution was investigated early in 1961. It was learned that the persons who were ill had received clam chowder prepared from canned clams. In July, 1961 an investigation of the source and processing of the clams led to Lewes, Delaware. There it was

discovered that the clams were obtained from deep sea beds, and the processing involved autoclaving the processed clams in cans at 240°F for at least 45 minutes, a temperature considered adequate to inactivate hepatitis virus.

#### *Camden City*

Late in 1960, an outbreak of infectious hepatitis was reported in the City of Camden. Twenty cases occurred within the period of 8 months, May to December 1960, with the peak in October. The outbreak was thought to be spread by person-to-person contact. In the 5 months, January to May in 1961, another 20 cases were reported in Camden. The peak month was February, 1961 with 8 cases. These were followed as a continuation of the 1960 outbreak.

Toward the end of November, 1961 an unusually large number of infectious hepatitis cases were again reported from Camden. Twenty cases were reported in a single month. An investigation was immediately undertaken to determine the nature of the outbreak.

In this outbreak, there were 2 principal areas: the Ablett Village and the north Camden section. The Ablett Village is a low-cost housing project situated almost immediately southeast of Cramer Hills, the area involved in the 1960 outbreak. The north Camden area is almost directly west of the Ablett Village and is separated from the latter by the Cooper River.

The families involved were large, ranging from 4 to 12 members. They were low income families, some were on relief. The homes ranged from dirty, crowded and sparsely furnished to some with many comforts, although practically all of the buildings were old and needed repairs.

Twenty-eight cases were in the 5-9 year age group, 53 or 71 percent of the cases were under 20 years of age, indicating that this was a childhood outbreak.

Histories of hospitalization, blood and plasma transfusion, school attendance, contact with known cases of hepatitis, eating of raw shellfish, immunization or any other form of injection, milk supplies, social and religious gatherings were obtained from 68 of the 74 cases investigated. About one-third of the cases could be clearly traced to contact with known cases of hepatitis; for two-thirds of the cases, no source of infection or mode of spread was discovered.

#### *Sussex County*

In the period July 1, 1961 to March 31, 1962 a sizeable outbreak of infectious hepatitis occurred in Sussex County. There were 158 cases in the county, yielding a rate of 321 cases per 100,000 population, compared to the state rate for the same period of 18 per 100,000.

The cases occurred with increasing frequency in the months of October, November, and December, reached a peak in January, 1962 and seemed to subside only to rise again to a height of 31 cases in March, 1962.

The number of cases varied considerably from one municipality to another. The city of Newton reported 47 cases, a rate of 716 cases per 100,000. Hardyston Township was a high incidence area with 33 cases. Thirty-four cases reported from Hampton-Andover Township and Andover Borough were associated with the Andover Elementary School.

One hundred and twenty-four of the cases occurred in persons under 20 years of age. This was predominantly a childhood outbreak with over 105 cases occurring between the ages of 5 and 14.

The disease was equally distributed among males and females. An intensive study of histories of hospitalization, prior injections, dental visits, water supplies, sewage disposal, and shellfish consumption seemed to indicate that the principal mode of spread of this infection was person-to-person contact.

Twenty-four households in the area had multiple cases, 16 households with 2 cases and 8 households having 3 cases. Altogether, 56 patients were involved in multiple spread within households. Multiple family cases frequently occurred at the same time or separated by only a short interval indicating common exposure.

Secondary cases, those occurring after an incubation period following possible exposure to an infected individual, also occurred. There were 55 secondary cases, 18 related to household contacts, 29 to school classroom contact, and 4 to apartment house contact.

In this outbreak, it is important to assess the relationships that existed in the varying schools. Fifteen of the cases occurred in the Andover Consolidated School and were drawn from an enrollment of 544 students. Twenty-five cases are related to the Hardyston School, having an enrollment of 443 students. Thirty-nine cases were drawn from the Newton Elementary School, having an enrollment of 1,139 persons. Of the remaining schools in the county, 13 did not report a case during the outbreak period. Five schools reported a single case. Two schools reported 2 cases. One school reported 3 and 2 schools reported 4 cases.

The concentration of the outbreak in the Andover Consolidated, the Hardyston Township, and the Newton Elementary Schools is significant insofar as the contact spread associated with this disease is concerned.

After consultation with Joseph Stokes, M.D., of Philadelphia, it was agreed that an effort should be made to provide some form of prophylaxis for the students in the Newton Elementary School and the Andover Consolidated School. Accordingly, a neomycin field study was undertaken. In all, a total



of 1,961 students were observed for a period of 2½ months; 1,159 of the students were in the Newton Elementary School, 533 were in the Andover Consolidated School, and 271 were in the St. Joseph's Parochial School in Newton.

Thirty-two percent of the students in the schools, 629 in number, received a graded dose of neomycin by mouth. Thirty percent of the youngsters received a placebo, and a third group, those who did not receive either medication or placebo, constituted another 37 percent of the class attendance. The neomycin was given for a period of time to provide for sterilization of the bowel. Laboratory studies indicated that the antibiotic effect took place, and that the concentration of *E coli* in the bowel was substantially reduced.

A constant surveillance was undertaken of the students in the study to seek out those who became ill. An attempt was made to have all children with suggestive signs or symptoms of infectious hepatitis observed by a physician and to have necessary laboratory tests performed. During the period of surveillance, January 31-March 30, 9 definite cases of hepatitis were observed. Four of the cases occurred among children who did not take medication. Three cases occurred among children who received the placebo; 2 cases occurred among children who received the neomycin.

In this study, the differences observed concerning illness are not sufficiently great to permit a statement that the neomycin produced any beneficial effects either in preventing the occurrence of the illness or in modifying the illness as it may have occurred among the students.

#### *Hardyston Township—Sussex County*

During the period of September, 1961 through April, 1962, a total of 42 persons in Hardyston Township, Sussex County were known to have had infectious hepatitis. Hardyston Township has a population of 2,206 persons. The attack rate for hepatitis during this 7-month period is 1.9 percent as compared to 0.34 percent for all of Sussex County.

Thirty of the 42 cases occurred among students in the elementary school, having an enrollment of 443 children.

The outbreak seems to have begun when the father of a low-income family developed hepatitis early in November 1961. His illness was followed in December by the onset of hepatitis in his wife and in his daughter who attended the 1st grade of the Hardyston School. A next door neighbor attending a special school for retarded children in Franklin became ill at the same time. Subsequent cases of hepatitis then occurred in roughly 2 waves, 1 in January and 1 in March, involving primarily the children in the elementary schools.

From the epidemiologic investigation conducted, it would appear that the principal mode of transmission was a combination of contact spread in the home, on the school buses and in the school itself. The epidemic curve was consistent with person-to-person spread.

In the presence of the outbreak, a study was initiated at the elementary school in an attempt to determine whether there was any difference in the efficacy of .005 and .01 cubic centimeters of immune globulin per pound of body weight. The gamma globulin was supplied for this study by the American Red Cross. It was given in a random fashion to the school children of the elementary school for whom parental consent was obtained and to the school personnel who volunteered to participate in the study. In all, 388 of the 403 students at risk (96 percent) at the school and 20 of the 21 (95 percent) of the school personnel received gamma globulin.

Final analysis of the information obtained in this study has not been completed. It will be provided to the Department by the U. S. Public Health Service, a cooperating agency in the study.

#### *Morris County*

In the period July 1, 1961 to June 30, 1962 there were 169 cases of hepatitis reported from Morris County. Throughout the 12-month period, there was no appreciable change in the incidence of infectious hepatitis from month to month. Sixty-one percent of cases in this outbreak were under 20 years of age and 50 percent of cases occurred in males.

When the geographic distribution of the disease was studied, it became apparent that high rates of incidence occurred in Jefferson Township, Roxbury Township, Mt. Olive Township, Netcong Borough, and Mine Hill Township. The majority of cases studied gave no history of an association with injections of medication, dental care, or a history of hospitalization. No causative evidence was revealed through the investigation of shellfish, eating establishments or food purchased at varying shopping centers.

A study of the milk supply indicated no apparent correlation with the supply and the incidence of infection. Evidence suggestive of water contamination led to a program of well sampling. Fifteen water supplies among 44 individual water supplies sampled revealed evidence of sewage contamination. Individual sewage disposal systems of many homes were evaluated. Twelve individual systems were found to be unsatisfactory.

Cases of hepatitis occurred rarely in 5 parochial schools; each reported a single case of hepatitis.

Among the 123 public schools in the County, 31 experienced an incidence of hepatitis. Twenty-one of the schools experienced no more than 2 cases. There were several schools in which the concentration was exceedingly high.

This outbreak is best described as a contact outbreak among school students with some secondary spread to adults.

*Manalapan Township, Monmouth County*

On March 16, 1962, the Health Officer of Manalapan Township reported the occurrence of a case of infectious hepatitis in a woman residing at a housing project in Manalapan Township. A request for assistance was made because defective sewage disposal units had caused pollution of a substantial portion of the housing project. Approximately 25 families living in 12 very poorly kept 1-floor homes constituted the population of this housing development.

Investigation revealed that on February 14 a resident of the housing development sought medical assistance in Englishtown because of a pain in the right upper quadrant. On February 19, it was reported that she had yellow jaundice. She remained in bed and subsequently recovered. Approximately 50 days prior to the onset of her symptoms, she had moved to Manalapan Township from a region in West Virginia where an outbreak of infectious hepatitis was reported.

This case was followed in the next 12 days by 7 additional cases. A clustering of cases occurred between the 16th and 27th of March. This finding is compatible with an exposure to infection occurring on or about the 19th of February.

In the face of this outbreak, a series of steps was taken, including administration of gamma globulin, sanitary inspection of the housing development, institution of a surveillance program, and preparation of plans for hospitalization.

On March 16, 1962 all of the residents of the housing project were immunized with gamma globulin. This program was carried out in the housing area with the cooperation of the State Department of Health, the local health officer, a physician from the Fitkin Hospital, and the Monmouth County Organization for Social Services.

Because cases continued to occur after March 16, a second immunizing dose of gamma globulin was given. On March 30, 1962 all residents of the housing development received their second dose of gamma globulin. At this time, there was considerable anxiety in the immediate environment of this housing development and 120 social, school and occupational contacts of the patients were also given gamma globulin for their protection.

An inspection of the housing project was undertaken on March 22. The water supply for the housing development was derived from 2 shallow dug wells. The covers on both of these wells were inadequate and the seals along the casing were insufficient to prevent the seepage of water into the well. The pump was located at some distance from the well. The long suction lines created a potential hazard since several parts of the line were submerged in sub-surface water.

The sewage disposal units were underground and direct examination for their adequacy could not be made. However, a dye-test was performed, using fluorescein dye.

A crawl-space beneath one of the housing units was full of water stained with dye. A small ditch running parallel to 3 buildings was completely colored with dye. A storm water catch basin located between the apartment dwellings also showed evidence of sewage. Most of the effluent drained away from the buildings into a low area. Here the ground was saturated and water several inches deep was stained.

Water samples for bacteriological analysis were taken from 4 different kitchens and 2 samples were taken for chemical analysis. Laboratory analysis revealed the presence of coliform organisms in 9 out of 40-10 cubic centimeter portions and 8 out of 40-1 cubic centimeter portions.

The illness surveillance activity was undertaken by the nursing staff of the Monmouth County Organization for Social Services. A thorough census of all of the residents of the housing area was obtained. A history of illness in the preceding 2 months was taken together with a history relating to hospitalization, injections and the ingestion of hepatotoxic drugs.

All of the schools were included within the surveillance. The superintendent, school nurses, teachers, and students were advised to report illness and to take precautionary measures for cleanliness in regard to toilet and eating habits. The 20-odd grammar school students who lived in the apartment dwelling and attended 3 separate schools were provided with private tutoring outside of their regular classroom in an effort to cut down possibility of contact exposure of other persons. All places of employment of the residents in this area were visited.

The nursing service carried out a regular plan of daily visitation to each household for the purpose of discovering patients who might be manifesting symptoms of gastrointestinal disorder. Upon the discovery of any patient, a sample of urine was collected and tested by the nurse, using the commercially obtained Ickto Test. Blood samples were drawn and taken to the Fitkin Hospital for laboratory analysis.

When cases of gastrointestinal disease were discovered, stool cultures were obtained for the purpose of discovering cases of salmonellosis or shigellosis.

On March 26, the Fitkin Hospital advised that it would be unable to care for any more patients from the development, because the facilities set aside for isolation were completely filled. An attempt was made to solicit hospital services from other hospitals in nearby areas. This was unsuccessful. At that time, it was decided that the daily visits by the nursing service would provide special care of the acutely ill and observation of household contacts of patients who were being cared for at home. Special emphasis was given to teaching personal hygiene and encouraging a complete clean up of the homes and environment.

This outbreak terminated after the appearance of the last case on March 27. The fact that additional cases did not develop subsequently is most likely due to the vigorous use of gamma globulin as a prophylactic means and the effective use of the community nursing skills.

The constant surveillance of the housing area was maintained until April 10. After that, weekly visits were made to confirm the decline in the outbreak.

#### *Newark*

On June 25, 1962 a request was made by the Newark Health Department for a conference on an outbreak of hepatitis in an apartment development. The consultation revealed that on June 10, 1962 a 9-year old male became ill with abdominal pain, vomiting and anorexia, and was subsequently hospitalized at Babies Hospital, with a diagnosis of infectious hepatitis. Following this, approximately 8 other children in the apartment development presented similar symptoms and were hospitalized.

Four of the children were released without a diagnosis of infectious hepatitis. Four remained who were considered to have clinical and laboratory evidence of infectious hepatitis. Investigation revealed the possibility of exposure of at least 2 children to a contaminated water supply. Follow-up of this water supply however, revealed no evidence of contamination. Another source of contamination appeared to be a laundry room that was flooded frequently. However, examination of the laundry revealed that this was not a valid source of contamination.

Because the children from the housing project played together in an adjoining playground, the local health department thought it was wise to offer gamma globulin protection. In all, 120 individuals received gamma globulin in the course of a few days. This brief, rather distinct outbreak is the only one clearly recognizable in the slow steady incidence of hepatitis in the City of Newark.

During the years 1961 and 1962, the City of Newark contributed heavily to the incidence of infectious hepatitis reported in the state. A sampling of

the City of Newark was undertaken in the first 6 months of 1962, with an aim to determine whether or not there were any geographic factors which might be contributing to the continuing high incidence of disease.

During the period January to June, 1962, there were 110 cases of infectious hepatitis reported from 60 of the census tracts of the city. Sixty-five of the patients were under 20 years of age and 45 were over 20. Forty-two of the cases were in females; 68 were in males.

There are 98 census tracts in the City of Newark. There was only 1 tract, No. 88, in which 7 cases were reported. Five cases were reported from census tract 11. Small numbers of the remaining cases were reported from widely dispersed tracts. Census tract 88, in which there were 7 cases, provided opportunity to discover whether or not all of the cases occurred at the same time. The average time interval between each of the 7 cases was 24.17 days.

The dispersion of the cases in the city together with their dispersion in time ruled out the hypothesis of a common source outbreak and substantiated the conviction that hepatitis occurring primarily among children was spread by the contact route.

#### *Berlin*

In late December, 1962 a report of an outbreak in Berlin, a community in Camden County, started an investigation in that area. A review of the cases occurring in Berlin in 1962 indicated that there had been 14 cases of infectious hepatitis. Of these, 11 were located in the Berlin Estate area. Ten of the 11 cases in the Berlin Estate occurred in the 2d half of the year. The peak months of incidence were November and December; 3 cases were reported in each month.

Investigation revealed that person-to-person contact was the main source of spread of the infection. The cases reported to the Health Department were usually full-blown enteric cases. There were probably many abortive infections which occurred but were overlooked as virus infections at the same time.

#### *Serum Hepatitis*

In the year ending December 31, 1961 there were 100 cases of serum hepatitis. Seventeen of these cases resulted in fatality.

Unlike infectious hepatitis, serum hepatitis is not characterized by a seasonal incidence. The incidence of serum hepatitis by month ranged from a low of 3 to a high of 11 cases and, with the exception of May and September, commonly exceeded 6 cases per month. While infectious hepatitis has been described as a disease of childhood, serum hepatitis is quite plainly an adult disease.

Ninety-six patients were over 20 years of age. The disease appears to occur with equal frequency in males (47 cases) and females (53 cases) over 20 years of age. There appear to be some age differences by sex. Only 27 percent of male cases of serum hepatitis occur in persons under 40 years of age, whereas 58.5 percent of serum hepatitis cases in females occur in this age group. The impression is gained that serum hepatitis in females may be related to the child-bearing period and in men may be related to the later years in life when surgery and blood transfusions are associated with the management of malignant conditions.

The cases of serum hepatitis were studied to determine the relationship of blood transfusion to illness. Fifteen cases were associated with a single donation of blood. There were 61 cases who received multiple blood transfusions. Five of these cases also received blood plasma and/or fibrinogen.

Eight cases appear to be related to individual use of blood products, plasma and fibrinogen. Eight cases were associated with blood obtained from persons giving a history of drug addiction.

The frequency with which repeated blood transfusions are involved in the transmission of serum hepatitis is important. Thirty-six of the 61 patients received between 2 and 4 transfusions. Fifteen other patients received between 5 and 10 transfusions. Several patients received 12 or 13 transfusions and 1 patient was recorded who received 21 transfusions in the course of surgery.

In the year ending December 31, 1962 there were 110 cases of hepatitis associated with blood or its components. Among these cases there were 4 deaths. The 110 cases were studied as to type. On the basis of incubation period, it was found that 40 cases could be classified as infectious hepatitis transmitted by blood. There were 53 cases classified as serum hepatitis and 17 cases that were unclassified.

Ninety-eight of the cases were over 20 years of age. Sixty of the cases were male and 50 female. The onset of illness varied between 2 cases in July and 17 cases in March.

The areas of greatest incidence were Essex and Passaic Counties, accounting for 58 cases. Eighty cases were associated with blood transfusions alone or with use of other blood products. Twenty-three cases occurred in drug addicts. There were cases recorded who had received blood donated by drug addicts. In 1961, 6 cases were found who had received blood from convicted addicts.

These observations led to a decision to follow up more closely newly reported cases of hepatitis in addicts to determine how often they had given blood and to protect with gamma globulin any recent recipient of addict blood.

### *Physician's Trial*

In the month of November, 1961, a physician who was associated with 41 cases of suspected hepatitis among 332 persons in his practice, during 1960, came to trial on an indictment of 15 separate counts of manslaughter. In this outbreak of serum hepatitis, the attack rate of illness was 12.3 percent, and the case fatality rate 37 percent.

The initial investigation of this case did not probe too deeply into the method of transmission involved in the outbreak but the repeated use of contaminated intravenous tubing appeared quite probable. The observations of surviving patients presented in evidence at the trial substantiated this observation. The aggregate of the epidemiological evidence gathered by the Department and the evidence obtained by the Camden County prosecutor resulted in conviction of the physician for manslaughter on 12 of the 15 counts of the indictment. He was fined \$1,000.00 for each count and assigned a sentence of 2 to 4 years for each count, to be served concurrently.

### *Addict Hepatitis in Paterson*

In mid-December 1962, the simultaneous presence in Paterson hospitals of 4 suspected narcotic addicts with hepatitis, launched an extensive investigation of the problem of hepatitis among narcotic addicts and the relationship thereof to commercial blood banking.

When the Health Officer sought assistance in the investigation of this problem, it was suggested to him that the local commercial blood bank and nearby hospital blood banks be visited and their records searched to discover when and if these addict hepatitis patients and other known or suspect addicts had given blood.

During a visit to the commercial blood bank, it was discovered that in 1962 over 250 pints of blood had been distributed which had been collected from persons using the names of known or suspected narcotic addicts, and that identification procedures possibly allowed many other donors to give false identities without detection.

An extensive follow-up investigation was undertaken to determine the extent of the risk of hepatitis among recipients of blood from this bank as compared to recipients of blood donated at the same time and in the same area but not from this bank: 17 hospitals were visited and by an extensive review of laboratory records and hospital charts, all persons who received transfusions of blood from the commercial blood bank during the months of April through June, 1962 were identified. A control group of several hundred persons from a "control" source was also established to determine the incidence of hepatitis in the 2 population groups.

The Division of Biologic Standards of the National Institutes of Health was informed of the investigation. Shortly thereafter, the National Institutes of Health launched their own probe into the activities of this commercial blood bank which was licensed by them to participate in interstate commerce.

Realizing that narcotic addiction and blood banking might be related in more than this one community, the Department with the cooperation of the State Police and local health and law enforcement authorities undertook to review the donor records at other commercial blood banks in the state. At this writing, 219 convicted addicts have been found to have given blood at a commercial blood bank in Newark since its establishment. Their names were made available to the blood bank and have been removed from the roster of eligible donors.

In this investigation, it has been learned that a massive amount of blood is wasted through expiration, and much, probably most of the blood, is not used in the manufacture of fractionation products. We have approached the Red Cross regarding the possibility of better use of outdated blood. Further arrangements will be made at the end of our investigation if the quantity of blood is found to warrant the effort.

#### *Central Nervous System Illness*

In 1961, 264 cases of disease of the central nervous system presumed to be of viral etiology were reported to the State Department of Health. There were 27 cases of poliomyelitis, 136 cases of aseptic meningitis, 39 cases of encephalitis, and 62 cases of central nervous system disease suspected of viral origin.

In 1962, there were 211 cases of central nervous system disease of viral origin. There were only 6 cases of poliomyelitis, 85 cases of aseptic meningitis, 32 cases of encephalitis, and 88 cases of suspect central nervous system disease.

#### *Poliomyelitis*

The 27 cases of poliomyelitis in New Jersey in 1961 and the 4 deaths due to this disease represent a marked decline in incidence from the year 1960.

There were no cases of poliomyelitis in 8 of the 21 counties. Seven of the counties reported only 1 case of poliomyelitis. Only 1 county reported 5 cases of poliomyelitis in this year. Fifty percent of the cases reported were under 10 years of age and 13 of the cases had not received Salk vaccine.

In 1961, the 3 non-paralytic cases that occurred were all found to be Type I by isolation of the virus in 1 case and serological evidence in 2 cases. Three Type I virus isolations and 5 Type III isolations were made from specimens submitted from cases of paralytic polio.

The 6 cases of poliomyelitis in 1962 occurred in 5 counties; only 1, Middlesex, reported 2 cases. One of the cases occurred in May. There were 2 cases in August, usually a month of high incidence. There were no cases in September; 2 in October and 1 in November.

Three of the cases occurred in children under 3 years of age; 2 cases occurred in adults between 25 and 34 years of age. None of the cases had a complete series of poliomyelitis immunizations. Two children had none; 2 adults had received only 1 dose of vaccine.

Poliomyelitis in New Jersey in 1962 was at its lowest ebb and was only a sporadic disease in comparison to the outbreak of 1958 when 266 cases were recorded.

In 1962, there were 6 isolations of polio virus: 5 Type I and 1 Type III.

In preparation for the poliomyelitis season in 1961, a series of immunization surveys was conducted among children in selected communities. The 1st survey, reported shortly after the first of July, covered 2,052 children under 5 years of age among 250 families selected at random in the 5 wards of the City of Newark. This survey revealed that only 15 percent of the children under 1 year of age had received 3 or more inoculations of Salk vaccine. It revealed a rapidly increasing level of immunization as related to age. At age 5 years, 82 percent of children had received 3 or more inoculations of Salk vaccine.

Another method of measuring the poliomyelitis immunization status of the community and concurrently stimulating a great deal of immunization developed from a survey of children born in 1960. In that year, there were 10,165 births in the City of Newark; 2,556 of these infants attended the child health conferences. Fifty percent of the children in this group were found to have received 3 or more inoculations of poliomyelitis vaccine at age 1 year.

The 2 surveys in Newark re-emphasized that in spite of intensive widespread efforts to immunize the community, the immunization program did not reach more than one-half of the children during the first year of life. For this reason, the Newark Division of Health undertook an immunization campaign in August, 1961. This immunization campaign, carried on jointly with the State Department of Health, reached out on the street corners of Newark to over 3,300 persons. It resulted in the administration of the first dose of Salk vaccine to 2,463 persons. This technique provided opportunity to instruct many persons concerning availability of immunization at the health department. Each person was given an appointment date for the next immunization dose. Many returned for 2d and 3rd inoculations.

In January and February, 1962, 130 municipalities carried out immunization surveys to determine the immunization status of children born in

December, 1960. These children were then 1 year of age and should have received 3 or more injections of Salk vaccine.

Data obtained from the survey is presented in Table 7.

Table 7. POLIO IMMUNIZATION STATUS, 2,510 CHILDREN, 1962

District	Number Municipalities	Number Children Surveyed	Percent Three or more Poliomyelitis Injections
New Jersey .....	130	2,510	73.3
Central .....	27	419	66.6
Metro .....	41	1,397	80.3
Northern .....	46	295	73.9
Southern .....	16	399	55.6

The need for continued poliomyelitis immunization was apparent and many communities undertook poliomyelitis immunization campaigns with Salk vaccine.

With the licensing of oral poliomyelitis vaccine Type III early in 1962, there became available a 2d type of vaccine with which to combat poliomyelitis.

The oral vaccine used in community-wide campaigns promises to be the most effective way to develop total herd immunity and ultimately eradicate the disease. In conjunction with the Medical Society of New Jersey, many counties decided to conduct mass feeding of oral poliomyelitis vaccine in the Fall of 1962. While plans for this work were being prepared, the Surgeon General's Advisory Committee considered reports of oral vaccine associated with poliomyelitis and proposed a series of recommendations. The net effect created was a sudden cessation of planning for community feeding of oral vaccine with the result that only a minimal and ineffective amount of oral vaccine was used in New Jersey in 1962.

In December, the Surgeon General's Advisory Committee again recommended the use of oral vaccine with particular emphasis on young adults and children. While these recommendations were widely publicized, the response to them was delayed.

#### *Aseptic Meningitis*

The surveillance of aseptic meningitis continued throughout 1961. Among the 136 cases, 44 were found due to the Coxsackie group of viruses. There were 6 cases due to Echo viruses and 20 were assigned to mumps. Sixty-five cases of aseptic meningitis due to unknown etiology were recorded in 1961. Ten of these cases had their origin in Bergen County, 9 in Union County.

Over half of the cases of aseptic meningitis due to unknown etiology occurred in the months of July, August, and September, at a time when poliomyelitis also occurs. Major efforts to isolate poliomyelitis virus have ruled this agent out as a cause of this type of illness. The frequency with which this type illness occurs among persons over 10 years of age is at variance with poliomyelitis. Ten cases fell in the age group 10-14, and 13 cases were in the age group 25-34. Continued surveillance and increasing study to determine the background and etiology of this aseptic meningitis are indicated.

In 1962, 73 of the 85 cases of aseptic meningitis reported were classified as due to unknown etiology. There were 2 cases due to Coxsackie virus, 1 due to Echo virus and 2 due to Adenovirus. The cases due to unknown etiology were unevenly distributed in the state with 12 cases occurring in Bergen County, 10 in Union County, and 6 each in Passaic and Mercer Counties. This distribution may stem from a more careful search for this type of disease.

Laboratory evidence in 1961 revealed positive findings in 6 cases of mumps, 5 cases of Echo disease, 1 case of Adenovirus illness, 43 cases of Coxsackie and 5 unidentified agents.

In 1962, there were 3 Echo isolations and 6 Coxsackie isolations associated with Central Nervous System disease.

#### *Encephalitis*

There were 39 cases of encephalitis reported in 1961; 4 due to Herpes Simplex, 27 associated with measles, 8 with varicella. These cases were widely distributed throughout the state. There was no pattern of concentration except for 5 cases of encephalitis due to measles occurring in Camden County. Eighty-seven percent of these illnesses occurred in children under 10 years of age. The late fall and winter incidence of measles accounted for the seasonal distribution, the majority of cases occurring in the early months of the year.

There were 32 cases of encephalitis in 1962. Twenty-two of these were due to measles, 2 to varicella and 1 to Herpes. Seven were classified as due to other causes. Twenty-six of the cases occurred in children under 10 years of age; 18 due to measles. Most of the cases occurred in the first 6 months of 1962 related to the outbreak of measles, current at the time.

There were no cases of eastern encephalitis in humans reported in either year.

The 62 cases of central nervous system illness suspected due to viral origin in 1961 and 88 cases in 1962, constitute a problem for research study. Several patients were taken ill with sudden onset of drowsiness, progressing rather rapidly to coma.

In some, very few focal neurological signs could be found and in some, normal spinal fluids were obtained upon lumbar puncture. In some cases, the disease follows a rapid downhill course, culminating in death within a few days.

### *Salmonellosis*

During 1961, there were 70 cases of Salmonellosis reported to the Department. Investigation of the cases frequently failed to reveal a common source outbreak, and were inconclusive. In most instances, the individual case was all that could be brought to attention. The individual items of food suspected or involved could not be definitely determined. In many instances, sanitary surveys of the water supply, sewage disposal system and other conditions of sanitation in the vicinity of the home failed to reveal any reason for the infection.

Localization of salmonellosis in the state appears in some instances to be a function of case reporting. It is believed that more disease occurs in this state than is reported. Very probably, much diarrheal disease occurs that is treated without prior culturing of the infection, thus reducing the opportunities for a strict etiological diagnosis.

There were 123 cases of salmonellosis investigated in 1962; 37.4 percent of the cases (46) were patients over 20 years of age, while the remaining 62.6 percent (77 patients) were 19 years or under. The highest number of cases in a single month was in July (26 cases). June and September had the same number (17 cases), and January and August had 13 cases each.

It is of interest to note that in February there were only 2 cases. The highest number of cases was in the Central Health District (53), and the lowest in the Northern Health District (15). The Metropolitan and the Southern Districts had about the same number of cases (27 and 28, respectively).

### *Typhoid*

There were 10 typhoid cases in New Jersey in 1962. Five cases in the Metro Health District, 2 each in the Northern and Southern Districts, the remaining 1 in Central District. Six of the patients were females and six were persons over 20 years of age.

There were 63 typhoid carriers in 1961 and 64 in 1962 who were maintained under surveillance.

### *Shigellosis*

In 1961, there were 34 cases of shigellosis reported. The major focus of infection was in Hudson County. This is due undoubtedly to the interest in

the disease on the part of physicians at the Jersey City Medical Center and the facilities available for bacteriological cultures. The sources of infection of the individual case have not been worked out effectively.

In 1962, there were 116 cases of shigellosis; 88 cases in Jersey City, 8 cases in Mercer County, 6 in Monmouth County, and 5 in Hunterdon County, 3 each in Camden and Cumberland Counties and 1 each in Burlington, Essex, and Union Counties.

There were a few cases of shigellosis in Jersey City in the early months of the year but the outbreak began in earnest in August. Between August and November, 75 cases occurred. The cases were evenly distributed by sex, 73 cases were under 10 years of age with 14 cases occurring in infants. No precise localization of the outbreak could be established. It involved families in widely separated parts of the city on 36 different streets. Eighteen families were involved with multiple cases accounting for 43 family associated cases. There were 45 families having only a single case. No common source of this outbreak was discovered.

The eight cases in Mercer County occurred between March and June. Seven were in Princeton or Princeton Township. Six were in children. Five families were involved, 2 with 2 cases each. One of the cases led to the discovery of an unlicensed day nursery.

In Monmouth County, 4 of the 6 cases were discovered in an area of substandard dwelling between September and November. These cases led to formal action to prohibit occupancy of the substandard housing that had been an eyesore for years.

In Hunterdon County, 5 cases occurred in children of 2 families. One was followed later by 4 others and suggests contact spread of infection.

The case of shigellosis reported from Medford Township, Burlington County, resulted in a study of the environment in which this case occurred. The patient became ill on July 25, 1962. His 4-year old sister and mother became ill shortly thereafter. Thus 3 out of 5 members of 1 household became ill with diarrheal disease, that was not proved to be shigellosis. The family lived adjacent to the Medford Lakes and participated in swimming classes with a number of other children. Information was sought concerning illness and there seemed to be an incidence of diarrheal disease among those who swam in the lake.

The contacts, 6 in number, were brought to examination and found to be negative for shigella organisms. The waters of the lake in which the children swam were subjected to repeated bacteriological study. It was found that the most probable number of coliform organisms varied between 30 and 60

on some occasions and 500 to 900 on other occasions, depending upon the weather conditions and rain.

While this investigation was inconclusive as to source, it nevertheless points out some of the difficulties associated with the sanitation of swimming waters in areas that are not properly supplied with sewage facilities.

#### *Food-Borne Outbreak Investigations*

##### *Bayonne*

Guests at a wedding in Bayonne, in November, 1961 suffered a severe digestive upset following food taken at the wedding reception. Samples of food served at this reception were subjected to bacteriological analysis. The wedding cake, turkey stuffing, and some slices of turkey were found to be negative for pathogenic micro-organisms. However, other slices of turkey, particularly of the dark meat, did show evidence of paracolon organisms and staphylococci.

The turkeys were cooked for 3 hours and 15 minutes, removed from the oven and allowed to cool for 2½ hours. They were then sliced, left to stand. The sliced meat was exposed at room temperature for over 4 hours. The sliced turkey was then transported to the reception, where it was warmed in an oven and served. Many opportunities existed for contamination of the turkey, and for incubation of organisms sufficient to produce illness.

##### *East Orange*

An investigation of an East Orange food poisoning case, which resulted in death in December, 1961 revealed that at the time all but 1 of 8 persons who partook of a specific meal showed symptoms of abdominal discomfort, emesis, and diarrhea within 24 hours.

Stool samples taken for bacteriological examination from members of the family and all those who partook of the meal, and all who were known to have bought and eaten ham from which the sandwiches used in the meal were made, were negative for pathogens.

Negative fecal samples were obtained also from the proprietors of the delicatessen store.

##### *Trenton State College*

In January, 1962 an outbreak of food poisoning was reported from Trenton State College. Investigation disclosed that approximately 800 persons ate food at a buffet evening meal on Tuesday, January 16. Six hundred questionnaires were completed and turned over to the college dispensary survey team.

Three hundred and nineteen students reported gastrointestinal symptoms. The attack rate was approximately 52 percent. In a small group of the alumni executive board, the attack rate of illness was 84.6 percent.

The mean incubation period of the illness was 9.6 hours. Symptoms of the illness included diarrhea, abdominal cramps. So many different types of foods were eaten at the buffet, that it was impossible to determine which food may have been contaminated. However, the investigation disclosed that many of the foods that were served were left-overs that had been taken from refrigeration, prepared, re-heated, and served.

Throat and stool cultures were obtained from the food handlers. One assistant cook was found with an unhealed hand wound which yielded a staphylococcus aureus. Two throat cultures were positive for coagulase positive hemolytic staphylococci. One throat culture was positive for beta hemolytic streptococcus. All fecal cultures were negative for salmonella or shigella organisms.

Cultures were made of the food residues that were available. All sample foods, with the exception of roast beef, were negative on culture for staphylococci, streptococci, salmonella, or shigella organisms. The sample of roast beef was found to contain a coagulase positive hemolytic staphylococcus aureus.

#### *Vernon Township Diarrheal Disease*

Early in the fall of 1961, an incidence of gastrointestinal disease in the Vernon Township Elementary School was brought to the attention of the Department. The elementary school has an enrollment of approximately 400 pupils. In examining the absence records of the school, the outbreak became apparent in considering the background of the report. The records maintained by the school nurse were analyzed. These records consisted of the complaints brought to the school nurse during the day.

The number of children who became ill with some sort of gastrointestinal complaint for each month, in the period September through December, have been noted and are listed as follows:

Table 8. NUMBER OF CASES OF GASTROINTESTINAL DISEASE  
VERNON TOWNSHIP ELEMENTARY SCHOOL, 1960-1961

Month	Year	
	1960	1961
September	17	46
October	19	27
November	9	38
December	15	23



From this table provided by the school nurse and the school principal, it was felt that a real increase in illness had occurred.

Conversations with physicians and other persons in responsible positions in Vernon Township revealed that this illness was not confined to school children. Many adults and pre-school children were similarly affected. Contact with the principals of surrounding schools in the area revealed that there had been no increase in gastrointestinal disease in their areas. Because of the relative mildness of the disease and its slow progression through the community, there was no suggestion of a common source outbreak.

There was no bacteriological confirmation of the etiological agent of this illness.

#### *Shipyard Outbreak of Diarrheal Disease*

In September, 1962 a sudden sharp outbreak of gastroenteritis involved upwards of 700 of the 6,000 employees of New York Shipbuilding Company at Camden.

Most cases had an abrupt onset within a 24-hour period. The illness was characterized by vomiting, severe epigastric pains and in about 10 percent of the cases a low grade fever. No bloody stools were noted.

Examination of food sources, both company-owned and outside-run at the yard, showed no source of possible contamination. Food histories taken on a sample of approximately 30 individuals ill at the yard suggested water as the only possible common vehicle of spread.

Water supply at the yard is obtained from municipal sources in Camden and Gloucester, where no similar outbreaks were occurring. Coliform counts on samples from several water fountains in the yard were not remarkable. No cross-connections between potable and fire-water systems were found.

On the basis of past experience with shipyard outbreaks, improper cross-connections established on the piers between the fire-fighting river water system at high pressure and the low pressure drinking water system were suspected. A fluorescein test, however, failed to disclose any cross-connection when run 2 weeks after the outbreak.

Cultures for enteric pathogens were run on 20 of the ill workers; all proved negative. There was no apparent increase of hepatitis among yard workers subsequent to this diarrheal outbreak, nor did typhoid fever develop, despite vigilant observation by the plant physician.

Analysis of water samples at the drinking fountains in the yard did show an extremely high iron level, suggesting the need for backflushing the potable water system. It is felt that the outbreak was probably caused by chemical pollution of the potable water system occurring through an improper temporary cross-connection no longer present at the time of investigation.

#### *Trichinosis*

In 1961, there were 17 cases of trichinosis in New Jersey; in 1962, 57 cases. A single case of trichinosis was reported from Wildwood Crest, in a 49-year-old female nurse and housewife, who tasted raw sausage for seasoning during its preparation and prior to its cooking. The source of the raw sausage could not be determined so that the extent of infection associated with this material remains unknown.

On April 13, 1962 the Carteret Health Officer reported to the Department, that 2 cases of trichinosis had been reported by a local physician. Through the next 6 weeks, an investigation team from the Department interviewed 42 persons who had clinical symptoms of trichinosis.

Among the 42 persons, there were no deaths but 12 persons were hospitalized from 8 to 21 days, an average of 12.3 days per person. The incubation time of this outbreak was approximately 6.7 days. The diagnosis was established in 2 patients by means of muscle biopsies. Ten additional patients were diagnosed on the basis of the specific serological tests.

With 1 exception, all patients had purchased kolbase from a Hungarian butcher who prepared the product in Carteret. This man, who also became ill, operated a sales stall in an open market in Perth Amboy.

All of the patients ate kolbase prior to illness. One patient had eaten only fresh kolbase. Forty-one patients had eaten smoked kolbase, 36 without further cooking. Six patients stated that they had cooked the sausage prior to eating. In 1 family, only the husband was ill. The wife cooked the kolbase for the evening meal but the next day repacked uncooked sausage in her husband's lunch pail. Kolbase is a seasonal product. During late winter and early spring months, the Carteret butcher made about 200 pounds of kolbase per week. As Easter approached, an increased demand raised his weekly production to 400 or 500 pounds. He processed kolbase on Monday, Tuesday, and Wednesday for week-end sales. After the meat was cut, mixed, ground and spiced, it was cured overnight. The next day, the sausage was stuffed in casings, and hung in the smokehouse for 8 to 10 hours at 70°F. When removed from smoke, the kolbase had an appetizing brown red color. These production methods were inadequate to destroy the trichina cysts in the product.

While the sources of pork raw materials were determined, evidence that trichina-infested garbage fed hogs were used in production of kolbase could not be found.

Another investigation related to trichinosis in the Trenton area revealed 2 cases associated directly with the consumption of adulterated hamburger. Two additional cases were investigated, involving the history of a 16-year-old girl who consumed raw pork.

*Influenza*

In the late Fall of 1961, plans were made for a surveillance program to detect the presence of influenza as it might occur throughout widely scattered sections of New Jersey. Involved in this surveillance program were the public schools, local health departments under the direction of full-time health officers, the state institutions, and selected industries who maintained liaison with the Occupational Health Program of the Department.

In the early months of 1962, outbreaks of respiratory disease resembling influenza occurred in widely scattered portions of New Jersey. This disease was present mainly in school children. The illness was not particularly severe. It was known at the time that influenza B was present in many parts of the United States.

Physicians from the State Department of Health visited the schools where illness was reported. They obtained the names of children who had been taken ill recently and visited these children for the purpose of obtaining throat washings and acute blood specimens. Convalescent specimens were subsequently obtained from many of the children for comparative serologic determinations. Twenty-five reports of excessive absenteeism were received from schools located in Atlantic, Burlington, Camden, Cape May, Essex, Middlesex, Monmouth, Ocean, Passaic, Sussex, and Union Counties. In 7 cases, the illness was confirmed by laboratory procedures to be due to influenza B.

The striking factor in this episode is the remarkable cooperation existing between the agencies of government in this state in conducting a surveillance program for influenza as part of a national and worldwide undertaking.

The distribution of influenza vaccine for persons with chronic disabilities who are unable to afford its cost was initiated in the Fall of 1961. In all, a total of 60,175 cubic centimeters of influenza vaccine were distributed through the Biological Distributing Stations of the New Jersey State Department of Health. The reception of this effort by physicians prompted request for further support of this effort for the winter of 1962-63.

The 1962 influenza vaccine program started in early September. It extended vaccine to the disabled as before. Over 126,150 doses were distributed to physicians in all parts of the state. In addition, the Department assisted in providing immunization to several industrial plants and to over 8,000 state employees.

A cooperative study under the auspices of the United States Public Health Service was undertaken at Rancocas Valley Regional High School, Mount Holly. This study was designed to test the effectiveness of Monovalent Influenza vaccine as compared to Polyvalent Influenza vaccine. Over 600

students volunteered to participate in the program. At year's end, 1962 there was no evidence that influenza was in the school.

*Rocky Mountain Spotted Fever*

In 1961, there were 2 cases of Rocky Mountain Spotted Fever, 1 in Burlington and 1 in Gloucester County. In the fall, a case came to attention involving a young woman who visited in New Jersey and later, after returning to New York City, was admitted to hospital there and diagnosed as ill with Rocky Mountain Spotted Fever. Exposure to ticks was not clearly determined.

In 1962, there were 6 cases reported. Investigation revealed that some patients are reported on the basis of clinical findings only.

The need for comprehensive laboratory work up to support the diagnosis is apparent.

*Viral Pericarditis*

In 1961, reports of viral pericarditis attributed to Coxsackie B 5 virus were received from several parts of the state. The assistance of the U. S. Public Health Service was sought in working out this investigation. Physicians throughout the state had noted summer illness ranging from very mild to mild in character. The manifestations in young adults consisted of mild pleurisy lasting 5 to 7 days with minimal fever.

No remarkable increase in aseptic meningitis had been noted and while febrile illness in children was common, it was not rampant. A widespread screening to detect significant current outbreaks of disease was undertaken. It involved the Consultant Pediatricians in the 4 State Health Districts, the Chiefs of Pediatrics in 15 hospitals strategically located throughout the state, and responsive pediatricians and general practitioners from different geographic areas.

One case of pericarditis was uncovered in Camden with a viral isolation of Coxsackie B 5. A classically clinical case of pericarditis was observed in Montclair. A 2d case from the Camden area was discovered in the Hahnemann Hospital in Philadelphia.

Four cases of acute pericarditis in Hunterdon County were studied. During this study, there were no neonatal deaths discovered due to myocarditis and the over-all incidence of pericarditis did not seem unusually high considering the widespread distribution of Coxsackie B 5. This study serves to point out the advantages of intensive surveillance activity supported by adequate virus studies and the assistance of the United States Public Health Service in approaching problems of this type.

*Tetanus*

A case of tetanus came to attention in August, 1961 in a patient admitted at the St. Peters Hospital in New Brunswick. This case developed following a laceration of the knee and administration of tetanus toxoid and penicillin. The patient was supported through her illness by treatment with tetanus antitoxin, antibiotics, heavy sedation, and intravenous fluids. Cultures from the wound revealed gram-positive spore forming organisms.

This case was confirmed by observation of its clinical course and laboratory results. It emphasizes the need for continued efforts to achieve immunization against tetanus.

*Diphtheria*

In 1961, there were no cases of diphtheria in the state. A single case of diphtheria was reported in the spring of 1962. This patient was observed with severe sore throat. The clinical impression was diphtheria. Positive culture results were obtained from the Paterson Board of Health Laboratory. The childhood household contacts of the patient received booster doses of diphtheria toxoid. The adults in the family group were maintained under surveillance. Negative culture results were obtained on the patient and contacts as late as in May and June, 1962.

A survey of diphtheria immunization status of children 1 year old in December, 1961 revealed that 130 municipalities 81 percent of children had completed a series of injections for diphtheria by their 1st birthday. The lowest level of immunization was found in the Southern District.

*Smallpox*

An infant in Princeton was reported to the Department as a case of generalized vaccinia in September, 1962. This child had received a vaccination against smallpox because of entry into the United States. The child had an eczema prior to his vaccination and later developed what looked to be a mild case of generalized vaccinia. While this case was not proved by viral isolation study, nevertheless, following the administration of hyperimmune vaccinia gamma globulin, the child made a dramatic recovery with rapid regression of the lesions, a factor that certainly is suggestive that the lesions were caused by vaccinia virus.

A survey of 130 municipalities including 2,510 children born in December, 1960 revealed that by age 1, 50 percent had received vaccination against smallpox. The Metropolitan District reported the highest level, 71 percent while the lowest, 39 percent, was found in the Southern State Health District.

A survey of general hospitals was started in the early months of 1962; 15 hospitals participated; 2,205 of their employees were vaccinated against smallpox. A primary reaction or an accelerated reaction was observed in 1,320 persons which indicated a loss of immunity in 518 persons and only a partial immunity in 802 persons. The following table shows this relationship by age.

Table 9. RECORD OF SMALLPOX IMMUNIZATION  
HOSPITAL PERSONNEL — NEW JERSEY, 1962

Age	Total	Reactions		
		Primary	Accelerated	Immune
All	2,205	518	802	885
15-19	92	31	23	38
20-24	407	81	182	144
25-44	969	189	345	435
45-64	659	190	231	238
65 +	78	27	21	35

The United States Public Health Service, in view of the possible exposure of travelers in endemic areas of smallpox, increased the surveillance of persons who were inadequately vaccinated upon entry to the United States and persons exposed to smallpox cases or suspected smallpox cases. In all, 158 surveillance requests were received and followed in 1962.

*Leprosy*

In the spring of 1962, the Department received 2 reports of cases of leprosy, 1 from Cumberland County, a young woman from Puerto Rico, the other an adult male living in Newark, who had come from Costa Rico. The assistance of the Public Health Service Hospital at Carville, Louisiana, was sought in confirming the diagnosis and in recommending therapy.

*Poison Control**Thallium Poisoning:*

A report from the Children's Hospital in Philadelphia concerning 3 children diagnosed as ill with thallium poisoning prompted widespread investigation of this disease. It uncovered another case of illness in an adult male that resulted fatally. The 3 children admitted to the Children's Hospital recovered following rather severe symptoms involving the central nervous system. The investigation indicated that the children ingested a considerable amount of the poison over a period of time. It was suspected that the poison was obtained from materials used as rodenticides by professional extermina-

tors. This belief is based upon the severity and character of the symptoms exhibited by children. Contract exterminators in the area indicated that the material is frequently mixed with food material such as apples and dog food to attract rats. They also indicated that occasionally their workers may take the thallium home on their own to use as a rodenticide. The death due to thallium occurred in an exterminator who worked for a commercial company, who became exposed to the thallium while using it in his home.

The facts emphasize that thallium is a deadly poison and that its careless or unprotected use by exterminators in residential areas constitutes a menace to persons and to animals.

#### *Cough Drops*

Early in March, 1962 a report was received of illness in 6 children in a Bergen County School. These children, all girls, in the upper grades of an elementary school, were alleged to have become ill within one half hour to an hour after eating a commercially prepared cough drop. All of the cough drops came from the same box. They were given to the girls by one of their classmates who had purchased them the night previous to the incident. The girl who owned the cough drops had taken several the night before without any ill effects. The symptoms the girls noted were abdominal cramps without nausea or vomiting, chills, and extreme restlessness. Within 24 hours the children were all better. This investigation was conducted by the Food and Drug Program of the state and federal governments. No other cases of illness associated with this particular type of cough drop were found. It was felt that either there had been a contamination of the individual box after it was opened or that the symptoms were not related to the ingestion of the cough drop. No other person in the school was ill except those who had used the cough drops.

#### *Training Activities*

The Medical Society of New Jersey, the Veterinary Public Health Program and the Communicable Disease Program jointly sponsored a symposium on salmonellosis in the spring of 1962 at Cherry Hill Inn. This undertaking, which drew experts from the Communicable Disease Center of the United States Public Health Service to lecture in the field of medicine and veterinary public health, was well attended by physicians, veterinarians, and public health personnel.

In the Fall of 1962, a course, "Epidemiology for Nurses," was jointly sponsored by the New Jersey State Department of Health, the Monmouth County Organization for Social Services, and the Public Health Service. A total of 55 nurses from official and voluntary agencies of the Central State

Health District participated in this course. It was well received and provided an extensive background for the nursing profession in the field of epidemiology.

The Communicable Disease Control Program cooperated with Districts in a series of conferences in hospitals. The conferences covered the responsibilities, services and relationships of infections in hospitals and the management of communicable diseases in general hospitals. In all, over 300 individuals attended these conferences.

#### **Venereal Disease Control Program**

The status of syphilis in New Jersey must now be recognized as *epidemic*. No lesser word accurately describes the situation or adequately alerts and marshals the various professional and community forces needed to bring about eradication.

An upward trend in infectious syphilis incidence started in 1957 and continued through 1962. The 874 cases of primary-secondary syphilis reported in 1961 rose 30 percent over the 672 cases in 1960. In 1962, reported incidence of primary-secondary syphilis soared to 1219, 40 percent above 1961. There has been a sharp and steady upward climb each year since the low of 92 cases in 1956. Figure 1, illustrates the trend of infectious and early latent syphilis incidence over a long period. The significance of the rising incidence of new syphilis is not to be underestimated. Effort of Program staff in 1961 and 1962 was directed to reverse the infectious syphilis trend and lead to eradication.

Reported early latent syphilis cases, discovered only after they have progressed through the infectious phase, have followed a different course. The relationship of reported primary-secondary cases to reported early latent cases for a number of years, as shown in Figure 1, presents an interesting subject for study. It will be noted that early latent cases exceeded primary-secondary cases every year from 1951 to 1960, and that in 1961 the relationship was reversed. The fact that there were many more undetected than known infectious cases for so many years doubtless contributed to the resurgence of new cases that are so much in evidence now. Another deduction is that casefinding techniques have been refined and improved.

The total of syphilis cases reported in all stages in 1961 was 5,180. In 1962, total syphilis incidence was 6,325. Fluctuations in this figure from year to year, except for changes in primary-secondary and early latent cases, are not related to current infectious outbreaks. The biggest factor in the total syphilis figure is made up of late latent and late cases uncovered through routine blood testing performed by hospitals, institutions and private physicians. Improvement in the follow-up of reactive serologic reports and improvement in case reporting

account for most of the increase in the later stage cases turned up from the accumulated reservoir of past casefinding failures.

Reported gonorrhea cases fell off markedly in 1961 and again in 1962. The 4,737 cases in 1961 were 9 percent lower than the number reported in 1960 and there was a further 14 percent drop to 4,086 cases in 1962. Most of the reduction was in female cases. This reduction was undoubtedly due to the sharp curtailment of gonorrhea contact tracing because of the urgent requirements of the syphilis control effort, and cannot possibly be construed as a true decrease in the disease. Gonorrhea is known to be badly underreported. Reported cases are believed to represent only a fraction of the true incidence.

Only 70 cases of the 3 "minor" venereal diseases were reported in 1961 and 1962 combined. These diseases, chancroid, granuloma inguinale and lymphogranuloma venereum, are not regarded as a significant public health problem in New Jersey.

#### *Epidemiologic Characteristics*

During the past 2 years, more than two-thirds of the infectious syphilis reported occurred in 6 cities—Atlantic City, Camden, Jersey City, Newark, Paterson, and Trenton. In general, per capita rates as well as numbers of cases are higher in the cities than in rural and suburban areas. Data to be published later will be more specific in pinpointing problem areas and age groups.

Cases were concentrated among young age groups and were discovered in the infectious stages with much more frequency among males than females.

#### *Activities of the Program*

Three inter-related phases of activity, adjudged to be essential to the syphilis eradication effort, were carried out on a priority basis. These were: intensive epidemiology, visits to physicians to secure their cooperation in reporting cases and aiding epidemiologic studies, and close surveillance of serologic reactors. The importance of these activities has been recognized for years, but the tremendously increased infectious syphilis caseload forced their formulation as priorities to the exclusion of other activities, such as gonorrhea epidemiology and selective blood testing campaigns which formerly were given more attention.

#### A. Priority Activities.

##### 1. Syphilis epidemiology

- a. *Interviewing.* A major objective of the Program was to interview every primary-secondary and early latent syphilis patient reported

and to obtain contact information that would lead to the discovery of additional cases. The number of primary-secondary patients actually located and interviewed in 1961 was 829, or 95 percent of the cases in these stages that were reported. These patients named 2,592 contacts, making a contact index of 3.12. In 1962, 1,076 primary-secondary patients interviewed named 3,729 contacts. The contact index of 3.46 reflects a significant improvement in the interviewing skills of the staff. Difficulty in locating private physician patients for interview is a problem. Some 100 patients reported in 1962 could not be located. The unknown contacts of these patients constitute a reservoir of danger to the state's citizens. Another 681 named contacts who could not be located increase the size of the reservoir frighteningly. Estimated conservatively, the number of infected persons in the reservoir is 400. In the 2-year period, 909 early latent syphilis patients were interviewed; they named 2,473 contacts. Efforts were made to re-interview primary-secondary patients at least once. Many were interviewed repeatedly and kept remembering contacts forgotten or not revealed in the first interview.

- b. *Contact investigation.* In the 2 years, Program staff personnel located 7,084 syphilis contacts and were instrumental in seeing that necessary medical services were arranged for them. Among these contacts, 752 new primary-secondary cases, 323 early latents, and 31 other cases of syphilis were found and brought to treatment. Two thousand and twenty-nine other contacts were found to have been treated prior to investigation. A lesion-to-lesion index of .33 was achieved in 1961. This sensitive measure of productive epidemiology was raised to .38 in 1962.
- c. *Cluster testing.* After April 1961, all primary-secondary patients interviewed and many early latent patients were asked to name cluster suspects as well as contacts. During the 1961 and 1962 period, 2,566 cluster suspects were elicited. Among these people and a smaller number of cluster associates, 118 primary-secondary and 33 early latent cases were brought to treatment.

#### 2. Physician visitation

Approximately 3,000 physicians were visited briefly in their offices by Program field personnel during the 2 years covered by this report. The purpose of these visits was to impress physicians with the gravity of the increasing incidence of syphilis, to raise the physicians' index of suspicion of syphilis, to stimulate case

reporting, and to furnish professional educational materials. A copy of the publication, *SYPHILIS—Modern Diagnosis and Management*, was given to each physician visited.

### 3. Surveillance of serologic reactors

- a. *Laboratory visitation.* Field personnel made more than 100 visits both years to hospital, private commercial, and local health department serology laboratories to secure better reporting of specimens reactive to tests for syphilis.
- b. *Follow-up of reactors.* Priority handling was given reports of high titer reactors. Such reports received by the Program were relayed by telephone to field personnel for immediate communication with physicians concerned. Many satisfactory dispositions of routine reactor reports were received by mail from physicians. Field investigation by Program personnel was required in 5,007 instances in the 2 years. Four hundred and seventy-three cases of primary-secondary syphilis, 270 cases of early latent, and 597 cases in other stages were brought to treatment in this way in 1961 and 1962.
- c. *Jersey City Medical Center.* A part-time employee represented the Program in the Jersey City Medical Center, receiving reactor reports directly from the hospital laboratory and then coordinating the follow-up with the medical staff of the hospital. He was responsible for securing 511 syphilis case reports from the hospital during the 2 years.

### B. Information and Education

1. *Professional education.* Lectures on syphilis were made at 13 medical society and hospital staff meetings in the report period by the Division Director.
2. *Public Information.* The Division Director served on a national committee to prepare the 1962 Joint Statement on venereal disease control by the American Social Health Association, the American Venereal Disease Association, and the Association of State and Territorial Health Officers. He represented the last named organization at the press conference at which the Joint Statement was released early in 1962.
3. *Seminar.* The Program joined with the New Jersey Congress of Parents and Teachers and the New Jersey Public Health Association in sponsoring a seminar entitled "The Teenager and Venereal

Disease" at the 1962 spring meeting of the New Jersey Public Health Association. Two hundred and seventy people attended.

### 4. Other Information and Education Activities.

- a. Distribution of literature on request (lay and professional).
  - b. Film showings.
  - c. Talks by Program field workers to groups of students, parent-teacher associations and other organizations.
  - d. Press releases (at Department level).
5. Discussions were held on several occasions in 1962 with personnel of the State Department of Education to formulate and activate a program of instruction about venereal disease in the schools.

### C. Other Activities

1. *Gonorrhea epidemiology.* Program personnel participated to a limited extent, when the syphilis caseload permitted, in interviewing male gonorrhea patients and investigating their contacts.
2. *Provision of drugs.* Appropriate drugs for treatment of venereal diseases were supplied free to physicians, hospitals, and clinics upon request.
3. *Provision of fees for emergency medical services.* The Program paid nominal fees to physicians or hospitals for the emergency care of certain infectious syphilis patients and contacts referred by Program personnel for medical service. This was done for medically indigent persons in localities where free clinic service was not available or where there would have been a dangerous delay in waiting for the next clinic session.

#### *Contributions of Private Physicians, Institutions, Local Health Departments, and Other Agencies to Control Efforts*

The diagnostic and treatment services that are basic to venereal disease control are provided by physicians in their private practices, in local health department clinics, and in hospitals and other institutions. The mission carried out by the Program is to bring doctors and patients together.

Forty-six percent of the primary-secondary syphilis cases reported in 1961 and 1962 were treated by private physicians. An even higher proportion of total syphilis, 55 percent, was reported by private practitioners.

A number of local health departments, hospitals and other treating agencies cooperate by providing interviewing rooms and other facilities to Program personnel.

*Program Staff Personnel*

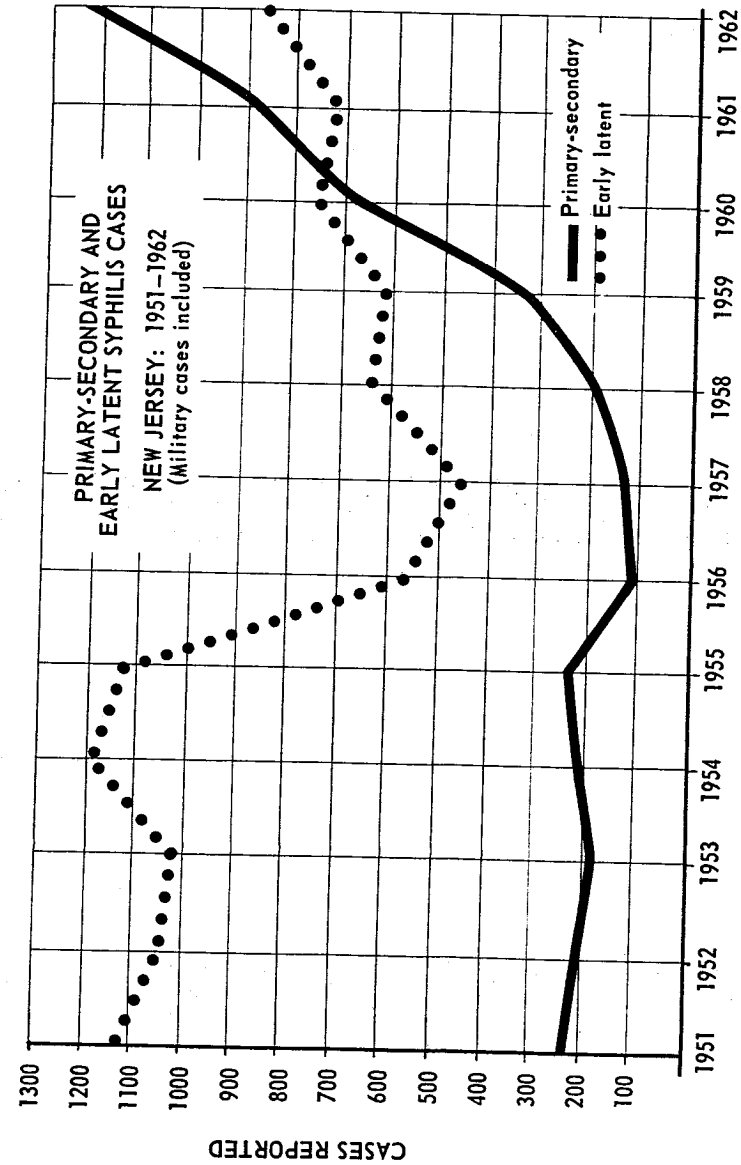
During the fiscal year 1961, an average strength of 16 field workers was maintained by the Program, including administrative and supervisory personnel. In July, 1962, with increased state and federal appropriations, the epidemiological staff was increased to 30. Five of these workers, plus clerical staff, were state-paid. Sixteen of the 30 were in state-federal cooperative positions.

*Long-Term Achievements*

The contact index for primary-secondary syphilis interviews in 1962 was 3.46. This was considerably improved over the 3.12 for 1961 and 2.83 for 1960. An index even more indicative of the quality of syphilis epidemiology, the lesion-to-lesion index, was raised to .38 in 1961. It has been brought up steadily, year by year, from the very low level of .03 in 1951.

Also regarded as a noteworthy achievement is the continuous increase over the past 4 years of the proportion of all reported infectious syphilis brought to treatment as a result of field investigation. In 1962, 68 percent of the 1,218 cases of primary-secondary syphilis reported were brought to treatment by field investigation. The remainder were essentially "volunteer" cases. Percentages for previous years were 60 percent in 1961, 45 percent in 1960, and 33 percent in 1959. In 1962, 412 cases of primary-secondary syphilis were brought to treatment from among primary-secondary contacts alone.

These performance improvements enhance the prospect of eradication of syphilis, but added proficiency is needed and will be sought. Every area of Program operation requires strengthening before eradication can be attained.



## Division of Special Consultation Services

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## Division of Special Consultation Services

As public health in New Jersey changes to meet the health needs of the 1960's, the specialized skills and services provided by the Division of Special Consultation Services will be essential parts of this change. New problems and new services are described in each of the 5 programs of this Division: Health Education, Public Health Nursing, Nutrition, Public Health Social Work, and Training.

These reports reflect the growing use of these specialized services by Department Programs and Districts, by other state agencies, by local health departments, local nursing agencies, hospitals and other local health agencies, by civic groups, professional organizations, and other interested persons.

### Health Education Program

Health education activities are planned to create awareness of health problems, identify resources required for their solution, and to develop opportunities for constructive individual and group action. At both state and local levels, the nature of health education activities is dependent upon the needs expressed by Departmental Programs as well as interests and needs expressed by community agencies and organizations. Effective health education activities require participation of these same individuals and groups. The Health Education Program provides professional guidance in development of health education activities and related technical services. During the past 18 months the major efforts of the Program have been channeled into the activities outlined below.

#### *Cigarette Smoking and Health*

Continuing a project initiated in 1961, numerous teacher, student, and parent groups have been reminded of health hazards associated with cigarette smoking. Special emphasis has been placed upon lung cancer. Activities have included: testing a draft of a Source Book for Teachers on Cigarette Smoking and Lung Cancer in 25 elementary and secondary schools in the state; completion of teacher activity logs and program evaluation forms based on experience in presenting the unit on cigarette smoking; a 1-day workshop for 40 teachers who participated in the pre-test project, at which time ideas, information, and experiences were reviewed and exchanged; discussion of smoking and lung cancer with approximately 300 health and

science teachers who attended a 3-day teachers' institute conducted by the New Jersey Division, American Cancer Society.

A special project using health education and behavioral science skills was developed by senior science students at Newton (Sussex County) High School. This project, which developed under the District Consultant in Community Health Organization of the Northern State Health District, and the Coordinator of the Cancer Control Program, is described in the report of the Cancer Control Program.

A state-wide plan for distribution, and follow-up of the final draft of the teacher's source book will be carried out through the State Health Districts. This program was planned and conducted by a State-wide Project Committee composed of representatives of the New Jersey State Department of Education, The New Jersey Division of the American Cancer Society, Glassboro State College, the Cancer Control and Health Education Programs of this Department. It has had the support of the Health Committee of the New Jersey Congress of Parents and Teachers. Reports from teacher, student, and parent groups show growing concern with this important public health matter.

#### *Teenage Venereal Disease Education Project*

The increase in venereal disease, especially in teenage and young adult groups, prompted action by the New Jersey Public Health Association, the New Jersey Health Officers Association, the New Jersey Congress of Parents and Teachers, and this Department. Beginning with a state-wide fact finding meeting, activities included promotion of education material in schools, a survey of school practices related to venereal disease education, and establishment of a subcommittee of the State Departments of Health and Education, which will work with school and community groups to develop more comprehensive educational services. Other educational efforts are being made by the Venereal Disease Control Program and the District Consultants in Community Health Organization. Considerable community interest has been stimulated.

#### *Fluoridation*

Educational campaigns in 4 municipalities preceded referenda on the fluoridation issue. In 3 of these municipalities (New Providence, Freehold, and Pennsgrove) voters rejected fluoridation. In Levittown, which has an unusually large concentration of young parents with young children, a local fluoridation committee spearheaded by the Junior Chamber of Commerce produced a favorable vote. Analysis of these results and planning of future educational efforts were undertaken.

#### *Radiological Health*

Concern about radiation hazards prompted educational efforts planned and developed in cooperation with the Radiological Health Program. Since a major portion of radiation exposure results from the clinical use of X-ray equipment, primary attention was directed toward medical and related personnel. In connection with issuance of Chapter Two of the Radiation Protection Code, which outlines measures to reduce unnecessary patient and operator exposure to radiation, a series of meetings was held with sales personnel of X-ray film and equipment companies. The content of the Code was discussed. Support in interpreting the Code to owners and operators of X-ray equipment was sought. Response was enthusiastic. Cooperation of these groups has assisted in meeting Program goals. A series of hospital staff conferences has proven very productive. Several hundred practicing physicians have been reached. All major hospital groups will be contacted. A statement on radioactive fallout and health was prepared at the request of the State Department of Education and distributed to teachers in New Jersey to help them answer questions and to stimulate student discussions.

#### *Health Education in Hospitals*

The hospital offers one of the best opportunities for learning about health. This is receiving more attention from many health educators. A 3-year grant of \$44,425 was awarded to the Presbyterian Unit of United Hospitals of Newark by the Grants Management Branch, Division of Chronic Diseases, U. S. Public Health Service, for exploration of Health Education possibilities. The purpose is to demonstrate and assess the contribution which a professionally trained health educator can make as a staff member of a general hospital. Attention will be focused upon educational needs of selected chronically ill patients and their families during and following hospitalization. The project is for a 3-year period. It is anticipated that it will be continued with hospital funds, following termination of the federal grant. The project request was developed by the hospital in cooperation with the Metropolitan State Health District and the Health Education Program. The 314 general beds and approximately 12,000 clinic visits per year, which are part of the hospital service, provide excellent opportunity for testing various educational methods.

#### *Migrant Health*

Health problems of migrant workers prompted development of meetings to explore the role of health education in achieving more effective action.

Consultation with representatives of the Regional Office and the Migrant Health Program of the U. S. Public Health Service resulted in inclusion of a request for assignment of a full-time, professionally trained health educator to the Migrant Health Program. The health educator will plan a survey of migrant workers to determine their attitudes toward, and use of awareness of, available health facilities in connection with personal health problems. Other activities will include surveys of community and grower attitudes toward migrant workers; exploration of the potential for health education of parents and children through existing school and other community programs; organization of community committees to assist in planning and carrying out migrant health services; and assistance to health personnel in developing educational methods and materials.

#### *Volunteer Training*

Volunteers who like their work are essential to many health services. Increased emphasis is placed on training such volunteers. The Maternal and Child Health Program received assistance from the Health Education Program in training volunteers for work in pediatric wards of hospitals; assistance was provided to the Multiple Sclerosis Society of Northern New Jersey in training volunteers for home visiting; to the Friendly Visitor Project sponsored by the Division of Chronic Illness Control; and to the Visiting Homemaker Association of New Jersey in developing workshops for board members of local homemaker services and in training directors of local homemaker organizations.

#### **Accident Control Programs**

At the request of the Coordinator of the Accident Control Program, the State and District Consultants in Community Health Organization participated in planning a series of training activities related to rescue breathing. Cooperation with the Program Coordinator has resulted in joint contacts with a variety of state-wide organizations interested in accident prevention programs.

#### **Sabin Oral Vaccine Programs**

A report on a successful Sabin Oral Vaccine Program conducted in Cuyahoga County, Ohio, was prepared by the State Consultant in Community Health Organization. This was shared with Departmental personnel. Copies of the report were sent to county medical societies and local health agencies. Trial projects were conducted in Bergen County and other programs were scheduled for the spring and fall of 1963.

#### *Heart Disease Control*

A Health Educator was assigned by U. S. Public Health Service to the Heart Disease Control Program. This assignment will continue for 3 years. Attention has been given to patient, family, and community education on restorative services; assessment of rheumatic fever control programs; development of materials related to diet counseling, physician education, use of the U. S. Public Health Service manual for stroke rehabilitation, STRIKE BACK AT STROKE. This is the first Health Educator assigned to a specific Program in the Department. Additional services of this kind are needed.

#### *Promotion of Careers in Health Fields*

In cooperation with the New Jersey Health Careers Service, a state-wide non-profit voluntary organization, the Department has assisted in promotional activities. The Guidance Newsletter has been mailed to more than 1,800 guidance counselors in secondary schools and colleges in the state. During the year, issues on Careers in Hospitals, Careers in Public Health, Careers in Health Education, and Careers in Dietetics, Nutrition and Food Service, were distributed. Several hundred requests for additional information were received.

#### *Exhibits and Printed Material*

During the past 18 months, considerable exhibit and pamphlet material was produced for use in conjunction with specific program activities. These included exhibits on arthritis, homemaker service, restorative services, health careers, radiological health, diabetes control, polio immunization, tuberculin testing, maternal and child health, community nursing service, diet counseling, venereal disease, and air pollution. These were developed in cooperation with Program Coordinators and the Administrative Services Program.

#### *Health Education Recruitment and Training*

Because of interest on the part of health agencies, the Health Education Program has given serious consideration to recruitment and training services. At present, efforts are limited to stimulating of college students to apply for public health service traineeship grants for attendance at schools of public health. There were 4 such applicants in the past 18 months. Two received traineeships and training in health education at the University of North Carolina and Yale University.

### Nutrition Program

A 6th nutrition consultant position was established in March, 1962 and assigned to the Heart Program, Division of Chronic Illness Control. To aid physicians, community diet counseling services have been initiated in several areas.

#### *Diet Counseling Projects*

Consultation with inservice training and promoting Diet Counseling Projects have been provided in cooperation with the Division of Chronic Illness Control Programs concerned with Heart and Circulatory Diseases, Diabetes and Restorative Services.

In the past 18 months, the New Jersey State Diet Manual went into its second printing. District Consultants in Public Health Nutrition have encouraged use of the manual by physicians, nurses, and dietary personnel in hospitals and nursing homes. Nine thousand copies of the manual were printed; 8,500 copies have been distributed. Twelve hundred copies of 4 diet pads adapted from the manual have been purchased by physicians.

Diet counseling helps non-hospitalized patients follow prescribed dietary regimens adapted to individual needs. Counseling is offered on an individual or group basis to patients referred by physicians. The diet counselor also works with public health nurses, providing them with information to advise patients about diets. The Camden County Diet Counseling Project started its third year of operation in October, 1962. The inclusion of diet counseling as a special item on the United Fund Budget Request for 1963 in Camden County indicates it is now a well recognized and accepted service. A grant-in-aid contract was written for setting up a Diet Counseling Project at Douglass College, New Brunswick, in February, 1962. This project, in addition to offering service to patients, is used to train graduate students in nutrition. Conferences were held with hospital staffs, private physicians, and community organizations to acquaint them with the service. The project has received the approval of the Middlesex County Medical Society and has a Medical Advisory Committee. Patients are seen on a fee for service basis.

In November, 1962, a grant-in-aid contract was written for a part-time Diet Counselor with the Newark Visiting Nurses Association and in December, 1962, Atlantic City Visiting Nurses Association received a contract for a part-time service.

#### *Refresher Training Courses for Dietitians*

One hundred and eight nutritionists and dietitians from the 21 counties, representing 51 hospitals, attended 3 Diet Refresher Training Courses offered

by Rutgers—the State University in cooperation with the State Department of Health and co-sponsored by the New Jersey Dietetic Association, the Medical Society of New Jersey, and the New Jersey Hospital Association. The Course provided review of advances in diet therapy, with emphasis on diet in treatment of cardiovascular and allied diseases.

#### *Anti-Coronary Club Project*

The Consultants in Public Health Nutrition, have continued to work with the staff of the Anti-Coronary Club, Montclair. There are three well qualified nutritionists on the staff of the Club.

At a meeting in Burlington County principles of sodium restriction and increasing the palatability of the diets through the use of spices and other flavoring aids were presented. Thirty-five persons attended, 25 of whom were patients.

#### *Hospital Consultation*

District Consultants in Public Health Nutrition have continued to offer consultation to local hospitals in their Districts. Inservice training conferences have been held with schools of professional and practical nursing. The Camden County Share and Compare Dietitians Group was organized in February, 1962 to exchange information and ideas. This group fostered the Refresher Course for dietitians offered in Cherry Hill. Thirty-three dietitians attended the 4-day course and received certificates.

#### *Home Care, Restorative Services, and Stroke Projects*

In areas where home care and stroke projects are in operation, the District Consultants in Nutrition have given consultation to professional staff on selected cases.

At the request of the Restorative Services Program, nutritional needs of older persons were outlined to staff members of the Masonic Home, Burlington Township (Burlington County) and "Buttonwood Hall" (Burlington County Institution).

Inservice education in planning diabetes diets was presented to public health nurses at the Manasquan Health Center (Monmouth County Organization for Social Service).

#### *New Jersey Homemakers Association*

At the requests of the Executive Director, New Jersey Homemakers Association, Nutrition Reference Kits were compiled for each County Homemaker Association.

*Nursing Homes and Boarding Homes*

The Bureau of Inspection of the State Department of Institutions and Agencies has made several requests for assistance in evaluating the food service in nursing homes and boarding homes. District Consultants have provided the necessary services.

*Program Administration*

Mrs. Nadeene Brunini, former District Consultant of the Central State Health District, was transferred in March 1962, to the Division of Chronic Illness Control to fill the new position established in the Heart Program.

In August, 1962, Miss Marian Maltese joined the Central State Health District as District Consultant, Public Health Nutrition.

The University of North Carolina School of Public Health requested the Nutrition Program to accept responsibility for 7 weeks of field training in public health nutrition for a graduate student. Mrs. Ivette Marin de Perez of Puerto Rico did her field work in New Jersey from April 16, 1962 through June 1, 1962. During Mrs. de Perez' 3 weeks in the Camden area, she worked with the Welfare Department and the Visiting Nurses Associations. She visited the Migrant Labor Camp in Glassboro and made recommendations for improving the food service. She gave valuable suggestions on Puerto Rican food habits to nurses, welfare workers, and others.

**Public Health Nursing Program**

A census of nurses employed in public health nursing in the state as of January 1, 1962 was completed at the request of U. S. Public Health Service. It revealed a further decrease in the number of nurses available in community nursing services and led to a study of what has been happening during the past 10 years—a period in which the population has been growing rapidly and the need for nursing services in the home, especially for the chronically ill, has been increasing. The actual decrease in numbers of nurses employed from 1952 to 1962 was 100, but when this was related to population growth, the figures showed a 39 percent decrease in the availability of community nursing services.

Immediate action to correct this critical situation was instituted. Leaders of the Citizens Lay Participation Committee of the New Jersey League for Nursing were alerted to the problems and that Committee held a state-wide meeting in New Brunswick in the fall of 1962 to discuss some of the problems. The Local Health Services Advisory Committee was also advised of the situation. The members recommended that the problems be brought to the

attention of the citizens of the state by means of a Governor's Conference on Community Nursing Services, to be followed by a series of county or regional meetings at which the community nursing needs of specific geographic areas could be discussed and steps toward solution found. This recommendation was received favorably by the Commissioner and the Governor and the Governor's Conference on Community Nursing Services was scheduled for March 6, 1963.

*Development of New Community Nursing Services*

Two new nursing agencies, to provide comprehensive public health nursing, were established: 1 in Sussex County and the other in the North Hudson area of Hudson County. A 3-year federal grant was obtained to assist in starting the service in Hudson County; state funds were needed by both agencies in getting under way.

A Public Health Nurse Supervisor was employed by Cape May County, with grant-in-aid assistance from the Department.

A Public Health Nurse Supervisor employed by the Department was assigned on loan to Cumberland County to assist the County Health Coordinator in developing adequate community nursing services.

*Extension and Coordination of Existing Services*

At the request of local health officials, extensive nursing surveys were completed in Camden, East Orange, Elizabeth, Passaic, and Dover; undertaken but not completed in Jersey City. It was heartening to see the great interest and desire of local officials to improve the Health Department Nursing services. The survey reports have been used in planning for expanded and improved services. The following are some examples of what has been done regarding the first 3 surveys completed:

*Camden*—The tuberculosis follow-up responsibility was assumed by the Health Department nursing staff and an intensive in-service education program was instituted.

*East Orange*—Through assistance from the Department, orientation in supervision was provided in an excellent community agency to a staff nurse, in preparing her for a supervisory position. This nurse has been promoted to supervisor and is gradually applying her new knowledge, thus furthering many survey recommendations.

*Elizabeth*—In order to begin immediate implementation of recommendations and until administrative clearance could be obtained for creating

a new Director of Nursing and Supervisory position, a Public Health Nurse Supervisor employed by the State Department of Health was temporarily assigned to the Elizabeth Health Department. Since tuberculosis control was the critical area needing attention, priority was given to in-service education in tuberculosis for the entire staff. Although a number of nurses resigned or retired when the changes in the nursing service were undertaken, the improved personnel policies, including salaries, made it possible to fill vacancies promptly.

Grant-in-aid contracts were continued with the Family Nursing Service of Hunterdon County and Somerset Valley Visiting Nurse Association. A new contract was made with Morris County Visiting Nurse Association for employment of a qualified supervisor, in order to give the new Director time to interpret the need for comprehensive nursing service throughout the county. In a year's time, this Visiting Nurse Association has negotiated contracts with five additional communities for total nursing service: 2 new contracts were also negotiated with Camden Visiting Nurse Association—1 for extension of nursing services to crippled children and the other to chronically ill patients in the uncovered areas in the southern part of the county.

Nine nursing agencies were able to broaden the scope of their rehabilitation nursing services as a result of contracts with the Division of Chronic Illness Control for physical therapy consultation. In a 10th agency, the contract provided for direct physical therapy service as well as for consultation, primarily because of the agency's involvement in a Stroke Project initiated by the Heart Program.

<i>Agency</i>	<i>County</i>
1. Central Bergen V.N.A.	Bergen
2. Ridgewood Nursing Service	Bergen
3. Plainfield V.N.A.	Union
4. Somerset Hills V.N.A.	Somerset
5. Somerset Valley V.N.A.	Somerset
6. Trenton V.N.A.	Mercer
7. V.N.A. of Middlesex County	Middlesex
8. Monmouth County Organization for Social Service	Monmouth
9. Camden V.N.A.	Camden
10. Atlantic City V.N.A.	Atlantic

Four nursing agencies, through contracts with the Restorative Services Program, have extended services on a 1-day a week basis to nursing homes.

Two nursing agencies, Newark Visiting Nurse Association and Atlantic City Visiting Nurse Association, received contracts for diet counseling consultation services.

The Visiting Nurse Association of Eastern Union County added a nursing consultant in mental health in August, 1962. This was an outgrowth of consultation services provided by the Public Health Nurse Consultant in Mental Health to the agency and coordinated with goals for community follow-up services established by the Mental Health Division, Department of Institutions and Agencies.

During the 18 months that the state-wide follow-up program for psychiatric patients has been in operation, 152 referrals were made to 43 nursing agencies in 19 counties and 4 agencies made 8 referrals to state mental hospitals. The breakdown is as follows:

Table 1. MENTAL HEALTH REFERRALS

<i>Hospital</i>	<i>Agencies</i>	<i>Counties</i>	<i>Referral Hospital to Agency</i>	<i>Referral Agency to Hospital</i>	<i>Total Referrals</i>
Ancora State .....	10	7	16	0	16
Greystone State ....	6	4	8	2	10
Marlboro State ....	17	4	97	4	101
Trenton State .....	9	6	31	2	33
Grand Total .....	42	19	152	8	160

This program is gaining momentum now that the values of the nursing follow-up services are evident to all concerned.

#### *Provision of Consultation Services*

The services of the 11 specialized nursing consultants have been consistently in demand by local agencies as well as for implementing conferences and workshops planned by specific Program Coordinators. Total consultation visits for this time period are as follows:

Table 2. CONSULTATION VISITS

Official Agency .....	175
Voluntary Agency .....	206
District State Health Office .....	56
Hospitals .....	322
Nursing Homes .....	32
Clinics .....	38
Industries .....	62
Universities and Colleges .....	11
Other .....	7
Total .....	940

*Educational Programs*

Among the many programs in which the nursing consultants participated, the following examples indicate areas of service which needed special attention:

*Mental Health*—In order to prepare nurses in community agencies to participate effectively in the follow-up program of discharged psychiatric patients, an intensive state-wide educational program was conducted. Two-day orientation sessions for public health nurses have been held as follows:

Ancora State Hospital	— 4 sessions	50 nurses
Trenton State Hospital	— 4 sessions	54 nurses
Marlboro State Hospital	— 3 sessions	61 nurses
Greystone State Hospital	— 1 session	20 nurses
	—	—
Total	12 sessions	185 nurses

In addition, series of in-service education conferences have been conducted in 4 Visiting Nurse Associations and with 2 groups of health department nurses.

*Restorative Services*—Two 3-week courses in Rehabilitation Nursing were conducted at the Hospital Center at Orange. Total attendance—19 nurses.

One 2-week course was held in Atlantic City. Total attendance—11 nurses. Assistance was given the National Association for Practical Nurses in 3 1-day institutes with a total enrollment of 400 practical nurses. A series of weekly programs was held in Passaic County with an average attendance of over 100 nurses, professional and practical.

*Crippled Children*—A series of monthly sessions was started in 2 areas of the state in the fall of 1962 and will be continued for an indefinite period of time. Attendance at each session has remained high, well over 100 nurses in each part of the state.

*Epidemiology*—A course in epidemiology for nurses was held in the Central State Health District, with assistance from special consultants from the Communicable Disease Center, Public Health Service in Atlanta, Georgia.

*Special Projects and Programs*

*Nurse Utilization Study*—In cooperation with the Assistant Chief, Bureau of Community Institutions, Department of Institutions and Agencies, a study of use of nurses' time in hospitals was started in August, 1961. A Public Health Project Nurse was employed to carry out the study procedures. The statistical tabulations were compiled by the Public Health Statistics Program Coordinator and staff.

Application for federal project funds for continuation of the study was made and \$14,797.00 was granted for 1962-63. Nine hospitals participated in the study from August 1961-July 1962; 15 additional hospitals will be studied during the 1962-63 grant year.

*Migrant Health*—The Public Health Nurse Consultant, Maternal and Child Health, worked closely with the 2 public health nurses who were employed by the Department for the field activities in migrant health and helped to coordinate the work of the nurses employed by the Department of Education for the migrant schools. A detailed summary of public health nursing participation in the Migrant Program was prepared at the request of the *American Journal of Nursing* and has been submitted for publication.

*Materials Prepared*—A *Directory of Public Health Nursing Services in New Jersey* was completed. Almost 20,000 copies have been distributed to physicians, hospitals, health and welfare agencies and individuals throughout the state, as well as adjacent areas which needed the information for referral purposes.

The pamphlet *Your Public Health Nurse* and a corresponding exhibit were developed to assist in the interpretation and promotion of public health nursing services in the state. More than 9,000 pamphlets have been distributed and the exhibit has been used at several local and state-wide meetings.

The pamphlet *Radiation Information for Nurses* was prepared and published in response to requests for such information from nurses. The immediate response to this pamphlet necessitated reprinting. More than 2,000 copies have been distributed; 286 of these were out-of-state requests.

*The Public Health Nurse in the New Jersey Mental Health Program* has been distributed throughout the country to the state directors of public health nursing. In addition, 105 copies were requested by out-of-state individuals from 15 states.

**Public Health Social Work Program**

Social work consultation in planning and implementing in-service training programs, workshops, and projects have been provided to Programs related to heart and circulatory diseases, diabetes, arthritis, neurological disorders, restorative services, and supportive community services such as Visiting Homemaker Service and Volunteer Friendly Visitors.

*Restorative Services*

At the request of the Restorative Services Program, the Program Coordinator participated as an instructor in the Educational Program on

Restorative Nursing Services in a session on "Social Aspects of the Chronically Ill and Aging" at Passaic Valley View Hospital.

Assistance in recruiting qualified social service personnel for comprehensive Home Care Programs has been given at the request of Restorative Services Program.

#### *Training Stipends in Medical Social Work*

To help lessen the critical shortage of professional social workers employed in medical and health related agencies in New Jersey, the State Department of Health has supported 2 training stipends for full-time students who required financial assistance to continue their education.

There has been progress in developing resources for field work training of graduate social work students in medical settings and health related agencies. Nine graduate students were supervised by Miss Edith Jordan, the medical social work faculty member employed by Rutgers Graduate School of Social Work supported through grant-in-aid funds from the Division of Chronic Illness Control.

Several hospital social service departments are now interested in accepting graduate students for training.

#### *Social Work Recruitment Activities*

Forty-eight undergraduate college students were employed in 16 health and welfare agencies in the state during the 2d year of operation of the "New Jersey Committee for Summer Experience in Social Work." This program is sponsored by the Graduate School of Social Work of Rutgers and supported by this Department in cooperation with other public and voluntary agencies.

This program enables undergraduate students to gain work experience in social agencies during the summer months under professional supervision. Many of the 112 applicants who applied for employment were not accepted because of the shortage of agencies offering supervision.

#### *Educational Activities*

The course "Physical and Social Aspects of Chronic Illness" was given twice in Newark and once in Camden. One hundred persons attended these 3 courses.

#### *Volunteer Friendly Visitors Project*

There has developed a new project with support from the Division of Chronic Illness Control under the guidance of the State Committee of Volunteer Friendly Visitors.

Chronically ill, socially isolated, or elderly persons confined to their homes can benefit from greater social contact with their community through the efforts of a knowledgeable volunteer.

To meet this need a 14-hour Core Training Course Manual has been developed by the State Committee on Volunteer Friendly Visitors. It will prepare volunteers affiliated with state and local health and welfare agencies for home visiting in cooperation with the University Extension Division of Rutgers without charge to the agencies or volunteers.

The Program Coordinator has served as the Project Director in working with the State Committee and its 4 Subcommittees.

#### *Visiting Homemaker Services*

The Program Coordinator served on the Program Committee planning the Second Executive Development Seminar for Directors of Visiting Homemaker Services and out-of-state participants held at Princeton. Proceedings of this Seminar were published in *Public Health News* and have been requested by many public and voluntary agencies in the United States.

#### **Migrant Health Program**

Because of unmet medical and social needs of the agricultural migrant and his family, Program personnel presented case illustrations of the needs of neglected children of migrant families at an Interdepartmental Committee meeting of the State Departments of Institutions and Agencies and Health. New criteria for referral procedures between the State Board of Child Welfare and this Department were developed.

#### *Institutes and Conferences*

*Seminar on Public Health Concepts for Social Workers*—At the invitation of the United States Public Health Service and the Council on Social Work Education, the Program Coordinator served as a resource consultant at a Seminar on public health concepts for faculty representatives from the 63 graduate schools of social work in the United States and Canada.

The purpose was to stimulate a greater contribution by public health people to community health programs and planning.

*Workshop on Social Work Activities in Public Health*—The Program Coordinator participated in a workshop sponsored by the Children's Bureau, U. S. Department of Health, Education, and Welfare. A publication "Social Work Activities in Public Health" was released as a result of this conference.



**Training Program**

Technological changes, research, and increased consumer demand for services provide a challenge to public health practitioners. To meet these challenges, those who are to deal with these demands must be trained.

The objective of the Training Program is to train public health workers to function effectively. The Training Program, in cooperation with other programs of the Department, provides training and education for public health workers in New Jersey in basic and advanced subjects. During the 18 months ending December 31, 1962 the Department was involved in 114 training and educational activities. Over 7,695 participants spent over 700 days in these sessions.

*Significant Activities*

*Field Training Station for Sanitarians*—A unique opportunity was given to environmental health personnel in New Jersey through the establishment of a Field Training Station at the East Orange Health Department. This training provides 6 weeks of field training experience for recently hired sanitarians in local and state health agencies, under the supervision and instruction of the East Orange Health Department staff, New Jersey State Department of Health and U. S. Public Health Service personnel.

Three such sessions were held during this period. Nine trainees completed the training. Plans have been made to broaden the course in 1963 to provide opportunity for more persons to attend.

*Health Officers Association*—In cooperation with the New Jersey Health Officers Association, this Department conducted 2 resident workshops for health officers:

1. Management Workshop (50 participants)
2. Community Relations Workshop (65 participants)

Three institutes were held for health officers and sanitarians:

1. Food Vending Machine Institute (115 participants)
2. National Sanitation Foundation Standards:
  - a. No. 1 Soda Fountain and Luncheonette Equipment (45 participants)
  - b. No. 2 Food Service Equipment (45 participants)
  - c. No. 4 Gas and Electric Cooking and Warming Equipment (45 participants)
  - d. No. 8 Powered Preparation Equipment (45 participants)
3. National Sanitation Foundation Standards:
  - a. No. 6 Dispensing Freezers (90 participants)
  - b. No. 7 Refrigerators and Freezers (90 participants)

*Diabetes Training*—The New Jersey State Department of Health was selected by the U. S. Public Health Service to conduct a pilot course in training persons in Diabetes Control work. A 4-month course was planned by the Diabetes Control Program to train representatives selected by the U. S. Public Health Service in administrative and technical aspects of diabetes control. Trainees are prepared to administer such programs in other states. The first session graduated a physician, 3 U. S. Public Health Service representatives, a U. S. Public Health Service nurse, and a state representative.

The U. S. Public Health Service has requested that we continue this course next year.

*On-the-Job Training for Local Health Department Personnel*

The Department continues to provide on-the-job training for local health department environmental health personnel. During this period, Paterson and Camden secured this type of training.

The training involves 8 to 11 weekly sessions on basic environmental health topics. Emphasis is placed on field exercises and discussion groups.

Table 1. PROFESSIONAL TRAINING ACTIVITIES  
JULY 1, 1961 TO DECEMBER 31, 1962

Number of applications received and processed .....	96
Master's degrees received 1961-1962 .....	2
Master's degrees received 1962-1963 .....	2

Table 2. EDUCATIONAL AND TRAINING ACTIVITIES—FISCAL YEAR 1960-1961

Activity	Date (s)	No. Participants
<i>Division of Chronic Illness Control</i>		
The Ninth Annual Symposium on Liver and Diabetes	October 25, 1961	150
Program Meeting for Nurses on Heart Disease Control .....	December 13, 1961	125
Program Meeting for Nurses on Heart Disease Control .....	Spring, 1962	150
Nursing in Tuberculosis .....	October, 1961	125
Training Program for Cyto-technicians .....	October through August each year-1-1½ days per week	8
Clinical Experience in Cancer for Nurses .....	September-June each year, 1 day per week	150
Symposium on Current Therapy of Cerebro-Vascular Accidents .....	September 22, 1961	300

<i>Activity</i>	<i>Date (s)</i>	<i>No. Participants</i>
Postgraduate Courses for Physicians (10 sessions) ..	December 13, 1961-February 21, 1962	60
Postgraduate Courses for Physicians (10 sessions) ..	September 27-December 6, 1961	30
Postgraduate Courses for Physicians, Vineland (6 sessions) ..	October 8, 1961-January 28, 1962	144
Diabetes Institute (Glover-Edwards Test Kit) North-ern District ..	November 29, 1961	102
Symposium—Diabetes and the Lower Extremity ..	March 28, 1962	200
The Interrelationship of Oral and Systemic Disease (Dental Health Program) ..	April 11, 1962	200
Symposium on Electroencephalography and Neurology ..	April 18, 1962	125
Organization and Operation of Visiting Homemaker Services ..	February 28-29, 1962	35
Team Approach to Management of Diabetes ..	April 18, 1962	200
Institute on Continuity of Care for Patients with Stroke and Congestive Heart Failure ..	May 3 and 9, 1962	150
Employability and Insurability of the Diabetic Patient ..	May 9, 1962	200
District Conference on Alcoholism (Northern District) ..	December 13, 1961	35
District Conference on Alcoholism (Metropolitan District) ..	April 12, 1962	150
Four Workshops on Continuity of Care for:		
a. The Patient With A Stroke ..	Fall, 1961	100 each
b. The Patient With Congestive Heart Failure ..	Spring, 1962	District
Given in each District State Health Office (2 days each workshop)		
Symposium—Diabetes Mellitus in Children and Young Adults ..	October 31, 1962	118
The Child With Diabetes ..	August 10, 1962	75
Institute on Cancer Nursing ..	November 7, 1962	120
Diabetes Representatives' Training Course (4 months) ..	July-October, 1962	6
Symposium—Carcinoma of the Uterine Body and Cervix ..	May 2, 1962	200
Alcohol Education Workshop for Teachers, Montclair State College ..	June 22, 1961-July 7, 1961	36
Alcohol Education Workshop for Teachers, Trenton State College ..	June 18, 1962-June 29, 1962	18

<i>Activity</i>	<i>Date (s)</i>	<i>No. Participants</i>
Alcohol Education Workshop for Teachers, Glassboro State College ..	August 13-24, 1962	25
Alcohol Education Workshop for Teachers, Montclair State College ..	June 21, 1962-July 5, 1962	25
<i>Division of Constructive Health</i>		
Nursing Home Administration Course (20 sessions) ..	October 18, 1961-June 28, 1962	34
Training Dentists to Treat Handicapped Children (Seton Hall) ..		—
Series (6) of Sessions on Restorative Services for Senior Citizens ..	October 4-December 6, 1962	—
Rehabilitation Nursing-Educational Program ..	February 6-June 19, 1962	89
Rehabilitation for Nurses ..	May 7-25, 1962	9
	June 4-22, 1962	10
Rehabilitation Nursing Educational Program (6 sessions) ..	April to June, 1962	—
Rehabilitation Courses for Nurses ..	April 16-30, 1962	19
Crippled Children Educational Program ..	October 23, 1962	75
Crippled Children Educational Program ..	November 27, 1962	95
Crippled Children Educational Program ..	December 11, 1962	91
Crippled Children Educational Program ..	December 12, 1962	128
Crippled Children Educational Program ..	October 17, 1962-	115
	November 21, 1962	95
The Adolescent and His Family ..	April 18, 1962	131
	May 9, 1962	125
Volunteer Services in Pediatric Units ..	May 24, 1962	179
<i>Division of Environmental Health</i>		
Orientation Session for Staff Personnel on Fluoridation of Public Water Supplies ..	July 14, 1961	35
Smoke Observation Training and Qualification Course ..	October 3-4-5, 1961	30
Smoke Observation Training and Qualification Course ..	September 25-26-27, 1962	20
Seminar for X-ray Sales Personnel ..	November 30, 1961	10
Comparative Medicine-Human Health (Div. of Preventable Diseases) ..	May 23, 1962	—
Potable Water Field Training-Interstate ..	September 12, October 10, October 26, 1962	20

<i>Activity</i>	<i>Date (s)</i>	<i>No. Participants</i>
Food and Beverage Vending Machine Institute	December 6-7, 1961	120
National Sanitation Foundation Standards Institute	May 2-3, 1962	55
Solid Waste Administration Conference	March 6, 1962	20
National Sanitation Foundation Standards Institute	December 6, 1962	95
Meat and Meat Inspection (10 sessions)	September-November, 1961	17
Meat and Meat Inspection (10 sessions)	March-April, 1962	25
Solid Waste Disposal (10 sessions)	September-December, 1962	—
<i>Division of Laboratories</i>		
Abnormal Human Chromosomes	October 27, 1961	—
Slide Seminar on Pediatric Pathology	October 28, 1961	—
Refresher Courses in Parasitology and Mycology	March 26, 27, 28, 1962 March 28, 29, 30, 1962	31 32
12th Annual Slide Seminar with N. J. Society of Pathologists	December 1, 1962	150
Lectures on Fluorescent Antibody Tests for N. J. Society of Medical Technologists	November 1, 1962	60
<i>Division of Local Health Services</i>		
<i>Metropolitan District</i>		
Public Health Nurses In-service Education Meetings (8 sessions)	September 18, 1961-May 14, 1962	—
The Patient With Stroke	November 1, 1961	—
The Patient With Congestive Heart Failure	November 15, 1961	—
Managers of Food Service Establishments Conference	October 1, 1962	—
Paterson In-service Training Course for Environmental Health Staff (8 weeks)	September-October, 1962	20
In-service Education Program for Public Health Nurses in Elizabeth Health Dept.	October 22, November 12, November 26, December 10, December 17, 1962	18
<i>Northern District</i>		
The Patient With Stroke	October 3, 1961	—
The Patient With Congestive Heart Failure	October 10, 1961	—
<i>Southern District</i>		
Our New Puerto Rican Neighbors	March 2, 1962	—
Camden In-service Training Program for Environmental Health Staff (8 sessions)	October-November, 1961	20

<i>Activity</i>	<i>Date(s)</i>	<i>No. Participants</i>
<i>Central District</i>		
The Adolescent and His Family (MCH Program)	April 18 and May 7, 1962	—
<i>Office of Director</i>		
Field Training Station for Sanitarians (Three courses—6 weeks each)	November-December, 1961 January-February, 1962 May-June, 1962	3 3 3
Management Institute for Health Officers	April 11-12, 1962	50
Annual Conference of State and Local Health Officials	March 29-30, 1962	444
Basic Environmental Sanitation Course (Two Parts—196 hours)	Part I—June, July 1962 Part II—September, October, 1962	35
Introductory Sanitation (10 sessions)	March 14-May 16, 1962	24
Application of Public Health Law (10 sessions)	March 14-May 16, 1962	42
Plumbing Regulation and Inspection (10 sessions)	September-November, 1961	46
Plumbing Regulation and Inspection (10 sessions)	September-November, 1962	78
Sanitation Report and Letter Writing (10 sessions)	September-November, 1961	36
Sanitation Report and Letter Writing (10 sessions)	September-November, 1962	35
Registration of Vital Statistics (10 sessions)	September-November, 1961	10
<i>Civil Defense</i>		
Emergency Manpower Conference	October 30, 1962	—
<i>Division of Preventable Diseases</i>		
Mouth-to-Mouth Resuscitation	(series)	—
Epidemiology for Nurses (5 sessions)	November 7-December 5, 1962	—
Educational Program on Migrants	October 19, 1962	53
VD Staff Training in Cluster Testing	November 1, 1962	27
VD Staff Training in RPR Card Test for Syphilis	December 6, 1962	25

<i>Activity</i>	<i>Date(s)</i>	<i>No. Participants</i>
Hospital Staff—Medical Society Syphilis Lecture Series .....	July 28, November 1, 1961, January 16, February 7, 27, March 15, 20, 27, April 3, 5, May 23, August 22, November 20, 1962	595
Training and Orientation Course for New VD Field Workers .....	June 17-22, July 2-6, 1962	11
<i>Personnel Office</i>		
English, Report and Letter Writing (Southern District) (5 sessions) .....	August 2-30, 1961	14
Dictation (Southern District) .....	August 30, 1961	7
Division of Aging Orientation Program .....	June 27, 1961	12
Seasonal Employees Orientation Program .....	June 29, 1961	25
Fort Dix Personnel Orientation Program .....	August 4, 1961	6
Audio-visual Aids Course .....	August 8, 1961	15
Conference Leaders Course (6 sessions) .....	November-December, 1961	13
Driver Safety Course (Series) .....	May, 1962	250
Orientation Course .....	May 31, 1962	35
Audio-visual Aids Course (4 sessions) .....	June, 1962	30
Conference Leaders Course (6 sessions) .....	July-August, 1962	8
Public Speaking Course (6 sessions) .....	July-August, 1962	10
Fort Dix Personnel Orientation Course .....	August, 1962	7
<i>Division of Special Consultation Services</i>		
Refresher Course for Diet Counseling (Four 8 hr. days—Wednesdays) .....	October 17-November 7, 1962	35
Refresher Course in Diet Counseling (Ten 2 hr. sessions—Wednesdays) .....	March 14-May 16, 1962	34
Refresher Course in Diet Therapy (Six 4 hr. sessions—Wednesdays) .....	October 10-November 14, 1962	39

## Division of Vital Statistics and Administration

JOHN B. VAN ELLIS, *Director*

### Programs:

Administrative Services .....	DONALD J. WERDEN <i>Supervisor</i>
Budget and Accounts .....	GEORGE E. FORMAN <i>Program Coordinator</i>
Examination and Licensing .....	KENNETH J. CARHART <i>Program Coordinator</i>
Personnel .....	WILLIAM R. MONYER <i>Program Coordinator</i>
Public Health Statistics .....	ANNA P. HALKOVICH, B.A., M.B.A. <i>Program Coordinator</i>
Vital Statistics Registration .....	F. MERTON SAYBOLT, B.S., M.S.P.H. <i>State Registrar and Program Coordinator</i>

## Division of Vital Statistics and Administration

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This Division provides administrative guidance and service to all operating units of the Department through the following Program activities: Administrative Services, Budget and Accounts, Examination and Licensing, Personnel, Public Health Statistics, and Vital Statistics Registration. The Board of Barber Examiners is administered through the Bureau of Examination and Licensing.

Particulars of the various services rendered by this Division are presented in the following reports of Program Coordinators.

Final plans and specifications for construction of the new facilities to house all units of the Departments of Health and Agriculture were completed. Bids for the construction of the new facility have been received and construction contracts have been awarded. Completion is scheduled for fall, 1964.

### Administrative Services Program

Basic functions of the Administrative Services Program include design and production of health education materials; maintenance, delivery, and erection of exhibits; preparation of television charts; maintenance of audio-visual aids; booking of exhibits and audio-visual aids, including films; warehousing and distribution of printed materials, office supplies, and drugs; production of printed materials by the offset process, including vari-typing; mechanical layout and plate making; and provision of mimeographing, addressographing, and mailing services. Courier service to District State Health Offices is now assigned to this Program.

Personnel at the end of the fiscal year totaled 18, including 1 part-time employee for custodial services.

Graphic art services and consultation were rendered to several other departments.

### *Health Education Services*

In conjunction with the Health Education Program, this Program developed and produced new exhibits and printed materials. Existing and new exhibits were displayed at 79 meetings and conferences as requested.

The professional film library continues to be available to outside professional groups in addition to the Departmental staff. There were 444 bookings for professional films.

The use of health education films for lay groups continues to be a popular service. These films were seen by more than 556,000 persons. Lay film bookings continue to be made for the Department by the New Jersey State Museum of the State Department of Education.

#### *Printing and Addressographing*

A total of 405 reprint jobs of existing materials and 464 newly designed jobs were processed in our print shop for a total of 8,108,800 impressions. During this period, 618 mimeograph stencils were processed for a total of 484,800 impressions. This printing was for forms, letters, information documents, posters and other educational material required by the various programs of the Department.

During this period, the addressographing and mailing personnel handled a total of 343 jobs; 155 were mass mailings. A total of 505,925 pieces were addressographed.

#### *Warehousing*

Printed materials, office supplies, and nurses' field supplies were stored and distributed. Refrigerated storage of perishable drugs and biologics is maintained. Periodic inventories are conducted in cooperation with the Budget and Accounts Program.

#### **Budget and Accounts Program**

The major activities of this Program include: maintenance of Departmental fiscal records; accounting of all funds received and expended; preparation and revision of budgets for both state and federal moneys; preparation of periodic expenditure reports, processing detailed applications for all purchases; and analysis of time studies and their relation to allocation of funds. Stock inventories and inventories of permanent equipment are also maintained by this Program.

Auditing of expenditures in connection with Grant-in-Aid Contracts between this Department and the various municipalities, hospitals, and other local public health agencies continues to increase.

This Program coordinated and assisted in the analyses of nursing cost statements and in the standardization of costs for services rendered by the Homemaker Program.

The standardization of bookkeeping machines facilitated the work of posting and thus expedited the preparation of expenditure reports.

New purchase procedures, as adopted by the Division of Purchase and Property of the Department of Treasury, were initiated.

An increase in federal grant-in-aid funds for water pollution control necessitated the centralization of certain functional activities to obtain the maximum state dollars for matching participation for the fiscal year ending June 30, 1962.

The Department received increased federal grant-in-aid funds for Heart Disease Control and Chronic Illness Control for the fiscal year ending June 30, 1962.

In addition to the U. S. Public Health Service and Children's Bureau federal grant-in-aid funds, other federal grants were received to continue the Virus Research Project, the Radiation Research Project, the Coronary Heart Disease Research Project, and the Homemaker Executive Development Project. Four new federal grants were received for research studies in heart failure, tuberculosis, and virus disease. In cooperation with the Program Coordinator and/or the project investigator, the Budget and Accounts Program allocated and accounted for expenditures of moneys for these federal grants.

Following is the consolidated financial statement of the Department, as of June 30, 1962:

#### *Receipts*

##### Received for Transfer to State Treasury:

Licenses and Permit Fees .....	\$298,159.10
Penalties .....	4,325.00
Certified Certificates .....	41,958.69
Examination Fees .....	11,260.50
Miscellaneous .....	2,034.86
Net Total .....	\$357,738.15

##### Received for Disbursements:

State Appropriation and Transfers .....	\$3,409,924.00
United States Department of Health, Education and Welfare—Public Health Service .....	1,038,430.34
Children's Bureau .....	745,577.82
Other Federal Funds .....	349,313.64
Milbank Research Grant (Private) .....	8,807.65
Net Total .....	\$5,552,053.45

DEPARTMENTAL ALLOCATIONS  
July 1, 1961-June 30, 1962

DIVISION	Salaries		Other Allocations		Private	Total State	Total Federal	Total Private	Total All Funds
	State	Federal	State	Federal					
Office of the Commissioner	\$78,978.00	\$115,582.68	\$24,000.75	\$62,482.14	\$8,807.65	\$102,084.75	\$178,064.82	\$8,807.65	\$280,867.22
Vital statistics and administration	345,208.00	120,881.00	83,473.07	21,002.44	.....	428,679.67	145,483.44	.....	574,163.11
Environmental health	506,539.75	124,353.00	124,458.34	92,941.85	.....	721,048.00	217,696.85	.....	938,744.84
Preventable diseases	110,650.00	99,369.00	138,571.25	60,404.18	.....	257,621.25	159,883.18	.....	417,464.43
Chronic illness	77,300.00	68,744.00	246,707.90	357,417.95	.....	364,133.93	426,102.04	.....	790,296.57
Laboratories	303,101.00	130,720.85	69,811.00	82,335.20	.....	372,972.00	222,056.05	.....	595,028.05
Constructive health	393,083.00	64,209.00	276,431.50	460,295.82	.....	308,469.50	524,504.82	.....	802,974.82
Special consultation	107,031.00	53,745.00	8,599.26	6,054.00	.....	116,230.26	59,709.00	.....	175,929.26
Local health services	547,643.00	158,928.00	130,141.55	40,793.00	.....	677,784.55	199,721.00	.....	877,505.55
Total allocations	\$2,208,662.78	\$945,635.22	\$1,141,261.22	1,187,686.58	\$8,807.65	\$3,400,924.00	\$2,133,321.80	\$8,807.65	\$5,552,053.45

DEPARTMENTAL EXPENDITURES  
July 1, 1961-June 30, 1962

Office of the Commissioner	\$78,977.25	\$114,343.59	\$23,747.52	\$57,008.12	\$8,807.65	\$102,751.77	\$171,441.71	\$8,807.65	\$289,974.13
Vital statistics and administration	342,259.15	120,583.52	81,988.57	23,579.24	.....	421,222.72	144,162.76	.....	565,385.48
Environmental health	491,841.69	121,273.49	121,273.49	75,495.91	.....	716,115.18	194,773.11	.....	910,888.29
Preventable diseases	118,621.99	68,391.29	137,716.82	57,276.57	.....	256,338.81	155,670.86	.....	412,009.67
Chronic illness	77,168.68	67,439.86	286,185.28	340,529.00	.....	363,353.96	407,068.92	.....	771,322.88
Laboratories	302,304.46	103,107.82	68,369.57	59,178.43	.....	370,674.03	162,316.25	.....	532,990.28
Constructive health	91,220.44	64,047.60	208,520.56	306,030.44	.....	359,741.00	469,978.01	.....	829,719.01
Special consultation	107,573.41	53,896.31	8,511.57	5,059.20	.....	116,084.98	58,163.61	.....	174,248.59
Local health services	547,262.43	158,255.33	127,102.16	39,821.54	.....	674,304.50	198,076.87	.....	872,381.37
Total expenditures	\$2,200,209.50	\$899,435.52	\$1,124,410.54	\$1,054,908.51	\$8,807.65	\$3,983,620.04	\$1,054,344.03	\$8,807.65	\$5,316,771.72
Balances June 30, 1962	\$8,453.28	\$40,199.70	\$17,850.08	\$132,778.07	\$ .00	\$26,303.90	\$78,977.77	\$ .00	\$26,381.73

Examination and Licensing Program

This Program provides examinations and licenses qualified personnel for essential public health services for employment by local authorities and agencies.

During this period, 1,200 applications were processed for examinations.

There were 110 examinations conducted during the period.

There were 502 licenses issued as a result of examinations.

During this period, new rules and regulations were adopted by the Department covering the licensing and examinations for operators of public water supply systems, public water treatment plant and public sewage treatment plants.

In accordance with these rules and regulations and in cooperation with the Division of Environmental Health, all licenses, plants, and systems were reclassified.

Qualifications for admission to Health Officer licensing examinations were modified during this period.

Rules and regulations and related material governing licensure of all personnel licensed by this Department to perform services related to protection of public health were edited and printed for distribution to the general public and applicants for such licenses.

The various licensing boards, whose members serve without remuneration, provided consultative services contributing greatly to the activities of the Program.

Personnel Program

The Personnel Office has responsibility to recruit qualified applicants to meet the various clerical, technical and professional needs of the many programs of the Department; to maintain adequate classification of positions, processing of all 10 Department payrolls; maintain an accurate set of personnel records for Departmental employees; and to provide various in-service training courses as needed, such as the orientation course for new employees.

These responsibilities require constant cooperation and an effective working relationship among the Departmental units and with other state agencies, such as the Departments of Civil Service and Treasury and with the U. S. Department of Health, Education and Welfare.

The Employee Handbook and the orientation course for new employees quickly prepare new employees to provide better services in the various programs of the Department.

This Program provides consultation to Departmental supervisors and employees concerning personnel actions, salary problems, pension questions, insurance coverage, Civil Service rules, Department policies, sick leave and vacation leave, performance rating, disciplinary problems, etc.

Personnel needs are constantly changing because of expanding activities and services. To meet these needs, the Personnel Office has recruited applicants with specialized training and has further helped to develop the Department employees by providing in-service training courses.

This Program also has conducted evaluations of a number of Department positions and recommended changes in classifications to meet various needs.

Exit interviews have been conducted. The information obtained was evaluated to determine true reasons for separations.

Members of this office served on various committees of the State Personnel Council and devoted many hours to various projects and in preparing reports and recommendations.

During this reporting period, 28 job specifications were reviewed and revised.

The Personnel Office provided services to 614 Departmental employees requiring processing of approximately 32,000 records, forms, etc. relative to personnel actions, changes, payroll, time reports, etc. for the reporting period.

Service award pins were presented to 172 Department employees.

Several other projects were assigned to this office. They included: employee relations and recreation programs; coordination of payroll accounting procedures with the Department's IBM system; assisting with the housing needs of the Department; providing mail distribution services to the 7 different locations of the Department in the Trenton area; conducting recruiting programs at various colleges and universities throughout the eastern part of the United States; and assisting with charity and savings bond campaigns.

This Program also has the responsibility for maintaining the listing of Department staff members with home addresses and telephone numbers for use with the Department's Alert and Mobilization Plan. The plan is administered by this office at the request of the State Commissioner of Health to provide round-the-clock public health coverage to the citizens of the state whenever emergencies may arise.

Organizational charts of the various programs were reviewed and helped to keep the programs in balance and adequately staffed.

At the beginning of this period, there were 182 classifications in the Department; and 186 at the end. As of December 31, 1962, there were 622 budgeted positions of which 442 were filled by persons with permanent civil

service status, 89 by persons with temporary civil service status, and 83 by persons in emergency or unclassified status. In addition to the regular staff of the Department, a number of professional workers such as doctors, dentists, nurses, special project employees, etc. were hired during this period on a per diem or per hour basis.

As of December 31, 1962, 391 employees were being paid from state funds and 223 were being paid from federal funds.

At the end of this period there were approximately 44 vacant positions which this Program is attempting to fill. Most of these positions require persons with a highly specialized professional background.

### Vital Statistics Registration Program

CALENDAR YEARS, 1961 AND 1962

#### *Historical Background*

The records for the period 1848 to 1887 were collected originally by the Secretary of State and were turned over to the Bureau of Vital Statistics when it was created by an act of the Legislature in 1887.

The State Registrar has custody of almost 13,000,000 records of births, marriages, deaths, and fetal deaths. These date back to 1848. All records of births and marriages from 1848 to 1903, and all death certificates from 1848 through 1952, have been microfilmed. These original records are stored several miles from the State House.

In 1954, the Bureau organized its activities into 2 programs. One of these was the Vital Statistics Registration Program and the State Registrar became its coordinator, as well as having the responsibilities of Bureau Chief.

By law, the State Registrar has supervisory power over the 568 local registrars and must furnish the forms required for registering vital events. Some forms are used exclusively by the local registrar and others are distributed by him to physicians, clergymen, funeral directors, or hospital administrators.

The Program is also responsible for searching and issuing transcripts of entries in the 1905 and 1915 State Census Records which are on microfilm.

#### *Workload and Accomplishments*

During the calendar years 1961 and 1962, the Program received and processed 465,493 original reports of vital events, approximately 4,000 delayed reports of births, and about 12,000 corrections to current and old records.



In addition, there were 19,070 office or telephone calls by persons wishing to file corrections or needing help in other registration matters.

New births records were prepared for 4,812 persons who had been adopted in 1961, 1962 or prior years. Copies of these records were sent to the respective local registrars.

The Program examined 164,314 premarital certificate forms for acceptability before detaching them from the marriage certificates forwarded by local registrars.

Almost 2,000 persons applied for searches of and transcripts from the 1905 and/or 1915 State Census Records.

The Department must certify monthly the name, place, and date of burial or cremation, and the name of the war for each veteran dying in New Jersey whose death certificate indicates that burial or cremation was within New Jersey. In 1961 and 1962, this required typing more than 10,000 copies, all of which were subsequently sorted by county and forwarded to the respective county supervisors of veterans' interments.

A daily average of 450 pieces of mail were opened and processed. This mail contained not only requests for searches and certified copies of original records, but also requests for assistance in filing delayed reports of births and corrections to records.

The Program received 115,141 applications for searches of the records of 1 or more years for 1 or more persons. About 37 percent of our applications were from agencies requiring a certification that the record was on file or a free certified copy. The balance of 63 percent required the preparation of certified copies or statements that the record requested could not be found, for all of which the Program received fees of \$83,247.14.

Each month, the Program selected a 10 percent sample of death certificates to microfilm for the National Vital Statistics Division. This amounted to an annual total of approximately 12,000 images. In addition, beginning in 1961, the Program prepared and sent about 4,000 photocopies (a 5 percent sample) of marriage certificates to the National Vital Statistics Division.

The Program also gave the Cancer Control Program copies of many death records. These were used to assist in the clearance of Cancer Registers of hospitals in and outside of New Jersey.

At the suggestion of the state auditors, pilot studies were made in 1961 on new procedures for handling and accounting fees. These procedures were adopted in 1962.

The Program assisted with projects of the National Vital Statistics Division. One 1961 project, involving searching for and microfilming birth

and death records for babies born in 1960 who died before becoming 1 year old, was a continuation of a project begun in 1960.

Many hours were spent planning the arrangement of personnel and equipment in the new building. In addition, several proposals for additional microfilming and equipment needs were worked out in detail and submitted for consideration.

A 3-day training course on cause-of-death coding was held in Bloomfield during 1961. Twenty-two persons from offices of local registrars attended the course.

A summary of the volume of the major activities of the Program follows:

Table 1. ORIGINAL CERTIFICATES RECEIVED, PROCESSED, AND PERMANENTLY FILED

Certificate Type	Calendar Year		
	1962	1961	1960
Birth .....	127,110	130,369	127,580
Fetal Death .....	1,928	2,035	1,994
Marriage .....	41,431	40,726	39,820
Remarriage .....	1,162	1,051	1,079
Death .....	60,427	59,254	57,861
Total .....	232,058	233,435	228,334

Table 2. SEARCHES REQUESTED AND FEES RECEIVED

Item	Fiscal Year		
	1962	1961	1960
Searches made and/or certified copies issued for which fees were received .....	36,487	34,668	33,615
Searches made and/or certified copies issued for which no fees were received .....	21,813	22,136	19,805
Total searches .....	58,300	56,804	53,420
Fees received for searches and certified copies	\$41,958.69	\$39,067.28	\$38,106.82

### Public Health Statistics Program

CALENDAR YEAR, 1961

New Jersey's births, deaths and marriages increased during 1961 while infant deaths decreased slightly. When compared with the provisional rates for these events for the United States, the state's rates for births, marriages and infant deaths were lower and the death rate was higher.

The selected leading causes or groups of causes of death showed lower death rates for diseases of the circulatory system and influenza, pneumonia and bronchitis. Higher mortality rates were recorded for malignant neoplasms, vascular lesions affecting the central nervous system, diabetes, cirrhosis of liver, and motor vehicle accidents.

A summary of the 1961 data covering population estimates, births, deaths and marriages follows.

*Population:* The July 1, 1961 population estimate for New Jersey was 6,221,000. This estimate was based on the assumption that the average yearly change between the April 1, 1950 and April 1, 1960 Census continued to 1961.

A distribution of the State's population by county and major cities appears in the Annual Departmental Report as part of Table 3. Vital Events by Counties and Major Cities (Numbers and Rates) : 1961.

#### *Births*

*Resident Births:* A total of 135,320 resident births and a birth rate of 21.8 per 1,000 estimated population were recorded in 1961. The numerical increase in 1961 amounted to 2 percent. In 1960 there were 132,594 births with a rate of 21.7.

The 1961 crude birth rate of 21.8 live births per 1,000 population for New Jersey was somewhat lower than the provisional 1961 birth rate of 23.4 for the United States.

Illegitimate births accounted for 4.0 percent of the live births in 1961 and 3.6 percent in 1960. There were 5,432 illegitimate births in 1961 as compared with 4,801 in the preceding year.

Of the total number of infants recorded as being born out of wedlock, 43 percent or 2,327 had mothers under 19 years of age. Nearly all the births which occurred to mothers 10-14 years of age were out of wedlock. Of the 155 babies born to mothers in this age group, 131 were illegitimate.

*Births Occurring in New Jersey:* In 1961 a total of 130,349 live births occurred in New Jersey. Slightly more than 99 percent of the total were delivered in hospitals. In addition 718 babies or 0.6 percent were attended by physicians outside of hospitals and 29 births or 0.02 percent had midwives in attendance.

Although birth weight is required information on birth certificates, it was not entered or was unknown on 424 certificates. Of the 129,925 records on which this item was completed, 10,517 infants weighed 2,500 grams or less (5 lb. 8 oz. or less). For purposes of classification this group, which con-

stitutes 8 percent of the infants whose birth weight was known, is defined as "immature." A distribution of births by birth weight, together with percent of the births falling in each weight group, follows.

<i>Weight Group</i>	<i>Number</i>	<i>Percent</i>
Over 2500 grams .....	119,408	91.9
2001-2500 grams, incl. ....	7,031	5.4
1501-2000 grams, incl. ....	1,912	1.5
1001-1500 grams, incl. ....	863	0.7
1000 grams or less .....	711	0.5
	129,925	100.0
Total with weight given .....		

*Marriages:* For the third consecutive year the marriage rate of 6.5 per 1,000 population was continued in 1961. Although only a 2.2 percent rise in marriages was noted, the 1961 total of 40,699 marriages is higher than the totals recorded in each of the preceding four years. New Jersey's marriage rate of 6.5 in 1961 was lower than the 8.5 provisional rate for the United States in the same year. The month of June was the most popular month for marriages with September being a close second; the least number of marriages were performed in the month of March.

Of interest is the fact that more than three and a half times as many females as males married in their teens. A total of 11,781 brides and 3,153 grooms were in this category.

While 47 females under 15 years of age were married in 1961, the lowest age at marriage for males was 15. As would be expected, most marriages occurred in the age group 20-24. There were 16,003 brides and 17,664 grooms in this age group. Males who married at 65 years of age and over numbered 829 while females in this same age group totalled 355.

*Deaths:* Both the resident deaths and the death rate from all causes rose slightly in 1961. There were 60,814 deaths with a crude death rate of 9.8 per 1,000 estimated population in 1961 as compared with 59,330 deaths and a rate of 9.7 in the year preceding.

The provisional 1961 death rate for the United States was 9.3 per 1,000 population as compared with New Jersey's rate of 9.8.

Of the 59,246 deaths which occurred in New Jersey, 6,132 or slightly more than 10 percent were deaths of veterans. There were 3,148 World War I veterans; 2,252 were World War II veterans; and 78 were veterans of both wars. Spanish-American War veterans accounted for 105 deaths and an additional 2 persons who died were veterans of the Spanish-American War and the First World War. Veterans of the United Nations Forces accounted for 208 deaths and an additional 39 decedents were veterans of other wars. Of

the remaining 300 death certificates, military service was indicated but no war was specified.

Except where otherwise stated in the text or tables, all deaths were allocated to the usual place of residence of the deceased.

*Infant Mortality:* A slight drop in infant deaths and the infant death rate occurred in 1961. There were 3,244 deaths under one year and an infant mortality rate of 24.0 per 1,000 live births. In 1960 infant deaths numbered 3,248 and resulted in a rate of 24.5.

New Jersey's infant mortality rate of 24.0 in 1961 was lower than the provisional 1961 rate of 25.3 per 1,000 live births for the United States.

Neonatal deaths (deaths of infants less than 28 days old) accounted for 2,470 deaths and a neonatal death rate of 18.3 per 1,000 live births in 1961. While, numerically, the 1961 total was higher by 11 deaths, the neonatal mortality rate was lower than the rate of 18.5 recorded in the preceding year.

Perinatal deaths (infant deaths less than seven days old plus fetal deaths) numbered 4,433 and yielded a perinatal mortality rate of 32.2 per 1,000 total births (live births plus fetal deaths). In 1960 there were 4,411 perinatal deaths and a death rate of 32.7.

*Maternal Deaths:* While the 1961 total of 47 maternal deaths was higher by three deaths over the total for the preceding year, the 1960 maternal mortality rate of 0.3 per 1,000 live births continued in 1961. The rate of 0.3 continues to be the lowest recorded for New Jersey.

*Fetal Deaths:* There were 2,207 fetal deaths with a fetal death rate of 16.3 per 1,000 live births in 1961. In the preceding year fetal deaths numbered 2,201 and the rate was 16.6.

*Leading Causes of Death:* Rank order for the first seven leading causes or groups of causes of death remained the same in 1961 as in 1960. These selected causes, accounting for almost 83 percent of the total deaths, are listed in descending order of frequency with percent of total deaths for which each was responsible.

Cause	Percent
1. Diseases of the circulatory system .....	47.0
2. Malignant neoplasms .....	18.4
3. Vascular lesions affecting the central nervous system .....	9.0
4. Influenza, pneumonia and bronchitis .....	3.2
5. Diabetes mellitus .....	2.2
6. Cirrhosis of liver .....	1.7
7. Motor vehicle accidents .....	1.3

In 1961 lower mortality rates were observed for diseases of the circulatory system and influenza, pneumonia and bronchitis. Higher rates were noted for the remainder of the list.

Although fifteenth in order of frequency, tuberculosis showed an increase in both the number of deaths and the death rate.

*Heart Disease:* Most of the 28,598 deaths attributed to diseases of the circulatory system consisted of deaths involving heart diseases. There were 26,499 deaths due to heart disease yielding a fatality rate of 426.0 per 100,000 population in 1961. In the preceding year there were 26,187 deaths due to heart diseases and a death rate of 429.4.

*Cancer:* Deaths due to malignant neoplasms were higher by five percent in 1961. There were 11,194 cancer deaths in 1961 as against 10,655 in 1960. For each of these years cancer mortality rates per 100,000 population were 179.9 and 174.7, respectively.

*Vascular Lesions:* A rise of almost six percent was noted in fatalities due to vascular lesions affecting the central nervous system, there being 5,503 deaths in 1961 as compared with 5,194 deaths in the preceding year. Fatality rates per 100,000 population were 88.5 in 1961 as against 85.2 in 1960.

*Influenza, Pneumonia and Bronchitis:* Slightly lower were deaths and the death rate for respiratory diseases in 1961. Together, these diseases accounted for 1,966 deaths and a rate of 31.6 per 100,000 population. In 1960 there were 1,980 deaths with a rate of 32.5.

Only influenza deaths decreased appreciably in 1961, dropping from 45 to 28 deaths. Pneumonia deaths (1,799) and bronchitis (139) remained about the same as in 1960.

*Diabetes:* With 1,360 deaths and a death rate of 21.9 per 100,000 population, diabetes continued its rise. In 1960 there were 1,238 deaths yielding a death rate of 20.3. Diabetes was fifth among leading causes of death both in 1960 and 1961.

*All Accidents:* Fatalities due to all types of accidents numbered 2,328 in 1961 and 2,214 in 1960. Death rates per 100,000 population for each of the years were 37.4 and 36.3, respectively. Motor vehicle accidents and accidental falls accounted for most of the accidental deaths. In 1961 motor vehicle accidents took 791 lives or 12.7 deaths per 100,000 population. This compares with 754 deaths and a death rate of 12.4 in 1960. Accidental falls accounted for 692 fatalities in 1961 and 676 in the preceding year. The death rate for this category of accidents was 11.1 per 100,000 population in both years.

*Deaths From Reportable Diseases*

*Tuberculosis:* Tuberculosis deaths rose from 354 deaths in 1960 to 389 deaths in 1961 and the mortality rate increased from 5.8 to 6.3 per 100,000 population.

Starting with 1944, New Jersey's tuberculosis mortality rate began to decline until 1961 when a reversal in the downward trend occurred.

While there were 389 deaths statistically charged to tuberculosis as the primary cause of death, there were an additional 222 fatalities statistically assigned to other primary causes of death with tuberculosis mentioned as a secondary cause. Combined, these represent 611 deaths. Of this total 198 deaths or 32 percent were not reported as cases or were reported after death. In 1960 the combined total of 558 deaths, involving tuberculosis as a primary or secondary cause, showed 179 fatalities (32 percent) unreported as cases.

*Other Reportable Diseases:* Of the childhood diseases reported in 1961, measles accounted for 18 deaths as against 6 in 1960; whooping cough took one life in 1961 and 2 in the year preceding; and streptococcal sore throat, including scarlet fever, was charged with 2 deaths in 1961 and one in 1960. Acute poliomyelitis was responsible for 4 deaths while 3 more deaths were due to late effects of poliomyelitis; comparable figures for 1960 were five deaths due to acute poliomyelitis and three due to late effects.

There were 24 deaths from infectious hepatitis (8 in males and 16 in females) in 1961 as compared with 29 deaths in the preceding year. One death was charged to leptospirosis in 1961. Acute infectious encephalitis was responsible for 18 fatalities, and two additional deaths resulted from late effects of this disease. In 1960 acute infectious encephalitis took 14 lives, and one additional death occurred as a result of late effects.

Syphilis deaths numbered 71 as compared with 76 in 1960. One of the 71 deaths occurred in an infant less than one year old.

## TABLES AND CHARTS—1961

- Table 1. Population Estimates and Vital Events (Numbers and Rates): 1937-1961.  
 Chart 1. Birth and Death Rates per 1,000 Population, Five-Year Averages: 1880-1959.  
 Table 2. Births, Infant Deaths, Neonatal Deaths, Fetal Deaths, Perinatal Deaths and Maternal Deaths, Numbers and Rates: 1937-1961.  
 Table 3. Vital Events by Counties and Major Cities, Numbers and Rates: 1961.  
 Table 4. Births, Marriages, Deaths, Fetal Deaths, Maternal Deaths, Infant Deaths and Neonatal Deaths by Counties and Municipalities: 1961. (Marriage data by place of occurrence, all other by place of residence.)  
 Table 5. Births, Marriages and Deaths in New Jersey by Month of Occurrence: 1961.  
 Table 6. Marriages in New Jersey by Age of Husband by Age of Wife: 1961.

- Table 7. Marriages in New Jersey by Previous Marital Status: 1961.  
 Table 8a. Infant Deaths by Age and Immaturity: 1961.  
 Table 8b. Infant Deaths by Cause and Age: 1961.  
 Table 8c. Deaths from Certain Diseases of Early Infancy by Specific Cause and Age Group: 1961.  
 Table 9. Principal Causes of Death by Specified Age Groups: 1960-1961.  
 Table 10a. Deaths from Diseases of the Circulatory System by Cause Group by Age and Sex: 1960-1961  
 Table 10b. Death Rates for Diseases of the Circulatory System by Cause Group by Age and Sex: 1960-1961.  
 Table 10c. Deaths from Heart Diseases by Counties and Major Cities, Numbers and Rates: 1960-1961.  
 Table 11a. Deaths from Neoplasms by Cause Group, by Age and Sex: 1960-1961.  
 Table 11b. Death Rates for Malignant Neoplasms by Cause Group, by Age and Sex: 1960-1961.  
 Table 11c. Deaths from Malignant Neoplasms by Counties and Major Cities, Numbers and Rates: 1960-1961.  
 Chart 2. Cancer Death Rates per 100,000 Population, Five-Year Averages: 1880-1959.  
 Table 12a. Deaths from Diabetes by Counties and Major Cities, Numbers and Rates: 1960-1961.  
 Table 12b. Deaths from Diabetes by Age and Sex, Numbers and Rates: 1960-1961.  
 Table 13a. Motor Vehicle Deaths in New Jersey by Cause of Death by Age: 1961.  
 Table 13b. Nontransport Accidental Deaths in New Jersey by Cause of Death by Place of Accident: 1961.  
 Table 13c. Resident Deaths Due to Accidents by Cause of Accident for Selected Age Groups, Number and Rank: 1961.  
 Table 14a. Births by Legitimacy for Counties and Major Cities: 1961.  
 Table 14b. Births by Legitimacy by Age of Mother: 1961.  
 Table 15. Resident Births by Weight Group by Age Group of Mother: 1961.  
 Table 16. Infant and Maternal Deaths for Counties and Major Cities, Numbers and Rates: 1961.  
 Table 17. Maternal Deaths by Specific Cause: 1961.  
 Table 20. Deaths by Cause by Sex and Age Groups: 1961.  
 Table 22. Deaths by Cause Groups by Sex and Age Groups: 1961. (For the State, each county, cities having estimated population of 50,000 or more, State institutions and military posts.)  
 Table 23a. Cases of Reportable Diseases by County of Residence: 1961. (Exclusive of Cerebral Palsy and Infectious Encephalitis.)  
 Table 23b. Reported Cases of Central Nervous System Diseases of Viral Etiology by County: 1961.  
 Table 23c. Reported Cases of Central Nervous System Diseases of Viral Etiology by Month: 1961.  
 Table 23d. Reported Cases of Central Nervous System Diseases of Viral Etiology by Age: 1961.  
 Table 23e. Vaccination Status of Poliomyelitis Cases by Paralytic Status by Age: 1961.

- Table 24a. Deaths from Reportable Diseases by County of Residence: 1961.  
 Table 24b. Deaths from Reportable Diseases by Sex and Age Group: 1961.  
 Table 25a. Tuberculosis Cases and Deaths; Numbers, Rates and Case-Death Ratios for Counties and Major Cities: 1961.  
 Table 25b. Total Tuberculosis Cases and Active and Probably Active Cases by Age Group, Numbers and Rates: 1961.  
 Table 25c. Tuberculosis Cases by Clinical Status for Counties and Major Cities: 1961.  
 Table 25d. Active and Probably Active Tuberculosis Cases by Age Groups for Counties and Major Cities: 1961.  
 Table 25e. Active and Probably Active Tuberculosis Cases by Bacterial Status for Counties and Major Cities: 1961.  
 Table 25f. Active and Probably Active Pulmonary Tuberculosis Cases by Extent of Disease by Counties and Major Cities: 1961.  
 Table 25g. Newly Reported Active and Probably Active Tuberculosis Cases and Rates by Sex by Counties and Major Cities: 1961.  
 Table 26a. Syphilis and Gonorrhea Cases by Counties and Major Cities, Numbers and Rates: 1961.  
 Table 26b. Venereal Disease Cases by Age Group, Numbers and Rates: 1961. (Including Military Cases.)  
 Table 26c. Cases of Syphilis, by Stage, and Gonorrhea, Numbers and Rates: 1942-1961. (Civilian Cases Only.)

Table 1. POPULATION ESTIMATES AND VITAL EVENTS: 1937-1961  
(Numbers and Rates)

YEAR	Estimated Population As of July 1	BIRTHS		MARRIAGES		DEATHS	
		Number	Rate	Number	Rate	Number	Rate
1937	4,127,500	55,197	13.4	36,190	8.8	45,319	11.0
1938	4,139,400	56,602	13.7	31,006	7.5	44,045	10.6
1939	4,151,300	56,859	13.7	31,895	7.7	43,837	10.6
1940	4,163,100	59,328	14.3	41,059	9.9	45,206	10.9
1941	4,199,900	67,104	16.0	46,533	11.1	45,971	10.9
1942	4,293,428	80,498	19.1	50,498	11.9	48,270	10.9
1943	4,235,233	82,356	19.4	41,045	9.7	49,781	11.8
1944	4,167,840	75,652	18.2	36,084	8.7	47,340	11.4
1945	4,200,841	76,995	18.3	39,711	9.5	47,633	11.3
1946	4,304,261	95,044	22.1	61,020	14.2	46,261	10.7
1947	4,435,000	106,086	23.9	55,302	12.6	43,276	10.0
1948	4,729,000	97,273	20.6	51,913	11.0	48,107	10.2
1949	4,786,000	97,414	20.4	44,469	9.3	47,706	10.0
1950	4,832,000	97,734	20.2	46,291	9.6	48,837	10.1
1951	4,936,000	105,218	21.1	44,564	8.9	50,098	10.0
1952	5,112,000	110,215	21.6	41,125	8.0	51,430	10.1
1953	5,236,000	112,522	21.5	40,886	7.8	52,794	10.1
1954	5,359,000	118,252	22.1	39,744	7.4	51,203	9.6
1955	5,482,000	120,969	22.1	40,327	7.4	54,055	9.9
1956	5,605,000	124,580	22.2	41,152	7.3	54,418	9.7
1957	5,728,000	129,237	22.5	40,367	7.0	57,171	10.0
1958	5,851,000	129,730	22.2	38,398	6.6	57,552	9.8
1959	5,974,000	130,660	21.9	38,659	6.5	58,039	9.7
1960	6,098,000	132,594	21.7	39,820	6.5	59,330	9.7
1961	6,221,000	133,320	21.8	40,699	6.5	60,314	9.8

Note: Rates are per 1,000 population.

Marriage data are by place of occurrence.

For similar data for the period 1921 through 1936, see Table I of the Annual Report for any year from 1957 through 1961; for the years 1919 through 1920, see Table I of the Report for any year from 1921 through 1950.

Chart I.  
BIRTH AND DEATH RATES  
per 1,000 population  
1880-1959  
(Based on Five-Year Averages of Events and Population)

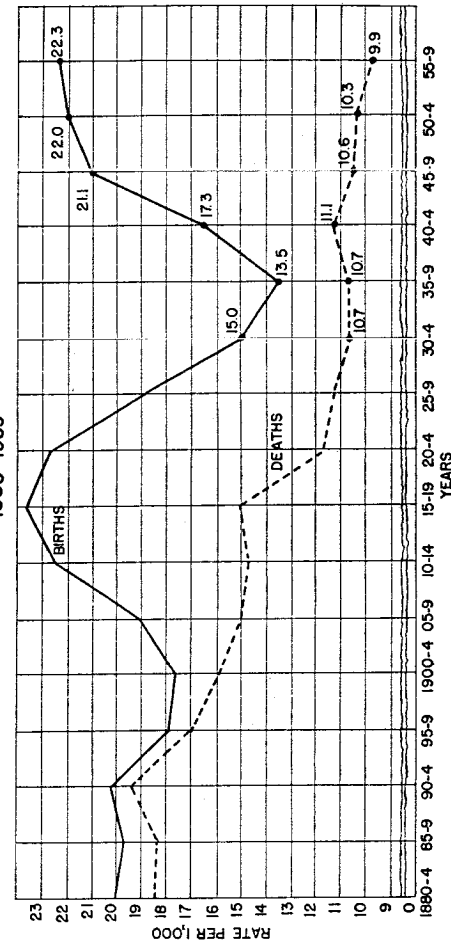




Table 4. BIRTHS, MARRIAGES, DEATHS, FETAL DEATHS, MATERNAL DEATHS, INFANT DEATHS AND NEONATAL DEATHS BY COUNTIES AND MUNICIPALITIES: 1961  
(Marriage data by place of occurrence, all other by place of residence)

ATLANTIC COUNTY								BERGEN COUNTY—Continued							
CIVIL DIVISION								CIVIL DIVISION							
Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths		Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths	
Absecon City	145	31	56	3		2	2	Norwood Borough	51	14	23	1		2	2
Atlantic City	1041	492	1037	29	2	28	23	Oakland Borough	308	19	40	5			1
Brigantine City	88	12	28	1		2	1	Old Tappan Borough	54	10	16				1
Buena Borough	32	32	33			1	1	Oradell Borough	93	16	62	5		2	2
Buena Vista Township	107	19	97	1		1	1	Palisades Park Borough	305	88	121	3		5	5
Corbin City	2							Paramus Borough	444	93	113	8		9	8
Egg Harbor City	115	59	52	2		2	2	Park Ridge Borough	136	35	40	3		3	3
Egg Harbor Township	110	6	81	2		5	4	Ramsey Borough	192	39	84	2		1	1
Estell Manor City	11		9					Ridgefield Borough	251	70	77	2		8	8
Folsom Borough	19	5	3					Ridgefield Park Township	298	79	150	2		5	5
Galloway Township	72	16	60	2		4	2	Ridgeview village	566	175	225	5		4	2
Hamilton Township	149	32	71	4		5	4	River Edge Borough	215	79	104	5		3	3
Hammonpton Town	238	65	84	7	1	3	2	River Vale Township	148	7	32			3	3
Linwood City	82	31	39	3		1	1	Rochelle Park Township	102	27	42	1		1	1
Longport Borough	8	24	3	1		1	1	Rockleigh	2	2					
Margate City	131	48	32	3		2	2	Rutherford Borough	365	127	234	3		4	2
Mallica Township	36	5	28					Saddle Brook Township	279	42	63	5		4	2
Norfield City	155	16	53	1		3	2	Saddle River Borough	18	13	13				
Pleasantville City	391	131	198	8		12	10	South Hackensack Township	37	1	13	1			
Port Republic City	10	3	1					Teaneck Township	569	237	317	18		14	10
Somers Point City	90	44	52					Tenafly Borough	152	111	124	5		1	1
Ventnor City	137	105	145	2		3	1	Teterboro Borough	77	11	20	3		3	2
Weymouth Township	21	1	13					Upper Saddle River Borough	294	13	43	2		5	4
Total	3,106	1,158	2,190	68	3	75	68	Washington Borough	179	40	94	2		6	6
								Washington Township	167	17	25	3		3	2
								Westwood Borough	168	75	162	6		1	1
								Woodcliff Lake Borough	7	42	7			3	2
								Wood Ridge Borough	151	50	51	5		5	5
								Wyckoff Township	204	53	86	2		11	9
								Total	15,270	4,563	6,531	233	1	285	216

BERGEN COUNTY								BURLINGTON COUNTY							
CIVIL DIVISION								CIVIL DIVISION							
Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths		Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths	
Allendale Borough	93	21	40			2		Bass River Township	5	6	14				
Alpine Borough	24	2	7					Beverly City	119	37	31	1		2	1
Bergenfield Borough	524	125	229	7		7	5	Bordentown City	190	63	67	3		3	3
Bogota Borough	137	79	94	4		1		Bordentown Township	1	4	31				
Carlstadt Borough	130	22	65	1		1	1	Burlington City	325	128	153	8		4	8
Carlstadt Park Borough	320	95	196	2		2	2	Burlington Township	156	16	41	1		4	4
Closter Borough	49	139	49	2		2	2	Chesterfield Township	26	12	21	1		2	2
Cresskill Borough	138	39	61			4	2	Cinnaminson Township	128	10	40			2	1
Demarest Borough	67	23	25	2				Delanco Township	94	18	37	4		2	1
Dumont Borough	395	93	154	5		5	3	Delran Township	55	2	8			1	1
East Paterson Borough	68	118	6					Eastampton Township	66	12	25			2	2
East Rutherford Borough	152	68	96			3	1	Edgewater Park Township	70	7	9	1		1	1
Edgewater Borough	96	39	46	2		1		Freshman Township	292	11	29			3	3
Emerson Borough	168	18	31	2		2	2	Fieldsboro Borough	12	14	8			1	1
Fort Lee Borough	493	302	276	12		11	9	Florence Township	151	33	83			1	1
Franklin Lakes Borough	36	13	30	3		3	2	Hainesport Township	73	13	26	2		1	1
Fair Lawn Borough	510	166	273	10		12	11	Levittown Township	696	43	47	5	1	10	7
Fairview Borough	191	107	99	3		2	1	Lumberton Township	62	6	14			1	1
Fort Lee Borough	534	178	231	10		13	8	Mansfield Township	49	7	17			1	1
Garfield City	605	168	299	10		6	4	Medford Lakes Borough	300	97	99	5		9	7
Glen Rock Borough	161	64	110	2		5	4	Medford Township	64	31	20			1	1
Hackensack City	603	297	359	9	1	13	12	Moorestown Township	127	21	48	2		1	1
Harrington Park Borough	62	23	25	1				Mount Holly Township	291	80	121	2		3	3
Hasbrouck Heights Borough	297	70	111			5	5	Mount Laurel Township	440	105	134	5		15	13
Haworth Borough	38	14	17					New Hanover Township	118	6	23	5		2	1
Hillsdale Borough	185	38	60	2				North Hanover Township	48	2	9			2	1
Holmsburg Borough	52	41	28	1		4	1	Palmyra Borough	46	137	13			2	2
Leonia Borough	139	50	73	3		3	3	Pemberton Borough	190	45	72	4		1	1
Little Ferry Borough	129	41	52	1				Pemberton Township	29	29	29			5	5
Lodi Borough	333	83	157	15		13	12	Riverside Borough	371	13	65	5		4	4
Lyndhurst Township	437	117	176	9		4	4	Riverside Township	280	87	104	6		5	3
Mahwah Township	151	36	59			2	2	Riverton Borough	172	29	46	2		2	2
Manahawick Borough	218	58	90			7	3	Shamong Township	27	2	13				
Midland Park Borough	294	37	53	3		3	2	Southampton Township	116	36	39	2		2	2
Montvale Borough	95	11	34	1		1	1	Springfield Township	51	3	13	1			
Moongachie	88	9	33	2		3	2	Tabernacle Township	43	9	13			2	2
New Milford Borough	500	98	124	9		12	10	Washington Township	5	1	6				
North Arlington Borough	497	102	148	6		7	5	Westampton Township	38	3	9			2	2
Northvale Borough	199	14	26	1		2	1	Woodland Township	27	9	31			2	2
								Wrightstown Borough	104	25	9			6	3
								Total	5,493	1,198	1,530	72	1	114	90

CAMDEN COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Audubon Borough	207	75	132	1		3	2
Audubon Park Borough	29	3	8				
Barrington Borough	161	18	33	4		2	2
Bellmawr Borough	347	48	68	9		8	7
Berlin Borough	143	88	40	3		1	
Berlin Township	107	6	25	3		1	1
Brooklawn Borough	33	11	27				
Camden City	3,126	1,227	1,440	50	1	86	66
Chesilhurst Borough	6	1	7				
Clinton Borough	104	22	44			2	2
Collingswood Borough	394	111	223	2		5	4
Cherry Hill Township	428	90	134	1		12	10
Gibbsboro Borough	72	7	17	1		3	3
Gloucester City	372	95	162	6		19	7
Gloucester Township	406	50	116	8		10	9
Haddon Heights Borough	145	110	100	2		2	1
Haddon Township	205	39	128	2		4	1
Haddonfield Borough	635	136	199	5	11	10	10
Hi Nella Borough	7	5	1			2	2
Laurel Springs Borough	58	8	17			1	1
Lawnside Borough	58	12	23			2	2
Lindenwood Borough	239	23	34	2		4	4
Magnolia Borough	122	26	35	2		5	5
Merchantville Borough	220	100	91	3		4	4
Mount Ephraim Borough	82	45	42	1		2	2
Oaklyn Borough	97	35	48			1	1
Pennsauken Township	677	137	239	11		7	6
Pine Hill Borough	100	35	42			3	2
Pine Valley Borough							
Runnemede Borough	174	81	47			3	2
Somerdale Borough	151	43	39	1		1	1
Stratford Borough	136	11	20	4		1	1
Tavistock Borough		1					
Voorhees Township	56	13	11				
Waterford Township	95	25	37	1		1	1
Winslow Township	154	35	55	3		7	5
Wood Lynne Borough	81	18	34				
Total	9,435	2,843	3,763	130	1	203	164

CAPE MAY COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Avalon Borough	11	5	12				
Cape May City	88	41	83	2		1	1
Cape May Point Borough	1	1	2				
Dennis Township	59	27	38	1		2	2
Lower Township	132	34	98	2	2		
Middle Township	154	55	110	4		6	5
North Wildwood City	73	10	53	1			
Ocean City	148	50	206	5		4	4
Sea Isle City Borough	31	19	19	2			
Sea Isle City Borough	5	2	2				
Upper Township	28	8	34			1	1
West Cape May Borough	19		13				
West Wildwood Borough	3		1				
Wildwood City	100	90	85	3			
Wildwood Crest Borough	50	17	34	1		1	
Woodbine Borough	49	9	11	2			
Total	967	375	815	25	2	16	13

CUMBERLAND COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Bridgeton City	855	238	278	14		29	19
Commercial Township	111	13	43	2		3	2
Deerfield Township	74	4	22			5	
Downe Township	33	8	26	1		1	1
Fairfield Township	89	17	37	2		4	2
Greenwich Township	26	5	36				
Hopewell Township	63	3	33	1			
Lawrence Township	87	21	35	2		6	3
Maurice River Township	63	21	34				
Millville City	127	162	157	7		17	14
Shiloh Borough	14	2	2				
Stow Creek Township	17	2	16			2	
Upper Deerfield Township	98	29	43	2		1	
Vineland City	860	252	372	17		34	22
Total	2,617	789	1,201	48		104	65

ESSEX COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Bellefonte Town	756	219	312	10		8	7
Baldwinfield Town	1,090	287	344	13		18	12
Caldwell Borough	107	87	82			2	1
Caldwell Township	88	14	86			2	2
Cedar Grove Township	22	23	23			1	1
East Orange City	1,609	561	1,034	33	3	52	39
Essex Falls Borough	25	20	10				
Glen Ridge Borough	109	29	87	1		3	1
Irrington Town	1,059	416	692	13		22	16
Livingston Township	73	410	73	2		7	7
Maplewood Township	264	214	273	4		12	6
Millburn Township	207	145	163	2		2	2
Montclair Town	702	317	536	21		11	8
Newark City	10,737	4,077	5,185	290	13	383	293
North Caldwell Borough	53	5	22			1	1
Nutley Town	528	230	290	3		18	17
Orange City	799	353	455	26		29	25
Roseland Borough	45	14	40			2	2
South Orange Village	185	151	169	4	1	4	3
Verona Borough	234	82	184	4		6	5
West Caldwell Borough	137	5	58	3		4	4
West Orange Town	742	195	359	9	1	11	10
Total	20,112	7,516	10,680	411	13	608	462

GLOUCESTER COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Clayton Borough	115	47	43	1		4	4
Deptford Township	286	91	110	1		11	13
East Greenwell Township	36	13	34			3	3
Elk Township	29	4	28			1	1
Franklin Township	158	48	74	3	1	1	1
Glassboro Borough	287	63	103	6		19	5
Greenwich Township	63	18	28			2	2
Harrison Township	67	12	35	1		2	2
Logan Township	26	9	16				
Mantua Township	253	44	91				
Monroe Township	236	64	102	5		3	2
National Park Borough	84	41	31			1	1
Newfield Borough	30	21	19				
Panthersboro Borough	228	58	80	3		3	2
Pitman Borough	177	56	100	2		4	3
South Harrison Township	19	5	5				
Swedesboro Borough	163	21	46	1		5	5
Washington Township	62	17	49	1		4	4
Wenonah Borough	163	7	34			6	6
West Deptford Township	173	20	61	1		12	7
Westville Borough	119	49	58	4		2	1
Woodbury City	582	118	151	5		8	6
Woodbury Heights Borough	44	8	15				
Woodwick Township	16		12				
Total	3,385	834	1,304	41	1	97	75



## HUDSON COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Bayonne City	1,448	412	830	23	1	31	24
East Newark Borough	45	31	18				
Guttenberg Town	67	19	50	3		1	1
Harrison Town	231	111	169	6		4	2
Hoboken City	1,169	456	595	24		23	19
Jersey City	6,454	2,420	3,423	131	1	173	118
Keary Town	788	133	446	17		11	8
North Bergen Township	788	133	475	17		11	8
Secaucus Town	163	64	95	5		3	3
Union City	1,124	562	664	24	1	33	28
Washington Township	239	33	172	4		9	6
West New York Town	748	366	415	15		29	16
Total	13,147	4,843	7,419	264	4	323	237

## HUNTERDON COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Alexandria Township	43	1	7			3	2
Beaumont Township	72		13				
Bloomfield Borough	27	11	11			2	1
Calton Borough	21	5	8			1	1
Clinton Town	23	24	16				
Clinton Township	65	9	29	1			
Delaware Township	43	9	32			2	2
East Amwell Township	49	4	21			1	1
Flemington Borough	71	61	39			2	2
Franklin Township	34	7	24				
Frenchtown Borough	34	7	25	1		1	1
Gen Gardner Borough	21		11			1	1
Hampton Borough	39	13	17				
High Bridge Borough	52	24	27	3		1	1
Holland Township	56		16			2	2
Kingswood Township	31	14	32			1	1
Lambertville City	112	31	48	1	1	3	1
Lebanon Borough	19	3	19				
Lebanon Township	46	3	19				
Millford Borough	34	14	17			2	1
Raritan Township	101	7	39				
Readington Township	116	35	61	1		2	2
Stockton Borough	13		6				
Tewksbury Township	39	5	17			2	1
Union Township	39	4	9				
West Amwell Township	20	3	8				
Total	1,152	309	547	12	1	26	19

## MERCER COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
East Windsor Township	43	3	22				
Ewing Township	534	129	173	5		29	7
Hamilton Township	1,546	314	523	17		27	21
Hightstown Borough	91	31	53	1		1	1
Hopewell Borough	45	22	39			1	1
Hopewell Township	118	29	61			1	1
Lawrence Township	282	66	194	1	1	2	1
Pennington Borough	46	24	24			1	1
Princeton Borough	165	173	119	5		5	3
Princeton Township	253	24	61	3		8	6
Trenton City	2,196	965	1,453	39		80	64
Washington Township	73	8	34			2	2
West Windsor Township	86	14	39	1		1	1
Total	5,706	1,823	2,798	98	2	145	115

## MIDDLESEX COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Carteret Borough	489	105	156	4		10	9
Cranbury Township	66	13	32	1		5	3
Dunellen Borough	153	79	76	4		6	4
East Brunswick Township	709	24	117	6		10	9
Edison Township	954	173	246	11		25	21
Helmetta Borough	29	5	8	1		1	1
Higland Park Borough	210	48	109	4		4	3
Jamesburg Borough	136	42	34	2		4	4
Millon Township	503	66	188	9		13	9
Metuchen Borough	495	71	146	6		15	15
Middlesex Borough	248	28	77	5		4	3
Milltown Borough	119	34	47			2	1
Monte Township	65	3	39			3	3
North Brunswick Township	949	432	422	17		28	29
Peter Amboy City	225	35	60	2		2	2
Piscataway Township	759	417	480	15	2	18	16
Plainsboro Township	523	65	119	2		13	12
Plainsboro Township	18		3			1	
Sayreville Borough	551	52	121	3		7	5
South Amboy City	328	84	120	5		7	6
South Brunswick Township	332	27	70	2		4	4
South Plainfield Borough	419	87	86	4		4	2
South River Borough	279	124	127	5		8	8
Spotswood Borough	291	21	44	4		3	3
Woodbridge Township	1,748	254	485	33		32	29
Total	16,335	2,393	3,351	159	2	259	189

## MONMOUTH COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Allentown Borough	14	2	15				
Allentown Borough	43	29	11			1	1
Asbury Park City	391	244	287	5		22	17
Atlantic Highlands Borough	131	44	54	2		4	4
Atlantic Township	43	8	18				
Avon-by-the-Sea Borough	21	19	34			1	1
Belmar Borough	107	67	93			2	2
Bradley Beach Borough	78	41	59	4		1	1
Brielle Borough	44	12	36			1	1
Deal Borough	22	21	16				
Easton Town Borough	354	41	72	2		7	7
Englishtown Borough	45	26	25				
Fair Haven Borough	91	14	33	1		3	3
Farmdale Borough	34	11	15	1		6	6
Freehold Borough	232	101	124	4		3	3
Freehold Township	114	11	46	1		3	3
Highlands Borough	89	16	46	4		5	3
Holmdel Township	49	5	21				
Howell Township	238	39	166		4		
Interlaken Borough	14	3	15			1	1
Keansburg Borough	171	59	97	4		6	3
Keaport Borough	209	123	79	1		4	3
Little Silver Borough	91	14	43			1	1
Loch Arbour Village	3		2				
Long Branch City	632	163	301	2	1	18	15
Manalapan Township	169	19	59	2		2	1
Manasquan Borough	89	47	66			1	1
Marlboro Borough	77	32	47	2		1	1
Matawan Borough	169	34	48			2	1
Matawan Township	232	24	44			3	2
Millstone Township	929	146	265	15		7	4
Millstone Township	65	6	22			1	1
Monmouth Beach Borough	23	9	12	1		1	1
Neptune City Borough	88	11	44	1		4	3
Neptune Township	539	97	272	16		12	6
New Shrewsbury Borough	141	12	59	2		2	1

## MONMOUTH COUNTY—Continued

CIVIL DIVISION	Births	Marriages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Ocean Township	232	34	82	2	.....	2	2
Oceanport Borough	79	18	36	.....	.....	3	3
Karptan Township	535	16	89	12	1	10	6
Red Bank Borough	337	186	216	4	.....	9	5
Roosevelt Borough	12	3	5	.....	.....	.....	.....
Rumson Borough	99	42	48	2	.....	.....	.....
Sea Bright Borough	23	11	18	.....	.....	1	1
Sea Girt Borough	33	16	28	1	.....	.....	.....
Shrewsbury Borough	52	15	26	1	.....	1	1
Shrewsbury Township	43	1	4	1	.....	.....	.....
South Belmar Borough	30	6	29	.....	.....	.....	.....
Spring Lake Borough	53	43	51	1	.....	3	3
Spring Lake Heights Borough	82	9	26	.....	.....	1	1
Union Beach Borough	151	59	68	1	.....	5	4
Upper Freehold Township	109	11	23	.....	.....	3	3
Wall Township	211	37	109	2	.....	6	5
West Long Branch Borough	101	35	34	1	.....	1	1
Total	1,916	2,090	3,448	109	2	167	128

## MORRIS COUNTY

CIVIL DIVISION	Births	Marriages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Boonton Town	178	68	92	1	.....	5	4
Boonton Township	140	4	29	1	.....	2	2
Butler Borough	146	59	66	3	.....	2	2
Chatham Borough	171	68	86	1	.....	4	1
Chatham Township	94	11	30	.....	.....	1	1
Chester Borough	27	20	12	.....	.....	.....	.....
Chester Township	22	.....	10	1	.....	.....	.....
Denville Township	262	33	89	1	.....	9	8
Dover Town	397	122	166	2	.....	6	5
East Hanover Township	56	32	13	1	.....	1	1
Florham Park Borough	134	16	51	1	.....	1	1
Hanover Township	231	40	75	2	.....	5	5
Harding Township	33	19	21	.....	.....	1	1
Jefferson Township	189	28	52	.....	.....	1	1
Kinmelton Borough	89	10	31	.....	.....	3	1
Lincoln Park Borough	135	18	47	5	.....	6	4
Madison Borough	313	86	141	.....	.....	8	8
Mendham Borough	34	16	27	.....	.....	1	1
Mendham Township	41	5	16	.....	.....	.....	.....
Mine Hill Township	66	41	19	1	.....	2	2
Montville Township	172	26	59	1	.....	4	3
Morris Plains Borough	127	38	48	.....	.....	2	2
Morris Township	165	75	82	.....	.....	4	3
Morristown Town	482	177	238	6	1	16	13
Mount Arlington Borough	34	17	10	.....	.....	1	1
Mount Olive Township	101	16	41	.....	.....	1	1
Mountain Lakes Borough	41	39	33	2	.....	1	1
Netcong Borough	80	37	22	1	.....	1	1
Parshippany-Troy Hills Township	513	64	116	6	.....	7	7
Passaic Township	141	20	46	1	.....	3	3
Morristown Township	212	39	79	4	.....	8	7
Randolph Township	176	27	44	3	.....	4	3
Riverdale Borough	58	3	16	2	.....	1	1
Rockaway Borough	149	36	52	1	.....	2	2
Rockaway Township	274	23	55	5	.....	5	5
Roxbury Township	293	53	82	2	.....	4	2
Victory Gardens Borough	23	.....	.....	.....	.....	.....	.....
Washington Township	90	9	27	1	.....	2	2
Wharton Borough	156	24	57	2	.....	3	3
Total	5,302	1,419	2,171	61	1	132	111

## OCEAN COUNTY

CIVIL DIVISION	Births	Marriages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Barnegat Light Borough	7	2	2	.....	.....	.....	.....
Bay Head Borough	8	19	15	.....	.....	.....	.....
Beach Haven Borough	25	8	26	1	.....	.....	.....
Beachwood Borough	80	7	34	.....	.....	1	1
Berkeley Township	123	26	40	2	.....	.....	.....
Brick Township	504	37	170	5	.....	13	10
Dover Township	497	148	161	5	.....	7	6
Eagleswood Township	8	8	14	2	.....	.....	.....
Harbor Cottage Borough	2	.....	.....	.....	.....	.....	.....
Island Heights Borough	12	5	14	.....	.....	.....	.....
Jackson Township	177	18	64	1	1	4	2
Lacey Township	50	15	29	1	.....	1	1
Lakelurst Borough	152	20	24	2	.....	6	2
Lakewood Township	380	150	222	1	.....	6	5
Lavallette Borough	18	10	15	.....	.....	2	2
Little Egg Harbor Township	3	4	8	1	.....	.....	.....
Long Beach Township	22	8	16	.....	.....	.....	.....
Manchester Township	73	9	20	.....	.....	1	.....
Manloking Borough	4	1	2	.....	.....	.....	.....
Ocean Gate Borough	15	3	13	.....	.....	.....	.....
Ocean Township	19	7	12	1	.....	.....	.....
Pine Beach Borough	24	3	10	.....	.....	1	1
Plumstead Township	175	27	30	4	.....	3	2
Point Pleasant Beach Borough	56	64	61	.....	.....	3	2
Point Pleasant Borough	234	46	145	3	.....	5	4
Seaside Heights Borough	13	7	13	.....	.....	.....	.....
Seaside Park Borough	18	17	19	1	.....	1	1
Ship Bottom Borough	14	4	17	.....	.....	.....	.....
South Toms River Borough	90	.....	23	.....	.....	3	3
Stafford Township	34	19	29	1	.....	3	3
Surf City Borough	6	1	7	.....	.....	.....	.....
Tuckerton Borough	6	11	27	1	.....	.....	.....
Union Township	21	16	22	.....	.....	.....	.....
Total	2,921	721	1,305	32	1	61	44

## PASSAIC COUNTY

CIVIL DIVISION	Births	Marriages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Bloomingtondale Borough	159	17	42	1	.....	5	5
Clifton City	1,548	361	703	30	1	25	20
Haledon Borough	102	43	71	1	.....	1	1
Hawthorne Borough	336	84	195	5	.....	6	5
Little Falls Township	183	56	83	4	.....	1	1
North Haledon Borough	100	12	42	.....	.....	.....	.....
Passaic City	1,034	546	666	15	.....	27	25
Paterson City	3,534	1,137	1,810	82	1	119	86
Fonnton Lakes Borough	200	103	42	4	.....	7	5
Prospect Park Borough	120	28	60	5	.....	1	1
Ringwood Borough	80	14	23	2	.....	2	1
Totowa Borough	182	42	56	4	.....	1	1
Wanaque Borough	217	24	61	4	.....	5	4
Wayne Township	650	116	189	8	.....	18	12
West Milford Township	270	58	88	3	.....	7	7
West Paterson Borough	169	9	62	1	.....	7	4
Total	8,904	2,638	4,213	169	2	232	178

## SALEM COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Alloway Township	59	16	23	2		1	1
Elmer Borough	36	13	24				
Eisaboro Township	21		6				
Lower Alloway Creek Township	40	6	14	1			
Lower Penns Neck Township	252	67	67	1		3	1
Mannington Township	69	2	19	1		1	1
Oldmans Township	39	23	20			1	1
Penns Grove Borough	220	56	88	6		12	9
Pilesgrove Township	71	10	25			1	1
Pittsgrove Township	82	2	42	2		4	2
Quinton Township	65	9	16	1		3	2
Salem City	248	73	146	2		6	3
Upper Penns Neck Township	131	50	66	1		10	6
Upper Pittsgrove Township	47	13	12	3			
Woodstown Borough	62	21	31	1		1	
Total	1,444	367	599	21		45	27

## SOMERSET COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Bedminster Township	35	17	18				
Bernards Township	135	32	58			1	1
Bernardsville Borough	92	32	50	1		2	2
Bound Brook Borough	286	83	88	7		4	4
Branchburg Township	85	5	25	1		3	2
Bridgewater Township	323	41	95	1		6	5
Franklin Township	19	6	9				
Green Brook Township	541	53	102	7		13	10
Hillsborough Township	59	2	17			1	1
Hillsborough Township	201	37	63	3		5	4
Manville Borough	344	98	89	4		10	10
Millstone Borough	4	7	1				
Montgomery Township	77	8	21			2	2
North Plainfield Borough	335	72	150	4		7	7
Peapack Gladstone Borough	28	11	22			2	1
Raritan Borough	162	40	56	1		2	1
Rocky Hill Borough	9	1	9				
Somerville Borough	399	128	138	6		18	14
South Bound Brook Borough	134	19	30	2		1	1
Warren Township	94	21	32			1	
Watchung Borough	42	24	22			2	2
Total	3,404	776	1,095	38		80	65

## SUSSEX COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Andover Borough	19	8	7	1			
Andover Township	61	17	12	1		1	1
Branchville Borough	13	11	14			1	1
Byram Township	45	2	19				
Frankford Township	32	12	28	2			
Franklin Borough	82	22	41	1		1	1
Fredon Township	25	4	10	1		1	
Green Township	19	5	8			1	1
Hamburg Borough	40	26	16	1		2	
Hamorton Township	31	3	19				
Hardy Township	54	13	17	2			
Hopatcong Borough	83	16	19			1	
Lafayette Township	39	11	19				
Montague Township	9	5	8				
Newton Town	152	78	83	3		2	1
Ogdensburg Borough	28	10	17	1		1	1
Sandyston Township	11	2	9				
Sparta Township	102	40	60	1		5	2
Stanhope Borough	62	15	30	4		3	3
Stillwater Township	41	6	14			2	1
Sussex Borough	46	42	29			3	1
Vernon Township	41	15	21	4			
Walpack Township	2	2	31				
Wantage Township	75	7				1	1
Total	1,183	370	502	22		25	14

## UNION COUNTY

CIVIL DIVISION	Births	Mar-riages	Deaths	Fetal Deaths	Maternal Deaths	Infant Deaths	Neonatal Deaths
Berkeler Heights Twp.	179	12	46	3		4	3
Clark Township	239	98	69	2		1	1
Cranford Township	474	118	179	10		10	7
Elizabeth City	2,546	854	1,268	41		76	65
Fanwood Borough	186	12	45	4		1	
Garwood Borough	124	38	48	1		2	2
Hillside Township	394	108	215	3		4	3
Kenilworth Borough	148	57	54	3		3	2
Linden City	834	190	294	16		19	19
Mountainside Borough	100	18	44	3		1	1
New Providence Borough	319	29	55	4		5	3
Plainfield City	1,162	388	484	24		24	12
Rahway City	575	182	239	9		9	9
Roselle Borough	475	127	217	5		15	12
Roselle Park Borough	355	75	121	5		2	2
Scotch Plains Township	384	101	198	3		1	9
Springfield Township	217	74	130	5		4	3
Summit City	419	144	228	4		6	4
Union Township	787	178	428	12		22	15
Westfield Town	541	311	234	11		11	10
Winfield Township	30	9	14			1	1
Total	10,318	3,121	4,518	169		4	228



Table 7. MARRIAGES IN NEW JERSEY BY PREVIOUS MARITAL STATUS: 1961

Wife's Status	Husband's Status				
	Total	Single	Widowed	Divorced	Unknown
Total	40,699	33,225	2,331	4,856	287
Single	33,468	30,406	586	2,297	179
Widowed	2,410	630	1,159	596	31
Divorced	4,655	2,129	560	1,921	45
Unknown	160	60	26	42	32

## INFANT DEATHS BY CAUSE AND AGE: 1961

New Jersey births climbed to a new record high of 135,320 in 1961. This exceeds the total of 132,594 recorded a year earlier and was the largest number of births to New Jersey residents reported in any year.

At the same time that births increased, the number of reported infant deaths declined. Babies who died before their first birthday numbered 3,244 in 1961 as compared with 3,248 in 1960. The corresponding rates per 1,000 live births were 24.0 and 24.5, respectively.

More than three-fourths of the infants who died succumbed within four weeks after birth; two-thirds were under one week old and two-fifths lived less than a day. The number dying under 28 days of age was 2,470, a slight increase over the 2,458 reported the year before but, owing to the sizeable increase in births, the rate per 1,000 live births dropped to 18.3 from the previous year's 18.5.

As in the past years deaths of infants under one year of age were due mainly to diseases of early infancy, with postnatal asphyxia and atelectasis being the leading single cause. There were 718 deaths attributed to this cause in 1961 compared with 657 in 1960. Other causes which increased noticeably between 1960 and 1961 were congenital malformations and ill-defined diseases of early infancy. Reports ascribing death to immaturity without any further qualification declined from 606 in 1960 to 533 in 1961. Ninety-six percent of these were under one week of age. Diseases of the respiratory system (other than pneumonia of the newborn) accounted for 290 infant deaths. All except 5 of these were between 28 days and 1 year of age.

Most of the deaths due to birth injuries also occurred less than one week after birth, mainly during the first day. Infant deaths due to accidents, which had been increasing in the past several years, leveled off between 1960 and 1961. Infant deaths due to diseases of the digestive system declined in 1961 after having increased each year for several consecutive years.

Comparison with provisional 1961 figures for the nation as a whole shows New Jersey to be in a slightly more favorable position with respect to infant deaths. The New Jersey infant death rate for 1961 was 24.0 per 1,000 live births as compared with 25.3 for the U. S.

Detailed information on infant deaths appears in the accompanying tables.

With about 75 percent of the deaths occurring in the first month of life, it is important to study the relation between immaturity and death by age intervals. The following table presents such data.

In examining the table, it is necessary to remember that "Certain Diseases of Early Infancy" (International Statistical Classification, Major Group XV, Code Numbers 760-776) is the only group which gives an opportunity to determine immaturity on the basis of the physician's statements in the medical certification on the death certificate. However, infant deaths from all causes are included in the table immediately following. The columns labeled "Immaturity Indicated on Death Certificate" pertain to infant deaths coded 760-776 with immaturity indicated on the death certificate. All other infant deaths (including the balance of deaths coded to 760-776), were counted in the group labeled "Immaturity Not Indicated on Death Certificate."

Table 8a. INFANT DEATHS BY AGE AND IMMATURITY: 1961

Age	Total		Immaturity Indicated on Death Certificate		Immaturity Not Indicated on Death Certificate	
	Number	Percent	Number	Percent	Number	Percent
< 1 day	1,301	40.1	885	60.4	416	23.4
< 1 week	2,226	68.6	1,402	95.6	824	46.3
< 28 days	2,470	76.1	1,456	99.3	1,014	57.0
< 1 year	3,244	100.0	1,466	100.0	1,778	100.0

Note: Numbers of deaths for each age classification are cumulative totals from birth to indicated age.

Table 8b. INFANT DEATHS BY CAUSE AND AGE: 1961

Cause of Death	Total	Age at Death			
		Less than 1 Day		1 Week but < 28 Days	
		1 Day but < 1 Week	1 Week but < 28 Days	1 Week but < 28 Days	28 Days but < 1 Year
<b>ALL CAUSES (001-E909)</b>	3214	925	244	774	774
Infective and parasitic diseases (001-136)	16	1	1	14	14
Neoplasms	8	.....	.....	7	7
Malignant neoplasms (140-206)	.....	.....	.....	.....	.....
Benign neoplasms (210-229)	8	.....	.....	.....	.....
Unspecified neoplasms (230-239)	.....	.....	.....	.....	.....
Allergic, endocrine system, metabolic and nutritional diseases (240-289)	20	2	2	15	15
Diseases of the nervous system and sense organs (330-399)	49	4	4	31	31
Diseases of the respiratory system (470-527)	260	1	.....	258	258
Diseases of the digestive system (530-587)	101	16	10	82	82
Congenital malformations (750-759)	520	132	124	182	182
Certain diseases of early infancy (760-776)	2069	1140	774	34	34
Birth injuries, asphyxia, and infections of newborn (760-769)	1192	574	449	83	83
Postnatal asphyxia and atelectasis (762)	238	154	98	16	16
Pneumonia of newborn (763)	718	397	294	18	18
Diarrhea of newborn (764)	92	7	44	9	9
Ophthalmia neonatorum (765)	7	.....	.....	.....	.....
Other infections of the newborn (766-769)	.....	.....	.....	.....	.....
Other diseases peculiar to early infancy (770-776)	47	16	.....	.....	.....
Hemolytic disease of the newborn (770)	947	13	.....	.....	.....
Nutritional maladjustment (771)	76	506	12	6	6
Ill-defined diseases of early infancy (773)	19	21	3	18	18
Immaturity with mention of any other subsidiary condition (774)	8	7	8	1	1
Symptoms, senility and ill-defined conditions (780-795)	200	117	126	7	7
Accidents (E800-E902)	51	28	10	7	7
Inhalation and ingestion of food or other objects causing obstruction or suffocation (E921, E922)	533	302	20	1	1
Accidental mechanical suffocation in bed or cradle (E924)	29	150	20	1	1
All other accidental causes (E900-E920, E923, E925-E962)	117	6	2	15	15
All other causes	37	1	3	101	101
	44	.....	.....	.....	.....
	36	3	5	32	32
	20	2	3	31	31

TABLE 8c. DEATHS FROM CERTAIN DISEASES OF EARLY INFANCY  
BY SPECIFIC CAUSE AND AGE GROUP: 1961

Cause of Death	Total	Age at Death			
		Less Than 1 Day		1 Week but < 28 Days	
		1 Day but < 1 Week	1 Week but < 28 Days	1 Week but < 28 Days	28 Days but < 1 Year
<b>Total, Certain Diseases of Early Infancy (760-776)</b>	2,069	774	121	34	34
Without immaturity indicated (760-773 with .0-.4)	603	257	67	24	24
With immaturity indicated (760-773 with .5-.9 and 774-776)	1,466	885	54	10	10
Birth injuries (760, 761)	258	154	5	1	1
Without immaturity indicated	121	66	2	.....	.....
With immaturity indicated	137	88	45	3	3
Postnatal asphyxia and atelectasis (762)	718	397	18	9	9
Without immaturity indicated	217	97	7	7	7
With immaturity indicated	501	300	188	11	2
Pneumonia of newborn (763)	92	7	44	41	.....
Without immaturity indicated	74	6	34	34	.....
With immaturity indicated	18	1	10	7	.....
Diarrhea of newborn (764)	7	.....	.....	.....	.....
Without immaturity indicated	6	.....	.....	.....	.....
With immaturity indicated	1	.....	.....	.....	.....
Other infections of the newborn (766-769)	47	16	13	12	6
Without immaturity indicated	24	7	4	9	4
With immaturity indicated	23	9	9	3	2

TABLE 8c. DEATHS FROM CERTAIN DISEASES OF EARLY INFANCY BY SPECIFIC CAUSE AND AGE GROUP: 1961

(Continued)

Cause of Death Showing International List (7th Revision) Code Numbers	Total	Age at Death			
		Less Than 1 Day	1 Day But <1 Week	1 Week But <28 Days	28 Days But <1 Year
Hemolytic disease of the newborn (770)	76	51	21	3	1
Without immaturity indicated	68	44	20	3	1
With immaturity indicated	8	7	1	...	...
Hemorrhagic disease of the newborn (771)	19	7	8	3	1
Without immaturity indicated	11	4	4	2	1
With immaturity indicated	8	3	4	1	...
Nutritional maladjustment (772)	8	1	...	...	7
Without immaturity indicated	6	1	...	...	5
With immaturity indicated	2	...	...	...	2
Ill-defined diseases of early infancy (773) <sup>†</sup>	260	117	126	10	7
Without immaturity indicated	76	30	36	4	6
With immaturity indicated	184	87	90	6	1
Immaturity, unqualified (774-776)	584	390	170	22	2

Table 9. PRINCIPAL CAUSES OF DEATH BY SPECIFIED AGE GROUPS: 1960-1961

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
		TOTAL DEATHS .....	60,814	977.6	59,330	972.9
1	1	Diseases of the circulatory system (400-468) ..	28,598	459.7	28,451	466.6
2	2	Malignant neoplasms (140-205) .....	11,194	179.9	10,655	174.7
3	3	Vascular lesions affecting the central nervous system (330-334) .....	5,503	88.5	5,194	85.2
4	4	Influenza, pneumonia and bronchitis (480-502)	1,966	31.6	1,980	32.5
5	5	Diabetes mellitus (260) .....	1,360	21.9	1,238	20.3
6	6	Cirrhosis of liver (581) .....	1,006	16.2	920	15.1
7	7	Motor vehicle accidents (E810-E835) .....	791	12.7	754	12.4
8	8	Congenital malformations (750-759) .....	734	11.8	664	10.9
9	9	Postnatal asphyxia and atelectasis (762) .....	718	11.5	657	10.8
10	10	Accidental falls (E900-E904) .....	692	11.1	676	11.1
11	11	Immaturity (774, 776)* .....	584	9.4	643	10.5
12	12	Suicide (E970-E979) .....	523	8.4	485	8.0
13	13	Ulcer of stomach and duodenum (540, 541) ..	410	6.6	378	6.2
14	14	Nephritis and nephrosis (590-594) .....	401	6.4	439	7.2
15	15	Tuberculosis (001-019) .....	389	6.3	354	5.8
		All other causes .....	5,945	95.6	5,842	95.8

\* An additional 882 infant deaths were reported in 1961 with immaturity as a subsidiary cause (International List Code Numbers 760-773 with a fourth digit of .5 to .9). These deaths have been classified with the deaths charged to the cause indicated by the physician as a primary cause of death.

1-4 YEARS

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
		TOTAL DEATHS .....	468	88.0	496	95.8
1	1	Influenza, pneumonia and bronchitis (480-502)	81	15.2	83	16.0
2	2	Congenital malformations (750-759) .....	67	12.6	54	10.4
3	3	Malignant neoplasms (140-205) .....	60	11.3	74	14.3
4	4	Accidents caused by fire and explosion of combustible materials (E916) .....	29	5.5	21	4.1
5	5	Motor vehicle accidents (E810-E835) .....	28	5.3	27	5.2
6	6	Accidental falls (E900-E904) .....	20	3.8	12	2.3
7	7	Inflammatory diseases of central nervous system (340-345) .....	17	3.2	24	4.6
8	8	Accidental drowning and submersion (E929)	16	3.0	15	2.9
9	9	Gastritis, duodenitis, enteritis and colitis (543, 571, 572) .....	11	2.1	19	3.7
		All other causes .....	139	26.1	167	32.2

## DEPARTMENT OF HEALTH

Table 9. PRINCIPAL CAUSES OF DEATH BY SPECIFIED AGE GROUPS: 1960-1961

5-14 YEARS

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
<b>TOTAL DEATHS</b> .....						
1	1	Malignant neoplasms (140-205) .....	459	39.5	406	36.3
2	2	Motor vehicle accidents (E810-E835) .....	87	7.5	85	7.6
3	3	Accidental drowning and submersion (E929) .....	80	5.2	53	4.7
4	4	Congenital malformations (750-759) .....	37	3.2	44	3.9
5	(a)	Accidents caused by fire and explosion of combustible materials (E916) .....	36	3.1	26	2.3
6	5	Influenza, pneumonia and bronchitis (480-502) .....	29	2.5	7	0.6
7	6	Diseases of the circulatory system (400-468) .....	21	1.8	25	2.2
8	8	Inflammatory diseases of central nervous system (340-345) .....	13	1.1	13	1.2
		All other causes .....	12	1.0	11	1.0
			164	14.1	142	12.7

(a) Deaths from accidents caused by fire and explosion of combustible materials did not appear among the principal causes in 1960.

15-24 YEARS

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
<b>TOTAL DEATHS</b> .....						
1	1	Motor vehicle accidents (E810-E835) .....	637	87.7	585	81.3
2	2	Malignant neoplasms (140-205) .....	177	24.4	175	24.3
3	3	Diseases of the circulatory system (400-468) .....	76	10.5	61	8.5
4	4	Accidental drowning and submersion (E929) .....	45	6.2	34	4.7
5	5	Suicide (E970-E979) .....	29	4.0	36	5.0
6	6	Congenital malformations (750-759) .....	23	3.2	27	3.8
7	7	Homicide (E980-E983) .....	22	3.0	24	3.3
8	8	Influenza, pneumonia and bronchitis (480-502) .....	20	2.8	20	2.8
9	10	Nephritis and nephrosis (590-594) .....	17	2.3	20	2.8
10	11	Pregnancy, childbirth and the puerperium (640-689) .....	17	2.3	13	1.8
11	(a)	Accidental falls (E900-E904) .....	12	1.7	12	1.7
		All other causes .....	11	1.5	5	0.7
			188	25.9	158	21.9

(a) Deaths from accidental falls did not appear among the principal causes in 1960.

## DIV. OF VITAL STATISTICS &amp; ADMINISTRATION 311

Table 9. PRINCIPAL CAUSES OF DEATH BY SPECIFIED AGE GROUPS: 1960-1961

25-44 YEARS

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
<b>TOTAL DEATHS</b> .....						
1	1	Diseases of the circulatory system (400-468) .....	3,460	199.5	3,407	198.1
2	2	Malignant neoplasms (140-205) .....	1,015	58.5	1,003	58.3
3	3	Motor vehicle accidents (E810-E835) .....	734	42.3	709	41.2
4	5	Cirrhosis of liver (581) .....	204	11.8	174	10.1
5	6	Suicide (E970-E979) .....	162	9.3	148	8.6
6	4	Vascular lesions affecting the central nervous system (330-334) .....	141	8.1	126	7.3
7	7	Influenza, pneumonia and bronchitis (480-502) .....	133	7.7	149	8.7
8	8	Tuberculosis (001-019) .....	106	6.1	101	5.9
9	9	Homicide (E980-E983) .....	76	4.4	72	4.2
10	10	Nephritis and nephrosis (590-594) .....	60	3.5	72	4.2
11	11	Diabetes mellitus (260) .....	60	3.5	69	4.0
12	12	Accidental falls (E900-E904) .....	57	3.3	55	3.2
		All other causes .....	44	2.5	49	2.8
			668	38.5	680	39.5

45-64 YEARS

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
<b>TOTAL DEATHS</b> .....						
1	1	Diseases of the circulatory system (400-468) .....	16,187	1197.3	16,053	1207.0
2	2	Malignant neoplasms (140-205) .....	7,404	547.6	7,441	550.5
3	3	Vascular lesions affecting the central nervous system (330-334) .....	4,199	310.6	4,167	313.3
4	4	Cirrhosis of liver (581) .....	973	72.0	997	75.0
5	5	Influenza, pneumonia and bronchitis (480-502) .....	548	40.5	472	35.5
6	6	Diabetes mellitus (260) .....	348	25.7	359	27.0
7	7	Suicide (E970-E979) .....	347	25.7	344	25.9
8	8	Motor vehicle accidents (E810-E835) .....	230	17.0	230	17.3
9	9	Ulcer of stomach and duodenum (540, 541) .....	193	14.3	177	13.3
10	10	Tuberculosis (001-019) .....	163	12.1	145	10.9
11	12	Accidental falls (E900-E904) .....	139	10.3	142	10.7
12	11	Nephritis and nephrosis (590-594) .....	124	9.2	122	9.2
		All other causes .....	115	8.5	128	9.6
			1,404	103.8	1,329	99.9



Table 9. PRINCIPAL CAUSES OF DEATH BY SPECIFIED AGE GROUPS: 1960-1961  
65 YEARS AND OVER

Rank		Cause and Code Numbers	1961		1960	
1961	1960		Number of Deaths	Rate per 100,000 Estimated Population	Number of Deaths	Rate per 100,000 Estimated Population
TOTAL DEATHS						
1	1	Diseases of the circulatory system (400-468)	36,359	6247.3	35,135	6229.6
2	2	Malignant neoplasms (140-205)	20,112	3455.7	19,946	3596.5
3	3	Vascular lesions affecting the central nervous system (330-334)	9,030	1036.1	5,546	983.3
4	4	Influenza, pneumonia and bronchitis (480-502)	4,377	752.1	4,013	711.5
5	5	Diabetes mellitus (260)	1,127	193.6	830	147.2
6	6	Accidental falls (E900-E904)	944	162.2	1,114	197.5
7	7	Cirrhosis of liver (581)	475	81.6	469	83.8
8	9	Ulcer of stomach and duodenum (540, 541)	293	50.3	291	51.6
9	10	Intestinal obstruction and hernia (560, 561, 570)	209	35.9	199	35.3
10	8	Nephritis and nephrosis (590-594)	210	36.1	188	33.3
11	(a) 11	Infections of kidney (600)	201	34.5	209	37.1
12	12	Tuberculosis (001-019)	177	30.4	159	28.2
		All other causes	164	28.2	128	22.7
			2,040	350.5	2,043	362.2

(a) Deaths from infections of kidney did not appear among the principal causes in 1960.

Table 10a. DEATHS FROM DISEASES OF THE CIRCULATORY SYSTEM BY CAUSE GROUP  
BY AGE AND SEX: 1960-1961

Age and Sex	Year															
	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960				
Total	28,598	28,451	31	30	806	765	578	536	2,210	2,310	419	467	315	306	18	10
Male	16,060	16,685	16	22	354	320	311	310	952	952	196	218	154	151	9	7
Female	12,538	12,416	18	17	452	445	267	220	1,258	1,358	223	249	161	155	9	3
ALL AGES																
Under 1	6	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-4	8	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5-9	6	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10-14	7	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15-19	20	24	3	3	1	1	1	1	1	1	1	1	1	1	1	1
20-24	25	28	3	3	1	1	1	1	1	1	1	1	1	1	1	1
25-29	42	45	5	5	1	1	1	1	1	1	1	1	1	1	1	1
30-34	126	124	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35-39	292	291	1	1	1	1	1	1	1	1	1	1	1	1	1	1
40-44	565	513	2	2	1	1	1	1	1	1	1	1	1	1	1	1
45-49	983	975	3	3	1	1	1	1	1	1	1	1	1	1	1	1
50-54	1,481	1,480	4	4	1	1	1	1	1	1	1	1	1	1	1	1
55-59	2,093	2,055	4	4	1	1	1	1	1	1	1	1	1	1	1	1
60-64	2,937	2,831	4	4	1	1	1	1	1	1	1	1	1	1	1	1
65-69	4,852	3,918	4	4	1	1	1	1	1	1	1	1	1	1	1	1
70-74	4,466	4,302	3	3	1	1	1	1	1	1	1	1	1	1	1	1
75 and over	11,891	11,526	3	2	53	51	213	196	967	1,023	213	262	31	91	42	33
Other Diseases of Circulatory System (467, 468)																
Diseases of Veins (400-466)																
Diseases of Arteries (430-433)																
Diseases of Heart without Mention of Heart (440-443)																
Hypertension with Mention of Heart (440-443)																
Hypertension without Mention of Heart (444-447)																
Diseases of Heart (430-434)																
Other Diseases of Heart (430-434)																
Arteriosclerotic Heart & Degenerative (420-422)																
Chronic Rheumatic Heart (410-416)																
Rheumatic Fever (400-402)																
Total (400-468)																

Note: Numbers following descriptive titles refer to International List (7th Revision) Code.

DEPARTMENT OF HEALTH

Table 10b. DEATH RATES FOR DISEASES OF THE CIRCULATORY SYSTEM BY CAUSE GROUP BY AGE AND SEX: 1960-1961

Age and Sex	Total (400-493)		Rheumatic Fever (400-402)		Chronic Rheumatic Heart (410-416)		Arteriosclerotic & Degenerative Heart (420-422)		Other Diseases of Heart (430-434)		Hypertension with Mention of Heart (440-443)		Hypertension Without Mention of Heart (444-447)		Diseases of Arteries (450-456)		Diseases of Veins (460-466)		Other Diseases of Circulatory System (467, 468)	
	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960
ALL AGES	459.7	406.6	0.5	0.0	13.0	12.5	367.7	369.8	9.3	8.7	36.0	38.4	6.7	7.7	21.1	23.6	5.1	5.0	0.3	0.2
Under 1	4.5	7.8	0.8	0.0	...	...	2.3	0.8	1.5	3.9	...	...	...	...	...	...	...	...	...	...
1-4	0.6	0.8	0.3	0.0	...	...	0.2	0.2	0.2	0.6	...	...	...	...	...	...	...	...	...	...
5-9	1.0	1.4	0.3	0.7	0.2	0.2	0.2	0.3	0.2	0.2	...	...	...	...	...	...	...	...	...	...
10-14	1.3	0.9	0.5	0.2	0.2	0.2	0.2	0.3	0.2	0.2	...	...	...	...	...	...	...	...	...	...
15-19	4.9	2.0	0.7	0.2	2.9	4.7	2.5	1.6	1.0	0.3	...	...	...	...	...	...	...	...	...	...
20-24	7.9	8.1	0.7	0.3	3.8	4.7	2.5	1.6	1.0	0.3	...	...	...	...	...	...	...	...	...	...
25-29	11.8	12.5	0.7	0.3	4.2	3.3	3.7	3.9	2.0	0.6	...	...	...	...	...	...	...	...	...	...
30-34	60.6	61.3	0.9	0.6	8.0	6.9	12.3	15.6	3.1	1.1	...	...	...	...	...	...	...	...	...	...
35-39	28.7	28.4	0.2	0.4	10.0	10.1	39.2	39.8	2.3	0.9	...	...	...	...	...	...	...	...	...	...
40-44	121.4	121.2	0.4	1.1	13.3	15.0	93.2	90.6	3.7	3.0	...	...	...	...	...	...	...	...	...	...
45-49	235.2	238.4	0.7	0.2	27.0	21.3	174.4	184.1	6.9	5.4	...	...	...	...	...	...	...	...	...	...
50-54	414.8	420.5	0.3	0.9	33.5	33.9	333.9	322.2	9.0	12.3	...	...	...	...	...	...	...	...	...	...
55-59	648.2	673.8	1.3	1.9	42.1	33.1	517.5	539.3	14.2	14.8	...	...	...	...	...	...	...	...	...	...
60-64	1,095.9	1,110.2	1.5	1.6	30.1	34.8	893.3	915.2	20.5	14.4	...	...	...	...	...	...	...	...	...	...
65-69	1,674.8	1,749.1	0.9	1.8	30.1	34.8	1,377.8	1,448.2	30.4	24.6	...	...	...	...	...	...	...	...	...	...
70-74	2,621.2	2,745.1	1.2	2.3	23.9	31.7	1,212.2	1,240.4	45.0	51.8	...	...	...	...	...	...	...	...	...	...
75 and over	6,485.7	6,548.9	1.6	2.3	29.1	29.0	5,167.0	5,104.5	117.0	111.4	...	...	...	...	...	...	...	...	...	...
Male	527.2	530.8	0.5	0.7	11.6	10.7	440.5	446.8	10.2	10.4	...	...	...	...	...	...	...	...	...	...
Female	394.9	399.1	0.6	0.5	14.2	14.3	297.8	295.9	8.4	7.1	...	...	...	...	...	...	...	...	...	...

Note: Rates are per 100,000 estimated population and are age and sex specific.

TABLE 10c. DEATHS FROM HEART DISEASES BY COUNTIES AND MAJOR CITIES NUMBERS AND RATES: 1960-1961

Area	1961		1960	
	Number <sup>a</sup>	Rate <sup>b</sup>	Number <sup>a</sup>	Rate <sup>b</sup>
State Total	26,499	426.0	26,187	429.4
Atlantic County	1,020	622.0	1,046	645.7
Atlantic City	469	794.9	473	788.3
Bergen County	2,685	331.5	2,673	340.1
Burlington County	622	263.6	680	299.6
Camden County	1,713	425.1	1,715	435.3
Camden City	664	572.4	610	521.4
Cape May County	411	822.0	408	832.7
Cumberland County	511	468.8	497	464.5
Essex County	4,713	509.0	4,596	497.4
Bloomfield	243	467.3	251	482.7
East Orange	481	624.7	461	598.7
Irvington	331	561.0	338	572.9
Newark	2,246	560.1	2,174	536.8
Gloucester County	573	409.3	592	435.3
Hudson County	3,457	570.5	3,288	539.0
Bayonne	427	577.0	394	532.4
Hoboken	316	658.3	299	622.9
Jersey City	1,488	545.1	1,496	542.0
Union City	342	657.7	287	551.9
Hunterdon County	260	464.3	246	455.6
Mercur County	1,126	415.5	1,135	423.5
Hamilton Twp.	240	352.9	222	336.4
Trenton	587	524.1	611	536.0
Middlesex County	1,416	311.2	1,359	310.3
Woodbridge Twp.	208	247.6	191	238.8
Monmouth County	1,500	431.0	1,487	441.2
Morris County	895	326.6	897	339.8
Ocean County	589	512.2	532	583.6
Passaic County	1,740	419.3	1,755	430.1
Clifton	284	338.1	291	350.6
Passaic City	303	571.7	258	477.8
Paterson	740	513.9	782	543.1
Salem County	253	421.7	236	400.0
Somerset County	445	296.7	449	309.7
Sussex County	205	402.0	207	414.0
Union County	1,998	385.7	1,994	393.3
Elizabeth	537	501.9	538	498.1
Union Twp.	212	400.0	188	361.5
Warren County	338	528.1	376	596.8
State Institutions	21	c	17	c
Military Establishments	8	c	2	c

<sup>a</sup> Includes International List Causes (410-443).

<sup>b</sup> Rate per 100,000 estimated population.

Table 11a. DEATHS FROM NEOPLASMS BY CAUSE GROUP  
BY AGE AND SEX: 1960-1961

Age and Sex	All Neoplasms (140-205)		Malignant										Lymph and Blood (200-205)		Total (210-239)		
	Total (140-205)		Buccal Cavity and Pharynx (140-148)		Digestive and Peritoneum (150-159)		Respiratory (160-165)		Breast and Genito-urinary (170-181)		Other and Unspecified (190-199)		Lymph and Blood (200-205)		Total (210-239)		
	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961
Age in Years	11,345	10,831	11,191	10,655	4,126	3,089	1,808	1,750	3,001	2,800	1,011	904	939	878	151	176	
ALL AGES	8	19	8	13	1	4	1	1	2	6	2	2	4	4	6	6	
Under 1	69	76	60	74	1	1	1	1	5	13	23	23	30	33	2	2	
5-9	55	57	52	55	1	1	1	1	5	5	17	18	20	22	3	3	
10-14	41	36	36	30	1	1	1	1	1	1	13	13	18	20	2	2	
15-19	42	32	40	28	1	2	2	2	4	4	9	10	22	19	5	3	
20-24	46	60	46	53	3	2	2	1	5	3	13	11	17	11	2	4	
25-29	44	82	48	88	1	1	1	1	4	4	15	15	20	12	1	4	
30-34	102	92	98	88	1	1	1	1	4	4	15	15	22	12	1	4	
35-39	207	220	202	208	4	4	4	2	20	15	19	21	32	29	4	4	
40-44	463	368	388	360	6	6	6	4	29	15	19	21	32	29	4	4	
45-49	606	633	586	621	11	14	18	8	73	80	30	31	44	44	5	12	
50-54	943	889	933	875	16	16	16	10	136	151	51	51	61	61	15	15	
55-59	1,177	1,164	1,150	1,148	20	17	28	16	212	203	67	64	81	82	20	12	
60-64	1,429	1,512	1,521	1,523	28	29	38	25	291	258	106	87	102	106	29	8	
65-69	1,765	1,651	1,751	1,635	37	33	51	31	377	312	134	122	152	144	44	10	
70-74	1,765	1,651	1,751	1,635	37	33	51	31	377	312	134	122	152	144	44	10	
75 and over	2,632	2,359	2,606	2,333	60	61	70	54	443	380	121	122	122	106	14	19	
Sex	6,135	5,786	6,074	5,704	171	2,234	1,552	1,511	898	859	561	494	538	512	61	82	
Male	5,210	5,045	5,120	4,951	48	1,842	1,332	1,259	2,123	2,001	450	470	401	360	90	94	

Note: Numbers following descriptive titles refer to International List (7th Revision) Codes.

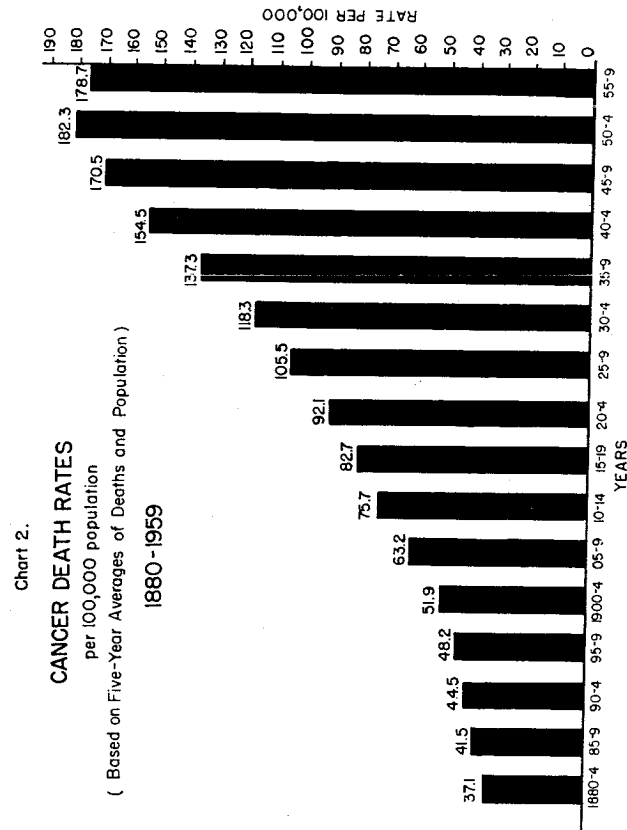
Table 11b. DEATH RATES FOR MALIGNANT NEOPLASMS BY CAUSE GROUP  
BY AGE AND SEX: 1960-1961

Age and Sex	Total (140-205)		Buccal Cavity and Pharynx (140-148)		Digestive and Peritoneum (150-159)		Respiratory (160-165)		Breast and Genito-urinary (170-181)		Other and Unspecified (190-199)		Lymph and Blood (200-205)	
	Total (140-205)		Buccal Cavity and Pharynx (140-148)		Digestive and Peritoneum (150-159)		Respiratory (160-165)		Breast and Genito-urinary (170-181)		Other and Unspecified (190-199)		Lymph and Blood (200-205)	
	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960
Age in Years	179.9	174.7	4.0	3.5	66.3	65.4	29.1	28.7	49.2	40.9	16.3	15.8	15.1	14.4
ALL AGES	6.0	10.1	0.2	0.2	0.8	0.8	0.2	0.2	1.5	1.6	1.5	1.5	3.1	3.0
Under 1	11.3	14.3	0.2	0.2	0.8	0.8	0.2	0.2	1.1	1.1	4.3	4.3	4.4	4.7
5-9	8.6	9.4	0.2	0.2	0.8	0.8	0.2	0.2	0.8	0.9	2.8	2.8	2.4	2.4
10-14	6.3	6.7	0.2	0.2	0.8	0.8	0.2	0.2	0.8	0.9	2.3	2.3	1.5	1.5
15-19	12.6	8.3	0.2	0.2	0.5	0.5	0.6	0.3	1.0	0.9	2.2	2.2	2.5	2.5
20-24	8.8	8.7	0.2	0.3	1.1	1.1	0.6	0.6	1.1	1.1	3.4	3.4	5.4	4.8
25-29	22.3	14.7	0.2	0.2	2.8	2.8	1.1	0.9	4.2	4.2	3.4	3.4	5.6	3.3
30-34	41.9	43.8	1.2	0.8	3.7	3.7	0.7	0.9	3.4	3.4	4.3	4.3	7.3	6.7
35-39	84.9	80.4	2.4	1.3	9.5	8.8	3.7	4.2	15.1	13.8	6.2	6.2	7.2	5.9
40-44	140.2	151.8	4.8	3.9	17.9	17.9	6.6	6.6	29.8	29.8	11.8	11.8	9.8	10.0
45-49	201.3	248.6	5.6	4.8	37.3	40.3	21.8	20.9	50.7	49.6	15.6	15.6	10.5	15.4
50-54	375.1	376.4	9.1	6.6	72.7	72.7	55.4	55.4	81.5	73.3	29.7	29.7	19.6	18.2
55-59	507.5	576.9	13.8	12.5	124.9	131.8	79.9	70.7	96.4	102.3	33.0	33.0	31.7	26.9
60-64	701.3	729.9	17.0	13.8	304.8	306.3	150.9	148.2	180.4	158.5	55.2	55.2	46.2	40.2
65-69	984.1	902.2	18.2	14.6	412.4	419.5	168.2	167.1	200.6	191.7	71.2	71.2	74.4	63.5
70-74	1,431.9	1,325.6	33.0	34.7	648.4	602.3	158.2	119.3	417.6	392.6	89.0	89.0	85.7	72.2
75 and over	199.4	191.0	6.0	5.7	75.0	72.2	51.0	50.6	30.8	28.8	18.4	18.4	17.7	17.1
Sex	161.5	159.1	1.5	1.4	58.0	58.9	8.1	7.7	60.9	64.3	14.2	14.2	15.1	11.8

Note: Rates are per 100,000 estimated population and are age and sex specific.

TABLE 11c. DEATHS FROM MALIGNANT NEOPLASMS BY COUNTIES AND MAJOR CITIES  
NUMBERS AND RATES: 1960-1961

Area	1961		1960	
	Number	Rate <sup>a</sup>	Number	Rate <sup>a</sup>
State Total	11,194	179.9	10,655	174.7
Atlantic County	407	248.2	342	211.1
Atlantic City	210	355.9	166	276.7
Bergen County	1,377	170.0	1,178	149.9
Burlington County	262	111.0	254	111.9
Camden County	701	173.9	640	162.4
Camden City	250	215.5	230	196.6
Cape May County	146	292.0	117	238.8
Cumberland County	198	181.7	159	148.6
Essex County	1,878	202.8	1,879	203.4
Bloomfield	110	211.5	104	200.0
East Orange	221	287.0	201	261.0
Irvington	120	263.4	164	278.0
Newark	830	207.0	790	193.1
Gloucester County	218	155.7	211	155.1
Hudson County	1,331	219.6	1,327	217.5
Bayonne	148	200.0	147	198.6
Hoboken	93	193.8	84	175.0
Jersey City	627	229.7	618	223.9
Union City	105	201.9	128	246.2
Hunterdon County	111	198.2	97	179.6
Mercer County	507	187.1	427	159.3
Hamilton Twp.	113	166.2	78	118.2
Trenton	265	236.6	238	208.8
Middlesex County	593	130.3	659	150.5
Woodbridge Twp.	81	96.4	105	131.3
Monmouth County	621	178.4	594	176.3
Morris County	405	148.2	396	150.0
Ocean County	253	220.0	221	200.9
Passaic County	818	197.1	789	193.4
Clifton	154	183.3	143	172.3
Passaic City	95	179.2	127	235.2
Paterson	339	235.4	327	227.1
Salem County	87	145.0	87	147.5
Somerset County	187	124.7	222	153.1
Sussex County	85	166.7	65	130.0
Union County	884	170.7	873	172.2
Elizabeth	209	193.3	235	217.6
Union Twp.	91	171.7	85	163.5
Warren County	115	179.7	108	171.4
State Institutions	4	b	5	b
Military Establishments	5	b	5	b

<sup>a</sup> Rate per 100,000 estimated population.<sup>b</sup> Rates not computed due to lack of population base.

## DEPARTMENT OF HEALTH

TABLE 12a. DEATHS FROM DIABETES BY COUNTIES AND MAJOR CITIES  
NUMBERS AND RATES: 1960-1961

Area	1961		1960	
	Number	Rate <sup>a</sup>	Number	Rate <sup>a</sup>
State Total	1,360	21.9	1,238	20.3
Atlantic County	56	34.1	42	25.9
Atlantic City	30	50.8	30	50.0
Bergen County	124	15.3	124	15.8
Burlington County	25	10.6	33	14.5
Camden County	83	20.6	67	17.0
Camden City	24	20.7	25	21.4
Cape May County	29	58.0	20	40.8
Cumberland County	22	20.2	15	14.0
Essex County	287	31.0	229	24.8
Bloomfield	15	28.8	16	30.8
East Orange	21	27.3	14	18.2
Irvington	21	35.6	13	22.0
Newark	166	41.4	127	31.4
Gloucester County	28	20.0	25	18.4
Hudson County	194	32.0	185	30.3
Bayonne	21	28.4	21	28.4
Hoboken	15	31.3	18	37.5
Jersey City	79	28.9	78	28.3
Union City	19	36.5	19	36.5
Hunterdon County	4	7.1	12	22.2
Mercer County	63	23.2	54	20.1
Hamilton Twp.	5	7.4	14	21.2
Trenton	41	36.6	29	25.4
Middlesex County	80	17.6	72	16.4
Woodbridge Twp.	15	17.9	11	13.8
Monmouth County	59	17.0	64	19.0
Morris County	34	12.4	30	11.4
Ocean County	28	24.3	35	31.8
Passaic County	108	26.0	108	26.5
Clifton	19	22.6	17	20.5
Passaic City	23	43.4	24	44.4
Paterson	50	34.7	49	34.0
Salem County	6	10.0	14	23.7
Somerset County	26	17.3	18	12.4
Sussex County	11	21.6	7	14.0
Union County	80	15.4	73	14.4
Elizabeth	29	27.1	25	23.1
Union Twp.	11	20.8	5	9.6
Warren County	13	20.3	11	17.5

<sup>a</sup> Rates expressed per 100,000 estimated population.TABLE 12b. DEATHS FROM DIABETES BY AGE AND SEX  
NUMBERS AND RATES: 1960-1961

Age and Sex	1961		1960	
	Number	Rate	Number	Rate
<i>Age in years</i>				
ALL AGES	1,360	21.9	1,238	20.3
Under 1	2	1.5		
1-4	2	0.4	1	0.2
5-9	4	0.7		
10-14	2	0.4		
15-19	1	0.2	3	0.8
20-24	1	0.3	5	1.6
25-29	5	1.4	10	2.8
30-34	8	1.8	4	0.9
35-39	19	3.9	21	4.4
40-44	25	5.5	20	4.5
45-49	28	6.7	28	6.8
50-54	54	15.1	72	20.5
55-59	89	28.8	93	30.5
60-64	176	65.7	151	57.2
65-69	261	113.5	218	97.3
70-74	271	159.4	253	154.3
75 and over	412	226.4	359	204.0
<i>Sex</i>				
Male	488	16.0	457	15.3
Female	872	27.5	781	25.1

Note: Rates are per 100,000 estimated population and are age and sex specific.

Table 13a. MOTOR VEHICLE DEATHS IN NEW JERSEY BY CAUSE OF DEATH BY AGE: 1961

Primary Cause	List No.	All Ages	Age Groups						
			Under 1 year	1-4	5-14	15-24	25-44	45-64	65 and Over
TOTAL	E810-E835, E860	798	6	25	63	155	221	201	128
Collision with									
Railway train	E810	10				3	5	2	
Street car	E811	0							
Pedestrian	E812, E830	269	1	17	39	10	46	71	79
Pedal cyclist	E813, E817, E831	14			11			2	1
Motorcycle	E815, E832	5							
Other motor vehicle	E816, E833	261	4	5	7	45	79	85	36
Horse or horse-drawn vehicle	E818	1							
Fixed object	E814, E819	27				1	6	11	8
Non-collision	E820-E824, E834	207		3	6	81	78	31	2
Other and unspecified	E825, E835, E860	4							

Table 13b. Nontransport Accidental Deaths in New Jersey by Cause of Death by Place of Accident: 1961

Primary Cause	List No.	Total	Home	Farm	Mine and Quarry	Industrial Place and Premises	Place for Recreation and Sport	Street and Highway	Public Building	Resident Institution	Other Specified Place	Place Not Specified
Poisoning by solid and liquid substances	E891-E892	38	12									22
Poisoning by gases and vapors	E870-E888	37	21									7
Falls	E890-E895	680	425			29		64	16	96	13	37
Fire and explosion of combustible material	E800-E804	213	190			0		1	4	3	3	3
Mechanical suffocation in bed or cradle	E816	47	43									3
Drowning	E824	154	9				6				127	8
	E829											
	E810-E815											
	E817-E823											
	E825-E828											
	E830-E836											
	E840-E846											
	E850-E859											
	E861-E862											
Other causes		255	85	12	1	32	5	22	3	10	23	56

TABLE 13c. RESIDENT DEATHS DUE TO ACCIDENTS BY CAUSE OF ACCIDENT FOR SELECTED AGE GROUPS  
NUMBER AND RANK: 1961

Rank Order	1-4 Years		5-14 Years		15-24 Years	
	Cause of Death	Number	Cause of Death	Number	Cause of Death	Number
1	All accidental deaths (E800-E962)	128	All accidental deaths (E800-E962)	165	All accidental deaths (E800-E962)	300
	Accidents caused by fire and explosion of combustible material and other accidental burns and scalds (E916, E917)	31*	Motor vehicle accidents (E810-E835)	60	Motor vehicle accidents (E810-E835)	177
	Motor vehicle accidents (E810-E835)	28	Accidental drowning and submersion (E929)	37	Accidental drowning and submersion (E929)	29
	Accidental falls (E900-E904)	20	Accidents caused by fire and explosion of combustible material and other accidental burns and scalds (E916, E917)	29*	Aircraft accidents (E860-E866)	29
	Accidental drowning and submersion (E929)	16	Accidents caused by firearms (E919)	7	Accidental poisoning by solids and liquid substances (E870-E895)	12
	Accidental poisonings by solids and liquid substances (E870-E895)	12	Accidental falls (E900-E904)	6	Accidental falls (E900-E904)	11
6	Inhalation and ingestion of food or other objects causing obstruction or suffocation (E921, E922)	11	Inhalation and ingestion of food or other objects causing obstruction or suffocation (E921, E922)	3	Accidents caused by fire and explosion of combustible material and other accidental burns and scalds (E916, E917)	10*
	All other accidents	10	All other accidents	23	All other accidents	32

\* Deaths due to "Accidents caused by hot substance, corrosive liquid and steam" (International List Code E917) numbered 2 in age group 1-4 and none in 5-14 and 15-24.

TABLE 14a. BIRTHS BY LEGITIMACY FOR COUNTIES AND MAJOR CITIES: 1961

Area	Total Births	Legitimate	Illegitimate	Unknown
State Total	135,320	129,691	5,432	197
Atlantic County	3,196	2,911	285	
Atlantic City	1,041	837	204	
Bergen County	15,270	15,000	168	102
Burlington County	5,493	5,378	113	2
Camden County	9,435	9,080	354	1
Camden City	3,126	2,870	256	
Cape May County	967	927	40	
Cumberland County	2,617	2,405	212	
Essex County	20,112	18,445	1,649	18
Bloomfield	1,060	1,050	10	
East Orange	1,609	1,553	56	
Irvington	1,059	1,048	9	2
Newark	10,757	9,281	1,471	5
Gloucester County	3,385	3,282	102	1
Hudson County	13,147	12,506	618	23
Bayonne	1,448	1,419	22	7
Hoboken	1,109	1,071	38	
Jersey City	6,454	5,943	507	4
Union City	1,121	1,097	21	3
Hunterdon County	1,152	1,113	38	1
Mercer County	5,796	5,382	411	3
Hamilton Twp.	1,546	1,390	156	
Trenton	2,486	2,264	220	2
Middlesex County	10,535	10,364	160	11
Woodbridge Twp.	1,748	1,733	13	2
Monmouth County	7,946	7,710	228	8
Morris County	5,992	5,900	86	6
Ocean County	2,921	2,851	68	2
Passaic County	8,904	8,516	380	8
Clifton	1,548	1,536	12	
Passaic City	1,034	968	66	
Paterson	3,554	3,275	278	1
Salem County	1,444	1,337	107	
Somerset County	3,404	3,350	53	1
Sussex County	1,183	1,152	31	
Union County	10,318	10,034	275	9
Elizabeth	2,546	2,426	120	
Union Twp.	787	777	10	
Warren County	1,343	1,304	38	
State Institutions	34	21	13	
Military Posts	726	723	3	1

TABLE 14b. BIRTHS BY LEGITIMACY BY AGE OF MOTHER: 1961

Age of Mother	Live Births									
	Total		Legitimate		Illegitimate		Unknown			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All Ages	135,320	100.0	129,691	100.0	5,432	100.0	197	100.0		
10-14	155	0.1	24	<0.1	131	2.4				
15-19	12,168	9.0	9,963	7.7	2,196	40.4	9	4.6		
20-24	41,353	30.6	39,479	30.4	1,825	33.6	49	24.9		
25-29	38,484	28.4	37,745	29.1	679	12.5	60	30.4		
30-34	26,162	19.3	25,739	19.8	375	6.9	48	24.4		
35-39	13,612	10.1	13,407	10.3	182	3.4	23	11.7		
40-44	3,231	2.4	3,184	2.5	40	0.7	7	3.5		
45-49	147	0.1	142	0.1	4	0.1	1	0.5		
50-54	3	<0.1	3	<0.1						
Unknown	5	<0.1	5	<0.1						

TABLE 15. RESIDENT BIRTHS BY WEIGHT GROUP BY AGE GROUP OF MOTHER: 1961

Age in Years	Total	Birth Weight Group							Weight Not Stated
		More than 5 lb. 8 oz.	4 lbs. 7 oz. to 5 lbs. 8 oz.	3 lbs. 5 oz. to 4 lbs. 6 oz.	2 lb. 4 oz. to 3 lbs. 4 oz.	2 lbs. 3 oz. or less	1000 grams or less		
		2501 grams and over	2001-2500 Grams	1501-2000 Grams	1001-1500 Grams	724	1000 grams or less	460	
All Ages	135,320	124,020	7,255	1,969	892	724		460	
10-14	155	123	17	10	2	1		2	
15-19	12,168	10,745	940	250	122	72		39	
20-24	41,353	37,956	2,169	552	264	255		157	
25-29	38,484	35,577	1,881	505	199	195		127	
30-34	26,162	24,110	1,309	373	173	123		74	
35-39	13,612	12,427	734	228	111	65		47	
40-44	3,231	2,945	190	50	20	13		13	
45-49	147	130	14	1	1			1	
50-54	3	3							
Unknown	5	4	1						



TABLE 16. INFANT AND MATERNAL DEATHS FOR COUNTIES AND MAJOR CITIES  
NUMBERS AND RATES: 1961

Area	Births	Infant Deaths		Maternal Deaths	
		Number	Rate	Number	Rate
State Total	135,320	3,244	24.0	47	0.3
Atlantic County	3,196	75	23.5	3	0.9
Atlantic City	1,041	28	26.9	2	1.9
Bergen County	15,270	285	18.7	1	0.1
Burlington County	5,493	114	20.8	1	0.2
Camden County	9,435	203	21.5	1	0.1
Camden City	3,126	86	27.5	1	0.3
Cape May County	967	16	16.5	2	2.1
Cumberland County	2,617	104	39.7	..	..
Essex County	20,112	608	30.2	19	0.9
Bloomfield	1,060	18	17.0	..	..
East Orange	1,609	52	32.3	3	1.9
Irvington	1,059	22	20.8	..	..
Newark	10,757	393	36.5	13	1.2
Gloucester County	3,385	97	28.7	1	0.3
Hudson County	13,147	323	24.6	4	0.3
Bayonne	1,448	31	21.4	1	0.7
Hoboken	1,109	23	20.7	..	..
Jersey City	6,454	173	26.8	1	0.2
Union City	1,121	33	29.4	1	0.9
Hunterdon County	1,152	26	22.6	1	0.9
Mercer County	5,796	145	25.0	2	0.3
Hamilton Twp.	1,546	25	16.2	..	..
Trenton	2,486	80	32.2	1	0.4
Middlesex County	10,535	230	21.8	2	0.2
Woodbridge Twp.	1,748	32	18.3	..	..
Monmouth County	7,946	167	21.0	2	0.3
Morris County	5,992	132	22.0	1	0.2
Ocean County	2,921	61	20.9	1	0.3
Passaic County	8,904	232	26.1	2	0.2
Clifton	1,548	25	16.1	1	0.6
Passaic City	1,034	27	26.1	..	..
Paterson	3,554	119	33.5	1	0.3
Salem County	1,444	45	31.2	..	..
Somerset County	3,404	80	23.5	..	..
Sussex County	1,183	25	21.1	..	..
Union County	10,318	228	22.1	4	0.4
Elizabeth	2,546	76	29.9	..	..
Union Twp.	787	22	28.0	2	2.5
Warren County	1,343	34	25.3	..	..
State Institutions	34	..	..	..	..
Military Posts	726	14	19.3	..	..

Note: Rates are per 1,000 live births.

TABLE 17. MATERNAL DEATHS BY SPECIFIC CAUSE: 1961

TOTAL MATERNAL DEATHS	47
Total complications of pregnancy (640-649)	10
Toxemias of pregnancy (642)	5
Ectopic pregnancy (645)	3
Other complications arising from pregnancy (648)	2
Total abortions (650-652)	14
Abortion without mention of sepsis or toxemia (650)	8
Abortion with sepsis (651)	6
Total deliveries without mention of complications (660)	2
Delivery without mention of complication (660)	2
Total deliveries with specified complications (670-678)	12
Delivery complicated by placenta previa or antepartum hemorrhage (670)	1
Delivery complicated by retained placenta (671)	2
Delivery complicated by other postpartum hemorrhage (672)	3
Delivery with other trauma (677)	3
Delivery with other complications of childbirth (678)	3
Total complications of the puerperium (680-689)	9
Puerperal urinary infection without other sepsis (680)	1
Sepsis of childbirth and the puerperium (681)	1
Puerperal phlebitis and thrombosis (682)	1
Puerperal pulmonary embolism (684)	2
Puerperal eclampsia (685)	1
Cerebral hemorrhage in the puerperium (687)	2
Other and unspecified complications of the puerperium (688)	1

Note: Cause numbers are those of International List, 7th Revision.



Table 20. DEATHS BY CAUSE BY SEX AND AGE GROUPS, NEW JERSEY: 1961.—Continued  
(According to the 7th Revision of the International Classification of Diseases)

Internal List No.	CAUSE OF DEATH	Total	Age Groups by Years		Unknown				
			Sex						
			Male	Female					
114.	Mixed malarial infections .....								
115.	Blackwater fever .....								
116.	Other and unspecified forms of malaria .....								
117.	Recurrent induced malaria .....								
120.	Leishmaniasis .....								
121.	Trypanosomiasis .....								
122.	Other protozoal diseases .....								
123.	Schistosomiasis .....								
124.	Other trematode infestation .....								
125.	Hydatid disease .....								
126.	Other cestode infestation .....								
127.	Filariasis .....								
128.	Trichiniasis .....								
129.	Ankylostomiasis .....								
130.	Infestation with worms of other, mixed and unspecified type .....								
131.	Dermatophytosis .....								
132.	Actinomycosis .....								
133.	Coccidioidomycosis .....								
134.	Other fungus infections .....								
135.	Scabies .....								
136.	Pediculosis .....								
137.	Other arthropod infestation .....								
138.	Other infective and parasitic diseases .....								
140.	Malignant neoplasm of lip .....								
141.	Malignant neoplasm of tongue .....								
142.	Malignant neoplasm of salivary gland .....								
143.	Malignant neoplasm of floor of mouth .....								
144.	Malignant neoplasm of other parts of mouth and of mouth unspecified .....								
145.	Malignant neoplasm of oral mesopharynx .....								
146.	Malignant neoplasm of nasopharynx .....								
147.	Malignant neoplasm of hypopharynx .....								
148.	Malignant neoplasm of pharynx, unspecified .....								
150.	Malignant neoplasm of esophagus .....								
151.	Malignant neoplasm of stomach .....								
152.	Malignant neoplasm of small intestine, including duodenum .....								
153.	Malignant neoplasm of large intestine, except rectum .....								
154.	Malignant neoplasm of rectum .....								
156.	Malignant neoplasm of biliary passages and of liver (stated to be primary site) .....								
159.	Malignant neoplasm of liver (secondary and unspecified) .....								
157.	Malignant neoplasm of pancreas .....								
158.	Malignant neoplasm of peritoneum .....								
159.	Malignant neoplasm of unspecified digestive organs .....								
160.	Malignant neoplasm of nose, nasal cavities, middle ear and accessory sinuses .....								

161.	Malignant neoplasm of larynx .....								
162.	Malignant neoplasm of bronchus, and trachea, and of lung, specified as primary .....								
163.	Malignant neoplasm of lung, unspecified as to whether primary or secondary .....								
164.	Malignant neoplasm of mediastinum .....								
165.	Malignant neoplasm of thoracic organs (secondary) .....								
170.	Malignant neoplasm of breast .....								
171.	Malignant neoplasm of cervix uteri .....								
172.	Malignant neoplasm of corpus uteri .....								
173.	Malignant neoplasm of other parts of uterus, including chorionepithelioma .....								
174.	Malignant neoplasm of uterus, unspecified .....								
175.	Malignant neoplasm of ovary .....								
176.	Malignant neoplasm of Fallopian tube, and broad ligament .....								
177.	Malignant neoplasm of other and unspecified female genital organs .....								
178.	Malignant neoplasm of prostate .....								
179.	Malignant neoplasm of testis .....								
180.	Malignant neoplasm of other and unspecified male genital organs .....								
181.	Malignant neoplasm of kidney .....								
182.	Malignant neoplasm of bladder and other urinary organs .....								
190.	Malignant melanoma of skin .....								
191.	Other malignant neoplasm of skin .....								
192.	Malignant neoplasm of eye .....								
193.	Malignant neoplasm of brain and other parts of nervous system .....								
194.	Malignant neoplasm of thyroid gland .....								
195.	Malignant neoplasm of other endocrine glands .....								
196.	Malignant neoplasm of bone (including jaw bone) .....								
197.	Malignant neoplasm of connective tissue .....								
198.	Malignant neoplasm of unspecified malignant neoplasm of lymph nodes .....								
199.	Secondary and unspecified malignant neoplasm of lymph nodes .....								
200.	Lymphosarcoma and reticulosarcoma .....								
201.	Hodgkin's disease .....								
202.	Multiple myeloma (plasmacytoma) .....								
203.	Other forms of lymphoma (reticulosarcoma) .....								
204.	Leukemia and aleukemia .....								
205.	Mycosis fungoides .....								
210.	Benign neoplasm of buccal cavity and pharynx .....								
211.	Benign neoplasm of other parts of digestive system .....								
212.	Benign neoplasm of respiratory system .....								
213.	Benign neoplasm of breast .....								
214.	Uterine fibromyoma .....								
215.	Other benign neoplasm of uterus .....								
216.	Benign neoplasm of ovary .....								
217.	Benign neoplasm of other female genital organs .....								
218.	Benign neoplasm of male genital organs .....								
219.	Benign neoplasm of kidney and other urinary organs .....								
220.	Benign melanoma of skin .....								
221.	Pilonidal cyst .....								
222.	Other benign neoplasm of skin .....								
223.	Benign neoplasm of brain and other parts of nervous system .....								
224.	Benign neoplasm of endocrine glands .....								
225.	Benign neoplasm of bone and cartilage .....								
226.	Lipoma .....								
227.	Other benign neoplasm of muscular and connective tissue .....								
228.	Hemangioma and lymphangioma .....								

Table 20. DEATHS BY CAUSE BY SEX AND AGE GROUPS, NEW JERSEY: 1961.—Continued  
(According to the 7th Revision of the International Classification of Diseases)

Internat'l List No.	CAUSE OF DEATH	Total	Male	Female	Age Groups by Years						
					<1	1-4	5-14	15-24	25-44	45-64	65+ Unknown
					229.	Benign neoplasm of other and unspecified organs and tissues	2		2		
230.	Neoplasm of unspecified nature of digestive organs	10	4	6					1	6	
231.	Neoplasm of unspecified nature of respiratory organs	4	2	2					1	2	
232.	Neoplasm of unspecified nature of breast										1
233.	Neoplasm of unspecified nature of uterus										1
234.	Neoplasm of unspecified nature of ovary	1		1							1
235.	Neoplasm of unspecified nature of other female genital organs.										1
236.	Neoplasm of unspecified nature of other genito-urinary organs.	3	2	1							1
237.	Neoplasm of unspecified nature of brain and other parts of nervous system	30	13	17					2	5	13
238.	Neoplasm of unspecified nature of skin and mucocutaneous system	8	3	5					1	1	6
239.	Neoplasm of unspecified nature of other and unspecified organs	2		2							2
240.	Hay fever	8	3	5							6
241.	Asthma	2		2							2
242.	Angioneurotic edema	149	80	69					5	14	56
243.	Urticaria										74
244.	Allergic eczema										
245.	Other allergic disorders										
250.	Simple goitre	1		1							1
251.	Nontoxic nodular goitre	1		1							1
252.	Thyrototoxicosis with or without goitre	14	3	11					1	1	1
253.	Myxedema and cretinism	2	1	1							1
254.	Other diseases of thyroid gland										1
260.	Diabetes mellitus										1
270.	Disorders of pancreatic internal secretion other than diabetes mellitus	1360	488	872	2	2	6	2	57	347	844
271.	Diseases of parathyroid gland	2		2							2
272.	Diseases of pituitary gland	3	1	2							3
273.	Diseases of thymus gland	14	9	5						2	11
274.	Diseases of adrenal glands	18	7	11	3	1	1		5	4	5
276.	Ovarian dysfunction										1
277.	Testicular dysfunction	2		2							2
277.	Pituitary dysfunction and other diseases of endocrine glands										1
281.	Beriberi	1	1								1
282.	Scurvy										
283.	Active rickets										
284.	Late effects of rickets										
285.	Osteomalacia										
286.	Other avitaminoses and nutritional deficiency states	48	27	21			2		3	11	27
287.	Obesity, not specified as of endocrine origin	18	4	14					2	11	6
288.	Gout	1	1								1
289.	Other metabolic diseases	17	10	7						2	6
290.	Ferri-cious and other hyperchromic anemias	26	9	17					1	3	22
291.	Iron deficiency anemias (hypochromic anemias)	1		1							1

292.	Other anemias of specified type	57	30	27	1	0	5	3	6	13	21
293.	Anemia of unspecified type	9	8	1					1	7	5
294.	Polycythemia	2							1	1	
295.	Hemophilia	2							1	1	
296.	Purpura and other hemorrhagic conditions	19	11	8	1	1	2	3	2	4	6
297.	Agranulocytosis	2	2						3	1	2
298.	Diseases of spleen	4	4						1	2	1
299.	Other diseases of blood and blood-forming organs	1								1	1
300.	Schizophrenic disorders (dementia praecox)	3	1	2					1	1	1
301.	Manic-depressive reaction										1
302.	Involuntary melancholia	1		1							1
303.	Paranoia and paranoid states										1
304.	Senile psychosis	3	1	2							3
305.	Presente psychosis	4	1	3						2	2
306.	Psychosis with cerebral arteriosclerosis	2	1	1						2	2
307.	Alcoholic psychosis	26	25	1			0	1	18	2	2
308.	Psychosis of other demonstrable etiology	1	1						1	1	2
309.	Other and unspecified psychoses	3	1	2					1	1	2
310.	Anxiety reaction without mention of somatic symptoms										1
311.	Hysterical reaction without mention of anxiety reaction	2		2					1		1
312.	Phobic reaction										1
313.	Obsessive-compulsive reaction										1
314.	Neurotic-depressive reaction										1
315.	Psychoneurosis with somatic symptoms (somatization reaction) affecting circulatory system										1
316.	Psychoneurosis with somatic symptoms (somatization reaction) affecting digestive system										1
317.	Psychoneurosis with somatic symptoms (somatization reactions) affecting other systems										1
318.	Psychoneurotic disorders, other, mixed and unspecified types										1
320.	Pathological personality										1
321.	Immature personality	76	56	20				1	33	34	8
322.	Alcoholism	12	8	4					3	9	
323.	Other drug addiction										1
324.	Primary childhood behaviour disorders	10	3	7				2			1
325.	Mental deficiency										1
326.	Other and unspecified character, behaviour and intelligence disorders.										1
330.	Subarachnoid hemorrhage	206	82	124				5	52	94	54
331.	Cerebral hemorrhage	2007	1340	1567	2	1	2	2	88	689	2243
332.	Cerebral embolism and thrombosis	1957	881	1076				1	6	284	1086
333.	Spasm of cerebral arteries										1
334.	Other and ill-defined vascular lesions affecting central nervous system	432	183	249	1	2	1	1	7	36	384
340.	Meningitis, except meningococcal and tuberculous	57	30	27					6	7	8
341.	Phlebitis and thrombophlebitis of intracranial venous sinuses	2		2					6	1	1
342.	Intracranial and intranasal abscess	10	9	1						3	2
342.	Encephalitis, myelitis and encephalomyelitis (except acute infections)										1
344.	Late effects of intracranial abscess or pyogenic infection	21	9	12					2	1	1
345.	Multiple sclerosis	61	22	39					1	21	27
350.	Paralysis agitans	120	70	50						1	29
351.	Cerebral spastic infantile paralysis	8	1	7					6	1	1
352.	Other cerebral paralysis	7	4	3					2	2	3
353.	Epilepsy	55	36	19					10	21	17
354.	Migraine	1		1							1

Table 20. DEATHS BY CAUSE BY SEX AND AGE GROUPS, NEW JERSEY: 1961.—Continued  
(According to the 7th Revision of the International Classification of Diseases)

Internal List No.	CAUSE OF DEATH	Total	Age Groups by Years		Unknown				
			Male			Female			
			<1	1-4					
355.	Other diseases of brain	16							
356.	Motor neuron disease and muscular atrophy	46	10	6					
357.	Other diseases of spinal cord	9	24	22					
360.	Facial paralysis	9	2	7					
361.	Trigeminal neuralgia				1	2			
362.	Brachial neuritis				2				
363.	Sciatica								
364.	Polyneuritis and polyradiculitis								
365.	Erythema polyneuritica								
366.	Other and unspecified forms of neuralgia and neuritis	7	4	3					
367.	Other diseases of cranial nerves								
368.	Other diseases of peripheral nerves	2	2						
369.	Diseases of peripheral nerves except autonomic	1							
370.	Diseases of peripheral autonomic nervous system								
371.	Conjunctivitis and ophthalmia								
372.	Blenorrhoea								
373.	Hordeolum (stye)								
374.	Iritis								
375.	Keratitis								
376.	Choroiditis								
377.	Other inflammation of uveal tract								
378.	Inflammation of optic nerve and retina								
379.	Inflammation of lachrymal glands and ducts	2							
380.	Other inflammatory diseases of eye								
381.	Refractive errors								
382.	Corneal ulcer								
383.	Corneal opacity								
384.	Strabismus								
385.	Cataract	1							
386.	Detachment of retina								
387.	Glaucoma								
388.	Other diseases of eye	1							
389.	Blindness								
390.	Otitis externa								
391.	Otitis media without mention of mastoiditis								
392.	Otitis media with mastoiditis	4	3	1					
393.	Mastoiditis without mention of otitis media	1	1						
394.	Other inflammatory diseases of ear	1	1						
395.	Meniere's disease	1							
396.	Other diseases of ear and mastoid process	1							
397.	Deaf mutism								
398.	Other deafness								
400.	Rheumatic fever without mention of heart involvement	2	1	1					
401.	Rheumatic fever with heart involvement	32	15	17					
402.	Chorea								

Internal List No.	CAUSE OF DEATH	Total	Age Groups by Years		Unknown				
			Male			Female			
			<1	1-4					
410.	Diseases of mitral valve	249	106	143					
411.	Diseases of aortic valve specified as rheumatic	77	60	17					
412.	Diseases of tricuspid valve	1		1					
413.	Diseases of pulmonary valve specified as rheumatic								
414.	Other endocarditis specified as rheumatic	41	22	19					
415.	Other myocarditis specified as rheumatic	483	165	268					
416.	Other heart disease specified as rheumatic	20040	8003	8003					
420.	Arteriosclerotic heart disease, including coronary disease	163	89	74					
421.	Chronic endocarditis not specified as rheumatic	2972	1293	1379					
422.	Other myocardial degeneration	14	5	9					
430.	Acute and subacute endocarditis	24	14	10					
431.	Acute myocarditis not specified as rheumatic	6	4	2					
432.	Acute pericarditis specified as nonrheumatic	108	46	60					
433.	Functional disease of heart	428	242	186					
434.	Other and unspecified diseases of heart	12	7	5					
440.	Essential benign hypertensive heart disease	1700	725	247					
441.	Essential malignant hypertensive heart disease	104	31	73					
442.	Hypertensive heart disease with arteriolar nephrosclerosis	250	32	24					
443.	Other and unspecified hypertensive heart disease	9	3	6					
444.	Essential malignant hypertension	963	407	556					
445.	Other hypertensive disease without mention of heart	273	200	73					
450.	General arteriosclerosis	19	10	9					
451.	Aortic aneurysm, nonsyphilitic, and dissecting aneurysm	6	6						
452.	Other aneurysm, except of heart and aorta	27	19	8					
453.	Peripheral vascular disease	3	1	2					
454.	Arterial embolism and thrombosis	22	6	16					
455.	Gangrene of unspecified cause	8	2	6					
456.	Other diseases of arteries	2		2					
460.	Varicose veins of lower extremities	2		2					
461.	Hemorrhoids								
462.	Varicose veins of other specified sites	2		2					
463.	Phlebitis and thrombophlebitis of lower extremities	37	20	17					
464.	Phlebitis and thrombophlebitis of other sites	28	9	19					
465.	Pulmonary embolism and infarction	202	103	99					
466.	Other venous embolism and thrombosis	38	18	20					
467.	Other diseases of circulatory system	14	8	6					
468.	Certain diseases of lymph nodes and lymph channels	4	1	3					
470.	Acute nasopharyngitis (common cold)	2		2					
471.	Acute sinusitis	4		4					
472.	Acute pharyngitis	2	2						
473.	Acute tonsillitis	12	8	4					
474.	Acute laryngitis and tracheitis	7	2	5					
475.	Acute upper respiratory infection of multiple or unspecified sites	14	8	6					
480.	Influenza with pneumonia	11	0	11					
481.	Influenza with other respiratory manifestations and influenza unqualified	2		2					
482.	Influenza with digestive manifestations, but without respiratory symptoms	2	1	1					
483.	Influenza with nervous manifestations, but without digestive or respiratory symptoms	1	1						
490.	Lobar pneumonia	305	181	124					
491.	Bronchopneumonia	1284	750	534					





Table 20. DEATHS BY CAUSE BY SEX AND AGE GROUPS, NEW JERSEY: 1961—Continued  
(According to the 7th Revision of the International Classification of Diseases)

Internat'l List No.	CAUSE OF DEATH	Total	Male	Female	Age Groups by Years						
					<1	1-4	5-14	15-24	25-44	45-64	65+ Unknown
					762. Postnatal asphyxia and atelectasis	718	414	304	718		
763. Pneumonia of newborn	92	58	34	92							
764. Diarrhea of newborn	7	0	1	7							
765. Ophthalmia neonatorum	3	3	1	3							
766. Pemphigus neonatorum	3	3	1	3							
767. Umbilical sepsis	18	10	8	18							
768. Other sepsis of newborn	23	11	12	23							
769. Neonatal disorders arising from certain diseases of the mother during pregnancy	70	41	29	70							
770. Hemolytic disease of newborn (erythroblastosis)	19	15	33	19							
771. Hemorrhagic disease of newborn	8	3	5	8							
772. Nutritional maladjustment	200	144	118	200							
773. Ill-defined diseases peculiar to early infancy	51	28	25	51							
774. Immaturity with mention of any other subsidiary condition	533	288	245	533							
775. Immaturity, unqualified	9	8	1	9							
776. Certain symptoms referable to nervous system and special senses.	12	7	5	12							
777. Symptoms referable to cardiovascular and lymphatic system	2	1	1	2							
778. Symptoms referable to respiratory system	6	5	1	6							
779. Symptoms referable to upper gastro-intestinal tract	1	1	1	1							
780. Symptoms referable to abdomen and lower gastro-intestinal tract.	3	1	2	3							
781. Symptoms referable to genito-urinary system	788	408	380	788							
782. Other general symptoms	15	14	1	15							
783. Abnormal urinary constituents of unspecified cause	791	14	1	791							
784. Nervousness and debility	5	4	1	5							
785. Headache	33	13	20	33							
786. Uræmia	79	42	37	79							
787. Obscurtion, without need for further medical care	5	5	1	5							
788. Seizure without mention of psychosis	33	13	20	33							
789. Ill-defined and unknown causes of morbidity and mortality	5	5	1	5							
8900. Railway accident involving railroad employee	1	1	1	1							
8901. Railway accident involving passenger	14	12	2	14							
8902. Motor vehicle traffic accident involving collision with railway train	9	7	2	9							
8903. Motor vehicle traffic accident involving collision with street car.	238	173	65	238							
8904. Motor vehicle traffic accident to pedal cyclist	15	14	1	15							
8905. In collision with nonmotor vehicle or rider or passenger of motorcycle.	2	2	1	2							
8906. In collision with traffic accident to rider or passenger of motorcycle	7	6	1	7							
8907. Other motor vehicle traffic accident involving two or more motor vehicles	250	104	56	250							
8908. Motor vehicle traffic accident to occupant of motor vehicle in collision with pedestrian or pedal cycle	1	1	1	1							

8918. Motor vehicle traffic accident involving collision with animal or animal-drawn vehicle	1	1	1	1							
8919. Motor vehicle traffic accident involving collision with fixed or unspecified object	25	20	5	25							
8920. Motor vehicle traffic accident while boarding and alighting	3	3	1	3							
8921. Motor vehicle traffic accident to rider of motorcycle without antecedent collision	9	8	1	9							
8922. Motor vehicle traffic accident involving overturning in roadway	176	130	46	176							
8923. Motor vehicle traffic accident involving running off roadway	17	13	4	17							
8924. Other noncollision motor vehicle traffic accident	19	14	5	19							
8925. Motor vehicle traffic accident of unspecified nature	17	15	2	17							
8926. Motor vehicle nontraffic accident to pedestrian	238	173	65	238							
8927. Motor vehicle nontraffic accident to pedal cyclist	1	1	1	1							
8928. Motor vehicle nontraffic accident to rider or passenger of motorcycle	1	1	1	1							
8929. Other motor vehicle nontraffic accident involving two or more motor vehicles	1	1	1	1							
8934. Motor vehicle nontraffic accident while boarding and alighting	2	2	1	2							
8935. Motor vehicle nontraffic accident of other and unspecified nature	2	2	1	2							
8940. Street car accident to pedestrian	1	1	1	1							
8941. Other street car accident except collision with motor vehicle	1	1	1	1							
8942. Accident to pedestrian caused by pedal cycle	1	1	1	1							
8943. Accident to rider of pedal cycle not involving collision with motor vehicle	2	2	1	2							
8944. Accident to pedestrian caused by other nonmotor road vehicle	10	16	1	10							
8945. Other nonmotor road vehicle accidents	4	3	1	4							
8950. Submersion of occupant of small boat	2	2	1	2							
8951. Other water transport injury by submersion	1	1	1	1							
8952. Fall on stairs and ladders in water transport	1	1	1	1							
8953. Other falls from one level to another in water transport	1	1	1	1							
8954. Falls on same level in water transport	3	3	1	3							
8955. Unspecified falls in water transport	1	1	1	1							
8956. Machinery accidents in water transport	3	2	1	3							
8957. Other specified accidents in water transport	31	31	1	31							
8958. Water transport accident of unspecified cause	1	1	1	1							
8960. Accident to personnel in military aircraft	1	1	1	1							
8961. Injury to occupant by accident to commercial "transport" aircraft	7	6	1	7							
8962. Other injury in commercial "transport" aircraft	6	3	3	6							
8964. Aircraft accident at airfield to person not in aircraft	1	1	1	1							
8965. Aircraft accident elsewhere to person not in aircraft	1	1	1	1							
8966. Other and unspecified aircraft accidents	1	1	1	1							
8970. Accidental poisoning by morphine and other opium derivatives	1	1	1	1							
8971. Accidental poisoning by barbituric acid and derivatives	3	3	3	3							
8972. Accidental poisoning by aspirin and salicylates	1	1	1	1							
8973. Accidental poisoning by bromides	1	1	1	1							
8974. Accidental poisoning by other analgesic and soporific drugs	1	1	1	1							
8975. Accidental poisoning by sulphonamides	1	1	1	1							
8976. Accidental poisoning by strychnine	1	1	1	1							
8977. Accidental poisoning by belladonna, hyoscyne and atropine	7	2	5	7							
8978. Accidental poisoning by other and unspecified drugs	2	1	1	2							
8979. Accidental poisoning by noxious foodstuffs	1	1	1	1							
8980. Accidental poisoning by alcohol	2	1	1	2							
8981. Accidental poisoning by petroleum products	1	1	1	1							
8982. Accidental poisoning by industrial solvents	1	1	1	1							
8983. Accidental poisoning by corrosive aromatics, acids and caustic alkalis	1	1	1	1							
8984. Accidental poisoning by mercury and its compounds	1	1	1	1							



DEPARTMENT OF HEALTH

Table 20. DEATHS BY CAUSE BY SEX AND AGE GROUPS, NEW JERSEY: 1961—Continued  
(According to the 7th Revision of the International Classification of Diseases)

Internal List No.	CAUSE OF DEATH	Total	Age Groups by Years							
			<1	1-4	5-14	15-24	25-44	45-64	65+ Unknown	
E885	Accidental poisoning by lead and its compounds	10								
E886	Accidental poisoning by arsenic and antimony, and their compounds									
E887	Accidental poisoning by ferrous and other compounds									
E888	Accidental poisoning by other and unspecified solid and liquid substances									
E890	Accidental poisoning by utility (illuminating) gas	5								
E891	Accidental poisoning by motor vehicle exhaust gas	19								
E892	Accidental poisoning by other carbon monoxide gas	11								
E893	Accidental poisoning by cyanide gas	4								
E894	Accidental poisoning by other specified gases and vapours	3								
E895	Accidental poisoning by unspecified gases and vapours	3								
E900	Fall on stairs	1								
E901	Fall from ladders	1								
E902	Other falls from one level to another	90								
E903	Fall on same level	17								
E904	Unspecified falls	120								
E910	Blow from falling or projected object or missile	101								
E911	Accident caused by vehicle	358								
E912	Accident caused by machinery	23								
E913	Accident caused by cutting and piercing instruments	24								
E914	Accident caused by electric current	1								
E915	Accident caused by explosion of pressure vessel	1								
E916	Accident caused by fire and explosion of combustible material	15								
E917	Accident caused by hot substance, corrosive liquid, and steam	7								
E918	Accident caused by radiation	215								
E919	Accident caused by firearm	4								
E920	Foreign body entering eye and adnexa	27								
E921	Inhalation and ingestion of food causing obstruction or suffocation	1								
E922	Inhalation and ingestion of other object causing obstruction or suffocation	65								
E923	Foreign body entering other orifice	5								
E924	Accidental mechanical suffocation in bed and cradle	5								
E925	Accidental mechanical suffocation in other and unspecified circumstances	47								
E926	Lack of care of infants under 1 year of age	5								
E927	Insects caused by bites and stings of venomous animals and insects	3								
E928	Other accidents caused by animals	1								
E929	Accidental drowning and submersion	11								
E930	High and low air pressure	154								
E931	Excessive heat and insolation	7								
E932	Excessive cold	3								
E933	Hummer, thirst, and exposure	2								
E934	Cataclysm	1								
E935	Lightning	2								

E936	Other and unspecified accidents	24								
E940	Generalized vaccinia following vaccination	2								
E941	Postvaccinal encephalitis									
E942	Other complications of smallpox vaccination									
E943	Post-immunization jaundice and hepatitis	1								
E944	Other complications of prophylactic inoculation									
E945	Complications of anaesthesia for nontherapeutic purpose									
E946	Other complications due to nontherapeutic medical and surgical procedures	5								
E950	Therapeutic misadventure in surgical treatment									
E951	Therapeutic misadventure in incision or transection	3								
E952	Therapeutic misadventure in local applications	1								
E953	Therapeutic misadventure in administration of drugs or biologicals	1								
E954	Therapeutic misadventure in anaesthesia	2								
E955	Other and unspecified therapeutic misadventure									
E956	Late complication of amputation stump									
E957	Late complication of irradiation									
E958	Late complication of other forms of treatment									
E959	Late effect of motor vehicle accident									
E960	Late effect of other accidental poisoning									
E961	Late effect of self-inflicted injury	9								
E962	Late effect of other self-inflicted injury									
E963	Late effect of injury purposely inflicted by another person (not in war)									
E964	Late effects of injuries due to war operations									
E965	Subicide and self-inflicted poisoning by anagestic and soporific substances	40								
E970	Subicide and self-inflicted poisoning by other solid and liquid substances	12								
E971	Subicide and self-inflicted poisoning by gases in domestic use	14								
E972	Subicide and self-inflicted poisoning by other gases	63								
E973	Subicide and self-inflicted injury by hanging and strangulation	174								
E974	Subicide and self-inflicted injury by firearms (drowning)	26								
E975	Subicide and self-inflicted injury by firearms and explosives	125								
E976	Subicide and self-inflicted injury by cutting and piercing instruments	14								
E977	Subicide and self-inflicted injury by jumping from high place	38								
E978	Subicide and self-inflicted injury by other and unspecified means	17								
E979	Nonaccidental poisoning by another person	1								
E980	Assault by firearm and explosive	50								
E981	Assault by cutting and piercing instruments	48								
E982	Assault by other means	47								
E983	Injury by intervention of police	3								
E984	Injury due to war operations by gas and chemicals									
E985	Injury due to war operations by gunshot									
E986	Injury due to war operations by grenade and land mine									
E987	Injury due to war operations by marine mine, depth charge, and torpedo									
E988	Injury due to war operations by explosion of artillery shell									
E989	Injury due to war operations by aircraft destruction									
E990	Injury due to war operations by other and unspecified means									
E991	Injury due to war operations but occurring after cessation of hostilities	1								



Table 22. MALE DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, NEW JERSEY: 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Age Groups by Years							
			<1	1-4	5-14	15-24	25-44	45-64	65+	Unknown
			1841	253	273	437	2028	10252	18570	
001-E999	ALL CAUSES	33,063	1841	253	273	437	2028	10252	18570	...
001-138	Infective and parasitic diseases	430	11	18	13	9	59	150	170	...
001-008	Tuberculosis of respiratory system	278	...	1	...	1	42	108	128	...
010-019	Tuberculosis, other forms	14	...	3	1	...	4	3	8	...
020-029	Syphilis and its sequelae	48	1	...	...	...	2	25	20	...
040	Typhoid fever	...	...	...	...	...	...	...	...	...
043	Cholera	...	...	...	...	...	...	...	...	...
045-048	Dysentery, all forms	2	...	...	...	...	...	...	...	...
050-051	Scarlet fever and streptococcal sore throat	2	...	...	...	...	...	...	...	...
055	Diphtheria	2	...	...	...	...	...	...	...	...
056	Whooping cough	...	...	...	...	...	...	...	...	...
057	Meningococcal infections	1	...	...	...	...	...	...	...	...
058	Plague	1	...	...	...	...	...	...	...	...
080	Acute poliomyelitis	13	4	4	2	1	1	1	1	...
084	Smallpox	2	...	...	...	...	...	...	...	...
085	Measles	9	...	...	...	...	...	...	...	...
100-108	Typhus and other rickettsial diseases	...	...	...	...	...	...	...	...	...
110-117	Malaria	...	...	...	...	...	...	...	...	...
140-239	Residual (030-039, 041, 042, 044, 046, 052-054, 059-074, 081-083, 086-090, 120-138)	61	6	5	4	6	10	13	17	...
140-205	Neoplasms	6185	4	31	51	43	307	2269	3430	...
210-239	Malignant neoplasms	6074	4	31	50	39	301	2248	3401	...
240-289	Benign and unspecified neoplasms	61	...	...	...	...	...	...	...	...
200	Allergic, endocrine system, metabolic and nutritional diseases	646	12	6	7	3	40	183	395	...
290-299	Diabetes mellitus	488	1	1	3	1	30	131	321	...
290-293	Residual (240-245, 250-254, 270-277, 280-289)	158	11	5	4	2	10	52	74	...
300-326	Diseases of the blood and blood-forming organs	69	2	3	3	4	7	19	31	...
330-398	Anemias	45	1	2	1	1	5	9	26	...
330-334	Residual (204-209)	24	1	2	1	2	3	2	10	...
340	Mental, psychoneurotic and personality disorders	97	1	1	1	1	3	4	5	...
400-408	Diseases of the nervous system and sense organs	2720	21	12	15	10	96	553	2013	...
410-416	Vascular lesions affecting central nervous system	2486	1	2	1	5	67	476	1934	...
420-422	Noninfectious cerebral meningitis	30	1	2	4	1	5	3	4	...
430-434	Residual (341-345, 350-357, 360-369, 370-389, 390-398)	904	9	8	10	4	24	74	75	...
440-443	Diseases of the circulatory system	10690	4	1	6	22	717	5231	10079	...
444-447	Chronic rheumatic heart disease	16	...	...	...	...	...	...	...	...
500-501, 570	Atherosclerotic and degenerative heart disease	354	...	...	...	...	...	...	...	...
543, 571, 572	Other diseases of heart	1849	2	1	1	1	11	73	193	...
581	Hypertension with heart disease	811	2	1	2	1	8	552	4447	...
590-637	Hypertension without mention of heart disease	952	...	...	...	...	...	...	...	...
590-594	Residual (450-456, 460-408)	1096	...	...	...	...	...	...	...	...
640-680	Diarrhea of newborn	163	21	3	2	...	6	39	92	...
680-689	Gastritis, duodenitis, enteritis and colitis, except diarrhoea of newborn	139	29	9	1	...	10	35	55	...
690-697	Residual (630-639, 642, 644, 645, 573-578, 580, 582-587)	647	...	...	...	...	...	...	...	...
700-749	Diseases of the genito-urinary system	205	7	1	2	1	32	96	126	...
750-759	Nephritis and nephrosis	555	1	...	...	...	...	...	...	...
760-776	Hyperplasia of prostate	208	1	...	...	...	...	...	...	...
780-795	Pregnancy, childbirth and the puerperium	123	...	...	...	...	...	...	...	...
800-809	Diseases of the skin and cellular tissue	224	...	...	...	...	...	...	...	...
810-835	Diseases of the bones and organs of movement	25	1	1	1	2	5	3	13	...
840-895	Congenital malformations	38	3	3	2	2	2	13	15	...
900-904	Certain diseases of early infancy	387	284	33	18	11	22	13	8	...
910-930	Birth injuries, postnatal asphyxia and atelectasis	1177	1177	...	...	...	...	...	...	...
930-939	Infections of the newborn	570	570	...	...	...	...	...	...	...
940-949	Other diseases peculiar to early infancy and immaturely unqualified	79	...	...	...	...	...	...	...	...
950-959	Symptoms, senility and ill-defined conditions	598	598	...	...	...	...	...	...	...
960-969	Accidents, poisonings and violence	81	16	3	1	4	7	20	30	...
970-979	Motor vehicle accidents	2081	175	130	301	447	598	443	86	...
980-989	Falls	603	2	18	46	153	149	150	85	...
990-999	All other accidents except falls	600	50	43	71	104	120	134	69	...
E900-E909	Suicide	349	9	7	4	9	35	90	105	...
E910-E919	Homicide	379	...	...	...	...	...	...	...	...
E920-E929	Police intervention, execution and operations of war	90	1	5	5	16	41	21	7	...

470-527	Diseases of the respiratory system	1070	58	18	9	...	77	377	955	...
480-483	Influenza	16	2	1	...	...	...	...	...	...
490-493	Pneumonia	1049	154	44	13	7	40	200	582	...
500-502	Bronchitis	96	5	1	1	1	4	27	53	...
530-587	Residual (470-475, 510-527)	509	17	7	3	1	21	148	312	...
510-541	Diseases of the digestive system	1642	58	14	5	3	162	671	629	...
550-553	Ulcer of stomach and duodenum	300	1	...	...	...	...	...	...	...
560-563	Appendicitis	28	1	...	...	...	...	...	...	...
570-572	Intestinal obstruction and hernia	163	21	3	2	...	6	39	92	...
581	Gastritis, duodenitis, enteritis and colitis, except diarrhoea of newborn	139	29	9	1	...	10	35	55	...
590-637	Residual (630-639, 642, 644, 645, 573-578, 580, 582-587)	647	...	...	...	...	...	...	...	...
640-680	Diseases of the genito-urinary system	205	7	1	2	1	32	96	126	...
680-689	Nephritis and nephrosis	555	1	...	...	...	...	...	...	...
690-697	Hyperplasia of prostate	208	1	...	...	...	...	...	...	...
700-749	Pregnancy, childbirth and the puerperium	123	...	...	...	...	...	...	...	...
750-759	Diseases of the skin and cellular tissue	224	...	...	...	...	...	...	...	...
760-776	Diseases of the bones and organs of movement	25	1	1	1	2	5	3	13	...
780-795	Congenital malformations	38	3	3	2	2	2	13	15	...
800-809	Certain diseases of early infancy	387	284	33	18	11	22	13	8	...
810-835	Birth injuries, postnatal asphyxia and atelectasis	1177	1177	...	...	...	...	...	...	...
840-895	Infections of the newborn	570	570	...	...	...	...	...	...	...
900-904	Other diseases peculiar to early infancy and immaturely unqualified	79	...	...	...	...	...	...	...	...
910-930	Symptoms, senility and ill-defined conditions	598	598	...	...	...	...	...	...	...
930-939	Accidents, poisonings and violence	81	16	3	1	4	7	20	30	...
940-949	Motor vehicle accidents	2081	175	130	301	447	598	443	86	...
950-959	Falls	603	2	18	46	153	149	150	85	...
960-969	All other accidents except falls	600	50	43	71	104	120	134	69	...
E900-E909	Suicide	349	9	7	4	9	35	90	105	...
E910-E919	Homicide	379	...	...	...	...	...	...	...	...
E920-E929	Police intervention, execution and operations of war	90	1	5	5	16	41	21	7	...



Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, ATLANTIC COUNTY, 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Age Groups by Years								
			Male	Female							
					<1	1-4	5-14	15-24	25-44	45-64	65+
001-E000	ALL CAUSES	2100	1181	1000	75	14	12	22	90	511	1400
901-138	Infective and parasitic diseases	25	18	7	1	1	1	2	2	7	14
001-008	Tuberculosis of respiratory system	18	14	4	1	1	1	1	1	5	12
010-010	Tuberculosis, other forms	2	2	1	1	1	1	1	1	2	2
020-020	Syphilis and its sequelae	3	1	2	1	1	1	1	1	1	1
040	Typhoid fever	1	1	1	1	1	1	1	1	1	1
013	Cholera	1	1	1	1	1	1	1	1	1	1
045-048	Dysentery, all forms	1	1	1	1	1	1	1	1	1	1
050-051	Scarlet fever and streptococcal sore throat	1	1	1	1	1	1	1	1	1	1
055	Diphtheria	1	1	1	1	1	1	1	1	1	1
056	Whooping cough	1	1	1	1	1	1	1	1	1	1
057	Meningococcal infections	1	1	1	1	1	1	1	1	1	1
058	Plague	1	1	1	1	1	1	1	1	1	1
080	Acute poliomyelitis	1	1	1	1	1	1	1	1	1	1
084	Smallpox	1	1	1	1	1	1	1	1	1	1
085	Mumps	1	1	1	1	1	1	1	1	1	1
100-108	Typhus and other rickettsial diseases	1	1	1	1	1	1	1	1	1	1
110-117	Malaria	1	1	1	1	1	1	1	1	1	1
059-074, 081-083, 086-090, 120-138)	Residual (080-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-090, 120-138)	1	1	1	1	1	1	1	1	1	1
200-209	Neoplasms	409	232	177	1	1	1	1	20	134	252
140-265	Malignant neoplasms	407	232	175	1	1	1	1	20	134	251
210-239	Benign and unspecified neoplasms	2	1	1	1	1	1	1	1	1	1
240-259	Allergic, endocrine system, metabolic and nutritional diseases	70	29	41	1	1	1	1	3	10	50
260	Diabetes mellitus	56	21	35	1	1	1	1	3	14	39
290-299	Diseases of the blood and blood-forming organs	14	8	6	2	2	2	2	1	2	11
290-293	Residual (240-245, 250-254, 270-277, 280-286)	9	4	5	2	2	2	2	1	2	11
300-320	Anemias	3	2	1	1	1	1	1	1	1	1
330-308	Mental, psychoneurotic and personality disorders	3	2	1	1	1	1	1	1	1	1
330-308	Diseases of the nervous system and sense organs	5	2	3	2	2	2	2	2	2	2
330-334	Vascular lesions affecting central nervous system	201	102	99	1	1	1	1	3	107	161
340	Nonmeningococcal meningitis	189	97	92	1	1	1	1	3	25	101
400-468	Diseases of the circulatory system	11	4	7	1	1	1	1	2	3	5
400-402	Rheumatic fever	1110	588	522	1	1	1	1	28	241	840
410-416	Chronic rheumatic heart disease	3	1	2	1	1	1	1	1	1	1
420-422	Arteriosclerotic and degenerative heart disease	13	5	8	1	1	1	1	1	1	1
430-434	Other diseases of heart	897	490	407	1	1	1	1	1	1	1
440-443	Hypertension with heart disease	29	16	13	1	1	1	1	21	198	677
444-447	Hypertension without mention of heart	81	27	54	1	1	1	1	2	9	18
	Residual (450-456, 460-468)	15	7	8	1	1	1	1	13	68	111
		721	361	360	2	2	2	2	10	600	1000

470-527	Diseases of the respiratory system	83	48	35	8	2	1	7	13	52	130
480-483	Influenza	56	33	23	6	2	2	8	8	37	87
490-493	Pneumonia	5	3	2	1	1	1	1	1	1	3
500-502	Bronchitis	22	12	10	1	1	1	3	5	12	32
530-537	Residual (470-475, 510-527)	76	44	32	3	3	1	7	81	34	77
540-541	Diseases of the digestive system	15	12	3	3	3	1	8	7	2	17
550-553	Ulcer of stomach and duodenum	3	3	1	1	1	1	1	1	1	2
560-561, 570	Appendicitis	12	4	8	1	1	1	4	3	7	17
543, 571, 572	Intestinal obstruction and hernia	9	6	3	2	2	2	2	2	5	11
581	Gastritis, duodenitis, enteritis and colitis, except diarrhoea of newborn	25	11	14	1	1	1	4	14	7	27
582-587	Cholelithiasis of liver	12	8	4	4	4	4	4	4	4	16
590-637	Diseases of the genito-urinary system	35	10	10	10	10	10	10	10	10	35
590-594	Nephritis and nephrosis	14	6	8	6	6	6	6	6	6	14
610	Hyperplasia of prostate	15	7	8	7	7	7	7	7	7	15
640-639	Residual (600-609, 611-617, 620-626, 630-637)	3	3	3	3	3	3	3	3	3	3
690-716	Pregnancy, childbirth and the puerperium	4	4	4	4	4	4	4	4	4	4
720-749	Diseases of the skin and cellular tissue	17	9	8	12	12	12	12	12	12	17
750-750	Congenital malformations	47	23	24	47	47	47	47	47	47	47
760-770	Diseases of the bones and organs of movement	24	12	12	24	24	24	24	24	24	24
780-769	Certain diseases of early infancy	2	2	2	2	2	2	2	2	2	2
763-768	Birth injuries, postnatal asphyxia and atelectasis	21	9	12	21	21	21	21	21	21	21
769-776	Infections of the newborn	2	2	2	2	2	2	2	2	2	2
780-705	Other diseases peculiar to early infancy and immaturely unqualified	5	1	4	5	5	5	5	5	5	5
E800-E809	Symptoms, senility and ill-defined conditions	94	58	36	2	2	2	2	2	2	94
E810-E835	Accidents, poisonings and violence	23	14	9	1	1	1	1	1	1	23
E800-E802	Motor vehicle accidents	25	17	8	1	1	1	1	1	1	25
E840-E895	All other accidents except falls	28	14	14	4	4	4	4	4	4	28
E900-E904	Falls	11	8	3	1	1	1	1	1	1	11
E905	Suicide	7	5	2	1	1	1	1	1	1	7
E904	Homicide	1	1	1	1	1	1	1	1	1	1
E980-E983	Police intervention, execution and operations of war	1	1	1	1	1	1	1	1	1	1
E985		1	1	1	1	1	1	1	1	1	1
E984-E989		1	1	1	1	1	1	1	1	1	1

Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, ATLANTIC CITY, 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Male	Female	Age Groups by Years									
					<	1-4	5-14	15-24	25-44	45-64	65+	Unknown		
					1	1	1	1	1	1	1	1		
001-3300	ALL CAUSES	1087	552	485	28	4	6	10	45	243	701			
001-338	Infective and parasitic diseases	14	10	4	1			1	2	4	6			
001-339	Diseases of the respiratory system	8	6	2					1	3	4			
010-010	Tuberculosis, other forms	3	1	2					1	1	1			
020-020	Syphilis and its sequelae	3	1	2										
010	Typhoid fever	1												
015-018	Scarlet fever and streptococcal sore throat													
050, 051	Diphtheria													
065	Whooping cough													
057	Streptococcal infections													
058	Acute poliomyelitis													
084	Smallpox													
085	Measles													
100-108	Malaria and other febrile diseases													
110-117	Residual (630-639, 641, 642, 644, 646, 652-654, 659-674, 681-683, 685-696, 120-138)	1	1											
110-230	Neoplasms	211	121	90										
140-205	Brain and meninges	210	121	89										
210-230	Brain and meninges, neoplasms	1												
210-270	Allergic, endocrine system, metabolic and nutritional diseases	38	15	23										
200	Diabetes mellitus	30	10	20										
200-200	Diseases of the blood and blood-forming organs	8	2	6										
290-293	Anemias	2	2											
300-320	Residual (291-299)	1												
300-320	Diseases of the nervous system	10	5	5										
330-338	Vascular lesions affecting central nervous system	96	49	47										
331-334	Nonmeningeal meningitis	1												
340	Rheumatic fever	510	268	242										
400-402	Chronic rheumatic heart disease	6	3	3										
410-416	Arteriosclerotic and degenerative heart disease	402	215	187										
420-422	Other diseases of heart	16	12	4										
430-434	Hypertension with mention of heart	45	21	24										
444-447	Hypertension without mention of heart	37	18	19										

470-527	Diseases of the respiratory system	44	21	23										
480	Influenza	32	17	15										
480-483	Bronchitis	2	1	1										
500-502	Residual (470-475, 610-527)	10	3	7										
530-587	Diseases of the digestive system	52	16	36										
530-533	Esophagus, stomach and duodenum	1												
550-553	Appendicitis	1												
560, 561, 570	Intestinal obstruction and hernia	3	1	2										
543, 571, 572	Gastritis, duodenitis, enteritis and colitis, except diarrhoea of newborn	6	4	2										
581	Residual (530-539, 542, 544, 545, 573-578, 580-582-587)	12	5	7										
590-657	Diseases of the genito-urinary system	16	10	6										
590-591	Syphilis and leptospira	8	2	6										
610	Residual (590-599)	8	8											
610-680	Pregnancy, childbirth and the puerperium	6	4	2										
650-710	Diseases of the skin and cellular tissue	2	2											
700-750	Congenital malformations	3	2	1										
700-776	Certain diseases of early infancy	19	10	9										
760-762	Birth injuries, postnatal asphyxia and atelectasis	8	4	4										
769-776	Infections of the newborn	1	1											
780-785	Birth injuries, postnatal asphyxia and atelectasis, partly unqualified	10	5	5										
800-899	Symptoms, scotchy and ill-defined conditions	5	5											
850-859	Accidents, poisonings and ill-defined conditions	38	27	11										
860-899	Motor vehicle accidents	5	3	2										
890-899	All other accidents except falls	12	10	2										
900-901	Falls	14	9	5										
930-939	Suicide	2	1	1										
940-949	Homicide	1	1											
950-959	Police intervention, execution and operations of war	6	4	2										

















Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, BLOOMFIELD, 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Sex		Age Groups by Years						
			Male	Female	<1	1-4	5-14	15-24		45-64	65+ Unknown
								25-4	45-64		
001-E2069	ALL CAUSES	544	275	269	18	3	2	5	18	128	370
001-138	Infective and parasitic diseases	6	4	2					1	5	1
001-139	Tuberculosis of respiratory system	4	4								4
010-010	Scarlet fever, other forms	4									4
020-029	Diphtheria										
040	Styphoid fever										
013	Cholera										
014	Shigellosis, all forms										
050-051	Syphilis, all forms										
055	Diphtheria										
056	Whooping cough										
057	Meningococcal infections										
060	Scarlet fever										
084	Acute poliomyelitis										
085	Smallpox										
100-108	Malaria										
110-117	Malaria and other rickettsial diseases										
110-230	Residual (030-039, 041, 042, 044, 049, 052-054, 059-073, 081-083, 086-090, 120-128)	9	6	3					1	1	1
140-205	Nephelemias	110	61	49					1	42	62
140-206	Malignant neoplasms	110	61	49					1	42	62
140-207	Benign and unspecified neoplasms										
240-259	Alimentary canal, circulatory system, metabolic and nutritional diseases	17	6	11							11
260	Diabetes mellitus	15	6	9							9
260-269	Residual (240-245, 250-254, 270-277, 280-289)	2	2								2
290-293	Anemias of the blood and blood-forming organs	2	1	1							1
300-320	Mental, psychoneurotic and personality disorders										
309-320	Diseases of the nervous system and sense organs	50	20	30							30
320-334	Nonmeningeal infections of central nervous system	48	20	28							28
340	Nonmeningeal infections of peripheral nervous system										
400-408	Residual (341-345, 350-357, 360-369, 370-389, 390-398)	2	2								2
410-415	Diseases of the circulatory system	270	128	142							142
420-422	Rheumatic fever, heart disease	2	1	1							1
430-434	Arteriosclerotic and degenerative heart disease	206	101	105							105
440-443	Other diseases of heart	3	1	2							2
444-447	Hypertension with heart disease	20	10	10							10
	Residual (450-459, 460-469)	9	4	5							5
		10	9	7							7

470-527	Diseases of the respiratory system	20	13	7							7
480-485	Tracheitis	12	6	6							6
490-493	Bronchitis	2	2								2
500-502	Pneumonia	6	6								6
530-587	Residual (470-475, 510-527)	15	11	4							11
540, 541	Whooping cough	1	1								1
550-553	Ulcer of stomach and duodenum	1	1								1
560-569	Appendicitis	4	2	2							2
570-572	Intestinal obstruction and hernia										
543, 544, 572	Diarrhea of newborn, enteritis and colitis, except diarrhea of newborn										
581	Cirrhosis of liver	5	4	1							4
	Residual (530-539, 542, 544, 545, 575-578, 580, 582-587)	1	1								1
590-637	Diseases of the genitourinary system	5	4	1							4
590-591	Nephritis and nephrosis	2	2								2
610	Hyperplasia of prostate	1	1								1
640-680	Residual (600-600, 611-617, 620-620, 630-637)	2	2								2
690-710	Pregnancy, childbirth and the puerperium	2									2
720-749	Diseases of the skin and cellular tissue	10	7	3							7
750-759	Diseases of the bones and organs of movement	8	6	2							6
760-776	Congenital malformations	10	7	3							7
780-786	Certain diseases of early infancy	5	3	2							3
790-792	Birth injuries, postnatal asphyxia and atelectasis	8	5	3							5
793-797	Other diseases peculiar to early infancy and infancy unqualified	4	3	1							3
790-795	Symptoms, sequelae and ill-defined conditions	1	1								1
800-820	Accidents, poisonings and violence	26	13	13							13
E800-E820	Motor vehicle accidents	1	1								1
E840-E865	All other accidents except falls	5	3	2							3
E870-E885	Falls	14	5	9							9
E900-E905	Suicide	6	4	2							4
E910-E925	Homicide										
E930-E935	Police intervention, execution and operations of war										
E970-E975											
E980-E985											
E990-E995											
E996-E999											





















Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, HUNTERDON COUNTY, 1961

(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Age Groups by Years								
			Male	Female						05+   Unknown	
					<1	1-4	5-14	15-24	25-44		45-64
001-0090	ALL CAUSES .....	587	342	245	28	6	5	30	118	398	...
001-138	Infective and parasitic diseases .....	6	4	2	1	...	...	...	2	2	...
001-108	Tuberculosis of respiratory system .....	4	4	2	...	...	...	...	2	2	...
001-109	Other infectious diseases .....	2	...	...	...	...	...	...	...	...	...
020-029	Scalds and its sequelae .....	1	1	...	...	...	...	...	1	...	...
040	Typhoid fever .....	...	...	...	...	...	...	...	...	...	...
013	Cholera .....	...	...	...	...	...	...	...	...	...	...
015-018	Dysentery, all forms .....	...	...	...	...	...	...	...	...	...	...
019	Shigellosis .....	...	...	...	...	...	...	...	...	...	...
055	Diphtheria .....	...	...	...	...	...	...	...	...	...	...
057	Whooping cough .....	...	...	...	...	...	...	...	...	...	...
058	Meningococcal infections .....	...	...	...	...	...	...	...	...	...	...
084	Plague poliomyelitis .....	...	...	...	...	...	...	...	...	...	...
085	Scarlet fever .....	...	...	...	...	...	...	...	...	...	...
100-109	Typhus and other rickettsial diseases .....	...	...	...	...	...	...	...	...	...	...
110-117	Residual (630-639, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-090, 120-138)	1	1	1	1	...	...	...	6	27	77
140-259	Neoplasms .....	113	70	43	...	...	...	...	8	27	70
140-205	Malignant neoplasms .....	12	7	5	...	...	...	...	1	1	1
240-259	Alleged infectious diseases .....	2	...	...	...	...	...	...	...	...	...
260	Allergic, endocrine, systemic, metabolic and nutritional diseases .....	0	3	3	1	1	1	1	1	1	1
269	Diabetes mellitus .....	4	2	2	1	1	1	1	1	1	1
290-299	Residual (240-245, 250-254, 270-277, 280-289)	2	2	1	1	1	1	1	1	1	1
300-329	Diseases of the blood and blood-forming tissues .....	1	1	1	1	1	1	1	1	1	1
330-334	Residual (294-299)	61	33	28	1	1	1	1	7	50	7
330-334	Mental, psychoneurotic and personality disorders .....	55	29	26	1	1	1	1	5	48	5
330-334	Diseases of the nervous system .....	55	29	26	1	1	1	1	5	48	5
340	Nonmeningococcal meningitis .....	1	1	1	1	1	1	1	1	1	1
340-349	Residual (341-345, 350-357, 360-369, 370-389, 390-398)	277	158	122	2	2	2	2	6	60	212
400-408	Diseases of the circulatory system .....	4	3	1	1	1	1	1	1	1	2
400-406	Ischemic heart disease .....	4	3	1	1	1	1	1	1	1	2
400-416	Arteriosclerotic and degenerative heart disease .....	221	126	95	1	1	1	1	5	45	169
420-422	Other diseases of heart .....	10	5	5	1	1	1	1	1	1	5
430-434	Hypertension with heart disease .....	20	14	6	1	1	1	1	2	2	20
440-443	Hypertension without heart disease .....	4	4	...	...	...	...	...	...	...	...
444-447	Residual (450-455, 460-468)	13	6	7	...	...	...	...	...	...	13

470-527

480-483

490-493

500-502

530-587

540, 541

590-593

600-609

610, 611, 612

681

690-697

700-709

710-719

720-749

750-759

760-769

770-779

780-795

800-809

810-815

820-825

830-835

840-845

850-855

860-865

870-875

880-885

890-895

900-905

910-915

920-925

930-935

940-945

950-955

960-965

970-975

980-985

990-995

E000-E099

E100-E199

E200-E299

E300-E399

E400-E499

E500-E599

E600-E699

E700-E799

E800-E899

Diseases of the respiratory system

Influenza .....

Pneumonia .....

Bronchitis .....

Diseases of the ear, nose and throat .....

Diseases of the eye .....

Diseases of the mouth and pharynx .....

Diseases of the stomach and duodenum .....

Appendicitis .....

Intestinal obstruction and hernia .....

Diarrhea of newborn .....

Enteritis and colitis, except diarrhoea of newborn .....

Residual (630-639, 642, 644, 645, 673-678, 680)

Diseases of the genitourinary system .....

Nephritis and nephrosis .....

Hyperplasia of prostate .....

Residual (690-699, 701-717, 720-729, 730-737)

Diseases of the skin and subcutaneous tissue .....

Diseases of the bones and joints .....

Congenital malformations .....

Diseases of early infancy .....

Certain diseases of early infancy .....

Injuries, postnatal asphyxia and atelectasis .....

Infectious postnatal asphyxia and atelectasis .....

Other diseases peculiar to early infancy and infancy unqualified .....

Symptoms, sequelae and ill-defined conditions .....

Poisonings and violence .....

Motor vehicle accidents .....

All other accidents except falls .....

Falls .....

Suicide .....

Homicide .....

Police intervention, execution and operations of war .....





Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, HAMILTON TOWNSHIP: 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Age Groups by Years							
			<1	1-4	5-14	15-24	25-44	45-64	65+	Unknown
001-E999	ALL CAUSES	528	25	3	6	3	34	101	204	..
001-138	Infective and parasitic diseases	10	..	..	1	..	..	5	3	4
001-068	Tuberculosis of respiratory system	6	..	..	1	..	..	..	..	..
010-019	Tuberculosis, other forms	..	..	..	..	..	..	..	..	..
020-229	Syphilis and its sequelae	3	..	..	..	..	..	..	..	..
040	Cholera	..	..	..	..	..	..	..	..	..
043	Dysentery, all forms	..	..	..	..	..	..	..	..	..
045-048	Scarlet fever and streptococcal sore throat	..	..	..	..	..	..	..	..	..
050, 051	Diphtheria	..	..	..	..	..	..	..	..	..
055	Whooping cough	..	..	..	..	..	..	..	..	..
057	Measles	..	..	..	..	..	..	..	..	..
058	Measles, other forms	..	..	..	..	..	..	..	..	..
060	Plague	..	..	..	..	..	..	..	..	..
080	Acute poliomyelitis	1	..	..	..	..	..	..	..	..
085	Smallpox	..	..	..	..	..	..	..	..	..
087	Scarlet fever	..	..	..	..	..	..	..	..	..
100-108	Typhus and other rickettsial diseases	..	..	..	..	..	..	..	..	..
110-117	Malaria	..	..	..	..	..	..	..	..	..
Residual (030-039, 041, 042, 044, 049, 052-054, 059-071, 081-083, 086-096, 120-138)		114	..	..	..	..	..	..	..	..
140-200	Malignant neoplasms	113	..	..	..	..	..	..	..	..
210-259	Benign and unspecified neoplasms	1	..	..	..	..	..	..	..	..
210-289	Allergic, endocrine system, metabolic and nutritional diseases	12	..	..	..	..	..	..	..	..
300	Diseases of the blood and blood-forming organs	7	..	..	..	..	..	..	..	..
290-299	Diseases of the blood and blood-forming organs	7	..	..	..	..	..	..	..	..
290-295	Anemias	2	..	..	..	..	..	..	..	..
300-328	Residual (291-299)	5	..	..	..	..	..	..	..	..
330-388	Mental, psychomotoric, and personality disorders	42	..	..	..	..	..	..	..	..
330-338	Diseases of the nervous system and sense organs	39	..	..	..	..	..	..	..	..
330-334	Vascular lesions affecting central nervous system	30	..	..	..	..	..	..	..	..
340	Nonneoplastic neoplasms	1	..	..	..	..	..	..	..	..
400-408	Diseases of the circulatory system	253	..	..	..	..	..	..	..	..
400-402	Rheumatic fever	1	..	..	..	..	..	..	..	..
410-418	Chronic rheumatic heart disease	5	..	..	..	..	..	..	..	..
420-422	Arteriosclerotic and degenerative heart disease	200	..	..	..	..	..	..	..	..
430-434	Other diseases of heart	48	..	..	..	..	..	..	..	..
440-443	Other diseases of heart, disease	23	..	..	..	..	..	..	..	..
441-447	Hypertension without mention of heart	4	..	..	..	..	..	..	..	..
Residual (450-456, 460-468)		10	..	..	..	..	..	..	..	..

470-527	Diseases of the respiratory system	17	..	..	..	..	..	..	..	..
480-483	Influenza	11	..	..	..	..	..	..	..	..
500-503	Pneumonia	4	..	..	..	..	..	..	..	..
500-502	Residual (470-476, 510-527)	2	..	..	..	..	..	..	..	..
530-587	Diseases of the digestive system	4	..	..	..	..	..	..	..	..
530, 541	Ulcer of stomach and duodenum	10	..	..	..	..	..	..	..	..
550	Appendicitis	4	..	..	..	..	..	..	..	..
560, 561, 570	Other diseases of stomach and hernia	1	..	..	..	..	..	..	..	..
573, 571, 572	Gastritis, duodenitis, enteritis and colitis, except diarrhoea of newborn	1	..	..	..	..	..	..	..	..
581	Diarrhoea of liver	6	..	..	..	..	..	..	..	..
582-587	Residual (530-539, 542, 544, 545, 573-578, 580, 582-587)	7	..	..	..	..	..	..	..	..
600-607	Diseases of the genito-urinary system	6	..	..	..	..	..	..	..	..
610	Nephritis and nephrosis	3	..	..	..	..	..	..	..	..
610	Hypertrophy of prostate	1	..	..	..	..	..	..	..	..
610-680	Residual (600-609, 611-617, 620-629, 630-637)	2	..	..	..	..	..	..	..	..
690-716	Diseases of the skin and the puerperium	1	..	..	..	..	..	..	..	..
720-749	Diseases of the bones and cartilage of movement	5	..	..	..	..	..	..	..	..
750-759	Congenital malformations	6	..	..	..	..	..	..	..	..
760-769	Other diseases of early infancy	20	..	..	..	..	..	..	..	..
770-779	Infectious diseases of newborn	9	..	..	..	..	..	..	..	..
783-788	Inflections of the respiratory apparatus and atelectasis	6	..	..	..	..	..	..	..	..
769-778	Other diseases peculiar to early infancy and lam- tarity unqualified	11	..	..	..	..	..	..	..	..
789, 795	Symptoms, sequelae and ill-defined conditions	23	..	..	..	..	..	..	..	..
E800-E900	Motor vehicle accidents	6	..	..	..	..	..	..	..	..
E810-E835	Motor vehicle accidents and violence	17	..	..	..	..	..	..	..	..
E800-E802	Motor vehicle accidents	2	..	..	..	..	..	..	..	..
E810-E805	Motor vehicle accidents	15	..	..	..	..	..	..	..	..
E800-E802	Motor vehicle accidents	2	..	..	..	..	..	..	..	..
E800-E804	Motor vehicle accidents	1	..	..	..	..	..	..	..	..
E803	Motor vehicle accidents	1	..	..	..	..	..	..	..	..
E970-E979	All other accidents except falls	6	..	..	..	..	..	..	..	..
E980	Falls	2	..	..	..	..	..	..	..	..
E981	Falls	2	..	..	..	..	..	..	..	..
E982	Falls	2	..	..	..	..	..	..	..	..
E984-E990	Subtle	0	..	..	..	..	..	..	..	..
E981	Subtle	1	..	..	..	..	..	..	..	..
E982	Subtle	1	..	..	..	..	..	..	..	..
E984-E990	Police intervention, execution and operations of war	1	..	..	..	..	..	..	..	..

Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, TRENTON: 1961  
(According to the 7th Revision of the International Classification of Diseases)

International/ Lat No.	CAUSE GROUPS	Total	Age Groups by Years						
			<1	1-4	5-14	15-24	25-44	45-64	65+ Unknown
001-E099	ALL CAUSES	1488	80	18	8	18	75	303	866
001-138	Infective and parasitic diseases	22		2					
001-008	Tuberculosis of respiratory system	12							
010-019	Tuberculosis, other forms	6							
020-029	Syphilis and its sequelae	2							
040	Typhoid fever	4							
043	Cholera	4							
045-048	Dysentery, all forms	1							
050, 051	Scarlet fever and streptococcal sore throat	1							
055	Diphtheria	1							
056	Whooping cough	1							
057	Meningococcal infections	1							
058	Plague	1							
080	Acute poliomyelitis	1							
084	Smallpox	1							
085	Measles	1							
100-108	Typhus and other rickettsial diseases	2							
110-117	Malaria	2							
140-239	Residual (030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-090, 120-188)	2							
140-238	Neoplasms	268		3					1
140-208	Malignant neoplasms	205		2					17
210-239	Benign and unspecified neoplasms	63		1					111
240-289	Allergic, endocrine system, metabolic and nutritional diseases	8		1					137
200	Diabetes mellitus	49		2					18
290-299	Residual (240-245, 250-254, 270-277, 280-289)	41		1					14
290-293	Diseases of the blood and blood-forming organs	8		2					25
300-326	Anemias	5		1					6
330-398	Residual (294-299)	5		1					2
340	Mental, psychoneurotic and personality disorders	2							2
400-408	Diseases of the nervous system and sense organs	141		1					5
410-416	Vascular lesions affecting central nervous system	130		1					22
420-422	Nonmeningococcal meningitis	7		1					17
430-434	Residual (341-345, 350-357, 360-369, 370-389, 390-398)	10		1					107
440-443	Rheumatic fever	653		1					5
444-447	Chronic rheumatic heart disease	7							4
500-509	Arteriosclerotic and degenerative heart disease	14							3
510-517	Other diseases of heart	483		9					7
520-529	Hypertension with heart disease	295		188					111
530-533	Hypertension without mention of heart	12		5					37
540, 541	Residual (450-458, 460-468)	78		32					20
542, 543, 571, 572	Diarrhea of newborn	10		3					5
581	Residual (580-589, 542, 544, 545, 573-578, 580, 582-587)	39		22					6
590-637	Diseases of the respiratory system	60		40					12
640-689	Influenza	2		1					1
690-716	Pneumonia	41		24					5
720-749	Bronchitis	1		1					1
750-759	Residual (470-475, 510-527)	16		8					6
760-762	Diseases of the digestive system	77		62					84
763-768	Ulcer of stomach and duodenum	12		6					6
769-770	Appendicitis	2		2					2
770-776	Intestinal obstruction and hernia	6		3					3
777-779	Gastritis, duodenitis, enteritis and colitis, except diarrhea of newborn	9		4					5
780-795	Cirrhosis of liver	38		28					11
796-809	Residual (800-809, 811-817, 820-826, 830-837)	12		7					9
810-835	Diseases of the genito-urinary system	33		18					7
840-885	Nephritis and nephrosis	15		9					8
890-916	Hyperplasia of prostate	2		2					2
920-949	Residual (900-909, 911-917, 920-926, 930-937)	16		7					8
950-959	Pregnancy, childbirth and the puerperium	1		1					1
960-969	Diseases of the skin and cellular tissue	10		8					3
970-979	Diseases of the bones and organs of movement	58		33					10
980-989	Congenital malformations	25		9					8
990-999	Certain diseases of early infancy	18		9					3
000-004	Birth injuries, postnatal asphyxia and atelectasis	3		3					1
005	Infections of the newborn	37		21					16
010-019	Other diseases peculiar to early infancy and immaturity unqualified	2		2					2
020-029	Symptoms, senility and ill-defined conditions	70		44					26
030-039	Accidents, poisonings and violence	16		12					4
040-049	Motor vehicle accidents	27		19					8
050-059	All other accidents except falls	13		6					7
060-069	Falls	8		5					3
070-079	Suicide	6		2					4
080-089	Homicide	2		2					2
090-099	Police intervention, execution and operations of war	0		0					0

















Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, PASSAIC CITY, 1901  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Sex		Age Groups by Years							
			Male	Female	<1	1-4	5-14	15-24			45-64	65+ Unknown
								25-4	25-4	25-4		
001-E3000	ALL CAUSES	606	386	277	27	5	8	10	41	184	390	....
001-E38	Infective and parasitic diseases	12	6	6	1	1	1	1	1	2	6	2
001-E39	Diphtheria	7	4	3	1	1	1	1	1	2	6	1
010-010	Tuberculosis	1	1	1	1	1	1	1	1	1	1	1
020-020	Syphilis and its sequelae	4	4	4	1	1	1	1	1	1	1	1
040	Typhoid fever	1	1	1	1	1	1	1	1	1	1	1
050-048	Cholera	1	1	1	1	1	1	1	1	1	1	1
050-051	Typhus	1	1	1	1	1	1	1	1	1	1	1
055	Scarlet fever and streptococcal sore throat	1	1	1	1	1	1	1	1	1	1	1
057	Diphtheria	1	1	1	1	1	1	1	1	1	1	1
060	Whooping cough	1	1	1	1	1	1	1	1	1	1	1
065	Measles	1	1	1	1	1	1	1	1	1	1	1
068	Pharyngitis	1	1	1	1	1	1	1	1	1	1	1
084	Acute poliomyelitis	1	1	1	1	1	1	1	1	1	1	1
100-108	Smallpox	1	1	1	1	1	1	1	1	1	1	1
110-117	Malaria and other rickettsial diseases	1	1	1	1	1	1	1	1	1	1	1
140-200	Residual (630-639, 641, 612, 644, 649, 652-654, 659-674, 681-683, 686-696, 120-138)	4	4	3	1	1	1	1	1	1	1	1
140-208	Neoplasms	90	51	46	1	1	1	1	1	1	38	53
210-202	Malignant neoplasms	95	51	44	1	1	1	1	1	1	38	53
210-259	Benign neoplasms	1	1	1	1	1	1	1	1	1	1	1
240-289	Allergic endocrine system, metabolic and nutritional diseases	28	15	13	1	1	1	1	1	1	7	17
290	Diabetes mellitus	23	13	10	1	1	1	1	1	1	5	17
290-299	Residual (240-245, 290-294, 270-277, 280-289)	5	2	3	1	1	1	1	1	1	2	3
290-295	Anemia	1	1	1	1	1	1	1	1	1	1	1
290-296	Residual (294-299)	1	1	1	1	1	1	1	1	1	1	1
300-328	Mental, psychoneurotic and personality disorders	68	34	34	1	1	1	1	1	1	10	53
330-338	Phases of the nervous system and sense organs	62	32	30	1	1	1	1	1	1	3	49
330-331	Alcoholism	1	1	1	1	1	1	1	1	1	1	1
340	Noncongenital meningitis	1	1	1	1	1	1	1	1	1	1	1
400-408	Residual (341-345, 350-357, 360-369, 370-380, 390-398)	318	186	132	1	1	1	1	1	1	10	215
410-416	Diseases of the circulatory system	208	105	103	1	1	1	1	1	1	3	171
420-422	Chronic rheumatic heart disease	2	2	2	1	1	1	1	1	1	1	1
430-431	Arterio-sclerotic and degenerative heart disease	2	2	2	1	1	1	1	1	1	1	1
430-432	Other diseases of heart	30	11	19	1	1	1	1	1	1	8	22
440-443	Myocarditis, endocarditis, pericarditis, embolism, thrombosis and other diseases of heart	6	3	3	1	1	1	1	1	1	1	4
444-447	Residual (450-458, 460-468)	10	7	3	1	1	1	1	1	1	3	7

470-527	Diseases of the respiratory system	321	20	20	1	1	1	1	1	1	1	10
480-483	Influenza	1	1	1	1	1	1	1	1	1	1	1
490-493	Pneumonia	25	13	11	1	1	1	1	1	1	7	14
500-502	Bronchitis	5	2	2	1	1	1	1	1	1	1	4
530-587	Residual (470-475, 510-527)	2	2	2	1	1	1	1	1	1	1	1
510-511	Diseases of the genito-urinary system	37	23	14	1	1	1	1	1	1	8	18
520-553	Bladder and ureters	4	3	1	1	1	1	1	1	1	1	2
560-561, 570	Appendicitis	6	2	4	1	1	1	1	1	1	1	4
570-571, 572	Intestinal obstruction and hernia	1	1	1	1	1	1	1	1	1	1	1
581	Gastritis, duodenitis, enteritis and colitis, except typhoid	1	1	1	1	1	1	1	1	1	1	1
582-587	Residual (530-539, 542, 544, 545, 572-578, 580, 582-587)	21	10	5	1	1	1	1	1	1	6	9
590-607	Diseases of the genito-urinary system	14	8	6	1	1	1	1	1	1	1	3
610-619	Nephritis and nephrosis	6	3	3	1	1	1	1	1	1	1	3
620-629	Hydronephrosis	8	3	5	1	1	1	1	1	1	2	5
630-639	Residual (600-609, 611-617, 620-626, 630-637)	5	2	3	1	1	1	1	1	1	1	4
640-649	Pregnancy, childbirth and the puerperium	1	1	1	1	1	1	1	1	1	1	1
650-659	Diseases of the skin and cellular tissue	1	1	1	1	1	1	1	1	1	1	1
660-669	Diseases of the bones and organs of movement	1	1	1	1	1	1	1	1	1	1	1
670-679	Certain diseases of early infancy	12	9	3	1	1	1	1	1	1	1	1
680-689	Birth injuries, postnatal asphyxia and atelectasis	20	12	8	1	1	1	1	1	1	1	1
690-699	Infections of the newborn	11	4	7	1	1	1	1	1	1	1	1
700-719	Other diseases peculiar to early infancy and immunodeficiency	1	1	1	1	1	1	1	1	1	1	1
720-729	Symptoms, scuffs and ill-defined conditions	10	7	3	1	1	1	1	1	1	1	1
730-739	Accidents, poisonings and violence	33	20	13	1	1	1	1	1	1	1	1
740-749	Motor vehicle accidents	5	4	1	1	1	1	1	1	1	1	1
750-755	All other accidents except falls	28	16	12	1	1	1	1	1	1	1	1
E800-E899	Falls	4	3	1	1	1	1	1	1	1	1	1
E900-E999	Other accidents	2	2	2	1	1	1	1	1	1	1	1
E900-E904	Submersion	1	1	1	1	1	1	1	1	1	1	1
E905-E909	Other accidents	1	1	1	1	1	1	1	1	1	1	1
E910-E919	Motor vehicle accidents	5	4	1	1	1	1	1	1	1	1	1
E920-E929	Other accidents	1	1	1	1	1	1	1	1	1	1	1
E930-E939	Accidents, poisonings and violence	2	2	2	1	1	1	1	1	1	1	1
E940-E949	Motor vehicle accidents	1	1	1	1	1	1	1	1	1	1	1
E950-E959	Other accidents	1	1	1	1	1	1	1	1	1	1	1
E960-E969	Accidents, poisonings and violence	1	1	1	1	1	1	1	1	1	1	1
E970-E979	Motor vehicle accidents	1	1	1	1	1	1	1	1	1	1	1
E980-E983	Other accidents	1	1	1	1	1	1	1	1	1	1	1
E984-E989	Other accidents	1	1	1	1	1	1	1	1	1	1	1
E990-E999	Other accidents	1	1	1	1	1	1	1	1	1	1	1

Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, FATHERSON: 1911  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Sex		Age Groups by Years						
			Male	Female	<1	1-4	5-14	15-24	25-44	45-64	65+ Unknown
001-E900	ALL CAUSES	1810	1010	800	119	133	11	16	70	486	1086
001-E938	Infective and parasitic diseases	17	12	5	1	1	1	2	7	7	7
001-E938	Tuberculosis of respiratory system	12	10	2	1	1	1	2	1	6	6
001-E938	Tuberculosis, other forms	1	1	0	1	1	1	1	1	1	1
020-E929	Syphilis in sequelae	2	1	1	1	1	1	1	1	2	2
040	Typhoid fever	1	1	0	1	1	1	1	1	1	1
045	Cholera	1	1	0	1	1	1	1	1	1	1
045-E948	Dysentery, all forms	1	1	0	1	1	1	1	1	1	1
060-E951	Dysentery, bacillary	1	1	0	1	1	1	1	1	1	1
065	Dysentery, amoebic	1	1	0	1	1	1	1	1	1	1
067	Whooping cough	1	1	0	1	1	1	1	1	1	1
067	Measles	1	1	0	1	1	1	1	1	1	1
080	Scarlet fever	1	1	0	1	1	1	1	1	1	1
084	Smallpox	1	1	0	1	1	1	1	1	1	1
085	Measles	1	1	0	1	1	1	1	1	1	1
100-108	Diphtheria and other rickettsial diseases	1	1	0	1	1	1	1	1	1	1
110-117	Typhus (030-039, 041, 042, 044, 040, 082-084, 089-074, 091-093, 086-096, 120-135)	2	2	0	1	1	1	1	1	1	1
140-230	Neoplasms	345	184	161	2	2	2	2	12	132	106
140-205	Malignant neoplasms	339	183	156	2	2	2	2	12	130	103
210-259	Benign and unspecified neoplasms	7	1	6	1	1	1	1	1	2	3
210-259	Allergic, endocrine system, metabolic and nutritional	63	29	34	1	1	1	1	2	17	43
290	Diabetes mellitus	13	7	6	1	1	1	1	2	8	4
290-299	Diseases of the blood and blood-forming organs	22	11	11	1	1	1	1	2	10	6
290-285	Anemias (591-599)	3	1	2	1	1	1	1	1	1	1
300-320	Mental, psychoneurotic and personality disorders	1	1	0	1	1	1	1	1	1	1
300-320	Diseases of the nervous system and sense organs	198	86	112	1	2	1	1	4	97	101
330-339	Vascular lesions affecting central nervous system	182	77	105	1	1	1	1	4	81	100
330-334	Nonhemorrhagic meningitis	1	1	0	1	1	1	1	1	1	1
340	Hemorrhagic meningitis	15	8	7	1	1	1	1	1	6	6
400-408	Diseases of the circulatory system	811	475	336	1	1	1	1	3	16	221
400-402	Rheumatic fever	1	1	0	1	1	1	1	1	0	6
400-402	Chronic rheumatic heart disease	6	3	3	1	1	1	1	2	2	6
410-416	Other rheumatic and degenerative heart disease	644	402	242	1	1	1	1	12	174	458
430-431	Other diseases of the heart	4	2	2	1	1	1	1	2	2	6
430-431	Hypertension with heart disease	4	2	2	1	1	1	1	2	2	6
440-443	Hypertension without mention of heart	6	2	4	1	1	1	1	2	4	6
444-447	Residual (450-456, 460-468)	18	11	7	1	1	1	1	2	14	11
444-447	Residual (450-456, 460-468)	53	24	29	1	1	1	1	8	6	43

470-527	Diseases of the respiratory system	807	40	40	15	15	15	15	15	15	15
470-527	Influenza	2	2	0	1	1	1	1	1	1	1
490-493	Bronchitis	68	37	31	1	1	1	1	1	1	1
500-502	Pneumonia	5	3	2	1	1	1	1	1	1	1
500-502	Residual (470-475, 510-527)	14	6	8	1	1	1	1	1	1	1
530-587	Diseases of the digestive system	74	46	28	1	1	1	1	1	1	1
530-587	Acute gastritis, duodenitis and duodenitis	13	12	1	1	1	1	1	1	1	1
550-553	Apical abscess of stomach and duodenum	12	2	10	1	1	1	1	1	1	1
560, 561, 570	Intestinal obstruction and hernia	19	4	15	1	1	1	1	1	1	1
513, 571, 572	Gastritis, duodenitis, enteritis and colitis, except chronic of newborn	2	2	0	1	1	1	1	1	1	1
581	Residual (530-539, 542, 544, 545, 575-578, 580, 582-587)	30	11	19	1	1	1	1	1	1	1
580-637	Diseases of the genito-urinary system	17	10	7	1	1	1	1	1	1	1
590-591	Nephritis and nephrosis	30	18	12	1	1	1	1	1	1	1
610	Residual (600-609)	17	9	8	1	1	1	1	1	1	1
610-680	Pregnancy, childbirth and the puerperium	33	3	30	1	1	1	1	1	1	1
690-710	Diseases of the skin and cellular tissue	10	6	4	1	1	1	1	1	1	1
720-749	Diseases of the bones and organs of movement	4	2	2	1	1	1	1	1	1	1
750-770	Congenital malformations	24	11	13	1	1	1	1	1	1	1
780-782	Birth injuries, postnatal	71	44	27	1	1	1	1	1	1	1
783-788	Infections of the newborn	29	19	10	1	1	1	1	1	1	1
790-776	Other diseases peculiar to early infancy and infancy unqualified	3	1	2	1	1	1	1	1	1	1
790-705	Scabies, scrofula and ill-defined conditions	39	24	15	1	1	1	1	1	1	1
E800-E900	Accidents and violence	4	2	2	1	1	1	1	1	1	1
E810-E835	Motor vehicle accidents	1	1	0	1	1	1	1	1	1	1
E840-E862	All other accidents except falls	12	10	2	1	1	1	1	1	1	1
E900-E904	Falls	26	17	9	1	1	1	1	1	1	1
E905-E909	Strangle	13	10	3	1	1	1	1	1	1	1
E910-E914	Homeicide	6	4	2	1	1	1	1	1	1	1
E915-E919	Police intervention, execution and operations of war	1	1	0	1	1	1	1	1	1	1

















Table 22. DEATHS BY CAUSE GROUPS BY SEX AND AGE GROUPS, INSTITUTIONS: 1961  
(According to the 7th Revision of the International Classification of Diseases)

International List No.	CAUSE GROUPS	Total	Age Groups by Years									
			Male		Female							
			<1	1-4	5-14	15-24	25-44	45-64	65+	Unknown		
001-E999	ALL CAUSES	42	27	15					2	10	24	
001-138	Infective and parasitic diseases	2	1	1				1	1			
001-008	Tuberculosis of respiratory system	2	1	1				1	1			
010-019	Tuberculosis, other forms											
020-029	Syphilis and its sequelae											
040	Typhoid fever											
043	Cholera											
045-048	Dysentery, all forms											
050, 051	Scarlet fever and streptococcal sore throat											
055	Diphtheria											
056	Whooping cough											
057	Meningococcal infections											
085	Plague											
086	Acute poliomyelitis											
089	Smallpox											
084	Measles											
085	Rubella and other rickettsial diseases											
100-108	Typhus and other rickettsial diseases											
110-117	Malaria (030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 080-096, 120-138)	4	1	3					2	2	2	
140-239	Neoplasms	4	1	3								
140-205	Malignant neoplasms											
210-239	Benign and unspecified neoplasms											
240-289	Allergic, endocrine system, metabolic and nutritional diseases	2		2								
200	Diabetes mellitus	2		2								
200-209	Diseases of the blood and blood-forming organs	1	1									
200-293	Anemias (294-299)	1	1									
300-320	Mental, psychomotoric and personality disorders	2	2									
330-398	Diseases of the nervous system and sense organs	2	2									
330-334	Vascular lesions of central nervous system											
340	Nonmeningeal meningitis											
400-468	Residual (341-345, 350-357, 360-369, 370-389, 390-398)	22	14	8					8	14	1	
400-402	Diseases of the circulatory system	1	1									
410-416	Rheumatic fever											
420-422	Chronic rheumatic heart disease											
430-434	Arteriosclerotic and degenerative heart disease	21	14	7								
440-443	Other diseases of heart disease											
444-447	Hypertension with heart disease Hypertension without mention of heart disease Residual (450-456, 460-468)											

470-527	Diseases of the respiratory system	4	3	1							
480-483	Influenza										
490-493	Pneumonia	3	2	1							
500-502	Bronchitis	1	1								
530-587	Residual (470-475, 510-527)	2	2						1	1	
540, 541	Diseases of the digestive system	1	1								
550-553	Ulcer of stomach and duodenum										
560, 561, 570	Appendicitis	1	1								
513, 571, 572	Intestinal obstruction and hernia and colitis, except diarrhoea of newborn										
581	Choliosis of liver										
582-587	Residual (530-539, 542, 544, 545, 573-575, 580, 582-587)										
590-597	Diseases of the genito-urinary system										
590-591	Nephritis and nephrosis										
610	Hyperplasia of prostate										
640-689	Residual (600-609, 611-617, 620-626, 630-637)										
690-716	Pregnancy, childbirth and the puerperium										
720-749	Diseases of the skin and cellular tissue										
750-759	Diseases of the bones and organs of movement										
760-776	Congenital malformations										
780-782	Certain diseases of early infancy										
783-788	Birth injuries, postnatal asphyxia and atelectasis										
789-770	Infections of the newborn										
780-795	Other diseases peculiar to early infancy and immaturely unqualified										
E800-E999	Symptoms, senility and ill-defined conditions	3	3								
E810-E835	Accidents, poisonings and violence										
E840-E895	Motor vehicle accidents										
E910-E962	All other accidents except falls	1	1								
E960-E961	Falls	1	1								
E963	Sticide	1	1								
E970-E979	Homicide										
E980-E983	Police intervention, execution and operations of war										
E984-E999											



Table 23a. CASES OF REPORTABLE DISEASES BY COUNTY OF RESIDENCE: 1961  
(Exclusive of Cerebral Palsy and Infectious Encephalitis)

COUNTY	Amebiasis	Brucellosis	Diarhea of Newborn	Diphtheria	Epilepsy	Food Poisoning	Gonorrhea	Hepatitis, Infectious	Influenza	Malaria	Measles	Meningococcal Meningitis	Ophthalmia Neonatorum
State total	133	2	2	2	165	3	4,737	2,088	142	1	19,481	81	4
Atlantic	0	0	0	0	0	0	101	28	2	0	59	1	0
Bergen	1	0	0	0	2	0	92	14	3	0	1,810	5	0
Burlington	1	0	0	0	1	0	20	11	2	0	295	14	0
Camden	0	0	0	1	0	0	108	160	1	0	1,127	2	0
Cape May	0	0	0	0	0	0	7	9	3	0	147	0	0
Cumberland	0	0	0	0	5	0	69	16	0	0	11	0	0
Essex	2	0	0	0	54	2	2,004	470	40	0	7,404	9	2
Gloucester	0	0	0	0	0	0	37	26	2	0	23	0	1
Hudson	3	0	0	0	0	1	425	233	0	0	460	8	0
Hunterdon	0	0	0	0	0	0	3	8	1	0	1	0	0
Mercer	2	0	0	0	7	0	396	53	15	0	320	4	0
Middlesex	7	0	0	0	13	0	121	120	4	0	923	2	0
Monmouth	2	0	0	0	5	0	175	149	4	0	518	3	0
Morris	0	0	0	0	1	0	15	180	12	0	1,420	7	0
Ocean	0	0	0	0	1	0	25	20	4	0	45	3	0
Passaic	2	0	0	0	0	0	469	54	4	1	1,884	1	0
Salem	0	0	0	0	1	0	9	4	0	0	27	3	0
Somerset	3	0	0	0	20	0	11	52	2	0	68	0	0
Sussex	0	0	0	0	1	0	17	69	0	0	107	7	0
Union	0	0	0	1	37	0	159	198	7	0	2,517	0	0
Warren	0	0	0	0	0	0	2	6	0	0	9	0	0
State Institutions	110	0	0	0	0	0	0	0	24	0	153	1	0
Military Posts	0	0	0	0	17	0	480	55	12	0	24	11	0

Table 23a. CASES OF REPORTABLE DISEASES BY COUNTY OF RESIDENCE: 1961—Continued  
(Exclusive of Cerebral Palsy and Infectious Encephalitis)

COUNTY	Pneumonia	Poliomyelitis	Psittacosis	Rocky Mountain Spotted Fever	Salmonellosis	Shigellosis	Streptococcal Sore Throat Including Scarlet Fever	Syphilis	Tetanus	Trichinosis	Tuberculosis	Typhoid Fever	Whooping Cough
State total	4,345	27	1	2	70	34	4,904	5,180	1	17	3,120	17	335
Atlantic	7	2	0	0	5	1	116	226	0	0	161	1	2
Bergen	72	5	0	0	15	0	635	229	0	1	558	3	44
Burlington	22	0	0	1	4	2	82	62	0	2	74	0	3
Camden	147	1	1	0	3	2	318	278	0	0	149	3	9
Cape May	0	0	0	0	0	0	14	35	0	0	29	0	6
Cumberland	2	1	0	0	0	0	34	163	0	0	41	1	1
Essex	1,205	3	0	0	7	0	737	1,668	0	3	585	0	100
Gloucester	18	1	0	1	0	0	21	70	0	0	44	0	2
Hudson	43	3	0	0	7	18	108	652	0	1	201	2	19
Hunterdon	1	0	0	0	5	0	3	28	0	0	26	0	0
Mercer	389	0	0	0	0	0	90	310	0	2	208	2	1
Middlesex	176	2	0	0	10	5	268	215	1	0	116	5	5
Monmouth	44	1	0	0	3	2	189	177	0	1	138	0	38
Morris	72	2	0	0	0	0	609	86	0	0	85	1	10
Ocean	60	0	0	0	2	0	33	42	0	0	57	0	1
Passaic	39	2	0	0	8	0	237	513	0	0	249	0	47
Salem	3	0	0	0	0	0	30	45	0	0	13	0	0
Somerset	45	1	0	0	1	1	75	44	0	0	55	0	17
Sussex	41	0	0	0	1	0	24	18	0	0	12	2	1
Union	232	2	0	0	5	3	762	267	0	7	151	0	26
Warren	10	0	0	0	1	0	7	25	0	0	18	0	0
State Institutions	114	0	0	0	0	0	30	14	0	0	58	0	3
Military Posts	1,594	0	0	0	0	0	470	13	0	0	11	0	0
Allens	0	0	0	0	0	0	0	0	0	0	21	0	0

Note: There were no reported cases of Anthrax, Botulism, Cholera, Dengue, Glanders, Leprosy, Leptospirosis, Mental Deficiency, Plague, Q Fever, Rabies (human), Smallpox, Trachoma, Tularemia, Typhus Fever, or Yellow Fever.

Table 23b. REPORTED CASES OF CENTRAL NERVOUS SYSTEM DISEASES OF VIRAL ETIOLOGY BY COUNTY, 1961

COUNTY	Total		Polio myelitis						Aseptic Meningitides								Encephalitides					Suspect CNS Disease
	Para.	Non-Para.	Para.	Non-Para.	Infectious Mononucleosis	Leptospirosis	Coxsackie	Adeno	ECHO	LCM	Mumps	Unk. Etiol.	Herpes Simplex	Measles	Varicella	Arbo Viruses	Influenza					
New Jersey	204	3	24	3	1	0	44	1	6	0	20	65	4	27	8	0	0	01				
Atlantic	14	0	2	0	0	0	5	0	0	0	0	0	0	1	0	0	0	0				
Bergen	34	0	9	0	0	0	3	1	0	0	0	10	0	0	0	0	0	0				
Burlington	12	0	0	0	0	0	4	0	0	0	1	0	0	0	1	0	0	0				
Camden	18	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0				
Cape May	4	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0				
Cumberland	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Essex	24	0	3	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0				
Gloucester	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Hudson	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Hunterdon	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0				
Mercer	11	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0				
Middlesex	26	1	1	1	0	0	3	0	1	0	4	6	0	0	1	0	0	0				
Monmouth	12	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0				
Morris	20	0	2	0	0	0	6	0	1	0	2	0	0	0	0	0	0	0				
Ocean	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0				
Passaic	19	0	2	0	0	0	6	0	1	0	1	5	0	1	0	0	0	0				
Salem	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0				
Somerset	11	0	1	0	1	0	2	0	0	0	1	3	0	0	0	0	0	0				
Sussex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Union	24	1	1	0	0	0	4	0	0	0	0	9	0	0	1	0	0	0				
Warren	3	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0				

Table 23c. REPORTED CASES OF CENTRAL NERVOUS SYSTEM DISEASES OF VIRAL ETIOLOGY BY MONTH, 1961

MONTH OF ONSET	Total		Polio myelitis						Aseptic Meningitides								Encephalitides					Suspect CNS Disease
	Para.	Non-Para.	Para.	Non-Para.	Infectious Mononucleosis	Leptospirosis	Coxsackie	Adeno	ECHO	LCM	Mumps	Unk. Etiol.	Herpes Simplex	Measles	Varicella	Arbo Viruses	Influenza					
Total	264	3	24	3	1	0	44	1	6	0	20	65	4	27	8	0	0	61				
January	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
February	10	1	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0				
March	13	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0				
April	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
May	22	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0				
June	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
July	23	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
August	25	7	1	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0				
September	42	4	7	1	0	0	21	1	3	0	0	10	0	1	0	0	0	0				
October	42	4	1	0	0	0	9	0	2	0	0	19	1	0	0	0	0	0				
November	10	0	0	0	1	0	4	0	0	0	0	5	0	0	0	0	0	0				
December	12	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0				





Table 24a. DEATHS FROM REPORTABLE DISEASES BY COUNTY OF RESIDENCE: 1961

COUNTY	Amebiasis (046)	Diartheria of Newborn (764)	Epilepsy (353)	Gonorrhoea (080-085)	Infectious Encephalitis (082-083)	Infectious Hepatitis (092)	Influenza (450-453)	Leptospirosis (072)	Meningitis (085)
State Total	3	7	55	1	20	24	28	1	18
Atlantic	0	0	0	0	0	0	0	0	0
Bergen	1	1	1	0	0	0	0	0	1
Burlington	0	0	0	0	0	0	0	0	1
Camden	0	0	0	0	0	0	0	0	1
Cape May	0	0	1	0	1	1	0	0	0
Cumberland	0	1	8	0	1	0	1	0	0
Essex	0	3	8	5	5	1	5	0	0
Gloucester	0	1	2	1	1	3	1	0	0
Hudson	1	1	7	1	1	0	0	0	1
Hunterdon	0	0	1	0	0	0	0	0	0
Mercer	0	0	1	0	1	0	2	0	0
Middlesex	0	0	2	0	2	0	3	0	0
Monmouth	0	0	4	0	2	3	0	0	0
Morris	0	0	1	0	2	0	1	0	0
Ocean	0	0	0	0	0	0	0	0	0
Passaic	0	0	3	0	1	1	4	0	1
Salem	0	1	2	1	0	0	0	0	0
Somerset	0	0	1	0	0	0	1	0	0
Sussex	0	0	1	0	0	2	0	0	0
Union	1	1	5	0	1	0	0	0	0
Warren	0	0	1	0	0	0	0	0	0
State Institutions	0	0	0	0	0	0	0	0	0
Military Posts	0	0	0	0	0	0	0	0	0

Table 24a. DEATHS FROM REPORTABLE DISEASES BY COUNTY OF RESIDENCE: 1961—Continued

COUNTY	Meningococcal Meningitis (037.0)	Mental Deficiency (325)	Pneumonia (490-493)	Pollmyelitis (080, 081)	Salmonellosis (042)	Streptococcal Sore Throat Inc. Scarlet Fever (050-051)	Syphilis (020-029)	Tuberculosis (001-019)	Whooping Cough (056)
State Total	14	10	1,790	7	1	2	71	389	1
Atlantic	0	0	56	0	0	0	3	20	0
Bergen	1	3	206	2	0	0	8	29	0
Burlington	1	0	63	0	0	0	1	9	0
Camden	0	0	100	0	0	0	5	25	0
Cape May	0	0	13	1	0	0	1	6	0
Cumberland	0	1	28	0	0	0	4	5	0
Essex	3	1	247	1	0	1	13	38	0
Gloucester	0	0	36	0	0	0	3	3	0
Hudson	2	1	302	0	1	0	8	60	1
Hunterdon	0	0	18	0	0	0	1	4	0
Mercer	0	0	74	1	0	0	9	27	0
Middlesex	1	1	84	1	0	0	0	16	0
Monmouth	1	0	92	0	0	0	3	21	0
Morris	1	1	67	0	0	1	4	9	0
Ocean	1	1	20	0	0	0	1	7	0
Passaic	1	0	163	1	0	0	3	24	0
Salem	1	0	28	0	0	0	0	2	0
Somerset	1	1	42	0	0	0	2	4	0
Sussex	0	0	19	0	0	0	1	1	0
Union	1	1	112	0	0	0	2	32	0
Warren	0	0	30	0	0	0	1	1	0
State Institutions	0	0	3	0	0	0	0	2	0
Military Posts	0	0	0	0	0	0	0	0	0

Note: There were no deaths from Anthrax, Botulism, Brucellosis, Cholera, Dengue, Diphtheria, Food Poisonings, Glaucoma, Leprosy, Malaria, Ophthalmia Neonatorum, Plague, Psittacosis, Q Fever, Rabies (human), Rocky Mountain Spotted Fever, Shigellosis, Smallpox, Tetanus, Trachoma, Trichinosis, Tularemia, Typhoid Fever, Typhus Fever, or Yellow Fever.

Table 24b. DEATHS FROM REPORTABLE DISEASES BY SEX AND AGE GROUP: 1961

International List No.	Disease and Sex	Total	Age Group in Years											
			<1	1-4	5-14	15-24	25-44	45-64	65+					
001-019	Tuberculosis—	292	..	4	1	1	1	46	109	181	..	..	..	..
	Male ..													
020-029	Syphilis—	48	1	..	..	..	..	2	25	20	..	..	..	..
	Female ..													
030-035	Gonorrhea—	1	..	..	..	..	..	1	..	..	..	..	..	..
	Male ..													
042	Salmonellosis—	1	..	..	..	..	..	..	..	..	..	..	..	..
	Male ..													
046	Amebiasis—	2	..	..	..	..	..	..	1	1	..	..	..	..
	Female ..													
050, 051	Strep. Sore Throat, Incl. Scarlet Fever—	2	..	..	..	..	..	..	1	..	..	..	..	..
	Male ..													
056	Whooping Cough—	1	..	..	..	..	..	..	..	..	..	..	..	..
	Female ..													
057, 0	Meningococcal Meningitis—	8	2	4	..	..	1	1	..	1	..	..	..	..
	Female ..													
072	Leptospirosis—	1	..	..	..	..	..	..	..	..	..	..	..	..
	Male ..													
080, 081	Poliomyelitis—	3	..	..	..	..	..	..	..	..	..	..	..	..
	Male ..													
	Female ..	4	..	..	..	..	..	..	..	..	..	..	..	..

082, 083	Infectious Encephalitis—	12	..	3	..	..	..	..	..	..	..	..	..	..
	Female ..													
085	Measles—	9	..	4	..	..	..	..	..	..	..	..	..	..
	Male ..													
092	Infectious Hepatitis—	8	..	..	..	..	..	..	..	..	..	..	..	..
	Female ..													
325	Mental Deficiency—	9	1	..	..	..	..	..	..	..	..	..	..	..
	Male ..													
353	Epilepsy—	36	..	2	..	..	..	..	..	..	..	..	..	..
	Female ..													
480-483	Influenza—	16	..	2	..	..	..	..	..	..	..	..	..	..
	Male ..													
490-493	Pneumonia—	1049	154	44	13	7	49	200	582	582	..	..	..	..
	Female ..													
764	Diarrhea of Newborn—	6	..	..	..	..	..	..	..	..	..	..	..	..
	Male ..													

Note: There were no deaths from Anthrax, Botulism, Brucellosis, Cholera, Dengue, Diphtheria, Food Poisonings, Glanders, Leprosy, Malaria, Ophthalmia Neonatorum, Plague, Psittacosis, Q Fever, Rabies (human), Rocky Mountain Spotted Fever, Shigellosis, Smallpox, Tetanus, Trachoma, Trichinosis, Tularemia, Typhoid Fever, Typhus Fever, or Yellow Fever.

Table 25a. TUBERCULOSIS CASES AND DEATHS; NUMBERS, RATES AND CASE-DEATH RATIOS FOR COUNTIES AND MAJOR CITIES: 1961

AREA	Deaths		All Cases		Active and Probably Active Cases		Case-Death Ratio†
	Number	Rate*	Number	Rate*	Number	Rate*	
New Jersey .....	389	6.3	3,120	50.2	1,658	26.7	4.3
Atlantic County .....	20	12.2	161	98.2	52	31.7	2.6
Atlantic City .....	9	15.3	78	132.2	34	57.6	3.8
Bergen County .....	29	3.6	553	68.9	75	9.3	2.6
Burlington County .....	9	3.8	74	31.4	38	16.1	4.2
Camden County .....	25	6.2	149	37.0	92	22.8	3.7
Camden City .....	17	14.7	67	57.8	48	41.4	2.3
Cape May County .....	6	12.0	29	58.0	8	16.0	1.3
Cumberland County .....	5	4.6	41	37.6	31	28.4	6.2
Essex County .....	83	9.0	535	63.2	460	49.7	5.5
Bloomfield .....	4	7.7	11	21.2	8	15.4	2.0
East Orange .....	3	3.9	38	49.4	26	33.8	8.7
Irvington .....	1	1.7	20	33.9	7	11.9	7.0
Newark .....	71	17.7	437	109.0	362	90.3	5.1
Gloucester County .....	3	2.1	44	31.4	26	18.6	8.7
Hudson County .....	59	9.7	261	43.1	167	27.6	2.8
Bayonne .....	7	9.5	24	32.4	15	20.3	2.1
Hoboken .....	8	16.7	27	56.3	19	39.6	2.4
Jersey City .....	33	12.1	151	55.3	104	38.1	3.2
Union City .....	3	5.8	18	34.6	10	19.2	3.3
Hunterdon County .....	4	7.1	26	46.4	15	26.8	3.8
Mercer County .....	27	10.0	208	76.8	103	38.0	3.8
Hamilton Township .....	6	8.8	41	60.3	13	19.1	3.2
Trenton .....	12	10.7	111	99.1	61	54.5	5.1
Middlesex County .....	16	3.5	116	25.5	69	15.2	4.3
Woodbridge Township .....	..	..	16	19.0	8	9.5	..
Monmouth County .....	21	6.0	138	39.7	108	31.0	5.1
Morris County .....	9	3.3	85	31.0	49	17.9	5.4
Ocean County .....	7	6.1	57	49.6	22	19.1	3.1
Passaic County .....	24	5.8	249	60.0	113	27.2	4.7
Clifton .....	1	1.2	37	44.0	9	10.7	9.0
Passaic City .....	7	13.2	44	83.0	22	41.5	3.1
Paterson .....	13	9.0	127	88.2	73	50.7	5.6
Salem County .....	2	3.3	13	21.7	10	16.7	5.0
Somerset County .....	4	2.7	55	36.7	29	19.3	7.3
Sussex County .....	1	2.0	12	23.5	11	21.6	11.0
Union County .....	32	6.2	151	29.2	120	23.2	3.8
Elizabeth .....	14	13.1	58	54.2	42	39.3	3.0
Union Township .....	3	5.7	5	9.4	3	5.7	1.0
Warren County .....	1	1.6	18	28.1	11	17.2	11.0
Institutions .....	2	†	58	†	35	†	..
Military Posts .....	..	..	11	†	8	†	..
Aliens .....	..	..	21	†	6	†	..

\* Rate per 100,000 estimated population.  
 † Number of active and probably active cases reported per death reported.  
 ‡ Rates not computed due to lack of population base.

Table 25b. TOTAL TUBERCULOSIS CASES AND ACTIVE AND PROBABLY ACTIVE CASES BY AGE GROUP  
 Numbers and Rates: 1961

AGE GROUP	TOTAL CASES		ACTIVE AND PROBABLY ACTIVE CASES	
	NUMBER <sup>a</sup>	RATE <sup>b</sup>	NUMBER <sup>a</sup>	RATE <sup>b</sup>
All Ages .....	3,120	50.2	1,658	26.7
Under 1 .....	11	8.3	10	7.5
1-4 .....	93	17.5	83	15.6
5-14 .....	87	7.5	60	5.2
15-24 .....	184	25.3	125	17.2
25-34 .....	420	52.8	261	32.8
35-44 .....	572	60.9	313	33.3
45-54 .....	580	74.8	301	38.8
55-64 .....	522	90.5	245	42.5
65 and over .....	630	108.2	249	42.8
Not Stated .....	21	..	11	..

a. Newly reported tuberculosis cases.  
 b. Rate per 100,000 estimated population.

Table 25c. TUBERCULOSIS CASES BY CLINICAL STATUS FOR COUNTIES AND MAJOR CITIES: 1961

AREA	Total	Clinical Status				
		Active	Inactive	Probably Active	Probably Inactive	Not Stated
New Jersey .....	3,120	1,570	1,389	88	60	13
Atlantic County .....	161	45	100	7	7	2
Atlantic City .....	78	30	40	4	4	..
Bergen County .....	558	74	473	1	8	2
Burlington County .....	74	37	35	1	1	..
Camden County .....	149	78	49	14	5	3
Camden City .....	67	43	17	5	1	1
Cape May County .....	29	8	21	..	..	..
Cumberland County .....	41	30	10	1	..	..
Essex County .....	585	444	119	16	4	2
Bloomfield .....	11	8	3	..	..	..
East Orange .....	38	23	12	3	..	..
Irvington .....	20	7	12	..	1	..
Newark .....	437	349	71	13	2	2
Gloucester County .....	44	23	17	3	1	..
Hudson County .....	261	158	87	9	7	..
Bayonne .....	24	13	8	2	1	..
Hoboken .....	27	18	6	1	2	..
Jersey City .....	151	101	45	3	2	..
Union City .....	18	9	8	1	..	..
Hunterdon County .....	26	14	11	1	..	..
Mercer County .....	208	100	102	3	3	..
Hamilton Township .....	41	13	28	..	..	..
Trenton .....	111	58	47	3	3	..
Middlesex County .....	116	68	45	1	1	1
Woodbridge Township .....	16	8	8	..	..	..
Monmouth County .....	138	102	22	6	7	1
Morris County .....	85	48	33	1	3	..
Ocean County .....	57	21	35	..	..	..
Passaic County .....	249	111	135	2	1	..
Clifton .....	37	9	28	..	..	..
Passaic City .....	44	22	..	..	..	..
Paterson .....	127	72	54	1	..	..
Salem County .....	13	10	3	..	..	..
Somerset County .....	55	28	24	1	2	..
Sussex County .....	12	11	..	..	..	1
Union County .....	151	112	23	8	8	..
Elizabeth .....	58	39	13	3	3	..
Union Township .....	5	3	..	..	2	..
Warren County .....	18	10	7	1	..	..
Institutions .....	58	28	22	7	1	..
Military Posts .....	11	5	3	3	..	..
Aliens .....	21	5	13	1	1	1

Notes: (1) Newly reported tuberculosis cases.  
 (2) Alien cases—aliens admitted to the United States during the calendar year with pulmonary tuberculosis and hospitalized or placed under medical supervision on arrival in New Jersey.

Table 25d. ACTIVE AND PROBABLY ACTIVE TUBERCULOSIS CASES BY AGE GROUPS FOR COUNTIES AND MAJOR CITIES: 1961

AREA	Age Group										
	All Ages	Under 1 Year	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65+	Not Stated
New Jersey .....	1,658	10	83	60	125	261	313	301	245	249	11
Atlantic County .....	52	..	..	1	2	6	10	9	7	17	..
Atlantic City .....	34	..	..	1	..	4	6	8	4	11	..
Bergen County .....	75	..	1	2	7	13	15	13	11	12	1
Burlington County .....	38	..	1	2	2	7	7	8	6	5	..
Camden County .....	92	..	..	4	5	12	18	20	15	17	1
Camden City .....	48	..	..	1	2	9	12	11	6	7	..
Cape May County .....	8	..	..	..	..	..	3	2	..	3	..
Cumberland County .....	31	2	5	1	2	6	3	1	6	5	..
Essex County .....	460	4	25	15	33	92	94	88	60	46	3
Bloomfield .....	8	..	..	..	..	2	2	1	2	1	..
East Orange .....	26	..	1	1	1	5	6	6	5	1	..
Irvington .....	7	..	..	..	..	1	2	1	1	2	..
Newark .....	362	4	18	14	32	75	75	68	38	36	2
Gloucester County .....	26	..	1	..	1	2	6	6	4	6	..
Hudson County .....	167	1	5	3	14	26	32	37	24	25	..
Bayonne .....	15	..	..	1	1	4	4	1	2	2	..
Hoboken .....	19	..	3	..	1	2	2	4	5	2	..
Jersey City .....	104	1	2	2	12	16	20	24	12	15	..
Union City .....	10	..	..	..	..	1	4	3	1	1	..
Hunterdon County .....	15	..	1	2	1	..	1	4	2	4	..
Mercer County .....	103	1	10	2	2	15	21	14	23	14	1
Hamilton Township .....	13	..	1	..	..	..	5	2	3	3	..
Trenton .....	61	1	8	1	2	9	14	8	11	7	..
Middlesex County .....	69	..	4	3	3	11	17	14	9	8	..
Woodbridge Township .....	8	..	..	2	..	2	..	1	1	2	..
Monmouth County .....	108	..	5	14	2	19	22	14	19	13	..
Morris County .....	49	..	..	1	10	6	7	7	7	11	..
Ocean County .....	22	1	6	..	..	2	1	3	3	6	..
Passaic County .....	113	1	10	4	20	13	23	12	11	19	..
Clifton .....	9	..	..	..	2	..	1	3	2	1	..
Passaic City .....	22	..	1	4	2	2	5	1	3	4	..
Paterson .....	73	1	8	..	14	11	16	8	4	11	..
Salem County .....	10	..	..	..	..	1	1	3	5	..	..
Somerset County .....	29	..	2	2	2	2	1	5	10	5	..
Sussex County .....	11	..	1	..	1	1	1	..	1	5	1
Union County .....	120	..	6	2	11	18	25	28	17	13	..
Elizabeth .....	42	..	3	..	2	8	8	10	6	5	..
Union Township .....	3	..	..	..	..	..	1	..	2	..	..
Warren County .....	11	..	..	1	..	3	..	4	1	2	..
Institutions .....	35	..	..	1	4	3	2	8	4	13	..
Military Posts .....	8	..	..	..	2	1	1	1	..	3	..
Aliens .....	6	..	..	..	1	2	2	..	..	1	..

Notes: (1) Newly reported tuberculosis cases.  
 (2) Alien cases—aliens admitted to the United States during the calendar year with pulmonary tuberculosis and hospitalized or placed under medical supervision on arrival in New Jersey.

Table 25a. ACTIVE AND PROBABLY ACTIVE TUBERCULOSIS CASES BY BACTERIAL STATUS FOR COUNTIES AND MAJOR CITIES: 1961

AREA	Total	Bacterial Status		
		Positive	Negative	Pending or Not Done
New Jersey .....	1,658	813	523	322
Atlantic County .....	52	29	9	14
Atlantic City .....	34	20	5	9
Bergen County .....	75	40	32	3
Burlington County .....	38	19	13	6
Camden County .....	92	52	26	14
Camden City .....	48	25	15	8
Cape May County .....	8	4	3	1
Cumberland County .....	31	17	3	11
Essex County .....	460	267	119	74
Bloomfield .....	8	7	1	2
East Orange .....	26	14	5	7
Irvington .....	7	4	2	1
Newark .....	362	200	97	56
Gloucester County .....	26	13	6	7
Hudson County .....	167	76	53	38
Bayonne .....	15	9	4	2
Hoboken .....	19	8	7	4
Jersey City .....	164	40	36	28
Union City .....	10	7	3	0
Hunterdon County .....	15	3	5	7
Mercer County .....	103	51	20	32
Hamilton Township .....	13	8	3	2
Trenton .....	61	27	11	23
Middlesex County .....	69	13	43	13
Woodbridge Township .....	8	2	5	1
Monmouth County .....	108	41	32	35
Morris County .....	49	24	15	10
Ocean County .....	22	12	3	7
Passaic County .....	113	54	34	25
Clifton .....	9	2	5	2
Passaic City .....	29	10	6	6
Paterson .....	73	40	18	15
Salem County .....	10	9	1	0
Somerset County .....	29	16	9	4
Sussex County .....	11	4	6	1
Union County .....	120	45	71	4
Elizabeth .....	3	11	30	1
Union Township .....	2	2	1	0
Warren County .....	11	4	6	1
Institutions .....	35	17	11	7
Military Posts .....	8	0	2	6
Aliens .....	6	3	1	2

Notes: (1) Newly reported tuberculosis cases.

(2) Alien cases—aliens admitted to the United States during the calendar year with pulmonary tuberculosis and hospitalized or placed under medical supervision on arrival in New Jersey.

Table 25f. ACTIVE AND PROBABLY ACTIVE PULMONARY TUBERCULOSIS CASES BY EXTENT OF DISEASE BY COUNTIES AND MAJOR CITIES: 1961

AREA	Total	Extent of Disease				
		Minimal	Moderately Advanced	Far Advanced	Primary	Not Stated
New Jersey .....	1,515	193	586	635	93	8
Atlantic County .....	49	3	17	27	2	0
Atlantic City .....	34	1	13	18	2	0
Bergen County .....	69	10	49	8	2	0
Burlington County .....	33	0	8	23	2	0
Camden County .....	83	13	35	33	2	0
Camden City .....	44	8	16	19	1	0
Cape May County .....	8	1	1	6	0	0
Cumberland County .....	30	2	9	11	8	0
Essex County .....	415	54	145	195	19	2
Bloomfield .....	8	0	5	3	0	0
East Orange .....	23	2	9	11	1	0
Irvington .....	7	2	3	2	0	0
Newark .....	324	42	106	161	13	2
Gloucester County .....	25	5	6	13	1	0
Hudson County .....	163	14	70	74	5	0
Bayonne .....	15	4	5	6	0	0
Hoboken .....	1	5	10	2	0	0
Jersey City .....	101	7	42	49	3	0
Union City .....	10	1	6	3	0	0
Hunterdon County .....	10	1	2	5	2	0
Mercer County .....	94	14	32	36	11	1
Hamilton Township .....	11	2	5	3	0	1
Trenton .....	56	8	19	21	8	0
Middlesex County .....	66	3	35	22	5	1
Woodbridge Township .....	8	0	4	4	0	0
Monmouth County .....	92	19	32	30	9	2
Morris County .....	45	5	16	22	2	0
Ocean County .....	19	1	4	9	5	0
Passaic County .....	98	10	45	33	8	2
Clifton .....	7	2	4	1	0	0
Passaic City .....	19	1	7	8	3	0
Paterson .....	64	3	31	24	4	2
Salem County .....	9	2	1	5	1	0
Somerset County .....	28	7	8	11	2	0
Sussex County .....	8	1	3	4	0	0
Union County .....	112	11	37	58	6	0
Elizabeth .....	39	2	14	20	3	0
Union Township .....	2	0	2	1	0	0
Warren County .....	10	1	5	3	1	0
Institutions .....	35	10	19	6	0	0
Military Posts .....	8	5	2	1	0	0
Aliens .....	6	1	5	0	0	0

Notes: (1) Newly reported tuberculosis cases.

(2) Alien cases—aliens admitted to the United States during the calendar year with pulmonary tuberculosis and hospitalized or placed under medical supervision on arrival in New Jersey.

Table 25g. ACTIVE AND PROBABLY ACTIVE TUBERCULOSIS CASES AND RATES BY SEX BY COUNTIES AND MAJOR CITIES: 1961

AREA	Total	Male		Female	
		Number	Rate*	Number	Rate*
New Jersey .....	1,658	1,113	38.5	545	17.2
Atlantic County .....	52	35	44.9	17	19.8
Atlantic City .....	34	23	85.2	11	34.4
Bergen County .....	75	39	9.9	36	8.6
Burlington County .....	38	26	20.0	12	11.3
Camden County .....	92	63	32.1	29	14.0
Camden City .....	48	34	60.7	14	23.3
Cape May County .....	8	7	28.0	1	4.0
Cumberland County .....	31	23	44.2	8	14.0
Essex County .....	460	298	67.4	162	33.5
Bloomfield .....	8	5	20.0	3	11.1
East Orange .....	26	16	45.7	10	23.8
Irvington .....	7	4	14.3	3	9.7
Newark .....	362	235	121.1	127	61.4
Gloucester County .....	26	18	26.1	8	11.3
Hudson County .....	167	125	42.4	42	13.5
Bayonne .....	15	12	32.4	3	8.1
Hoboken .....	19	11	45.8	8	33.3
Jersey City .....	104	82	62.1	22	15.6
Union City .....	10	7	28.0	3	11.1
Hunterdon County .....	15	11	39.3	4	14.3
Mercer County .....	103	70	52.2	33	24.1
Hamilton Township .....	13	8	24.2	5	14.3
Trenton .....	61	43	78.2	18	31.6
Middlesex County .....	69	51	22.5	18	7.9
Woodbridge Township .....	8	5	11.9	3	7.1
Monmouth County .....	108	67	39.2	41	23.2
Morris County .....	49	36	26.9	13	9.3
Ocean County .....	22	18	31.0	4	7.0
Passaic County .....	113	66	32.7	47	22.1
Clifton .....	9	5	12.2	4	9.3
Passaic City .....	22	12	48.0	10	35.7
Paterson .....	73	45	64.3	28	37.8
Salem County .....	10	10	33.3	..	..
Somerset County .....	29	20	26.7	9	12.0
Sussex County .....	11	8	32.0	3	11.5
Union County .....	120	80	31.9	40	15.0
Elizabeth .....	42	31	59.6	11	20.0
Union Township .....	3	3	11.5	..	..
Warren County .....	11	7	22.6	4	12.1
Institutions .....	35	26	†	9	†
Military Posts .....	8	5	†	3	†
Allens† .....	6	4	†	2	†

\* Rate per 100,000 population.

† Rates not computed due to lack of population base.

‡ Alien cases—allens admitted to the United States during the calendar year with pulmonary tuberculosis and hospitalized or placed under medical supervision on arrival in New Jersey.

Table 26a. SYPHILIS AND GONORRHEA CASES BY COUNTIES AND MAJOR CITIES, NUMBERS AND RATES: 1961

AREA	Syphilis						Gonorrhea*	
	All Stages		Primary and Secondary		Early Latent			
	Number	Rate†	Number	Rate†	Number	Rate†	Number	Rate†
New Jersey .....	5,180	83.3	874	14.0	721	11.6	4,737	76.1
Atlantic County .....	226	137.8	29	17.7	21	12.8	101	61.6
Atlantic City .....	172	291.5	25	42.4	18	30.5	87	147.5
Bergen County .....	229	28.3	28	3.2	31	3.8	92	11.4
Burlington County .....	62	26.3	3	1.3	5	2.1	20	8.5
Camden County .....	278	69.0	61	15.1	52	12.9	108	26.8
Camden City .....	198	170.7	57	49.1	38	32.8	87	75.0
Cape May County .....	35	70.0	3	6.0	3	6.0	7	14.0
Cumberland County .....	163	149.5	7	6.4	9	8.3	69	63.3
Essex County .....	1,668	180.1	353	38.1	275	29.7	2,006	216.6
Bloomfield .....	15	28.8	1	1.9	2	3.8	2	3.8
East Orange .....	92	119.5	12	15.6	12	15.6	15	19.5
Irvington .....	18	30.5	2	3.4	2	3.4	3	5.1
Newark .....	1,412	352.1	324	80.8	247	61.6	1,947	485.5
Gloucester County .....	70	50.0	4	2.9	5	3.6	37	26.4
Hudson County .....	652	107.6	57	9.4	64	10.6	425	70.1
Bayonne .....	22	29.7	3	4.1	..	..	15	20.3
Hoboken .....	39	81.2	4	8.3	7	14.6	15	31.2
Jersey City .....	526	192.7	38	13.9	53	19.4	372	136.3
Union City .....	18	34.6	5	9.6	2	3.8	9	17.3
Hunterdon County .....	28	50.0	3	5.4	1	1.8	3	5.4
Mercer County .....	310	114.4	48	17.7	56	20.7	396	146.1
Hamilton Township .....	5	7.4	..	..	2	2.9	8	11.8
Trenton .....	262	233.9	43	38.4	48	42.9	365	325.9
Middlesex County .....	215	47.3	37	8.1	27	5.9	121	26.6
Woodbridge Township .....	12	14.3	1	1.2	..	..	3	3.6
Monmouth County .....	177	50.9	9	2.6	20	5.7	175	50.3
Morris County .....	86	31.4	13	4.7	8	2.9	15	5.5
Ocean County .....	42	36.5	2	1.7	5	4.3	25	21.7
Passaic County .....	513	123.6	178	42.9	92	22.2	469	113.0
Clifton .....	21	25.0	2	2.4	..	..	1	1.2
Passaic City .....	81	152.8	8	15.1	13	24.5	31	58.5
Paterson .....	377	281.8	162	112.5	77	53.5	431	299.3
Salem County .....	45	75.0	1	1.7	4	6.7	9	15.0
Somerset County .....	44	29.3	3	2.0	..	..	17	11.3
Sussex County .....	18	35.3	1	2.0	3	5.9	1	2.0
Union County .....	267	51.5	25	4.8	33	6.4	159	30.7
Elizabeth .....	94	87.8	8	7.5	17	15.9	86	80.4
Union Township .....	21	39.6	..	..	5	9.4	5	9.4
Warren County .....	25	39.1	..	..	2	3.1	2	3.1
Institutions .....	14	†	..	..	3	†	..	..
Military Posts .....	13	†	11	†	2	†	480	†

\* Includes 536 cases reported as having epidemiologic treatment for gonorrhea.

† Rate per 100,000 estimated population.

‡ Rates not computed due to lack of population base.

Table 26b. VENEREAL DISEASE CASES BY AGE GROUP, NUMBERS AND RATES: 1961  
(Including Military Cases)

Age Group	Total Venereal Diseases		All Stages		Primary and Secondary		Early Latent		Late Latent		Late		Congenital		Gonorrhea		Other Venereal Diseases	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
	ALL AGES	9,955	100.0	5,180	83.3	874	14.0	721	11.6	3,125	50.2	250	4.0	210	3.4	4,737	76.1	38
Under 1	20	15.0	17	12.8	3	0.4	1	0.2	1	0.2	1	0.2	17	12.8	3	2.3	..	..
1-4	15	2.8	5	0.9	1	0.2	1	0.2	1	0.2	2	0.3	1	0.2	10	1.0	..	..
5-9	25	4.1	5	0.8	1	0.0	1	0.2	1	0.2	1	0.2	1	0.2	20	3.3	..	..
10-14	40	7.2	9	1.6	5	0.9	1	0.2	18	4.4	1	0.2	3	0.7	31	5.6	..	..
15-19	912	223.0	246	60.1	105	25.7	95	33.2	18	18	1	0.2	27	6.0	663	162.1	..	..
20-24	2,403	758.0	608	191.8	243	76.7	229	69.4	101	31.9	3	0.9	41	12.9	1,785	563.1	..	..
25-44	4,006	231.0	2,058	117.5	444	25.6	335	19.3	1,146	66.1	33	1.9	80	22.9	1,932	112.6	..	..
45-64	1,669	123.4	1,563	115.6	61	4.5	49	3.6	1,301	91.2	73	12.5	4	0.7	102	7.5	..	..
65+	528	90.7	519	89.2	1	0.2	2	0.3	439	75.4	15	15	6	..	8	1.4	..	..
Unstated	837	..	170	..	12	..	10	..	118	..	15	..	6	..	163	..	..	..

Note: Rates are per 100,000 estimated population.

Table 26c. CASES OF SYPHILIS, BY STAGE, AND GONORRHEA, NUMBERS AND RATES: 1942-1961  
(Civilian Cases Only)

Year	Population Estimate	Syphilis						Gonorrhea	
		Total Cases		Primary and Secondary		Early Latent		Number	Rate*
		Number	Rate*	Number	Rate*	Number	Rate*		
1942	4,226,426	12,167	287.9	†	..	†	..	3,271	77.4
1943	4,235,233	9,509	224.5	†	..	†	..	2,141	50.6
1944	4,167,840	8,664	207.9	†	..	†	..	3,094	74.2
1945	4,200,941	8,901	211.9	1,317	31.4	2,694	64.1	4,892	116.5
1946	4,304,261	9,881	229.6	2,010	46.7	3,453	80.2	6,468	150.3
1947	4,435,000	8,735	197.0	1,670	37.7	3,138	70.8	6,449	145.4
1948	4,729,000	8,352	176.6	1,182	25.0	2,978	63.0	4,069	86.0
1949	4,788,000	7,795	162.9	771	16.1	2,511	52.5	4,449	93.0
1950	4,832,000	5,838	120.8	360	7.5	1,768	36.6	3,933	81.4
1951	4,989,000	4,016	80.5	223	4.6	1,125	22.5	3,559	71.3
1952	5,112,000	3,846	75.2	180	3.5	1,029	20.1	3,596	70.3
1953	5,238,000	3,742	71.5	168	3.2	1,005	19.2	3,682	70.3
1954	5,359,000	5,235	98.6	134	3.4	1,175	21.9	3,761	70.2
1955	5,482,000	4,854	88.5	214	3.9	1,095	20.0	4,150	75.7
1956	5,605,000	4,263	76.1	92	1.6	573	10.3	3,828	68.3
1957	5,728,000	5,429	94.8	114	2.0	462	8.1	4,789	83.6
1958	5,851,000	6,055	103.5	170	2.9	638	10.9	5,493	93.9
1959	5,974,000	4,863	81.4	302	5.1	609	10.2	4,646	77.8
1960	6,098,000	5,265	86.3	665	10.9	752	12.3	4,773	78.4
1961	6,221,000	5,170	83.1	864	13.9	721	11.6	4,302	69.2

Note: Data for 1942 through 1956 include all New Jersey resident cases plus all nonresident cases diagnosed in New Jersey, but exclude military cases except when specified otherwise.  
Data for 1957 to date include New Jersey resident cases only and also exclude military cases.  
\* Rate per 100,000 estimated population.  
† Not available.

# INDEX

Annual Report, 1962, New Jersey State Department of Health

A

PAGE

## Activities of Divisions, Bureaus and Programs

Divisions:	9
Chronic Illness .....	59
Constructive Health .....	91
Environmental Health .....	141
Laboratories .....	167
Local Health Services .....	195
Preventable Diseases .....	247
Special Consultation Services .....	271
Vital Statistics and Administration .....	
Bureaus and Programs:	273
Administrative Services .....	94
Air Sanitation .....	16
Alcoholism Control .....	20
Arthritis and Allied Disorders .....	145
Bacteriology .....	274
Budget and Accounts .....	155
Chemistry .....	191
Civil Defense and Disaster Control .....	116
Camp and Bathing .....	21
Cancer Control .....	32
Chronic Diseases .....	209
Communicable Disease Control .....	61
Crippled Children .....	67
Dental Health .....	36
Diabetes—Endocrine and Metabolic Disorders .....	100
Drug, Device and Cosmetic .....	277
Examination and Licensing .....	102
Food .....	188
Grants-in-Aid .....	249
Health Education .....	48
Heart and Circulatory Diseases .....	117
Housing .....	73
Maternal and Child Health .....	105
Meat .....	111
Milk .....	53
Nervous System and Special Senses (Neurological) .....	254
Nutrition .....	



	PAGE
Occupational Health .....	122
Pathology .....	162
Personnel .....	277
Potable Water .....	118
Public Health Nursing .....	256
Public Health Social Work .....	261
Public Health Statistics .....	281
Radiological Health .....	127
Ragweed and Poison Ivy .....	120
Restorative Services .....	55
Serology .....	163
Shellfish .....	112
Solid Waste .....	121
Stream Pollution .....	135
Training .....	264
Tuberculosis .....	197
Venereal Disease Control .....	239
Veterinary Public Health .....	137
Virology .....	165
Vital Statistics Registration .....	279
Accidents, Health Education on .....	252
Administration, Vital Statistics and, Division of .....	271
Administrative Chart of Department .....	6
Administrative Services Program .....	273
Health Education .....	273
Printing, Addressographing .....	274
Warehousing .....	274
Air Pollution Commission .....	94
Air Sanitation Program .....	94
Agency Cooperation .....	97
Air Pollution Commission .....	94
Enforcement .....	95
Research .....	97
Alcoholism Control Program .....	16
Allocations .....	276
Analysis, Bacteriological .....	153
Annual Meeting, Public Health Council .....	7
Anti-Coronary Club .....	255
Arthritis and Allied Disorders Program .....	20
Education .....	20
Research .....	21
Workshops and Symposia .....	20
Aseptic Meningitis .....	226
Atlantic County .....	176

## B

Bacteriology Program .....	145
Analysis .....	153

	PAGE
Blood Agglutinations .....	151
Central Laboratory Dairy Products .....	154
Gonorrhea Spreads .....	152
Laboratory Approval .....	155
M. Tuberculosis Identification .....	147
Miscellaneous Specimens .....	153
Nose and Throat Cultures .....	151
Numerical Summary .....	147
Phenylketonuria Screen (PKU) .....	153
Species Identification .....	148
Specimens, Examinations .....	147
Staphylococcus Phage Typing .....	150
Streptococcus—Fluorescent Antibody Titration .....	150
Swabs .....	151
Bathing, Lake .....	116
Bergen County .....	187
Beryllium Case Registry .....	126
Biological Warfare Defense .....	192
Births .....	282
(See Index of Tables and Charts, Page 286)	
Blood Agglutinations .....	151
Boarding Homes, Nutrition .....	256
Bovine Tuberculosis .....	205
Budget and Accounts Program .....	274
Burlington County .....	182

## C

Camden County .....	176
Camp and Bathing Program .....	116
Cancer Control Program .....	21
Cytology .....	22
Death Certificates .....	30
Education .....	30
Gastroenterology .....	27
Lung Cancer and Smoking .....	22
Nursing .....	29
Pathological Tissue Service .....	30
Pilot Study .....	28
Radiobiology and Nuclear Medicine .....	25
Registry .....	29
Research .....	27
Cape May County .....	176
Cardiac Surgery, Crippled Children .....	63
Careers, Health Education .....	253
Case-Finding, Chronic Diseases .....	36
Central Laboratory, Dairy Products .....	154
Central Nervous System, Communicable Diseases .....	224

	PAGE
Central State Health District .....	181
Burlington County .....	182
Mercer County .....	183
Middlesex County .....	183
Monmouth County .....	184
Ocean County .....	185
Cerebral Palsy .....	61
Chemistry Program .....	155
Studies .....	157
Trends .....	156
Child Health Conference Services .....	190
Child Health, Maternal and, Program .....	73
Chronic Disease Program .....	32
Friendly Visitor Program .....	32
Nursing .....	34
Professional Education .....	34
Physical Therapy .....	34
Social Service .....	35
Visiting Homemaker Program .....	32
Chronic Illness Control, Division of .....	9
Alcoholism Program .....	16
Arthritis and Allied Disorders Program .....	20
Cancer Control Program .....	21
Chronic Disease Program .....	32
Diabetes—Endocrine and Metabolic Disorders Program .....	36
Heart and Circulatory Diseases Program .....	48
Nervous System and Special Senses Program .....	53
Restorative Services Program .....	55
Cigarette Smoking .....	249
Circulatory Diseases .....	48
Civil Defense and Disaster Control Program .....	191
Biological Warfare Defense .....	192
Education .....	194
Emergency Hospital .....	193
Expanded Function Training .....	193
March Coastal Storm, Flood .....	192
Medical, Health, Special Weapons .....	191
Medical Self-Help Training .....	192
Radchem Defense .....	192
U. S. Public Health Service Representative .....	194
Workshops .....	194
Cleft Palate .....	63
Coin-Operated Dry Cleaning .....	125
Commission on Radiation Protection .....	127
Communicable Disease Program .....	209
Aseptic Meningitis .....	226
Central Nervous System .....	224
Cough Drops .....	238

	PAGE
Diphtheria .....	236
Encephalitis .....	227
Food-Borne Outbreaks .....	230
Hepatitis .....	209
Infectious Hepatitis .....	212
Influenza .....	234
Leprosy .....	237
Poison Control .....	237
Poliomyelitis .....	224
Rocky Mountain Spotted Fever .....	235
Salmonellosis .....	228
Shigellosis .....	228
Shipyards Outbreak .....	232
Smallpox .....	236
Tetanus .....	236
Training .....	238
Trichinosis .....	233
Typhoid .....	228
Viral Pericarditis .....	235
Community (See Cooperative)	
Community Noise Performance Code .....	125
Community Nursing, Metropolitan District .....	186
Congestive Heart Failure .....	48
Constructive Health, Division of .....	59
Crippled Children Program .....	61
Dental Health Program .....	67
Maternal and Child Health Program .....	73
Consultation Services, Public Health Nursing .....	259
Contact Investigation, Tuberculosis .....	200
Cooperative Agencies, Surveys and Community Projects	
Air Pollution .....	97
Chronic Illness .....	11
Crippled Children .....	61
Dental .....	69
Neurological .....	53
Occupational Health .....	123
Public Health Nursing .....	257
Tuberculosis X-rays .....	198
Venereal Disease .....	243
Cough Drops .....	238
Council, Public Health .....	4
Crippled Children Program .....	61
Cardiac Surgery .....	63
Cerebral Palsy .....	61
Cleft Palate .....	63
Community Services .....	61
Hospital and Convalescent Care .....	62
Nursing Services .....	62

	PAGE
Physical Therapy .....	63
Prosthetic Devices, Bracing .....	62
Psychological Services .....	62
Cumberland County .....	177
D	
Death Certificates, Cancer .....	30
Deaths .....	283
(See Index of Tables and Charts, Page 286)	
Maternal .....	83
Dental Health Program .....	67
Cooperation .....	69
Education .....	67
Funds .....	70
Prevention .....	68
Research .....	69
Treatment .....	68
Diabetes Program .....	36
Case-Finding .....	36
Detection Week .....	44
Education .....	37
Grants-in-Aid .....	43
Other Activities .....	42
Program Coordinator .....	40
Research .....	40
Screening Projects .....	46
Diagnostic and Curative Services, Tuberculosis .....	204
Diet:	
Counselling .....	254
Heart Patients .....	50
Dietitians, Courses .....	254
Diphtheria .....	236
Divisions:	
(See Activities of Divisions)	
Drug, Device and Cosmetic Program .....	100
Drugs, Tuberculosis .....	204

## E

Eastern Viral Encephalitis .....	139
Education:	
Arthritis .....	20
Cancer .....	30
Chronic Disease Program .....	34
Chronic Illness Control Division .....	19
Civil Defense .....	194

	PAGE
Dental .....	67
Diabetes .....	37
Health Education .....	249
Heart and Circulatory Diseases .....	51
Maternal and Child Health .....	86, 88
Neurological Diseases .....	54
Public Health Nursing .....	260
Public Health Social Work .....	260
Electroencephalograph .....	54
Emergency Food and Drugs .....	100
Emergency Hospital, Civil Defense .....	193
Encephalitis .....	227
Enforcement, Air Pollution .....	95
Environmental Health, Division of .....	91
Air Sanitation Program .....	94
Food and Drugs .....	99
Food Program .....	102
Drug, Device and Cosmetic Program .....	100
Meat Inspection Program .....	105
Milk Program .....	111
Shellfish Program .....	112
General Sanitation:	
Camp and Bathing Program .....	116
Housing Program .....	117
Potable Water Program .....	118
Ragweed and Poison Ivy Program .....	120
Solid Waste Program .....	121
Occupational Health Program .....	122
Radiological Health Program .....	127
Stream Pollution Program .....	135
Veterinary Public Health Program .....	137
Epidemiology, Venereal Disease .....	240
Essex County .....	187
Examination and Licensing Program .....	277
Expanded Function Training, Civil Defense .....	193
Expenditures, Budgets and Accounts Program .....	276

## F

Federal Assistance, Radiological Health .....	134
Field Activities:	
Maternal and Child Health .....	89
Radiological Health .....	129
Finances, Budget and Accounts .....	274
Fluoridation:	
Dental Health Program .....	67
Health Education Program .....	250

	PAGE
Food and Drugs .....	99
Emergency .....	100
Legislation .....	100
Training .....	100
Food-Borne Outbreaks .....	230
Food Program .....	102
Foreign Visitor, Maternal and Child Health Program .....	88
Friendly Visitor Program .....	32
Funds, Dental Health .....	70

## G

Gastroenterology, Cancer .....	27
Gloucester County .....	177
Gonorrhea Spreads .....	152
Grants-in-Aid:	
Chronic Illness .....	11
Diabetes .....	43
Local Health Services .....	188

## H

Health Education, Administrative Services .....	273
Health Education Program .....	249
Accidents .....	252
Careers .....	253
Cigarette Smoking .....	249
Fluoridation .....	250
Heart .....	253
Hospitals .....	251
Materials .....	253
Migrants .....	251
Radiological Health .....	251
Recruitment and Training .....	253
Sabin Oral Vaccine .....	252
Venereal Disease, Teenage .....	250
Volunteer Training .....	252
Health Investigation, Tuberculosis .....	203
Hearing, Loss of .....	126
Heart and Circulatory Diseases Program .....	48
Congestive Heart Failure .....	48
Coronary Artery .....	48
Diet .....	50
Education and Training .....	51
Future Plans .....	52
Rheumatic Fever .....	49
Stroke .....	50

	PAGE
Heart, Health Education .....	253
Hepatitis .....	209
Hepatitis, Infectious .....	212
Home Care, Nutrition .....	255
Hospital Consultation .....	255
Hospital and Convalescent Care:	
Crippled Children .....	62
Maternal and Child Health Program .....	73
Hospitals, Health Education .....	251
Housing Program .....	117
Hudson County .....	186
Hunterdon County .....	179

## I

Infant Deaths:	
(See Index of Tables and Charts, Page 286)	
Influenza .....	234
Institutes, Public Health Social Work .....	263

## L

Laboratories, Division of .....	141
Bacteriology Program .....	145
Chemistry Program .....	155
Director, Report of .....	143
Pathology Program .....	162
Serology Program .....	163
Virology Program .....	165
Lake Bathing Program .....	116
Legislation, Food and Drugs .....	99
Leprosy .....	237
Local Health Services, Division of .....	167
Central District .....	181
Metropolitan District .....	185
Northern District .....	178
Southern District .....	174
Lung Cancer and Smoking .....	22

## M

March Coastal Storm, Flood .....	192
Marriages .....	283
(See Index of Tables and Charts, Page 286)	
Materials:	
Health Education .....	253
Maternal and Child Health .....	88
Maternal and Child Health Program .....	73
Deaths, Maternal .....	83

	PAGE
Education .....	86, 88
Foreign Visitor .....	88
Hospital Consultation .....	73
Local Field Activities .....	89
Materials .....	88
Mental Retardation .....	83
Midwives .....	75
Migrant Health .....	85
Phenylketonuria .....	84
Prenatal Care Survey .....	89
Unattended Births .....	76
Maternal Deaths:	
(See Index of Tables and Charts, Page 286)	
Meat Control Program .....	105
Medical Help, Civil Defense .....	191
Medical Self-Help Training, Civil Defense .....	192
Meningitis, Aseptic .....	226
Mental Retardation .....	83
Mercer County .....	183
Metropolitan State Health District .....	185
Bergen County .....	187
Community Nursing .....	186
Essex County .....	187
Hudson County .....	186
Passaic County .....	187
Union County .....	187
Middlesex County .....	183
Migrant Health:	
Health Education Program .....	251
Maternal and Child Health Program .....	85
Public Health Social Work Program .....	263
Milk Control Program .....	111
Monmouth County .....	184
Morbidity, Mortality, Trends, Tuberculosis .....	197
Morris County .....	180

## N

Neurological Diseases Program (Nervous System and Special Senses) ..	53
Cooperating Agencies .....	53
Education .....	54
Electroencephalograph Reports .....	54
New Jersey Homemakers Association .....	255
Noise Performance Code .....	125
Northern State Health District .....	178
Hunterdon County .....	179
Morris County .....	180
Somerset County .....	180

	PAGE
Sussex County .....	180
Warren County .....	181
Nose and Throat Cultures .....	151
Nursing:	
Cancer .....	29
Chronic Disease .....	34
Crippled Children .....	62
Nutrition .....	256
Public Health .....	256
Tuberculosis .....	204
Nutrition Program .....	254
Anti-Coronary Club .....	255
Diet Counselling .....	254
Dietitians, Courses .....	254
Home Care, Stroke .....	255
Hospital Consultation .....	255
New Jersey Homemakers Association .....	255
Nursing and Boarding Homes .....	256
Program Administration .....	256

## O

Occupational Health Program .....	122
Activities .....	124, 126
Bulletins .....	125
Beryllium Case Registry .....	126
Coin-Operated Dry Cleaning .....	125
Community Noise Performance Code .....	125
Community Surveys .....	123
Loss of Hearing .....	126
Studies .....	126
Ocean County .....	185
On-the-Job-Training, Health Department Personnel .....	265
Organization Chart of Health Department .....	6

## P

Passaic County .....	187
Pathological Tissue Service .....	30
Pathology Program .....	162
Personnel Program .....	277
Phenylketonuria .....	84, 153
Physical Therapy, Crippled Children .....	63
Pilot Study, Cancer .....	28
Poison Control .....	237
Poison Ivy .....	120
Poliomyelitis .....	224

	PAGE
Pollution:	
(See Air—, Stream—)	
Potable Water Program .....	118
Prenatal Care Survey .....	89
Preventable Diseases, Division of .....	195
Communicable Disease Control Program .....	209
Tuberculosis Control Program .....	239
Venereal Disease Control Program .....	197
Prevention, Dental Health .....	68
Printing, Addressographing .....	274
Professional Education, Chronic Diseases .....	34
Programs, Department of Health:	
(See Activities of Divisions)	
Program Coordinator, Activities, Diabetes Program .....	40
Prosthetic Devices, Bracing .....	62
Psittacosis .....	138
Psychological Services, Crippled Children .....	62
Public Health Council .....	4
Annual Meeting .....	7
Public Health Nursing Program .....	256
Consultation Services .....	259
Education .....	260
Extension and Coordination .....	257
New Community Services .....	257
Special Projects .....	260
Public Health Social Work Program .....	261
Education .....	262
Institutes .....	263
Migrant Health .....	263
Recruitment .....	262
Restorative Services .....	261
Training, Medical Social .....	262
Visiting Homemaker Services .....	263
Volunteer Friendly Visitors .....	262
Public Health Statistics Program .....	281
Births .....	282
Deaths .....	283
Deaths from Reportable Diseases .....	286
Marriages .....	283
Tables and Charts .....	286

## R

Rabies .....	137
Radchem Defense .....	192
Radiobiology and Nuclear Medicine .....	25
Radiological Health Education .....	251
Radiological Health Laboratory .....	132

	PAGE
Radiological Health Program .....	127
Commission on Radiation Protection .....	127
Federal Assistance .....	134
Field Inspection (Radioactive Materials) .....	131
Field Inspection (X-ray) .....	129
Radiological Health Laboratory .....	132
Registration, Radioactive Materials .....	128
Registration, Radiation-Producing Machines .....	128
Shoe-Fitting Machines .....	134
Technological Conferences .....	133
Unusual Occurrences .....	134
Ragweed and Poison Ivy Program .....	120
Receipts, Budget and Accounts .....	275
Recruitment and Training:	
Health Education .....	253
Public Health Social Work .....	262
Registration, Radiation-Producing Machines .....	128
Registration, Radioactive Materials .....	128
Registry, Cancer .....	29
Rehabilitation Services .....	17
Research:	
Air Pollution .....	97
Arthritis .....	21
Cancer .....	27
Chronic Illness .....	57
Dental Health .....	69
Diabetes .....	40
Restorative Services Program .....	55, 261
Rheumatic Fever .....	49
Rocky Mountain Spotted Fever .....	235

## S

Sabin Oral Vaccine .....	226, 252
Salem County .....	178
Salk Vaccine .....	224
Salmonellosis .....	228
Serology Program .....	163
Shellfish Program .....	112
Shigellosis .....	228
Shipyards Outbreak .....	232
Shoe-fitting Machines .....	134
Smallpox .....	236
Social Service, Chronic Disease .....	35
Social Work, Public Health, Program .....	261
Solid Waste Program .....	121
Somerset County .....	180
Southern State Health District .....	174

	PAGE
Atlantic County .....	176
Camden County .....	176
Cape May County .....	176
Cumberland County .....	177
Gloucester County .....	177
Salem County .....	178
Special Consultation Services, Division of .....	247
Health Education Program .....	249
Nutrition Program .....	254
Public Health Nursing Program .....	256
Public Health Social Work Program .....	261
Training Program .....	264
Species Identification, Bacteriological .....	148
Specimens, Bacteriological .....	147, 153
Staphylococcus Phage Typing .....	150
Statistics, Public Health, Program .....	281
(See Index of Table and Charts, Page 286)	
Stream Pollution Program .....	135
Streptococcus, Fluorescent Antibody Titration .....	150
Stroke:	
Home Care, Diet .....	255
Patients .....	50
Studies:	
Chemistry .....	157
Occupational Health .....	126
Sussex County .....	180
Swabs .....	151
T	
Tables and Charts, Public Health Statistics Program, Index .....	286
Technical Conferences, Radiological Health .....	133
Tetanus .....	236
Training:	
Communicable Diseases .....	238
Food and Drugs .....	99
Health Education .....	252
Medical Social .....	262
Program, Training .....	264
Special Consultation Services .....	264
Training Program .....	264
Activities .....	264
On-the-Job, Health Department Personnel .....	265
Treatment, Dental .....	68
Trichinosis .....	140, 233
Tuberculosis Control Program .....	197
Bovine .....	205
Community X-ray Surveys .....	198

	PAGE
Contact Investigation .....	176
Diagnostic and Curative Services .....	204
Drugs .....	204
Facilities Survey .....	207
Health Investigation .....	203
Morbidity, Mortality Trends .....	197
Nursing .....	204
Tuberculin Testing .....	199
Tuberculosis Case Register .....	201
Tuberculosis Council of New Jersey .....	206
Tuberculosis Sanatoria Directors .....	206
X-ray Screening, Hospital .....	199
Tuberculosis (M) Identification .....	147
Typhoid .....	228
U	
Unattended Births .....	76
Union County .....	187
Unusual Occurrences, Radiological Health .....	134
V	
Venereal Disease Program .....	239
Activities .....	240
Cases Reported .....	245
Cooperative Efforts .....	243
Epidemiologic Characteristics .....	240
Long-Term Achievements .....	244
Personnel .....	244
Venereal Disease, Teenage .....	250
Veterinary Public Health Program .....	137
Eastern Viral Encephalitis .....	139
Psittacosis .....	138
Rabies .....	137
Trichinosis .....	140
Visiting Homemaker Program .....	32
Visiting Homemaker Services .....	263
Viral Pericarditis .....	235
Virology Program .....	165
Vital Statistics:	
(See Index of Tables and Charts, Page 286)	
Vital Statistics and Administration, Division of .....	271
Administrative Services Program .....	273
Budget and Accounts Program .....	274
Examination and Licensing Program .....	277
Personnel Program .....	277

Public Health Statistics Program .....	281
Vital Statistics Registration Program .....	279
Historical Background and Accomplishments .....	279
Volunteer Friendly Visitors .....	262
Volunteer Training .....	252

## W

Warehousing .....	274
Warren County .....	181
Workshops, Civil Defense .....	194
Workshops and Symposia, Arthritis .....	20

## X

X-ray Screening, Tuberculosis .....	199
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