EIGHTY-SEVENTH ANNUAL REPORT

OF THE

Department of Health

OF THE

STATE OF NEW JERSEY

1964

STATE OF NEW JERSEY

DEPARTMENT OF HEALTH

TRENTON, NEW JERSEY

To His Excellency, Governor Richard J. Hughes:

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

This is the Annual Report of the Department of Health for the calendar year 1964.

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 1964-1965

MICHAEL S. KACHORSKY, *Chairman* ..... Manville

HARRY J. ROBINSON, M.D., *Vice-Chairman* ..... Short Hills

ERMA T. DILKES, *Secretary* ..... Sewell

NELSON S. BUTERA ..... Morristown

JOHN J. CANE, D.D.S. ..... Phillipsburg

HENRY L. DREZNER, M.D. ..... Trenton

ANTHONY P. MILLER, JR. ..... Pleasantville

MRS. J. DUNCAN PITNEY ..... Ridgewood

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

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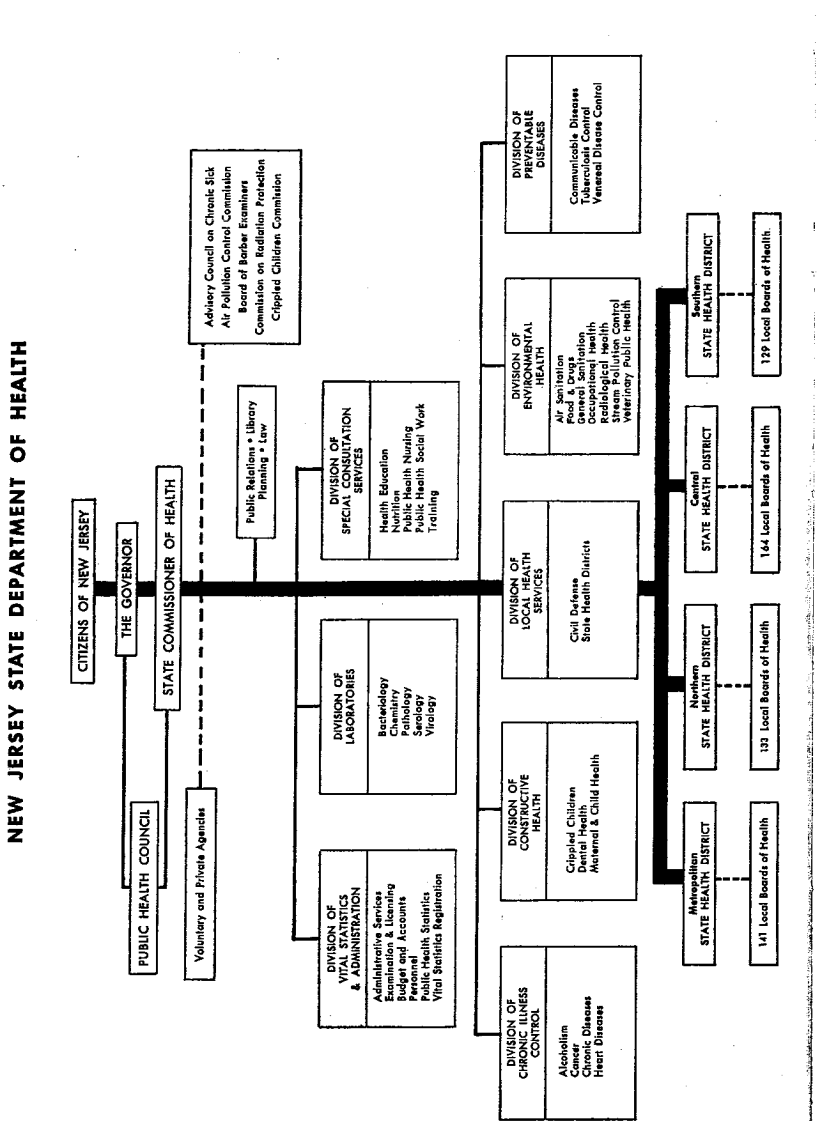

Annual Meeting
Public Health Council

The annual meeting of the Public Health Council was held on August 10, 1964. The following officers were elected for the fiscal year beginning July 1, 1964 and ending July 1, 1965: Michael S. Kachorsky, chairman; Harry J. Robinson, M.D., vice-chairman; and Erma T. Dilkes, secretary.

The membership of the Council was as follows:

	Address	*Term of Office Expiration Date*
Mrs. J. Duncan Pitney	Ridgewood	June 30, 1965
Anthony P. Miller, Jr.	Pleasantville	June 30, 1966
Erma T. Dilkes	Sewell	June 30, 1967
John J. Cane, D.D.S.	Phillipsburg	June 30, 1968
Michael S. Kachorsky	Manville	June 30, 1968
Harry J. Robinson, M.D.	Short Hills	June 30, 1969
Nelson S. Butera	Morristown	June 30, 1970
Henry L. Drezner, M.D.*	Trenton	June 30, 1971

* Dr. Drezner was sworn as a member on December 15, 1964, to fill a vacancy that existed.

Division of Chronic Illness Control

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

Programs:

Alcoholism Control ..... WILLIAM J. HARRIS, M.P.H.
Program Coordinator

Arthritis and Allied Disorders ..... ROSCOE P. KANDLE, M.D.
Acting Program Coordinator

Cancer Control ..... WILLIAM J. HARRIS, M.P.H.
Acting Program Coordinator

Chronic Disease Control ..... ROSCOE P. KANDLE, M.D.
Acting Program Coordinator

Diabetes, Endocrine and Metabolic Disorders ..... ARTHUR KROSNICK, M.D.
Program Coordinator

Diseases of Nervous System and Special Senses ..... LEON A. FRASER, M.D.
Program Coordinator

Heart and Circulatory Diseases ..... ALVIN A. FLORIN, M.D.
Program Coordinator

Restorative Services ..... CURTIS F. CULP, M.D.
Program Coordinator

Public Health Nurse Consultants:
(Assigned from Public Health Nursing Program, Division of Special Consultation Services) ..... CLEORA C. BROWN, R.N.
MILDRED L. ERVIN, R.N.
PATRICIA E. HANNA, R.N.
VIOLA B. MACK, R.N.
MILDRED G. MERKIN, R.N.

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

Division of Chronic Illness Control

Alcoholism

Services

3,889 individual patients were reached directly during the year by services sponsored by the Alcoholism Program.

2,269 persons were seen in the nine treatment centers located in community general hospitals. 1,106 persons attended weekly group meetings in four tuberculosis hospitals, one county jail, and a county workhouse. In addition to the treatment centers, the Program also supports two alcoholism information, referral, and counseling centers. One of these centers is located in a family service agency, and the second operates as a part of the services offered by a multi-service voluntary agency. During the year, these two centers worked with 514 alcoholics, families of alcoholics, clergymen and employers who requested help for themselves or someone with whom they were closely associated. These individuals made a total of 1,007 visits to the two centers; and, in addition, the centers handled 1,941 telephone inquiries, many of which resulted in the alcoholic coming to the center and eventually being referred to the proper resource for help.

In an attempt to determine effectiveness in treatment, a subjective evaluation of those individuals treated in the out-patient treatment centers was made. The degree of rehabilitation was based on the drinking habits of the individual when treatment started and at the end of the year, as well as his employment record, physical health, social and family adjustment. The results were as follows:

57 percent showed marked or reasonable improvement;
15 percent showed no improvement;
28 percent were lost to follow-up.

During the year, it was necessary to discontinue temporarily one of the treatment centers because of lack of personnel. The shortage of well-trained social workers to staff the treatment centers continues to be a major problem. However, in this instance, concern is not so great, since there is a part-time out-patient treatment center in another community hospital in the same town.

A more recent adjustment to this problem of qualified social workers is being tried by using a master's degree level clinical psychologist to work in the clinics. This is being attempted in only one clinic where a vacancy for a

social worker existed for almost a year; part-time coverage was being provided by the social work consultant in the Program. Thus far, the psychologist is working out very well, with close consultation from the social work consultant. Although it is recognized that additional services are needed throughout the state, it does not seem feasible to promote further out-patient clinic development until the personnel problem is resolved.

Educational Activities

145 persons received training in alcoholism and alcohol education in programs sponsored by the Department during the year.

19 scholarships were awarded to individuals to attend the Summer School of Alcohol Studies at Rutgers—the State University. A physician attended the two-week physician's institute; 11 social workers, parole officers, nurses, clergymen, and psychologists attended the training courses; and seven counselors, social workers, and a sociologist attended the Northeast Institute. All of these people are either working directly or indirectly with the alcoholic and/or his family. The physician's institute and the training courses provide an opportunity for those attending to receive in depth, in a relatively short period of time, information that will enable them to work more effectively with the alcoholic.

80 teachers attended four two-week Summer Workshops at Montclair, Trenton, Glassboro, and Jersey City State Colleges. These Workshops on alcohol education are designed to provide opportunity for the classroom teacher to acquire factual up-to-date information on alcohol, its use and abuse, and to develop curriculum for presentation in the classroom. The course includes such topics as physiology of alcohol, alcohol and social responsibility, the problem of alcoholism, alcohol and traffic safety, and the moral and religious aspects of alcohol. The enrollment of these workshops has been limited to 25 teachers, but with one exception. The courses have been oversubscribed, indicating that teachers are interested in getting factual information and help in teaching so controversial a subject which is required by law.

46 physicians, nurses, social workers, parole officers, public health nurses, psychologists, and judges attended a half-day Regional Institute on Alcoholism for the five central counties. This was the last of four similar sessions held over the past two years.

The films on alcohol and alcoholism which have been placed in the Film Library of the State Museum continued to be used widely by schools and other interested groups. During the year, there were 613 film showings attended by more than 30,000 persons.

The Speakers Bureau speakers lectured before 110 interested professional and civic groups on the subject of alcohol and alcoholism.

Publication of "Alcoholism—A Treatment Digest for Physicians" is now in its thirteenth year. This Digest is mailed quarterly to all physicians in the state, as well as other interested individuals. Most of the material published in the Digest is syndicated and obtained from the Center of Alcohol Studies at Rutgers and is distributed in New Jersey exclusively through the Digest.

Research

Support for the Community Study being conducted by the Center of Alcohol Studies at Rutgers has continued. In addition, a grant was made to the Center of Alcohol Studies to conduct a preliminary study of social and treatment history characteristics of individuals utilizing the out-patient treatment centers sponsored by the Department, which will lead to an evaluation of the extent and types of problems and resource facilities for alcoholism in New Jersey.

Support through a grant was also given to the New Jersey College of Medicine and Dentistry for the following studies:

Ethanol-Induced Reduction of Hepatic Nicotinamide Adenine Dinucleotide

Effect of Ethanol Metabolism on Pyridine Nucleotides in Extrahepatic Tissues

Effect of Vitamin B_{12} on Folate Conjugation

The Varying Susceptibility of Man to Alcohol Hepatotoxicity

Pyruvic Transaminase Activity in Liver Cell Necrosis of Malnourished Alcoholics

B-Complex Vitamins in Liver Disease

Primary Liver Cancer in Cirrhosis of the Alcoholic

Transketolase Activity in Experimental Thiamine Deficiency and Hepatic Necrosis

During the year, an Interagency Committee on Alcoholism was formed in an attempt to coordinate activities bettter and to develop comprehensive programs of alcoholism in New Jersey. Represented on the Committee are the State Department of Health, State Department of Institutions and Agencies, and the Rutgers Center of Alcohol Studies. The first task of the Committee has been to develop a state-wide plan on alcoholism which will be incorporated in the state plan for planning in mental health.

Program Emphasis

Continuing in an effort to meet personnel needs, additional part-time personnel have been recruited. Two workers are currently enrolled in the three-year extended program at the School of Social Work at Rutgers.

Arthritis and Allied Disorders

Out-patient services to arthritics in the Division of Rheumatology of the New Jersey College of Medicine as a service and teaching center have been strengthened through a grant from the Department. A well-qualified nurse and laboratory equipment, for evaluation of diagnostic screening and treatment aspects of these diseases, have been provided.

A report of the number of patients tested in this program, according to clinical categories during the year is as follows:

Rheumatoid Arthritis	1,110
Degenerative Joint Disease	265
Rheumatic Fever	133
Gout	205
Others	605
Total	2,318

A postgraduate seminar, "Connective Tissue Diseases," was presented in cooperation with the New Jersey Chapter of the Arthritis Foundation of America and the Rheumatology Unit of the New Jersey College of Medicine. One hundred and seventy-five physicians participated in this successful program.

Approximately 40 physical therapists and rehabilitation nurses attended a workshop on physical therapy for the arthritis patient. The workshop combined didactic presentations with patient demonstrations.

The public health physician cooperated with the New Jersey Chapter of the Arthritis Foundation in the presentation of public forums on arthritis with particular emphasis on the dangers of arthritis quackery. Forums were held in Paramus and New Brunswick.

Medical aspects of rehabilitation in arthritis, as part of the restorative nursing programs, were discussed by the Program Coordinator at Marlboro State Hospital and Cumberland Manor, Bridgeton.

A program on public health and arthritis in podiatry was conducted as part of the annual science day of the New Jersey Chiropodists-Podiatrists Society.

Cancer Control

Cigarette smoking and its relationship to health continues to be a major subject in the Cancer Program. The Report of the Advisory Committee to the Surgeon General of the Public Health Service on Smoking and Health was released in February, 1964. This report included a review and evaluation of both new and old data; and, where possible, tried to reach some definitive conclusions in the relationship between smoking and health in general. In the past, major emphasis had been placed on the effects of cigarette smoking and lung cancer. As a result of the report, other interested groups, namely, tuberculosis and heart associations, have become more actively concerned with the problem.

In order to formulate an inter-agency council on smoking to coordinate state-wide activities in this area, the Department held a meeting with representatives of the state units of the American Heart Association, American Cancer Society, and the Tuberculosis and Health Association. Also invited were representatives from the State Department of Education and the Medical Society of New Jersey. Some of the voluntary agencies had been working in various communities and duplication of efforts was soon apparent. This committee, although not formally organized, is working toward a plan that will lead to a more formal organization which will employ a limited staff to carry out the activities of the inter-agency group.

The "Teacher's Reference Guide on Smoking and Lung Cancer," which was produced by the Department in 1963, has received wide distribution in New Jersey and most other states. To date, more than 11,000 copies have been distributed. Plans are under way to revise the Guide which will include information which has become available in the areas of heart and upper respiratory illnesses as well as lung cancer. The revised issue will also include a summary of the Surgeon General's report and a section which will enable the Guide to be used at the elementary school level.

Anti-Smoking Program

Late in 1963, the Department undertook a demonstration utilizing group therapy techniques in an attempt to assist individuals desirous of giving up smoking. A follow-up in June of this year, six months following the conclusion of the demonstration, indicated that of the 12 individuals who attended the program, five had been helped temporarily but had returned to smoking. From this experience, it would appear that continued reinforcement is necessary in order to obtain a lasting effect.

A second program was undertaken in conjunction with one of the local voluntary health agencies. A different approach was attempted in that the program was publicized on a community-wide basis. News releases, radio spot announcements, posters, and letters to practicing physicians were utilized. This was an all-out effort. However, the results were not encouraging in that there were eight inquiries; and of these, only four individuals actually showed up for the meetings. Because of the poor showing at the end of three sessions, the program was discontinued.

These experiences indicate that efforts must be continued to explore new ways of motivating individuals to give up the smoking habit. Currently, the Program is working with three voluntary agencies in one county to establish an anti-smoking program that will accept the patients only on physician referral because there is some medical reason to give up smoking.

Cyto-Technician Training

In conjunction with the New Jersey Division of the American Cancer Society, the Department entered into a program to provide scholarships to qualified technicians interested in training as cyto-technicians in schools accredited by the American Society of Clinical Pathologists. The Department and the Cancer Society are each making five scholarships available. In September, 1964, two students availed themselves of this opportunity and are currently in training.

In addition, the Department continues to train cyto-technician screeners in conjunction with Presbyterian Hospital of the United Hospitals of Newark. Each year an average of six well-qualified students complete the course. The students attend the class one day each week and are able to continue on their regular jobs the other four days.

Oral Cytology

The training of dentists in oral cytology continues in conjunction with the Dental Health Program at the New Jersey College of Medicine. To date, there have been six courses and 287 dentists trained. These dentists have submitted a total of 335 slides to the laboratory at Presbyterian Hospital in Newark. There has been one positive case of cancer and seven suspicious cases, which continue to be under surveillance.

Cytology

During the year, there was a total of 5,689 patients screened in 11 programs sponsored by this Department.

Statistical analysis of 2,500 women receiving a "Pap" smear was undertaken in an attempt to determine whether or not there was some point at which

screening of this less-privileged group could be cut off because the yield did not warrant mass screening. Results of the study indicated that 1.2 percent of all women tested were found positive. The highest percentage of positives, 3.1 percent, occurred in the 33-35 year age group. There were no positives among the 238 women under 21 years of age and none among the 35 who were over 47 years of age. A Chi-square test showed that there was no significant association between the results of screening and age. The results also showed that there was no significant association between the results of the screening and the number of pregnancies of the women. The average number of pregnancies was 3.5 among the positive as compared with 3.2 among all women tested. The distribution of positives by age group did not differ to any great extent from the distribution of all women tested. The average age was 29.7 years for the positives as compared with 28.4 years for all women tested. The final analysis of the study indicated that with this group of women, i.e., less privileged, there was no point in age or number of pregnancies at which screening could be cut off because the yield was not productive.

Cancer Registry

The pilot project of the county cancer registry has completed its second year of operation. Six community hospitals are participating in the program and sending all information to the central cancer registry at Bergen Pines County Hospital in Paramus. A summary of the second year's activity of the registry shows that there were 1,746 new cancer cases registered.

Death Certificates

In an effort to have cancer registries be more effective, the Department continues to cooperate with local and nearby out-of-state hospitals in furnishing copies of death certificates of patients who died from cancer. During the past year, there were 788 requests, and 509 copies were furnished to hospitals by the Public Health Statistics Program.

Special Study

The Department negotiated a contract with Mountainside Hospital, in Montclair, to conduct a study of cinefibergastroscopic evaluations of patients with gastric lesions. This study will evaluate and permanently record on movie film, gastric lesions, which include malignant and pre-malignant erosions, gastritis, ulcers, and bleeding lesions. The study will further evaluate the relationship between pre-malignant and malignant lesions. The use of the fiberscope will be utilized as a teaching tool for internes and residents in the hospital, and the permanently recorded films will be refined into a teaching

film and used in conjunction with lectures on gastric cancers to medical groups throughout the state.

Nursing Activities

The Clinical Observation Program for nurses at the Black-Stevenson Clinic and Presbyterian Hospital in Newark continues to be a valuable training program for nurses from community general hospitals and public health nursing agencies throughout the state. In 1964, 90 nurses from 38 public health nursing agencies and hospitals participated. The program provides an opportunity for nurses to observe the latest diagnostic tools and treatment methods for patients with cancer. To date, more than 690 New Jersey nurses have participated in the program since it was initiated in 1957.

In-service training for nurses in nursing homes, hospitals, and public health agencies was conducted by the public health nurse consultant. Suggestions for nursing care and understanding of the patient following surgery for cancer were discussed, and the ostomy model and appliances which may be used by these patients were demonstrated.

The public health nurse consultant participated as a speaker in the Sixth Annual Teachers Institute on Cancer Education sponsored by the New Jersey Division of the American Cancer Society. The program was attended by more than 400 teachers throughout the state.

Education

As a part of its efforts in continuing education of physicians, the Department gave assistance to the Academy of Medicine of New Jersey to conduct eight roving symposia on cancer. The symposia consist of formal presentations of a panel of at least three physicians and are open to all physicians in the designated areas of the state. The purpose of the symposia is to attempt to bring to practicing physicians in the more rural areas of the state the opportunity to attend scientific meetings in the areas of cancer that would not otherwise be available. In addition to the roving symposia, the Department also provided assistance to the Academy of Medicine to conduct a symposium on "Current Advances in the Diagnosis and Treatment of Cancer of the Breast." The symposium is available to physicians and members of other health professions in the state who may desire to take advantage of this opportunity.

The nine films that the Cancer Program has placed in the film library of the State Museum continue to be used widely. During the year, there were 105 film showings attended by 6,213 persons.

Chronic Disease

Much of the effort of this Program, directed at the strengthening of existing community facilities and stimulating the development of new or expanded services, is accomplished through the method of grant-in-aid contracts with community agencies. In most instances, these are seed grants provided in declining amounts for a three- or four-year period, at the end of which it is anticipated that the service will have gained the vitality and recognition to become self-supporting.

During the fiscal year ending June 30, 1964, contracts were in effect with 27 community hospitals, five local health departments, 11 homemaker agencies, 10 visiting nurse services, Rutgers—the State University, the New Jersey College of Medicine, and 13 other local health or welfare agencies, in a total amount of more than half a million dollars; at least $300,000 of which were federal funds. These grants aided community agencies in providing diet counseling, consultant physical therapy, nursing, homemaker, and friendly visitor services for the chronically ill and aged; conducting screening programs for the early detection of diabetes, glaucoma, and pulmonary diseases; strengthening programs for the rehabilitation of the alcoholic; improving services in nursing homes; developing comprehensive home care programs; carrying out specialized techniques in connection with the diagnosis and treatment of cancer and cardiovascular disease; developing programs for the rehabilitation of the cardiovascular accident patient; conducting cytological screening programs for the early detection of cancer; providing professional education programs and training programs for specialized personnel; and conducting special studies in arthritis, alcohol, cancer, diabetes, and heart disease.

Diet Counseling

Patients who need accurate and specific information about their diets can now secure assistance through diet counseling services which have been established in eight communities. Private or clinic patients are accepted upon physician referral on a fee for service basis.

Two new Diet Counseling Services were established in 1964, in Atlantic and Warren Counties, making a total of eight active services in the state which served 1,629 patients. A considerable number of these patients required follow-up in the form of second or third conferences with the nutritionist to complete their diet instructions, making a total of 2,138 counseling sessions held during the year. Eighty-one percent of the patients were over the age of 40, and 62 percent of the total caseload were females. More than one-fourth of these patients had a diagnosis of heart or circulatory disease.

Progress has been made during the year in stimulating interest in other areas of the state to extend these services. It is anticipated that early in 1965, such services will be available in Monmouth, Passaic, and Union Counties.

Two in-service training programs for diet counselors were held this year with part of each session devoted to group consideration of methods of solving common problems such as promotion and expansion of services, referral forms, reports to physicians and means of financing the services in the future.

Informal in-service education is carried out by nutrition staff members on the District and state levels. New counselors receive orientation and guidance from the nutritionist in the Division of Chronic Illness Control. Up-to-date information, references, nutrition materials, teaching aids and materials for patient use are also provided by the Division.

Friendly Visitors

One hundred and forty-four Volunteer Friendly Visitors were trained in the five courses held during 1964, making a total of 484 persons trained in 15 courses since the inception of this program in August, 1962. The Volunteer Friendly Visitor Project, sponsored by this Division, is a community service designed to extend the range of services of existing health and welfare agencies through assistance in the recruitment and training of Friendly Visitors. The responsibility for promotion and development of the program has been delegated to the State Committee on Volunteer Friendly Visitors, appointed by the State Commissioner of Health, and composed of prominent professional and lay representatives of governmental and voluntary agencies.

Approximately 100 persons attended a reunion workshop for trained Friendly Visitors held this spring in order to give the volunteers an opportunity to discuss their mutual problems in an attempt to clarify and improve the relation of the volunteer to the agency. The major problem as seen by this group was the role of agency supervision of trained volunteers. Plans are being made to hold a seminar for agency supervisors.

Homemaker Service

This past decade has seen an increase of approximately 260 percent in the number of homemaker agencies in the state, growing from seven services in 1954 to 18 in 1964. All agencies have directors; 10 full-time and eight part-time. During this year, these 18 services, functioning in 15 counties and covering about 90 percent of the state's population, provided 627,359 hours of service to 5,290 patients, an increase of 20 percent over the previous year in hours of service. Eighty-six percent of the total yearly expenditures of $1,102,000 was paid for through fees collected from the client or his agent. Despite this high percentage of earned income, there is need for more adequate financial support. Much more needs to be done to make these services available to those who cannot pay full or partial cost.

In 1964, 717 persons were discharged from hospitals because of the availability of homemaker service, and institutionalization was avoided in an additional 799 cases. Employment or school absenteeism was prevented in 2,592 instances.

Significant progress was made this year in extending homemaker services in New Jersey through the establishment of two new agencies and through broadening the scope of services provided by the homemaker. Early in 1965, the Visiting Homemaker Service of Sussex County and the Visiting Homemaker Service of Salem County will make homemaker services available to residents of those counties. In addition, the duties which may be performed by a homemaker have been increased so that now the term "Homemaker" in New Jersey is synonymous with the term "Home Health Aide" as used in the Federal Medical Aid to the Aged legislation.

275 homemakers attended the 15 training courses held in 1964 under the auspices of the Extension Division of Rutgers—the State University and subsidized by this Division. The two thousandth homemaker to be trained since the inception of these courses 11 years ago received her certificate in December. A more comprehensive and up-to-date edition of the Training Course Manual will be printed in 1965.

126 applications for service were received in the Resident Homemaker Project being carried on by Chr-Ill Service, Inc., East Orange. Eighty, or 63 percent, of these applicants were served: 61 receiving long-hour service and 19, live-in service. In 39 percent of the 46 cases which were not served, homemaker service was not considered the appropriate discipline.

Nursing

Assistance to visiting nurse agencies was continued to strengthen and upgrade nursing services to the chronically ill and aged. The North Hudson Public Health Nursing Service, serving Guttenberg, North Bergen, Secaucus, Weehawken, and West New York, provided 1,787 visits to chronically ill patients during the year. In Sussex County, the chronically ill received 1,480 visits in 1964.

Physical Therapy

189 patients were served during the year in the demonstration project utilizing consultant physical therapy services in four visiting nurse agencies. These programs make possible the extension of nursing care to prevent deformity and disability and to promote rehabilitation of the chronically ill and aged.

The diagnostic classifications of these patients were: heart and circulatory disease—43 percent; diseases of the bones—13 percent; accidents and injuries —12 percent; diseases of the nervous system—12 percent; congenital malformations—3 percent; cancer—3 percent; other—14 percent.

Professional Education

This Division has continued to work with the Academy of Medicine of New Jersey in furthering the program of life-time education for physicians. Grant-in-aid assistance was provided to expand and further strengthen the library services of the Academy to include mail service for members and non-members of the Academy. 11,050 pages of photocopies of library materials were supplied from November 1, 1963 through April 15, 1964 to this Department, executive offices of the Academy, and other libraries in lieu of inter-library loans, thus enabling the library to fill such requests without materials of special value or frequent use becoming unavailable. 156 mail requests were received ranging from requests for single-page items to multi-orders for articles or small portions of books. This service has been publicized in publications of the Academy of Medicine, the state medical and dental journals, notices to hospitals, drug companies, and other commercial firms.

The postgraduate training course for physicians held at St. Michael's Hospital, Newark, has been continued; and symposia on selected subjects of chronic illness have been co-sponsored.

Social Work

Assistance in the developmental and training project in medical social work carried out through the Graduate School of Social Work of Rutgers—the State University has been continued. This project was initiated several years ago because of the concern with the lag in professional social service development in local hospitals' limited opportunities for health and medical care learning in field and classroom, the acute shortage of professionally trained personnel, and the future service needs of the state with changing patterns of medical care and increasing problems of chronic illness.

Through this program, selected hospitals have been approached regarding a supervisory position in social service which entails half-time devoted to field instruction of two students of the Rutgers Graduate School of Social Work and half-time devoted to staff supervision of newly employed caseworkers to assure certification and staff development. The salary for this position is shared equally by the School and the hospital for a two-year period. Under this cooperative plan, two students have been in field placement at the Hospital Center at Orange for the past two years; the Veterans Administration has

accepted two students each year; and one student is currently in placement at Magee Rehabilitation Center in Philadelphia.

It is anticipated that for the 1965-1966 academic year, additional placements will be available at Veterans Administration. In addition, three hospital settings in Philadelphia have offered to take students in field placement; and Mountainside Hospital, Montclair, has expressed interest in the project and should be able to accept two students next year. Other hospitals under consideration for this developmental program are Cooper Hospital, Camden; St. Peter's Hospital, New Brunswick; and Newark Beth Israel Hospital.

The Summer Experience in Social Work Program, planned to aid in the recruitment of scarce health personnel by making it possible for undergraduate students who are interested in and who have a good potential for becoming social workers to spend the summer months working in social agencies, was assisted by this Division again this year. Of the 181 applications received, 70 students, or 39 percent, representing 45 different universities, were placed in 20 participating agencies.

Diabetes, Endocrine, and Metabolic Disorders

Case-Finding Activities

The Twelfth Annual State-Wide Diabetes Detection Week was observed from November 15 to 21, 1964 and was jointly sponsored by the New Jersey Diabetes Association, the Medical Society of New Jersey, the New Jersey State Department of Health, the New Jersey Association of Osteopathic Physicians and Surgeons, and many local health departments. Approximately 24,300 blood samples were tested; this represents an increase of some 10,000 over the previous year, with a marked increase in suspects. All techniques of community education, including radio, television, newspaper and periodical publicity were utilized. Details of test results follow:

No. Tested	*Positive*	*New*	*Potential*	*Known*	*Not* Diabetic*	*Follow-up Incomplete*
24,263	999	51	55	75	148	670

* Screened positive but later diagnosed negative on retests by physician.

Figures also include Diabetes Detection Week participation by "centers," and follow-up is, therefore, far from complete at this time.

Table 1. YEAR-ROUND DIABETES SCREENING PROGRAMS

Site	Number Tested	Positive	New	Potential	Known	Not* Diabetic	Follow-up Incomplete	% of Positive	% New Cases
Middlesex General Hospital	5,498	75	16	6	19	17	17	1.4%	0.29%
Cape May County Health Department	1,990	328	48	18	85	81	151	16.4%	2.16%
Cooper Hospital	4,554	145	14	7	19	4	101	3.2%	0.31%
East Orange Health Department	1,921	208	34	17	18	96	48	1.0%	1.78%
Newcomb Hospital	3,471	113	53	10	23	28	1	3.3%	1.52%
Morristown Memorial Hospital	4,280	123	20	2	16	53	32	2.8%	0.47%
Long Branch PHN Association	28	7	...	1	1	5	...	24.1%	...
Millburn Health Department	160	2	...	...	...	2	...	1.3%	...
Edison Health Department	174	9	3	1	2	1	2	5.1%	1.72%
Kate Macy Ladd Convalescent Home	109	1	...	1	...	...	...	0.91%	...
Hoboken Nursing Center	814	31	...	13	1	...	17	3.80%	...
Woodbridge Township Health Department	666	19	...	...	...	...	19	2.88%	...

* Screened positive but later diagnosed negative on retests by physician.

Figures also include Diabetes Detection Week participation by "centers," and follow-up is, therefore, far from complete at this time.

Table 2. SHORT-TERM DIABETES SCREENING PROJECTS

	Number Tested	Positive	New	Potential	Known	Not* Diabetic	Follow-up Incomplete
Rancocas Valley Health Fair	1,065	86	Follow-up by personnel of hospital.				
Washington Borough and Township	199	22	4	...	1	11	6
Camden County Health and Well Fair	720		42% relatives of known diabetics—follow-up to be compleetd by Camden County Health Department personnel.				
APHA Annual Meeting	572		Follow-up by United States Public Health Service.				

* Screened positive but later diagnosed negative on retests by physician.

Educational Activities

The film "Diabetes and Its Long Range Control," sponsored by the New Jersey State Department of Health, was shown on 50 occasions during the calendar year 1964. The Utilization and Distribution Section of the National Medical Audiovisual Facility made 60 loans of the film during the same period to a reported attendance of some 1,844 individuals.

A Public Health Field Representative involved in the Training Session held at the request of U. S. Public Health Service for the fiscal year 1963-1964 remained with the Program and assisted the Diabetes Control Program in short-term screening projects and health education projects such as the preparation of educational materials, exhibits, and symposia.

The operational manual, "Your Diabetes Detection Program," prepared as a guide to local diabetes detection activities, attracted considerable interest at a field meeting of the Diabetes and Arthritis Branch of U. S. Public Health Service held in St. Louis, Missouri. Copies were furnished to 15 state health departments.

"Diabetes Control by a Local Health Department" was revised, and approximately 1,000 copies of the new brochure were distributed at the exhibit of the same name by the Diabetes Control Program at the American Public Health Association's Annual Meeting in New York City in October, 1964.

A new brochure, "Diabetes Teaching Aids," prepared by this Program, lists current audio-visual and other media for patient education.

The following symposia and training conferences were held:

"Current Management of Complications in Diabetes Mellitus," Wednesday, May 13, 1964, Princeton, N. J.

"Oral Hypoglycemic Agents," Wednesday, May 19, 1964, Atlantic City, N. J.

"Hyperthyroidism," Wednesday, March 25, 1964, Middlesex General Hospital, New Brunswick, N. J.

"Peripheral Complications of Diabetes Mellitus," Wednesday, October 21, 1964, Newark City Hospital, Newark, N. J.

"The Difficult Diabetic," paper presented at training conference for nurses of Southern and Central Districts, Burlington County Hospital, Mount Holly, N. J.

Innumerable requests for the booklet, "Diabetes and the School Child," were filled, and the supply of the brochure was exhausted. These booklets are used primarily by parents of diabetic children, school nurses, and teachers; and it was thought advisable to have the brochure reprinted. The booklet was

updated and revised slightly, with art work added to make it more attractive; and a reprinting of 10,000 copies was ordered.

Two new pamphlets "Diabetes Runs in Families" and "Your Eyes and Diabetes" were prepared and distributed in large quantities during Diabetes Detection Week. The pamphlet "Overweight?—Check for Diabetes" was revised, and more than 50,000 copies were distributed during Diabetes Detection Week. Numerous requests for non-professional literature for diabetic patients, their families and other interested persons were filled.

The following papers written by the Program personnel were published in 1964:

"Diabetes Detection and the Occupational Health Nurse," Arthur Krosnick, M.D. and Mildred L. Ervin, R.N.; American Association of Industrial Nurses JOURNAL, Sept. 1964, Vol. 12, Issue 9.

"Achilles Tendon Areflexia in Diabetic Patients: An Epidemiological Study," JAMA, Dec. 14, 1964, Vol. 190, No. 11.

"Diabetic Neuropathies," The American Journal of Nursing, July, 1964, Vol. 64, No. 7.

"N. J. Diabetes Control Program Sets Need by Failings," Medical Tribune, New York, Aug. 1-2, 1964 issue. (Republished, with permission, in Public Health News, N. J. State Department of Health, October 1964 issue).

"Diabetes Detection Week," The JOURNAL of the Medical Society of New Jersey, Oct., 1964, Vol. 61, No. 10.

"A Conference on Adjustment Problems in Juvenile Diabetes," Harvey C. Knowles, Jr., M.D., T. S. Danowski, M.D., Arthur Krosnick, M.D., American Diabetes Association JOURNAL, Vol. 13, No. 6, Nov.-Dec., 1964, pages 649-50.

"A Decade of Diabetes Screening in New Jersey," Donald Hustis, New Jersey Association of Osteopathic Physicians and Surgeons JOURNAL, Oct. 1964.

Research and Special Projects

Adjustment Problems in Juvenile Diabetes. This study by the Mercer County Child Guidance Center, with the cooperation of the Diabetes Control Program and financed by a two-year grant of the National Institute of Mental Health, was continued in 1964. Forty diabetic children were evaluated from a medical viewpoint and the psychodynamic aspects. The research workers are currently evaluating a second group of 50 non-diabetic control subjects.

Diabetes and Visual Loss. A five-year evaluation of the records of the New Jersey State Commission for the Blind was completed. Statistical analysis has been finished, and the data are being analyzed for publication.

Diabetes Screening in Prenatal Clinics. Through a grant-in-aid to the Mercer County Component Medical Society, a research project was established at all of the Mercer County prenatal clinics. The project is under the direction of Dr. John Marshall, Chairman of the Medical Society's Diabetes Detection and Education Committee and is being jointly carried forth with the Diabetes Control Program staff. A technician was hired from the grant-in-aid funds. The objectives of the project are as follows:

1. To determine the incidence of abnormal glucose tolerance in patients attending the prenatal clinics of community hospitals.
2. To demonstrate and confirm the usefulness of routine screening of prenatal patients for potential diabetes.
3. To determine the simplest, yet most accurate method of identifying potential diabetes in such a pregnant population.
4. In a community setting, to correlate the presence of abnormal glucose tolerance with the outcome of pregnancy, particularly fetal size and birth weight, fetal abnormality, and fetal loss.
5. To attempt to assess the incidence of overt diabetes developing in this population post partum.
6. By accumulating such data to provide the background information necessary so that a rational decision regarding preventive therapy may be made at some time in the future.

The project is active, and results to date have been very useful.

Evaluation of Vein Artery Ratio in the Bulbar Conjunctiva During Pregnancy. A second phase of the Mercer County Component Medical Society's program in prenatal clinics is an evaluation of the bulbar conjunctival blood vessels during pregnancy. Equipment was provided from the Diabetes and Arthritis Program of U. S. Public Health Service to photograph the bulbar conjunctival blood vessels. This work was recently started and parallels the other phases of the prenatal project.

Programmed Instruction Research Project. Further evaluation of an Automated Teaching Machine Program for the continuation of professional education in diabetes is being carried on through a U. S. Public Health Service contract. This research study was started to evaluate the efficacy of a programmed course entitled *Diabetes—A Review Course,* as compared to conventional methods of instructing physicians and allied medical personnel in

diabetes detection, diagnosis, treatment, and control. A full-time research psychologist and two part-time research assistants are working in this study. Special consultants in testing, programmed learning, and statistics have been employed in the research design, including pre- and post-tests.

Glaucoma Study. A grant-in-aid was issued to the New Jersey College of Medicine, Ophthalmology Division, to conduct a clinical study of the possible relationship of glaucoma and diabetes mellitus. The objectives were to give eye examinations to 100 persons having diabetes, oral glucose tolerance tests on approximately 100 patients with glaucoma, and both oral glucose tolerance tests and tonometry tests on 100 control subjects. This study has not been completed.

Grants-in-Aid

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

A grant-in-aid was provided to Newcomb Hospital for diabetes screening of in-patients, out-patients, and industrial groups.

Diseases of the Nervous System and Special Senses

Education

Two neurological disease symposia were held for nurses. The first was held at the Burlington County Memorial Hospital, Mount Holly on April 9, 1964. The second was held at Fairleigh Dickinson University, Madison, on April 15. These programs were successful, with over 200 nurses participating.

Electroencephalograph Symposium

The Sixth Electroencephalograph Symposium was held at the Hospital of the University of Pennsylvania, Philadelphia on March 25, 1964. Approximately 60 persons, predominantly New Jersey electroencephalograph technicians, attended. This was the first workshop-type symposium offered to electroencephalograph technicians by this program and consisted of the following: a lecture series on "What Are Brain Waves," "The 10-20 Placement System," "Recording and Interpretation of the Electroencephalograph by the Technician," "Electroencephalograph Changes with Maturation from Infancy to Adolescence," and "Preparation and Handling of Infants and Children."

The following demonstrations were held: (a) electrode placement in the 10-20 system, (b) the effect of physiologic responses and innocent movements on the electroencephalograph tracing, (c) the attachment of needle electrodes, (d) the attachment of plate electrodes, (e) the interpretation of the electroencephalograph tracings and recognition of artifacts, (f) the use of the Grass 16-channel electroencephalograph machine, and (g) demonstration of experimental epilepsy in the laboratory animal.

Public Education

Two films on epilepsy, geared for lay viewing and excellent in content for a basic knowledge of epilepsy, have been purchased. Each year, frequent requests are made by students for epilepsy materials to assist them with a term paper. The Program has a variety of materials on neurological diseases in simple lay language available for students and adults.

Expansion of Convulsive Disorder Unit

A Public Health Service Grant received by the New Jersey State Department of Health has enabled the expansion of the New Jersey Consultation Service for Convulsive Disorders now to handle a broader spectrum of neurological referrals. The unit is now called the New Jersey Consultation Service for Neurological Diseases.

The process of expansion covers a five-year period, this being the third year. Progress has been satisfactory in this endeavor, in spite of difficulties in obtaining specialized personnel as initially planned; however, through purchase of services, this handicap has been alleviated. During this year, the greater percentage of referrals consisted of convulsive disorders; yet a sizable number of other conditions are now beginning to be evaluated by the unit. These disorders included brain injuries, coordination problems, headaches, cerebral palsy, speech defects, multiple sclerosis, and possible brain tumor. (See Table 1.)

Problem cases were admitted to the in-patient neurology unit at the New Jersey Neuro-Psychiatric Institute. This in-patient unit provides evaluation and re-evaluation study of more complicated neurological problems.

An epidemiological study is currently being made by this Program and the New Jersey Consultation Service for Neurological Diseases on a family with Huntington's Chorea, a hereditary disease. Information on three generations of this family has been obtained, and methods of interview and examination have been developed. This study is of great interest due to the high percentage of persons affected, the relatively young age of onset of the disease in this family, and the enormous costs to the State of New Jersey in maintaining family members with such nervous and mental disorders.

Jefferson Medical College Neurosensory Survey

The Neurosensory Study of Pennsylvania, Delaware, and southern New Jersey by the Jefferson Medical College was completed this year. The New Jersey aspects of the study were condensed and summarized by the Program Coordinator and have been distributed to institutions, agencies, and individuals directly concerned with the implications of this study. The six southern counties in the state were involved in this study, and a survey of the neurosensory specialists in this area revealed:

There were four neurologists all in full-time private practice in the area. Three were in Camden County, and one was in Atlantic County.

Neuro-surgeons in southern New Jersey present an almost identical picture as that described above for neurology. There were four neuro-surgeons, all in private practice. Two were in Camden County, with one each in Atlantic and Cumberland Counties. There were 30 ophthalmologists reported in January, 1964. All were in full-time, private practice except one who reported himself to be clinic or physician employed. They were located as follows: Atlantic County—four; Camden County—18; Cape May County—two; Cumberland County—three; Gloucester County—two; Salem County—one.

Fourteen southern New Jersey physicians reported themselves as otolaryngologists in full-time, private practice. All of these were certified by the American Board of Otolaryngology. Geographically, they were distributed as follows: Atlantic County—two; Camden County—seven; Cape May County—one; Cumberland County—two; Gloucester County—two.

A review of the neurosensory survey as it related to southern New Jersey revealed:

1. There is a shortage of neurosensory specialists and paramedical personnel.
2. There is a shortage of basic hospital facilities for diagnosis, treatment, and rehabilitation of neurosensory disorders.
3. There are no approved neurosensory residency programs.
4. Several communities are not within immediate reach of basic neurosensory treatment facilities.
5. Rehabilitation services are sorely needed.

Services

Electroencephalograph Machines. An electroencephalograph instrument was purchased this year for loan to Mountainside Hospital, Montclair, making a total of 21 instruments placed in community hospitals by this program. These machines have provided the foundation for an improved neurological unit in these areas and are an important link in the diagnostic chain of neurosensory study. Quarterly reports are made by the participating hospitals, and a summary of the activities for the year 1964 is attached. (See Table 2.)

Table 1. New Jersey Consultation Service for Neurological Diseases Out-Patients Evaluation from January, 1964 Through June, 1964

Areas	January New	January Old	February New	February Old	March New	March Old	Totals
Southern	4	2	7	..	3	1	17
Metropolitan	3	1	10	5	11	2	32
Central	4	2	Cancelled		6	4	16
Northern	9	..	4	3	8	..	24
Totals	20	5	21	8	28	7	89

Areas	April New	April Old	May New	May Old	June New	June Old	Totals
Southern	6	2	2	7	4	1	22
Metropolitan	12	2	16	4	9	3	46
Central	7	..	6	1	6	1	21
Northern	8	..	6	4	5	1	24
Totals	33	4	30	16	24	6	113

Grand Total—202.

Key: .. = None.

Table 2. Report of EEG Services in 21 Hospitals
January 1, 1964 – December 31, 1964

	Number of Patients Examined	Number of EEG Examinations		
		Total	Normal	Abnormal
All Souls Hospital (Morristown)	243	253	178	75
Atlantic City Hospital	295	296	214	82
Burlington County Memorial Hospital (Mount Holly)	332	332	156	176
Clara Maass Memorial Hospital (Belleville)	320	320	199	121
Elizabeth General Hospital	675	690	380	310
Englewood Hospital	309	309	192	117
Fitkin Memorial Hospital (Neptune) (Started 12/64)	5	5	4	1

Table 2. Report of EEG Services in 21 Hospitals—*Continued*
January 1, 1964 – December 31, 1964

	Number of Patients Examined	*Number of EEG Examinations*		
		Total	*Normal*	*Abnormal*
Hunterdon Medical Center (Flemington)	163	163	111	52
Mercer Hospital (Trenton)	641	641	431	210
Middlesex General Hospital (New Brunswick)	324	324	256	68
Monmouth Medical Center (Long Branch)	904	904	510	394
Morristown Memorial Hospital	1,225	1,225	600	625
Mountainside Hospital (Montclair) (Started 11/54)	44	44	21	23
Paterson General Hospital	1,312	1,328	645	683
Perth Amboy General Hospital	690	690	589	101
Princeton Hospital	285	285	192	93
Presbyterian Unit Hospital (Newark)	368	368	212	156
St. Elizabeth Hospital (Elizabeth)	309	314	161	153
St. Francis Hospital (Trenton)	349	357	204	153
St. Mary's Hospital (Hoboken)	260	260	197	63
Salem County Memorial Hospital	55	55	13	42
Total	9,108	9,163	5,465	3,698

Heart and Circulatory Diseases

Stroke Projects

Four previously established stroke projects admitted 236 new cerebrovascular accident patients to service this year. This brings the total number of patients accepted in the stroke projects to 661 since the inception of the first project which began in Camden County, July 1, 1961.

The Camden County Project based at Cooper Hospital continues to be the largest project, having accepted 124 new patients this year, and has an average case load of 120 patients. Services after discharge are given on an out-patient basis, except for service of visiting nurses and home physical therapy in a few selected cases.

The Atlantic City Project, initiated May 1, 1962, is the only community based project. It is primarily administered by the Atlantic City Visiting Nurse Association. Although the evaluation clinic is held at Atlantic City Hospital and a few cases have been referred from the hospital, the patients are still primarily referred by the community physicians for home care. Thirty-nine new patients were accepted to the project this year with an average case load of 35 patients.

The East Orange Hospital Stroke Project, operating since July 1, 1963, has admitted a total of 57 patients, 37 this year. This project is primarily hospital oriented, and an attempt is made to have patients become independent in the activities of daily living before they leave the hospital. This project, the only one of the four, was set up to offer exact diagnosis and treatment for the underlying etiological condition as well as restoration following the cerebrovascular accident.

The Presbyterian Hospital Stroke Project initiated September 1, 1963, has admitted a total of 40 patients, 33 this year. This project was established to help improve continuity of restorative care between a hospital and rehabilitation institute. The 18 patients sent home received care from visiting nurse agencies and through other out-patient referrals.

A summary of the results of these four projects in 1964 shows that an average of 60 percent of the patients are discharged to their own homes. Approximately 25 percent die, with the remainder being sent to nursing homes or other chronic disease institutions. A very small number are admitted to mental institutions or rehabilitation centers. Early planning for discharge of these patients has made it possible to send many patients home. This would not have been possible before the projects were initiated. However, this compounds the problem of providing continuous restorative care either in the patient's own home or on an out-patient basis.

Although the situation is improving, all of the four projects need to be improved in order to assist cerebrovascular accident patients to be independent in the activities of daily living. A lack of trained and understanding personnel to provide such services continues to be a problem. It is estimated that only about seven percent of the total case load of cerebrovascular accident patients are suitable for vocational rehabilitation.

Plans to improve the independent living aspects of these projects for the coming year are:

1. To distribute sets of Activities of Daily Living help devices to the projects and encourage educational programs for personnel in their use.
2. To improve out-patient facilities; as an example, a nursing home in Atlantic City has offered to provide space for out-patient group classes where cerebrovascular accident patients from the community can be taught by the visiting nurse and physical therapist.
3. To attempt to widen the coverage of visiting physical therapy and nursing services for patients in the Camden project.

Secondary prevention and restoration continue to be the goals of these projects, but new emphasis is being placed upon the primary prevention of cerebrovascular accidents. A transient ischemic attack program was added to the Camden County Stroke Project at the end of the year. A team of physicians will screen patients presenting any attack symptoms, recommend and carry out treatment, either medical or surgical as indicated. The project is still in the organizational stage, although several patients have been accepted for care.

Two new stroke projects were started this year. A project at Bayonne Hospital began to accept patients October 1, 1964. Twenty-two patients had been referred as of the end of the year. This project is planned to provide comprehensive diagnosis, treatment, and restorative care. At the present time, the team consists of a physiatrist, the family physician, hospital nurses, visiting nurses, and the physical therapist, with plans to add additional team members as they become available. The community, both medical and lay, is very enthusiastic about this new service.

The second new project is with the Cape May County Health Department, working in cooperation with the County Heart Association and Burdette Tomlin Hospital. Due to difficulty in recruiting personnel, the project did not begin officially until December 1, 1964, when both a physiatrist and physical therapist were employed. No patients have been accepted as of the end of this year.

Consultation and financial assistance were given to a proposed stroke project co-sponsored by the Union County Heart Association based at Overlook Hospital in Summit. Preliminary educational programs for physicians and nurses were held and personnel recruited for the project, but no patients had been accepted as of the end of 1964.

Preliminary meetings were held with local and Public Health Service personnel regarding a proposed comprehensive preventive and restorative stroke project for the north Jersey area.

Congestive Heart Failure Project

In the summer of 1964, a contract was signed with St. Peter's Hospital, New Brunswick, to provide comprehensive care and follow-up of patients with congestive heart failure. It is known that such individuals are often readmitted to hospitals, perhaps several times a year, because of decompensation. This frequently occurs because the patients fail to adhere to their diets or discontinue medication. It is hoped that with this approach, these recurrences and hospital re-admissions will be reduced.

The charts of all patients attending the cardiac clinic at St. Peter's Hospital were reviewed; and 25 patients, each of whom had congestive heart failure,

were accepted for admission to this project. Upon admission, patients are seen by each member of the team consisting of several physicians, a medical social worker, public health nurses, a nutritionist, and a health educator. The patient is then conferenced by the team and specific recommendations made. At the end of six weeks, he is re-conferenced to evaluate the recommendations and to set new goals if so indicated. Laboratory tests done in connection with this project include a blood count, urinalysis, blood electrolyte determination, a chest x ray and electrocardiogram.

To date, 29 patients have been admitted to this project. An additional 10 have been medically accepted and will be admitted in the near future. The plan envisions a total of 50 patients by June, 1965.

Other patients with congestive heart failure are being seen in the Trenton area to serve as controls for the study group. Plans are being formulated to obtain other control patients in the Camden area. It is hoped that similar programs will be started in other hospitals throughout the state.

The health educator was part of the planning group for the formulation of this project. He was particularly responsible for the evolving of the educational diagnosis sheet and education prescription form.

Nutrition teaching is provided by the Middlesex County Community Diet Counseling Service. Patients in the hospital are visited by the hospital dietitian who supervises their therapeutic diets. A diet history for each patient is taken by the diet counselor. When the patient is conferenced, the physician prescribes the appropriate diet based on the following information:

a. Sodium and calorie content of the diet from the history.
b. Sodium content of a 24-hour urine specimen.
c. Sodium content of the recall diet during the same 24-hour period.
d. Other medical complications; e.g., overweight, diabetes, edema, kidney involvement, etc.

Three levels of dietary sodium intake have been adopted as standard for this project: low sodium diet (500-800 mg); moderate sodium restriction (1,000-1,400 mg); mild sodium restriction (2,400-4,500 mg). Diet histories, 24-hour urine specimens, and 24-hour recall diet records are obtained for the control patients.

The Social Work Consultant on loan to this Department from the Public Health Service has provided consultation to the medical social worker, the project coordinator, and has aided in the development of data collection forms for the project. An attitudes and knowledge questionnaire which was pretested by congestive heart failure patients at St. Luke's Hospital, New York,

and Mercer Hospital, Trenton, is being administered to all patients on the project and will be administered to all controls.

Nursing consultation and assistance were given to the project in the initial involvement of the visiting nurse into the project operation.

Closed Chest Cardiac Resuscitation

A course in cardiopulmonary resuscitation for physicians was started at the New Jersey College of Medicine and Dentistry. This one-day course offers the techniques of mouth-to-mouth and mouth-to-nose artificial respiration, closed and open heart massage, and electrical defibrillation. In addition, there are discussions on the etiology of cardiac arrest, hospital organization of a cardiopulmonary resuscitation team and practice of the technique on the mannequin (Resusci-Anne) and dogs.

The public health physician and health educator were instrumental in formulating the training session, patterned after the session at the Johns Hopkins Hospital, Baltimore, under the direction of Doctor James Jude and associates, and for establishing evaluative criteria for the training program of rescue squad personnel. Educational criteria were also established for the physician's training sessions. A manual for instructors has been developed. These physicians sponsor training programs in their respective hospitals. Criteria have been adhered to in almost all of the training programs with which we are associated.

In addition to continuing and improving the present program, plans include training of dentists and nurses. During the year, approximately 300 physicians have been trained, and 60 nurses in the Northern District were trained in the technique of cardiopulmonary resuscitation.

Rheumatic Fever Projects

Encouragement of a close-working relationship with the State Heart Association to bring about an interagency evaluation committee is continuing. Two county heart association chapters requested and received consultation for their ongoing programs; one was completely reorganized; the second carried on a full evaluation of its own program. The survey was done by a medical student supported by this Department.

Atherosclerotic Heart Disease

The major demonstration and research project in prevention of secondary effects of arteriosclerotic heart disease, which is one of the major causes of death, has become recognized as an important study. The project, conducted at the Anti-Coronary Club at St. Vincent's Hospital, Montclair, is in its fifth

year of operation and is being financed with a seven-year grant from the Public Health Service, together with substantial assistance from this Program. Scientific information is being accumulated on the 150 patients studied to date. An additional series of patients secured from private industry has been studied to serve as controls. Dietary evaluation, physical examination, including electrocardiogram, X-ray blood electrolytes, and detailed lipid profiles, have been done at regular intervals.

Studies of the dietary management failure in the project and evaluation of the stress reactive profile are being done in cooperation with Rutgers—the State University.

The study of the effectiveness of commercially prepared frozen foods high in polyunsaturated fat, as a means of investigating significant difference in cholesterol lowering among 85 members of the Anti-Coronary Club, has been completed; results are being evaluated.

As a means of promoting individual patient referral and stimulating the cooperation of physicians, diet counseling services have been promoted with Douglass College of Rutgers—the State University and programs with county medical societies encouraged.

Other Special Projects

Consultation services for better medical care of cardiac patients in clinics in a rural area have been made available. Approximately 50 patients received such services at the Bridgeton General Hospital in Bridgeton.

The services of a cardiovascular physiologist have been financed by contract with this Department for St. Michael's Hospital, Newark, and Hospital Center at Orange. These services promote improved medical management for cardiac patients in clinics.

Educational Activities

The Department cooperated with the Academy of Medicine of New Jersey and St. Michael's Hospital, Newark, in the promotion of courses for physicians, internes, and residents on heart and circulatory diseases. Two courses were held with a total of 44 participants.

The Program cooperated with the Mercer County Component Medical Society and the Medical Society of New Jersey in the promotion of educational programs for physicians. Doctor Jeremiah Stamler and members of the staff addressed the combined membership of the Mercer County Medical Society, Heart Association, and Academy of General Practice on the subject, "Coronary Heart Disease and Nutritional Management."

The director of the Anti-Coronary study group addressed the Medical School Class in Public Health of the New Jersey College of Medicine on the subject of "Epidemiology of Coronary Heart Disease and the Anti-Coronary Club."

The Public Health Nurse Consultant assisted in plans for a one-day symposium for nurses on rheumatic fever control, sponsored jointly by the New Jersey League for Nursing, the New Jersey Heart Association, and the New Jersey State Department of Health. Approximately 325 nurses attended.

The Public Health Nurse Consultant assisted in planning, organizing and carrying out two county-wide educational programs for nurses in stroke prevention and restoration in Sussex and Somerset Counties.

The Public Health Nurse Consultant demonstrated the self-help device equipment found useful for stroke patients for a number of hospitals and public health nurse groups throughout the year. The equipment is presently being constructed in 15 unit groups by the Goodwill Industries of southern New Jersey. Plans are to distribute the self-help device units when completed to stroke projects so that educational programs in activities of daily living can be built around them.

Educational materials on stroke prevention, rehabilitation, and heart and circulatory diseases were widely distributed. The pamphlet, "Strike Back at Stroke," was requested by many physicians, hospitals, and nursing homes throughout the state.

In cooperation with the Public Health Nursing Program, members of the nutrition staff presented a series of in-service education programs for public health nurses in the state. Each program was given four times, once in each District. The nutritionist in the Heart Program presented programs on weight control and food fads, with appropriate bibliographies, posters, and kits of educational materials.

The New Jersey Diet Manual is in the process of being revised. Copies of the current issue have been distributed upon request to physicians, nutritionists, hospitals, and other interested agencies.

Diet pads on bland diets, low calorie diets, fat restricted 1,800 and 2,600, have been distributed to physicians and to lay persons upon referral, in a total of 730 copies.

A successful exhibit of cardiac resuscitation was held at the annual meeting of the Medical Society of New Jersey in Atlantic City.

Restorative Services Program

The Restorative Services Program has participated in home care programs with five medical facilities within the state through grants-in-aid to the extent of approximately $131,790 during 1964. Through these programs, approximately 350 persons have had the benefit of this service, constituting 31,630 days of program care with 12,703 days of program service.

Broken down by service provided, this constitutes 1,418 physician visits, 1,176 visits on behalf of medical social services, 6,037 physical therapy services, 2,200 occupational therapy treatments, 247 speech therapy services, 3,586 visiting nursing services, and 1,046 hours of homemaker services.

In addition to the aforementioned and through three restorative nursing consultants employed by the Department, 15 nursing homes and one state hospital were afforded in-service education and training programs on a one-day-a-week basis for 10 consecutive weeks each.

Through this service, 58 patients received direct care on a demonstrative basis with benefit afforded some 3,000, as the census in the aforementioned facilities.

Through contracts with three visiting nurse associations, similar programs were provided to five nursing homes and one hospital. Twenty-eight patients received direct care through this service to the benefit of 450 patients in these facilities.

A one-week education and training program was carried out in a county setup with personnel from two nursing homes and a general hospital participating.

The Program also afforded the training of three nurses from larger nursing homes and home care projects through courses in rehabilitative nursing at the Institute of Physical Medicine and Rehabilitation, New York City.

Numerous demonstrations and presentations were made throughout the state by program consultants in the use of the Activities of Daily Living Bag and restorative nursing techniques.

Division of Constructive Health

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

Crippled Children's Program	CURTIS F. CULP, M.D., M.S. *Program Coordinator*
Dental Health Program	DAVID R. WALLACE, D.D.S., M.P.H. *Program Coordinator*
Maternal and Child Health Program	CURTIS F. CULP, M.D., M.S. *Acting Program Coordinator*

Division of Constructive Health

Crippled Children's Program

General Statement

The objective of the Crippled Children's 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 23,724 children registered with the Program at the end of 1964. Of this number 9,198 received services.

Hospitalization and Convalescent Care

The Program assisted in underwriting 19,229 hospital bed days and 30,503 convalescent bed days for 827 children, with the total expenditure of $597,788.

During 1964, we participated in 33 New Jersey hospitals, six New York City hospitals and three Philadelphia hospitals. We cooperated with six canvalescent centers in New Jersey and one in New York.

Prosthetic Devices, Bracing and Appliances

Such services were provided for 968 children at a total cost of $164,984.

We participated with 40 vendors in New Jersey and with 16 out-of-state vendors of appliances.

Nursing Services

The Program cooperated with 35 local public health or visiting nursing agencies throughout the state, contracting for 10,336 visits in the amount of $48,681.88. In addition to the above, the Program provided consultation nursing services to all nursing agencies working with the Program.

Table 1. Special Projects

Project	*Number of Facilities Providing Service*	*Number of Services*
Amputee	1	15 evaluations
Asthma	1	11 evaluations
Cardiac	5	19 evaluations
Cleft Palate	2	14 evaluations
Cystic Fibrosis	4	15 evaluations
Hearing and Speech Evaluations	6	240 evaluations
Hearing and Speech Therapy	6	4,576 treatments
Neonatal	1	254 days
Physical Therapy	4	1,505 treatments

In cooperation with the Dental Health Program, orthodontic services were provided to the extent of 26 evaluations in three facilities. Dental restorative services were also provided.

Table 2. Case Number and Payment of Hospital, Convalescent Home and Appliance Services for Period 1/1/64—12/31/64

Hospital, Convalescent Care—Total Number of Children		827
Total Bed Days		49,732
Hospital		
Number of children receiving hospital services		629
Number of bed days		19,229
Convalescent Care		
Number of children receiving convalescent services		198
Number of bed days		30,503
Payment of Bed Days (Hospital and Convalescent Home)		
Total		$597,788
State and Federal Funds	$293,548	
County Boards of Chosen Freeholders	270,866	
Others	33,374	
Appliances—Total Number of Children		968
Total Number Purchased		1,897
Total Payments		$164,984
State and Federal Funds	$77,618	
County Boards of Chosen Freeholders	75,285	
Others	12,081	

Table 3.

Period Covered—January 1, 1964—December 31, 1964

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

Services	*Number of Children*	*Number of Visits or Days*
Clinic	10,601	19,800 Visits
Hospital	629	19,229 Days
Convalescent	198	30,503 Days
Duplicated Count of Children and Services	11,428	69,532 Units
Unduplicated Count of Children	9,198	

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

Total Number of Children 9,198

County	*Number of Children*	*County*	*Number of Children*
Atlantic	116	Middlesex	575
Bergen	806	Monmouth	277
Burlington	372	Morris	447
Camden	479	Ocean	104
Cape May	33	Passaic	203
Cumberland	74	Salem	42
Essex	2,863	Somerset	277
Gloucester	224	Sussex	94
Hudson	756	Union	776
Hunterdon	115	Warren	71
Mercer	492	Military	2

In providing the aforementioned services, the Program participated in the coverage of 82 specific diagnostic categories.

Dental Health Program

Introduction

In addition to the traditional role of promoting better dental health for children, the State Dental Health Program must assume responsibility in assuring better dental health for special groups and for the most effective use of the manpower available to provide dental services.

The Dental Health Program in New Jersey has assumed this role in providing programs for special groups within the accepted criteria of a state dental program; namely that of dental health education, prevention, treatment, and research.

The Dental Health Program has explored methods of providing services for school drop-outs and providing dental health education and treatment services for the migrant population, as well as acting in its traditional role of promoting better dental health among the entire child population.

We have successfully completed our first year of training dental public health residents and have had our program of training evaluated and accepted by the Dental Health Center in San Francisco. A second dental public health resident is in training and we are looking forward to carrying on with a new resident each year.

Dental Health Education and Prevention

During the year, the Dental Health Program participated on an Inter-departmental Committee which was setup to survey the activities relative to dental health education in the public school systems in New Jersey. This committee has met and made preliminary plans for carrying out its study.

A new emphasis was placed on the health education aspects of the Migrant Program this year when the services of a dental hygienist trainee from Columbia University was made available to plan and conduct the over-all dental health education activities in the schools with the migrant children. (Table 6.)

Dental health education programs were presented to the nurses at Trenton State Teachers College who were receiving a college education so that dental health education would become an integral aspect of their total health education program.

The Dental Health Program has sponsored six courses in Oral Cytology for 287 dentists in New Jersey to apprise them of the new techniques in oral cytology and also has provided a mechanism whereby the oral smears can be analyzed.

At Seton Hall College of Dentistry, a course was provided for dentists on the care of handicapped children. This is one of a number of continuing courses on this subject which has been conducted in the past few years. Techniques for care of these children were presented as a part of this course.

The continuity of the Pre-school Dental Inspection Program has stimulated interest in many communities. During the past year, inspections were conducted in six counties, namely: Camden, Gloucester, Ocean, Passaic, and Warren. Instructions in good dental health practices were given to both the child and parent at the pre-school dental inspections. (Table 3, also see Table 4 for a five-year comparison.)

The Dental Health Program has continued its activities in the field of promotion of fluoridation by planning and conducting meetings in various communities so as to provide the correct information on this public health measure.

Dental Treatment

Dental treatment services for school children were conducted by the Dental Health Program in 18 counties, using the services of 65 dentists in private offices, 20 dentists in dental clinics, eight dentists in mobile clinics and trailers, and two dentists in an educational program in Phillipsburg. (Table 1, also see Table 2 for a five-year comparison.)

The Dental Health Program and the Crippled Children's Program have continued to provide dental services for handicapped children at All Souls' Hospital, Morristown; Cooper Hospital, Camden; Monmouth Medical Center, and Warren Hospital. This program has included provision of orthodontic treatment, as well as all other necessary dental services for the crippled child.

In the Migrant Health Program, treatment was provided in Cedarville and Rosenhayn in Cumberland County, Cranbury in Middlesex County, Freehold in Monmouth County, and Woodstown in Salem County. (Table 5.)

Dental services were provided for school drop-outs in a cooperative program with the Crippled Children's Program and the Metropolitan State Health District. These services were in addition to other medical services and counseling services provided for each of the patients so as to make them more eligible for employment or return to school.

Portable dental equipment was loaned to Union Beach due to the fact that a fire destroyed their dental clinic.

Research

The Dental Health Program participated in a cooperative dental survey in communities which have the fluoride content of their water supplies adjusted to the optimum level. One of these surveys was held at Atlantic City where they have had fluoridation for five years. Another survey was conducted in Monmouth County where a number of communities have had fluoridation for 10 years.

Previous to adjusting the fluoride content of the water supply in Trenton, a pre-fluoridation survey was conducted so that a base-line can be established for future studies.

Another survey was conducted in several communities in southern New Jersey where the water supply is naturally fluoridated and these communities were compared with non-fluoridated communities so that the benefits of continuous use of fluorides can be demonstrated.

The final results of the Easton, Pennsylvania-Phillipsburg, New Jersey Study were published in the *Journal of the American Dental Association* and *Public Health News*.

As a part of the study being conducted by the Sociology Department of Rutgers—the State University, a bibliography of reference material has been assembled and the questionnaires for this study have been printed and distributed.

The Dental Health Resident who completed her assignment with the Dental Health Program has provided us with a research file on the availability of dental services in Atlantic City. The present Dental Health Resident is doing research on communications of physicians and dentists relative to patient care.

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 and educational program for the children of migrant laborers and migrant workers.

The Dental Health Program cooperated with the Cancer Control Program in courses on "Cancer Detection (with an introduction to oral cytology techniques)." The courses were attended by dentists.

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

The Dental Health Program cooperated with Rutgers—the State University and Seton Hall College of Dentistry in providing courses in areas of special interest in dental health.

Statistical Data

(Tables 1, 2, 3, 4, 5, and 6 follow.)

Table 1. TREATMENT PROGRAM STATISTICAL DATA

January 1, 1964 to December 31, 1964

Program 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 Completed Cases
Atlantic	1947	Tr.	1	5	524	884	1,475	3,815	174	121	70
Bergen	1943	P. O.	8	8	222	975	411	793	82	70	85
North Arlington	1940	Cl.	1	1	524	1,891	2,492	1,294	228	200	87
Rutherford	1945	Cl.	1	1	167	2,849	194	680	52	44	85
Burlington	1962	P. O.	4	7	176	1,804	865	1,059	224	88	39
Burlington City	1948	Cl.	2	1	156	241	447	1,005	77	83	43
Camden	1948	Tr.	1	10	615	8,467	877	2,759	902	443	49
Lawnside	1944	P. O.	1	1	25	19	44	159	20	11	55
Cape May	1958	P. O.	7	10	375	422	618	1,816	263	115	44
Cumberland	1955	Tr.	1	9	882	1,881	1,846	1,481	998	458	46
Essex—Bloomfield-Montclair	1964	Cl.	2	2	462	811	808	3,466	184	86	47
Orange—Parochial	1944	Cl.	2	1	505	183	1,078	3,348	281	135	48
Orange—Public	1964	Cl.	2	1	158	2,826	67	96	56	0	0
Gloucester	1947	Mo. Cl.	1	11	665	9,082	942	1,659	475	331	70
Hunterdon	1940	Cl.	1	16	886	582	770	650	646	198	30
Middlesex	1942	P. O.	4	4	263	1,222	485	878	142	54	38
Edison Township	1963	Cl.	1	1	90	79	210	407	79	0	0
Kiddie Keep-Well Camp	1942	Cl.	1	1	198	804	525	679	281	97	35
Monmouth	1941	P. O.	10	10	505	2,703	969	2,424	345	182	53
Matawan	1945	Cl.	3	1	222	104	435	828	104	89	86
Union Beach	1946	Cl.	1	1	120	1,246	223	339	70	23	33
Collier Foundation	1945	Cl.	1	1	54	39	91	170	39	18	46
Morris	1948	P. O.	18	29	1,258	652	2,889	5,650	652	475	73
Ocean	1944	P. O.	6	4	274	185	489	1,871	181	86	48
Trailer	1946	Tr.	2	16	708	486	1,426	4,780	486	300	69
Passaic	1962	P. O.	3	8	335	2,623	296	866	118	2	0
Bloomingdale	1944	Cl.	1	1	148	92	297	576	104	9	9
Salem	1955	Cl.	1	11	75	184	141	434	184	0	0
Somerset	1942	Tr.	1	9	966	12,627	714	1,505	511	244	48
Sussex	1942	P. O.	9	15	701	848	1,087	3,144	848	250	72
Warren	1947	Tr.	1	7	926	807	1,292	3,716	807	182	43
Phillipsburg	1954	Ed.	2	1	483	....	....	....	....	....	..
TOTALS (18 Counties)			95	194	13,058	49,968	22,953	51,297	8,563	4,289	50

* 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; Ed.—Educational Program.

Table 2. Dental Treatment Program

Year	Number of Dentists	School Districts	Number of Examinations	Number of Children Treated	Percentage of Completed Cases	Number Extractions Permanent Teeth Per 100 Children Treated	Number of Operations Per 100 Children Treated
1959-60	86	217	37,588	7,114	63	20	658
1960-61	91	194	39,990	7,341	62	23	706
1961-62* ...	91	199	74,944	10,130	56	..	..
1963	92	185	42,537	7,070	57	17	680
1964	95	194	49,968	8,563	50	14	592

*July 1, 1961 to December 31, 1962 (18-month report)

Table 3. Pre-School Dental Inspection Program

Counties	Number of School Districts	Number Examined	Number Requiring Treatment	Percent Requiring Treatment	Number of d e f Per Child	Number of Dentists
Bergen	1	135	47	34	1.9	1
Camden	11	1,160	572	49	2.7	1
Gloucester	16	1,404	586	42	2.2	15
Ocean	7	482	236	49	2.6	4
Passaic	7	2,579	1,241	48	3.1	11
Warren	21	793	443	56	3.1	11

Camden, Ocean, Passaic, and Warren Counties conducted the above inspections during the spring and fall of 1964.

Bergen and Gloucester Counties conducted the above inspections during the spring of 1964.

Table 4. Pre-School Dental Inspection Program

Year	Number of Counties	Number of School Districts	Number of Examinations	Number Requiring Treatment	Percent Requiring Treatment	Number of d e f Per Child	Number of Dentists
1960	2	42	2,733	1,423	52	2.9	29
1961	4	47	3,041	1,673	55	3.1	31
1962	5	62	5,232	2,562	49	2.8	39
1963	5	56	4,944	2,386	48	2.7	34
1964	6	63	6,553	3,125	48	2.8	43

Table 5. Migrant Dental Treatment Program for Children of Migrant Workers
July 1, 1964 to August 31, 1964

	Cumberland County Cedarville	Cumberland County Rosenhayn	Middlesex County Cranbury	Monmouth County Freehold	Salem County Woodstown	Totals
Number of Dentists	1	(1)*	2	(1)*	1	4
Number of Examinations	84	78	88	63	99	412
Number of Visits	166	167	256	77	184	850
Number of Extractions—Permanent	..	3	6	4	2	15
—Deciduous	19	38	29	5	17	108
Number of Fillings—Amalgam	5	9	126	10	85	235
—Others	..	..	12	15	8	35
Number of Temporary Fillings	..	..	28	..	6	34
Number of Linings	..	2	96	2	79	179
Number of Prophylaxis	71	70	79	55	125	400
Numberof Fluoride Treatments	71	69	130	..	25	295
Number of Children Treated	84	78	88	63	99	412
Number of Cases Completed	30	36	61	..	22	149
Percentage of Completed Cases	35.7	46.1	69.3	..	22.2	36.1

*Same dentist worked in two counties or communities.

Funds Allotted—

Four Participating Dentists	$6,800.00
Four Dental Assistants	$1,497.60
Cost of Dental Supplies and Dental Equipment ...	$3,546.32
Three Field Representatives (Dental Educators)..	$2,394.27

Dental Equipment used as follows:

Portable Dental Units, Amalgamators,
Portable Dental Chairs, Sterilizers,
Headrests, Goose-neck Lights.

Table 6. MIGRANT DENTAL TREATMENT AND EDUCATIONAL PROGRAM FOR CHILDREN OF MIGRANT WORKERS—1964

Four dentists and four dental assistants were utilized in the Migrant Dental Treatment Program in the following:

Schools	*Community*	*County*
Cranbury	Cranbury	Middlesex
Bible School	Freehold	Monmouth
Cedarville	Cedarville	Cumberland
Rosenhayn	Deerfield Township	Cumberland
Mary Shoemaker	Woodstown	Salem

Three dental educators were utilized in the Dental Educational Program in the following:

One educator—Cranbury School
Bible School

One educator—Mary Shoemaker School

One educator—Cedarville School
Rosenhayn School
Mary Shoemaker School
Bible School

Maternal and Child Health Program

In conformity with the assigned responsibilities of the Maternal and Child Health Program and the ascribed objectives; namely, prevention, early detection, diagnostic evaluation with planned programming and case registration, the following activities and services have been afforded during 1964:

PKU Testing of Newborn

In follow-up of our participation in the Guthrie Study for the PKU testing of newborns, the Program continued this service and opened the Program to hospitals throughout the state. At the end of 1964, 42 hospitals were participating, covering an estimated number of newborns to the extent of 64,458. During 1964, approximately 36,577 such tests were done.

Phenylalanine Program: In follow-up of the PKU testing of newborns and the screening of children in Child Health Conferences, the Program affords diagnostic evaluation services and the determination of blood phenylalanine levels. Under this program, some 133 blood tests were done with 20 children being carried in the program relative to corrective dietary measures.

Diagnostic Evaluations for Mentally Retarded and/or Physically Handicapped: Such services are available in two centers within the state, Morristown Memorial Hospital and Bancroft School in Haddonfield. Forty-six children received such diagnostic services during 1964.

Child Health Conferences

There are 267 Child Health Conferences throughout the state, with the Program activity participating in 13 of these and, through the District Pediatric Consultants, cooperation and consultation services are afforded the remaining Child Health Conferences. All Child Health Conferences were provided free vaccines through the State Biological Distributing Stations. Reports of activities were provided to the Program from 54 such stations.

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 maternal deaths. Fifty-eight such deaths were reported and 28 follow-up investigations were made of those reported.

Hospital Consultation Services

The Program has three nurse consultants to provide consultation services as they relate to the Maternal and Child Health Program. Our nurse consultant for pediatric services provided 28 consultation visits and follow-up. Our newborn nursery consultant provided 71 consultations visits and the physician obstetrical consultant provided consultation services to 12 hospitals. Our consultant for Child Health Conferences provided 36 consultation visits. A total of 147 consultation visits were made by the active staff.

Maternity Service Questionnaire: The Program cooperates with hospitals in review of the maternity services provided in hospitals throughout the state. Ninety-two questionnaires were sent to the hospitals during 1964 of which 85 reported.

Midwives

In 1964, there were 47 licensed midwives registered to practice in New Jersey; however, there were only six active midwives, who delivered 11 newborns.

Migrant Health

The Program participated in four pediatric clinics conducted in conjunction with the schools for migrant children. In this program, there were a total of 21 clinic sessions with 337 children examined and a total of 512 re-visits. Following is a breakdown of the Vaccination Program for these children:

Table 1. VACCINATION PROGRAM

	Total	*Under 1 yr.*	*1 - 4 yrs.*	*5 yrs. & over*
Number examined by physician	337	0	82	255
Re-visits to physician	512	0	161	351
Total Attendance	851	0	243	608
Complete Physical Examination	367	0	104	258
DPT—First Injection	80	0	64	16
Second Injection	41	0	37	4
Third Injection	12	0	7	5
Booster	5	0	3	2
DT—First Injection	83	0	0	83
Second Injection	61	0	0	61
Third Injection	9	0	0	9
Booster	26	0	0	26
Polio—Sabin—Type I	223	0	58	165
Type II	14	0	4	10
Type III	110	0	37	73
First Injection	18	0	2	16
Second Injection	25	0	7	18
Third Injection	2	0	1	1
Booster	0	0	0	0
Tuberculin Test	324	0	72	252
Smallpox Vaccinations	111	0	96	15
Gamma Globulin	19	0	0	19

In conjunction with the Migrant Health Program, 412 dental examinations were provided with a breakdown of 270 fillings and 123 extractions. Under the Migrant Program, seven hospitals provided prenatal and obstetrical services with a total of 151 bed days of care for 50 patients and 178 prenatal visits.

Poison Control and Accident Prevention Program

a. Of the 39 Poison Control Centers in New Jersey, 35 reported poisoning cases. All poison reports for 1964 have not been received as this report was written. There were a total of 3,688 cases of accidental poisonings treated or assisted by the Poison Control Centers. Home follow-up visits were made on 820 poisoning cases from 17 Poison Control Centers. Consultation services were provided in 16 visits to 10 Poison Control Centers and 12 follow-up agencies.

b. There was a total of 903 suspected cases of lead poisoning on which blood lead analyses were done, by arrangement with our Division of Laboratories. There was a total of 503 cases of lead poisoning or of abnormal lead absorption reported. The majority of these reports and cases were from two cities: Newark and Jersey City. The Health Departments of these cities did epidemiologic and environmental investigations on cases of lead poisoning or abnormal lead absorption. Consultation services in lead poisoning were provided to four health departments and two hospitals.

c. Twenty-two films are available through the State Museum on poisonings, accidents, and safety.

Educational Activities

Training Programs

Two training sessions were held for visiting nurse associations, hospitals and public health nurses relative to PKU testing and follow-up diagnostic and therapeutic services. Approximately 125 attended each session. Our nurse consultants participated in the following educational activities:

a. *Neglected and abused children*—Newark Department of Health, Child Hygiene Division and the New Jersey League for Nursing, Maternal and Child Health Council.

b. *Rheumatic Fever*—Essex County Heart Association. Panel on Convalescent Care for the Child with Rheumatic Fever and Symposium co-sponsored by the Chronic Illness Program, MCH Council, etc.

c. *Mental Retardation*—Warren County Association for Retarded Children Parents Groups, Camden V.N.A. and District In-Service Programs.

d. *Trends and Developments in MCH*—Conferences with students at one diploma school of nursing and at one collegiate program.

e. *Nutrition*—Services in various capacities in the series of nutrition programs in the Districts.

f. *Pediatrics*—(play, growth and development, etc.)—MCOSS, Cumberland County and Rutgers Extension Course for case workers.

g. *Nutrition and the Adolescent Prenatal Patient*—In the four State Health Districts.

h. *Nursing Observation and Nursing Inspection of the Newborn*—MCOSS, Cumberland County Health Department, and Visiting Nurse Association of Camden.

i. *Abused Child and Nurses' Role in Recognizing and Assisting Multi-Problem Families:* Newark Health Dept., Child Hygiene Division.

j. *Essex County Project for the Promotion of Mental Health in the Child Health Conference*—Seminar—10 sessions for public health nurses conducted by Dr. Arnold Kallem, M.D., Director, Essex County Guidance Center.

Materials Prepared and Published During the Report Year

"Recommended Standards for Formula Rooms and Formula Preparation," "Premature Care Centers" and "Prenatal Care" were prepared with a "Suggested Feeding Guide." The Program also published an Interim Report on Maternity Bed Utilization.

The following articles were published in nursing journals:

a. "Agricultural Migrant Families in New Jersey." March, 1964 issue of *Nursing Outlook*.

b. "A School Health Program for Children of Seasonal Agricultural Workers." February, 1965 issue of *The Journal of School Health*.

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

Division of Environmental Health

The broad objectives of the programs of the Division of Environmental Health are to foster planning, construction, maintenance and operation of water and sewage treatment plants and systems; of solid waste disposal facilities; to carry out activities to improve and properly operate and maintain bathing and camping places, housing, milk, shellfish, meat and other food and drug supplies; to work with the Air Pollution and Radiation Protection Commissions in the development of codes and in the administration of programs 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 pests or environmental health problems such as ragweed, poison ivy, insects, and rodents.

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

Food and Drugs
- Milk and Milk Products
- Shellfish
- Meat and Poultry
- Food
- Drug Manufacturing and Wholesaling

Occupational Health

Air Sanitation

Radiological Health

Stream Pollution

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

Four meetings of the Joint Drainage Committee were held to guide and assist the Bureau of Government Research at Rutgers in the development of a State Drainage Policy. This is a project of the Governor's Committee on Disease Control financed by matching funds from the State Department of Health and funds from the Federal Housing and Home Finance Agency. It should be completed during 1965.

Codes are drafted and when approved by the Department 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:

Boarding Home for Children Code (1956)
Coin-operated Dry Cleaning Establishment Code (1962)
Food and Beverage Vending Machine Code (1961)
Housing Code (1962)
Individual Sewage Disposal Systems Code (1963)
Maintenance of Swine Code (1957)
Plumbing Code (1964)
Private Camp Grounds Code (1964)
Public Health Nuisance Code (1953)
Retail Food Establishment Code (1965)
Smoke Control Code (1953)
Solid Waste Code (1959)
Swimming Pool Code (1955)
Water Supply Code (1959)
Weed Control Code (1953)

An Advisory Committee completed its assignment and the Rules and Regulations Governing the Submission of Plans for Public Water and Sewerage Systems have been adopted.

Legislation

Modernized milk and ice cream laws were enacted by the legislature during the past year culminating over 10 years' effort by committees representing the Department, local boards of health, and various segments of the milk industry. The law governing milk, Chapter 62, P. L. 1964, became effective May 18, 1964, and the Department promulgated regulations concerning sanitation, health of animals, and bacteriological standards which became effective May 25, 1964.

The statute revising the ice cream and frozen dessert law became effective January 1, 1965, and will be reinforced by Department regulations to be promulgated during 1965.

Rules and Regulations Governing the Sale of Ground Meat and Similar Products, including the establishment of maximum quantities of fat to be added to such products, were promulgated by the Department, effective March 2, 1964.

In addition, regulations establishing standards for the quality of compressed air Self-Contained Underwater Breathing Apparatus (SCUBA) were promulgated to prevent diving accidents. Finally, regulations stiffening security of narcotic drugs in manufacturing and wholesale establishments were put into effect by the Department on November 2, 1964.

Air Sanitation Program

During 1964, the basis for a major expansion of state level air pollution control activity was developed. A U. S. Public Health Service survey, which recommended an ultimate goal of a staff of 75 persons and an annual budget of $900,000, was published in February and was used as a guide in initial growth planning. An increase in state appropriated funds for fiscal year 1964-1965 was procured, and negotiation with the federal government culminated in an initial Clean Air Act fund grant to be used during calendar year 1965.

Air Pollution Control Commission

The Commission, which is charged by law with responsibility for formulating regulations to safeguard the quality of air over the state, achieved a major milestone on May 18 when it promulgated emission standards for particulate matter. Identified as Chapter VII to the New Jersey Air Pollution Control Code, the regulation became effective October 1.

New Jersey's motor vehicle air pollution problem was defined in detail for the first time in a report of the Air Pollution Control Commission's Motor Vehicle Committee, released in September. After detailed study of the report, the Commission formulated proposed legislation to cope with the problem. New Jersey thus became the second state to move toward comprehensive control of motor vehicle emissions.

Enforcement

In discharging its responsibility to enforce the rules and regulations promulgated by the Air Pollution Control Commission, the Air Sanitation Program made more than 3,800 investigations during the year. More than 298 persons, industries or firms were cited for first violations of the New Jersey Air Pollution Control Code and 124 for repeat violations. Approximately 270 cases of air pollution were considered to be satisfactorily resolved. As a result of the emphasis placed on air pollution control, 33 manufacturing plants are known to have installed 14 control systems at an estimated cost of more than $2,018,000.

With the promulgation of a Code chapter to control particulates, three program personnel were assigned the full-time task of developing procedures for enforcing this Chapter. Intensive study of the problems which could be involved in enforcement of the regulation was undertaken at a number of plants which will be subject to its requirements. Test procedures were detailed and most of the related forms which will be required were prepared. At the

same time, an intensive education program was undertaken to inform industries concerned regarding the emission standards provided in the new Chapter.

Table 1. Enforcement Actions, Chapters II and IV
January 1, 1964 – December 31, 1964

Type Action	*Open Burning*	*Smoke*	*Totals*
New Complaints Investigated	25	6	31
First Violations Recorded	168	130	298
Follow-up Investigations	2,566	234	2,800
Repeat Violations Recorded	92	32	124
Plant Evaluations	1	10	11
Effect Surveys	4	6	10
Violations Corrected	94	7	101

Fly Ash: During 1964, 14 plants were evaluated for fly ash emission under Chapter V, and eight effect surveys were accomplished. Five cases were closed as not presenting further potential problems.

Other Pollution: Fifty-nine complaints were investigated under Chapter VI, which regulates all types of air pollution not covered elsewhere in the Code. Sixty-two follow-up investigations were accomplished. Four hundred twenty-two plants were evaluated, and 366 effect surveys were completed. A total of 167 cases were closed as not presenting further potential problems.

Research and Development

New Jersey achieved significant progress in its plans to determine the parameters of the air pollution problem in the state when the legislature appropriated funds for the activation during fiscal year 1964-1965 of two sites of a comprehensive air monitoring and analysis system. Intensive testing of various items of equipment for this program were conducted during the last six months of 1964 to evaluate automated equipment and procedures which could be utilized in the monitoring and analysis system.

A set of standards for school incinerators was prepared for dissemination by the State Department of Education to serve as a guide for schools. Preparation of this publication required considerable research into the regulatory codes of other states, the operation of existing incinerators within and without New Jersey, and available literature on the subject. Work also continued on the development of a model incinerator code which municipalities can adopt by reference.

Two series of evaluation tests were conducted on a prototypal device which is being developed by the Air Sanitation Program for testing diesel emissions.

Tests were conducted both on trucks and buses powered by diesel engines, and a capability determination was effected to serve as a basis for further development.

Preliminary steps were taken to refine sampling techniques for a category of air pollution which previously had not been dealt with on a standardized basis, that of odors. Odors present one of the most difficult enforcement problems. A project was initiated to develop procedures which can be used for sampling and evaluating odors, both for use in enforcement actions under Chapter VI and as a basis for the development of a more definitive Chapter to treat this problem.

Extensive support was provided to the 11 sites of the National Air Sampling Network which the U. S. Public Health Service has programmed in New Jersey. Sites were selected, equipped and serviced by program personnel, and training was provided personnel to operate them. Extensive support also was provided in the liaison and administrative phases of this Public Health Service Network.

Continuous monitoring of smoke levels was accomplished at 15 sites in the state. Data accumulated by these sites constitute a baseline for evaluation of changes in New Jersey air quality.

Information and Education

During 1964, the first enlargement of the public information and education activities authorized by the New Jersey Air Pollution Control Act was undertaken. For the first time, a variety of informational printed materials and films relating to the problems of air pollution were made available to the public. Also, effective liaison with the press was used to tell the air pollution story. In addition to the coverage generated through cooperation with the press, 30 press releases were issued.

At the same time, an extensive program of talks concerning the subject of air pollution was continued, these being given before a variety of audiences. Such talks also were supplemented by appearances on television and radio by various State Health Department personnel.

The first steps to capitalize on the interest which many organizations are developing regarding the problems of air pollution were taken when liaison was established with the Medical Society of New Jersey, the New Jersey Tuberculosis and Health Association, Inc., the State Chamber of Commerce, the Junior Chamber of Commerce, and other similar organizations. Exploratory discussions have been held with these organizations.

Technical Services

Although the Air Sanitation Program regularly provides routine advice to assist municipalities, this service was highlighted in 1964 by 24 major cases in which special consultation service was provided. The most extensive projects undertaken to assist municipalities were comprehensive surveys of potential sources of air pollution in the municipalities of Perth Amboy and Woodbridge. The latter was completed. However, requirements to divert personnel to develop Chapter VII procedures required that the Perth Amboy survey be temporarily suspended until additional personnel can be made available.

Technical support also was provided to other activities. Coordination was effected with Rutgers University to assist it in developing the outline of an appropriate air pollution activity. A program representative served on the Air Pollution Subcommittee of the Newark Area Community Health Services Study Committee, and assisted in the drafting of a detailed report. Program personnel provided support to "Operation Hackensack Meadows," a joint program of municipal and state enforcement personnel designed to correct the existing air pollution problem in that area. Program personnel also provided information and guidance to the "Meadowlands Subcommittee of the Interdepartmental Committee for State Planning." This organization is a state governmental advisory group which is concerned with regional planning for development of the meadowlands area.

Administration

The first major steps aimed at expanding and refining the state's air pollution control program bore fruit during 1964 when increased state funds were allocated to the Air Sanitation Program and a grant was approved by the U. S. Public Health Service under the provisions of the Federal Clean Air Act. These funds will enable the Program to move during calendar year 1965 from a normal expenditure of approximately $145,000 to an activity level of more than $500,000. In addition to providing more equipment, these funds will enable the program to move from its previous personnel level of 23 persons to a strength of 56. Additional operating space was procured by the program at the Department of Agriculture garage. Facilities to service stack sampling and research equipment and a training installation were established.

Interstate Cooperation

The efforts of New Jersey Air Pollution Control personnel, in cooperation with their counterparts in the State of New York, culminated during 1964 in the formulation of a proposed air monitoring and alert system for the New York-New Jersey Metropolitan Area. This system will serve to forewarn residents of the area against potential periods of dangerous levels of air pollution, and will enable the respective states to take appropriate action. This cooperative effort also resulted in the formulation of a proposal for a vitally needed comprehensive survey of the air pollution situation in the Metropolitan Area. Air Pollution Control Personnel also initiated steps to organize a similar cooperative arrangement with their counterparts in the States of Pennsylvania and Delaware.

New Jersey's initial contribution to the monitoring of air pollution levels in the Metropolitan Area was a sulfur dioxide sampling site, which was established in Newark in mid-December.

Summary

During 1964, the basis was developed for a significant expansion of the air pollution control program in New Jersey. A new chapter was added to the Air Pollution Control Code, and critical attention was focused on the motor vehicle pollution problem for the first time. Numerous sources of air contaminants were brought under control, and the framework for an active Information and Education program was established. Research and development efforts continued at an accelerated pace.

Bureau of Food and Drugs

The year 1964 was the first full year of operation since responsibility for inspection of all in-state milk plants, wholesale shellfish shippers, licensed red meat and poultry slaughterhouses, wholesale meat processing establishments, licensed egg breaking, non-alcoholic beverage and refrigerated warehouse establishments engaged in interstate commerce was returned to function under the direction of the Bureau of Food and Drugs.

Responsibility for collection of samples of milk and milk products offered for sale in New Jersey was also reassigned to the Milk Program in 1963 and carried out in 1964. The above programs together with the Drug, Device and Cosmetic Program administer and enforce, in part, laws and regulations designed to protect the consumer by preventing the adulteration and misbranding of food, drugs, cosmetics, and devices. The major functions carried out consist of inspection of establishments engaged in the manufacture, production, handling, storage and distribution of food, drugs, cosmetics and devices and the collection for analysis of samples of such products to determine compliance with statutory labeling requirements and established or proclaimed standards of quality, purity, and wholesomeness.

Table 1 shows the number of licenses, permits, certificates, and registrations issued for the past calendar year and revenue derived from this activity:

Table 1.

Establishments	*Licenses*	*Permits*	*Cert.*	*Regs.*	*Revenue*
Ice cream plants	1,447	...	...	...	$12,155.00
Milk plants	...	472	...	...	17,525.00
*Goat milk plants	...	2	...	...	7.50
Refrigerated warehouses and locker plants	88	...	...	...	4,825.00
Narcotic manufacturers and wholesalers	83	...	...	...	865.00
Drug manufacturers and wholesalers	...	...	...	608	54,670.00
Egg breaking establishments	46	...	...	...	no fee
Non-alcoholic beverage and water bottling plants	157	...	...	...	no fee
Shellfish establishments	...	...	153	...	no fee
Slaughterhouses	295	...	...	...	no fee
Totals	2,116	474	153	608	$90,047.50

* Apportioned fees. As of May 18, 1964, separate goat milk permit classification was discontinued and such plants are now defined as milk plants.

Penalties amounting to $1,700 were collected for violation of various sections of laws and regulations enforced by the various programs.

Education and Training

Personnel of various programs served on committees or acted as consultants to the New Jersey Health Officers' Association, Northeast Milk Sanitary Standards Committee, New York State Association of Milk and Food Sanitarians, Central Atlantic States Association of Food and Drug Officials, Annual Conference of State Milk Sanitation Survey Officers, Governor's State Emergency Food Council, the Advisory Committee on Hazardous Foods, an Advisory Committee on a New Jersey Bakery Code, and the State Health Resource Management Task Group. Program personnel also participated in the Basic Environmental Sanitation Course co-sponsored by the Department and Rutgers University and the East Orange Field Training Station.

Drug, Device and Cosmetic Program

At the end of 1964, 608 drug establishments were registered with the Department under the Drug Registration Law, N.J.S.A. 24:6B. These 608 registrants had a total of 672 locations each of which should be inspected at least once a year. Two hundred and sixty-eight of these locations were

registered as drug manufacturers and 340 were registered as drug wholesalers. Because of the heavy workload and time consumed in special investigations, only 316 drug manufacturing locations and drug wholesaling locations were inspected and received a satisfactory report or about 47 percent of the total.

The issuance of narcotic drug licenses by this Department remains at a fairly constant figure. At present 87 licenses are in effect and two applications are pending further investigation and inspection. In the past year, approximately 70 percent of all licensees were inspected prior to renewal. This percentage figure was comparable with last year's figure.

During the past calendar year, this Program has become increasingly active in special investigations involving drugs, cosmetics and devices, and it is estimated that 30 to 35 percent of program personnel time has been spent in these investigations.

No drug legislation of major importance affecting this Program was passed during this year. However, the Commissioner of Health promulgated regulations governing Standards of Compressed Air Used in SCUBA (Self-Contained Underwater Breathing Apparatus) Diving, and regulations Concerning the Security of Narcotic Drugs in Manufacturing and Wholesaling establishments.

Some of the major activities, special investigations and highlights of the Program during the period covered by this report are as follows:

1. A drug firm registered with the State Health Department and operating under the name of Jobar Chemical Company was closed by the State Commissioner of Health for grossly unsanitary conditions, lack of quality control, and lack of recordkeeping. A large quantity of drugs and chemicals was seized by court order and held pending court action. Included in the quantity of drugs seized were approximately 2,700 lbs. of Meprobamate, a potent tranquilizer, which if fabricated into tablets would make over two million. A court trial terminated in the court upholding all the actions which had been taken by the Department. In addition, the court gave the Department legal possession over all the drugs and chemicals seized. The Department subsequently witnessed the destruction by sanitary landfill of all the seized goods, which by volume filled a large tractor trailer truck.

2. A second drug firm operating under the name of F.P.C. Private Brands was also ordered closed by the Commissioner because of grossly unsanitary conditions. This firm subsequently went out of business.

3. A drug wholesaler in Paterson was closed because of grossly unsanitary conditions also. This firm was given permission to re-open after extensive clean up operations had been completed.

4. Efforts have continued to prevent the redistribution into commercial channels of all distressed drugs which have been exposed to fires, floods, and other natural or man-made disasters. Most distressed drugs are not fit for human consumption and should be destroyed. A reporting procedure with "Referees in Bankruptcy" has been established whereby the Department is notified of all bankruptcy proceedings involving drugs.

5. Based on recommendations from this Program, the Division of Purchase and Property has incorporated additional requirements into bidding requirements for state purchase of drugs. These additional requirements help to assure the state that the drugs purchased are of the best quality that can be produced.

6. The Program participated in a training institute for 135 health officers and sanitarians on the control of foods and drugs which have become "distressed" due to exposure to fires, floods, etc.

7. A concerted effort was made during the year to work more closely with the pharmaceutical industry in order to promote compliance with New Jersey's drug laws.

8. A meeting was called by this Program with state drug officials from nine eastern states to discuss problems in which we have a common interest, and to establish communications for transfer of vital information. At the close of the meeting, all the states represented agreed that it was productive, and it was suggested that this group, or an enlargement to include other states, meet regularly. The suggestion was also made to organize a formal group or association of state drug officials. The jurisdictions represented at this meeting were: New Jersey, New York, Connecticut, Massachusetts, Pennsylvania, Ohio, Maryland, Delaware, District of Columbia, and the City of New York. The National Pharmaceutical Council, Pharmaceutical Manufacturers Association, and the Federal Food and Drug Administration were also represented.

9. To enforce the Regulations Concerning Compressed Air Used in SCUBA Diving, the Program conducted 133 inspection of 63 shops and stations that produce and sell compressed air for diving. Ten stations were in violation of our regulations and they were required to stop selling compressed air until the quality of their air was improved. Of these 10 stations, seven subsequently were given authorization to resume selling compressed air, two shops went out of business, and one had to be retested for compliance.

10. In an effort to stimulate legislative and industrial support for the Program's activities in controlling the "marginal" drug manufacturer, a "Drug Report" was distributed by the Commissioner to all 50 states, and many

other groups throughout the country. This report described in broad terms the methods and operations of the marginal drug manufacturer whose primary concern is the distribution of drugs at a substantial profit, with little or no regard for the quality of the product, its safety or its efficacy. The report stimulated wide interest among government and industry, and its salutary effects have been numerous and widespread.

11. During the course of the year covered by this report, this Program cooperated with the Federal Food and Drug Administration in a continuing investigation of the manufacturer and distribution of counterfeit drugs. One notable result of this cooperation was the uncovering of thousands of dollars of counterfeit drugs in a hidden room in a private home in northern New Jersey. Investigations of such activities can only be accomplished with the cooperation of many other regulatory agencies operating in the State of New Jersey.

Several additional statistical items of importance are as follows:

a. Forty embargoes were issued for adulteration or misbranding of drugs, and final disposition has been made in all but a few.

b. Approximately 90 samples of various drug products were collected and analyzed for compliance with our drug laws.

c. Export certificates numbering 68 were prepared and issued by the Department for a number of New Jersey drug manufacturers in order that they could meet requirements for shipping to foreign countries.

d. The Drug Program cooperated with federal authorities, either directly or indirectly, in the recall of approximately a dozen different drug items. The degree of activity by this Program varied with the particular item to be recalled and the potential hazard that existed.

e. The Drug Program actively participated in 15 investigations involving distressed drugs, including narcotics. Some of the investigations were the results of fires, while others involved bankruptcy sales, out of business sales, and similar proceedings.

This Program has been operating in its expanded form since the passage of Chapter 52, P. L. 1961 (the Drug Manufacturing and Wholesaling Registration Law), and the Program's routine inspections and special investigations have been steadily increasing. It is also evident that with the ever increasing activity of the federal government in drug control, our activity and responsibility will also increase.

Food Program

Under the provisions of Title 24, Revised Statutes of New Jersey and Departmental regulations written to extend and clarify the basic law, the Department is responsible for assuring wholesome production, preparation, processing, manufacture, storage, and transportation of food and food ingredients. Egg breaking, non-alcoholic beverage and bottled water plants, and refrigerated warehouses and locker plants are licensed and routinely inspected by the Department. Many other types of establishments are not required to be licensed but are subject to inspection by the Department.

Samples of foods are collected on a selective basis for analysis for bacteriological and chemical adulteration and for compliance with established or self-proclaimed standards of potency, quality or identity.

The Department also examines and reviews labels of foods for compliance with our laws and regulations, to prevent deception and to determine that the consumer is fully and honestly apprised as to the content of a food package.

More than 2,300 results of analysis of samples of food other than milk products, ice cream and shellfish were reviewed for compliance with the law. Proofs of 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.

In a concerted effort to revitalize, stimulate and upgrade food establishment sanitation in the state, the Department took the following actions.

Retail Food Establishment Code

A new and up-to-date version of this code entitled "Retail Food Establishment Code of New Jersey—1965" patterned after the 1962 U. S. Public Health Service Food Service Sanitation Manual was approved by the Commissioner on December 4, 1964. The code was available for adoption by local boards of health early in 1965.

Bakery Code

An advisory committee consisting of representatives of industry, local boards of health and representatives of the Department was appointed by the Commissioner to develop a uniform code and method of conducting uniform inspections of bakeries.

Potentially Hazardous Foods Program

As the result of a two-year sampling study and a sanitation survey of manufacturers and wholesale distributors of macaroni salad, potato salad, coleslaw and similar foods, an advisory committee developed a program to control such food in intra- and inter-state commerce through reciprocity programs with local boards of health and surrounding states and municipalities. A sampling program was developed to supplement this program.

A Potentially Hazardous Foods Institute held for health officers and a meeting with representatives of surrounding states and municipalities indicated interest in this program was extensive.

Control of Foods Involved in Disasters

Each year, a considerable amount of food is exposed to disaster conditions such as fires, power breakdowns, flooding, sewage backflow and the like. A program of prompt reporting of such incidents by local health and civil defense officials, police and fire departments and insurance underwriters and liaison among municipal, District and other state officials coordinated by Program personnel has resulted in improved control over salvage and disposition over such distressed food. The program was initiated and developed by means of an Institute on Disaster Foods co-sponsored by the Department and the Health Education Committee of the New Jersey Health Officers' Association.

Supervision and Control of Caterers

Our program to control movement of foods from place to place by caterers continued this year. During the year, 78 caterers were registered under this program and 83 inspections were made during the year by state and local board of health representatives. A report on all caterers is forwarded to each agency participating in the program two times per year.

Inspection Activities

The Program was able to take initial strides in locating, inspecting and listing food establishments engaged in the interstate shipment of foods in accordance with Program responsibilities assigned in 1963. This was accomplished by borrowing personnel from other Bureau programs to discharge this phase of program responsibility.

The Department continued to cooperate with the State of Connecticut Department of Consumer Protection by supplying inspection data on New Jersey bakeries, non-alcoholic beverage bottling plants and other establishments that ship into Connecticut. The purpose of this program is to avoid unnecessary duplication of inspections. A total of 41 bakery inspections, 18 non-alcoholic beverage establishments and eight inspections of vending establishments were conducted under this program.

A similar agreement has been reached with the Bureau of Foods and Chemistry, Pennsylvania State Department of Agriculture.

Because of increased responsibilities, additional personnel were requested in the budget request currently before the legislature.

Atlantic City Survey

During 1963, assistance was requested by the newly appointed Atlantic City-Atlantic County Health Officer in conducting an improvement campaign in eating and drinking establishment sanitation in Atlantic City. The assistance was granted in the form of a team composed of Food and Drug and Southern State Health District personnel who conferred with motel, hotel and restaurant owners, conducted a three-day classroom refresher course for local health department personnel and a 10-day field training course in supervision of Food Service Sanitation. This year, because of the anticipated influx of unprecedented numbers of visitors to the New York World's Fair and the Democratic National Convention in 1964, Program personnel, assisted by District personnel, increased their assistance to the Atlantic City Health Department. Sanitary surveys were made of food service establishments and private potable water supplies, and of rooms and housekeeping facilities at major hotels and motels in the city. In addition to correcting insanitary conditions in unsatisfactory establishments, one of the objectives of the project was to familiarize industry and local health personnel with requirements in the proposed 1965 Retail Food Establishment Code of New Jersey. The overall objective of the project was to assist in carrying out activities to assure the health, well being and comfort of the thousands of anticipated daily visitors to the resort as well as the normal resident population.

One hundred and five hotel, motel and restaurant kitchens, 100 hotel and motel rooms, and 35 hotel private potable water systems were inspected during the survey.

Adulterated Meats

On behalf of consumer protection, the Department continued an intensified campaign in retail meat markets and other establishments selling hamburg, sausage and other combinations of fresh ground meat. The practice of adding sodium sulphite or sodium bisulphite to ground meats to conceal inferiority has been a continuing problem in certain areas. The use of niacin for a similar purpose has also been detected. Such chemicals are prohibited by law for use in or on meats.

Using a field test method, representatives of the Department made 568 tests for sulphites on ground meats with three of the samples (00.5%) being

confirmed as positive by laboratory analysis. The percentage of positive samples showed a marked decrease compared to the 1962 figures of 2.9 percent and 1963 of 3.2 percent. Penalties of $50.00 were collected from each of the firms. One penalty of $50.00 was also collected from a firm found to be adding niacin to ground meat. In addition, four cases developed in 1963 were concluded during this year by collection of $50.00 penalties from each of the firms, and four other cases developed in 1963 amounting to $650.00 in penalties were awaiting disposition by the Attorney General's office as the year ended. It is felt that the routine surveillance of retail meat establishments and newspaper publicity issued by the Department following collection of penalties were instrumental in discouraging this practice.

The Department purchased four additional Hobart Fat Testers and distributed them to the Districts toward the end of 1963. The purchase of the units and their use in on-site testing of ground meats for fat content drastically reduced the number of samples sent to the laboratory.

Also, during the year, the Commissioner approved Department regulations establishing specific fat standards for sausage, hamburg and other ground meats. The standards are similar to those enforced by the Meat Inspection Service of the United States Department of Agriculture.

During the period covered by this report, 355 samples of hamburg and ground beef were analyzed to determine if fat in excess of 30 percent was being added in violation of state regulations. Our findings disclosed that 22 samples comprising 6.1 percent of the total examined contained more than the accepted tolerance compared with 14.2 percent in 1963 and 14.5 percent during the preceding year. Penalties totaling $500.00 were collected from nine firms for sale of meat containing fat in excess of the above standards.

Egg Breaking

In cooperation with the United States Food and Drug Administration, Program and District personnel continued checking sources of frozen eggs offered for sale to New Jersey bakeries. During the year, six new egg breaking licenses were issued due to our field activities. In addition, approximately 96,000 dozen shell eggs and 23,000 pounds of frozen eggs were removed from human food channels under supervision of representatives of the Department. These products were uncovered during joint investigations with the Food and Drug Administration and as a result of our inspection and sampling procedures.

During the investigations, 34 samples of frozen eggs were collected by Program representatives, of which, 24 were found to be adulterated, which helped substantiate our actions in ordering the above listed quantities of eggs destroyed.

The following table lists the number and type of food establishments other than milk, ice cream, shellfish and slaughterhouses inspected for sanitation by program personnel during the year.

Table 1. Food Establishments Inspected, 1964

Hotel kitchens and restaurants	105
Hotel rooms (survey)	100
Bakeries	68
Candy factories	4
Canning factories	32
Cold storage warehouses	24
Egg breaking establishments	20
Non-alcoholic beverage establishments	49
Catering establishments	7
Other food establishments	120
	529
Hotel private water supply samples	35

During the course of the above inspections and as a result of special investigations, representatives supervised the destruction of the following food because of decomposition or other adulteration in violation of existing statutes.

Articles of Food Destroyed

Shell eggs	96,720 dozen
Frozen eggs	23,580 pounds
Other foods	18,346 pounds

Program representatives continued to cooperate with federal, state and local agencies by making special or joint investigations, collecting samples for special analyses and label review, placing embargoes on fire damaged or otherwise adulterated food, and coordinating special projects involving other agencies. Technical and consultative services were also provided for other state agencies, industry, other interested groups and the consuming public.

Meat Program

Under provision of Chapter XVI, Title 24, Revised Statutes of New Jersey and Department regulations "Regulations Concerning Construction, Operation, Maintenance and Licensing of Slaughterhouses and Inspection and Labeling of Animals Slaughtered for Food," the Department requires that all persons who slaughter animals for sale for human food be licensed. The purpose of the Program is to license all such establishments and determine if they are operated in compliance with our laws and regulations.

In accord with the Department's policy to stimulate, revitalize and up-grade food establishment sanitation in the state, the Meat Program inaugurated an inspection program to supervise and control meat processing establishments.

The purpose of our extended coverage of meat products was to secure for New Jersey consumers meat products of equal quality to meat products processed in meat processing establishments inspected under the United States Department of Agriculture meat program for establishments operating in interstate commerce. It is also the intent of the Department to take all necessary actions and precautions to determine that pork products are properly processed in an effort to reduce instances of trichinosis in humans from such products.

Sanitation

During the period covered by this report, 89 red meat and 206 poultry slaughterhouses were licensed by the Department.

Our policy for the year was to continue to maintain a high sanitation level in red meat and poultry slaughterhouses and to locate, inspect and bring under routine inspection all meat processing establishments.

Program personnel continue to secure water supply samples at establishments that operate private water supply systems. A total of 94 water supply samples were collected. Of this number, eight or 8.51 percent of the samples analyzed failed to meet Departmental requirements for potable water. Follow-up investigations and corrective action resulted in securing satisfactory water sample analyses from all slaughterhouse operators. The effectiveness of this phase of our Program is demonstrated by the great improvement from the previous year when a total of 109 samples were taken and 27 or 24.7 percent failed to meet the requirements of the Department.

The following is a five-year comparison of sanitation ratings for red meat and poultry slaughterhouses:

*Poultry**

Year	*Number of Establishments*	*Sanitation Rating*
1960-61	212	88.839
1961-62	236	91.199
1962-63	214	93.350
1963-64	198	92.671
1964-65 (Feb. 1)	183	94.170

*Red Meat**

Year	Number of Establishments	Sanitation Rating
1960-61	70	86.358
1961-62	76	90.855
1962-63	79	89.845
1963-64	79	89.450
1964-65 (Feb. 1)	77	91.452

* Figures are based on the licensing years April 1 to March 31.

The Program considers an individual rating of 90.000 a high level of sanitation.

The number of red meat establishments continues at a fairly constant level. A decline in the number of poultry slaughterhouses continues. Most of the decline is in the "select kill" type of establishment. This appears to be due to some change in the customs of the older generation and to price differential between this type establishment and the larger processor. Some effect is also felt in other phases of the poultry slaughterhouse industry due to economic conditions and price differentials between areas.

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

Red Meat	
Number of applications received	90
Number of licenses issued	89
Number of applications pending	1
Number of establishments out of business	5
Poultry	
Number of applications received	229
Number of licenses issued	227
Number of applications pending	2
Number of establishments out of business	13
Inspection Data	
Number of sanitary inspections	623
Number of visits and investigations	341
Number of water samples collected	94
Number of water samples unsatisfactory	8
Number of samples corrected	8
Number of meat inspection evaluations	21
Number of conferences with local boards of health	271
Meat Processing Establishments	
Number of sanitary inspections	53
Number of visits and investigations	34

General sanitation has continued to improve and most establishments are operating at a satisfactory sanitation level. Industry meat inspection programs were operated in substantial compliance with our laws and regulations.

It is anticipated that all meat processing establishments will be located and placed under routine inspection during the coming year.

Meat Inspection

The Bureau of Veterinary Public Health provides professional consultation to the Bureau of Food and Drugs in administering the meat inspection procedures required by the regulations governing ante and post-mortem meat inspection. Sanitarians assigned to the Meat Program are given training by a veterinarian concerning the technical aspects of approved meat inspection techniques. When his training is completed, and he satisfactorily passes a meat inspection licensing examination, he makes meat inspection evaluations in the slaughterhouses. The evaluations are designed principally to detect gross meat inspection irregularities. A more detailed meat inspection is made by a Departmental veterinarian at an establishment. One sanitarian was given meat inspection training and licensed as a meat inspector in 1964.

In 1964, 3,447,413 red meat animals were slaughtered in New Jersey. This figure is within one percent of the number slaughtered the previous year. This statistic reveals the fact that the volume of the slaughtering industry is remaining constant. In contrast, the 12,212,056 poultry animals slaughtered is an increase of almost four million over animals reported slaughtered the previous year. Most of the increase was accounted for by the licensing of two large establishments operating under federal inspection.

The previously stated statistic may indicate that the slaughtering industry has entered a state of stability. This assumption plus the fact that the percent of animals (both poultry and red meat) processed in state and federal supervised plants has corresponded to previous estimates can be employed in determining workload data for the Program.

The Program has computed comparisons of the percent of condemnations in federally supervised plants versus New Jersey supervised plants on an annual basis since the onset of the Program. In these past years, a higher percent of calves has been condemned in New Jersey supervised plants. This past year is an exception in that a significantly smaller percent was condemned. In general, a younger, less mature, dairy type calf is brought to local slaughtering establishments and a higher percent of these calves should be condemned as compared to the federally supervised plant slaughtering calves from sections of the country where the economics of the cattle industry places more emphasis on a more mature calf. A higher percent of cattle was condemned in New

Jersey supervised plants. This is expected inasmuch as older dairy type animals that are no longer useful as milk producers are processed as compared to the younger steer slaughtered in the federally supervised plants. The decrease in the percent of swine condemned in New Jersey supervised plants as compared to federal plants cannot be explained as the type of animals slaughtered in each are from comparable strata of the swine population.

The percentage of condemnations of poultry animals in establishments operating under federal inspection, as in past years, is higher than those processed in plants operating under state inspection. This is to be expected as the federal plants slaughter an older fowl whereas the vast majority of state houses slaughter young turkeys and young chickens that are given a thorough "culling" before purchase, thus the condemnation percentages follow normal patterns.

Milk Control Program

In 1964, the laws pertaining to the production and processing of milk and frozen desserts were completely revised and brought up-to-date. The proposed changes were the result of consultation and agreement between representatives of this Department, the New Jersey Health Officers' Association, the College of Agriculture of Rutgers University, milk producer groups, and processors. This was the first major revision of the Revised Statutes of New Jersey which had been in effect since 1937 and which had their basis in laws of 1907.

Chapter 62, P. L. 1964 concerning the production, handling and distribution of milk and milk products became law on May 18, 1964. Regulations supplementing that law were adopted by the Department with an effective date of May 25, 1964. The new law and regulations are both more stringent than the old and provide for more effective control of the quality of milk and milk products sold in New Jersey.

Items of particular significance are the prohibition of sale of raw milk, other than Certified Milk, to consumers, the increase in the temperature to which milk and milk products must be heated during pasteurization, and the decrease in the maximum permissible number of bacteria allowed in milk sold in New Jersey.

Chapter 120, P. L. 1964 governing the manufacture, sale and distribution of frozen desserts and special frozen dietary foods became law on June 16, 1964, with an effective date of January 1, 1965. Proposed regulations establishing standards of identity for frozen desserts in conformity with federal standards, and regulations setting sanitary standards were drafted. The proposals were discussed at a public hearing held on December 7, 1964, and some changes will be made in the regulations before final promulgation.

Meetings of the Northeast Milk Sanitary Standards Committee were attended to develop recommendations for consideration by the U. S. Public Health Service in revising their 1953 Recommended Milk Ordinance and Code. Many of the recommendations of the Committee were included in the final draft of the revised Code, which will be released in 1965; it will provide for a greater degree of uniformity in requirements and interpretations with our new standards and requirements.

All of the sanitarians in the Program attended a special training course given by the United States Public Health Service in testing the controls and operation of High-Temperature-Short-Time pasteurizing units. Added emphasis is being given to checking those units since the major portion of milk sold in New Jersey is being processed by the H-T-S-T method.

Expansion of policies at the federal level to require U. S. Public Health Service rating of plants and supplies in order for those plants to be eligible for certain government contracts has increased activity in that phase of the program. There are presently 16 milk plants and seven frozen dessert plants which the Department inspects and furnishes ratings to the Public Health Service for listing as sources of supply for interstate carriers and federal installations, and as Interstate Milk Shippers.

In connection with the above and with the reciprocal milk inspection and sampling agreements between the Department and other official agencies, the laboratories performing analyses of milk and milk products are inspected and their procedures evaluated by personnel of the Division of Laboratories. This activity was greatly increased in order to determine that adequately equipped laboratories staffed with properly trained people performing analyses in accordance with standard methods are providing proper information for administrative action.

Official agencies making inspections and sampling products under reciprocal agreements with the Department submitted 509 reports of surveys of milk plants and their supplying dairy farms and 2,491 reports of analyses of milk products for review. These reports are used, together with our own, as a basis for quarterly releases to all local boards of health on the status of milk supplies supplying the New Jersey Consumers.

Table 1 shows the number of inspections made and samples collected by Program personnel during the year.

Table 1. Inspections, 1964

Milk Plants Inspected	344
Dairy Farms Inspected	3,279
Frozen Dessert Plants Inspected	85
Samples Collected	2,009

Shellfish Control Program

Shellfish, by definition in Rules and Regulations Governing the Sanitation, Handling, Shipping and Shucking of Shellfish, effective July 1, 1963 include: "All edible species of clams, oysters and mussels either shucked or in the shell, fresh or frozen."

The Shellfish Control Program has the following basic responsibilities:

a. Classification of all shellfish growing waters in New Jersey, both potential and actual, according to their acceptability for harvesting market shellfish.
b. Patrol and prevention of harvest from all waters in New Jersey condemned for the harvest of shellfish.
c. Sanitary control of harvesting, shucking, packing, shipping and handling of shellfish.

Sanitary surveys for the purpose of classifying shellfish growing waters were coordinated and carried out by the Shellfish Control Program in cooperation with the Stream Pollution Control Program and the Bureau of Bacteriology. Final evaluations of the survey reports were made by the Shellfish Control Program and necessary action was taken to establish area classification.

In order to improve the quality of the sanitary survey work, new and improved sampling station charts were prepared for the following areas:

a. Sandy Hook Bay
b. Cape May County (N. Wildwood Blvd. to Rio Grande Blvd.)
c. Cape May County (Rio Grande Blvd. to Cape May)
d. Delaware Bay (Nantuxent Cove area)
e. Delaware Bay (Cape Shore—Cape May Point to King Crab Landing)

The new charts proved to be very effective when put into use.

Sanitary surveys of growing areas were carried out in the following locations:

a. Barnegat Bay (Mathis Bridge to Kettle Creek)
b. Barnegate Bay (Kettle Creek to Bay Head)
c. Delaware Bay (Nantuxent Cove area)
d. Delaware Bay (Cape Shore—King Crab Landing to Cape May Point)

Resurveys of growing areas were carried out in the following locations:

a. Cape May County (North Wildwood Blvd. to Rio Grande Blvd.)
b. Cape May County (Rio Grande Blvd. to Cape May)
c. Great Bay
d. Sandy Hook Bay

Nine thousand five hundred and fifty-one samples of growing water were collected, as a part of the sanitary survey work, and were analyzed in the field laboratories at Bivalve, New Jersey, and Tuckerton, New Jersey. Joint efforts of the Shellfish Control Program and the Bureau of Bacteriology provided sufficient laboratory personnel to allow seven-day per week operation of the two field laboratories, allowing the field staff to collect samples on a full five-day per week schedule.

The following equipment is maintained by the Program in order to carry out necessary functions:

a. 1—30 foot cabin cruiser
b. 1—28 foot cabin cruiser
c. 4—18 H.P. outboard motors
d. 4—14 foot outboard boats
e. 4—station wagons equipped with trailer hitches.

With this equipment, four teams were able to operate successfully under many and varied conditions.

The full-time field staff of four was supplemented with four additional employees during the summer months in order to make up the four teams.

In order to prevent illegal or inadvertent harvest of shellfish from condemned waters, the following actions were taken:

a. A complete new revision of Rules and Regulations condemning certain waters of the state for the harvest of shellfish was made effective February 15, 1964.
b. A complete new revision of the condemned area charts was made, effective in May, 1964.
c. Distribution of the new condemned area charts was improved. In addition to supplying charts to all certified dealers and interested organizations and filling requests, charts were supplied to all license issuing agents under the jurisdiction of the Division of Shell Fisheries with a request to issue a set of charts with each new license for 1965.
d. All areas condemned for the harvest of shellfish were posted with metal signs 8½" x 11", black letters on a yellow background:

"Shellfish must not be removed from these waters which are condemned for the taking of shellfish.
State of New Jersey
Department of Health
Violators are subject to prosecution."

A concentrated effort was made to assure that signs were in place and in good condition before the summer tourist season began. A working agreement was developed with the Division of Shell Fisheries in the Department of Conservation and Economic Development so that it assisted with replacement of damaged or missing signs.

e. Most of the actual patrol of areas condemned for the harvest of shellfish was carried out by the Division of Shell Fisheries in the Department of Conservation and Economic Development with reports of those activities forwarded to the Program. The Division of Shell Fisheries activities were supplemented by local police and health departments, the Division of Fish and Game, and the Bureau of Navigation. Our own Program personnel devoted 1,200 hours to patrol and related activities. Figures extracted from the Division of Shell Fisheries reports indicate the following:

96 Apprehensions were made
16 Penalties were collected totaling $1,600.00
8 Rumors of violations were investigated
12 Runaways were not apprehended
5 Warnings were given.

During 1964, the Program issued 135 Shellfish Certificates categorized as follows:

61 Shellstock Shippers
55 Reshippers
12 Shucker Packers
5 Repackers
2 Digger Retailers.

Fifty-eight shippers were certified to ship in New Jersey only. Seventy-seven shippers were certified to ship in interstate commerce. The same sanitary requirements must be met by both types of certified dealers. The reason for two categories is the elimination of unnecessary names from the interstate shippers list.

In order to maintain a high standard of compliance with our Rules and Regulations:

304 Sanitary inspections were made
243 Samples of potable water were analyzed
611 Samples of shellfish were analyzed.

The level of sanitation in the establishments of certified shippers continued to improve during 1964.

During 1964, the New Jersey Shellfish Control Program was a participating member in good standing of the "Cooperative Program" involving state regulatory agencies, the U. S. Public Health Service, and the shellfish industry. Satisfactory compliance with the requirements of the "Cooperative Program" allowed the names of New Jersey certified shellfish dealers to be published by the U. S. Public Health Service on its nationally distributed list as acceptable for interstate commerce.

The Shellfish Program has assumed responsibility for supervising the bay scallop shucking industry in New Jersey. Since scallops are not included in our definition of shellfish, they are not subject to the specific requirements imposed on oysters, clams, and mussels. They are subject to the general requirements for food establishments included in the provisions of Chapter 15 of Title 24 of the Revised Statutes of New Jersey. A list was published and distributed by the Program giving the names and addresses of the 34 approved scallop shuckers.

The shellfish field laboratory at Tuckerton, Ocean County, was moved to a new location at Nacote Creek in Atlantic County during December, 1964. The facilities are to be shared by the Veterinary Public Health Program, the Division of Shell Fisheries, and the Division of Fish and Game.

There was continued cooperation with Rutgers University in shellfish depuration research.

Plans were made to cooperate with the U. S. Public Health Service and our New Jersey Radiological Health Program in a research project to determine the effect of the Oyster Creek Nuclear Reactor on the marine environment. Based on findings of sanitary surveys, changes in the condemned areas were as follows:

a. The borders of three condemned areas were clarified with no appreciable change in the amount of area condemned.
b. One shoreline closure was reduced somewhat resulting in a gain of approximately 173 acres of usable growing waters.
c. Two areas which had been open seasonally were closed on a year round basis, resulting in a loss of approximately 134 acres of usable growing waters for a seven-month period.
d. Three bays were condemned resulting in a loss of approximately 3,072 acres of usable growing waters.

Camp and Bathing Program

Lake Bathing

Sixty-two lake bathing places or areas were certified by this Department during the 1964 recreational season. As in the past, each facility certified was awarded an official State Health Department Certificate of Compliance, together with a large sign for public display during the bathing season stating "This Bathing Lake meets standards of the New Jersey State Department of Health."

Participation in the certification program is voluntary on the part of lake owners and operators. As has been customary, the names and locations of places certified by this Department were made available to the public through the press. In that manner, recognition is provided the certification activity in an effort to make available bathing facilities featuring safety, good general sanitation, and water of good quality.

Camps

There were 265 camps known to this Department during the 1964 season, an increase of seven over the 1963 figure. Of that number, 247 were reported on, with 206 being recommended for certification.

Acceptance of this voluntary certification program has been excellent. As additional camps become known, their owners and operators will be encouraged to participate in this program.

Trend

Figures for the three-year period prior to this report indicate an upward trend in the number of facilities participating in this program.

The figures are as follows:

	1961	*1962*	*1963*
Camps	*237*	*249*	*258*
Lake Bathing Places	*53*	*65*	*71*

Housing Program

The Department has responded to requests for consultation relative to the adoption of the Code by reference and has cooperated with local health officers who are interested in improving housing conditions in their community.

The Department has worked with local health officers and boards of health in approving plans for the proper construction of individual water and sewage facilities for many housing developments and in dealing with new subdivisions where drainage and septic tank tile fields were giving trouble.

Several conferences were held with soil conservation people relative to the use of soil data for evaluating soil for percolation efficiencies.

The Department has also approved plans for the installation of water supply or sewage disposal systems for 51 new school buildings or additions to school buildings. This work involves the review of plans and percolation test data, meetings with engineers and architects, and frequently site inspections before the review is complete and the approval can be issued.

In 1964, the State Commissioner of Health appointed a consultant to the Department on plumbing matters, Mr. Edward J. Paone.

Mr. Paone's duties as consultant include consultation with municipal and other public officials to promote more widespread adoption of the Plumbing Code of New Jersey, and to help in solving plumbing problems which may involve interpretation of the Code.

In that connection, Mr. Paone attended seven meetings and supplied consultation in seven instances either by telephone or correspondence.

With the imminent release of the 1964 revision of the Plumbing Code of New Jersey, it is anticipated that there will be a substantial increase in the number of requests for Mr. Paone's services.

To date, Mr. Paone's efforts have been well received.

Mobile Home Parks Program

In 1964, the Mobile Home Parks Program continued its field activities in the Ocean, Mercer, Burlington, and Camden County areas and moved into Middlesex and Monmouth Counties to involve a total of 85 mobile home parks into the upgrading process. Visits were also made to Lodi, Moonachie, Somerville, Strathmere (Cape May County), Deepwater, and other areas in answer to various complaints.

Calendar activities show over 50 full inspections, 205 reinspections, 40 visits, and 26 special investigations. A number of consultative meetings and court appearances are also listed. The court appearances caused one park to discontinue business and another to be fined for violation of Chapter 192, Public Health Nuisance Act.

The Program Coordinator attended all meetings of the Governor's Mobile Home and Travel Trailer Commission as a member.

The action of the Public Health Council, upon Program recommendation, in revising Sections 5.1 and 6.3 of Chapter IX, N. J. State Sanitary Code, provided the program with improved language and stronger control over water and sewage in mobile home parks, and increased the office work considerably, especially in approving water supply systems.

However, a number of persons still are failing to seek advice and approval before committing time and money to installation of mobile home park facilities for water and sewage. Time and effort may correct this. At any rate, the situation has prompted the Program Coordinator to suggest that all mobile home parks be registered with the Department and that all construction be approved by this Department.

One major Program problem is that of developing effective cooperative arrangements for joint efforts with local health departments so as to more rapidly provide complete coverage of mobile home parks throughout the state.

Potable Water Program

Two emergencies arose during 1964, one arising from extreme pollution of two wells, and the other due to a break in a water main. Prompt action by the Program averted what may have been serious outbreaks. Potential hazards to the health of consumers are determined and rectified through the continuous program of routine inspections and periodic bacteriological sampling.

It was not possible to achieve the desired frequency of at least one routine inspection of each public water supply during 1964. Two hundred and twenty-eight supplies were inspected, representing 46 percent of the total. The number of field inspections was somewhat less during the early part of the year because of transportation problems but the situation was later considerably improved by the permanent assignment of vehicles to the two field engineers. A summary of the field work performed appears in Table 1.

The number of routine inspections would undoubtedly have been higher except for the necessity to perform an abnormally large number of special investigations arising from consumer complaints of taste, odor, discolored water, and problems of pressure and volume. These arose, primarily, as a result of the extensive drought and prolonged hot weather which created water shortages at a time when demands were highest, increased the load on water treatment plant facilities, and curtailed normal mains flushing programs.

During the summer and extending well into the fall, the Program was active in assisting water purveyors to maintain supply during drought conditions by acquiescing to the use of emergency sources, including the derivation of water from unapproved wells and the temporary diversion of surface waters. This acquiescence was subject to monthly renewal, close control of water quality, and the continuous disinfection of the emergency supply with the maintenance of a positive chlorine residual.

The Program is constantly engaged in promoting the expansion and improvement of public water supplies to meet the ever-increasing demand for water which is required by New Jersey's expanding population and industry.

Two notable improvements constructed during 1964 include a $5½ million project of the Passaic Valley Water Commission to rebuild its treatment plant and increase its capacity to 60 million gallons per day average with 100 million gallons per day at peak demands; and a new $5 million water treatment plant for the Hackensack Water Company with a rated minimum capacity of 25 million gallons per day to augment its existing treatment facilities.

With the assistance of the Program, water purveyors continue to effect improvements to enhance water quality and service, and to minimize future problems. This continues to impose a significant workload on the Program in its responsibility for the examination of engineering projects and the issuance of appropriate permits. There was a total of 418 individual permits during 1964 for projects representing an estimated total construction cost of over $13½ million.

The above-mentioned projects include the approval of fluoridation equipment for the Boroughs of Allentown and Wharton, the City of Trenton, and the Mount Laurel Water Corporation, Mount Laurel Township. Close cooperation exists between the Dental Health and the Potable Water Programs in the promotion of fluoridation, the latter being primarily responsible for the engineering aspects. Personnel of the Potable Water Program assisted in securing a successful fluoridation referendum in the City of Trenton by participating in several "open mike" shows over a local radio station. They also participated in a fluoridation seminar arranged by the New Jersey Dental Society.

Other educational endeavors included lecturing at the advanced water operators' and plumbing inspectors' courses at Rutgers University; lectures to migrant labor camp inspectors on water supply problems; the provision of "expert panelists" for an environmental health field training course at Wayne, New Jersey; and the annual conference of the South Jersey Development Council; and the demonstration of the Millipore filter technique of emerging water analysis to civil defense personnel.

Cooperative endeavors were maintained with other agencies with an interest in water supply including the Farmers' Home Administration of the U. S. Department of Agriculture, United States Public Health Service, New Jersey Departments of Conservation (Division of Water Policy and Supply), Defense (Civil Defense Section), Education, Institutions and Agencies, and Public Utilities; and with the Mobile Home Parks and Food and Drugs Programs of this Department.

The present statutes pertaining to the supply of potable water, and under which the Potable Water Program derives its authority, have remained basically unchanged since 1899. While their longevity exemplifies that they

comprise sound legislation which has withstood the test of time, their age has created omissions in the effective control of public water supplies in accordance with modern concepts.

Several of the procedures and requirements of the Program which have become accepted practice over the years, and which have the full support of the water works industry itself, now have no statutory support. In other cases the statutes are so completely outdated as to hamper the effective operation of the Program.

Legislative approval is therefore being sought for revisions in the statutes in order to up-date them in accordance with modern concepts for the effective control of public water supply systems in order to protect the health, safety, and welfare of consumers. Included are bills which have been prepared and submitted to the Assembly to up-date the definition of "Public Water Treatment Plant," and to liberalize the law governing the installation of approved physical (cross) connections. Unfortunately, these bills did not receive legislative action in 1963 or 1964, so will be reintroduced in 1965.

Table 1. Summary of Field Work, etc.

Routine Inspections—Public Water Supplies	231
School Supplies	165
"Special" Supplies (Institutions, etc.)	29
Interstate Carrier Watering Points	5
Special Investigations and Revisits	269
New Well Tests (including schools)	68
Physical (Cross) Connections—New installations inspected	19
Renewal Permits issued	249
Bacteriological samples taken from public water supplies	2,311
Bacteriological sample results interpreted (includes mailing program)	4,648
Chemical samples taken for complete chemical analysis	355
for partial chemical analysis	930
Chemical sample results interpreted	1,285
Formal Orders served	19
Orders of Necessity	3

Table 2. Potable Water Projects Approved

Number of individual permits for combined projects	418
Estimated total construction costs for projects approved	$13,576,000
New comprehensive water supply systems	5
New sources of water supply approved	53
New water treatment plants	31
Additions and alterations to water treatment plants	26
New water storage units	31
New transmission and distribution mains	10
Major additions and alterations to distribution systems	28

General Sanitation Unit

Ragweed and Poison Ivy Program

The use of 2, 4-D and other herbicides for the control of weeds including ragweed and poison ivy are on the increase in this state.

State, county, and municipal roadsides are now more frequently treated with herbicides because it is more economical and practical than old fashioned dependence on cutting. Where practiced, obstruction to vision by weeds and brush at street crossings on well traveled roads is being controlled more consistently. Farmers are aiding weed control programs by the more frequent spraying of weeds in their regular farming operations and at the same time increasing production of cash crops by the removal of undesirable plants which compete for soil nutrients and moisture.

Mosquito control associations are using herbicides to provide for better drainage of water by the elimination of brush and weeds in ditches which drain lowlands. Lakes and ponds for swimming, irrigation, and fire fighting purposes are treated with aquatic herbicides to permit recreational uses and provide better flow of water through irrigation pipe lines and hoses.

Municipalities along the seashore are recognizing the need to control ragweed to prevent ragweed pollen from affecting those susceptible to pollenosis.

Twenty pollen collection stations were in operation during the 1964 growing season. Pollen counts for the 1963 season were reported in an annual pollen data bulletin early in 1964.

Educational efforts were increased in the summer season through visits to areas interested in doing control work and in obtaining daily pollen counts.

Solid Waste Program

A summary of the refuse disposal areas is as follows:

1. Total number refuse disposal areas	417
2. Municipal operations	218
3. Private operations	199
4. Municipalities not having refuse disposal areas	303
5. Total number of municipal incinerators	11
6. Total number of Wilco burners operated by municipalities	3
7. Total number of inspections of refuse disposal areas	736

Metropolitan District:	47 areas, 1 inspection
Northern District:	75 areas, 139 inspections
Central District:	149 areas, 418 inspections
Southern District:	146 areas, 178 inspections

8. Total number of refuse disposal areas closed since 1958 167
   - Metropolitan District 8
   - Northern District 24
   - Central District 80
   - Southern District 55
9. Total number of refuse disposal area cases in the Attorney General's Office 12

A continuing effort is being made to upgrade sanitary landfill operations in this state. In the Hackensack Meadow area, heavier bulldozers are being purchased by the private and municipal operations. There are more 16- and 24-ton bulldozers in use on these refuse disposal operations. These bulldozers are replacing the 10- and 12-ton pieces of equipment. Heavier and greater capacity draglines are also being purchased in order to improve spreading and compaction of these landfilling operations. The increase in cost of equipment has doubled because of the sizes and weight of the equipment being used in this area.

The Solid Waste Collection and Disposal Course is being offered by the University Extension Division of Rutgers—the State University. So far, four basic courses have been given to muncipal officials, municipal employees, professional engineers, state officials, and private contractors. Two advanced courses were given and qualified 88 individuals to membership in the Society of Solid Waste Technicians.

Underground burning taking place along Route 3 in the vicinity of Routes 17 and 20 in East Rutherford has been a vexing problem. It is the hope of municipal officials to obtain funds from federal air pollution funds or under the Clean Air Act of 1963.

Shooters Island, in Newark Bay, is still being used to store demolition wastes from docks, wharves, piers, and other buildings in New Jersey and New York. Much of this waste and other bulky waste are stockpiled on old sunken barges and scows on the tidal flats of Shooters Island. Two municipalities located in two counties of New Jersey have jurisdiction on this Island. Bayonne in Hudson County and Elizabeth in Union County are the municipalities of New Jersey. The majority of this Island is under the jurisdiction of Staten Island of the State of New York. Much of this waste is the result of rehabilitation of the Harbor of New York by the municipalities of both states and the Army Corps of Engineers.

Occupational Health Program

The attached statistical summary for 1964 shows an increased demand for the services of the Occupational Health Program up 10 percent from the previous year. In addition to this increase in the number of plants visited, there was an increase of over 16 percent in the number of services rendered.

Not included in the statistical summary is the source of the requests for these industrial plant visits. Self-initiated visits and visits requested by plant management were each approximately 10 percent of the total. The bulk of the requests, 62 percent, were from local health officers. A high proportion of these visits were made on community occupational health surveys in industries in Union, Camden, Ridgefield, Palisades Park, and Hanover Township. These surveys are continuing in Camden, Hanover Township, and Palisades Park. Carteret, Ridgefield Park, and Lodi will begin this program in 1965.

Assistance was given local health departments in the evaluation of 27 dry cleaning establishments. This is less than in previous years as the popularity of the coin-operated type has waned. Municipalities with noise performance codes requested 10 studies. Six garages were examined for carbon monoxide exposure. This is an area that should be allotted increased attention especially since the probability exists to lower the threshold limit value from 100 to 50 parts of carbon monoxide per million parts of air for a daily eight hour exposure.

Assistance was given other departments of the state government in the evaluation of poisonous exposures in six motor vehicle inspection stations, and for the Department of Labor and Industry, a three day study in a shipyard using lead to build atomic reactor housings for submarines. In addition to the atmospheric sampling for possible exposures, blood and urine samples were analyzed for lead content and 52 men were given comprehensive medical examinations. Also, at the request of that department, an evaluation of a paper-coating operation involving acetone instituted an immediate shutdown and prevention of an explosion and possibly deaths.

Services were rendered numerous industrial workers, physicians, lawyers, and safety personnel requesting information on specific processes or substances to the extent of 25 percent of the correspondence of this Program. To implement and anticipate these requests, Occupational Health bulletins have regularly been disseminated to a mailing list of over 1,800. Requests for these bulletins came from all states and in 1964 from 35 individuals in 11 foreign countries. Three new subjects, ozone, threshold limit values, and perchloroethylene were

added in 1964 increasing the number of available bulletins to 54. Currently, the most requested bulletins are on beryllium, control of industrial noise, and guidebook for industrial nurses.

Program personnel devoted much time and effort in participating in 215 meetings, all for the promotion of occupational health activities, and to educate the public on newer trends of industrial hygiene.

Program personnel cooperated with the New York Academy of Sciences in organizing and conducting a three day conference on the "Biological Effects of Asbestos." Speakers were from this country and other countries throughout the world. Research demonstrated evidence of new causes of disease by asbestos dust.

Special Studies

Beryllium, probably our most toxic metal, is being widely used in molds for the plastic industry. In this use, it is alloyed with copper. A survey began in 1964 of all the plants known to be grinding, polishing or otherwise working this metal.

Occupational Health Laboratory facilities were greatly overburdened in 1964 by the increased demand for an analyses of the lead content of blood samples submitted from children suspected of having excessive lead absorption. This work was completed to give assistance to the Accident Prevention Program and blood samples were submitted by hospitals and physicians throughout the state.

Table 1. Occupational Health Program
Summary of Activities With Percent Change

Field Activities	*1964 Calendar Year*	*1963 Calendar Year*	*Change*
Number of industrial establishments given service	289	253	+ 36
Number of employees in establishments visited	55,999	91,900	...
Number of workers affected by services given	15,680	41,083	...
Number of other places and areas visited	66	105	— 39
Field Environmental Services	355	358	...
Introductory visits	240	203	...
Industrial hygiene surveys	227	203	...
Technical study of hazards	182	145	...
Noise and vibration	15	29	...
Consultation only (advisory)	6	11	...
Follow-up on recommendations	16	2	...
Totals	686	593	+ 93

Table 1. Occupational Health Program
Summary of Activities With Percent Change—*Continued*

Field Activities	*1964 Calendar Year*	*1963 Calendar Year*	*Change*
Environmental Recommendations	947	865	+ 82
Field Determinations			
Atmospheric contaminants	585	456	+129
Physical conditions	1,691	862	+819
Totals	2,276	1,318	+948
Laboratory Analyses			
Routine	231	334	—103
Diagnostic	1,161	1,039	+122
Research	1	198	...
Totals	1,393	1,571	—178
Workers Health Services			
Promotion of plant health programs	208	180	+ 28
Consultation on medical aspects	29	27	...
Consultation on nursing aspects	50	29	+ 21
Consultation with local health departments on plant health services	17	4	+ 13
Totals	311	240	+ 71
Occupational Diseases Investigated	17	37	— 20
Occupational Diseases Reported	347	332	+ 15
Related Activities			
Meetings attended	215	81	+134
Publications	3	3	...
Lectures and demonstrations given	24	6	+ 18
Attendance at above	4,785	189	...
Office consultation services and inquiries	931	1,047	—116

Radiological Health Program

The Radiological Health Program is responsible for keeping the radiation exposure of residents of New Jersey under surveillance and taking steps for reducing such radiation exposure when it becomes necessary. Ionizing radiation has been found to be extremely harmful when individuals are exposed to large amounts over short periods of time and is suspected to be harmful when individuals are exposed to lesser amounts over long periods.

The Program is the result of the implementation, by the Department, of the provisions of the Radiation Protection Act (Chapter 116, Public Laws of 1958, as amended by Chapter 124, Public Laws of 1961). The Act provides for a seven member Commission on Radiation Protection which is authorized to promulgate necessary radiation protection regulations.

Membership and Activities of the Commission on Radiation Protection

The New Jersey Commission on Radiation Protection was first organized October 6, 1958, and has since been discharging its responsibilities. The Department has rendered administrative support to the Commission as provided for in the Radiation Protection Act.

Officers and members of the Commission on Radiation Protection, as of December 31, 1964, are:

Frank G. Dunnington, Ph.D., Chairman
Benjamin P. Sonnenblick, Ph.D., Vice-Chairman
Philip D. Gilbert, M.D., Secretary
Roscoe P. Kandle, M.D., State Commissioner of Health, New Jersey State Department of Health
Harry D. Levine
Richard J. Sullivan, M.P.H., New Jersey State Department of Labor and Industry
Max M. Weiss, Ph.D.

During 1964, the Commission on Radiation Protection continued a major revision of the New Jersey Radiation Protection Code. After holding public hearings on February 19 and September 25, the Commission adopted a revised Code on October 30, 1964.

The new Code provides for licensing by New Jersey of all persons to possess and use radioactive materials that are naturally occurring and those artificially produced in particle accelerators. The group of radioactive materials to be licensed by New Jersey includes all those materials not subject to licensure by the U. S. Atomic Energy Commission. The amended Code was filed with the Secretary of State on November 17, 1964, and became effective on February 1, 1965.

Activities of the Program

Registration of Radiation-Producing Machines

During 1964, 728 radiation-producing machines were registered to bring the total number of registrations to 9,182. An analysis of machine registration, by type of user follows in Table 1.

Table 1. Number of Radiation Machines Registered by Type of Registrant

Type of Registrant	*No. of Machines Registered During 1964*	*Total as of December 31, 1964*
Dentists	432	4,375
Physicians	196	2,171
Chiropractors	18	254
Podiatrists	19	270
Veterinarians	7	169
Hospitals and Institutions	38	1,149
Industry	18	794
Total	725	9,182

There were 545 X-ray unit registrations cancelled during 1964, due to transfer of ownership or disposal of units.

Registration of Radioactive Materials

A total of 77 users of radioactive materials were registered in 1964. This brings the number of such registrations to a total of 430 since the beginning of registration in April, 1960. An analysis of registration by type of user is presented in Table 2.

Table 2. Number of Radioactive Materials Registrations by Type of Registrant

Type of Registrant	*Radioactive Materials Registrations During 1964*	*Total as of December 31, 1964*
Physicians	7	68
Hospitals	4	69
Industry	56	256
Civil Defense Agencies	10	19
State or Federal Agencies	0	9
Schools	0	9
Total	77	430

Continuing effort was made in locating and registering radium sources in use in the state. The amended Radiation Protection Code, which requires licensing of this material, will greatly facilitate this effort.

Field Inspections for Code Compliance of X-ray Machines

There were 2,796 inspections of X-ray units made in 1964 to determine compliance with the Radiation Protection Code. Table 3 presents a breakdown of such inspections by type of registrant.

Table 3. Inspections of X-ray Machines by Type of Registrant

Type of Registrant	*No. of Inspections Made During 1964*	*Total as of December 31, 1964*
Dentists	1,180	5,239
Physicians	926	3,015
Chiropractors	58	347
Podiatrists	160	437
Veterinarians	67	228
Hospitals and Institutions	344	1,595
Industry	61	117
Total	2,796	10,978

X-ray Machine Code Compliance Inspection Results

As of December 31, 1964, 3,949 items of noncompliance with the Radiation Protection Code were discovered during the 2,796 inspections conducted during 1964. A total of 24,630 items of noncompliance have been found to date. The most common defect found is the lack of a radiation protection survey. This deficiency has been found for 6,283 units or 74.1 percent of the total units inspected. The Radiation Protection Code requires that a radiation protection survey for each X-ray installation be performed by a qualified private consultant in order to assure that the radiation exposure of the operator and the public is within Code limits.

The code compliance inspection program for x-ray machines has been instrumental in significantly reducing the radiation exposure experienced by both patient and operating personnel. The ultimate goal of the code compliance inspection program is to bring all the operating x-ray units in New Jersey into compliance with the Radiation Protection Code. Table 4 denotes the progress towards this goal as of December 31, 1964.

Table 4. X-ray Machines in Compliance With the New Jersey Radiation Protection Code by Type of Registrant

Type of Registrant	*Units Placed "In Compliance" During 1964*	*Total as of December 31, 1964*	*% of Registered Units*
Dentists	1,379	2,825	64
Physicians	577	815	37
Chiropractors	85	195	76
Podiatrists	81	157	58
Veterinarians	55	80	47
Hospitals and Institutions	224	254	22
Industry	40	65	8
Total	2,456	4,404	48

Field Inspections of Radioactive Material Installations

Installations where radioactive materials are used were inspected 50 times during 1964. Inspections were made jointly with personnel of the U. S. Atomic Energy Commission of those installations having Atomic Energy Commission licenses. Those installations using non-AEC controlled radioactive materials were inspected independently by Program personnel. A breakdown of these inspections is given in Table 5.

Table 5. Radioactive Material Installations Field Inspections by Type of Registrant

Type of Registrant	*Inspections During 1964*
Physicians	1
Hospitals	28
Industries	21
State or Federal Agencies	0
Schools	0
Total	50

The implementation of the amended New Jersey Radiation Protection Code will bring about a substantial expansion in these activities.

Radiological Health Laboratory Activities

The Radiological Health Laboratory routinely collects and assays for radioactivity content environmental samples in order to determine base natural

radioactivity levels to which the public is exposed and to detect any change in these levels due to fallout or other external causes which may necessitate public health action. The Laboratory processed 3,093 samples during 1964. A breakdown by type of sample follows in Table 6.

Table 6. Radiological Health Laboratory—Environmental Samples Processed During 1964

Type of Sample		*Number*
Water Supplies:		
Public Water Supplies—	Surface Water	162
	Silt	62
	Ground Water	86
State-Wide Streams—	Water	361
	Silt	278
Air		386
Precipitation		58
Special Environmental Samples—	Water	354
	Silt	157
	Vegetation	329
	Soil	229
	Milk	408
	Vegetables	1
Leak Tests and Smears		216
Miscellaneous		6
Total Samples		3,093

Table 7. Breakdown—Laboratory Operations During 1964

Laboratory Determinations	*Number*
Gross Alpha	2,350
Gross Beta	2,350
Strontium 89	408
Strontium 90	408
Iodine 131	48
Other Operations	
Leak and Smear Tests	216
Fallout Levels (Air)	462
Sample Preparation for U. S. Public Health Service (Milk, Precipitation)	107
Total Determinations	6,349

The capabilities of the Radiological Health Laboratory were greatly enhanced during 1964 through the use of a 400-channel gamma analyzer, the purchase of which was made possible by an outright grant of federal funds from the U. S. Public Health Service in 1963. The analyzer enables the Laboratory to identify specific radionuclides with relative ease.

Gross alpha and beta laboratory determinations are made on all water, silt, vegetation, vegetables, and soil samples. Gross beta determinations are made on all precipitation and air samples. Milk is analyzed for Strontium 89, Strontium 90, Iodine 131, and Barium 140. Leak test smears are generally analyzed for alpha and beta and any specific gamma radionuclides indicated.

Other Activities

Ninety-five technical conferences were held with representatives of industry, government, and various professions to provide relevant technical information on the Radiation Protection Code and radiation protection.

In addition, Program personnel attended 103 meetings, performed 33 special field surveys, and presented 13 training lectures to interested groups.

Program Notes

1. Levels of fallout as measured by the radioactivity of particulates filtered from the air in Trenton, and elsewhere in the United States, reached such low levels that effective January 24, 1964, the daily procedure of telephoning fallout estimates of such levels to the Public Health Service in Washington was discontinued.
2. Chief attended a two-week orientation course conducted by the U. S. Atomic Energy Commission on licensing and regulatory procedures currently in use by the Commission. The licensing and regulatory procedures discussed were those used to assure the safe use of those radioactive materials covered in agreements between states and the Atomic Energy Commission, whereby states assume licensing and regulatory authority from the Commission. Twelve other states also had representatives in attendance at this orientation course held at Bethesda, Maryland.
3. Chief accepted, for the Department, an award of appreciation for services rendered while maintaining Station 201 of the U. S. Public Health Service's Radiation Surveillance Network located in Trenton. The Department has maintained this air surveillance network station for the past seven years. Mr. Joseph B. O'Connor, Regional Director, Region II, U. S. Department of Health, Education and Welfare, conferred the award.

4. A fluoroscope having a table top dose rate of 47 roentgens per minute was discovered in the offices of a physician. The physician was advised by the field inspector and again by telephone from this office not to use the fluoroscope until such time as repairs were accomplished to bring the machine in compliance with the Code. The dose rate should be only five r/min or less. The telephone contact was followed by a letter repeating the substance of the telephone conversation and the physician agreed not to use the machine until the repairs had been completed.
5. A seminar on atomic energy for local officials was held April 10 in Trenton. This seminar was conducted jointly by the U. S. Atomic Energy Commission, the New Jersey State Department of Conservation and Economic Development, the New Jersey State League of Municipalities, the New Jersey Health Officers Association, and the New Jersey State Department of Health, and was designed to apprise local officials of the importance of current developments in uses of atomic energy. Also discussed were the various methods used for assuring safety in the use of atomic energy in order to make available therefrom any benefits derived.
6. Chief of Program addressed members of the Insurance Engineering Board, New Jersey State Safety Council, Inc., at the Military Park Hotel, Newark, on April 13, 1964. A comprehensive picture of the progress of radiation protection in New Jersey was presented to the board and members participated in a spirited question and answer period following the presentation.
7. Chief addressed public health nurses from the Metropolitan and Northern State Health Districts and the Southern and Central State Health Districts on the operations and policies of the Radiological Health Program.
8. The Radiological Health Program was alerted and responded to a possible radiation incident that occurred at the Newark Railroad Terminal of the Pennsylvania Railroad. A staff member equipped with the necessary emergency equipment was escorted to the scene by State Police. The situation was quickly evaluated and it was determined that the liquid which had seeped from a crate containing radium needles was not radioactive. This information was relayed to appropriate authorities and workmen suspected of being contaminated, and under isolation at St. Michael's Hospital, were promptly released.
9. A staff member observed the entire operation involved in the packing and initial shipment phases of six irradiated fuel elements from Industrial Reactor Laboratories, Inc., Plainsboro, to the Idaho Processing Facility of the U. S. Atomic Energy Commission. The shipment was escorted with the assistance of the State Police to the New Jersey-Pennsylvania line.
10. Staff members witnessed the initial loading of 375,000 curies of Cobalt 60 into a recently completed gamma irradiation facility to be used for sterilization purposes.
11. Chief attended the commissioning ceremony of the U. S. S. Pollock, a nuclear powered attack submarine. The ceremony was held at the facilities of the New York Shipbuilding Corporation, Camden, where the vessel was constructed, outfitted and underwent pre-commissioning testing prior to acceptance by the U. S. Navy.
12. Chief attended the dedication of the new facilities of Squibb, Division of OLIN, recently completed for handling "MEDOTOPES" radiopharmaceuticals. This is the only facility known to be specifically designed and built for such purposes and it represents a major step forward in the successful control of radiation hazards.
13. Staff member attended a two-week course on "Fire Protection and Fire Hazards in Atomic Industry." This course was conducted at Norfolk, Virginia, by the U. S. Atomic Energy Commission. The experience gained will be used in implementing a proposed program whereby short courses, including seminars, will be held on this subject at various locations throughout New Jersey. Other information to be included will cover the basic principles of nuclear radiation and the planning of measures to combat the effects of radiation incidents upon the community, including transportation accidents involving radioactive materials.
14. Staff member attended a three-week course on "Practical Experience in Health Physics." This course was conducted at Oak Ridge National Laboratory for state regulatory personnel for the purpose of providing health physics experience for public health personnel employed by states either having an agreement with the Atomic Energy Commission or where an agreement is proposed. Such agreements are for the purpose of taking over from the AEC certain licensing and regulatory authority they now conduct or formerly conducted.
15. Members of the New Jersey Commission on Radiation Protection met with three Commissioners of the U. S. Atomic Energy Commission in Washington at AEC headquarters. The meeting was to discuss compatibility of the New Jersey Radiation Protection Code with the regulations of the AEC, and to discuss other facets.

16. Sixty-three hundred questionnaires soliciting information on the education and experience of technician-grade operators of diagnostic x-ray machines were mailed in August, 1964. As of December 31, 1964, 65 percent of these were returned and a final report of the data obtained is expected early in 1965.
17. A Principal Chemist of the Program returned in September from educational leave while attending the Radiation Science Center, Graduate School in Radiological Health at Rutgers University.
18. Mr. Stephen Bard, Industrial Hygienist, returned in September from educational leave while on a U. S. Public Health Service fellowship in the Graduate Program in Radiological Health at Colorado State University, Fort Collins, Colorado.
19. The U. S. Atomic Energy Commission held a public hearing October 14, 1964, at the Dover Township Hall, Toms River, concerning the application for a provisional construction permit by Jersey Central Power and Light Company to construct a 1600 Mw (thermal) nuclear power reactor at Oyster Creek, Lacey Township, Ocean County. The New Jersey Commission on Radiation Protection, the State Department of Health, the State Department of Conservation and Economic Development, the Public Utilities Commission and the Office of the Attorney General all had representatives in attendance during the two and one-half days of the public hearing. The position of the Commission and the Department was made clear in a statement delivered by Dr. Frank G. Dunnington, Chairman of the Commission. Questions were raised as to possible adverse environmental effects that could result from the construction and operation of the Oyster Creek reactor. Not only was amplification requested on possible radiological effects, but question was raised as to whether or not saline contamination of surrounding ground waters would result by construction of the indicated canal approximately two miles inland and thence to return to Barnegat Bay. The possibility of adverse effects from adding such large quantities of heat to the waters of Barnegat Bay was also raised.
20. Chief attended a one-week course on "Dosimetry and Dose Determination" held at Argonne National Laboratory in Lemont, Illinois.
21. A Senior Industrial Hygienist was granted educational leave to accept a U. S. Public Health Service fellowship in the Graduate Program in Radiological Health at Colorado State University, Fort Collins, Colorado.
22. The McDade Trucking Company and the Interstate Commerce Commission requested that Program personnel select the most expeditious route through New Jersey for a heavy shipment of radioactive materials consisting of spent fuel elements from the reactor of a U. S. nuclear submarine. The information was promptly supplied.

23. A total of 2,500 Surpaks were mailed by Program personnel to dentists already in compliance with the New Jersey Code. The Surpaks will enable the Department to determine how effective its x-ray inspection and compliance program has been for dental x-ray installations. The cumulative total of Surpaks returned from the dentists was 77 percent as of December 31, 1964. Evaluation of results obtained is expected during 1965.
24. One professional staff member left, two professional positions were filled, and one clerical staff member was promoted during 1964.
25. The Public Health Service Assignee assigned to the Radiological Health Program to assist in development of adequate programs in all phases of radiological health completed his two-year service in the Public Health Service Reserve and was ordered to inactive duty during April, 1964. No replacement was received during the remainder of the year.
26. Staff members delivered lectures and conducted demonstrations covering orientation courses on radiation protection principles and proper measures to be taken with accidents involving the transport of radioactive material to four State Police recruit classes during 1964. These lectures and demonstrations have become a standard part of the curriculum of all State Police recruit classes.

Stream Pollution Control Program

After review, this Department issued permits for the construction and operation of 300 sewerage projects having an estimated combined cost of $57,000,000. Thirty-five permits to locate factories or workshops were issued. Orders of Necessity were granted to 14 municipalities permitting them to exceed their bonded debt limit in order that they might construct the necessary sewerage projects.

Ten formal orders were issued to municipalities and industries requiring the abatement of pollution of waters of the state.

There were 720 routine surveillance inspections of existing sewage and industrial waste treatment plants and some 420 special investigations, surveys, studies, etc., of waste treatment works and their effect upon the environment. Three very extensive sanitary surveys were made in cooperation with the Shellfish Program to determine suitability of saline waters for shellfish harvesting.

Rules and regulations establishing standards of quality for surface waters in New Jersey were promulgated by the State Commissioner of Health. These standards will provide an effective tool in the control and prevention of stream pollution not only by the State Department of Health, but other agencies of state government.

The outbreak of encephalitis in Burlington and Camden Counties during the summer dramatically served to point up the need for eliminating and controlling sewage treatment plants by effective regional sewerage planning, disregarding political boundary lines. The Program continued to press forward to obtain recognition of this concept throughout many municipalities in the state.

The Federal Construction Grant Program disbursed some $2,400,000 to aid in the construction of 11 sewerage projects. This amount represented less than four percent of the entire cost of construction estimated for the same period.

Veterinary Public Health Program

The Program on Veterinary Public Health is an administrative coordinating unit within the Division of Environmental Health. The Program's basic objective centers around the prevention and control of animal diseases transmissible to man, collectively known as the zoonoses. These activities are accomplished through the cooperation of (a) personnel assigned to the Program, (b) District Public Health Veterinarians and Rabies Control Wardens, (c) other Health Department personnel having allied functions and close liaison with interdepartmental programs.

The Program acts in an advisory and training capacity to the Meat Program of the Bureau of Food and Drugs as the demands for professional veterinary medical competence are needed. In addition to the Veterinary Public Health responsibilities, the Program is charged with administering insect and rodent control. During the latter part of 1964, the Pesticide Project was organized and will be part of the Bureau of Veterinary Public Health in 1965 under a United States Public Health Service contract.

The status of rabies was the same as in 1963 in that the only animal from which the rabies virus was isolated was the bat. A total of 18 bats, originating from 12 municipalities, representing eight counties and involving four species, were found to be positive. This figure of 18 in 1964 compares to 16 positive isolations in 1963 found in similar locations. The isolations were made from brains and salivary glands of 367 bats submitted to the laboratory. An interesting and probably significant aspect concerning the species of bats found in New Jersey is that an additional species, Lasiurus intermedius flourdanus,

(common name Eastern yellow bat) was captured. Heretofore records of identifications had not been recorded north of Virginia. It was from this species of bat that the first rabies isolation was made in 1951 in Florida.

A total of 78 persons were bitten or exposed during the handling of the bats, requiring anti-rabies treatment. In addition, 29 domestic animals were exposed.

The Rabies Control Project's two main objectives are to foster approved dog control and to encourage municipalities to conduct canine rabies vaccination clinics. A total of 145,488 dogs were vaccinated, representing 475 municipalities. This figure compares with the 138,600 animals vaccinated under the sponsorship of local boards of health in 1963.

Table 1. Cases of Rabies by Years and States

Calendar Year	*New York*	*Pennsylvania*	*Delaware*	*New Jersey*
1946	1,175	502	1	276(2 Humans)
1947	696	293	0	94(1 Human)
1948	568	147	1	112(1 Human)
1949	515	31	0	67(1 Human)
1950	1,022	102	0	5
1951	539	241	0	0
1952	337	300	7	0
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(Bat)
1961	90	14	0	8(7 Bats, 1 Cat)
1962	111	58	0	11(10 Bats, 1 Raccoon)
1963	90	29	1	16(Bats)
1964	119	9	0	19(Bats)

Health Education Activities

Major activities were as follows:

Comparative Medicine Symposium

In an effort to secure a closer relationship between physicians and veterinarians and to demonstrate the close relationship between animal disease and human health, the Bureau of Veterinary Public Health has been cosponsoring comparative medicine symposia.

Such a symposium on allergic diseases in man and animals was held on May 13 at the third Annual Meeting on Comparative Medicine and Human Health at Brunswick Inn, East Brunswick, New Jersey. Forty-nine veterinarians and 64 physicians attended. The Symposium was sponsored by the Veterinary Medical Association of New Jersey, the Medical Society of New Jersey, the New Jersey Allergy Society, the United States Public Health Service, and the New Jersey State Department of Health.

Members of the Bureau attended a one-day civil defense course conducted under the joint sponsorship of the New Jersey Department of Health and The Medical Society of New Jersey. The agenda was concerned with subject matter pertaining to responsibilities of medical and para-medical personnel during national disasters.

Rabies Control Institute

A rabies control institute sponsored by the four State Health Districts and this Program was held on October 14, 1964, in Trenton. The purpose of the conference was to bring both governmental and private agencies up-to-date concerning all phases of the Rabies Control Program. Approximately 300 persons attended, representing such organizations as boards of freeholders, local boards of health, humane societies, American Society for the Prevention of Cruelty to Animals, private and public rabies control wardens, Army and Air Force veterinary personnel, and New Jersey State Department of Health personnel.

Meat Inspection

In cooperation with District Public Health Veterinarians, a member of the Bureau supervised the unloading of an embargoed refrigerated box car containing 776 pieces of meat weighing 41,904 pounds. The meat had been embargoed because of faulty refrigeration. All pieces were inspected. As a result, 228 pieces weighing 11,312 pounds were considered inedible and were disposed of under the supervision of a local board of health inspector at an animal by-products rendering plant.

One sanitarian was rated to perform sanitation inspections and was trained and licensed as a Meat Inspector. A member of the Bureau supervised four licensing examinations for Veterinary and Lay Meat Inspectors.

Viral Encephalitis Research

The Arbovirus Transmission Pattern Study completed its fourth year of operation. The Project was financed from state moneys in 1961 and operated under funds allotted under a National Institutes of Health Grant during 1962 through 1964. Drs. Martin Goldfield and Oscar Sussman are the principal co-investigators of this study. The project is a cooperative one by the Division of Laboratories and the staff of the Bureau of Veterinary Public Health. Drs. William C. Carter and Raymond E. Kerlin, Senior Public Health Veterinarians, and Walter R. Gusciora, Entomologist, are assigned to the Project along with six part-time and one full-time Field Representatives (Health). The State Department of Conservation and Economic Development, Division of Fish and Game, Bureau of Wildlife Management cooperates by assigning a Junior Wildlife Manager, Mr. George Haws, who renders invaluable assistance in the Project. In addition, whenever mammal trapping is needed, members of their staff aid in performing this task. Dr. Jeff Swinebroad, Chairman, Department of Biology, Douglass College, Rutgers—the State University is employed as an ornithological consultant.

A brief description of the Project is as follows:

Four study areas are maintained, located in Estell Manor, Atlantic County; Brigantine Wildlife Refuge, Galloway Township, Atlantic County; Forked River Game Farm, Ocean County; and Great Swamp area, Morris County.

The design of the Project was altered in 1964 in that equal emphasis was placed on trapping of mammals and wild birds. Wild birds were netted at each study site two days a week throughout the year. In addition, mammals were trapped an equal number of days. The birds were speciated; parasites removed; banded; bled and released. The mammals were also bled, banded, when practical, and ectoparasites removed. All mice and rats were delivered alive to the Virus Laboratory. Sentinel flocks of chickens were maintained in or near each site and bled at two- to three-week intervals. Mosquitoes were caught in light traps and resting boxes. All specimens (such as blood, nervous tissue, internal organs, and insects) were submitted to the Program on Virology, Division of Laboratories for serological tests and virus isolations.

Table 2. Breakdown of Birds, Mammals, Amphibians and Chickens—1964 and Totals for 1961-1964 Captured and Bled in Each Study Area

	1964	*1961-1964*
Mammals, Reptiles and Amphibians	1,398	3,042
Wild Birds	4,757	25,486
Chickens	682	2,786
Mosquitoes	33,180	282,464
Other Arthropods	4,560	11,594

Drs. Sussman and Goldfield presented a paper concerning New Jersey's Arbovirus Project at a meeting sponsored by the Communicable Disease Center, United States Public Health Service.

St. Louis Encephalitis

During October, members of the Bureau were engaged in collecting mammals, wild birds, and mosquitoes in connection with the St. Louis encephalitis outbreak in Burlington and Camden Counties. Mammals were trapped and handled similarly to our work in the Arbovirus Studies. Four net sites were maintained (three in Camden and one in Burlington Counties) wherein wild birds were netted, speciated, banded and bled. In addition, blood was collected from swine, horses, turkeys and chickens. All serological testing was performed at the Virus Laboratory. This work was performed in addition to the normal activities connected with the Arbovirus Transmission Pattern Study.

Table 3. Breakdown of Birds, Mammals, Amphibians and Chickens, Collected During October (St. Louis Encephalitis Study)

Mammals, Reptiles, and Amphibians	397
Wild Birds	678
Turkeys and Chickens	167
Mosquitoes	22,119

Psittacosis

Psittacosis was diagnosed in persons handling racing pigeons. Tests of the pigeons revealed a flock infection. As part of an epidemiological study to determine the efficacy of antibiotic treatment in the pigeon flock known to be infected with psittacosis, blood specimens were collected for serological titres prior to treatment. This project was conducted in cooperation with the Hooper Foundation and the American Cyanamid Agricultural Division of Princeton, New Jersey. Follow-up studies to determine the efficacy of the completed antibiotic feeding will include blood sampling and testing of the F_1 and F_2 generations of positive birds. The aforementioned work was a joint effort of this Bureau and the Northern State Health District.

Division of Laboratories

Martin Goldfield, M.D., *Director*

Programs:

Bacteriology	Russell Stein, *Program Coordinator*
Blood Bank	Federico Colosimo, *Program Coordinator*
Chemistry	John J. Nelson, M.S., *Program Coordinator*
Pathology	Martin Goldfield, M.D., *Program Coordinator*
Serology	Eleanor E. Thomas, *Program Coordinator*
Virology	J. Norman Welsh, M.S., *Program Coordinator*

Division of Laboratories

Services requested of the Division of Laboratories have continued to increase at a phenomenal rate. During 1963, the Chemistry Program was reported to have experienced a 15 percent increase, Bacteriology a 12 percent increase, and Virology a whopping 40 percent rise in work load. During this past calendar year, Bacteriology had had an additional 18 percent increase, Chemistry a nine percent rise and Virology a 28 percent increase over the previous year. Thus, for example, the Virology Program alone has been forced to deal with a 106 percent increase during the past two years!

The most noteworthy contribution of the Division of Laboratories during this past year was recognition of the first known outbreak of St. Louis Encephalitis in northeastern United States and incrimination of *Culex pipiens* mosquitoes as the vector transmitting to man. Less dramatic, perhaps, but equally important has been the institution of numerous changes designed to provide more effective services in the interest of the public health. Newer, improved, more complex techniques have been adopted in syphilis, tuberculosis, enteric bacteriology, and phenylketonuria testing, as well as in shellfish and rabies examinations.

The reports of the component Programs of the Division that follow accurately and objectively present statistical data regarding the work performed during the past year. They cannot adequately reflect the dedication and spirit of service by employees that made these accomplishments possible despite limitations of personnel and facilities.

Bacteriology Program

Activities in this Program during 1964 were highlighted by record breaking workload totals, the expansion of the Phenylketonuria (PKU) detection program, the initiation of a regularly scheduled split sampling program for quality control of dairy laboratories, the relocation of a branch laboratory, and the retirement in June of the Program Coordinator who had served in that capacity for the past 19 years.

It must be emphasized, however, that many new, time-consuming procedures have been instituted during 1964, that are not reflected in work-load statistics. In the tuberculosis laboratory, direct antibiotic sensitivity tests have been instituted routinely on all specimens positive by smear, making important information available to treating physicians almost two months faster than was possible before. Antibiotic sensitivity testing has been extended to offer physicians information on so-called "secondary" drugs, of great importance in the care of tuberculosis patients infected with resistant organisms. More than

2,000 tests have been performed to evaluate procedures aimed at improving the digestion of sputum specimens and a similar number have been done in an effort to improve techniques for microscopic examination of tuberculosis smears. Cytochemical tests for differentiation and classification of organisms related to, but distinct from, M. tuberculosis have been extended.

Similarly, improved techniques in enteric bacteriology have required inoculation of all stool specimens in two additional media, a 33 percent increase in work per specimen. The institution of paper chromatography techniques in the PKU laboratory represented a significant improvement in such detection activities. Additional work on specimens of shellfish and shellfish waters has been generated by the inclusion of newer procedures, more accurately measureing fecal E. coli contamination, and "shell stock" is also now routinely being examined by performance of standard plate counts. In the rabies laboratory, all bat specimens are now routinely examined for rabies virus in salivary glands as well as in brains and a program of identifying other encephalitis viruses in animal specimens has been begun.

The demand for laboratory services produced an overall workload total of 110,910 specimens, an increase of 18 percent over last year. Although an expanded PKU detection program accounted for the bulk of this increased specimen influx, specimens relating to tuberculosis, rabies, gonorrhea, and enteric bacteriology also were submitted in greater numbers than in 1963. Workload statistics are tabulated below:

Table 1. Program Workloads

	Specimens		Examinations	
	1963	1964	1963	1964
Grand Total	92,957	110,910	239,846	279,801
Central Laboratory	79,003	100,316	218,915	263,910
Branch Laboratories	13,954	10,594	20,931	15,891
Bivalve	6,077	5,566	9,115	8,349
Tuckerton	7,877	5,028	11,816	7,542

Table 2. Central Laboratory Workloads

	Specimens		Examinations	
	1963	1964	1963	1964
Diagnostic Bacteriology				
Tuberculosis	18,681	19,468	93,405	97,340
Enteric Infections	7,977	7,993	27,919	27,975
Rabies	1,347	1,428	5,388	5,712
Phenylketonuria	13,754	39,267	27,508	78,534
Respiratory Infection	12,605	11,027	25,210	22,054
Gonorrhea	4,111	4,269	4,111	4,269
Staph Phage Typing	6,255	2,559	12,510	5,118
Miscellaneous Infections	1,813	1,024	4,532	2,560

Table 2. Central Laboratory Workloads—*Continued*

	Specimens		Examinations	
	1963	1964	1963	1964
Sanitary Bacteriology				
Dairy Products	2,086	2,124	4,172	4,248
Waters	10,374	11,157	15,561	16,735

The grand total of 279,801 examinations represents an increase of 16.6 percent over last year.

Table 3. Diagnostic Bacteriology—Tuberculosis

Total Specimens	Satisfactory for Examination		Unsatisfactory for Examination	Positives	
	Completed	In Process		Total	% of Completed
19,468	18,119	722	627	1,695	9.3

Table 4. Breakdown of Satisfactory Specimens

	Total	In Process	Completed	Positive	
				Total	% of Completed
Sputum	17,794	665	17,129	1,515	8.9
Urine	505	24	481	11	2.3
Gastric content	164	9	155	11	7.1
Bronchial washing	21	0	21	1	4.8
Pleural fluid	71	2	69	5	7.2
Spinal fluid	15	1	14	0	.0
Others*	271	21	250	152	60.8

* Cultures for identification, joint fluids, biopsy tissue, etc.

Table 5. Enteric Diseases

Total number of specimens 7,933

Specimens for diagnosis of gastrointestinal infections (bacterial)

Specimen	Total
Feces	5,732*
Urine	227
Cultures for identification	565
Food	91
Sewage	315**
Water	1
Blood	1
Total	6,932

* Includes 1,818 from Willingboro (Levittown, N. J.) Community Study.
** Willingboro Community Study.

Specimens for diagnosis of intestinal infection (parasitic)

Specimen	*Total*
Feces	884
Cellulose tape slides for pinworms	175
Parasites for identification	2
Total	1,061

Serologic tests (serotyping) for species identification of salmonella cultures were routinely performed. Results of these tests are tabulated on the following page:

Table 6. Sources of 763 Salmonella Serotype Isolations

Serotype	*Total*	*Isolated by Central Laboratory*			*Cultures Referred to Central Laboratory*		
		From Stool Specimen	*From Sewage**	*From Food Products*	*Human Isolates*	*Animal Isolates*	*Animal Feed Isolates*
S. anatum	3	..	..	..	3	..	..
S. blockley	39	26	2	..	11	..	..
S. bredeney	6	2	..	..	4	..	..
S. braenderup	5	2	..	..	3	..	..
S. bareilly	3	..	..	3	..	..	..
S. binza	13	..	..	..	..	..	13
S. bradford	1	..	..	..	1	..	..
S. cerro	2	..	..	1	..	..	1
S. chester	9	..	4	..	5	..	..
S. cholera-suis var. kunzendorf	1	1	..	..	..	..	..
S. derby	127	34	8	..	85	..	..
S. enteritidis	23	13	1	..	9	..	..
S. give	1	1	..	..	..	..	..
S. heidelberg	79	54	2	..	23	..	..
S. infantis	56	39	9	..	8	..	..
S. java	3	3	..	..	..	..	..
S. javiana	1	..	..	..	1	..	..
S. litchfield	2	1	..	..	1	..	..
S. meleagridis	2	..	..	..	..	..	2
S. miami	3	..	..	..	3	..	..
S. montevideo	21	5	4	3	9	..	..

Table 6. Sources of 763 Salmonella Serotype Isolations—*Continued*

Serotype	Total	Isolated by Central Laboratory From Stool Specimen	Isolated by Central Laboratory From Sewage*	Isolated by Central Laboratory From Food Products	Cultures Referred to Central Laboratory Human Isolates	Cultures Referred to Central Laboratory Animal Isolates	Cultures Referred to Central Laboratory Animal Feed Isolates
S. munchen	2	1	..	..	1	..	..
S. newport	24	13	4	..	7	..	..
S. oranienburg	17	5	5	..	4	..	3
S. paratyphi b	6	2	..	..	4	..	..
S. panama	2	..	1	..	..	1-dog	..
S. reading	7	..	..	..	7	..	..
S. saint-paul	23	6	2	..	13	2-pigs	..
S. schwarzengrund	3	3	..	..	..	..	..
S. seigburg	18	..	..	..	..	..	18
S. senftenberg	7	..	..	1	4	..	2
S. stanley	1	1	..	..	..	..	..
S. tennessee	22	8	11	..	3	..	..
S. thompson	15	6	..	2	7	..	..
S. typhi	25	17	..	..	8	..	..
S. typhimurium	141	85	5	..	51	..	..
S. typhimurium var. copenhagen	44	24	..	1	19	..	..
S. urbana	1	..	..	..	1	..	..
S. worthington	5	..	5	..	..	..	..
Total	763	352	63	11	295	3	39

* Willingboro (Levittown, N. J.) Community Study.

Table 7. Sources of 47 Shigella Serotype Isolations

Serotype	Central Laboratory Isolates	Referred Cultures
Sh. flexneri*		
2a (II :3, 4)	..	6
3a (III :6:7, 8)	..	4
2b (II :7, 8)	..	2
3c (III :6)	..	2
6 (VI :—)	..	1
Sh. sonnei	3	29
Total	3	44

* Group identification determined by Central Laboratory then referred to the U. S. Public Health Service, Communicable Disease Center at Atlanta, Georgia, for final serotyping.

Table 8. Sources of 14 Enteropathogenic E. coli Serotype Isolations

Serotype	Central Laboratory Isolates	Referred Cultures
026:B6	..	1
0111:B4	..	4
0111a, 111b:B_4H_{15}**	2	1
0111a, 111b:B_4H_{21}**	..	1
0119a:$B_{14}H_4$**	..	1
0126:B16	..	1
0127a:B8:H_{21}	..	3
Total	2	12

** OB type determined by Central Laboratory then referred to the U. S. Public Health Service, Communicable Disease Center, at Atlanta, Georgia, for completed serotyping.

Rabies

Specimen Total	Unsatisfactory	Acceptable	Positive	% of Acceptable Found Positive
1,428	41	1,387	18	1.3

The total of 1,428 submitted animal heads consisted of 28 different species in the following numbers:

Bats	376	Ground hogs	11
Dogs	243	Monkeys	6
Hamsters	175	Shrews	3
Rats/Mice	169	Weasels	2
Cats	156	Opossums	2
Squirrels	122	Chicken	1
Rabbits	43	Heron	1
Chipmunks	42	Goat	1
Skunks	20	Crow	1
Raccoons	18	Blackbird	1
Moles	11	Horse	1
Guinea pigs	9	Lamb	1
Foxes	6	Parakeet	1
Muskrats	6		

Positive findings occurred in bats only:

Total Submitted	*Unfit for Examination*	*Total Examined*	*Positive*	*% of Examined Bats Positive*
376	28	348	18	5.2

Phenylketonuria (PKU) Detection*

In October, 1962, the Program participated in a nation-wide study to evaluate a test developed by Dr. Robert Guthrie of the University of Buffalo, for the detection of PKU in newborn babies. By the end of 1963, more than 16,000 specimens were tested. On March 1, 1964, an expanded program, geared to process an annual workload of 50,000 specimens, became operational. During the year, a total of 37,255 acceptable specimens were tested and one confirmed PKU-positive infant was detected. In view of the rarity of occurrence, this one positive finding is particularly significant.

Total Specimens Submitted	*Unsatisfactory Specimens*	*Acceptable Specimens*	*Positive*
39,267	2,012	37,255	1

* Phenylketonuria, commonly referred to as PKU, is a rare inherited defect thought to occur once in about every 10,000 live births. Babies with this disorder lack a liver enzyme which converts phenylalanine, an essential amino acid present in most protein foods, to tyrosine, another amino acid. The accumulation of unconverted phenylalanine in the infant damages the developing brain. If undetected, the condition leads to severe mental retardation that is irreversible and usually dooms the victim to lifetime confinement in an institution.

Respiratory Bacteriology

Total Specimens	*Nasopharyngeal Swabs* — *Diphtheria* — *Total*	*Pos.*	*Hem. Strep.**	*Misc.*	*Slides Vincent's Angina*
11,027	2,479	0	8,218	319	11

* Willingboro (Levittown, N. J.) Community Study.

Gonorrhea

A total of 4,269 specimen slides were submitted for microscopic examination. Results were as follows:

Total Specimens	*Unsatisfactory for Examination*	*Satisfactory for Examination*	*Positives* — *Total*	*% of Examined*
4,269	27	4,242	843	19.8

Staphylococcus Phage Typing

In May, the performance of this test was discontinued as a routine service in favor of its more meaningful purpose; namely, its use as an epidemiologic tool in the investigation of outbreaks of staphylococcal disease. Consequently, only 2,559 specimens were received as compared with the preceding year's total of 6,255.

MISCELLANEOUS

Blood agglutination tests	422
Specimens for food poisoning	148
Cultures for identification	186
Specimens for fungus infections:	
cutaneous infections	26
systemic infections	85
Other (wounds, blood cultures, skin lesions, etc.)	157
Total	1,024

Sanitary Bacteriology

Dairy Bacteriology

Dairy products were routinely analyzed for coliform content and bacterial population, determined in accordance with procedures outlined in the 11th edition of the American Public Health Association's "Standard Methods for the Examination of Dairy Products."

	Total	Standard Plate Counts — Satisfactory	Standard Plate Counts — Below Standard*	% of Total Below Standard
Milk	1,022	914	108	10.5
Cream	439	362	77	21.2
Skim milk	216	187	29	13.4
Chocolate milk	190	164	26	13.7
Half and half	124	111	13	10.5
Frozen eggs	34	10	24	70.6
Non-fat milk	15	12	3	20.0
Totals	2,040	1,760	280	13.7
Miscellaneous:				
Split samples	79			
Powdered eggs	3			
Butter cream	1			
Doughnut filling	1			
Specimen Total	2,124			

Supplemental tests:	Number	Present	Absent
Penicillin residuals (milk)	410	4	406
Toxicity tests (dilution blanks)	4	0	4

* Below Standard—denotes bacterial populations in excess of acceptable standards for a particular type of dairy product. For example, milk standard = 30,000 bacteria per ml., cream = 100,000 bacteria per gram.

Dairy Laboratory Control—Split Sampling Program

To evaluate and monitor the analytical proficiency of personnel in dairy laboratories participating in the Reciprocal Milk Sampling and Inspection Programs, a split sampling program was put into effect in November. At that time, eight participants in the Reciprocal Milk Sampling Program were sent portions of test specimens prepared and split by the Central Laboratory. The 10 Reciprocal Milk Inspection Program laboratories were sent a split sample series the following month. The comparison of analytical results obtained by the tested laboratories together with the results obtained by the Central Laboratory provided the basis for proficiency evaluation. Present plans call for semi-annual evaluation of Reciprocal Milk Inspection Program laboratories and annual evaluation of the Reciprocal Milk Sampling Program group.

Water Bacteriology—Central Laboratory

The Central Laboratory performed bacteriologic examinations of 11,157 samples of waters in accordance with the standard methods set forth by the American Public Health Association. Quantities and types of processed samples are listed on the next page.

CENTRAL LABORATORY—TOTAL WATERS, 11,157

Potable Waters		Bathing Waters	
Public	4,262	Swimming areas	368
Private	2,482	Pools	41
Schools	730	Effluents	
Recreational Camps	268	Sewage	1,324
Institutions	182	Streams	519
Migrant Camps	162	Trade wastes	47
Abbatoirs	124	Miscellaneous	
State Parks	101	Delaware Estuary Study	448
Ice Cream Stands	36	Shellfish growing areas	23
Dairies	24	Shellfish	9
		Algae for identification	1

Water Bacteriology—Branch Laboratories

Two branch laboratories at Bivalve and Tuckerton* (Nacote Creek) performed bacteriologic analyses on 10,594 samples of shellfish and waters from shellfish growing areas in support of the Department's Shellfish Program. All analytical procedures were performed in accordance with the Standard Methods recommended by the American Public Health Association. Workload breakdown follows:

Branch Laboratory	Waters	Shellfish	Total
Bivalve	4,930	636	5,566
Tuckerton (Nacote Creek)	4,967	61	5,028
Totals	9,897	697	10,594

In May an evaluation of these laboratories was conducted by two representatives of the U. S. Public Health Service. Their rating of the laboratory support of the Shellfish Program was scored at 81.7% of a possible 100%. Procedural corrections recommended by the evaluating officers have been effected. In addition, an annual inner division evaluation of these branch installations will be programmed by the Central Laboratory survey officer.

In-Service Training

Continuing the policy of upgrading personnel competency and updating laboratory methodology, several members of our staff attended the following in-service training courses:

* Structural defects in the Tuckerton Laboratory building prompted the transfer of this facility to more suitable quarters. In November, personnel and equipment were relocated at the Nacote Creek Research Station near Smithville, Atlantic County.

January—*"Principles of Epidemiology,"* a one-week course given by the U. S. Public Health Service Communicable Disease Center personnel in conjunction with the Health Departments of the State of Pennsylvania, and the city of Philadelphia. Attended by Principal Bacteriologist at Philadelphia.

March—*"Course for Milk Survey Officers,"* a one-week course at Robert A. Taft Sanitary Engineering Center in Cincinnati, Ohio. Attended by Bacteriologist.

June—*"Salmonella in Foods,"* a one-week course at the U. S. Public Health Service Communicable Disease Center, Atlanta, Georgia. Attended by Senior Bacteriologist.

September—Bacteriologist spent one week in Denver, Colorado, observing the latest methodologies employed by Mycobacteriology units at National Jewish Hospital, Fitzsimmons Army Hospital, and Colorado Jewish Hospital.

October—Assistant Bacteriologist received a week of bench training in techniques used by PKU detection units at Children's Hospital, Massachusetts General Hospital and the Massachusetts Department of Public Health, Boston, Massachusetts.

* * *

Bench training facilities at the central laboratory are constantly available to personnel from hospitals, health departments, and clinical laboratories throughout the State. This service was utilized by 12 technicians who received instruction in one or more of the following units: enteric bacteriology 10; tuberculosis lab 4; parasitology 1.

Laboratory Approval

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. Laboratories seeking such approval are inspected by a representative of this Program, evaluated as to qualifications of personnel and equipment, and tested for proficiency on the basis of their reported results of analyses performed on a series of reference check specimens.

Six approvals were granted during the year bringing the total of approved laboratories to 143 as of December 31.

Breakdown:

Hospital laboratories	81
Private laboratories	55
Municipal health department laboratories	6
County health department laboratories	1

Central Services

A total of 240,414 specimen collection kits were assembled, sterilized and distributed for use by physicians, local and district health departments, hospitals and other institutions and health agencies throughout the state.

The various culture media prepared for use by Bacteriology units amounted to 6,028 liters.

The Willingboro study was supplied with 11,552 blood plates, 8,874 chocolate blood agar plates, 7,444 tubes of Tood-Hewitt broth (1ml./tube).

Chemistry Program

This Program's work load totals for calendar 1964 reflect increases over the previous year for both numbers of samples received and numbers of determinations conducted. There was an over-all increase of 23 percent in the number of samples processed and a corresponding rise of four percent in the number of determinations performed.

Table 1. SUMMARIZED STATISTICS—JANUARY 1 – DECEMBER 31, 1964

Character of Samples	*Number of Samples*	*Number of Determinations*
Milk and Dairy Products	1,298	2,555
Other Foods	630	1,200
Drugs	139	336
Potable Waters	2,285	13,069
Sewages, Tradewastes and Streams	2,347	15,858
Blood Sugars	16,662	16,662
Urine Sugars	113	113
Quality Control Program	1,683	1,921
Miscellaneous*	270	1,052
Totals	25,427	52,766

* Includes methods development, collaborative studies, and research.

The inclusion of blood and urine sugar determination totals in the above summary tends to distort and exaggerate the true work load trend since such analyses are not only relatively simple and/or automated but can vary by thousands from year to year. A more accurate measure of work load trend is obtained by deleting these figures from both the report year and the comparison year. Applying this refinement to 1963 and 1964, it is noted that the numbers of samples processed increased 4.5 percent and the numbers of determinations conducted decreased 4.8 percent.

This trend, more samples but fewer determinations, is heartening since it indicates that efforts made to have contributing programs minimize requests for analyses to levels consistent with their real needs are paying dividends.

Decreased activity, relative to last year, was experienced in three categories of the total work load; substantial increases were absorbed in the other three areas. Percentage changes, in terms of determinations, are noted below:

Milk and Dairy Products	— 21%
Other Foods	— 16%
Waters and Wastewaters	— 6%
Drugs	+410%
Blood Sugars	+ 39%
Evaluation Program and Miscellaneous*	+ 29%

* Determinations pertinent to our Clinical Chemistry Evaluation and Quality Control Program were included under "Miscellaneous" in previous reports. The growth of this activity now requires separate entries but the two have been composited above to allow for comparison with last year's totals.

Highlights

The Clinical Chemistry Evaluation and Quality Control Program, now in its third year, was in full effect during 1964. Last year's membership of 50 increased by 32 in the report year. These laboratories were sent unknown specimens on approximately a monthly basis to evaluate their clinical chemistry procedures. Studies undertaken this year included phosphorus, chloride, total protein, albumin-globulin ratio, calcium, cholesterol, glucose, urea nitrogen, uric acid, and creatinine.

This program, previously confined to providing evaluation specimens, summaries and statistical analyses, was expanded in 1964 to offer field consultation by our biochemist. Guided by scores achieved through a cumulative performance system, 11 laboratory visits were made where it was felt that they would be of greatest benefit.

The major impact of Diabetes Detection Week was felt during the last two weeks of November and the first week of December. Chemistry personnel, assisted by Diabetes Control Program members, working against the limited shelf life of specimens, labored seven days a week to complete over 13,500 blood sugar determinations in 21 days. A total of 16,662 blood glucose determinations were conducted in 1964.

Training Extended

The director of a commercial milk laboratory was given bench training in phosphatase testing.

Two municipal water plant employees were given training in determining the fluoride concentration in potable water.

The Program Coordinator lectured to eight Migrant Camp inspectors on sanitary chemistry.

Two local health department analysts were instructed in tests relating to the adulteration of meat and milk.

Two technicians from a New Jersey industry were oriented in the biochemical oxygen demand procedure, a test used for measuring pollution.

Collaborative Studies

1. Cooperative Cholesterol Standardization Program. Fifty check specimens were received and processed to gain experience with this determination and to study the degree of reproducibility of results (Lipid Standardization Laboratory, Communicable Disease Center, Department of Health, Education, and Welfare).

2. Phosphatase determinations on split milk samples (Environmental Health Center, Department of Health, Education, and Welfare).

3. Monthly evaluation specimens, furnished by the Council on Clinical Chemistry of the American Society of Clinical Pathologists, to monitor our own blood chemistry procedures.

4. A chemical method for determining histamine (Food and Drug Administration, Department of Health, Education, and Welfare).

5. An evaluation of available Chemical Oxygen Demand tests (Analytical Reference Service Training Program, Department of Health, Education, and Welfare).

Table 2. Number and Character of Specimens Examined in the Food and Drug Laboratory
January 1 – December 31, 1964

	Above Standard	*Below Standard*	*Total*	*Determinations*
Milk—Chemical	270	1		
Milk—Chemical and Phosphatase	328	6		
Milk—Phosphatase	262	1		
Milk—Chemical, Phosphatase and Pesticides	49			
Milk—Chemical and Pesticides	29			
Milk—Phosphatase and Pesticides	3			
Milk—Pesticides	16			
Milk—Filth	2			
Milk—Chemical and Organoleptic	2			
Goat Milk—Chemical and Phosphatase	7			
Cream—Phosphatase	224	8		
Chocolate Milk—Phosphatase	90			
Total	1,282	16	1,298	2,555

Table 2. Number and Character of Specimens Examined in the Food and Drug Laboratory—*Continued*
January 1 – December 31, 1964

	Above Standard	*Below Standard*	*Total*	*Determinations*
Other Foods:				
Apples	1			
Applesauce	30	6		
Asparagus	9			
Baby Food	1			
Barbecue Sauce	1			
Bread and Rolls	17			
Broccoli	11			
Butter	2			
Buttercream	1			
Candy	1	2		
Canned Peaches	3			
Carbonated Beverages	18	6		
Celery	3	2		
Cheese and Crackers	1			
Cheese Spread	1			
Chocolate Drink	1			
Cider	27	2		
Coffee	1			
Corn	2			
Crabmeat	2			
Cranberries	26			
Date and Nut Bar		1		
Dog Food		1		
Eggs		7		
Evaporated Milk	3			
Figs	1	1		
Fish	2	1		
Fish Sticks	1			
French Fried Potatoes	1			
Fruit Cake	1			
Fruit Ice	1	1		
Grapefruit	1			
Gravy	1			
Honey	1			
Ice Cream	90	8		
Ice Cream Pop	1			
Ice Milk	1			
Juices—Fruit and Vegetable	9			
Meat	194	51		
Orange Marmalade	1			
Oysters	17			
Pancake Batter	1			
Peaches	13			

Table 2. Number and Character of Specimens Examined in the Food and Drug Laboratory—*Continued*
January 1 – December 31, 1964

	Above Standard	*Below Standard*	*Total*	*Determinations*
Peppers		1		
Pudding	3	9		
Quinine Water	1			
Salt	1			
Sherbet	2			
Shrimp	1			
Soup	2			
Spinach	3			
Tomatoes	2	1		
Tomato Paste	1	2		
Tuna Fish	9	2		
Wine	1			
Yeast Product	1			
Total	526	104	630	1,200
Drugs:				
Amphetamine		2		
A. P. C. Tablets	1			
Aspirin		1		
Bihydroxy Coumarin	1			
Blavd Mass Pills		1		
Camphor	1			
Chlorpheniramine	2			
Compazine	10			
Cortisone Acetate		2		
Desoxyephedrine—HCl	1	1		
Digitoxin	1			
Diphenylydantoin Sodium	1			
Distilled Water	3			
Ear Wax Remover	1			
Gastromins	1			
Glycine	4			
Ioniazid	2	1		
Meprobromate	56			
Milk of Magnesia	6			
Paregoric	1			
Penicillin	2			
Phenobarbital	3			
Prednisone	2			
Pyridoxin—HCl	1			
Pyrilamine Maleate		1		
Rabudex	1	1		
Reserpine	2			
Scopolamine Hydrobromide	1			

Table 2. Number and Character of Specimens Examined in the Food and Drug Laboratory—*Continued*
January 1 – December 31, 1964

	Above Standard	*Below Standard*	*Total*	*Determinations*
Strychnine Sulfate	1			
Terpin Hydrate and Codeine	1			
Thyroid	1			
Vitamins	14	8		
Total	121	18	139	336
Diabetes Detection:				
Blood Sugars	16,662			16,662
Urine Sugars (Dreypak)	113			113
Total	16,775		16,775	16,775
Clinical Chemistry:				
A:G Ratio	28			
Albumin	36			
Bilirubin	22			
Calcium	133			
Chloride	36			
Cholestrol	914			
Creatinine	20			
Glucose	103			
Inorganic Phosphorus	11			
Phenylalanine	147			
Phosphates	56			
Potassium	11			
Sodium	20			
Total Protein	86			
Urea Nitrogen	54			
Uric Acid	6			
Total	1,683		1,683	1,921
Miscellaneous:				
Air Samples	6			
Brain Tissue	1			
Carbineal Powder Study	1			
Histamine Collaborative	6			
Home Permanent	1			
Phosphatase Referee	8			
Pigeon	1			
State Police Urines	243			
Sterilizer and Glass Cleaner	1			
Toy Duck		1		
Toy Nursing Bottle		1		
Total	268	2	270	1,052
Grand Total	20,655	140	20,795	23,839

Table 8. Number and Character of Samples Analyzed in the Water and Sewage Laboratory
January 1 to December 31, 1964

	Public	Miscellaneous	Camp	School	State and County Institution	Slaughter-house	Bottled Water	Dairy	State Park	Bathing	Sewage	Stream	Waste	Sand	Total	Determinations
January	57	58	1	11	6	...	...	...	...	...	81	17	36	2	209	1,778
February	130	67	...	15	...	1	...	...	...	...	130	12	35	8	458	2,991
March	107	66	...	12	1	2	...	...	...	...	122	42	49	3	404	2,816
April	98	92	...	19	5	...	...	...	2	...	122	...	52	2	387	2,485
May	67	68	...	7	...	...	...	...	15	...	137	61	20	15	350	2,271
June	95	112	8	2	...	...	...	...	...	1	152	104	28	...	497	8,222
July	144	108	22	5	...	...	...	1	3	2	180	55	45	2	517	2,811
August	149	78	1	4	...	...	...	...	...	4	130	64	47	8	476	2,869
September	87	88	...	28	...	...	...	...	...	...	65	24	51	...	336	1,867
October	77	56	...	84	1	...	...	...	2	2	75	26	51	...	324	2,070
November	55	44	...	40	...	...	1	2	...	5	42	118	6	...	308	2,822
December	56	76	...	12	1	...	...	...	...	2	122	...	5	1	275	1,520
Total	1,107	968	27	189	14	3	1	3	22	16	1,868	518	425	86	4,632	23,927

Pathology Program

The Annual Slide Seminar sponsored by the New Jersey Society of Pathologists and the New Jersey State Department of Health was held on December 5, 1964, at the Essex House, Newark, New Jersey. About 150 pathologists attended. The transactions will be published.

Some of the cases presented were selected from the files of the New Jersey Tumor Registry, maintained by the Pathology Program.

In cooperation with the Virology Program, histological specimens were received and processed.

In cooperation with the Cancer Control Program, 119 cases were processed for the Lymphoma Project.

Pollen counts were completed on 366 slides for the Division of Environmental Health. The number of pollen grains per square cm. was reported for each slide.

All hospital pathology departments were provided with 50 micro slides as part of the Department's interest in providing support for the continuing education of professional, scientific, and technical personnel in New Jersey's hospitals.

These selected slides, the originals of which were contributed over the years by members of the New Jersey Society of Pathologists, exemplify certain characteristics of malignant and benign tumor growths and are intended for teaching purposes. They have been screened as to diagnoses by competent pathologists and are not of controversial diagnostic categories. Further issues of similar slides are planned.

Table 1. Workload Data

	1963	*1964*
No. Contributions to Tumor Registry	360	296
No. Consultation Cases	108	82
No. Slides Prepared	6,131	5,318
No. Slides Stained	5,803	7,586
No. Specimens Processed	875	780
No. Requests for Special Staining	52	27
No. Slides Distributed	5,066	7,353
No. Slides Stained with Special Stains	696	583
No. Special Stains Used	20	12

Serology Program

The statistics at the end of the annual report of the Serology Program indicate that the number of specimens received for syphilis serology were about the same as in 1963. The number of tests performed on those specimens was

9,000 less than the total number of tests last year. This was a direct result of a change in policy whereby the Kolmer cardiolipin test was no longer performed as a confirmatory test on reactive specimens. The thinking behind the decision was not to reduce services, but to give better service when further serological investigations are needed to support a diagnosis of syphilis or a biologic false positive. The workload on Fluorescent Treponemal antibody tests increased by 40%. Since this test appears to be an important addition for clinical investigations, we can expect this rise to continue. This will be especially true when the absorption method, increasing the sensitivity of the test without sacrificing specificity, will be substituted for the present test.

The highlights of the serology program for the calendar year 1964 are:

1. Discontinuance of the Kolmer cardiolipin test for confirmation of reacting VDRL specimens. A directive was sent out to that effect in April with the justification that there is no advantage in performing the VDRL and the Kolmer test when they both employ a cardiolipin antigen. Beginning May 1, 1964, the Serology Program performed the routine VDRL test, qualitative and quantitative. When a specimen was indicated to be a repeat on a previous positive or a follow-up specimen, a request for a Kolmer test using the Reiter antigen (KRP), was honored. All specimens nonreactive by the KRP test that were reactive 1:2 or higher by the VDRL test were automatically tested by the Fluorescent Treponemal Antibody (FTA) test. By this change in procedure we are one step nearer our goal in becoming primarily a reference laboratory in syphilis serology.

2. Training for outside laboratory personnel, Venereal Disease Investigators (VDI's) and in-service training. Four laboratory technicians from hospitals were trained on an individual basis at our laboratory from 1-3 days. In February, the Serology Program was responsible for two training sessions of two days each in darkfield microscopy. This was done with the assistance of Miss Jeannette Burchard of the Venereal Disease Research Laboratory and was given for the investigators of the Venereal Disease Program. Twenty-seven VDI's attended. Three personnel from our own program received training in the FTA procedure.

3. Participation in evaluation programs:

On a national level, New Jersey was one of 70 laboratories that participated in a syphilis serology evaluation study. The objective of the study was to determine the relative efficiency of each laboratory's performance of a testing procedure as compared to a control performance of the same procedure. No attempt was made to pronounce satisfactory levels. In light of the many sources of reagents and the slight deviation that marks a disagreement, the level of agreement with the control laboratory was remarkably close. We cooperated with another state in its evaluation program by performing tests on its specimens along with the control laboratory.

4. Evaluation—Assistance Survey of approved laboratories in New Jersey:

One hundred thirty-six approved laboratories participated in the program and received 10 unknown specimens plus a known control each month for 10 months—14,960 specimens were prepared and sent out from our Camden laboratory; 32 blood bank laboratories, not on the approved list received 10 specimens plus a control four times during the year for a total of 40 specimens —1,408 specimens were sent to this group. One hundred twenty-six of the approved laboratories and 26 of the blood bank laboratories performed satisfactorily in one or more test procedures. Those that were below standard in their performance were contacted to assist them to raise their level of performance.

Table 1. Statistics for Calendar Years 1963 and 1964

	1963	1964
Routine specimens for syphilis	213,587	213,648
Blood specimens	212,029	211,758
Spinal Fluid specimens	1,588	1,890
Routine tests for syphilis	239,546	230,081
Premaritals	50,967	48,532
Prenatals	40,598	39,491
Total Protein	753	871
KRP	3,367	3,048
FTA	1,044	1,474
Tests for infectious mononucleosis	3,341	2,998
Antistreptolysin O titers	305	357
Tests for cold agglutinins	83	87
Tests for Leptospirosis	377	474
Tests for Trichinosis	162	159
Tests for Q Fever	142	129
C. F. tests for rickettsias	253	578
Specimens in Field Evaluation Program	14,740	17,953

Virology Program

Due largely to intensive surveillance activities of the Virology Program, the first recognized outbreak of St. Louis Encephalitis in northeastern U. S. was detected in southern New Jersey during 1964. In all, 94 cases were confirmed by laboratory tests, and intensive field and laboratory studies identified the vector of the virus in the area to be *Culex pipiens* mosquitoes.

Since techniques for the study and identification of St. Louis Encephalitis had not been previously available in this laboratory, considerable effort was required to introduce them. Reagents, not commercially available, had to be prepared by extraction of many hundreds of infected suckling mice brains, a procedure not without hazard to personnel. Antisera had to be prepared by serial inoculations of live virus into laboratory animals. Diagnostic tests for St. Louis Encephalitis required the development of a facility for the housing and care of hundreds of litters of suckling mice, while the need for the latter required greatly increased expenditures of supply moneys.

Data tabulated below indicate a whopping 28 percent increase in workload during 1964. Workload data, however, do not adequately reflect the burden placed on Program personnel during the recent outbreak of St. Louis Encephalitis by operating the laboratory seven days a week for several months.

Workload Data	*1963*	*1964*
Specimens received	22,127	29,608
Tests performed	192,432	245,995
Type of test:		
Virus isolation	110,061	108,866
Serologic tests	82,371	137,129

Blood Bank Program

Mr. Federico Colosimo, M.T. (ASCP), Principal Serologist (Variance Blood Bank), came with the Department in June, 1964. He has taken over the duties of Program Coordinator.

The major problems concerning the Blood Bank Program are the inspection and approval for licensing of new blood banks, re-inspection and approval for relicensing of existing blood banks, and the continuation of our performance evaluation program. The increased number of blood banks and laboratories participating in our performance evaluations reflect the growth of this Program.

Workload Data

Number of Primary Inspections	129*
Number of Re-inspections	120
Number of inspections in institutions that claim no blood banking	12
Number of unknown specimens mailed for evaluations	1,253
Number of evaluation reports and summaries	12
Number of letters citing Sanitary Code deviations and suggested recommendations to Blood Bank Directors	116
Number of clinical laboratories voluntarily participating in the Program	43

* A small number of inspections were performed in the fall of 1963.

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 function of the Division of Local Health Services is to stimulate the development and maintenance of a broad constellation of community health facilities, official, voluntary, and proprietary which will conduct all necessary activities to prevent and control disease, including protective, case-finding, diagnostic, treatment, and rehabilitation facilities, and social and educational service needed to give these facilities optimum effectiveness.

This represents a change of responsibilities with respect to the environmental health programs. The responsibilities for services which will continue to be direct state responsibilities, such as sewage and water plant supervision, milk control, and drug control, have been assumed by the respective central office personnel. The Districts, therefore, will concentrate their activities upon those which have been or should be assumed by local health departments.

Major activities of the Division are:

1. Developing local health services by bringing to the attention of community health agencies, municipal and county officials, and citizens generally the public health problems and needs. Thereafter, advising and consulting with representatives of these groups in illustrating acceptable methods of resolving these problems and meeting these needs. The survey team, working out of the Division Director's office, has completed 12 surveys for 1964 and has participated in 27 review meetings with public officials discussing the findings of these surveys.

2. As the designated division for liaison with local organizations, the Division has participated through the district offices in workshops, training seminars, and advisory meetings with such organizations as the New Jersey Health Officers Association, the New Jersey Public Health Association, New Jersey Congress of Parents and Teachers, New Jersey Tuberculosis and Health Association as well as other departments of state government.

3. The Director of the Division administers program responsibilities through the staffs of the four state health district offices. Each district is guided by a physician trained and experienced in public health and assisted by a staff of professional consultants in each of the major public health disciplines. The staff of the Division presently consists of 66 professional and 32 office workers.

Table 1. District Personnel

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	1	1	1
Principal Sanitarian	4	2	0	1	1
Senior Sanitarian	4	1	1	1	1
Sanitarian	8	2	3	2	1
Assistant Sanitarian	1	..	..	1	0
Public Health Veterinarian	4	1	1	1	1
Rabies Control Warden	5	1	2	1	1
District Consultant Community Health Organization	3	1	1 & 1 vacant	1	0
District Consultant Medical-Social Rehabilitation	3	1	1	0	1
District Consultant Public Health Nutrition	4	1	1	1	1
District Consultant Public Health Nurse	4	1	2	1	vacant
Public Health Nurse Supervisor	4	1	1	1	1
Public Health Nurse	0	vacant	0	0	0
Senior Public Health Physician	4	1	2	1	0
Physical Therapist	0	0	0	0	0
Industrial Hygienist	1	1	0	0	0
Assistant Industrial Hygienist	0	0	vacant	0	0

4. The Division Director was instrumental in and has developed project applications which have been submitted to the Economic Opportunity Office. In addition, the Division Director has been designated liaison representative for the Department of Health to the New Jersey State Office of Economic Opportunity.

5. Tentative procedures have been developed in anticipation of the passage of a bill providing for and enabling the State Department of Health to dispense continuing state aid to local municipalities who maintain specified levels of performance in public health services. Eleven contracts have been negotiated this past year with the limited funds that have been provided. Salem County established an office of public health coordinator through this device of stimulation by a state aid contract.

6. Major accomplishments during the year have been the successful culmination of the fluoridation campaign in the City of Trenton; the recruitment of full-time licensed Health Officers for the City of Trenton, Woodbridge Township, East Brunswick Township, and Lawrence Township; the completion of Cape May community services study; the completion of the Greater

Newark study with the subsequent initiation of the Newark project; the establishment of a county health coordinator in Salem County; and successful county-wide oral polio immunization programs. These activities are all described in greater detail in subsequent sections of this report.

Report of Survey Team

The survey team, using an evaluation schedule based upon the Recognized Public Health Activities and Minimum Standards of Performance for Local Health Departments, completed 12 surveys which had been requested by the District State Health Officers. The team also participated in 27 post-survey conferences scheduled and conducted by the District State Health Officer in conjunction with the local officials of the respective municipalities. These surveys enable the District State Health Officers to apprise local health officials of the status of public health services for each municipality. These surveys will continue both as a service to municipalities and as an educational device in promoting improved and extended local health services.

1964	*Central*	*Metropolitan*	*Northern*	*Southern*	*Total*
Surveys	10	1	0	1	12
Conferences	7	1	19	0	27

District Activities

The areas of operation of the Districts and the percentage of the state's population in each District are as follows:

Central 22.5%	*Metropolitan 53.1%*	*Northern 9.4%*	*Southern 14.8%*
Burlington	Bergen	Hunterdon	Atlantic
Mercer	Essex	Morris	Camden
Middlesex	Hudson	Somerset	Cape May
Monmouth	Passaic	Sussex	Cumberland
Ocean	Union	Warren	Gloucester
			Salem

Northern State Health District

The four voluntary nursing agencies and the one county-wide governmental agency in the District continue to emphasize the promotion and maintenance of health, prevention of disease and disability, and comprehensive care of the sick and disabled.

Both official and voluntary public health nursing services in the Northern State Health District are variable in quantity and quality and continue to be a vital component of all community health programs. The collaborative efforts of the District staff are continuously directed toward the improvement and expansion of existing services and the establishment of new services under competent supervision.

Community Health Services

Hunterdon County

A proposal for county-wide health services, background data, and budget were prepared.

On January 1, 1964, the Family Nursing Service of Hunterdon County was incorporated. This was the first year in which public health nursing visits were made in all 26 municipalities. Personnel policies were improved, including base pay increases. Professional staff was increased by one full-time public health nurse. County Freeholder's assistance was raised to $14,000. The agency made 2,603 public health nursing visits in 1964. This was an increase of 116 visits, which appears small but portrayed the increased nursing time required for the home care patients as well as the chronically ill.

Morris County

In 1964, the Visiting Nurse Association of Morris County increased its professional staff by one full-time nurse. A total of 19,029 visits were made to 3,518 families. This included 146 new crippled children referrals with a total of 1,094 visits to such children throughout the county. The 10 contracts with local boards of health required continued interpretation, program planning, and evaluation by the agency. Budget limitations reflected priority in services but concerted efforts by the Visiting Nurse Association Board and the director point toward improved contractual arrangements for most communities during the coming year. Considerable interest was developed in the parents' classes offered by the public health nurse supervisor at Chilton Memorial Hospital, and because of its success a second hospital has requested this service. Several meetings have been held with the sub-station committee and efforts are continuing in attempting to locate a facility for its operation.

Somerset County

District staff discussed the proposed county health services with a member of the Board of Freeholders and with interested individuals and groups. In the fall of 1964, the staff worked with the former chairman of the Citizens' Committee updating the materials presented in the "1961 Report on the Somerset County Health Service." This "Addenda" was then submitted to the Freeholders and to the reactivated Community Health Services Council. At the December, 1964 meeting of this Council, action was taken in support of the establishment of a county health service.

Sussex County

Early in 1964, staff prepared a Sussex County Health Services proposal, background data and budget which were then discussed with the Board of Freeholders by the Director, Local Health Services. Late in the spring, at the request of a Freeholder, copies were made available to the Citizens Advisory Council. In the fall, District staff conferred with the president-elect of the Medical Society in regard to the proposal.

Evaluation survey meetings were held with officials of 20 municipalities during the year to review the reports and recommendations of the surveys done by the Evaluation Team during 1963. By the end of the year, only one municipality (Hamburg Borough) had not been surveyed.

In the fall of 1964, plans were made for a county-wide meeting relating to the Minimum Standards, current health needs, and problems. The meeting was held on November 24, 1964, and the State Commissioner of Health was the speaker. The 58 persons in attendance represented a cross-section of the county.

During 1964, the Junior Chamber of Commerce of the Newton Area began a survey of the health facilities in the county. Assistance and materials were provided by the District staff to the working committee.

The Sussex County Department of Social and Health Services has increased its staff by one full-time nurse. In 1964, the Sussex County Department of Social and Health Services made 3,387 visits, an increase of 1,033 over 1963. A contract was signed by one community for board of health services and the two parochial schools in Newton and Sparta Township are now receiving nursing services. Only four communities continue to employ their own public health nurse on a part-time basis; these are Newton, Hardyston Township, Andover Township, and Hopatcong Borough. The agency serves in an advisory capacity to the Hopatcong Borough nurse. A new nursing advisory committee was formed in 1964, which will advise on special problems, help develop community understanding and support, and represent the agency in community affairs. A Homemaker Service was incorporated in 1964 under the auspices of the Newton Junior Women's Club as well as other service organizations. It is under the administration of the Sussex County Department of Social and Health Services. A grant-in-aid contract in support of physio-therapy services for the chronically ill within the county was issued in June, 1964. This is to extend the scope and quality of public health nursing services through the provision of physical therapy consultation and direct services in cooperation with the nurses. It also provides for services to patients at the Homestead, the Sussex County Welfare Home, with emphasis on rehabilitation and for out-patient services at this facility.

Warren County

Following a conference with local representatives of Warren County in regard to the initiation of a comprehensive nursing service in the county, a proposal was made by the State Health Department for personnel and grant assistance to the County Welfare Council. This was not accepted by the local committee.

Other

District staff met with and outlined to members of the Health and Safety Committee, Watchung Area Council (Somerset County), Boy Scouts of America, possible ways of initiating an anti-smoking campaign. Educational material and a report of the "Sussex County Study on Smoking Habits" were presented. A conference was held and consultation given this group with regard to the development of a home safety and poison control check list for use in the home by Scouts of the Council.

Environmental Health Programs

Air Sanitation

There were 39 investigations made of air pollution by open burning or stack emissions.

Camp and Bathing

One hundred and twenty-eight camps were inspected, 22 by local boards of health and 106 by District staff. Of these, 112 were issued Certificates. Certificates of Compliance were issued to 29 bathing place operators. Four bathing places inspected by local boards of health were not certified due to their failure to forward their reports to the District on time. For reasons the operators did not wish to discuss, six bathing places did not participate this year.

Food

There were 303 inspections made of food establishments. Most of these were made with local sanitarians as part of our training program for local sanitarians. Assistance was given to the sanitarian of the Madison Health Department (Morris County) in planning for a food personnel training course. The beginning of a vocational school food service course in Sussex County was initiated in December of this year. This will be the second county vocational school course in the District. The first was in Somerset County. Routine and special inspections were carried out of egg-breaking establishments, non-alcoholic beverage plants, and refrigerated warehouses licensed by the Department. The inspection of the food vending establishments at the county fairs was continued this year. Local board of health participation has improved, and as a consequence, the sanitation at the fairs has improved.

Potable Water

Promotion of public water supplies for subdivisions continued. Widespread contamination of wells in Sergeantsville (Delaware Township, Hunterdon County) was found during this year. Efforts are being directed toward the construction of both public water and sewage facilities for this area.

Wharton Borough (Morris County) instituted fluoridation of the public water supply in the fall of 1964.

Solid Waste

The over-all status of the 72 landfills in the Northern District is good. Major violations of Chapter VIII of the State Sanitary Code were fewer and were corrected where found.

Stream Pollution

The District has reviewed 38 plans for public school sewage disposal systems. Opinions and recommendations to local boards of health and planning boards relating to sewage disposal for subdivisions were given in 20 instances. Public sewage treatment facilities are recommended and urged for all subdivisions of 10 or more homes.

Veterinary Public Health

Assistance was given in the continued Eastern Encephalitis study in the Great Swamp Area, Chatham Township (Morris County), to determine the possibility of mammals as a reservoir for the virus. There were 21 collections of blood specimens from canines residing in or near the area.

As part of an epidemiological study to determine the efficacy of antibiotic treatment in a pigeon flock known to be infected with psittacosis, blood specimens were collected for serological titres prior to treatment. This project was conducted in cooperation with the Hooper Foundation and the American Cyanamid Agricultural Division of Princeton, New Jersey. Follow-up studies to determine efficacy of the completed antibiotic feeding will include the blood sampling and testing of F_1 and F_2 generation of positive birds.

There were 69 families advised of preventive measures to initiate when it was learned by this Department that they had been exposed to cattle that were found to be positive for tuberculosis. A total of 46 consultations and epidemiological investigations was conducted. These involved 14 types of zoonotic diseases, some of which were suspected and others known to have occurred.

There were 180 anti-rabies inoculation clinics held at which 27,243 animals were vaccinated. This compares with 24,974 vaccinated in 1963 (an increase of 2,269 inoculated). Of the 134 municipalities in the District, 133 are participating in the anti-rabies inoculation clinics.

Tentative figures indicate there were 74,290 animals licensed for the year 1964 as compared to 72,092 animals licensed for the year 1963 (an increase of 1,198 animals). This increase is attributed to efforts on the part of District personnel by encouraging local officials to adopt measures for a comprehensive and effective Dog Control Program.

A total of 10 bats suspected of being rabid was submitted to the laboratory of which two proved positive. Twenty-seven persons received preventive anti-rabies treatment.

There were 899 consultations, inspections, investigations, meetings and health education conferences held for the purpose of promoting the Rabies and Dog Control Program in the District. Through consulting and conferring with municipal officials, a regional pound serving Sparta, Newton, and Andover Borough (Sussex County) was completed and put in operation. This pound serves a population of 18,000 and 62.2 square miles. Subsequent to consultation by District staff, additional pounds were constructed, renovated and/or proposed in 12 other municipalities. District personnel participated in the planning for the Dog Control Institute held in Trenton. This Institute was attended by approximately 300 local officials and representatives from private and public agencies representing the entire state.

Chronic Illness Control Programs

Cancer

District staff assisted the Sussex County School Committee in preparing for a Smoking and Lung Cancer Conference for administrators and teachers which was held on January 22, 1964, at the Sparta High School. The District Consultant on Community Health Organization was a speaker, and Department and American Cancer Society representatives served as consultants at the workshop sessions.

The District Consultant on Community Health Organization presented a paper on smoking at the Morris County Heart Institute held on January 16, 1964, at the College of St. Elizabeth. Another paper was prepared and presented at the Essex County, Massachusetts Conference on Smoking on May 1, 1964. Also, another paper was presented at the Jersey City State College Extension Course held at Morris Hills Regional High School (Morris County) on December 8, 1964.

Surveys of smoking habits and attitudes of students in three Somerset schools, St. Elizabeth's complex of schools (Morris County), and Newton High School (Sussex County) were done in the spring. The Teachers' Questionnaire was revised and used also in the spring. Approximately 400 questionnaires were distributed at two sessions of the State Student Council Leadership Conference in Blairstown (Warren County) at the end of August.

Diabetes

Assistance was given to the Morris County Diabetes Screening Service in planning for promotional material to be made available to the local boards of health in the county. District staff worked with three local boards and the Screening Service in planning for screening activities in the respective municipalities. As a result of the screening activities in Madison (Morris County) in September, 1964, 25 unknown diabetics were found.

Heart and Circulatory Diseases

District staff (District Chief Public Health Nurse, District Consultant, Public Health Nutrition, and District Consultant, Community Health Organization) assisted the Education Committee of the Morris County Heart Association in developing a "package" presentation for hospital in-service programs in the county. The "package" included: (a) short discussion of myocardial infarction by a physician associated with the individual hospital; (b) showing of the film, "Myocardial Infarction—The Nurse's Role;" (c) discussion of the film by a panel including the hospital nurse, dietitian, public health nurse, and industrial nurse. Where personnel were available in the host hospital, they were a part of the presentation. The programs were scheduled in each of the hospitals in the county as a regular part of their own in-service program.

District staff also assisted the Morris County Heart Association in planning for and presenting an Institute on perivascular disease and cardiopulmonary resuscitation on December 2, 1964, at the Governor Morris Hotel in Morristown. An orientation session for physicians was conducted by Heart Program personnel at All Souls' Hospital, Morristown on November 25, 1964. These physicians as well as Heart Program personnel then participated in the demonstration and clinical instruction on the day of the institute.

The District Consultant in Public Health Nutrition assisted in planning and presenting two tasting luncheons of cholesterol-depressant diets, in Hunterdon and Morris Counties. In each case, individuals were invited to the luncheons upon referral of their physicians.

Narcotics

As part of a pilot program in Morris and Sussex Counties, a conference on Narcotics Prevention and Education was held at Fairleigh-Dickinson University on November 2, 1965. A total of 163 persons, representative of school administrators, faculty, medical and allied personnel, and community groups, attended.

A pamphlet on narcotics for teen-agers was prepared by a Morris County committee with active Women's Club participation for the use of the County Superintendent of Schools as part of the pilot program in the county. The printing of the pamphlet was financed by the Jaycees and two drug companies.

Preventable Disease Programs

Communicable Diseases LL

District staff participated in planning and discussion meetings for the Sabin programs in Morris and Sussex Counties. This completes the five counties, three of which were done in the previous year. District staff and the Polio Representative devised a questionnaire to survey individual reasons for or against participation in the Sabin oral program in Sussex County. Personnel from various county services participated in the data gathering.

Consultations and epidemiological investigations were completed on the following:

Epilepsy	1	
Encephalitis (undetermined etiology)	1	
Gastroenteritis	5	
Tuberculosis	69	notified of exposure to Bovine tuberculosis —2 found to be positive.
Typhoid Fever	15	(including annual surveillance on 8)
Infectious Hepatitis	109	
Salmonellosis	30	
Shigellosis	1	
Smallpox	2	
Lead Poisoning	1	
Cholera	1	

Tuberculosis Control

District staff assisted the Northwest Area Tuberculosis and Health Association (Morris and Sussex Counties) in planning an Institute for nurses which was held on March 18, 1964, at Fairleigh-Dickinson University. Four regional sessions on tuberculosis testing procedures, reporting, and follow-up were held in Morris County in the fall.

Venereal Disease Control

Two Venereal Disease Institutes were held in the District in the spring, Planned with representatives of the counties, the Venereal Disease Program and State Department of Education personnel, the first one was held at Fairleigh-Dickinson University on May 6, 1964, for Morris and Sussex Counties; the second was held on May 18, 1964, for Warren County.

Special Consultation Programs

Health Education

The District Consultant in Community Health Organization provided materials and consultation on a variety of programs and to numerous municipalities and local organizations. Examples are the Parent-Teachers' Association in Lopatcong Township (Warren County), the Annual Conference of the Parent-Teachers' Association County Health Chairman, the Morris Regional Health Council, the Phillipsburg Health Council, the Newton High School, and the In-service Training Institute for Health and Welfare Agency Personnel held at Fairleigh-Dickinson University. The District Consultant coordinated and utilized other staff personnel as resource persons in these and other conferences as necessary.

Nutrition

The Morris County Visiting Nurse Association Diet Counseling Service has slowly progressed in scope and volume of caseload.

The Diet Counseling Service at the Warren Hospital (Warren County) became effective on September 1, 1964, on a two-day-per-week basis. The diet counselor meets with clinic and out-patients, and has coordinated her services with the hospital dietary department, thereby providing more comprehensive counseling to hospital patients and encouraging better diet adherence after discharge.

The District Consultant in Public Health Nutrition assisted in planning a Nutrition Day Program sponsored by the Somerset County Women's Auxiliary to the Medical Society and the Somerset County Extension Service. An exhibit on nutrition was prepared, representing activities of the State Health Department.

The director of the New Jersey School of Conservation (Sussex County) requested assistance from the District Consultant in Public Health Nutrition in planning a more efficient and economical food service department. The school, a New Jersey Department of Education facility which operates the year round, provides outdoor education for State College students and public school groups. Since there is no dietitian employed by the school, the District Consultant in Public Health Nutrition evaluated the food service facility and made recommendations to the director.

A local Morris County radio station, WMTR, invited the District Consultant in Public Health Nutrition to participate in its "Open Mike" program, during which listeners may phone in questions to a guest speaker. As a follow-up, short (3-4 minute) talks on timely topics of nutrition are prepared

by the District Consultant in Public Health Nutrition and played twice a week as a feature entitled, "Let's Talk about Nutrition."

The District Consultant in Public Health Nutrition motivated and assisted the local Dietetic Association to prepare kits of nutrition education materials for elementary teachers. As a pilot project, the kits were distributed to all elementary schools in Morris County, with the endorsement of the County Superintendent of Schools. A number of evaluation forms included in the kits were returned with indications that the materials were helpful in teaching nutrition.

Public Health Nursing

In an attempt to emphasize the inter-relationship of nursing service and nursing education, efforts were directed toward conducting the in-service educational programs in various hospitals in the District. A program on "The Role of the Nurse in the Restorative Care of a Patient Who Has Had a Stroke" was presented at Newton Memorial Hospital for personnel of the three hospitals in Sussex County, and at Somerset Hospital (Somerset County). The educational program entitled, "Disaster Preparedness—A Professional Way of Life" was a collaborative endeavor with Somerset Hospital. A review of sound nutrition principles as well as the presentation of newer trends set the pace for several programs in this important area. Other Program, District and voluntary agency efforts in the in-service program area were in tuberculosis, cancer, neurological diseases, venereal disease, narcotics, poison control, and maternal and child health. The total attendance was 1,382.

Central State Health District

The District staff continues to work toward the establishment of county health departments in both Burlington and Ocean Counties. Nine municipalities in the District were surveyed during the year, bringing the total number to 53 since such surveys were initiated. These surveys provide the basis for demonstrating to local municipalities their lack of public health services.

In Burlington County, the Medical Society has given its support to the establishment of a county health department by offering to provide financial support to this project.

In Ocean County, although the Board of Freeholders rejected the recommendations to establish a county health department, it realized that all public health services provided by the county needed reassessment. The District office offered the Board assistance in this undertaking and will continue to conduct surveys.

In Middlesex and Mercer Counties, meetings have been held with local health and governing officials of municipalities to review the findings of the

survey team. A number of officials have indicated an interest in contracting for full-time health services with larger neighboring municipalities. This device for providing public health services appears to have more support in these two counties than the formation of regional health commissions.

Under the supervision of the District Chief of Environmental Health, routine activities included the surveillance of stack emissions to determine violation of Chapter IV of the Air Pollution Control Code, the inspection of 57 camps and six lake bathing places, the embargoing and supervision of the disposition of 110,000 pounds of foods and food products suspected of being adulterated, the inspection of more than 1,000 wholesale and retail food handling establishments, and the collection of samples for laboratory analysis for adulterants, the review of plans and specifications for 16 schools using subsurface percolation, approximately 650 inspections of refuse disposal sites, and the holding of annual rabies vaccination clinics in 141 of the 165 municipalities in the District.

Promotional efforts in environmental health resulted in local health officials representing 14 municipalities agreeing to maintain regular inspections of:

1. Ice cream manufacturing plants within their respective jurisdiction.

2. The State Departments of Institutions and Agencies and Education requesting the inspection of various food establishments within their jurisdiction.

3. Hamilton and Washington Townships cooperating in a sampling program of shallow wells to determine the extent of nitrates and Alkyl Bensol Sulphonate.

4. The approval of fluoridation for the Trenton and Allentown and Burlington City water supplies.

Problems requiring special attention were the eastern encephalitis outbreaks at the Fort Dix and Lakehurst Naval Station game farms and the St. Louis encephalitis outbreak, food poisoning, and cases of infectious hepatitis. Two hundred and seventy-three surveillance records were completed on selected reported cases of communicable diseases.

Nutrition

Two nutritionists have been recruited to teach in the homemaker training programs. The nutritional status of low-income families involved in the Anti-Poverty Programs was stressed at the District-wide in-service training program for public health nurses and for personnel of the Migrant Health Program and requests were made by the Department of Institutions and Agencies for nutrition consultation to boarding homes.

Public Health Nursing

Active promotion of consultation services in the area of public health nursing and the establishment of standards for public health nursing agencies contracting with the State Department of Health have resulted in a sharp increase in consultation visits with local agencies.

Considerable time has been devoted in the orientation of new staff nurses employed by local health agencies, new Army health nurses, new nursing administrators of hospitals and public health agencies, and county health chairmen of parent-teacher associations. Contractual arrangements between public health nursing agencies and local boards of health are being accepted; two small nursing agencies now purchase supervision from qualified agencies.

Consultation services were provided by the District Consultant in Medical-Social Rehabilitation, with particular emphasis directed toward hospital social workers and their relationships with seasonal workers, such as the agricultural migrants. The District was represented at a one-day workshop on alcoholism and two educational meetings sponsored by the Narcotic Addiction Study Committee of the New Jersey Welfare Council.

Burlington County

Burlington City residents secured the fluoridation of their water supply by referendum in the general election.

A new Child Health Conference was established in Hainesport Township.

Nutritional assistance was given to the Burlington County Heart Association in planning and conducting a four-session course to train selected Auxiliary members of the agency's speaker's bureau to present a discussion of ways of using flavoring aids in preparing meals for fat-controlled and sodium-restricted diets. This project is the first of its kind undertaken by a lay group of a Heart Association in New Jersey.

With assistance from District personnel, a one-day, county-wide meeting of public health nursing agency board members was held in January, 1964, resulting in enlightenment of board members as to their responsibilities; development of a board member manual; and improved communication between board members of the various nursing agencies.

Due to interest in establishing a professsional social service department in Burlington County Memorial Hospital, Mt. Holly, District staff were asked to make an appraisal of patient-related services offered by the clinic staff.

Mercer County

The League of Women Voters of Ewing and Hopewell Valley conducted a health survey of their respective areas and recommended improvement in health services to the appropriate boards of health. The District staff assisted by orienting members of the Leagues in the various public health activities which should be included in the survey.

Fluoridation of the Trenton City public water supply was instituted on May 15, 1964.

At the request of the Department of Health and Physical Education of Trenton State College, assistance has been given to strengthen the nutrition component of the health education curriculum.

Under the direction of District personnel, a county-wide meeting of nurses working in public health was held in order to develop a closer working relationship between official and voluntary agencies.

During the year, the Visiting Homemaker Service of Greater Trenton expanded the scope of its program to include services to disadvantaged families.

The District has been represented on the Advisory Committee of the Planned Parenthood Association of the Mercer area.

Middlesex County

Lectures relating to food as a vector of communicable diseases were presented by the Public Health Veterinarian to food supervisors at the Metuchen High School, and again at the Food Sanitation Seminar for restaurant operators by the Woodbridge Division of Health.

A six-week survey to determine the Salmonella content of fresh, frozen, whole eggs indicated that 33.3 percent of 12 samples collected at a Douglass College dining hall were positive for Salmonellae organisms. College authorities were advised not to use frozen whole eggs for preparing scrambled eggs.

New Child Health Conferences were established in Perth Amboy, South Brunswick, and Madison Townships.

Consultation has been offered to the committee of the Community Welfare Council of New Brunswick and vicinity which is working for the establishment of the Raritan Valley Occupational Center for physically, mentally, and socially handicapped individuals in Middlesex and Somerset Counties.

A Congestive Failure Project was initiated at St. Peter's Hospital, New Brunswick. District staff cooperated with the Medical Social Consultant, Heart and Circulatory Disease Program, by recruiting a certified social worker who serves as coordinator of this heart project.

Monmouth County

The governing officials of Allentown Borough enacted an ordinance to fluoridate the public water supply serving the Borough.

The Monmouth County Extension Service and the District Nutritionist planned and conducted classes for "weight watchers" held at the Monmouth Shopping Center, Eatontown. At the suggestion of the women who attended these classes, a three-session weight control program for men was held in the fall. Both courses were well received by the participants.

A contract for diet counseling services has been arranged for Monmouth County under the sponsorship of the Monmouth County Organization for Social Service. This brings to three the number of counties (Middlesex, Burlington, Monmouth) which are covered by diet counseling services; active interest in establishing this service has been evidenced this year in the two remaining counties.

As a result of the standards for public health nursing agencies, promulgated by the Department, one smaller agency in the county has contracted for nursing supervision.

The Home Care Program at Monmouth Medical Center, Long Branch, has averaged 18-20 patients throughout the year. Consultation was given to the social worker on the program in her efforts to coordinate hospital and community services in behalf of patients.

Ocean County

Requests from officials of one township and a number of residents in need of more comprehensive health services, including bedside nursing care, have resulted in several exploratory visits to county and local leaders to discuss the possibility of expanding such services.

With the addition of a dental clinic, five out-patient clinic services are now available at Paul Kimball Hospital, Lakewood. The number of patients served increased 53 percent during the past year—its second year of operation.

Southern State Health District

Community Health Services

The major accomplishments during the year were: the formation of the Salem County Health Department which was initiated with the recruitment of a full-time Health Officer; the establishment of a clerk-stenographer and the subsequent establishment of a position for a full-time Sanitary Inspector; the completion of the Cape May County Community Health Study; and the completion of the Sabin oral poliomyelitis vaccine campaigns.

Atlantic County

Atlantic County Health Department established in 1963 continues to develop its activities and was moved this year into new offices in a county building at Mays Landing. These facilities provide space for public health

nurses, for the chest and venereal disease clinics, and the sanitation field staff which was increased this year by the addition of two Sanitary Inspectors with First Grade licenses.

The County Health Department provides health services to 22 municipalities on a contract basis. The Democratic National Convention held in Atlantic City in August imposed a tremendous workload upon the District staff as well as the County Health Coordinator.

Camden County

Eleven small municipalities within the county have indicated an interest in developing a regional health unit. The outbreak of St. Louis encephalitis in the fall resulted in the creation of interest in the Freeholders for consideration of a Camden County Health Department.

The success of the Camden Neighborhood Conservation and Rehabilitation Program under the administration of the Health and Welfare Council of Camden County and financed by the State Department of Health, the Division on Aging of the Department of State, and the United Fund of Camden County has provided the incentive for organizing and chartering three additional neighborhood councils.

Cape May County

Cape May County was chosen by the National Commission on Community Health Services in March, 1963 as one of the first communities in the nation to undertake a self-study. The Cape May County Community Health Study, begun in the spring of 1963, was completed in 1964. In January, the Department arranged for the printing of the Cape May County Community Health Opinion Poll which was used as part of the Study. During the spring, consultants from the Department, from the American Medical Association, and elsewhere were utilized by the Study committees. The results of the Study appeared in the following documents:

Report No. 1	A Community Profile	12/63
Report No. 1A	Path of Health (historical)	2/64
Report No. 2	Inventory of Health Facilities and Services	3/64
Report No. 3	Action Plan for Health	6/64

Report No. 3 made numerous specific recommendations and emphasized local planning and provision for a group to follow through on the Study's findings. With this Report, a leaflet of seven brief "Recommendations to You" was distributed. It urged citizens to join the proposed Cape May County Community Health Action Association. The personal involvement of over 120 citizens, both lay and professional, in the committees of the Study itself, resulted in much better understanding of existing public health problems and a desire to move toward solving them.

Cumberland County

Early in the year, the Cumberland County Health Department published its annual report for 1963. It detailed all phases of the activities of the Department and involved some 16 positions, most of them budgeted by participating boards of health. Since the formation of the Department in July, 1961, most positions financed by the individual municipal boards of health have been retained.

Gloucester County

In January, the District State Health Officer and representatives of two boards of health met with the Director of the Board of Chosen Freeholders. The possible role of the Freeholders in making it economically and administratively more feasible for the municipal boards of health to comply with the Recognized Public Health Activities and Minimum Standards of Performance was discussed. Of the county's 24 municipalities, only four had a 1960 Census population in excess of 10,000, so the formation of a regional or county-wide health unit is logical.

Salem County

Recruitment for a full-time Health Officer to fill the position of Public Health Coordinator was carried out early in the year. This followed the unanimous passage by the Board of Chosen Freeholders on December 18, 1963 of a resolution creating the position. The Southern District Consultant in Community Health Organization resigned as of the end of June to accept appointment to this new post on July 1. The Freeholders provided ample quarters and a secretary. On July 1, a full-time Sanitary Inspector was also employed. All three positions were subsidized in large part through a grant-in-aid contract between the Freeholders and the State Department of Health.

By August, contracts for a legal consideration of one dollar per year had been signed between the Board of Chosen Freeholders and 13 of the 15 municipal boards of health in the county.

This modest county health unit concentrated its initial efforts on meeting environmental health problems and received continuing consultation and other assistance from the Southern District staff.

Although the unit has only three employees on the county payroll, the Public Health Coordinator is responsible for the direct supervision of the activities of a public health nurse, plumbing inspectors and rabies control wardens employed by contracting municipalities. The contract used by the Freeholders obligates the municipal board of health to designate the County Public Health Coordinator as its Health Officer and specifically makes him responsible for the supervision of all present or future employees of the board of health.

By the end of the year, after only six months of operation, the Salem County Health Department covered some 44,000 people or about 69 percent of the county's estimated population of 63,000.

Metropolitan State Health District

Community Health Services

With the introduction of several new community programs such as the Newark Area Community Services Health Study, the Economic Opportunity Act, and the county-wide Sabin oral vaccine project, the District staff has taken advantage of these additional opportunities to work with lay and professional groups in interpreting and promoting the need for better public health services.

In the area of community health services, projects include the following:

Sabin Oral Sunday Program

The county-wide Sabin Oral Sunday Program in five counties of the Metropolitan State Health District is almost without parallel as a massive community involvement in a health activity. The coordinated projects spearheaded by county medical societies with the cooperation of boards of education, freeholders, local health departments, health and welfare agencies and interested citizens represented one of the most extensive public health measures aimed at eliminating a preventable disease. District staff cooperated in the planning and execution of the county-wide surveys from the inception to the termination of the project.

It was the primary objective of the District to establish synchronization of target dates for each polio type throughout the area so that newspapers, radio and television were applicable "across the board." This was not only accomplished but served to bring together each county medical society and also each county polio chairman in joint appearance and statement.

Economic Opportunity Act

The District staff members have taken part in planning phases related to health aspects of Economic Opportunity Act as applied to Newark under the United Community Corporation and Jersey City "Can Do" Project.

The Newark project includes in its plan nine projects. A tenth project, for health services and medical care to serve all other projects, has been outlined.

The Jersey City Project is for unemployed school dropouts. Originally, it was funded by the Office of Manpower, Automation and Training. Plans are being made to expand operations under the Economic Opportunity Act.

Parent-Teacher Program

Tetanus Conference

Assistance was given in setting up a fall meeting of the Health Committee, Passaic County Council of Parent-Teacher Associations. The theme for the conference was "Insuring Protection Against Tetanus." Program participants included the chairman, Tetanus Campaign, Passaic County Medical Society; consultant, Community Health Education, Vaccination Assistance Program and members of the Paterson Board of Health.

District Meeting of Parent-Teacher Association

Venereal disease education, smoking, narcotic addiction, air pollution, immunization and rabies control were subjects discussed at the District meeting of county health chairmen, Congress of Parents and Teachers. Ten representatives attended the conference. As in the past, the fall meeting established contacts for further program opportunities during the school year.

Essex County Fair

The New Jersey State Department of Health was represented in the South Mountain Arena at the Essex County Fair which was sponsored by the Essex County Inter-professional Health Council. The following central programs conducted exhibits and clinics: Communicable Disease, Diabetes, Heart and Circulatory Disease, and Public Health Nursing. Approximately 80 health and welfare groups featured exhibits, health examinations and demonstrations; 73,212 persons attended.

Venereal Disease Control Subcommittee

Health—Mental Health

New Jersey Youth Division

A survey of sociological problems and stresses affecting 109 teenagers diagnosed as having syphilis has been the basis for study by the committee during the past year. At the present time, an ad hoc committee is developing a suggested program designed to express convictions of the members of the over-all group as steps to be followed by the community in correcting situations which lead to the high incidence of venereal disease in teenagers.

School Health Conference

District staff members joined with members of the Planning Committee of the Essex County School Health Committee in planning and conducting the Seventh Annual School Health Conference. The purpose was to promote uniformity in practices and records related to school tuberculin testing programs in Essex County. Committee representation included representation from the Essex County Tuberculosis League; Essex County Department of Education; Essex County Health Officers Association; East Orange Health Department; Newark Board of Education; West Essex Nursing Service; and Montclair Board of Education. Attendance at the two sessions included: three physicians, two health educators, 89 nurses, one director of health education, four school principals, one school superintendent, one director of health.

Training Institute on Urban Planning

A Training Institute on Urban Planning for Environmental Health was held in Wayne Township during the month of June. The institute was sponsored by the Metropolitan Planning Section, Training Program, Robert A. Taft Sanitary Engineering Center; Public Health Service Region II; and the New Jersey State Department of Health. It was attended by approximately 40 civic, health and planning personnel from the New Jersey and New York metropolitan area.

Medical-Social Rehabilitation

Collaborative activity has continued with the Youth Career Development Program (Division of Employment Security, Department of Labor and Industry). Dental and medical diagnostic examinations for school dropouts were set up at Newark Beth Israel Hospital. The results of this activity have clearly demonstrated the possibilities of the rehabilitative aspects of school dropouts who suffer severe dental defects. The need for adequate services administered by qualified and trained social work personnel has been clearly defined through this project.

Newark Area Community Health Services Study

The Newark Area Community Health Services Study, endorsed by 24 health agency, professional and community groups, is being conducted under the auspices of the National Commission on Community Health Services. The Newark health and medical "trade" area includes Essex County and West Hudson.

The plan provides for a self-study by citizens representing professional and lay groups who are:

1. Collecting data.
2. Assessing services.
3. Establishing a plan of action to implement the study.

District staff members have been assigned to committees as consultants. The first phase of the study has been completed.

Environmental Health

Requests for consultation and program planning have steadily increased during the past year. This has been evident by the number of telephone calls and correspondence primarily from local health agencies received in the District office on environmental health problems. Air pollution and sewage disposal constitute the major concern, undoubtedly as a result of greater awareness of disease relationship to environment. The past two years have been a period of transition in the District's basic purpose. Whereas a multitude and variety of direct services were heretofore performed, the District now functions essentially in a consultative capacity to the 141 local boards of health within its jurisdiction. Although this has resulted in a sharp reduction in total numbers of routine inspections, it has freed personnel to promote local programs in conformance with the Recognized Activities and Minimum Standards of Performance for Local Boards of Health.

Lack of sanitary sewers and sewage treatment facilities continues to be a problem of major importance in this heavily populated area of the state. This is borne out by the fact that the District inspected sites and rendered opinions or approvals to the State Department of Education for 16 new school projects. These involved septic tanks for sewage disposal and wells for a potable water source. Seven subdivision sites were visited, soil studies made and opinions rendered at the request of local boards of health. These proposed homes are to be built where sanitary sewers are not available.

Maternal and Child Health

The Maternal and Child Health Program in the Metropolitan District, while continuing a core of operation in the evaluation of all Child Health Conferences, has extended consultation to numerous other services involved in maternal and child health. This expansion of services has been possible because of the increase in the time of the pediatric consultants: the program functioned with only one pediatric consultant on two-fifths time from January to June, 1964; with the return of a second consultant on full time in June and the addition of a third pediatrician in October, the program has had the equivalent of two pediatricians full time.

For the basic work in improvement of Child Health Conferences, a schedule has been prepared to assess annually all 142 stations in the District. Of these, only six continue to receive grants-in-aid for physician services. Priorities for visits were given according to known need for improvement, or where no previous contact had been made. At the end of the year, only two municipalities had never been visited, and plans were made to persuade the health officers in these situations to accept consultation.

In an effort to improve the effectiveness of immunization program throughout the state as well as in the Metropolitan District, a flier was prepared for circulation with the birth certificate. The flier provides information in English and Spanish for the parent of the new offspring who needs early and proper immunizations as protection against preventable diseases.

Newark Maternity and Infant Care Project.

Primary focus of attention in Essex County has been on the development of a Maternity and Infant Care Project for Newark. With this objective, a complete evaluation of the Child Health Conferences in Newark was undertaken early in the year.

A survey of Newark Child Health Stations was done by a team to observe methods of child health care and to give recommendations that would make for a better service. Sixteen stations were visited and the work of eight physicians and their nursing teams was observed. The prenatal clinic at the Newark City Hospital was also evaluated. The increasing problem of the unwed mother was noted in certain areas of Newark and the recommendation for special child health sessions for the young mother has been discussed with the director of Child Hygiene.

A project request for Newark submitted to Children's Bureau was reviewed by the Regional Office (Children's Bureau) in June and suggestions for rewriting and expanding activities on social work and ancillary services were made at a meeting with Children's Bureau representatives in July. The basic project called for use of four voluntary hospitals as "satellite" locations for prenatal, obstetrical, and post-partum services to medically indigent patients. To relieve the overcrowding at Newark City Hospital by cutting its patient load by one half, approximately 2,000 maternity patients per year would be assigned to these voluntary hospitals. Discussions were held with the administrators of the four voluntary hospitals designated for the project in preparation for a site inspection by Children's Bureau officials, which occurred in July.

To implement the proposed project operation, considerable effort has been directed toward defining the best route of welfare reimbursements to voluntary hospitals for care of the medically indigent maternity patients directed to them under the project.

Since major factors in the inadequacy of maternal and child health services in Newark were the weakness of the general administrative structure of the Health Department and the special weakness of its nursing service, the entire project was made conditional upon the necessary actions by the city administration so that these shortcomings could be remedied.

Lead Poisoning Control Program—Newark

A lead poisoning control program, under the aegis of the Committee on Accident Prevention of the Hospital and Health Council, was initiated for Newark. The District Consultant Pediatrician reviewed and rewrote the original protocol which used urinary coproporphyrin screening for all Newark Child Health Conference patients, and secured the approval of the three cooperating agencies, Babies Hospital, Newark Division of Health, and the State Health Department. The State Health Department laboratory performed blood lead determinations on children with elevated coproporphyrin levels. Evaluation of the 1964 program was completed in December. Requirements for an expanded budget to extend this program in 1965 prompted exploration with representatives of Public Health Service of sources of federal funds.

Maternity and Infant Care Project

The Paterson Health Officer requested the Department's aid in developing a program to reverse Paterson's rising rates of perinatal and infant mortality. The Health Officer and members of this staff approached the hospital administrators and chiefs of obstetrics and pediatrics of the three voluntary hospitals handling prenatal, obstetric and post-partum care of 1,700 medically indigent patients. Plans for a survey of the needs of these three hospitals (Barnert Memorial, St. Joseph's, and Paterson General) were made to determine to what extent services require expansion and supplementation to provide recommended standards of comprehensive maternity and newborn care.

Immunization Surveys

Surveys of selected households in Paterson, Elizabeth, Jersey City, and Newark were conducted to determine how well children under five years of age are protected against polio, diphtheria, whooping cough, tetanus, smallpox, and measles. Conducted in cooperation with the respective local health departments, the surveying was done by staff of the Vaccination Assistance Project to determine whether measures were needed to be applied to raise the immunization level.

Public Health Nursing

The public health nurse census as of January 1, 1964 completed for the United States Public Health Service Division of Nursing revealed an increase from the 1962 census of 11 full-time nurses and five part-time nurses. The official agencies showed a decrease of 16 nurses while the voluntary agencies increased their nurse power by 27.

Seven educational programs for nurses were held during 1964. The grand total of attendance was 603.

Public Health Nursing Conference

A conference on "Community Nursing Services" sponsored by the Bergen County Health and Welfare Council as a continuation of the Governor's Conference on Nursing was held in May.

Seventy representatives of health agencies in the county attended the conference.

A follow-up committee meeting was held for the purpose of evaluation. The review specifically pointed to the fact that the participants present at the conference were not aware of the nursing services available in their respective communities. The committee decided not to proceed with plans for a second conference until after the release of The Johns Hopkins University Team Survey Report.

East Orange

A survey of nursing services provided to East Orange Catholic High School was done with emphasis on time spent and services provided. Recommendations were made and implemented by the Health Department. A qualified nursing director has been employed to carry out the nursing program. The "Community Health and Nursing Services" project has been in operation for a year and has been successful in providing improved out-of-hospital medical care through the coordinated services of the Health Department, East Orange General Hospital, and Visiting Nurse Association of the Oranges and Maplewood.

Public Health Nursing

The North Hudson Public Health Nursing Service has been in operation since June 1, 1962. The board of trustees of this agency have not been successful with the officials of Secaucus, Weehawken, and North Bergen in efforts to obtain assistance in the financial support of the nursing services. Many contacts have been made with the community officials, but their financial support had not been gained as this report was prepared. The

federal contract moneys will expire as of May, 1965. Guttenburg is the only municipality which has signed a contract. West New York has agreed to appropriate money for nursing services to supplement its Health Department Maternal and Child Health Program.

The three staff nurses made 3,518 home visits in the five communities for 1964; North Bergen received 1,425; West New York, 1,136; Weehawken, 349; Secaucus, 196; and Guttenberg 152 visits for bedside care of the ill in their homes. Guttenberg and West New York had 260 visits for health supervision under the Maternal and Child Health program.

Passaic County Conference on Community Nursing Services—Follow-up, Governor's Conference on Public Health Nursing

The conference, sponsored by the Passaic County Community Council Citizens Committee and the District, was attended by 100 persons representing local health departments, hospitals, voluntary agencies, civic groups, and the Passaic County Medical Society and Auxiliary, and nursing agencies. Emphasis was placed on "the need to coordinate and collaborate to improve and strengthen existing nursing facilities."

An evaluation of the conference gave participants the opportunity to express appreciation for: (1) the opportunity to learn about nursing services, (2) determining the need for a complete survey of nursing services in Passaic County, (3) recommending the appointment of an action committee.

Union County

Public Health Nursing

The Nursing Director of the Elizabeth Health Department resigned after 20 months of service. Sixteen of the 19 recommendations made by the Chief Public Health Nurse and District Chief Public Health Nurse, following a nursing survey in 1961, have been carried out. One of the recommendations, the employment of a qualified Public Health Nurse Supervisor, has not been carried out. Several qualified nurses have been interviewed, but because of a residency clause were found ineligible. A new Nursing Director was appointed and began her duties in December.

Emergency Health Preparedness Program

Highlights of the year include expansion of the Department's program of assisting in and cosponsoring the education of the general public in preparation for shelter-living; the completion of orientation and training programs with the Packaged Disaster Hospital training units by 6,245 key hospital individuals;

the progress in the conversion of the 83 prepositioned Packaged Disaster Hospital units to the 1962 stock-capability; and the location of sites for the prepositioning of 50 percent of the fiscal 1965 allotment of the 1962 type Packaged Disaster Hospital units.

Community Planning for Emergency Health Services

The Department continues to administer the Medical Self-Help Training Program with excellent cooperation from the State Civil Defense Training Officer and the County Civil Defense Coordinators. One hundred and fifty individuals from the U. S. General Services Administration, the State Division of Civil Defense, the New Jersey Bell Telephone Company, and Western Electrical Laboratories completed the Medical Self-Help Instructor's Course given by Departmental personnel. The Medical Self-Help Training was established as a part of the curriculum by all Catholic parochial schools and by most of the public junior and senior high schools and the state colleges. The State Division of Motor Vehicle Inspection, the State Police, the regional office of U. S. General Services Administration, the N. J. Bell Telephone and Western Electric Laboratories, the Trenton office of the U. S. Coast Guard Reserve Unit, and the Hamilton Township Babe Ruth League of Mercer County have initiated Medical Self-Help Training Programs for their employees. Medical Self-Help exhibits were placed in the rotunda of the State Capitol Building, the window of the Trenton Trust Bank, at the Annual Conference of the State and Local Health Officials, the Flemington Fair, and the Gloucester County Medical Fair. Incomplete reports indicate that 18,945 persons completed the 16-hour Medical Self-Help Training course. Several conferences were held with national, regional, state and local representatives of American Red Cross to establish a nationally-approved program of cooperation between the American Red Cross and the State Medical Self-Help Program. Over 2,000 copies of the cooperative agreement were distributed to county and local civil defense organizations and interested individuals.

The grant to the Department by the U. S. Public Health Service of a new prototype Disaster Hospital training unit permitted its wide use, not only as a training vehicle, but as a public relations tool by the county civil defense health coordinators with the general public and the medical and health and allied professional and technical groups. It was also used in conjunction with State Hospital Training Units at existing hospitals upon request. Exhibits were planned around this unit at the Flemington-Hunterdon County Fair, Cape May's Crest Haven Hospital, Elizabeth Municipal Building, Westfield Armory, the annual meeting of the American Academy of Medicine at Convention Hall, Atlantic City, and at the annual meeting of the Medical Society of New Jersey at Haddon Hall, Atlantic City.

Professional and technical persons received training by state staff at six sessions at the Essex County Civil Defense Training Center, five sessions at Crest Haven Hospital, one session at Westfield Armory, two sessions at Lyons Veterans' Administration Hospital, and four sessions at Sussex County Civil Defense Training Center. In addition to unreported members of the general public who were invited and received guided tours at specified times during the training sessions, the number trained included hospital administrators, 250; setting up and operation of the emergency hospital, 2,355; orientation to scope and objectives of 200 bed unit, 3,640, making a total of 6,245 trained individuals.

Assistance in the education of special institutes was provided as follows:.

A two-day N. J. Health Mobilization Institute was given by the Training Branch of U. S. Public Health Service and key personnel from the Department; it was well received by 125 participants including physicians, hospital administrators, local health officers, dentists, nurses, veterinarians, and key county and local civil defense officials to whom 125 kits of informational material were distributed.

A one-day conference on Distressed Foods and Drugs was given by Departmental personnel for 150 full time health officers and sanitarians, outlining the legal and public health problems of such items during floods, major fire, or other natural or man-made disasters. One hundred and fifty kits of informational material were distributed to the participants.

Key persons of the New Jersey Army Reserve National Guard Headquarters staff received an orientation to the Health Mobilization Aspects of the over-all civil defense program. Pertinent informational data were prepared and about 40 parcels thereof were distributed.

Similar orientation and informational data were given to key and supervisory personnel of the New Jersey Bell Telephone Company.

Special disaster nursing courses were given to senior students at schools of nursing at Cooper Hospital, Camden; Mercer Hospital, Trenton; Paterson General Hospital and East Orange General Hospital. The Assistant Director of Professional Training of U. S. Public Health Service, Division of Health Mobilization, held a one-day Institute for Nurses at Somerset Hospital primarily for nurses from Northern State Health District. About 200 graduate and student professional and public health nurses attended.

Pertinent informational data regarding the Public Shelter Program, including an alert to the "trapped water survey" by U. S. Corps of Engineers, were duplicated and forwarded to the hospital administrators and local health officers. District state health officers and local health officers continued their cooperation of assistance, guidance, and/or supervision of the filling of the water storage cans.

The joint community health effort in the statewide polio immunization program of local health departments, county medical societies, and local civil defense organizations has served to develop in the communities a sense of accomplishment in readiness planning and utilization and also provided the teamwork experience that will be critically essential in a disaster situation.

This office was requested to assist in the coordination and integration of the Disaster Program of the New Jersey Society of X-ray Technicians with existing governmental civil defense medical and health programs. A list was prepared, by county and by municipality, of the names of registered X-ray technicians from the roster of the National Society of X-ray Technicians for distribution to appropriate county and local civil defense personnel and to hospital administrators.

Development of Hospital Operations Capability

Deficiencies at prepositioned sites of 200-Bed Packaged Disaster Hospital Units were under investigation and an attempt was made to motivate county and local civil defense organizations to correct the deficiencies. The main difficulties appeared to be the provision of the 40 cubic feet of required refrigerated space and the location of additional space for the bringing up of the prepositioned units to the 1962 stock-capability.

Many suggested sites for prepositioning the Packaged Disaster Hospital Units were inspected jointly by the Public Health Service assignee and the State Civil Defense Regional Coordinators. However, only 12 sites were found to conform to Public Health Service specifications, leaving a deficit for an additional 23 such units allocated for fiscal 1965.

A questionnaire was developed and a program initiated to secure recruitment, assignment, and training at county and local levels of the key persons for the transportation to site of operation; the setting up, maintenance, operation, and administration of the emergency hospital, in an improvised preselected building. This "Hospital Operational Plan" phase of the program has been completed for the 12 incoming 1962 CDEH units and it is planned to expand the program to include updated operational plans for the other 83 already prepositioned unit.

Representatives of the Delaware Valley United Hospital Council, the Pennsylvania State Department of Health, the regional office of U. S. Public Health Service, and the Chairmen of the Disaster Medicine Committees of the Medical Society of New Jersey and Philadelphia met with Departmental personnel on two occasions to discuss legal authority and responsibility, lines of command and channels of communication for implementing inter-state, as well as inter-county disaster hospital services; and to explore cooperative activities between governmental and organized medical and health groups.

Division of Preventable Diseases

WILLIAM J. DOUGHERTY, M.D., M.P.H., *Director*

Programs:

Communicable Disease Control ..... WILLAM J. DOUGHERTY, M.D., M.P.H.
Coordinator

Migrant Health ..... THOMAS B. GILBERT
Coordinator

Tuberculosis Control ..... FREDERIC BASS, M.D.
Coordinator

Vaccination Assistance ..... WATSON E. NEIMAN, M.D.
Coordinator

Venereal Disease Control ..... M. WISHENGRAD, M.D.
Coordinator

Division of Preventable Diseases

Communicable Disease Program

Amebiasis

Of the 267 cases of amebiasis which were reported during 1964, 260 were from state institutions.

Anthrax

In April, a report was received of a case of anthrax in Cincinnati in an employee of a heating and air-conditioning contracting company. This man installed insulation containing goat hair manufactured by a company which has a plant in Newark, New Jersey. Communicable Disease Center recommended to the company, headquartered in Chicago, that it disinfect or destroy the contaminated goat hair in its warehouse. It was further recommended that the use of animal fibers be discontinued by the insulation processing industry.

Dengue

Two cases of dengue fever were reported for the year, one confirmed and the other unconfirmed by laboratory studies. The confirmed case occurred in a crew member of a ship which came to Philadelphia from Venezuela. The onset of illness apparently occurred before the ship left Venezuela. The patient was treated in a hospital in New Jersey.

The unconfirmed case occurred in a 31-year-old male, resident of New Jersey who had returned from a cruise in the Caribbean including Jamaica, just prior to the onset of illness in January. In 1963, approximately 1,500 cases of dengue fever were reported in Jamaica. The incidence of dengue fever which occurred in other areas of the Caribbean at a high level in 1963 decreased in 1964.

Diarrhea of the Newborn

Seven episodes of infant diarrhea were investigated, including 23 cases. Four of the investigations were done in hospitals where there was evidence that some of the infants had acquired diarrheal illness at the hospital. One investigation involved a hospital in northern New Jersey, where one infant was found to have developed diarrhea two days after birth. A review of records of 29 other infants who had been in the nursery at the same time as the index case revealed at least one additional case. In a follow-up survey of these infants, conducted through the infants' physicians, another case was found. In the course of the investigation, several cases of hospital acquired diarrhea were identified in pediatric patients at that hospital. The causative organism was found to be Salmonella reading.

Another investigation concerned pediatric patients at a central New Jersey hospital. During the month of July, an unusual number of pediatric patients was admitted to the hospital with diarrheal disease. Many of these children had had previous admissions to the hospital. Most of the children were less than one year old. The causative organism was felt to be an enteropathogenic E. coli.

Encephalitis

During 1964, outbreaks of St. Louis Encephalitis occurred in several areas of the United States. Cases were reported from Texas, Colorado, Illinois and neighboring states, and New Jersey and Pennsylvania. Ninety-two cases of St. Louis Encephalitis were serologically confirmed in New Jersey in 1964. The peak incidence appeared to have begun during the week ending September 19, cases occurring from August to October. Ninety-one of the 92 cases lived in Camden and Burlington Counties; one case was found in Gloucester County.

Table 1. St. Louis Encephalitis in New Jersey Residents on Age Group, 1964

	Total	*Male*	*Female*
1-9	1	1	0
10-19	4	3	1
20-29	7	2	5
30-39	14	5	9
40-49	19	5	14
50-59	14	5	9
60-69	19	3	16
70-79	13	7	6
80-89	1	0	1
	92	31	61

Half of the cases were females over 40 years of age. The eight deaths all occurred in patients over 60; six of them were women. These eight deaths represent a case fatality rate of approximately nine percent.

Of the 224 reported cases of encephalitis of viral etiology, 113 (50%) were of unknown etiology. This fraction is significantly lower than the 1963 figure of 82 percent. The notable difference can be attributed to the 92 cases of St. Louis Encephalitis, all of which had serological confirmation of the diagnosis.

Food Poisoning

Investigations were made of 36 episodes of food poisoning. Thirty-four of these occurred in New Jersey, the two others involving New Jersey residents who ate the suspect meals out of state. A total of 1,234 persons were involved in the food poisoning outbreaks.

The largest outbreak investigated included 600 to 1,000 persons at Rutgers University. Studies performed suggested that the illness, which occurred from November 12th through 20th, was due to Salmonella. The illness occurred primarily among students eating in the University Commons, with only a few cases seen in the faculty or among students who ate their meals off campus or in the fraternities. The exact food that caused the outbreak could not be determined.

Attempts were made to work more closely with local health officials in the investigation of even small outbreaks of food poisonings. This, in addition to the large Rutgers outbreak, may account for the increase in the number of cases reported this year.

Infectious Hepatitis

The total number of cases of infectious hepatitis for 1964 was 989, showing a decrease from the 1963 level of 1,255 cases. Individuals under 20 years old accounted for 355 cases or 36 percent of this year's total. This is the same percentage as last year. Again the over-all state ratio of adult cases to childhood cases was 1.8, which is higher than the national ratio of 0.5 for 1963.

All death certificates on which a diagnosis of hepatitis appeared were checked by the program. In this way, previously unreported cases were discovered and fatalities on reported cases were verified. There were 13 deaths reported among cases of infectious hepatitis for the year. This represents 1.3 percent of the reported cases of infectious hepatitis for the year.

Table 2. Mortality in N. J. Residents from Infectious Hepatitis, by Age Groups

0-9	*10-19*	*20-29*	*30-39*	*40-49*	*50-59*	*60+*	*Total*
0	2	1	1	0	4	5	13

Table 3.
Mortality in N. J. Residents from Infectious Hepatitis, by County

Bergen	3
Camden	1
Essex	4
Hudson	2
Mercer	1
Union	2
Total	13

Most of the deaths occurred in individuals 50 and over and in the more heavily populated counties.

An outbreak of infectious hepatitis transmitted through raw clams was reported by New Jersey and Pennsylvania, beginning in October, 1963 and apparently ending by April, 1964.

Eight hundred and sixty-four cases of hepatitis were reported in New Jersey with onsets between September 29, 1963 and May 18, 1964. Five hundred and seventy-two cases occurred in persons age 20 and over. One hundred and forty-three had eaten raw clams within 10-60 days before the onset of illness.

Intensive tracing of clams revealed that 84 cases of hepatitis occurred in New Jersey residents who had eaten clams from sources compatible with the Pleasantville area.

In addition to these New Jersey cases, 168 cases related to New Jersey clams from the Philadelphia area were found in Pennsylvania. In February, several previously open areas along the south and south central New Jersey coast were closed for clamming.

An investigation of 32 cases of infectious hepatitis in the Woodbridge, New Jersey area indicated a common exposure to cream-filled or cream-topped bakery products from a single Woodbridge bakery. The probable source of contamination of the baked goods was an employee who prepared the cream. He suffered from an illness retrospectively diagnosed as infectious hepatitis during the middle of February. The subsequent cases which clustered over a one-month period involved all age groups. A secondary wave of cases involving only school age children was distinguished, and it is postulated that this phase represents person-to-person spread of infection, perhaps through sub-clinical cases.

Serum Hepatitis

One hundred and thirty-seven cases of serum transmitted hepatitis were reported with onset dates in 1964. Thirty-seven of these cases were type A (incubation period under 60 days), 50 type B, and 50 of indeterminate incubation period. Type A cases represent 42 percent of the cases with known incubation period. The number of cases in narcotic addicts rose again for the fourth straight year. These cases account for most of those with indeterminate incubation periods. Single-unit blood transfusions accounted for only six percent of the cases of serum transmitted hepatitis. For the third year, the percentage of these cases related to commercial units of blood dropped, (45% in 1964).

Table 4. New Jersey Hepatitis—1961-1964

	1961	*1962**	*1963*	*1964*
Total Cases	102	124	120	137
Information Available	99	124	120	137
Incubation:				
Type A (under 60 days)	20	53	43	37
Type B	71	51	44	50
Indeterminate	11	20	33	50
%A of those with known incubation period	22%	51%	49%	42%
Cases in addicts	9	24	32	43
Cases with addict donors	6	4	2	1
Total addict-related cases (%)	15(15%)	28(23%)	34(28%)	44(32%)
Cases in single-pint recipients	16	19	11	9
Cases from commercial pints	10(63%)	12(63%)	6(54%)	4(45%)
Mortality:				
Type A cases (%)	2(10%)	3(6%)	4(9%)	0(0%)
Type B cases (%)	10(14%)	7(14%)	3(7%)	5(10%)
Indeterminate (%)	..	..	..	6(12%)
Total cases (%)	13(13%)	11(9%)	10(8%)	11(8%)

* Does not include cases discovered during special intensive study.

Approximately one-third of all blood used in N. J. is purchased from commercial sources. An unknown amount is obtained through direct hospital-to-donor payment.

There were 10 fatalities identified among the reported cases of serum hepatitis. This represents seven percent of the reported cases and is substantially above the 1.3 percent figure for fatalities from infectious hepatitis.

Table 5. Mortality in New Jersey Residents from Serum Hepatitis, by Age Group

Total	*0-9*	*10-19*	*20-29*	*30-39*	*40-49*	*50-59*	*60-69*	*70-79*	*80+*
10	0	0	4	0	1	2	1	1	1

Three of the four deaths listed for the 20-29 age group occurred in narcotics addicts. All of the other cases were post-transfusion. Half of the fatalities occurred in individuals 50 years and over.

Identification was made of 11 individuals who were either common to more than one case of hepatitis in a transfused individual, were known narcotic addicts, or were donors to cases who received only single pints. These individuals were then excluded from donating blood for transfusion in New Jersey through the procedures established between the Blood Banking Program and the Division of Preventable Diseases.

Leptospirosis

Two cases of leptospirosis were reported this year from Passaic County. The first patient, a 50-year-old white female, died February 28, 1964. The second, a 72-year-old white female, died July 1, 1964. Investigation of the homes of these patients for possible animal contacts was inconclusive. The first patient possibly had some exposure to rats at home.

Malaria

Six cases of malaria were reported in New Jersey. Two of these cases occurred in military personnel recently returned from foreign duty. The civilian cases had also been abroad prior to the time of onset of illness.

Measles

In the spring of 1964, outbreaks of rubella and rubeola were reported throughout the United States. New York and Pennsylvania reported increases of rubella particularly. New Jersey does not require reporting of cases of rubella, although these cases are frequently reported as cases of "measles" along with rubeola. The number of cases of "measles," however, showed only a six percent increase in 1964 over the previous year.

Pertussis (Whooping Cough)

There were 128 cases of Pertussis reported in New Jersey in 1964. The diagnosis appears to be made most frequently in Bergen, Essex, and Hudson Counties.

Table 6. Pertussis Cases in New Jersey Residents by Age Groups, 1964

0-4	70
5-9	13
10-14	20
15-19	17
20-29	0
30-39	0
40-49	1
50-59	1
60+	0
Unknown	6
Total	128

More than 50 percent of the cases for whom age is known occurred in children in the 0-4 age group. Only two cases were reported in adults over 20 years old.

Poliomyelitis

Only two cases of paralytic polio were reported for 1964. Both cases appear to have been associated with Type 3 polio vaccination.

Psittacosis

Three cases of psittacosis were reported for the year. One of the three cases was confirmed by serology at the State Laboratory, while serologies on the other two were not diagnostic. The confirmed case occurred in a 36-year-old male in September. There were no birds kept at the home of the patient and he gave no history of direct contact with birds. He lives in an area where chickens are raised.

Both of the other cases had occurred in persons who had parakeets in the home. One of these patients also had exposure to pheasants which he purchased and released for hunting purposes.

Rabies (see Veterinary Public Health)

No human cases of rabies were reported.

Rocky Mountain Spotted Fever

Seventeen cases of Rocky Mountain spotted fever were reported for the year. Attempts were made to have acute and convalescent blood specimens submitted to the State Laboratory on all reported cases. Laboratory evidence confirmed nine of the cases to be Rocky Mountain spotted fever. One case was ruled out and another was inconclusive since no blood could be obtained. The other six cases generally presented a clinical picture compatible with the diagnosis of Rocky Mountain spotted fever, but the laboratory data were not definitive. In many of the cases, early treatment with chloramphenicol or one of the tetracyclines may have interfered with antibody formation sufficiently to prevent conclusive laboratory evidence.

Salmonellosis (excluding Typhoid Fever)

In 1964, approximately 100 fewer cases of Salmonellosis were reported than in the preceding year.

Table 7. Cases of Salmonellosis in New Jersey, 1959 - 1964

1959	63
1960	78
1961	70
1962	154
1963	562
1964	466

Thirty serotypes were identified.

Table 8. Frequency of Serotypes Found in Cases, New Jersey, 1964

anatum	4
blockley	20
braenderup	1
bradford	1
bredney	5
chester	2
derby	103
enteritidis	14
give	1
heidelberg	37
infantis	15
java	3
litchfield	1
manhattan	1
montevideo	13
muenchen	3
newport	9
oranienberg	6
reading	2
schwercengrund	2
stanley	1
tallahassee	1
tennessee	4
thomasville	1
thompson	6
typhimurium	119
urbana	1
st. paul	15
paratyphi, total	6
B	4
C	1
unknown	1
groups, total	26
A	1
B	16
C_1	3
C_2	2
C	2
D	2
E	..
unknown	44
Total	466

This frequency distribution is in general agreement with the national experience as given in the publications of the Salmonella Surveillance Unit of the Communicable Disease Center.

Table 9. Salmonella Cases in New Jersey Residents by Month of Onset, 1964

Month of Onset	*No. Cases*
January	23
February	40
March	30
April	45
May	35
June	45
July	54
August	47
September	41
October	42
November	28
December	36
Total	466

Table 10. Salmonella Cases in New Jersey Residents by Age Group, 1964

Age Groups	*Number*
0-4	150
5-9	61
10-19	37
20-29	40
30-39	31
40-49	27
50-59	35
60-69	34
70-79	22
80 and over	8
Unknown	21
Total	466

Forty-seven percent of the cases for which an age is known occurred in the 0-9 age group. Fifty-six percent of the cases occurred in individuals under 20 years old. The national average for 1963 was 61.5 percent in the less than 20 age group. The New Jersey figure may again this year reflect the incidence of hospital-associated Salmonella derby infections, primarily occurring in adults.

Table 11. Salmonella Cases in New Jersey Residents by County of Residence, 1964

County	No. Cases	Estimated Population 1963	Rate per 100,000 Population
Atlantic	17	170,000	10.0
Bergen	36	859,000	4.2
Burlington	47	253,000	18.1
Camden	43	422,000	10.2
Cape May	4	52,000	7.7
Cumberland	15	113,000	13.3
Essex	49	929,000	5.6
Gloucester	6	149,000	4.0
Hudson	34	599,000	5.8
Hunterdon	6	58,000	10.3
Mercer	22	278,000	7.9
Middlesex	58	489,000	11.9
Monmouth	14	370,000	3.8
Morris	15	293,000	5.1
Ocean	0	125,000	0
Passaic	13	429,000	3.0
Salem	0	61,000	0
Somerset	13	158,000	8.2
Sussex	4	54,000	7.4
Union	67	539,000	12.4
Warren	3	66,000	4.5
Total	466	6,467,000	7.2

The significantly higher case rate in Burlington County as compared with other areas of the state probably reflects the results of the community study being conducted by the Division of Laboratories. A small outbreak of hospital associated cases in a Burlington County hospital also contributed to this figure.

Several of the cases in Cumberland represent illness acquired at a Philadelphia hospital. The relatively high incidence of Salmonella isolations in Middlesex County results from the Rutgers foodborne outbreak of Salmonellosis. One of the large hospitals in the Middlesex County area has had several small outbreaks of hospital-associated Salmonellosis in 1963 and 1964. In addition to the cases identified during these outbreaks, the hospital consistently isolates a fair number of Salmonella organisms since the staff and laboratory are aware of Salmonellosis and interested in identifying it.

There were 103 S. derby cases reported in 1964, a drop of 33 percent from 1963.

Table 12. Salmonella derby in New Jersey Residents by County of Residence, 1964

Atlantic	5
Bergen	8
Burlington	15
Camden	15
Cape May	1
Cumberland	6
Essex	10
Gloucester	3
Hunterdon	3
Mercer	3
Middlesex	10
Monmouth	3
Morris	4
Somerset	1
Union	10
Warren	3
Total	103

Table 13. Salmonella derby in New Jersey Residents by Month of Onset, 1964

January	9
February	13
March	13
April	20
May	12
June	11
July	7
August	7
September	4
October	1
November	2
December	4
Total	103

Table 14. SALMONELLA DERBY IN NEW JERSEY RESIDENTS, HOSPITAL-ACQUIRED AND COMMUNITY-ACQUIRED, 1964

	Hospital-Acquired	*Community-Acquired*	*Total*
January	7	2	9
February	8	5	13
March	10	3	13
April	15	5	20
May	9	3	12
June	10	1	11
July	6	1	7
August	3	4	7
September	1	3	4
October	0	1	1
November	1	1	2
December	3	1	4
Total	73	30	103

Hospital associated cases of Salmonella derby represent 71 percent of the Salmonella derby cases for 1964. Six percent of these cases occurred in hospital employees, frequently identified in culture surveys of hospital personnel at the time of a suspected outbreak of hospital acquired illnesses. In 1963, the peak incidence of Salmonella derby occurred during the summer months, but in 1964 the peak was in the spring.

One of the hospitals which had had an outbreak of hospital-associated Salmonella derby cases in 1963 continued to have periodic, small outbreaks during 1964. Investigations of these outbreaks frequently identified Salmonellas other than derby, being carried by the hospital staff or infecting the patients. Certainly the fact that the hospital was interested in looking for these organisms contributed heavily to the high percentage of positive cultures they reported.

Salmonella typhimurium was identified as the causative organism in the food poisoning of 38 persons following a wedding reception. Interviews were completed on 128 persons who ate the suspect meal. Attack rates clearly indicated that potato salad was the source of the infection.

Shigellosis

There were 95 cases of Shigellosis reported for 1964, an increase of 14 cases over the 1963 figure. An outbreak of Shigellosis in the newborn nursery of a southern New Jersey hospital in the fall was investigated. The reporting of one case led to the discovery of six cases of diarrhea among 24 other infants who had been in the same nursery at the same time. Four infants were identified as having had diarrhea while in the newborn nursery by a review of the charts of these infants. Two other babies were found to have had diarrhea within one week after discharge from the hospital. These infants were identified by a survey conducted by public health nurses in the area of infants who had been in the newborn nursery at the same time as the index case. Although cultures were taken of these two infants and all others contacted, none were found to be positive for Shigella. It was felt that the method of transportation of the cultures may be at fault and other methods will be tried in the future. Ten physicians and 22 members of the nursing staff of the hospital were cultured and found to be negative for Shigella.

Smallpox

Four cases of suspected smallpox were reported and investigated. None of them were found to be smallpox. Surveillance Orders issued by the U. S. Division of Foreign Quarantine were carried out on 64 individuals, none of whom developed smallpox.

Tetanus

Six cases of tetanus were reported during 1964. Four of the cases were women and two were men. Four of the patients died, the survivors being one of the men and one woman. The oldest patient was 81, the youngest 29. The average age was 60. There was no known history of previous immunization for any of the patients. One of the patients stepped on a nail, one cut his hand with a saw, one punctured her thumb with a splinter, and one fell and cut her knee. For the other two patients, the site of infection was less obvious. Probably a decubitus ulcer on the leg of one patient could account for the site of entry of the organism but no site was found on the other patient.

On July 20, 1964, letters were sent to physicians, hospital administrators, and health officers throughout the state to alert them to the fact that there had been several cases of tetanus recently reported, most of which had been fatal. They stressed the effectiveness of tetanus toxoid and urged its use.

Trichinosis (See Veterinary Public Health)

Typhoid

Eight new cases of typhoid fever were reported. One case was identified by culture of the bile and gastric drainage at the time of cholecystectomy. The patient gave a history of typhoid fever 40 years prior to that time. Another case occurred in an individual recently returned from Mexico. The identification of S. typhi in one person led to discovery of a carrier in her family. A fatal

case of typhoid occurring at Vineland State School resulted in an extensive investigation for the source of infection. Although cultures were taken of all personnel and other patients having contact with the case of typhoid, no source could be identified.

A small outbreak of typhoid occurred in a family in central New Jersey. The outbreak involved three children, age 1, 2, and 3 years. No source could be found for the original case.

Migrant Health Program

New Jersey had about 25,000 agricultural migrant workers in 1964; somewhat less than 22,000 were housed in New Jersey. The others came in by day haul from Philadelphia or other places. Migrants begin to arrive in the state about April 1 and most leave by November 1.

In New Jersey, many areas in which migrant workers live have little or no local health services for their year-round residents; they have even less for seasonal migrants. Areas which do have health services find that their services are often overwhelmed if they undertake to meet the health needs of seasonal workers and their families unassisted.

Because of this paradox, a group with significant health needs living temporarily in areas which are unequipped to meet these needs, the New Jersey State Health Department has for several years coordinated the provision of health services to the migrant people. It has drawn upon local health resources to the extent these were available; it has supplemented these with its own resources and funds obtained from the Public Health Service under the Migrant Health Act (P. L. 87-692).

In 1964, New Jersey's Migrant Health Program through its cooperating agencies provided:

Service	*No. of Persons*
Physician Treatment	48
Hospital Admissions	113
Pediatric Dental Examinations	412
Extractions	123
Fillings	304
Cleaning	400
Fluoride Treatment	295
Tuberculin Tests	1,714
Oral Polio Vaccine I	1,535
Diphtheria-Tetanus Toxoid	1,624
Serologic Test for Syphilis	1,629

Referred to PH Nursing Agencies	91
Individual Service in Camps	1,833
Problem Cases Served	594
Population of Camps Visited	5,814
Medical Social Services	124
Health Education Survey	81
Out-patient Treatment	249
Maternity Services	61
Dental Emergency Treatment	83
Migrant Health Clinics Attendance	2,375
Physician and Nurse Service	783
Physical Inspection	334
Active Tuberculosis Discovered	2
Smallpox Immunization	15
Diphtheria-Pertussis-Tetanus	373
Newly Discovered Syphilis	18
Referred to Clinics	107
Referred to Prenatal and Post-partum Clinics	14
Services in Migrant Schools:	
Diphtheria-Pertussis-Tetanus	133
Diphtheria Tetanus	179
Oral Polio	372
Tuberculin Tests	328
Smallpox Vaccine	112
Treatment of Skin Disease	171
Farmers Reached in Community Health Organization	1,000
Workers Contacted in Community Health Organization	230

In accomplishing these results, we have had the assistance of many community voluntary agencies. At this point, it is fitting to commend especially the National Council of Churches and the Bishop's Committee for the work which they are carrying on, not only in New Jersey, but also throughout the United States.

These results were achieved because of the dedication of the staffs of the participating agencies and the field staff of the New Jersey State Department of Health. Their patient, aggressive persuasion has resulted in the participation of many volunteers and farmers. The services which they have produced in the clinics and in the daily care of migrant families in the farm camps have produced insight and support for the service and are gradually winning expanded support of health services in rural areas. It is important to note here that money is not the only ingredient in rendering this service. It is important that a humane attitude exist and that the will to overcome obstacles end effect change prevail.

The following points deserve special recognition and action.

In-patient hospital bills for migrant workers and their families submitted by 16 hospitals in New Jersey in 1964 exceeded $47,000. The State of New

Jersey recognized its responsibility to help in this area and appropriated $9,000. However, the pro-rata share to each hospital was less than one-fifth of the total billing. This type of deficit accounts for the reluctance of hospitals to admit migrant patients who have been found in clinics to need care and reduces the efficiency of clinic services.

How to make up the deficit poses a terrific dilemma for the hospitals. Fifty to 60 percent of the people in New Jersey are covered by Blue Cross. The deficit cannot be charged against Blue Cross contract patients.

In test cases, municipal governments have been approached and have refused to pay for hospital care to migrant workers under the general assistance provisions which allow a maximum of $10 per day against the prevailing per diem hospital costs of $25 to $30 per day.

Under these circumstances, the hospital has only two recourses. It can conduct fund-raising drives. To the extent that these are successful, the whole community helps to meet the burden. What is more likely to happen, however, is that the hospital overcomes the deficit incurred by passing it along to paying patients who are not Blue Cross subscribers. Thus a small segment of the community, people who are already hard pressed to pay bills because of illness, pays for the hospital care of indigent migrant workers and their families. This is inequitable and unsound. Federal support for hospital care for migrants and their families would result in these costs being apportioned over the whole community through payment of taxes.

In New Jersey, migrants who have recognized needs which would make them eligible for assistance under categorical programs, such as Aid to Dependent Children, Old Age Assistance, and Aid to the Blind, have been helped. The fact of recognition depends on the migrant coming into contact with a case-finding public health nurse, a health clinic, or one of the other members of the health team—the health educator, social worker, etc.—who visit migrant labor camps.

The most significant problem lies in the area of subsistence needs for people who are unemployed, who have exhausted their means, who have been abandoned in some instances, and who need shelter, food, and clothing. Generally speaking, these people fall within the purview of a general assistance program. General assistance is administered by the municipality. While some municipalities have assisted, many do not consider this group their responsibility. Their tax base is not sufficient to meet the migrants' needs and those of their regular residents who are in crisis. There exists a clear need for a special public assistance program for agricultural workers. For only when they can secure food, clothing, and shelter, can people begin to achieve constructively a sense of physical, social and emotional well being.

Migrant workers and their families with health problems have been observed for whom the benefits of social security have been or would have been of great value in the handling of their health problems. In general, many migrant workers are not eligible for the benefits of social security and may not be even enrolled in the system because they have worked for too short a time in any one place or have earned too little money during that time to require contributions to the social security system.

The New Jersey Migrant Health Program pioneered a working contract with the National Travelers Aid Association which has opened channels of intrastate and interstate communication and service on behalf of needy migrant workers and their families. It renders an aggressive person-to-person referral and follow-up on behalf of the worker that assures continuity of service—medical, social and financial—essential to the well being of the migrant worker and his family. This type of service is essential to safeguard the well being of the migrant and to assure the full return for services already rendered. This type of developmental activity is urgently needed in many areas of migrant health program activity.

A word should be said in behalf of the farmer. The farmer is, of course, entitled to a legitimate return from his investment and enterprise. The worker is also entitled to a legitimate wage. The farmer faces intense competition both in the fresh food market and in the processed food market. To a degree, he is caught in an economic squeeze. The farmer is also pressured to improve the living conditions of the workers who work for him, and to a considerable extent he has done so. The farmer needs help. The United States government is already giving the farmer help through several programs, although to a lesser degree in New Jersey than in some other states. Since this is so, it would be consistent for the United States government to provide greater support of the substantial health needs of migrant workers. The whole community benefits from the work of the migrant laborer. The whole community, through government, should support the services which will keep him well and productive.

Tuberculosis Control Program

In 1964, New Jersey reported 2,970 cases of tuberculosis in all stages of the disease. 1,738 cases of active tuberculosis were diagnosed and reported in that year. The case rate for new active tuberculosis was 26.4, a rise in rate from that of 1963 and a rate slightly higher than the rate of 26.3 per hundred thousand persons recorded in 1960.

The morbidity and the mortality experience of the nine most recent years are recorded in the following table.

Table 1. Tuberculosis Cases and Deaths, Numbers and Rates New Jersey 1956 - 1964

Year	Estimated Population	Deaths		Total Cases		Active Cases	
		Number	Rate[1]	Number	Rate[1]	Number	Rate[1]
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	443	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
1962	6,344,000	326	5.1	2,769	43.6	1,504	23.7
1963	6,467,000	364	5.6	2,867	44.3	1,634	25.3
1964	6,590,000	307	4.7	2,970	45.1	1,738	26.4

[1] Per 100,000 population.

In 1962, 63, and 64, four New Jersey counties; Essex, Hudson, Union, and Passaic accounted for 853, 876, and 991 cases of active and probably active tuberculosis. In these years, these counties equalled or exceeded the state rate for active and probably active tuberculosis. They account for more than half of the active and probably active tuberculosis discovered in the state.

The incidence of tuberculosis in the principal cities of New Jersey is demonstrated in the following tabulation.

Table 2. Cases of Active and Probably Active Tuberculosis Cases in New Jersey Cities—1962 to 1964

City	1962		1963		1964	
	Cases	Rates	Cases	Rates	Cases	Rates
Atlantic City	28	47.5	35	59.3	60	101.7
Camden	52	45.0	56	48.7	35	30.7
Newark	294	73.9	331	84.0	329	84.1
East Orange	31	40.3	21	27.3	25	32.9
Jersey City	127	46.9	140	52.0	174	45.4
Bayonne	22	29.7	10	13.7	12	16.4
Trenton	41	36.9	57	51.8	77	71.3
Paterson	64	44.1	75	51.7	97	66.4
Elizabeth	61	57.0	53	50.0	67	63.2

Of the 1,604 of pulmonary tuberculosis, 147 were recorded as primary active disease. This is nearly 10 percent of the pulmonary tuberculosis reported in the state.

Tuberculosis in children continues to be a matter of concern. In 1962, there were 75 cases of active and probably active disease in children under five years of age. In 1963, there were 94 cases; in 1964, 113 cases. There were nine under one year of age, in 1962, six in 1963, and nine in 1964. Many of the infant cases occur in the large cities and are associated with pockets of tuberculosis in which adult to infant spread occurs. Many of these cases are revealed by intensive contact investigation and a number are found to have extensive pulmonary lesions.

Tuberculosis Morbidity and Mortality Tabulations included in the report of Vital Statistics and Administration show death and death rates, cases and case rates, extent of disease, clinical status, bacteriological status, and age distribution for the state and its counties.

It is important that there has been a rise in the number of cases of active pulmonary tuberculosis throughout the state. This is due to increased case-finding activity prompted by vigorous follow-up of inactive patients, investigation of contacts of active cases, and extensive tuberculin testing in school industry.

Community X-ray Surveys

There were no community X-ray surveys conducted by the Department in 1964.

Hospital Admission X-ray Screening Program

In 1964, seven hospitals cooperated with the Department and reported upon 32,229 hospital admission screening X-ray examinations. One thousand and forty-nine persons suspected of having pulmonary tuberculosis were reported. Follow-up examinations revealed that 346 of the persons were previously known to have been cases of tuberculosis. A total of 152 new cases were discovered, 32 of whom were diagnosed as having active pulmonary tuberculosis.

Tuberculin Testing

In 1964, the New Jersey State Department of Health continued to demonstrate tuberculin testing in schools, chest clinics, child health conferences, and industries. A total of 37,491 persons were tuberculin tested and 2,941 reactors were discovered.

In the follow-up of the 2,620 tuberculin reactors, 53 cases of active tuberculosis were discovered. The majority were discovered in association with tuberculin testing in the chest clinics. Twenty-two of the cases were recorded as primary active tuberculosis and 31 as re-infection active tuberculosis.

The age distribution of 27,201 persons tested and reactors found is presented in the following table.

Table 3. Percent Tuberculin Reactors by Age—New Jersey, 1961, 1962, 1963, 1964

Age	Year 1961	1962	1963	1964
Under 1	3.6	4.0	0.86	0.8
1-4	5.2	3.0	1.87	1.7
5-9	1.2	1.3	1.87	1.6
10-14	2.1	2.4	3.1	2.3
15-19	2.6	2.5	5.6	3.8
20-24	13.5	11.5	10.9	11.0
25-29	19.1	21.5	17.9	19.3
30-34	26.3	24.3	23.1	24.1
35-44	36.7	36.0	35.2	35.2
45-64	43.7	46.5	43.1	48.0
65	34.4	58.7	42.1	41.2

The reactor rate for children under one year of age and those one to four years of age is affected by tuberculin testing of children who are brought to chest clinics as the result of exposure to persons with tuberculosis. The reactive rate of children in the chest clinic system under one year of age is 1.1 and one to four years of age is 4.0. In the child health conference, where well children up to 5 years of age are being observed, the rate of tuberculin sensitivity is much lower, in the range of 0.5 percent.

Tuberculin Testing in Public Schools

The New Jersey State Department of Health and the State Department of Education developed a cooperative plan for sharing information on public school tuberculin testing.

In the school year ending June, 1964, the Department received reports on tuberculin testing of 373,425 public school students and 21,773 teachers and employees. The tuberculin reactor rate for students varied between 1.04 percent for children in the first grade and 3.9 percent in students in post-graduate courses. The reactor rate in teachers and employees was 9.8 percent. The over-all reactor rate for the Newark Public Schools was 4.8 percent. Ten cases of active tuberculosis were discovered, one each in grades 5 and 9.

Two cases in grade 12 and one case among the unclassified students. Two cases were found among teachers and employees and three cases were found in the Newark Public Schools which were reported separately.

Tuberculosis Case Register

On December 31, 1964 all 21 counties in the state had a tuberculosis case register. A total of 15,640 tuberculosis patients was enrolled in the system. Pertinent information from the tuberculosis case registers is summed up in the following table.

Table 4. Tuberculosis Patients Under Registration, New Jersey 1961, 1962, 1963, 1964

Status	1961	1962	1963	1964
Total	12,180	15,498	15,640	15,432
Hospitalized	1,262	1,852	1,750	1,629
Non-hospitalized	10,918	13,646	13,890	13,803
Active	658	1,092	793	727
Probably Active	192	268	246	184
Probably Inactive	296	340	372	290
Inactive	9,772	11,593	11,781	11,876
Non-Pulmonary	....	416	698	726

It is noteworthy that the supervision of tuberculosis patients by public health agencies and physicians is evidenced in the following table.

Table 5. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Examination Status

New Jersey, 1961, 1962, 1963, 1964

Status	1961	1962	1963	1964
Total	100.0	100.0	100.0	100.0
Not Due for Examination	57.0	60.0	61.7	59.2
Overdue up to 12 months	17.0	15.0	19.2	16.1
Overdue 12 months or more	11.0	4.0	5.5	2.9
No Date Assigned	15.0	21.0	13.6	21.8

There appears to be a decline in the frequency with which the date of the next examination is assigned by the physician.

In considering the number of patients overdue up to 12 months, it would appear that approximately 40 percent of known active tuberculosis patients require continuing follow-up from year to year to assure that they return

to medical examination on time. Among patients who are overdue up to 12 months, the majority are overdue only for a period of three months.

The status of inactive patients on the tuberculosis case register is also important. 61.7 percent of non-hospitalized cases of inactive tuberculosis were returning to medical examination on time. 7.6 percent apparently were not assigned a date for return to examination and 7.9 percent were overdue for examination by more than 12 months. Among those overdue for examination up to 12 months, over 50 percent were overdue only for a period of three months.

In the control of tuberculosis, the sputum status of non-hospitalized cases is important. Data on sputum status of non-hospitalized, active patients is presented in the following table.

Table 6. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Sputum Status

New Jersey, 1961, 1962, 1963, 1964

Sputum Status	*1961*	*1962*	*1963*	*1964*
Total	100.0	100.0	100.0	100.0
Studied within six months	30.0	58.6	64.3	95.5
Studied over six months	50.0	27.5	30.4	19.4
Not Studied	20.0	13.9	5.3	5.1

For the third straight year, a noticeable increase in the percentage of cases having sputum examination was observed in 1964. Over 75 percent of non-hospitalized cases received at least one sputum examination every six months. The diminution of percentage of cases that were not studied from 20 percent in 1961 to 5.1 percent in 1963 marked a continuing change.

It is also important that an increasing number of the sputum examinations performed in the state are cultured. This service is being given either in local laboratories or in the State Health Department Laboratory. The use of sputum induction techniques to obtain sputum specimens while the patient is still in the clinic is a great advantage in obtaining the sputum status of active patients. It is also a means by which many inactive patients have been studied and reactivations of tuberculosis discovered.

The drug status of non-hospitalized cases of active tuberculosis on December 31, 1964 is presented in the following table.

Table 7. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Drug Status—New Jersey, 1962, 1963, 1964

	1962	*1963*	*1964*
Total	100.0	100.0	100.0
Receiving Drugs	63.1	66.0	63.0
Not on Drugs	6.1	5.0	4.5
Status Unknown	30.8	29.0	32.5

There is clear evidence that 63 percent of all non-hospitalized cases are receiving drug therapy. In 32 percent of patients, the status is unknown. This signifies only that a record of prescription for drugs was not on file for the quarter under study.

Contact Investigation

Systematic efforts to develop uniform contact investigation procedures continued through 1964. The draft of a contact register manual first undertaken in conjunction with the Passaic County Register proved to be effective. Extension of this activity was undertaken in the Newark Health Department Tuberculosis Clinic, at the Monmouth County Organization for Social Services, at the Tuberculosis Case Register and John E. Runnells Hospital, Union County.

In the quarter ending December 31, 1964, the contact registers of Hudson, Monmouth, and Passaic reported upon the interviewing of new active cases. In that quarter, 125 cases had been reported, 1,084 contacts were obtained for a contact index of 8.7 contacts per case of active disease.

At the beginning of the quarter, these registers had under observation 5,093 contacts, 232 contacts were removed from the registers during the quarter due to death, changes of diagnosis, or moving away. Another group of 389 were removed as the result of examination, 13 new tuberculosis cases, 11 known tuberculosis cases, 266 non-household tuberculin negative contacts and 99 upon whom a two-year follow-up period had been completed. At the end of December, there were 5,469 persons on the contact registers for the three counties.

In the quarter, 1,353 contacts were brought to examination. In this group, there were four tuberculin convertors, individuals who had suffered infection since their previous examination. Eleven new active cases of disease and two new inactive cases were discovered. The yield of new cases discovered by contact investigation remains high. In this quarter, an average of 8.1 cases of new active diseases were discovered per 1,000 contacts examined.

Another value of the contact register is found in the observation that contact investigation returns to medical observation and supervision many persons previously known to have tuberculosis. Some of these individuals on examination are discovered to have reactivation of their disease, thus these persons come under medical care at a time when care is needed to prevent further spread of their active disease.

Tuberculosis Drug Distribution

In the period, January, 1964 through December, 1964, a total of 37,000 bottles of isoniazid was dispensed to patients in the state. Six thousand four hundred bottles of para-aminosalicylic acid were dispensed as well. In addition to these drugs, streptomycin, seromycin, pyridoxine, trecator, and neopasalate were provided to patients who had specific needs. In all, over 500 bottles of these biologicals were provided to needy people.

In December, 1964, it was estimated that over 2,000 persons were receiving drugs through the biologic distributing stations. This activity is making a substantial contribution to the control of tuberculosis in New Jersey.

Diagnostic and Clinical Services

Diagnostic treatment and clinical services were available in 1964 in more than 40 clinics in all 21 counties of the state. During 1964, there was a total of 95,851 clinic visits. Seventy-four thousand X-ray examinations, 12,812 sputum examinations, and 22,592 tuberculin tests were given in the search for and control of tuberculosis. Public health nursing services, in association with clinic activity, were provided to 5,499 persons with tuberculosis, 8,993 contacts, and 3,000 persons suspected of having tuberculosis or other chest disease.

Tuberculosis Nursing Services

Tuberculosis public health nursing services in New Jersey are provided by various types of nursing agencies: visiting nurse associations, local health departments, other non-official agencies and a combination agency. Approximately eight visiting nurse associations contract with approximately 20 boards of health to provide local health services, including tuberculosis. Many times, the tuberculosis services are their biggest concern. In these municipalities, the public health nurses are responsible to a full-time health officer, and administrative support is evident.

There are 577 local health department nurses in the various municipalities within counties. In too many areas, these nurses are providing tuberculosis nursing services without administrative direction and nursing supervision.

In approximately six counties where local health department nurses work, non-official agencies assume the tuberculosis nursing services and clinic management. In these areas, local administration of the tuberculosis control program is virtually non-existent, or provided only on a crucial basis.

Nursing services vary widely in their interest, intensity, extent, and quality of services; for various reasons, the partial delegation of responsibility, diversified control activities, and unstandardized clinical policies and practices and lack of a sufficient number of public health nurses in some local areas also affect extent and quality of a complete public health nursing tuberculosis service.

Our greatest strength in tuberculosis control are the county case registers. Through these media, a strong thread sews pieces of information together for each patient; when information is absent, a caseload of patients evolves which needs attention. Because of lack of nursing and other personnel, patients with active disease and patients previously on drug therapy are given priority, along with newly diagnosed active patients, their contacts, and post-hospitalized patients.

There is evidence that newly diagnosed active cases receive prompt nursing follow-up and medical supervision; on the other hand, there is evidence that prompt nursing follow-up of post-hospitalized patients does not seem to have the same importance. Continuation of medical and nursing supervision from hospital to home must be assured. Many post-hospital cases are old, on welfare or receive small pensions, live alone without responsible relatives or friends to care. The majority have other disabilities such as hypertension, heart disease, diabetes, alcoholism, arthritis, mental and physical deterioration, etc.; in other words, they cannot begin to be self-sufficient economically, spiritually, mentally or physically. Many public health nurses try and do assist patients but it is usually the most compelling problem that receives attention. Optimum service to all patients in need is a long-range goal. For instance, chronic alcoholics are a real problem in treatment and follow-up as well as patients who are homeless and/or aged.

Referral of newly discharged patients from the State Sanatorium to appropriate nursing agencies for prompt follow-up reveals lack of follow-up for the post-hospital patient. Too much is taken for granted regarding these patients' ability to continue drug therapy.

Recommendations for transfer of old disabled patients to county welfare or convalescent homes is a grave problem. In several instances, local nurses and welfare case workers were unable to find places for these patients. In one instance, the local convalescent homes refused patients from the State Sanatorium on the basis of tuberculosis. Tuberculosis is still feared and mis-

understood. The Sanatorium, in some cases, is morally obligated to keep the patient for the remaining years of his life.

Case finding programs among parochial school students, teachers and employees are not complete. The lag seems to be due to lack of administrative direction; public health nurses employed by local boards of health provide services to parochial schools but all have not integrated tuberculin testing programs. "Who will pay for the tuberculin testing material?" seems ridiculous but true. Or, "We have not had the time this year."

There are too many nurses employed by small local boards of health including nurses employed by local tuberculosis asociations who work without administrative direction and nursing supervision as mentioned before. Assistance is provided through the State Health Department and educational tuberculosis meetings. However, many times, their efforts to carry out good follow-up and counseling of patients, according to recommended state policies and procedures, are denounced by local clinicians.

New Jersey had 13,803 non-hospitalized and in-patients in the case registers at the end of the year, 1964. These patients have active disease or less than five years of inactive disease; 911 cases have active pulmonary disease, living in local communities, unhospitalized.

This number, 13,803, represents the galaxy of patients who require public health nursing follow-up and supervision. In addition, the close contacts of all active pulmonary cases multiply the complexity of the tuberculosis caseload and record keeping. However, contact registers are gradually being set up in various counties; this will assist public health nurses in the supervision and control of contacts. Other case finding efforts in public and parochial schools, child health conferences, jails and clinics, follow-up of suspects from hospital screening programs, and associates of young reactors, convertors, etc., are compounded with the responsibility for clinic management, in many areas, including records and reports.

A cursory evaluation of Case Register Reports for the 21 counties in New Jersey shows 59.2 percent of the 911 active non-hospitalized patients are under current medical supervision; the remaining 40.8 percent or 372 patients need immediate medical attention and re-evaluation of clinical status, sputum studies, hospitalization and/or chemotherapy.

Sputum studies of patients with active pulmonary diseases show 75.5 percent studied within six months. This is an increase of 11.2 percent over those studied in 1963. There is greater effort expended to motivate patients to produce sputum specimens either by natural means, or by nebulization in a few clinics where they are available and used. Patients with positive sputum

should have studies every month to determine when clinical status changes and to determine the effectiveness of the chemotherapy prescribed.

Drug therapy treatment of patients, as a public health measure, is no easy task. Sixty-three percent of the active patients at home were registered as receiving tuberculosis medication; a three percent decline as compared to 1963. More patients may be receiving drugs than is realized or documented. In the checking and recording of prescriptions for date, type, and amount of drugs received and renewal date on the nursing record, case register referral forms, etc., some information is lost. Decentralization of local clinics and lack of trained clerical workers make the collection of pertinent information regarding patients subject to omissions.

Public health nursing agencies are working with 60-75 percent success in follow-up of priority cases: patients with active pulmonary tuberculosis. More concentration must be placed on this group.

There is evidence that public health nurses are interviewing newly diagnosed active patients for close contacts, and show a fair amount of success in bringing contacts to their first examination. Adequate follow-up and supervision of contacts averages four examinations the first year and at least two the second year. More nursing time is needed to fulfill their responsibilities in contact supervision. Health investigators in some areas have assisted immeasurably in bringing contacts to examination. They have less involvement with other programs and long-term supervision of chronically sick and disabled patients; and can do a more concentrated job of persuading contacts to continue medical examinations.

A large group of 11,000 patients on the case registers are considered to have inactive disease on their last examination. This group of patients are in danger of reactivation of their disease. Public health nurses have not had time or real success in locating and persuading this group to return for medical supervision. In one or two intensified service areas, organized efforts to bring these patients back to medical examination and sputum studies have been most rewarding.

Public health nursing agencies, responsible for complete or partial services to the local tuberculosis control program, primarily, need close administrative and medical direction, guidance and support.

Tuberculosis Council of New Jersey

The Tuberculosis Council of New Jersey established a committee on tuberculin testing to review a draft of the "School Tuberculin Testing Guide." Miss Doris Mann, R.N., served as chairman and presented a rough draft for page by page preview.

Suggested amendments and additions were made and the Guide was presented to the Tuberculosis Council of New Jersey, February 13, 1964. At that time it was agreed that certain changes be made in terms of clarity and that a foreword be prepared.

It was agreed that tuberculin reactors in the first grade be reported to licensed health officers or to the New Jersey State Department of Education to enable the follow-up of associates.

It was further agreed that the Guide recommend that non-public schools seek the assistance of health officials in their tuberculosis screening programs. The Council also agreed to encourage planning on an area or county-wide basis.

The Committee on Clinics of the Tuberculosis Council met on February 4, 1964 at Princeton. The committee had received and reviewed a draft of the Tuberculosis Clinic Standards prepared by Dr. Frederic Bass. Subsequent meetings were held throughout the year to clarify the issues of both the "School Tuberculin Testing Guide" and the "Guidelines for the Outpatient Care of Tuberculosis in New Jersey."

Both of these documents were completed and printed during the current year. Approximately 8,000 copies of the School Tuberculin Testing Guide were made available to the State Department of Education for distribution to the local boards of education throughout the state. This distribution was accomplished through the county superintendent of schools. The State Tuberculosis Association distributed copies of the Guide to the administrators of private schools and to the superintendents of the four Catholic dioceses. These were mailed to 583 schools late in August.

In mid-July, the Council met and discussed the extension of activities of the Committee on Clinics. At that time, it was agreed that the Committee on Clinics would review the clinic situation in the southern area of the state.

Sub-Committee on Rural Clinics

The Committee on Clinics of the Tuberculosis Council of New Jersey met on May 19, 1964 and at that meeting, Dr. Smith, the chairman, appointed a sub-committee with the charge to study the clinic needs in southern New Jersey and to explore the feasibility of regional health clinics. A number of representative physicians, nurses, and executives from the southern counties of the state were appointed to the committee and the committee met late in June.

The first step was to evaluate the rural type of clinic and to determine whether or not it could be oriented to clinics in local hospitals in order to more successfully meet the "Guidelines" as outlined for the outpatient care

of tuberculosis in New Jersey. There was discussion concerning the possibility of concentrating services with the idea of using the Chest Hospital at Lakeland for specific studies on some patients. It was also felt necessary to consider the expansion of financial assistance to be provided to clinics by local governments. The sub-committee felt that representation from the Medical Society, the Chosen Freeholders, public health coordinators, and other individuals could be made available to the committee.

A second meeting was held in September. At this meeting, considerable discussion concerning the responsibility of freeholders and methods of approach to freeholders produced the beginning of a tangible plan of approach. The concept of project financing was discussed with the sub-committee and the need to win support of local boards of freeholders was emphasized.

A later meeting in November following a review of the suggested "Guidelines for the Outpatient Care of Tuberculosis in New Jersey" proved valuable.

There was thought given to extension of clinic services to include time for physicians counseling patients on drug therapy and the need for additional testing of sputum at a central facility. The various services rendered at the smaller clinics were described at length and minor differences were noted. A brief discussion centered on the use of the Lakeland Sanatorium as a central facility for additional services. A question of providing a mobile unit to South Jersey for additional services was discussed at length. Study would have to be given to a mobile unit and the difficulties involved in using it.

A serious discussion on the cost for holding a clinic in a general hospital was held and the figures obtained in discussion with the Camden hospitals were presented. Clinic services in a hospital include tests and other physical examinations, chest x rays, and tuberculin testing. All of these tests and services must be paid for. The average estimated cost for services in a tuberculosis clinic in a hospital would be approximately $13.75 per patient per visit.

In summary, by year's end, the sub-committee had agreed to accept the clinic "Guidelines," felt that additional services would be necessary to make them applicable to current clinic situations, agreed that a central facility for some specialized functions would be desirable, that the cost of rendering clinic care in community hospitals might be too large and that an appeal must be made to the Board of Chosen Freeholders to obtain funds necessary for amplified clinic services.

Project Activity

In July, the Tuberculosis Branch of the Communicable Disease Center authorized a Tuberculosis Project Grant for the state. It was comprised

of two phases, a continuing project grant for Jersey City, a new project grant for Newark, to continue an earlier grant to the city.

The second phase included authorization for personnel to render statewide services in health education, laboratory, and social services. This phase included a grant for services in Passaic County. Project activities were continued in Jersey City and Newark and steps to implement the project in Passaic were taken. Each of the project areas is considered in detail in the attached material.

Jersey City Project

During the calendar year 1964, this project was concerned with improving the medical supervision of patients with active and inactive tuberculosis, assuring the examination of contacts of active cases of disease, increasing the amount of social services made available to the patients and their families, cooperation with the public health nurses rendering tuberculosis control service in Jersey City, and negotiations with officials of city and county government concerning the care of tuberculosis patients. A study of pediatric tuberculosis in Jersey City was undertaken in cooperation with the New Jersey College of Medicine and Dentistry.

On December 31, 1964 there were 1,102 cases of tuberculosis in Jersey City according to the Hudson County Tuberculosis Case Register. Of these cases, 155 were hospitalized and 940 were under care at home. There were 94 cases of active tuberculosis under care at home, only 12 were overdue for examination more than three months and 15 were overdue for sputum studies. The major problem associated with these patients concerns their drug status. It has been difficult to obtain information on the drug status of 23 patients. Eight patients have refused drugs and six did not have drugs prescribed for their use. There were 95 cases of tuberculosis described as quiescent; most of these patients were maintaining their schedule of examinations and were continuing on drugs. The 626 patients with inactive tuberculosis in Jersey City were being vigorously followed, only 124 were overdue for examination more than three months, 310 were examined for sputum status in the six months ending December 31, and 11 sputum positive reactivations were discovered.

Contact investigation activity has been curtailed to some extent; however, in the year ending December 31, 1964, there were 2,120 contacts listed on the tuberculosis contact register for Jersey City. Throughout the year 1,206 contacts were examined and re-examined resulting in the discovery of 37 cases of active tuberculosis. Of the 23 cases of active tuberculosis discovered on the initial examination, 15 were in household contacts and eight in non-household contacts. Re-examination of all contacts revealed 14 additional cases of active disease. Contact investigation continues to be the most effective method of case finding employed.

Following the review of several articles on the eradication of tuberculosis, it was decided that the priorities of this project should be changed. Priority is now given to persons with tuberculosis according to the activity of their disease, to contacts of patients with active tuberculosis according to the closeness of the contact, and lastly to individuals suspected of having tuberculosis. This change took place on May 1, 1964 and was given impetus by the fact that a number of cases of active tuberculosis were found among so called inactive patients who were returned to medical supervision by the epidemiologist.

Public Health Nursing

In May, the Jersey City Health Department transferred the responsibility for tuberculosis follow-up from public health nurses providing generalized nursing service in the three nursing districts to nurses doing other specialized communicable disease work. This transfer was necessitated by the lack of field nurses in the districts because of an already heavy workload. It was decided that the communicable disease nurses would make necessary nursing visits to the homes of all newly diagnosed tuberculosis patients to evaluate the home situation, to instruct the family concerning the nature of the disease and necessary safeguards and procedures, to refer the family contacts for examination and to determine if recommendations concerning treatment and hospitalization were being followed. If the visit revealed a need for further public health nursing care for tuberculosis such as streptomycin injections, the patient would be referred to the nurses doing generalized service. All other follow-up of diagnosed tuberculosis patients, contacts, and suspect would be assumed by the tuberculosis epidemiologist.

As a result of both of these changes, the workload of the epidemiologist in this project was greatly increased and more emphasis was placed upon the follow-up of inactive cases with the result that there was a diminution in activity of contact investigation.

The patient service coordinator, who was employed late in December of 1963, completed a period of orientation and began to function on behalf of patients who were hospitalized with tuberculosis. Most of the patients from Jersey City are hospitalized at Glen Gardner, the State Sanatorium. A good rapport has been developed with the staff of this institution. The medical director has given the patient service coordinator his fullest cooperation. She attends weekly clinical conferences at the state institution where new

and old patients are presented. Patients ready for discharge are discussed and the possible problems this action will present for the patient when he returns to the community are considered.

Patients newly admitted to the institution are interviewed by the patient service coordinator and those who are ready for discharge receive a second interview in preparation for their return home. Many of the patients admitted to Glen Gardner from Jersey City are re-treatment cases and are treated with secondary drugs. Upon discharge, some are advised to continue treatment with these secondary drugs, some of which are very expensive.

The New Jersey State Department of Health has made isoniazid and para-aminosalicylic acid available to tuberculosis patients in Jersey City through its state biological distribution system. However, such drugs as trecator, seromycin, and streptomycin are not readily available. If patients are on public assistance, these drugs are furnished free of charge and the agency providing the assistance is billed. If the patient has an income even though small and inadequate, he must purchase the secondary drugs. For some, this purchase creates a hardship and the patient usually will not continue his prescribed drug therapy. The Department has purchased a limited quantity of these drugs as a trial to determine how effectively they may be procured and administered.

Efforts of the patient services' coordinator to provide assistance to newly discharged tuberculosis patients brought her face to face with the need to clarify regulations concerning public assistance in New Jersey. A liaison has been developed between the patient services coordinator and supervising field representatives of the Bureau of Assistance of the Department of Institutions and Agencies, the Director of Public Assistance in Jersey City and personnel of the County Welfare Board, as well as a number of voluntary family agencies in the city of Jersey City.

In the fall, the Division of Preventable Diseases of the State Department of Health secured the services of a public health nurse supervisor for the purpose of studying the care of children with tuberculosis in Jersey City. The public health nurse was provided an opportunity for instruction and orientation at the chest clinic at Bellevue Hospital. Following her return from New York City, and after a period of orientation in the Tuberculosis Program in New Jersey, the nurse supervisor was assigned to the Department of Pediatrics, New Jersey College of Medicine and Dentistry, with an office in the Jersey City Medical Center. There the nurse's first assignment was to become familiar with the nursing problems presented by the pediatric tuberculosis patients on the ward.

Subsequently, the nurse supervisor began to analyze the medical records of young patients who had been admitted to the hospital over a period of approximately one year. In addition to the evaluation of the hospital records, the evaluation included a study of the chest clinic records, and an evaluation of the home environment.

In order to carry this out successfully, the nurse was obliged to familiarize herself with the procedures of the pediatric clinic. She soon learned that there were two pediatric clinics providing service to the young patients, one in the Jersey City Medical Center and the other in the B. S. Pollak Hospital for Chest Diseases. This discovery resulted in an agreement by which children with tuberculosis would be assigned to the pediatric clinic in the B. S. Pollak Hospital for Chest Diseases. Many detailed observations were made concerning the care of pediatric tuberculosis patients both on the wards of the hospitals and the clinic. Home evaluations have been conducted which have shed a great deal of light upon the problems of care at home.

An extreme example of the type of problem which may be found is documented in the record of two children from Hoboken who were admitted to the Pediatric Tuberculosis Ward at the Jersey City Medical Center. There were five children in the family from which they came; the possibility exists that the other three children will also be admitted.

As one lives with the pediatric patient on the wards of a hospital, it is clear that frequently the parents do not have an opportunity to visit the child. Frequently, the parents are unable to learn a great deal about the disease prior to the discharge of the patient to the home. Frequently, the time to instruct the parent concerning the disease is on the day and at the time the child is being discharged. Frequently, the only instruction may be a prescription of the medication to be given. It is important that during the period of hospitalization, the parents of the child be given precise instructions concerning the nature of the disease, manner of its care, and the necessity of continued clinic attendance, and the maintenance of drug schedules.

Narrative Report of the Newark Tuberculosis Project July 1, 1964 to December 31, 1964

Frederic Bass, M.D., Public Health Physician, was assigned to the Newark Health Department as Director of the Tuberculosis Project on July 1, 1964. Much of the time during the first month was spent in observing clinic routines and in discussions with the clinic physicians and personnel of the Health Department Clinic.

Administration

A referral system was established to coordinate the work of a departmental physician who examines the results of the admission chest x-ray screening

program conducted by the Newark City Hospital. The physician now refers patients with abnormal chest x rays to the Tuberculosis Project at the Newark Health Department Clinic. The Project then assumes responsibility for follow-up of the persons referred as suspects.

Liaison

The Project Director started a liaison program with the community agencies in Newark. One of the first visits was made to the Newark City Hospital where the Project Director met the Medical Director of the hospital and the Director of Laboratories. Cooperation was assured and the hospital bacteriology technician was sent to the State Department of Health Laboratory for two weeks of re-training in tuberculosis laboratory methodology. The Project Director also met with the chief of medicine and visited the tuberculosis ward in the hospital. A policy of long standing was reaffirmed that newly discovered active tuberculosis cases be admitted directly to the tuberculosis ward pending determination of availability of beds at the County Sanatorium.

A visit to the medical staff of the Newark Board of Education resulted in the decision that a lecture on tuberculin testing would be given to the school physicians and another for the school nurses. It was agreed that the reporting of tuberculin reactive school children include the size of the reaction, the date of the test, and the result of previous tests. This is of major importance, for the clinic had been receiving only the name of the reactor.

The Project Director attended a case conference at the County Sanatorium in July. He described the project and presented a demonstration of sputum induction using the nebulizer.

In November, the Project Director attended the monthly meeting of the Board of Education nurses. Emphasis was placed on the proper reading of the Tine test, the necessity of recording the size of reaction and the need to know whether the reaction represented a conversion from negativity to reactivity. The Director emphasized the need to document results in order that conversions could be clearly observed at some future time. A talk given before the physicians who served the Board of Education dealt with Tine testing, the reporting of reactors and the importance of convertors in the epidemiology of tuberculosis. A decision was made at this meeting to read all reactions at 48 to 72 hours after administration and to discontinue reading of reactions at seven days.

Personnel

In July, the Project Director assumed responsibility for project personnel. He instituted a plan by which personnel began to sign in and out of the clinic on time sheets, thus providing an accurate accounting of the time used by project personnel.

In September, the nurses who had worked previously for the Newark Health Department indicated their desire to transfer to the Health Department. Recruitment was initiated for new nurses to serve the project. The Newark Health Department agreed to hire the project nurses who desired to transfer but agreed to wait until additional nurses had been recruited before effecting the transfer. Recruitment of nurses for the Project has been difficult.

Early in the summer, the Department worked out an agreement to accept a cooperative student from Antioch College. The Program has the purpose of stimulating students to select public health activity as a future career. In October, the Antioch cooperative student arrived and began his orientation as an epidemiological aide under the epidemiologists in the Jersey City Project.

Upon completion of his orientation in Jersey City, he returned to the Newark Project. After he learned the record system, he was assigned to carry out limited investigations on all patients who were long overdue for clinic examinations.

In October, Mr. Gerald Wood, the State Representative assigned by the Public Health Service, began to spend the greater part of his time with the Project.

In October, a clerk-typist who had been serving as a liaison to the tuberculosis case register joined the clinic staff in the evening. A second clerk-typist was hired full-time during the month.

In December, two new project nurses were recruited and employed. The previous project nurses joined the staff of the Newark Health Department. The first nurse employed began working in December and was taught to administer and to read the Mantoux test. The second nurse indicated that she could not begin work until the first of January.

During this period, a search was made for a person suitable to serve as the nebulizer technician. A person was found and arrangements were made for her to start working in January.

In December, the Director of the Chest Bureau of the Newark City Health Department, who served also as a project physician, indicated that he would retire. The other project physician indicated that he was unable to increase the time which he spent in the project.

Plans were made for two State Health Department physicians to join the staff of the evening clinic. Dr. George Weber and Dr. Alan Stolow joined in the month of December. Dr. Stolow had just returned from the three-week Tuberculosis Seminar in Denver. Also a plan to utilize the services of the State Tuberculosis Hospital physicians was discussed with the director of that institution.

Space

It became apparent early that the space provided for the health department clinic was inadequate and that the Project would require space for its personnel.

In July, three rooms adjacent to the chest clinic were vacated by other clinics to make room for the project personnel. Plans were drawn and submitted for the subdivision of one room into a more adequate examining space. In September, furniture acquired by the New Jersey State Department of Health was moved to Newark and placed in the rooms reserved for the project.

Rooms were to be utilized as follows: 1. for public health nurses; 2. for the project staff; 3. for clinic space. This included two examining cubicles and an x-ray view box.

Since it was planned to use sputum induction, the clinic areas was searched to find a space suitable for a booth and installation of a nebulizer.

A room that had been found during the space survey in July for the installation of a nebulizer booth was studied in conjunction with several public and private ventilation engineers. The project director spent a number of days with these engineers in designing and estimating the cost of the booth. In August, the Newark City Council passed an emergency appropriation of $900 with which to construct the nebulizer booth.

In September, an old fluoroscope, previously used by the Heart Clinic, was removed from the room and the building of the nebulizer booth started.

Equipment

In October, telephones were installed as part of the State Government Centrex System in the City of Newark. A dictaphone and transcriber were obtained and delivered to the Project Office.

A three-panel view box was obtained for the clinic and the nebulizing equipment and supplies delivered.

Laboratory Service

In view of the fact that culture techniques were not being used in the Newark Health Department Laboratory, the assistance of the State Laboratory was sought.

The State Health Department Laboratory consented to run approximately 200 sputum cultures per month from the Newark Clinic.

In December, the services of the State Health Department Laboratory were expanded making two new services available. Sensitivity tests were made available for six secondary tertiary drugs; ethionamide, cycloserine, viomycin, kanamycin, ethanbutol, capiromycin. Results of direct sensitivity tests to isoniazid, streptomycin and PAS on smear positive specimens became available in three to four weeks with the use of 7H10 media.

Prior Clinic Policy and Activity

The project director spent a good deal of his time in July and August in observing the procedures and policies of the over-all clinic operation in the Newark Health Department. Project clinic operations were permitted to continue as they had existed under the prior administration.

Major observations concerning clinic policy and activity are summarized as a point of departure for action initiated in the project clinics from September to December.

Active Cases

A review of active cases attending the clinic was initiated and revealed that nearly all newly diagnosed cases were immediately referred for hospitalization at Newark City Hospital, Essex County Sanitorium, or the Veterans' Administration Hospital.

Patients with active disease discharged home with maximum benefits, or those discharged against medical advice come under the supervision of the clinic.

Chemotherapy was ordered on all and many were brought to clinic for streptomycin and other drugs. A number, however, lapsed their therapy.

The director of the chest bureau brought the recalcitrant patients to the chest bureau and held a conference with them regarding attending clinic and continuing therapy. The threat of court commitment was used infrequently.

A review of cases of tuberculosis on September 30, 1964 revealed that there were 101 non-hospitalized cases of active tuberculosis. Forty-nine of the cases were under the care of the Health Department Clinic and 25 under the care of private physicians. A total of 18 was not under medical supervision.

A total of 33 of the 101 cases of active tuberculosis was not due for medical examination. Fifty-one had no date assigned for examination by the physician. The remainder of patients, 17 in number, were overdue for examination by as much as three to 12 months.

The drug treatment status of many of the patients was not known and a total of 38 had not received a sputum examination in six months or more.

On December 31, the number of cases of non-hospitalized active tuberculosis had diminished slightly to 98. The number of primary active cases had increased. No change had occurred in the numbers who had not been examined for sputum status, had no date assigned for re-examination and whose drug status was unknown. Communication and record problems appeared to be most acute.

It became apparent that even though evidence was available to justify the diagnosis of active tuberculosis that some patients were given drugs on a prophylactic basis without stating the clinic diagnosis.

It was apparent also that bacteriological information on cases of active tuberculosis consisted only of a smear examination of sputum.

Inactive Patients

A review of clinic records and experience in the evening clinics indicated that cases of inactive tuberculosis generally saw a physician only when they raised a problem. This policy applied also to patients on drug therapy as well as to those who were not receiving drugs. There were no records of cultures or drug sensitivity determinations on inactive patients and, therefore, secondary treatment regimens were not maintained.

Treatment was prescribed for prolonged periods up to five years in some instances.

Since cultural techniques were not used, the diagnosis of inactive tuberculosis was often in doubt. Cultural techniques applied to many patients revealed from five to 10 sputum positive cases.

Changes in clinical status, e.g., symptoms, physical finding, specific x-ray changes, etc., were rarely entered on the clinic record to justify change in diagnosis.

Suspects

Policy in the clinic concerning suspects—persons defined as having abnormal chest films—required that anybody entering the clinic who was under 18 years of age would get a skin test and a 4 x 5 x-ray examination. If the person was over 18 years of age policy required that a 4 x 5 x-ray examination be done. If the 4 x 5 x ray was abnormal, the suspect would

be called back by the public health nurse for a 14 x 17. If an adult had an abnormal x ray, a skin test was also done.

Persons with suspected but unproved active tuberculosis often were started on drug therapy before a sputum examination was done. Up until August, sputum examination usually consisted of a smear examination only.

Contacts

The Newark Health Department has vigorously sought contacts but there were no precise data on the percentage of contacts examined or the results of examination. Contacts were followed for prolonged periods of time, in many cases more than two years after the termination of exposure. Contacts to adults with non-pulmonary tuberculosis were followed also.

In the past, the policy of the Newark Health Department had been to accept the results of patch tests in the examination of contacts. Later, the Tine test was administered to contacts under 18. This again was followed by a 4 x 5 x ray. For all persons over 18, the 4 x 5 x ray was the primary method of examination.

Reactors—Board of Education

The Newark Board of Education in accordance with State Board of Education regulations conducted a tuberculosis screening program of students, teachers, and employees on an annual basis. The Board of Education maintained a staff of physicians for school health services generally and provided an x-ray facility and a physician to complete the screening of students, etc. Initially, the Board of Education had used the patch test on students and after several years of discussion conducted a trial of intradermal testing. This method proved acceptable and the Tine test was introduced. As a matter of policy, the Newark Health Department received a list of reactors prepared and submitted by the Board of Education. This list contained no information other than the name of the child, the address of the child, and the school attended. The size of the tuberculin reaction and the x-ray status of the child were not reported. The Newark Health Department clinic did not verify the tuberculin reaction by means of a Mantoux test and without knowledge of the child's x-ray status frequently placed the reactors on INH prophylaxis, only to follow-up the decision much later with an x-ray examination. If the child did not attend the clinic regularly, INH prophylaxis was renewed, nevertheless, and continued in an interrupted fashion over several years.

Tuberculin reactors discovered in tuberculin testing of parochial schools by the Newark Health Department were referred to the clinic for examination.

Private Referral Policy

Private physicians referred patients to the chest clinic. X-ray examinations were conducted on these patients. Sputum studies were not done on these patients and they were not seen by the clinic physicians for a clinical evaluation. Only the results of the x-ray examinations were reported to the private physicians.

Tuberculin Testing

The tuberculin Tine test was administered to persons who came to the clinic for examination who were under 18 years of age. This test was read up to two weeks from the date of administration. The readings were not recorded in millimeters.

X-ray Activity

There was no wet reading of films. New films were not compared to previous films. The diagnosis of a patient's status was often made without reference to previous films and without a history of physical examination on the patient.

For every x ray the clerk-stenographer had taken dictation on the reading, typed the results on a second sheet of paper, prepared a film jacket and filed the film. This occupied 30-50 percent of her time. There is no system for notifying persons with negative x rays by mail; such a system is necessary for the many walk-ins and the contacts who are tuberculin positive.

Chemoprophylaxis

Observations indicated that persons were often placed on chemoprophylaxis without a recording of a clinical diagnosis.

Often INH was given to persons with strongly positive Tine test reactions after a negative smear.

The Health Department frequently placed school children reactors on INH prophylaxis without confirmation of the Tine test or knowledge of the x-ray examination.

If a person did not attend the clinic regularly, INH prophylaxis was renewed nevertheless and continued in an interrupted fashion over several years.

Recommendations

Following a careful review of each prior policy and activity, certain recommendations have been developed for inclusion, first in the evening and then by extension to the day clinics of the Newark Health Department.

Cases of Active Tuberculosis

All patients with active tuberculosis are to be seen at least every six to eight weeks by the same physician. The clinic physicians are to systematically evaluate current signs, symptoms, x ray, sputum, clinical status, drug intake, signs of toxicity, current work status, the patient's understanding of tuberculosis, the need for referral to other agencies or clinics and assign a specific date for the next clinic visit.

Nebulized sputum specimens are to be obtained on all patients with active tuberculosis when they return to clinic at six to eight week intervals.

All previously untreated patients with newly diagnosed active tuberculosis are to have three sputum cultures submitted to the laboratory for culture prior to beginning a drug therapy.

X-ray examinations conducted on patients with active tuberculosis are to be read wet while the patient is still in the clinic.

Re-infection active tuberculosis with a positive smear or symptoms is to be hospitalized as soon as possible at the Newark City Hospital, the County Sanatorium, or the Veterans Administration Hospital, East Orange.

Re-infection active tuberculosis with a negative smear, depending on symptoms, may be hospitalized with less urgency. If x rays show a lesion of minimal extent and the patient keeps his appointments regularly, treatment may be maintained on an outpatient basis.

Primary tuberculosis is to be treated on an outpatient basis except when complicated by progression, other medical problems or drug intolerance.

Extra pulmonary tuberculosis should be hospitalized initially for careful evaluation of the involved organ system. The follow-up of the involved organ should be done by the appropriate hospital clinic; the follow-up of chemotherapy is to be conducted by the Health Department.

Cases of Inactive Tuberculosis

A case of active tuberculosis under treatment is not to be considered to have inactive disease until x ray and cultural activity are sufficient to justify the diagnosis. The Diagnostic Standards of the National Tuberculosis Association are to be fulfilled.

Patients with inactive tuberculosis who have not completed two full years of chemotherapy are to be seen at least every two months. The clinic physician is responsible for a systematic evaluation of the patient's status during the clinic sessions.

Patients with inactive tuberculosis on treatment are to have sputum culture every two months. The specimen is to be collected by sputum induction.

Inactive cases who are not on therapy are to be sputum cultured every three to six months.

Patients with inactive tuberculosis on chemotherapy are to have an x-ray examination at each visit. The films are to be read wet while the patient waits.

The physician is to instruct the patient in the use of drugs and order enough for a six to eight week period.

Patients with inactive tuberculosis not on chemotherapy are to be x-rayed when they visit the clinic. The 14 x 17 are to be read wet.

Suspects

Persons referred to the clinic or found in the clinic to be suspects are to be managed in the following way.

The initial examination is to be a Mantoux test. The result is to be recorded in millimeters.

A 14 x 17 x-ray examination is to be taken and read "wet."

A series of nebulized sputums are to be collected for culture.

If a diagnosis of tuberculosis is established, it is to be reported to the Newark Health Department.

Suspects are not to be started on chemotherapy until a diagnosis of tuberculosis is established.

Contacts

A systematic accounting of contacts and of contact examinations is being developed. Contacts to adults with extra-pulmonary tuberculosis and contacts of persons with inactive pulmonary disease are not going to be followed. Contact investigation will be limited initially to the household contacts of known active cases. The Mantoux test is to be the test of choice on all contacts, regardless of age. Contacts are scheduled for examination regardless of tuberculin status.

Contacts are to be followed for two years from time zero, the point at which contact with the active case was broken. The first contact examination is to be done as soon as possible after the contact is located. The second examination is to be done two months later. After the second examination, all examinations may be at six month intervals. A more frequent interval may be chosen when indicated or desired by the physician.

Reactors—Board of Education

Tuberculin reactors referred by the Board of Education and from the parochial school system are to be managed in the following manner:

Initial Mantoux test to be read in 48 hours.

Reactors are to be given an appropriate x-ray examination.

No chemoprophylaxis is to be instituted until there is a complete evaluation of the tuberculin reaction and x-ray readings.

Private Physician Referrals and Walk-Ins

Patients referred by private physicians and walk-ins are to be tuberculin tested and x-rayed.

The results of the tuberculin test are to be read in 48 hours.

The physician is then to evaluate the clinical evidence available and request nebulized sputum examinations if indicated.

A complete evaluation report is to be returned to the private physician which shall include the results of the tuberculin test and the x-ray reading.

Tuberculin Testing

The Tine test is to be used only for screening purposes on:

School children.

Contacts in the home.

The Mantoux test is to be used on the following categories of persons regardless of age:

All persons who enter the clinic who have not been tested previously.

All suspects and contacts referred to the clinic.

All persons whose previous Tine test was small or of unknown size.

All school child reactors whose Tine test was less than eight mm.

All patients with abnormal chest x rays who have not been tested previously.

All contacts examined at home whose positive Tine test is less than eight mm.

The Mantoux test is to be administered by a registered nurse and is to be read within 48 to 78 hours.

The results of the test are to be recorded in millimeters of induration.

All Public Health Nurses are to be trained in the use of the Montoux test.

X ray

X-ray services are provided to active cases and inactive cases. The 14 x 17 x ray is obtained and read wet in the presence of the patient.

For suspects with reactive Mantoux tests, the x ray is taken at the time of the reading of the Mantoux and read wet.

Contacts are examined according to the same criteria, if the Mantoux test is reactive, a 14 x 17 x ray is taken and read wet.

School reactors referred by the Board of Education receive a 14 x 17 examination after the results of their Tine tests have been confirmed. If the Mantoux reaction is five to 10 millimeters in diameter, a dry reading of the x ray is reported. If the Mantoux reaction is between 10 and 20 millimeters or greater a wet reading of the 14 x 17 x ray is obtained.

X-ray service is provided to walk-ins on the basis of their tuberculin test. If the Mantoux reaction is between 5 and 10 millimeters, a 4 x 5 x ray is obtained. If between 10 and 15 millimeters, a 14 x 17 x ray is taken and read dry. If greater than 15 millimeters, a 14 x 17 x ray is read wet.

Persons who are symptomatic or persons who are referred by physicians for specific medical indications receive an x ray despite a negative Mantoux tuberculosis test.

All patients who need laminagrams need to be referred to the Radiology Department of the Newark City Hospital. A simple post card notification system for negative x rays is still needed.

Treatment—Chemoprophylaxis

Chemoprophylaxis is reserved for:

Tuberculin reactive children less than three years with negative x rays.

Children under 18 who present a tuberculin reaction of more than 20 millimeters induration with no history of a previous large reaction and no previous follow-up for tuberculosis.

Persons placed on INH prophylaxis are to be seen every one to two months for one year. Generally the dosage for children is seven to 10 milligrams per KGM.

Medication is to be discontinued 12 months after start of prophylaxis if the x ray has remained negative regardless of whether the patient has received continuous treatment or not. Thereafter, the persons should be followed by an x ray every year to be obtained on the person's own initiative.

All patients receiving drugs, whether for treatment or prophylaxis, are to be seen by a physician when they pick up the drugs.

Instead of using chemoprophylaxis for groups for whom it has not been proved effective, systematic follow-up examination without treatment is recommended.

Laboratory Service

The New Jersey State Department of Health Laboratory is to examine sputums obtained in the evening clinic.

Sputum specimens are to be submitted for culture on all suspected but unproved cases of active tuberculosis.

Sputum cultures are required on all active cases and inactive cases under therapy at two month intervals.

Inactive cases not on therapy are to be cultured at three to six month intervals.

All suspects are to be cultured at each examination to facilitate the diagnosis of tuberculosis.

Paterson Project

At the end of December, 1963, responsible officials in Passaic County recognized that there was clear evidence to indicate a resurgence of tuberculosis in the more congested areas of their cities.

It was clearly recognized that several significant factors had served to change the public health approach to the control of tuberculosis. These were the availability of effective drugs to destroy the tubercule bacillus, the ease and efficiency of tuberculin testing techniques and the smaller number of infected people in any given area. Authorities in Paterson recognized that emphasis should be placed upon detecting the silent but contagious case of tuberculosis before symptoms occurred and by adequate drug therapy and careful and continuous follow-up to control the spread of disease. They recognized also the need to observe and follow-up tuberculosis contacts, tuberculin reactors, and their associates.

It was clear to all that every mycobacteria in the area of Paterson must be surrounded and inactivated by a chemotherapeutic barrier. Their motto was, "Get the drug to the bug."

In January, 1964, an extensive year end report was prepared by the Paterson Department of Health, Tuberculosis Eradication Project. It indicated an increase of 2,358 visits to the Health Department's clinic in 1963. This figure included persons receiving chemoprophylaxis, Tine, and Mantoux tests and other diagnostic examinations. An increase in patients with active disease under the observation of the clinic was recorded. A review of patients with inactive disease led to discovery of reactivation of tuberculosis in a number of persons; an increase in examination of contacts in the clinic area was recorded.

In the early months of the year, the Paterson Project hired an epidemiologist, made arrangements with a clinic physician for service, established a regular method for dispensing drugs, made available for daily use a nebulizer for sputum collection, began operating its X-ray Department, and felt a surge of clinic visits.

In 1963, the Paterson Board of Health Tuberculosis Project tuberculin tested, in conjunction with the public school and jails, 29,321 persons and

found 2,163 reactors. The reactors from many of the high incidence schools in Paterson were placed on chemoprophylaxis regime. The majority of persons who received prophylaxis were children under 14 years of age.

It was estimated that approximately 200 cases under 14 years of age would be treated during 1964. The total of children receiving INH prophylaxis is 491. A listing of 5,760 associates of reactors was compiled as part of the tuberculin testing program. A total of 3,248 was tuberculin tested during 1963. Seven hundred and sixty-four were x-rayed but not tuberculin tested, and 416 positive reactors were x-rayed. The examination of associates revealed five active cases of tuberculosis and 44 cases of inactive tuberculosis, most of whom needed some type of follow-up examination.

The director of the Paterson Health Department attended the symposium on Tuberculosis Control at the National Jewish Hospital in Denver. He returned obviously exhilarated by the teaching provided there. In July, he obtained an authorization of $5,000 to purchase protective equipment for laboratory activities in tuberculosis control because personnel working in tuberculosis bacteriology in the Paterson Health Department revealed reactive tuberculins. An arrangement was made with the New Jersey State Department of Health Laboratories for the instruction of one of the staff members of the Paterson Health Department Laboratory in tuberculosis bacteriology. An arrangement for the acceptance of 100 cultures per month by the New Jersey State Department of Health Laboratory was agreed upon.

Early in January, the concept of a mobile tuberculosis clinic was presented to the superintendent of the Preakness Hospital. This idea developed because the mobile 70 mm x-ray unit had been found unsuitable for effective use and was to be discontinued in April, 1964. It was proposed that a conventional x-ray unit be placed in a mobile trailer and that the trailer be adapted by the addition of tables and space for nursing personnel to do tuberculin testing. This mobile clinic would be authorized to move from place to place and conduct clinics on a regular schedule.

On March 31, 1964, the Passaic County Tuberculosis and Health Association suggested the organization of a Passaic County Coordinating Council on the eradication of tuberculosis. The Board of Directors of the Association had approved the formation of such a Council to supplement the facilities and services of the individual local health departments. The membership of the Council included representatives of agencies in the three large cities and 13 other municipalities of the county, who might be involved with tuberculosis control. It included health officers, school health authorities, representatives of Preakness Hospital and the Passaic County Medical Society.

The first organizational meeting of the Tuberculosis Eradication Council of Passaic County took place on April 11, 1964, at which time it was decided

to organize the Council. A committee was appointed to draw up by-laws and submit a slate of officers and executive committee members.

The primary concern of the Tuberculosis Council at its first meeting was the establishment of a mobile chest x-ray unit. Many varying points of view were described concerning this activity.

On June 4, 1964, by-laws were adopted and the officers and executive committee members of the Tuberculosis Eradication Council were elected. The proposal for a mobile chest clinic remained under consideration for many months, but at the end of the year it had been decided that a mobile clinic was not desired in Passaic County. A sub-committee was appointed to make proposals for outpatient tuberculosis services on a county level.

The sub-committee was advised that well-meaning efforts at tuberculosis control are no substitute for vigorous expert programming. The follow-up of tuberculosis patients needs to be more vigorous and therapy more controlled. The detection of tuberculosis in patients needs to be more extensive if a dent is to be made in the over-all picture. Outpatient services are undergoing a rapid evolution which will eventually make available lifetime, modern, high quality services for all former tuberculosis patients whether their disease is active or inactive. This new step forward requires new methods of record keeping, additional personnel, training, and orientation of new workers, physical facilities and equipment, public information and educational programs, and new techniques to motivate patients to cooperate.

The master plan proposed for Passaic County involved a central headquarters and three regional clinics to be located in Paterson, Wayne, and Passaic. The central headquarters was proposed to serve as a base supportive unit, centrally coordinated, rendering service to all three outpatient clinics, assuring uniform quality and continuity of medical care. It would be under the direction of a medical director who would be responsible for medical policies and procedures, decisions about outpatient care, liaison with other medical facilities, physicians, and hospitals. There would be a close tie with the tuberculosis hospitals to assure continuity of care. Logically, the Preakness Hospital serving as a hub of activity would be the best location for the central headquarters. Public health functions would flow in a closely coordinated arrangement to health officers, nurses, private physicians, hospitals, and other agencies in the area.

The Township of Wayne, and some of the other up-county municipalities, indicated their cooperation. The Wayne Health Department agreed to provide clinic space and some staff for the up-county clinic. The Passaic General Hospital agreed to provide space, X-rays, doctor time, and other services as necessary in the hospital for the down-county area. Paterson has offered additional space in the Health Department for program extension there. The

other hospitals in Paterson have expressed interest in the event program extension is necessary in Paterson.

The Public Health Service and the State Health Department have committed themselves to support the program on a county level as long as the coordinated effort proves fruitful.

A tentative four-year program of aid has been prepared and the tools to work with, laboratory services, chemotherapy, chemoprophylaxis, tuberculin testing, chest x rays, epidemiological investigations, and statistical analysis, are all available to really do something in the Passaic County area.

Camden Project

At the end of the year 1963, negotiations were under way between the County of Camden, West Jersey and Cooper Hospitals and the New Jersey State Department of Health concerning the establishment of tuberculosis control clinics. The County of Camden had indicated that it would transfer $4,000 from the Tuberculosis Association account to a special account which would be made available to pay the Cooper and West Jersey Hospitals $4.50 a visit for each visit made to the tuberculosis clinic. The New Jersey State Department of Health had indicated its willingness to assist in meeting financial obligations.

The Medical Society Tuberculosis Control Committee had discussed the problems of tuberculosis control in Camden County and had presented a unanimous opinion that the detection and control of tuberculosis as a communicable disease are a legal responsibility of government, that the use of skin testing on a wide basis be substituted for mass x-ray techniques, that x-ray services for indigent patients be obtained at the Lakeland Chest Hospital, that the chest clinics at Cooper and West Jersey Hospitals accept patients for treatment as referred from the family doctor or from the Lakeland Chest Hospital, that the facilities of these hospitals are not to be used as survey units and that the Society go on record as favoring a public health clinic for the diagnosis and treatment of tuberculosis as soon as possible.

The Society later voted that a letter be sent to the Board of Chosen Freeholders appraising them of the Camden County Society's grave concern with the lack of appropriate diagnostic and follow-up clinic facilities which followed the closing of the clinic operated by the Camden County Tuberculosis and Health Association. There appeared to be a consensus that the facilities of the two general hospitals—Cooper and West Jersey—were inadequate to do the job and there was a strong feeling that government agencies should step in. Subsequent meetings with the administrators of the Cooper Hospital and the West Jersey Hospital indicated that the hospitals could not, without

applying a charge for service amounting to approximately $13.00 per patient visit, provide the type of service that active and inactive patients in Camden County required.

On this basis, discussions were held with the City of Camden to determine the need for and the place where a proper clinic could be established. This plan was considered seriously both by the Health Officer and the Director of Health and Welfare for the City of Camden and the Director of the Camden Hospital for Chest Diseases. It was agreed that for a temporary period, effort should be made to refer all patients who needed care to the clinic at the Hospital for Chest Diseases at Lakeland. Throughout the spring, problems associated with the referral of patients were maintained under consideration by a joint group including the Health Officer of the City of Camden, the District State Health Officer, members of the Tuberculosis Control Program, and personnel assigned to the Hospital for Chest Diseases in Lakeland.

Late in June, a referral system was finally agreed upon and the forms necessary for referral were printed and made available to the practitioners in the area. The referral system went into operation in August. It has appeared to function adequately. When the patients who are referred for service do not arrive, the hospital notifies the referring agency in order that the patients may be motivated to return.

Late in the fall, discussions were held concerning the need for an organized plan of tuberculin testing in Camden County. It was felt at that time that there were indications that other counties would desire to join with Camden in a county-wide tuberculin testing program for the parochial schools. This activity was finally resolved after a number of joint discussions and a meeting set for consideration of a tri-county tuberculin testing program early in the year 1965.

A plan was submitted to the director of the Hospital at Lakeland to arrange for the installation of a nebulizer at the Chest Hospital. This item was presented in the budget for 1965. It can be said that there is a slow and developing joint action taking place in Camden County which if properly developed will provide a base for regional tuberculosis control services at some future time.

Atlantic City Project

As of December 31, 1963, there were 362 cases of inactive tuberculosis in Atlantic City that did not have a record of adequate or complete medical supervision. Since this condition had existed for some time, it was deemed necessary to apply extra personnel to the task of returning these patients to medical care.

A public health nurse supervisor was assigned to work with other nursing personnel in the Atlantic City clinic. Her prime responsibility was to locate and return long-term patients with inactive tuberculosis to medical supervision.

In the 12-month period ending December 31, 1964, 152 of the patients were returned to medical supervision. Each person was returned for an x-ray examination of the chest and, wherever possible, a series of sputum examinations was done. A number of the patients in this group were suspected of having active disease. Many of the patients had not been observed for a number of years.

The search for patients revealed that 65 of the long-term patients with inactive diseases had died. Another 46 had moved away from Atlantic City without the knowledge of the Health Department or follow-up agency. Eighty-one of the patients were discharged from project activity because they could not be located after a series of steps and checks were systematically carried out.

The post office department, the welfare bureau, and many other public agencies were helpful in establishing methods that could be applied to a system for locating persons.

This study revealed the financial assistance needs of tuberculosis patients. It was necessary to work out plans for emergency food orders and assistance at the welfare level for a number of patients until more permanent plans could be set up. An effective liaison was established between the nurse supervisor and the county welfare board. Efforts were made also to work out cooperative plans with the county adjustor.

In summary, if the wage earner is ill with tuberculosis, the middle class family is reduced to a much lower level of living. Insurance, savings, etc., must be sacrificed in the care of the patient. As a result the basic care needs of the family are not fully covered. This is the real tragedy of pulmonary tuberculosis.

The continuation of efforts to return old inactive patients to medical supervision is of value. Some of the patients who were discovered in the spring of 1964 have become delinquent again. However, with constant attention and education of the patient and family, it is anticipated that the older patients will accept the philosophy of lifetime follow-up of their disease.

On December 31, there were 72 patients with inactive tuberculosis who were not under medical supervision, 209 who had no sputum studies recorded in over six months, 164 who had no record of ever having had a sputum study, and 159 patients with inactive disease who needed to be returned to medical examination and observation.

Other Epidemiologic Projects

The work that was accomplished in Atlantic City gave rise to broader epidemiologic activity involving the counties of Middlesex, Monmouth, Ocean, and Passaic. Records of cases assigned to field personnel were maintained for the period October to December, 1964. A total of 269 cases was assigned, 81 of whom were diagnosed cases of active pulmonary tuberculosis who were delinquent for medical examination. A total of 63 of these patients received effective service, 54 were brought or returned to medical supervision. At the end of the year only 18 of these patients remained undiscovered and without medical observation.

Cases of pulmonary inactive tuberculosis, both on drugs and without drug therapy, were also assigned for observation, totaling 95 patients. Slightly over one-half of these patients were returned to medical observation. A caseload of 269 patients and contacts does not provide time for other effective work.

Vaccination Assistance Project

New Jersey's Vaccination Assistance Project, which began in 1963, was designed as a two-phase program.

Phase I was concerned with providing the opportunity for all New Jersey residents to achieve active immunity against poliomyelitis through a statewide oral vaccine program. This phase was completed in 1964. In 1964, eight counties fed Type I oral polio vaccine, 15 counties fed Type III, and 17 counties fed Type II. In summary, with the addition of Bergen County which proceeded on an individual community basis in the administration of oral polio vaccine to its residents, people in all of the 21 counties of New Jersey had the opportunity to avail themselves of this immunizing agent.

An integral part of this program has been the on going statistical surveys (Serfling Type) which have offered a yardstick as to the effectiveness of this mass feeding technique.

Concomitant with the above activity the project has launched a sustained educational program designed to: (1) maintain and, if possible, enhance the level of immunizations among the populace of New Jersey; (2) attempt to alleviate the problem of motivating the so called "hard to reach" segment of our citizenry and; (3) make inroads into the complex problems connected with servicing the mobile elements of our state's population. Optimally, phase II planning and execution will continue through mid 1966.

I. *Polio Immunization Program*

During 1964, the feeding of oral polio vaccine on a mass basis was completed in New Jersey. Since the initiation of the Vaccination Assistance Project in the state in July, 1963, over 10 million doses of oral poliomyelitis vaccine have been administered to New Jersey residents through 21 county programs. Well over 50 percent of the state's 1963 (adjusted) population received protection against all three types of polio. The percent of the 1963 population fed all three types of oral poliomyelitis vaccine by age group is approximately:

Under 1 year	50 Percent
1- 4 years	64 Percent
5-14 years	81 Percent
15-29 years	59 Percent
30 and over	42 Percent
Total Population	54 Percent

These percentages are based on head counts in the 21 county programs.

An important fact not easily seen in the Tabulation Report (copy attached) is the total percentage of people under 30 years of age who received all three types of oral polio vaccine. This is summarized below.

UNDER AGE 30

	Type I		*Type III*		*Type II*	
Population	*No. Fed*	*%*	*No. Fed*	*%*	*No. Fed*	*%*
3,036,395	2,053,693	67.6	2,059,426	67.8	1,972,980	65.0

When the unknown number of persons who have received the vaccine from private physicians is added to the totals shown above, and the herd immunity effect is considered, it would appear that persons in New Jersey under the age of 30 are, for all practical purposes, fully protected against all three types of poliomyelitis.

During the last quarter of the year, letters were sent to all health officers and physicians containing the revised recommendations of the New Jersey State Department of Health pertaining to the administration of polio vaccine. The revised recommendations conform to the recommendations of the Advisory Committee to the Surgeon General, United States Public Health Service.

During 1964, Sabin oral polio vaccine was stocked and made available for distribution in 66 distributing stations, which cover all counties in the state.

An immunization survey was conducted during the first six months of the year on all children born during a one-week period November 24 through November 30, 1962. The results of this survey appear below.

Serfling Surveys

Six Serfling type immunization surveys were conducted in New Jersey in 1964. Four of these were in the cities of Camden, Elizabeth, Paterson, and Trenton. County-wide surveys were done in Monmouth County and Sussex County. Following tabulation and analysis, results were forwarded to appropriate local, state and federal agencies.

Tetanus

In 1964, six cases of tetanus were reported to the Department. Five of the six patients died and upon investigation it was found that none were known to have been previously immunized with tetanus toxoid.

Three hundred New Jersey physicians were subsequently surveyed at random and only 44 percent of those called said that they were offering immunization with tetanus toxoid to all of their patients on a routine basis.

The Vaccination Assistance Project, in cooperation with the New Jersey Committee on Trauma of the American College of Surgeons, provided each physician and hospital in the state with tetanus educational material. In addition, letters promoting tetanus immunization written by the Deputy Coordinator of Civil Defense in Elizabeth, New Jersey and the State Commissioner of Health, were sent to all municipal Civil Defense and Disaster Control Directors, police and fire chiefs, municipal councils and health officers in Union County.

Smallpox

In 1964, 31 hospitals in the state conducted smallpox vaccination programs for the benefit of their personnel. Seven thousand three hundred points were furnished to the hospitals without charge.

Education

An immunization film entitled "TO OPEN A DOOR" was produced which was designed to aid those whose responsibility it is to motivate the so called "hard to reach" segments of a population. Significant showings included audiences at the Communicable Disease Center in Atlanta, Georgia, and the American Public Health Association meeting in New York City.

A discussion guide to accompany this film was prepared and distributed to appropriate local, state, and federal agencies.

A seven-week intensive in-service educational orientation program was held for field staff to prepare them for duties connected with the conduct of the education phase of the Vaccination Assistance Project.

"Operation Booster" was conceived in December, 1964, as part of the phase II education segment of the Vaccination Assistance Project. The purpose of this effort is to help increase the level of immunity in New Jersey by stimulating residents for a brief period through intensive publicity, to see their physicians or local health departments for a check-up on needed immunizations.

Project Staff

At the end of 1964, the Vaccination Assistance Project Staff was as follows:

1 Senior Public Health Physician
1 Public Health Service Assignee
1 Community Health Organizer
2 Senior Field Representatives, Health
4 Field Representatives, Health
1 Head Clerk
1 Senior Clerk
1 Clerk Stenographer
1 Clerk Typist
2 Laboratory Technicians
1 Senior Statistican

Table 1. State of New Jersey

Oral Polio Program
Tabulation Report
1963-1964

		Type I		Type III		Type II	
Age Group	Population*	No. Fed	Per-cent	No. Fed	Per-cent	No. Fed	Per-cent
Under 1	136,515	67,971	49.8	67,414	49.4	62,169	45.5
1-4	550,392	351,151	63.8	352,193	64.0	343,408	62.4
5-14	1,195,933	974,462	81.5	964,104	80.6	941,082	78.7
15-29	1,148,555	660,109	57.5	675,715	58.8	626,321	54.5
30 and over	3,435,753	1,386,358	40.4	1,417,782	41.3	1,328,486	38.7
Totals	6,467,148	3,440,051	53.2	3,477,208	53.8	3,301,466	51.0

* 1963 Estimate.

Includes figures from all 21 counties in New Jersey who fed oral polio vaccine in mass community programs.

Table 2. Atlantic County

Oral Polio Program
Tabulation Report

		Type I		Type III		Type II	
Age Group	Population*	No. Fed	Per-cent	No. Fed	Per-cent	No. Fed	Per-cent
Under 1	3,191	1,744	54.7	1,636	51.3	1,507	47.2
1-4	13,276	9,265	69.8	9,049	68.2	8,593	64.7
5-14	28,783	25,887	89.9	23,023	80.0	24,519	85.2
15-29	26,550	18,661	70.3	17,069	64.3	16,833	63.4
30 and over	98,250	45,940	46.8	41,853	42.6	39,544	40.2
Totals	170,050	101,497	59.7	92,630	54.5	90,996	53.5

* 1963 Estimate.

Type I vaccine fed January 19, 1964.
Type III vaccine fed March 1, 1964.
Type II vaccine fed April 12, 1964.

Make up clinics were held on the Wednesday following each Sunday feeding.

Table 3. Bergen County

Oral Polio Program
Tabulation Report

		Type I		Type III		Type II	
Age Group	Population*	No. Fed	Per-cent	No. Fed	Per-cent	No. Fed	Per-cent
Under 1	16,739	1,340	8.0	1,341	8.0	1,265	7.6
1-4	70,873	16,002	22.6	16,141	22.8	15,420	21.8
5-14	178,426	61,621	34.5	62,174	34.8	59,513	33.4
15-29	135,073	31,340	23.2	31,574	23.4	30,159	22.3
30 and over	457,949	43,344	9.5	43,957	9.6	43,093	9.4
Totals	859,060	153,647	17.9	155,187	18.1	149,450	17.4

* 1963 Estimate.

Both trivalent and monovalent oral polio vaccine was fed in this county. Programs were on individual community basis and there were no specified dates. Vaccines were fed in the county from fall 1963 to summer 1964.

Table 4. Burlington County
Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	6,093	3,362	55.2	3,386	55.6	3,198	52.5
1-4	24,105	13,282	55.1	13,377	55.5	12,638	52.4
5-14	45,965	31,872	69.3	30,933	67.3	29,477	64.1
15-29	67,960	28,727	42.3	26,495	39.0	24,621	36.2
30 and over	108,887	27,807	25.5	28,675	26.3	27,552	25.3
Totals	253,010	105,050	41.5	102,866	40.6	97,486	38.5

*1963 Estimate.

The first county-wide program in the state was concluded here in June, 1963.

This program was directed specifically to people under 30 and did not include Air Force Base (McGuire); Fort Dix; and dependents of military personnel.

Type I vaccine was fed March, 1963.
Type III vaccine was fed May, 1963.
Type II vaccine was fed June, 1963.

Age breakdown estimates are based on figures given to us by Burlington County Medical Society.

Table 5. Camden County
Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	9,724	6,601	67.9	6,200	63.8	4,984	51.3
1-4	38,380	33,516	87.3	32,139	83.7	30,630	79.8
5-14	80,117	78,903	98.5	80,184	100.1	76,257	95.2
15-29	74,101	62,127	81.6	58,272	78.6	52,853	71.3
30 and over	219,508	124,350	56.6	120,552	54.9	110,662	50.4
Totals	421,830	305,497	72.4	297,347	70.5	275,386	65.3

*1963 Estimate.

Type I vaccine fed in September, 1963 (September 22 & 29).
Type III vaccine fed in October, 1963 (October 27 & November 3).
Type II vaccine fed in December, 1963 (December 8 & 15).

Table 6. Cape May County
Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	947	604	63.7	595	62.8	573	60.5
1-4	3,578	2,432	67.9	2,383	66.6	2,289	64.0
5-14	8,309	6,850	82.4	6,683	80.4	6,423	77.3
15-29	9,309	4,749	51.0	4,636	49.8	4,455	47.9
30 and over	29,859	11,868	39.7	11,604	38.9	11,151	37.3
Totals	52,002	26,503	50.9	25,901	49.8	24,891	47.9

*1963 Estimate.

Note: The number and percent fed by age group in Cape May County are Vaccination Assistance Project estimates based on partial data forwarded to us by Cape May County.

Type I vaccine was fed in December, 1963 (December 8 & 15).
Type III vaccine was fed in January, 1964 (January 19 & 26).
Type II vaccine was fed in March, 1964 (March 1 & 8).

Table 7. Cumberland County
Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	2,431	1,405	57.8	1,329	54.7	1,185	48.7
1-4	9,355	7,399	79.1	7,628	81.5	7,796	83.3
5-14	21,481	18,868	87.8	19,092	88.9	19,181	89.3
15-29	20,934	14,902	71.2	15,648	74.7	14,835	70.9
30 and over	58,846	32,898	40.6	32,383	55.0	29,902	50.8
Totals	113,047	75,472	66.8	76,080	67.3	72,899	64.5

*1963 Estimate.

Type I vaccine fed in October, 1963 (October 27 & November 3).
Type III vaccine fed in December, 1963 (December 8 & 15).
Type II vaccine fed in January, 1964 (January 12 & 19).

Table 8. Essex County

Oral Polio Program

Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	18,648	9,370	50.2	9,425	50.5	9,101	48.8
1-4	71,140	50,232	70.6	49,382	69.4	49,913	70.2
5-14	153,622	148,315	96.5	141,191	91.9	139,590	90.9
15-29	168,511	103,129	61.2	108,750	64.5	98,081	58.2
30 and over	517,119	234,268	45.3	250,689	48.5	224,349	43.4
Totals	929,040	545,314	58.6	559,437	60.2	521,034	56.1

*1963 Estimate.

Type I vaccine fed March 1 & 8, 1964.
Type III vaccine fed April 12 & 19, 1964.
Type II vaccine fed May 24, 1964.

Table 9. Gloucester County

Oral Polio Program

Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	3,632	2,205	60.7	1,837	50.6	2,843	78.3
1-4	14,738	10,342	70.2	10,169	69.0	10,859	73.7
5-14	30,317	26,027	85.8	24,875	82.0	24,913	82.2
15-29	25,443	18,970	74.6	18,070	71.0	17,253	67.8
30 and over	74,868	37,584	50.2	35,373	47.2	33,244	44.4
Totals	148,998	95,128	63.8	90,324	60.6	89,112	59.8

*1963 Estimate.

Type I vaccine fed in October, 1963 (October 27 & November 3).
Type III vaccine fed in December, 1963 (December 8 & 15).
Type II vaccine fed in January, 1964 (January 19 & 26).

Table 10. Hudson County

Oral Polio Program

Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	11,772	5,445	46.3	4,852	41.2	3,665	31.1
1-4	45,005	26,824	59.6	27,695	61.5	23,608	52.5
5-14	96,752	74,982	77.5	77,970	80.6	69,289	71.6
15-29	111,430	52,357	47.0	54,179	48.6	43,031	38.6
30 and over	334,172	101,573	30.4	102,382	30.6	85,349	25.5
Totals	599,131	261,181	43.6	267,078	44.6	224,942	37.5

*1963 Estimate.

Type I vaccine fed March 1 & 8, 1964.
Type III vaccine fed April 12 & 19, 1964.
Type II vaccine fed May 24, 1964.

Table 11. Hunterdon County

Oral Polio Program

Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	1,178	788	66.9	802	68.1	762	64.7
1-4	4,828	3,829	79.3	3,789	78.5	3,772	78.1
5-14	10,765	9,511	88.4	9,419	87.5	9,655	89.7
15-29	10,158	8,126	80.0	8,259	81.3	8,065	79.4
30 and over	31,074	16,010	51.5	16,065	51.7	15,907	51.2
Totals	58,003	38,264	66.0	38,334	66.1	38,161	65.8

*1963 Estimate.

Type I vaccine fed in December, 1963 (December 8 & 15).
Type III vaccine fed in January, 1964 (January 19 & 26).
Type II vaccine fed in February, 1964 (February 23 & March 1).

Table 12. Mercer County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	5,447	2,692	49.4	2,322	42.6	2,176	39.9
1-4	22,085	15,178	68.7	13,653	61.8	13,671	61.9
5-14	47,868	42,385	88.5	41,192	86.1	43,293	90.4
15-29	54,073	32,138	59.4	33,685	62.3	32,225	59.6
30 and over	148,640	69,578	46.8	72,236	48.6	70,067	47.1
Totals	278,113	161,971	58.2	163,088	58.6	161,432	58.0

* 1963 Estimate.

Type I vaccine fed December 8 & 15, 1963.
Type III vaccine fed January 19 & 26, 1964.
Type II vaccine fed March 8 & 15, 1964.

Table 13. Middlesex County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	11,654	6,116	52.5	6,277	53.9	5,664	48.6
1-4	49,703	33,482	67.4	33,000	66.4	32,259	64.9
5-14	100,190	91,586	91.4	90,217	90.0	86,909	86.7
15-29	86,046	51,828	60.2	52,981	61.6	47,574	55.3
30 and over	241,362	117,077	48.5	114,508	47.4	108,783	45.1
Totals	488,955	300,089	61.4	296,983	60.7	281,189	62.6

* 1963 Estimate.

Type I vaccine fed February 9 & 16, 1964.
Type III vaccine fed March 15 & 22, 1964.
Type II vaccine fed April 19 & 26, 1964.

Table 14. Monmouth County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	8,240	4,470	54.2	4,535	55.0	4,307	52.3
1-4	34,962	22,565	64.5	23,703	67.8	23,148	66.2
5-14	71,064	62,042	87.3	63,047	88.7	62,070	87.3
15-29	64,141	35,548	55.4	37,350	58.2	35,872	55.9
30 and over	191,441	85,820	44.8	85,928	44.9	83,403	43.6
Totals	369,848	210,445	56.9	214,563	58.0	208,800	56.5

* 1963 Estimate.

Type I vaccine fed December 8 & 15, 1963.
Type III vaccine fed January 19 & 26, 1964.
Type II vaccine fed March 1 & 8, 1964.

Table 15. Morris County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	6,661	3,677	55.2	3,681	55.3	3,310	49.7
1-4	27,609	19,334	70.0	20,301	73.5	19,371	70.2
5-14	57,463	52,742	91.8	52,623	91.6	52,028	90.5
15-29	49,032	36,650	74.7	36,406	74.3	34,951	71.3
30 and over	152,249	81,291	53.4	82,295	54.1	79,287	52.1
Totals	293,014	193,694	66.1	195,306	66.7	188,947	64.5

* 1963 Estimate.

Type I vaccine fed January 19 & 26, 1964.
Type III vaccine fed March 1 & 8, 1964.
Type II vaccine fed on April 12 & 19, 1964.

Table 16. Ocean County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	2,972	1,938	65.2	1,706	57.4	1,655	55.7
1-4	11,513	9,023	78.4	9,221	80.1	8,899	77.3
5-14	22,626	21,416	94.7	21,776	96.2	21,103	93.3
15-29	22,686	14,588	64.3	14,320	63.1	13,916	61.3
30 and over	65,221	31,706	48.6	29,951	45.9	29,760	45.6
Totals	125,018	78,671	62.9	76,974	61.6	75,333	60.3

*1963 Estimate.

Type I vaccine fed in December, 1963 (December 8 & 15, 1963)
Type III vaccine fed in January, 1964 (January 19 & 26, 1964).
Type II vaccine fed in March, 1964 (March 1 & 8, 1964).

Table 17. Passaic County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	8,849	3,301	37.3	4,793	54.2	4,547	51.5
1-4	34,945	21,689	62.1	24,300	69.5	25,598	73.3
5-14	75,470	67,929	90.0	71,832	95.2	70,603	93.6
15-29	74,588	43,684	58.6	48,392	64.9	46,236	62.0
30 and over	235,129	93,738	39.9	104,434	44.4	98,699	42.0
Totals	428,981	230,341	53.7	253,751	59.2	245,683	57.3

*1963 Estimate.

Type I vaccine fed March 1 & 8, 1964.
Type III vaccine fed April 12 & 19, 1964.
Type II vaccine fed May 24, 1964.

Table 18. Salem County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	1,395	867	62.2	991	71.0	756	54.2
1-4	5,555	4,563	82.1	4,201	75.6	3,981	71.7
5-14	12,432	11,545	92.9	10,452	84.1	10,811	87.0
15-29	12,316	9,298	75.5	7,818	63.5	8,778	71.3
30 and over	30,301	18,949	62.5	16,440	54.3	16,828	55.5
15-29	86,046	51,826	60.2	52,981	61.6	47,574	55.3
Totals	61,999	45,222	72.9	39,902	64.4	41,154	66.4

*1963 Estimate.

Type I vaccine fed in October, 1963 (October 27 & November 3).
Type II vaccine fed in December, 1963 (December 8 & 15).
Type III vaccine fed in January, 1964 (January 19 & 26).

Note: Due to mixup, Type II vaccine was fed prior to Type III vaccine.

Table 19. Somerset County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	3,686	1,779	48.3	1,934	52.5	1,770	48.0
1-4	14,727	10,823	73.5	11,405	77.4	10,943	74.3
5-14	30,626	29,847	97.5	30,465	99.5	29,803	97.3
15-29	26,859	16,684	62.1	17,499	65.2	16,629	61.9
30 and over	82,118	39,225	47.8	40,362	49.2	38,915	47.4
Totals	158,016	98,358	62.2	101,665	64.3	98,060	62.1

*1963 Estimate.

Type I vaccine was fed in December, 1963 (December 8 & 15).
Type III vaccine was fed in January, 1964 (January 19 & 26).
Type II vaccine was fed in March, 1964 (March 1 & 8).

Table 20. Sussex County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	1,244	753	60.5	743	59.7	644	51.8
1-4	4,844	3,822	78.9	4,120	85.1	3,991	82.4
5-14	10,819	9,517	87.9	10,012	92.5	9,878	91.3
15-29	9,555	7,681	80.3	8,049	84.2	7,607	79.6
30 and over	27,521	14,865	54.0	15,531	56.4	14,677	53.3
Totals	53,983	36,638	68.9	38,455	71.2	36,797	68.2

* 1963 Estimate.

Type I vaccine fed March 1 & 8, 1964.
Type III vaccine fed April 12 & 19, 1964.
Type II vaccine fed May 10 & 17, 1964.

Table 21. Union County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	10,715	8,672	80.9	8,224	76.8	7,598	70.9
1-4	43,701	33,701	77.1	32,755	75.0	32,391	74.1
5-14	100,639	92,289	91.7	86,446	85.9	85,714	85.2
15-29	88,279	61,266	69.4	69,038	78.2	65,456	74.1
30 and over	295,714	142,943	48.3	157,383	53.2	152,942	51.7
Totals	539,048	338,871	62.9	353,846	65.6	344,101	63.8

* 1963 Estimate.

Type I vaccine fed March 1 & 8, 1964.
Type III vaccine fed April 12 & 19, 1964.
Type II vaccine fed May 24, 1964.

Table 22. Warren County

Oral Polio Program
Tabulation Report

Age Group	Population*	Type I No. Fed	Type I Per-cent	Type III No. Fed	Type III Per-cent	Type II No. Fed	Type II Per-cent
Under 1	1,297	842	64.9	805	62.1	659	50.8
1-4	5,470	3,848	70.3	3,782	69.1	3,638	66.5
5-14	12,199	10,328	84.7	10,498	86.1	10,053	82.4
15-29	11,511	7,656	66.5	7,225	62.8	6,891	59.9
30 and over	35,525	15,524	43.7	15,181	42.7	14,372	40.5
Totals	66,002	38,198	57.9	37,491	56.8	35,613	54.0

* 1963 Estimate.

Type I vaccine fed in October, 1963 (October 27 & November 2).
Type III vaccine fed in December, 1963 (December 8 & December 14).
Type II vaccine fed in January, 1964 (January 19 & 25).

Table 23. Immunization Survey of Children Born November 24 Through November 30, 1962
Survey Conducted January 1 Through June 1, 1964
By State Health Districts

	New Jersey	Northern District	Metro-politan District	Central District	Southern District
Total children selected	1949	184	806	573	386
Number surveyed	1474	155	629	398	292
Percent surveyed	75.6	84.2	78.0	69.5	75.6
Percent protected					
DPT	85.5	81.3	86.2	87.4	83.6
Smallpox	66.4	60.6	73.3*	64.8	56.5**
Measles	34.9	22.6**	41.0*	36.2	26.7**
Poliomyelitis (Salk or Sabin)	74.9	56.8**	70.3**	79.9*	87.7*

* Significantly greater than State average on 95% confidence level.

** Significantly smaller than State average.

(Signicant if chance probability of obtaining a greater or lesser percent than the computed percent is <.05).

Table 24. IMMUNIZATION SURVEY OF CHILDREN BORN NOVEMBER 24 THROUGH NOVEMBER 30, 1962
SURVEY CONDUCTED JANUARY 1 THROUGH JUNE 1, 1964
BY STATE HEALTH DISTRICTS

Type of Immunization and Immunization Status	New Jersey		District							
			Northern		Metropolitan		Central		Southern	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1. Sample Surveyed—Total Children Selected	1,949	100.0	184	100.0	806	100.0	578	100.0	386	100.0
Number Surveyed	1,474	75.6	155	84.2	629	78.0	398	69.5	292	75.6
Number Not Surveyed	475	24.4	29	15.8	177	22.0	175	30.5	94	24.4
Unable to Locate	421	21.6	27	14.7	155	19.2	155	27.1	84	21.8
Child Deceased	35	1.8	2	1.1	14	1.7	11	1.9	8	2.1
Other Reason	19	1.0	0	0.0	8	1.0	9	1.6	2	0.5
2. Diphtheria—Pertussis—Tetanus—Number Surveyed	1,474	100.0	155	100.0	629	100.0	398	100.0	292	100.0
A. Protected (3 or more DPT Inoculations)	1,260	85.5	126	81.3	542	86.2	348	87.4	244	83.6
B. Partially Protected	77	5.2	8	5.2	40	6.4	15	3.8	14	4.8
2 Inoculations	47	3.2	5	3.2	21	3.3	10	2.5	11	3.8
1 Inoculation	30	2.0	3	1.9	19	3.0	5	1.3	3	1.0
C. No Protection	137	9.3	21	13.5	47	7.5	35	8.8	34	11.6
Status Unknown	47	3.2	14	9.0	16	2.5	17	4.3	0	0.0
Not Vaccinated	90	6.1	7	4.5	31	4.9	18	4.5	34	11.6
3. Smallpox—Number Surveyed	1,474	100.0	155	100.0	629	100.0	398	100.0	292	100.0
A. Vaccinated	978	66.4	94	60.6	461	73.3	258	64.8	165	56.5
B. No Protection	496	33.6	61	39.4	168	26.7	140	35.2	127	43.5
Status Unknown	38	2.6	3	1.9	15	2.4	18	4.5	2	0.7
Not Vaccinated	458	31.1	58	37.4	153	24.3	122	30.7	125	42.8
4. Measles—Number Surveyed	1,474	100.0	155	100.0	629	100.0	398	100.0	292	100.0
A. Vaccinated	515	34.9	35	22.6	258	41.0	144	36.2	78	26.7
B. No Protection	959	65.1	120	77.4	371	59.0	254	63.8	214	73.3
Status Unknown	91	6.2	6	3.9	49	7.8	29	7.3	7	2.4
Not Vaccinated	868	58.9	114	73.5	322	51.2	225	56.5	207	70.9
5. Poliomyelitis—Number Surveyed	1,474	100.0	155	100.0	629	100.0	398	100.0	292	100.0
A. Protected	1,104	74.9	88	56.8	442	70.3	315	79.9	258	87.7
3 or more Sabin, or	597	40.5	24	15.5	149	23.7	199	50.0	225	77.1
3 or more Salk	507	34.4	64	41.3	293	46.6	116	29.9	31	10.6
B. Partially Protected	304	20.6	60	38.7	154	24.5	69	17.3	21	7.2
2 Sabin	194	13.2	29	18.7	104	16.5	45	11.3	16	5.5
2 Salk	56	...	12	...	29	...	11	...	4	...
1 Salk	34	...	4	...	18	...	8	...	4	...
0 Salk	71	...	5	...	41	...	17	...	8	...
Unknown Salk	33	...	8	...	16	...	9	...	0	...
1 Sabin	54	3.7	19	12.3	12	1.9	19	4.8	4	1.4
2 Salk	17	...	8	...	1	...	6	...	2	...
1 Salk	7	...	1	...	3	...	2	...	1	...
0 Salk	15	...	4	...	4	...	6	...	1	...
Unknown Salk	15	...	6	...	4	...	5	...	0	...
0 Sabin	32	2.2	9	5.8	18	2.9	4	1.0	1	0.3
2 Salk	16	...	4	...	9	...	3	...	0	...
1 Salk	16	...	5	...	9	...	1	...	1	...
Unknown Sabin	24	1.6	3	1.9	20	3.2	1	0.3	0	0.0
2 Salk	18	...	3	...	14	...	1	...	0	...
1 Salk	6	...	0	...	6	...	0	...	0	...
C. No Protection	66	4.5	7	4.5	33	5.2	11	2.8	15	5.1
Status Unknown	14	...	3	...	5	...	3	...	0	...
No Salk or Sabin	52	...	4	...	25	...	8	...	15	...

Table 25. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Camden, N. J., July, 1964

Type of Immunization	Percent Fully Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	75.8	68.9 to 82.7
Inactivated	58.1	50.9 to 65.3
Smallpox	61.5	54.3 to 68.7
DPT	82.3	76.3 to 88.3
Measles	13.1	8.6 to 17.6

Table 25 summarizes the findings of the Camden Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with a probability of .95. In other words, the chances of the true percent being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 26. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox. DPT and Measles by Socio-Economic Area
Camden, N. J., July, 1964

Type of Immunization	Percent Fully Immunized				Differences between Areas		
	All Areas	Area I	Area II	Area III	I-II	I-III	II-III
Polio							
Oral	75.8	84.8	80.3	63.0	4.5	21.8*	17.3
Inactivated	58.1	69.6	57.9	46.7	11.7	22.9*	11.2
Smallpox	61.5	67.4	63.2	54.3	4.2	13.1	8.9
DPT	82.3	89.1	77.6	79.3	11.5	9.8	—1.7
Measles	13.1	19.6	13.2	6.5	6.4	13.1*	6.7

* Difference is significant on the 95% level of confidence.

Table 26 summarizes the findings by socio-economic area. Socio-economic areas are classified into I, upper; II, middle and III, lower in accordance with educational level, crowding in homes and condition of house.

Table 27. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (booster) by Socio-Economic Area
Camden, N. J., July, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	89.3	89.8	88.9	89.3
Inactivated	84.2	83.0	86.4	83.6
Smallpox	96.9	100.0	100.0	92.6
DPT (Booster)	92.1	98.9	93.8	86.1

Table 28. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Socio-Economic Area
Camden, N. J., July, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	74.8	82.7	70.0	68.8
Inactivated	40.8	45.1	42.0	33.3
Smallpox	99.4	100.0	98.0	100.0

Table 29. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Elizabeth, N. J., October, 1964

Type of Immunization	Percent Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	76.0	66.5 to 85.5
Inactivated	67.4	56.9 to 77.9
Smallpox	78.3	71.4 to 85.2
DPT	92.2	86.8 to 97.6
Measles	38.0	28.7 to 47.3

Table 29 summarizes the findings of the Elizabeth Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with

a probability of .95. In other words, the chances of the true percent being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 30. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles by Socio-Economic Area
Elizabeth, N. J., October, 1964

Type of Immunization	Percent Immunized				Differences between Areas		
	All Areas	Area I	Area II	Area III	I-II	I-III	II-III
Polio							
Oral	76.0	83.3	71.1	72.2	12.2	11.1	— 1.1
Inactivated	67.4	68.8	68.9	63.9	— 0.1	4.9	5.0
Smallpox	78.3	79.2	73.3	83.3	5.9	— 4.1	—10.0
DPT	92.2	95.8	88.9	91.7	6.9	4.1	— 2.8
Measles	38.0	52.1	35.6	22.2	16.5	29.9*	13.4

*Difference is significant at the 95% level of confidence.

Table 30 summarizes the findings by socio-economic area. Socio-economic areas are classified into I, upper; II, middle and III, lower in accordance with educational level, crowding in homes and condition of house.

Table 31. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (Booster) by Socio-Economic Area
Elizabeth, N. J., October, 1964

Type of Immunization	Percent Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	91.0	89.1	93.9	90.6
Inactivated	83.8	91.3	60.6	96.9
Smallpox	98.2	95.7	100.0	100.0
DPT (Booster)	64.9	91.3	42.4	50.0

Table 32. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Socio-Economic Area
Elizabeth, N. J., October, 1964

Type of Immunization	Percent Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	63.8	80.8	56.4	50.9
Inactivated	54.0	65.4	53.8	38.6
Smallpox	100.0	100.0	100.0	100.0

Table 33. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Paterson, N. J., August, 1964

Type of Immunization	Percent Fully Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	59.2	50.8 to 67.6
Inactivated	58.8	51.1 to 66.5
Smallpox	69.7	62.2 to 77.2
DPT	79.4	72.7 to 86.1
Measles	16.2	9.9 to 22.5

Table 33 summarizes the findings of the Paterson Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with a probability of .95. In other words, the chances of the true percent being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 34. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles by Socio-Economic Area
Paterson, N. J., August, 1964

Type of Immunization	Percent Fully Immunized				Differences between Areas		
	All Areas	Area I	Area II	Area III	I-II	I-III	II-III
Polio							
Oral	59.2	61.6	57.8	58.3	3.8	3.3	— 0.5
Inactivated	58.8	69.9	60.2	45.8	9.7	24.1*	14.4
Smallpox	69.7	74.0	72.3	62.5	1.7	11.5	9.8
DPT	79.4	84.9	80.7	72.2	4.2	12.7	8.5
Measles	16.2	32.9	8.4	8.3	24.5*	24.6*	0.1

*Difference is significant at the 95% level of confidence

Table 34 summarizes the findings by socio-economic area. Socio-economic areas are classified into I, upper; II, middle and III, lower in accordance with educational level, crowding in homes and condition of house.

Table 35. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (Booster) by Socio-Economic Area
Paterson, N. J., August, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	75.9	79.1	81.5	70.5
Inactivated	86.7	100.0	84.6	82.1
Smallpox	94.1	100.0	98.5	88.4
DPT (Booster)	42.9	44.2	47.7	38.9

Table 36. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Socio-Economic Area
Paterson, N. J., August, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	44.1	50.5	44.2	37.9
Inactivated	41.1	40.6	41.9	40.8
Smallpox	95.5	91.1	98.4	96.1

Table 37. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Trenton, N. J., May, 1964

Type of Immunization	Percent Fully Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	61.7	52.9 to 70.5
Inactivated	58.5	50.1 to 66.9
Smallpox	76.2	68.0 to 84.4
DPT	89.1	82.7 to 95.4
Measles	13.5	8.0 to 19.0

This table summarizes the findings of the Trenton Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with a probability of .95. In other words, the chances of the true percent immunized being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 38. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles by Socio-Economic Area
Trenton, N. J., May, 1964

Type of Immunization	Percent Fully Immunized				Differences between Areas		
	All Areas	Area I	Area II	Area III	I-II	I-III	II-III
Polio							
Oral	61.7	73.8	49.3	62.3	24.5	11.5	—13.0
Inactivated	58.5	63.1	49.3	63.9	13.8	— 0.8	—14.6
Smallpox	76.2	83.1	67.2	78.7	15.9	4.4	—11.5
DPT	89.1	95.4	89.6	82.0	5.8	13.4	7.6
Measles	13.5	20.0	16.4	3.3	3.6	16.7	13.1

Table 38 summarizes the findings by socio-economic area. Socio-economic areas are classified into I upper, II middle and III lower in accordance with educational level, crowding in homes and condition of house. The percent of children in Area II who received three doses of oral polio vaccine is significantly less than the corresponding percent in Area I. Measles vaccine was administered to significantly fewer children in Area III than in either Area I or Area II.

Table 39. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (Booster) by Socio-Economic Area
Trenton, N. J., May, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	80.5	93.1	73.8	75.0
Inactivated	76.0	79.2	55.4	89.3
Smallpox	98.6	100.0	96.9	98.8
DPT (Booster)	71.0	68.1	52.3	88.1

Table 40. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Socio-Economic Area
Trenton, N. J., May, 1964

Type of Immunization	Percent Fully Immunized			
	All Areas	Area I	Area II	Area III
Polio				
Oral	57.2	72.7	48.8	50.5
Inactivated	39.5	50.0	35.5	32.7
Smallpox	95.8	98.2	94.2	95.0

Table 41. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Monmouth County, N. J., October, 1964

Type of Immunization	Percent Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	72.0	64.3 to 79.7
Inactivated	67.6	60.4 to 74.8
Smallpox	72.0	64.7 to 79.3
DPT	88.9	83.7 to 94.1
Measles	25.6	18.3 to 32.9

Table 41 summarizes the findings of the Monmouth County Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with a probability of .95. In other words, the chances of the true percent being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 42. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles by Geographic Area
Monmouth County, N. J., October, 1964

Type of Immunization	Percent Immunized				Difference Between Areas		
	All Areas	Coastal	Central	Western	Coastal and Central	Coastal and Western	Central and Western
Polio							
Oral	72.0	71.2	69.7	75.4	1.5	— 4.2	— 5.7
Inactivated	67.6	77.5	75.8	45.9	1.7	31.6*	29.9*
Smallpox	72.0	77.5	72.7	63.9	4.8	13.6	8.8
DPT	88.9	88.8	92.4	85.2	—3.6	3.6	7.2
Measles	25.6	27.5	30.3	18.0	—2.8	9.5	12.3

* Difference is significant at 95% level of confidence.

Table 42 summarizes the findings by geographic area. These areas are indicated in the table as coastal, central, and western in accordance with their geographic location within Monmouth County.

Table 43. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (Booster) by Geographic Area
Monmouth County, N. J., October, 1964

Type of Immunization	Percent Immunized			
	All Areas	Coastal	Central	Western
Polio				
Oral	83.8	92.6	82.2	74.7
Inactivated	93.5	94.7	95.9	89.9
Smallpox	98.8	98.9	98.6	98.7
DPT (Booster)	65.6	67.4	82.2	48.1

Table 44. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Geographic Area
Monmouth County, N. J., October, 1964

Type of Immunization	Percent Immunized			
	All Areas	Coastal	Central	Western
Polio				
Oral	70.7	72.7	67.1	71.1
Inactivated	54.8	63.3	51.9	44.6
Smallpox	96.9	94.5	100.0	97.6

Table 45. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles
Sussex County, N. J., December, 1964

Type of Immunization	Percent Immunized	
	Sample Percent	95% Confidence Interval
Polio		
Oral	87.8	81.0 to 94.6
Inactivated	67.3	58.5 to 76.1
Smallpox	55.1	45.5 to 64.7
DPT	81.0	73.4 to 88.6
Measles	24.5	16.1 to 32.9

Table 45 summarizes the findings of the Sussex County Survey. The percent immunized, computed from a sample, is subject to sampling variation. If the percent immunized were computed from the entire population being sampled it would fall within the limits of the confidence interval shown with a probability of .95. In other words, the chances of the true percent being less than the lower limit or more than the upper limit of the confidence interval is .05.

Table 46. Percent of Children Age 1-4 Immunized Against Poliomyelitis, Smallpox, DPT and Measles by Geographic Area Sussex County, N. J., December, 1964

Type of Immunization	Percent Immunized			North-South Difference
	All Areas	North	South	
Polio				
Oral	87.8	82.8	91.0	— 8.2
Inactivated	67.3	65.5	68.5	— 3.0
Smallpox	55.1	39.7	65.2	—25.5*
DPT	81.0	74.1	85.4	—11.3
Measles	24.5	24.1	24.7	— 0.6

*Difference is significant at 95% level of confidence.

Table 46 summarizes the findings by geographic area. These areas are indicated as north and south in accordance with their geographic location within Sussex County.

Table 47. Percent of Children Age 5-14 Immunized Against Poliomyelitis, Smallpox and DPT (Booster) by Geographic Area Sussex County, N. J., December, 1964

Type of Immunization	Percent Immunized		
	All Areas	North	South
Polio			
Oral	93.9	87.8	97.0
Inactivated	96.6	91.8	99.0
Smallpox	98.0	98.0	98.0
DPT (Booster)	60.1	40.8	69.7

Table 48. Percent of Persons Age 15-39 Immunized Against Poliomyelitis and Smallpox by Geographic Area Sussex County, N. J., December, 1964

Type of Immunization	Percent Immunized		
	All Areas	North	South
Polio			
Oral	82.8	83.9	82.0
Inactivated	57.9	59.8	56.6
Smallpox	100.0	100.0	100.0

Venereal Disease Control Program

I. Morbidity Trends

A. Syphilis

Infectious syphilis rates in New Jersey continue to be at epidemic proportions; however, the upward trend in the infectious syphilis incidence that began in New Jersey in 1957 and continued through 1962, leveled off in 1963 and 1964. There were 1,140 civilian cases of primary and secondary syphilis and 19 military cases of primary and secondary syphilis reported to the New Jersey State Department of Health in 1964. This represents a decrease of two percent from 1963.

In 1964, 535 or 47 percent of the 1,140 civilian cases were reported by private physicians whereas 53 percent of the cases were reported by clinics. These percentages are an exact reversal of the 1963 figures. This may indicate that new clinic facilities that were made available in the cities of Camden and Newark in 1964 are aiding in our eradication effort.

There were 930 civilian cases of early latent syphilis and 10 military cases of early latent syphilis reported during 1964. This is 178 more cases than in 1963. This represents the first increase in early latent syphilis in New Jersey since 1961.

There was a total of 4,958 civilian syphilis cases and 34 military syphilis cases reported in 1964; in 1963 the total incidence was 5,644 while in 1962 the total incidence was 6,325. The biggest factor in the total syphilis figure continues to be late latent, and late cases, uncovered through routine blood testing and follow-up.

B. Gonorrhea

Reported gonorrhea cases again declined in 1964, with 3,744 civilian cases reported.

During 1963, there were 3,968 civilian gonorrhea cases reported. This reduction trend in reporting continues to be due to the sharp curtailment of gonorrhea contact tracing because of the continued urgent requirements of the services of the venereal disease investigators in the early syphilis effort.

II. Program Activities

A. Syphilis Epidemiology

a. *Interviewing:* During the year, 1,116 cases or 98 percent of the primary and secondary syphilis cases reported to the New Jersey

State Department of Health were interviewed. These patients named 3,623 contacts, compiling an average contact index of 3.24. Twenty-four patients reported by private physicians could not be located for interview.

b. *Re-interviewing:* Of the 1,116 cases interviewed, 97 percent were re-interviewed one or more times.

c. *Change-of-interviewers:* 66.6 percent or 718 of the 1,077 patients re-interviewed were interviewed by more than one interviewer (at different times).

d. *HOR contacts:* Two hundred and eighteen patients named homosexual contacts with exposures to syphilis occurring within the critical time period.

e. *Contact investigations:* During 1964, Program staff personnel located 3,673 syphilis contacts and were instrumental in seeing that necessary medical services were arranged for them. Among these contacts, 460 new primary and secondary syphilis cases, 95 early latents, and 20 other cases of syphilis were found and brought to treatment. Nine hundred and twenty-eight other contacts were found to have been treated prior to investigation. A lesion-to-lesion index of .43 was achieved in 1964.

f. *Cluster testing:* During 1964, 1,172 cluster suspects were elicited. Among these people, and among a smaller number of cluster associates, 45 primary and secondary, and 10 early latent cases were brought to treatment.

B. Physician Visitation

Program staff personnel made 5,276 physician visitations during 1964. This was an increase of 2,362 physician visits over 1963. The purposes of these visits were to enlist the physicians in reporting all cases of Venereal Disease to the New Jersey State Department of Health; to raise the physician's personal index of suspicion and to alert him to the extent of the venereal disease problem both locally and nationally; to make physicians aware that syphilis is a medical emergency and the New Jersey State Department of Health provides darkfield, epidemiologic and consultative services on a seven-day-a-week, 24-hour service basis; to provide information on the most recent diagnostic and treatment techniques and services available from the New Jersey State Department of Health. Copies of the publications, *Syphilis—Modern Diagnosis and Management* and *The Medical Clinics of North America* were given to each physician visited.

C. Surveillance of Serologic Reactors

1. Laboratory Visitation

Field personnel made 285 visits in 1964 to approved public and private serology laboratories in New Jersey. These visits were made in order to secure better and immediate reporting of reactive STS specimens.

2. Follow-up of reactors

During 1964 priority was given to those reactive serologies having a high titre and those reactive serologies in the younger age group. Such reports were relayed by telephone to field personnel who made 6,521 investigations and brought 325 primary and secondary cases of syphilis to treatment.

D. Venereal Disease Education

An 87-page document—A Teaching Reference Guide on Venereal Disease—has been made available to teachers who participated in 12 workshops conducted by the State Department of Education in cooperation with the State Department of Health.

The reference guide has chapters on techniques for motivating students; why there have been recent increases in the venereal diseases; the nature of the diseases and how they are transmitted; what one should do if he thinks he has a venereal disease; methods of control and the venereal disease problem in the State of New Jersey.

The workshops were designed to supplement the teachers guide. Discussion centered about factual information, medical information, control of venereal disease and a preview of venereal disease films available for use in classroom instruction.

The 12 venereal disease educational workshops were held at the six State Colleges throughout the state. A total of 1,288 interested persons attended the 12 workshops. Of the 1,288 participants who attended, 422 were teachers, 12 were administrators, 133 were school nurses, and 721 were college students and other interested people concerned with youth and health problems.

The goal of the State Department of Health is to have venereal disease instruction taught in all the public and private schools throughout the state as part of the health curriculum.

III. Program Development

During 1964, a number of changes were introduced in the organizational structure and the administrative controls of early syphilis epidemi-

ology, private physician visitation program, laboratory reactor program, venereal disease education program, darkfield services provided to physicians and in the employee training program.

A. Organization

The organizational structure of the Venereal Disease Control Program in New Jersey is divided into five units which are centered in Trenton, Hammonton, Newark, Paterson, and Jersey City. A supervisor, assigned to each unit, has in his charge approximately seven men, and is delegated the responsibility of program priority-area activity, training, and evaluation of personnel.

B. Administrative Controls

Administrative controls of early infectious syphilis epidemiology are sustained through the application of case-assignment, an epidemiologic control ledger and weekly district staff meetings.

The case-assignment process defines the responsibility of the venereal disease investigator. He is responsible for the total epidemiology of each case assigned to him. This designation of responsibility provides a stimulus for productivity and yield on all infectious syphilis cases. It exerts more stringent control over epidemiology and projects itself as a valuable tool in promoting and maintaining quality performance by all staff personnel.

An epidemiologic control ledger is maintained by each of the five unit supervisors. Any case reported in his area of assignment is inscribed into the ledger from which any combination of factors relative to the case may be obtained. Dispositions of all contacts, suspects, and associates are recorded in the ledger, which serves as a directory for all activity.

It provides a day-to-day surveillance of all epidemiological facets and may be utilized in preparing required state and U. S. Public Health Service Reports.

Weekly staff meetings are conducted to train personnel, review, and solve problem cases. In these scheduled conferences, neophyte personnel are exposed to new ideas and techniques and at the same time become acquainted with program concepts and objectives.

C. Morbidity Tabulation

The morbidity section was recently reorganized to assure accurate tabulation of reported primary, secondary, and early latent syphilis cases. Early infectious syphilis cases are now tabulated on

or about the fifth of each month by correlating the cases which have been recorded in the epidemiologic control ledger with those cases which were reported to the morbidity unit on the preceding month.

By establishing adequate administrative controls and having knowledge of existing morbidity, the foundation was laid from which a more effective epidemiological program evolved.

D. Immediate Response Epidemiology and Darkfield Services

The State Department of Health provides darkfield examinations to physicians upon request. This service is made available to physicians on a seven-day-a-week, 24-hour basis through a telephone answering service. Within an hour after a request is made, a venereal disease investigator is dispatched to the physician's office to perform the darkfield examination and interview, if the patient is infected.

The darkfield service is provided to the physician to assure that an accurate, thorough, and complete diagnosis is performed and to enlist his cooperation and participation in the epidemiologic effort.

IV. Epidemiologic Trends of Early Syphilis

In July, 1964, the method of case evaluation was revised to meet the demands of case exploitation. Under the old method, an early syphilis case was tabulated as an epidemiologic success if a source and/or spread contact was identified within a six-month period of time. Under the revised method, a reported case of syphilis is tabulated as a *contact case-finding success* when an *untreated* case of syphilis is brought to treatment from named contacts.

From July-December, 1964, there were 577 cases of primary and secondary syphilis reported; of these, 229 or 40.6 percent were tabulated as contact case finding successes. Of the 254 primary and secondary syphilis cases reported by private physicians, 112 or 46.2 percent were contact case finding successes as opposed to 117 or 36.3 percent of 322 primary and secondary syphilis cases reported by clinics.

The contact case finding success method and the case assignment method of evaluation assure that all avenues are explored in the interview and the effort to locate the source and spread contacts of each primary and secondary case of syphilis reported.

NEW JERSEY

Table 1. CIVILIAN CASES OF SYPHILIS BY STAGE AND GONORRHEA, NUMBERS AND RATES PER 100,000 ESTIMATED POPULATION: 1944-1964

Year	Population Estimate	Syphilis						Gonorrhea	
		Total Cases		Primary and Secondary		Early Latent			
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
1944	4,167,340	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	150.2
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	4,786,000	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	228	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	5,236,000	3,742	71.5	168	3.2	1,005	19.2	3,682	70.3
1954	5,359,000	5,285	98.6	184	3.4	1,175	21.9	3,761	70.2
1955	5,482,000	4,854	88.5	214	3.9	1,096	20.0	4,150	75.7
1956	5,605,000	4,263	76.1	92	1.6	578	10.3	3,528	63.3
1957	5,728,000	5,429	94.8	114	2.0	462	8.1	4,739	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	6,096,000	5,265	86.3	665	10.9	753	12.3	4,778	78.4
1961	6,221,000	5,170	83.1	864	13.9	721	11.6	4,362	69.2
1962	6,344,000	6,291	99.2	1,191	18.8	864	13.6	3,557	56.1
1963	6,467,000	5,613	86.8	1,177	18.2	756	11.7	3,968	61.4
1964	6,590,000	4,958	75.2	1,140	17.2	930	14.1	3,744	56.1

Note: Data for 1944 through 1956 include all New Jersey resident cases plus all nonresident cases diagnosed in New Jersey, but exclude military cases. Data for 1957 to date include New Jersey resident cases only. Primary and Secondary and Early Latent Syphilis numbers for 1944 are not available.

Division of Special Consultation Services

RALPH T. FISHER, M.P.H., *Director*

Programs:

Health Education ..... FLORENCE B. FIORI, M.A.
Program Coordinator

Nutrition ..... MARGARET P. ZEALAND, M.S.
Program Coordinator

Physical Therapy ..... SUSAN B. GLOCKE, B.A., P.T., M.A., M.P.H.
Program Coordinator

Public Health Nursing ..... JOHANNA E. KENNEDY, M.A.
Program Coordinator

Public Health Social Work ..... ADRIANE V. DUFFY, M.S.
Program Coordinator

Training ..... JOSEPH C. KALE, B.S.
Senior Training Advisor

Division of Special Consultation Services

Consultant services in health education, nutrition, public health nursing, public health social work, physical therapy, and training are provided by this Division. These services are used by other Divisions and Programs, by District State Health Offices, by other departments of state government, and by local health agencies.

The individual program reports show the need for and value of these services. The reports illustrate the basic purpose of this Division: to provide leadership and guidance and foster new methods, new approaches to old problems and acceptance of new responsibilities in health services.

Health Education Program

Division of Chronic Illness Control

Cancer Control—State-wide distribution of the Teaching Reference Guide on Smoking and Health to secondary and elementary schools was completed during the early part of 1964. Interest and acceptance of the Guide were evident from requests for more than 4,000 additional copies from schools within the state and from educational and health agencies throughout the country. The Teacher Preparation Workshops which supplemented the distribution of the Guide were also completed in January, 1964. A total of 482 elementary and secondary school teachers attended. This project was awarded a citation by the American Cancer Society as one of the outstanding cancer education programs in the country.

The survey of smoking attitudes and behavior of students and teachers in selected secondary schools and colleges in the Northern State Health District has been completed. This project, developed by the Department in cooperation with Rutgers Department of Sociology, has been coordinated by the Northern District Consultant in Community Health Organization. A report of a preliminary tabulation and analysis of data was presented in the fall of 1964.

The State-wide Smoking Education Committee which consisted originally of representatives of the State Department of Education, the State Department of Health, and the New Jersey Division of the American Cancer Society has been expanded to include representation from other agencies and organizations which have expressed interest in the problem. Among these are the Medical Society of New Jersey, the New Jersey Health Officers Association, the New Jersey Heart Association, the New Jersey Tuberculosis and Health Association, and the New Jersey Division of Youth in the Department of State.

Diabetes Control—Emphasis was placed upon materials' preparation for the organization and promotion of community diabetes control programs. Included among these were diabetes detection posters, a manual of procedures for local diabetes detection centers, a brochure listing educational materials available to professional personnel, and a pamphlet for diabetic patients devoted to care of the eyes. An exhibit describing the role of the local health department in diabetes control was prepared and displayed at the 1964 annual meeting of the American Public Health Association.

Health education consultation was provided to the Diabetes Control Program in the planning and development of a project to test teaching machine use in professional education, organization of a state-wide one-day Institute on Programmed Instruction, and preliminary planning of a training seminar for professional personnel assigned to diabetes control programs in other states.

Heart Disease Control—An intensive educational effort to train medical and paramedical personnel in the technique of external cardio-pulmonary resuscitation required the use of many health education skills. The Health Education Consultant to the Heart Disease Control Program assisted in planning, pre-testing, and final preparation of a training manual, the organization of local promotional meetings and also participated as a lecturer in the formal training course for physicians. A training program for dentists has been developed in cooperation with the Assistant Program Coordinator of the Dental Health Program.

Planning and development of materials and methods for interviewing of rheumatic fever patients, members of their families and their physicians, were completed in cooperation with the New Jersey Heart Association and the Camden County Heart Association. A medical student completed several hundred interviews as part of this pilot project to determine the effectiveness of local rheumatic fever prophylaxis programs. The basic information elicited will be used in the development of future rheumatic fever control programs.

As part of a pilot project at St. Peter's Hospital (New Brunswick), interviews with congestive heart failure patients to determine their understanding, attitudes and behavior toward their medical problem were conducted. Educational prescription forms have been developed and are being used by medical and nursing staff. These prescription forms are part of the patient's permanent hospital record and have proven to be valuable for assuring provision of information which the patient must have in order to carry out his therapeutic regimen. A variety of educational experiences, both individual and group, has also been designed. A plan for evaluation of patient education as a result of these experiences has been completed. The

health education aspects of this project have been built into a program of total services for congestive heart failure patients developed cooperatively by all disciplines represented in the Heart Disease Control Program.

Division of Preventable Diseases

Vaccination Assistance—District and Project Health Education personnel participated extensively in the organization of the state-wide Sabin Oral Sunday program. Recruitment of local leadership, organization of local committees, consultation to voluntary and official agencies, preparation and distribution of a wide variety of educational materials as well as provision of numerous field service activities, were part of their assigned responsibility. A special activity related to the Sabin Oral Sunday program was the provision of consultation in planning and production of a film produced by the Communicable Disease Center, U. S. Public Health Service. The film entitled, "To Open a Door," highlights methods and techniques for developing action programs in disadvantaged areas of a community. The film was premiered at the Annual Meeting of the American Public Health Association in October, 1964 and has been used by the U. S. Public Health Service in orientation and training programs throughout the country. A film discussion guide designed to increase the effectiveness of the film as a training tool was also produced.

Plans were completed for an educational campaign related to immunization against diphtheria, tetanus, and pertussis. Many printed materials and exhibits have been produced and purchased for use in this program.

Orientation and training of the Health Education Aides assigned to the Vaccination Assistance Project were completed through an intensive series of six weekly informational and program planning meetings. This training activity was evaluated by the participants as well as those who had responsibility for its organization and conduct. In cooperation with the Division of Local Health Services, arrangements have been made for field assignment of the Health Education Aides to District offices. Use of the Health Education Aide position as a means for recruitment into the field of public health education was implemented through provision of information about opportunities for graduate training and through consultation related to admission procedures.

Venereal Disease Education—As part of the project initiated by the Venereal Disease Control Program through the Interdepartmental Committee of the State Departments of Health and Education, 50 teachers in elementary and secondary schools in each of the 21 counties of the state participated in a field test and an evaluation workshop related to preparation of the

Venereal Disease Teaching Reference Guide. The information provided by this group helped in the preparation of the final draft of the reference guide which was printed and distributed at the start of the 1964-65 school year.

Ten Teacher Preparation Workshops were planned to distribute the Teaching Reference Guide and to orient teachers to the seriousness of the teenage venereal disease problem and its implications. Ten of the 12 proposed Teacher Preparation Workshops were completed during 1964, with the two final Workshops scheduled for January, 1965. Each workshop was held on the campus of a state college. This provided opportunities for work with student groups as well as practicing teachers from the surrounding area.

In support of the Venereal Disease Education Program, special informational meetings for the State School Nurses Association were held in conjunction with the annual meeting of the New Jersey Education Association. In addition, venereal disease educational activities played a prominent part in the annual convention of the New Jersey Congress of Parents and Teachers. They were previews of recently produced venereal disease education films, consultation to state and local program chairmen, and presentation of the Plays for Living production, "You Never Told Me," by students of Newark State College Drama Club. Venereal disease education was also emphasized in District meetings with county parent-teacher association health chairmen. In addition, community committees have been active in several problem areas and plans have been completed for increased local parent-teacher association involvement in venereal disease education activities.

Migrant Health—Health education services for migrant workers were intensified during the 1964 growing season through the addition of public health education personnel to the project staff. A Consultant in Community Health Organization was employed on June 15, 1964. A graduate health educator provided by the Department of Health of the Commonwealth of Puerto Rico and an undergraduate health education major assigned by the U. S. Public Health Service served on the project from June through August. The Consultant in Community Health Organization to the Vaccination Assistance Project also participated in planning health education aspects of the Migrant Health Project. Activities involved work with the Department of Health Education, School of Public Health, University of North Carolina; the Migrant Health Program, U. S. Public Health Service, and various state and local organizations in New Jersey. Interview schedules and a plan for personal contact with migrant workers, crew leaders, and farmers were prepared to assess their attitudes and behavior regarding migrant health problems and services. This survey effort has provided valuable data for use in planning future activities. Health education project personnel also contacted

1,200 farmers throughout the state and offered a variety of educational services, including film discussion meetings covering personal health habits, environmental sanitation, and food preparation and storage.

In cooperation with the Public Health Nutrition Program, demonstrations of the preparation and use of powdered dry skim milk were presented and enthusiastically received by migrant workers.

Social and civic organizations located in communities experiencing a high influx of migrant labor during the harvest season were contacted. These contacts were used to develop greater appreciation of the migrant worker in farm and community life and the responsibilities of permanent residents for the provision of required health and social services.

Division of Constructive Health

Accident Prevention—At the request of the Program Coordinator, District and State Consultants in Community Health Organization participated in an intensive review and evaluation of the proposed seat belt education program. Suggested changes in the proposed program were made. Health education personnel also participated in the one-day workshop on development of local accident control programs conducted under the sponsorship of the New Jersey Health Officers Association.

Fluoridation—At the request of the Director of Local Health Services and the Dental Health Program, promotional materials were prepared for use in the Trenton fluoridation campaign which preceded the 1964 referendum. Flyers, posters, pamphlets and exhibit materials were produced and provided to the Citizens Committee of the City of Trenton.

As part of the Department's continuing interest in the promotion of fluoridation, arrangements were made with the New Jersey State Dental Society and the Dental Health Program for placement of exhibit material and literature at state level meetings during 1964. Several new films were previewed and recommended for purchase.

Division of Environmental Health

Air Sanitation—Following a meeting with representatives of the New Jersey Congress of Parents and Teachers and based on their interest in the problem, provision was made for health education consultation and material to county parent-teacher association health chairmen at the time of their annual meetings with District personnel. In addition, a sample information kit on air sanitation designed for use by science teachers at the secondary school level was prepared by personnel of the Air Sanitation Program and transmitted to the Interdepartmental Committee of the State Departments of Health and Education for approval and follow-up action.

Radiological Health—Educational programs to reach professional personnel who use x-ray equipment in their practice were continued by technical personnel of the Radiological Health Program. In addition, informational brochures outlining current radiological health problems were made available to all full-time local health officers.

East Orange Field Training Station—At the request of the Department's Training Officer, plans were made to include a session on Health Education Principles and Practice in the training program for environmental health personnel. This activity was carred out by the Health Education Program in cooperation with the health educator assigned to the East Orange Department of Health.

Division of Administration

Graphic Arts—In cooperation with the Graphic Arts Program and coordinators of other programs, new exhibit materials were prepared on the following subjects: Tuberculosis control information for physicians; Homemaker Service; Volunteer Friendly visitors; Services of the New Jersey State Department of Health; Cardio-pulmonary resuscitation for physicians; Maternity Bed Study Project (displayed at the American Academy of Obstetricians and Gynecologists, Miami, Florida); Immunization; and the Role of the Local Health Department in Diabetes Control Programs (presented at the annual meeting of the American Public Health Association).

In addition, arrangements were made for display of exhibit material at the New Jersey State Fair, meetings of the New Jersey Pharmaceutical Association, the New Jersey Association of Boards of Chosen Freeholders, the New Jersey League of Municipalities, the annual meeting of the New Jersey Congress of Parents and Teachers, the annual convention of the New Jersey Education Association, and the Fall Conference of the New Jersey Welfare Council.

In cooperation with the Coordinator, Graphic Arts Program, plans for extension of exhibit services to full-time local health officers were completed. This included review with appropriate coordinators of programs of existing exhibits and withdrawal or revision of outdated material. A detailed plan for promotion of exhibit service and for distribution of exhibit materials to local health departments was completed.

At the request of Division Directors and Program Coordinators, new film material was previewed and evaluated. As a result, several new films have been purchased and made available on a loan basis to interested individuals and organizations in the state. Emphasis has been placed on films related to venereal disease education, mass immunization programs, smoking and health, and migrant health.

Personnel—Recruitment and training of health education personnel were intensified during the year. Placement of a full-time Health Education Consultant in the Migrant Health Project resulted from these efforts. In addition, establishment of the Health Education Aide position under the Civil Service title, Field Representative—Health Education, was accomplished and personnel were placed in positions designated in the Vaccination Assistance Project. Recruitment efforts to fill the position vacancies for District Consultant in Community Health Organization in the Metropolitan and Southern State Health Districts did not meet with success, due to the lack of professionally trained public health education personnel and to the relatively non-competitive nature of the existing salary schedule for these positions. Additional vacancies within the Venereal Disease and Tuberculosis Control Programs also remain to be filled.

Another aspect of the Health Education Program recruitment and training activities has been the provision of field training for graduate students from the schools of public health. During 1964, students from the University of Michigan School of Public Health and of the University of California School of Public Health were assigned to New Jersey for this purpose. Trainees were placed in the East Orange Health Department and with the Health Education Program of the Department. The benefits derived from this experience include strengthened relationships with university training centers, professional growth and development of health education staff members who participated in the field training experience, and the opportunity to explore and discuss health education trends as they are developing.

Participation in the activities of the National Commission on Community Health Services—Health education personnel employed jointly under grants from this Department and local agencies have been involved in study and analysis of health programs in needs in Cape May County and the City of Newark. Major effort has been directed toward citizen involvement and intensive community organization.

Special Projects

Volunteer Friendly Visitors—At the request of the Chairman of the State Committee on Volunteer Friendly Visitors, the State Consultant in Community Health Organization served as Coordinator for the first State-wide Reunion Workshop for Trained Volunteer Friendly Visitors.

Mental Health Education—Assistance was given the New Jersey Mental Health Association in planning a training workshop for local staff and board members. State and District health education personnel participated in a state-wide conference on mental health sponsored by the New Jersey Neuropsychiatric Association.

An issue of the Guidance Newsletter produced by the New Jersey Health Careers Service was planned and developed in cooperation with the New Jersey State Department of Institutions and Agencies, the New Jersey Department of Education, and the New Jersey Mental Health Association.

Hospital Health Education—The activities of the Health Educator assigned to Presbyterian Unit, United Hospitals of Newark, under a project grant from the Division of Chronic Diseases, U. S. Public Health Service, have resulted in increased awareness on the part of all hospital staff of the educational opportunities for patient and professional groups. In the past year, emphasis was placed upon the incorporation of educational methods and techniques in programs for patients with emphysema, stroke, mastectomy, colostomy, and diabetes. Educational services for obstetrical patients were broadened and close working relationships were developed with the schools in the promotion of health careers. The Health Educator also provided consultation to the medical staff of United Hospitals of Newark and to the Babies Unit. Efforts to increase the working relationships between the hospital and community agencies were the principal concern of the April, 1964 Workshop on Hospital Based Health Education Services. More than 125 representatives of hospitals and official and voluntary agencies in the Essex County area participated. The proceedings of the Workshop were published in the August, 1964 issue of *PUBLIC HEALTH NEWS*. Many requests for this material have been received from persons in other states who are interested in stimulating similar services. A six-month follow-up of workshop participants concerning their assessment of the program and the health education activities which have been initiated in their hospitals and agencies as a result was conducted by the Workshop Planning Committee. Ninety-five percent of the questionnaires were returned. Analysis of the results indicated the development of a variety of program activities.

Plans were made for a grant application renewal covering another three-year period, during which time Presbyterian Hospital project activities will be extended, strengthened and gradually assumed financially by the hospital. The project renewal request was reviewed with representatives from the U. S. Public Health Service and with the Administrator of Presbyterian Unit and United Hospitals of Newark. It has been approved and endorsed by all of these groups. The renewal application calls for new activities including expansion of the Health Education to all four hospitals of the United Hospitals, organization of a medical advisory committee to supplement the work of the over-all project Advisory Council, and use of Presbyterian Unit as a training facility for individuals and groups from other hospitals and community agencies.

Health Careers—Numerous state and local activities reinforced the efforts of this Department in cooperation with the New Jersey Health Careers Service directed toward increasing the interest of students in training for occupations in health fields. Included among these have been:

1. Publication of the proceedings of the December, 1963 Eastern Regional Conference on Health Careers, published in the June, 1964 issue of *PUBLIC HEALTH NEWS*. There have been numerous requests for copies from persons in other states.

2. Four issues of the *Guidance Newsletter*, published by the New Jersey Health Careers Service, covering careers in social work, mental health, occupational and physical therapy, and in speech and hearing therapy were produced and distributed to more than 2,500 guidance counselors in secondary schools and colleges in the state. Special issues of the newsletter containing highlights of the Eastern Regional Conference on Health Careers and a listing of professional people available to guidance counselors to work with were also distributed.

3. The Health Careers Bibliography for Guidance Counselors was completed and printed. Copies were mailed to Directors of Guidance in all secondary schools and colleges in the state. In response to follow-up requests, an additional 500 copies have been mailed to individual counselors. The Bibliography has also been reviewed by the National Vocational Guidance Association, the American Personnel and Guidance Association, the National Health Council, the U. S. Public Health Service, and several other state and national organizations in guidance and health. Information from these sources indicates that the bibliography is the only comprehensive listing of its kind. Copies of the bibliography are being sold to agencies outside the state to increase financial support of the Health Careers Service.

4. The Director of the New Jersey Health Careers Service and the State Consultant in Community Health Organization have served as consultants to the National Health Council's Health Careers Project. They have also provided consultation to the States of Connecticut and New York in the development of their Health Career Programs.

5. Orientation and training meetings for chairmen of health careers committees of local hospital auxiliaries were conducted. A special workshop for directors of volunteers and hospital auxiliary members was held in conjunction with the 1964 Mid-Atlantic Assembly held in Atlantic City in May.

6. Although financial support from pharmaceutical companies and statewide partner sponsors of the New Jersey Health Careers Service has increased during the past year, continuing need exists for additional funds to develop essential services.

Nutrition Program

The Nutrition Program, through the four District Consultants in Public Health Nutrition and the Nutrition Consultant in the Division of Chronic Illness, has continued to assist in planning and carrying out in-service training for other health personnel and to give a working knowledge of food needs, nutritive values, and methods of improving the dietary habits of the people served by them. The implications of diet counseling services for diabetes control, obesity, heart diseases, and other circulatory diseases have been stressed.

The District Consultant in the Southern District retired at the end of January and the District Consultant in the Metropolitan District resigned to spend a year in Hawaii. Considerable time was spent recruiting qualified personnel to fill these two vacancies. In September, Miss Jane Meehan joined the staff of the Southern State Health District and Mrs. Mary Neidermeier joined the staff of the Metropolitan State Health District. The two-year vacancy for a Diet Counselor in Atlantic City was also filled in September.

Among the highlights for 1964 were the following:

1. Diet counseling services began in Atlantic and Warren Counties.
2. In cooperation with the Public Health Nursing Program, a comprehensive in-service nutrition training course for all nurses has been offered throughout the state.
3. Approved by the American Dietetic Association, on-the-job supervision has been provided to three hospital dietitians aspiring to complete requirements for membership to the American Dietetic Association.
4. Program personnel participated in the orientation of Migrant Health Program personnel and assisted in presenting nutrition demonstrations at migrant camps.
5. Field experience in Public Health Nutrition was provided for a graduate student from the University of North Carolina and two dietetic internes from United States Public Health Service Hospital, Staten Island, New York.

The State Consultant has endeavored to develop a well rounded nutrition program both on state and district level by consulting with and assisting

other health departments to plan the nutrition component of their programs. She has met frequently with other agencies to work out interagency relationships and assist in integrating nutrition services. All nutrition program personnel have worked with other state departments such as Education, Welfare, and Agriculture and professional organizations. Both the State Consultant and the District Nutritionists have assisted in the preparation and selection of technical and popular nutrition educational material to be used by other professionals as well as for lay distribution.

Maternal and Child Health and Crippled Children

The State Consultant assisted Public Health Nursing in the state level planning of the Maternal and Child Health Nutrition In-service Institute. The District Consultant of the Northern District gave the keynote paper on nutrition in relation to maternal and child health at the Maternal and Child Health session of each District's program. Up-to-date kits of material and bibliographies were prepared by all the Nutrition Program personnel for distribution.

The increasing number of young mothers in the labor force has produced a need for foster family day care. The State Consultant represents the Nutrition Program on an Interdepartmental Committee developing standards for this type of service.

Children's Bureau had a workshop for nutritionists and state dietary personnel from Region II to discuss "Nutrition Services for Children In Group Care."

Nutrition has been recognized as a vital part of the team effort necessary to help retarded children to achieve their full potential, reducing the burden of care and expense for the family and the community. Nutrition consultation in this area has been given to nurses working with families, mental retardation centers, and parent groups. A new leaflet prepared by Children's Bureau on "Feeding the Mentally Retarded Child" has been made available.

The Middlesex Diet Counseling Service gives food demonstrations and nutrition instruction to mothers at a Child Health Conference. District Consultants in Nutrition and Diet Counselors have participated in a number of parent classes.

Chronic Illness Control

The State Consultant and the Nutrition Consultant in the Division of Chronic Illness Control have had opportunity to cooperate in many projects and programs in the Division of Chronic Illness Control where nutrition contributes not only to prevention, but to patient care and rehabilitation.

Diet Counseling Services are now available in eight counties and served 1,629 patients in 1964. Effective dietary counseling for home care and stroke projects requires time, background skill, and understanding of the patient. Good dietary counseling may prevent future complications. The services of county diet counselors are available to stroke and home care projects in their counties. A paper on the New Jersey Diet Counseling Service was presented at the annual meeting of the American Dietetic Association held in Portland, Oregon, in August.

Overweight is considered the principal nutrition problem. Overweight is a factor in the development of heart diseases and diabetes and constitutes a serious surgical risk. Diet Counselors offer group classes in weight control to patients referred by physicians.

The Nutrition Consultant in the Northern District and the Diet Counselor from Morris County, in cooperation with the Morris County Heart Association, arranged for two "Tasting Luncheons" for patients on low sodium and fat restricted diets.

Homemaker Services

A program on the "Role of Home Economists in Homemaker Services" was presented at the fall meeting of the Directors of the New Jersey Homemakers Association, Inc. The State Consultant and the Nutrition Consultant in Chronic Illness Control participated as panel members.

Cooperation With Other State Departments

Department of Institutions and Agencies

At the request of representatives of the Bureau of Community Institutions, District Consultants in Nutrition have made visits to nursing homes and boarding homes for sheltered care of adults to assist with the evaluation of food service and made recommendations for improvement.

Department of Education

District Consultants in Nutrition have discussed with instructors of health education courses ways to strengthen the nutrition component of the courses.

New Trends

Working With Low Income Families

An Interagency Committee of Home Economists and Nutritionists will exchange information on programs and projects for low income families.

Physical Therapy Program

In the first year, emphasis was placed on planning the State Physical Therapy Program, evaluating the physical therapy services offered in other health department programs, and developing a physical therapy questionnaire to be sent to all registered physical therapists in the state.

A major portion of the time of the State Consultant in Physical Therapy has been spent with the Heart and Arthritic Programs in Chronic Illness Control and with local visiting nurse association agencies that have grant-in-aid physical therapy contracts. The remainder of the time was given to other activities such as nursing home survey, physical therapy survey, and the work of two State Health Department Committees. These activities were selected on the basis of need as expressed by other agencies or medical community personnel.

Following are the achievement highlights of the Physical Therapy Program:

Physical Therapy Survey

A committee comprised of the State Physical Therapy Consultant and representatives from the New Jersey Chapter of the American Physical Therapy Association with the cooperation of the Public Health Statistics Program developed a questionnaire to be sent to registered physical therapists in the state. With the information obtained from these questionnaires, together with additional resource material, the committee plans to be able to offer recommendations about the needs for a physical therapy school in New Jersey. To date, 305 questionnaires have been sent to residents in New Jersey who are graduates of American Medical Association approved physical therapy schools. Response has been received from two-thirds and the returns are being analyzed.

Educational Programs

The State Consultant helped to develop a one-day institute on rehabilitation of the arthritic for nurses and physical therapists working in visiting nurse association agencies and hospitals with arthritic clinics. The meeting was held in the Metropolitan State Health District and was co-sponsored by the Arthritis and Rheumatism Foundation of the Rheumatology Unit of Seton Hall College of Medicine (now New Jersey College of Medicine).

The State Consultant presented two one-session educational programs for nurses on the principles and techniques of physical therapy practice and how they may be applied in the care of the chronically ill patient as part of their restorative care.

At the request of the Bergen County Heart Association, the State Consultant acted as panel coordinator for the fourth session of the Bergen County Heart Association's fall program for nurses entitled "Continuity of Care." The panel, composed exclusively of community medical personnel, demonstrated the availability of community personnel to carry the continuity of care theme into the home situation.

Visiting Nurse Associations

The State Consultant visited five visiting nurse association agencies that have State grant-in-aid contracts to evaluate and discuss the physical therapy services offered to their communities by these agencies.

Three of the agencies visited requested a follow-up visit. As a result, the State Consultant spent a day with the physical therapists employed by two of the agencies, and worked with a third agency in evaluating and revising forms and policies of their present physical therapy program. It is hoped that a basic set of physical therapy forms and policies will be evolved that will be acceptable to all visiting nurse association agencies.

The State Consultant made recommendations for the minimal requirements that should be necessary for a nursing home to offer physical therapy services. These recommendations were the results of findings from the State Consultant's visit to 10 nursing homes in the state that purport to have physical therapy services and included:

1. *Physical Therapy Facilities*—Equipment and space cannot be generalized, but rather are specific for the size and needs of the home and type of patients requiring physical therapy services.
2. *Physical Therapy Education*—The physical therapist should be a graduate of an American Medical Association approved school, or have been employed by the nursing home for a minimum of a year and be registered to practice physical therapy in New Jersey.
3. *Medical Supervision*—Physical therapy services should be provided only on the written prescription of the patient's physician and individual physical therapy records should be kept with the patient being re-evaluated once every three months at least.

Grant-in-Aid

Two proposals for strengthening the available physical therapy services in the state have been accepted and moneys made available. These proposals provided for:

1. Direct service for physical therapy patients on the Camden Stroke Project that have been released from the hospital and are homebound. These services being provided by the local visiting nurse association not only resolved an immediate need for increased patient physical therapy care but also served to bring a closer relationship between a hospital and a local community agency.
2. Establishment of a grant-in-aid to provide for the direct services of a physical therapist on a community basis. This therapist would supply direct service to a county home with chronically ill patients, a crippled children unit, and community homebound patients and also give consultation to the local visiting nurse association upon request. This grant proposed to demonstrate the services that could be given by a single community shared therapist.

Public Health Nursing Program

Implementation of the State Health Department Standards for Public Health Nursing Agencies received major emphasis during the year. Site evaluation visits were made to 49 voluntary and official agencies by members of the Department's nursing consultant staff. On the basis of objective reports of these visits, 81.6 percent of the agencies received Department approval as follows: 19 agencies were classified as Grade I, nine as Grade II, 15 as provisional; six agencies were not approved.

Since the basic purpose of standard setting was to upgrade services, many conferences were held with board members and staff in provisional and non-approved agencies to help them in planning to meet the standards. Progress has been made in three agencies by assisting the director-supervisors to obtain additional educational preparation; several agencies have purchased supervision from adjacent larger agencies and, in two instances, arrangements were made for part-time employment of a qualified supervisor who was available locally. There have been resistance and lack of progress in some agencies.

The Public Health Nurse Census, which was conducted at the request of the U. S. Public Health Service early in 1964, showed slight gains in numbers of nurses employed. However, this gain is insignificant in terms of population increases and expanded public health programs. The most helpful information obtained from the census is a marked upswing in the preparation of public health nurses employed by local health departments.

Table 1. Public Health Nurse Census—1964

Type of Agency	1962			1964		
	Number (Full-time & Part-time)	Preparation in Approved Program Degree	30 Credits	Number (Full-time & Part-time)	Preparation in Approved Program Degree	30 Credits
Local Official	573	19	59	577	67	47
VNA	307	79	22	337	101	46
Combination	14	7	4	14	10	1
Totals	894	105	85	928	178	94

Type of Agency	1962			1964		
	Number (Full-time & Part-time)	Degree in Program Approved for PH Nursing	Other Degrees	Number (Full time & Part-time)	Degree in Program Approved	Other Degrees
Local Boards of Education	883	117	103	1,204	120	339

Although the figures showing the number of nurses employed by boards of education indicate a sharp rise, the State Department of Education advises that this census count reflects more accurate reporting than heretofore, rather than a sudden numerical increase.

Ninety-six percent of New Jersey's citizens are now able to obtain nursing care in their homes through community nursing agencies. This a three percent improvement since March, 1963, at the time of the Governor's Conference on Community Nursing Services. Plans are under way for establishing services for the remaining four percent of the population.

"Cost and Payment Patterns for Public Health Nursing Agencies in New Jersey," a study conducted by Rutgers—the State University Bureau of Economic Research has been published and distributed. This study was made at the request of the State Commissioner of Health, with Departmental financial support and professional assistance. The study confirmed that agencies providing bedside care in the home are engaged in a two and one-half million dollar business annually and that such big business requires more precise and uniform accounting methods. A follow-up project to establish uniformity in terminology and method is currently being conducted by the Rutgers' Bureau of Economic Research.

New Jersey has a unique but effective way of providing public health nursing services through contracts between voluntary nursing agencies and local health departments. In return for purchasing the services, health departments require monthly or quarterly reports of services rendered. Some agencies have 10 or more municipalities with which they hold contracts and their clerical costs soared because each board of health required that a different kind of report be submitted. Consequently, with the assistance of a committee representing local nursing agency directors and the New Jersey Health Officers Association, a uniform report form was developed for use throughout the state.

The work being done in restorative nursing by this Department has gained national recognition. In cooperation with the Division of Constructive Health, the Public Health Nursing Program provided consultation and assistance to the American Nurses Association in producing three closed circuit television programs on *Restorative Nursing in Nursing Homes* at the American Nurses Association biennial convention in Atlantic City. Not only were our three participating nurses skilled in demonstration and explaining the techniques in a nursing home but they also showed considerable acting ability. Following these presentations, numerous inquiries for further information were received from other states and one nurse was sent to New Jersey from Idaho for a week's observation of the Nursing Home Project.

The National League for Nursing has also requested and received assistance from the Public Health Nursing Program in developing a Programmed Instruction Unit on restorative nursing.

The public health nursing follow-up program for patients discharged from state psychiatric hospitals was introduced to the county psychiatric hospitals in Essex and Hudson Counties and is in the initial stages of implementation. The federal grant for mental health consultant services with Eastern Union County Visiting Nurse Association was approved for the third year and service was extended to Plainfield Visiting Nurse Association and Westfield District Nursing Association, all in Union County.

Provision of Consultation Services

The Nursing Consultants' visits again showed an increase as follows:

Consultation Visits	*1963*	*1964*
Official Agencies	108	144
Voluntary Agencies	193	184
District State Health Offices	29	50
Hospitals	208	205
*Nursing Homes	4	3
Clinics	27	44
Industry	41	77
Universities and Colleges	32	14
Other	35	70
Total	677	791

*This table does not include the work being done by the nurses assigned to the Nursing Home Project in the Restorative Services Program.

Other branches of state government, especially the Bureau of Community Institutions of the Department of Institutions and Agencies, are requesting increasing consultation service.

Educational Programs

The Department's Public Health Nursing Program personnel continue to work with faculty from the two National League for Nursing approved universities (Rutgers—the State University and Seton Hall University) in planning and conducting programs. The Public Health Nurse Consultant in Pediatrics has given assistance to faculty of the schools of nursing in both universities. The Assistant Chief Public Health Nurse has worked with Rutgers—the State University College of Nursing faculty in planning for short-term courses to improve quality of nursing service.

A course in epidemiology for nurses was co-sponsored with the U. S. Public Health Service, Communicable Disease Center, and was held in the southern part of the state. Fifty-five nurses from hospitals and public health agencies attended.

In cooperation with the Districts, coordinated educational programs have been offered to nurses throughout the state. The Nutrition Program has co-sponsored two programs in each District. These programs were planned in accordance with the expressed needs of nurses in the local agencies. Public Health Nurse Consultants in the programs have participated.

Other educational programs of significance:

Two-day orientation to state mental hospitals	102 public health nurses
Observation in Cancer Nursing at Presbyterian Hospital, Newark	63

There has been an increase in requests for the public health nursing staff to assist with in-service education in hospitals and public health agencies as the figures below indicate:

	1963	*1964*
Programs	50	114
Attendance	1,199	3,355

There have also been more requests for Public Health Nurse Consultants, the Chief Public Health Nurse and Assistant Chief Public Health Nurse to talk with other professional and citizen groups as shown below:

	1963	*1964*
Talks	6	17
Attendance	250	1,616

In-service Education Received

Public Health Nurse Consultant, Tuberculosis:

Three-weeks training course sponsored by the U. S. Public Health Service on "Management of Tuberculosis."

Three-day meeting on "Tuberculosis" sponsored by the National Tuberculosis Association.

Public Health Nurse Consultant, Maternal and Child Health:

One-week meeting on "Migrant Health" sponsored by the U. S. Public Health Service.

Institute of Physical Medicine, New York City, four weeks.

Public Health Nursing staff:

Cost Analysis Workshop — one day.
Workshop on Grant Writing — one day.

Special Project Supervisor, Venereal Disease:

One-week course on "Interviewing in Venereal Disease" sponsored by the U. S. Public Health Service at Mahoney Institute, Brooklyn, New York.

Public Health Nurse Consultant, Industrial Health:

Industrial Health Conference on "The Emotional Employee." One week at Pittsburgh, Pa.

Materials Developed:

The *Directory of Public Health Nursing Services in New Jersey* was revised and distributed to health and welfare agencies and physicians who use public health nursing services.

The *Public Health Nursing Service Guide* was revised with several new programs added. Six hundred copies have been distributed to agencies in New Jersey. Sixty requests have been received from out-of-state universities and other state departments of health.

Selected Pediatric Bibliography, Supplement No. 1, prepared by the Public Health Nurse Consultant in Pediatrics.

Selected Bibliography for Hospitals, Supplement No. 1, prepared by the Public Health Nurse Consultant in Hospitals.

Articles Written for Publication:

Agriculture Migrant Families in New Jersey, by Public Health Nurse Consultant, Maternal and Child Health, March, 1964, issue of "Nursing Outlook."

Rehabilitation of Patients in Nursing Homes, by Public Health Nurse Consultant, Heart, November, 1964 issue of "Nursing Outlook."

Diabetes Detection and the Occupational Health Nurse, prepared by Public Health Nurse Consultant, Chronic Illness, September, 1964 issue of "Industrial Nurse Journal."

Administrative Changes

Retirements— 1 Public Health Nurse Consultant, Chronic Illness
1 Public Health Nurse Consultant, Crippled Children
1 Public Health Nurse Supervisor on special assignment to Venereal Disease

Transfers— 1 Public Health Nurse Consultant from Vaccination Assistance Project to Chronic Illness
2 Public Health Nurse Supervisors from Metropolitan State Health District to assignments in Venereal Disease and Tuberculosis

New Positions—1 Public Health Nurse Consultant, Chronic Illness

Vacancies— 1 Public Health Nurse Consultant, Crippled Children

Note: Public Health Nurse Consultant vacant position in Vaccination Assistance Project created by transfer was filled on a temporary basis for four months. There is no plan to employ a Public Health Nurse Consultant to continue on this Project.

Public Health Social Work Program

The Public Health Social Work Program has provided increased services to both individuals and health and welfare agencies at national, state, and community levels. During this year, assessment of recurrent social or community-wide problems through participation in community planning has frequently resulted in better coordination of existing services or development of new community resources.

At both state and District level, there has been increased use of social work consultation in program planning within the Department. Program personnel have contributed significant data related to a wide range of public health problems. This consultation has had threefold results—it provided opportunity for demonstration of professional social work skills; it provided generic social services where community services were not available; and provided specific documentation of gaps or over-lapping in community health services.

Medical Social Work Educational Activities

The Developmental Training Project in Medical Social Work was instituted by this Department in 1961, in cooperation with the Graduate School of Social Work, Rutgers—the State University because of mutual concern with the lack of professional social services in community hospitals and health related agencies, the limited educational training opportunities under professional supervision, and absence of class instruction related to changing patterns of medical care and the increasing problems of chronic illness.

Four years ago, only one student enrolled in the Graduate School of Social Work was interested in working in a medical setting. Establishment of a limited scholarship program for medical social work students resulted in increased field work training placements in community hospitals.

This year eight students are currently being trained in a medical setting. As part of their interneship, they will render 4,800 hours of unpaid social services under accredited supervision during the academic year.

The constructive leadership demonstrated by this Department was recognized by the National Institute of Mental Health when federal funds for extending this project were awarded to provide three additional training stipends and support for a supervisor for field work instruction in a community hospital.

The grant-in-aid Project Director has participated in the teaching program at the Graduate School of Social Work and has been faculty advisor and consultant to health-related settings in which the medical social work students are trained.

Social Work Recruitment Activities

Interest in social work as a career resulted in 181 undergraduate college students being accepted by the Summer Experience in Social Work Project. This practical experience as an apprentice in the field of social work has been invaluable to students in making career decisions.

Volunteer Friendly Visitor Project

During the past two years, the Program Coordinator of Public Health Social Work has carried administrative responsibility as Project Director for the coordination and implementation of the Volunteer Friendly Visitor Project.

Fifteen training courses have been held during this period; one in Bergen County, five in Hudson, one in Passaic, two in Union, one in Suburban Essex, two in Somerset, and three in the City of Newark.

A total of 484 persons were trained, of which 24 were males and 460 were females. Ages ranged from 21 through 79 years of age. This training represents 6,676 hours of class attendance given by the volunteers.

At county level, 152 community leaders, both lay and professional, participated in the community organization and promotion of this project.

A one-day Reunion Workshop for selected agency representatives and trained Volunteer Friendly Visitors was attended by 125 persons. Recognition by a staff member of the President's Task Force of the War on Poverty was given to this Department for its foresighted recognition of the need for training of volunteers for service to the chronically ill, homebound and socially isolated in New Jersey.

Training Program

Seldom has the demand for professionally qualified personnel been more acute. The challenge of current developments within this field negates some previous solutions and requires new considerations. New facets of public health which are emerging necessitate re-training of qualified health personnel.

It is the purpose of this Program to provide the training support needed to maintain public health personnel at a competent level within the state.

Significant Activities

Basic Environmental Sanitation Course at Rutgers University—Offering an introductory program in the general area of public health sanitation, this course opened with an enrollment of 67 participants from all areas of New Jersey. Knowledgeable personnel in the environmental sanitation field regard this instruction as a prerequisite to employment at the local health department level.

Field Training Station at East Orange—Providing a challenge for the professional sanitarian, this course stimulates development of the basic tools of the field inspector. Selective enrollment of local and state health department sanitarians permits an intensive review of current skills and personalized instruction on field training.

New Jersey Health Officers Association—Ever alert to subjects of particular interest to health officers within the state, the New Jersey Health Officers Association focused the attention of its membership on a number of developing public health problems confronting them today. Training Institutes and Workshops were conducted throughout the state in the following areas:

1. Public Health Law
2. Introductory Sanitation
3. Analysis of Foodborne Outbreaks
4. Potentially Hazardous Foods
5. Planning Community Safety Programs
6. Grants for Community Action

Departmental Training and Educational Activities—Desiring to maintain the proficiency of all health personnel, the Department in 1964 initiated or assisted in 109 specific training and educational activities. These sessions have continued to multiply as the needs of the various official and voluntary agencies have developed.

Table 1. PROFESSIONAL TRAINING ACTIVITIES

January 1, 1964 – December 31, 1964

Number of applications received and processed	62
Master's Degrees received 1964-65	5

Table 2. EDUCATION AND TRAINING ACTIVITIES

January 1 – December 31, 1964

Activity	*Date(s)*	*No. Participants*
Division of Chronic Illness Control		
Two Workshops—N. J. Teachers on "Cigarette Smoking and Lung Cancer"	January 15	39
	January 16	49
Institute—"Alcoholism" at Trenton, N. J.	March 13	65
Seminar—"Chest Diseases" at Newark	March 15	..
Symposium—"Hyperthyroidism," New Brunswick	March 25	..
Workshop—"EEG Technicians"	March 25	..
Workshop—"Congestive Heart Failure," St. Peter's Hospital, New Brunswick	March 31 to April 2	12
Workshop—Volunteer Friendly Visitors	May 12	100
Symposium—"Current Management of Complications in Diabetes Mellitus," Princeton, N. J.	May 13	135
Symposium—"Oral Hypoglycemic Agents" at A.M.A. Meeting in Atlantic City	May 19	85
Workshop—Rehabilitation of the Arthritic at Seton Hall University, Jersey City	June 2	40
Symposium—Peripheral Complications of Diabetes Mellitus, Newark City Hospital	October 21	130
Symposium—Modern Treatment of Acute Myocardial Infarction, East Orange, N. J.	October 21	125
Four Workshops—Alcoholism Education for Teachers at Teachers Colleges in New Jersey		80
Dental Care for Senior Citizens	April 8	175
Seminar—Chest Disease, Somerville, N. J.		..
Symposium on "Stroke"	May 28	100
Observations in Cancer Nursing		63
Volunteer Friendly Visitors Training Course	February	53
	March	69
	November	22
Seminar—Valvular Heart Disease—Office Diagnosis	June 23	55
Modern Management of Cerebral Vascular Disease—Hoboken, N. J.	May 19	45
Lakewood, N. J.	April 21	45
Workshop—Basic Sciences in Cardiovascular Disease, New Brunswick, N. J.	October 22	55

Activity	*Date(s)*	*No. Participants*
Symposium—"Stroke"—		
St. Mary's Hospital, Passaic, N. J.	October 27	75
Holy Name Hospital, Teaneck, N. J.	November 14	50
Symposium—"Diagnosis and Treatment of Cardiac Arrhythmias"—		
Fair Lawn, N. J.	December 10	75
Red Bank, N. J.	November 24	100
Nurse Education Program on "Rheumatic Fever"	December 11	..
Division of Constructive Health		
Workshop—"School Health Problems" for Physicians	March 11	..
Congenital Child Amputee Conference and Clinic at Kessler Institute, West Orange, N. J.	April 18	275
	October 22	250
Workshop—"Planning Community Safety Programs"		..
Accident Control Workshop, New Jersey Health Officers	October 22	57
Symposium—"The Abused Child" at Greystone Park	November 6	..
Symposium—"Rheumatic Fever"	December 3	350
Division of Environmental Health		
Institute—"The Control of Distressed Food and Drugs"	February 27	116
Conference—Analysis of Foodborne Disease Outbreaks	April 14-15	95
Institute—Control of Potentially Hazardous Foods and Drugs	June 23	47
Institute—"Dog Control in New Jersey"	October 14	250
Biological Effects of Asbestos	October 19, 20, 21	350
Division of Laboratories		
Workshops (2) in Darkfield Microscopy at St. Francis Hospital, Trenton	February 10-11	14
	February 13-14	13
14th Annual Slide Seminar	December 5	150
Division of Local Health Services		
Metropolitan District		
Seminar on "Childhood Tuberculosis"	January 15	65
Conference on "Diabetes" for Nurses	March 18	124
In-service Training for Nurses in "Neurological Disorders"	April 15	40

Activity	Date(s)	No. Participants
In-service Training for Nurses in Air Pollution	May 20	16
Seminar on "The Adult and TB"	June 3	97
Conference on PKU for Nurses	June 23	122
Educational Program for Nurses on "Nutrition and the Prenatal Teenager"	October 15	109
Conference on "Early Detection of Cerebral Dysfunction"	November 3	150
Educational Program for Nurses on "Nutrition of the Handicapped"	December 1	30
Orientation of Nurses for Psychiatric Hospitals		27
Seventh Annual School Health Conference—School Tuberculin Testing Workshop—Bloomfield, Livingston, Irvington		109
Northern District		
Educational Program for Nurses in "Tuberculosis" at Clara Maass Hospital	January 15	65
	February 19	53
Restorative Care of the Patient After a Stroke (2) Somerset Hospital	May 19	80
	June 3	42
Nutrition Throughout Growth and Development	October 14	82
Orientation of Poison Control Program Personnel	October 18	15
Conference on Peripheral Vascular Disease	December 2	200
Orientation in Psychiatric Hospitals, Greystone, of Public Health Nurses	October 20	25
Seminar on "Disaster Preparedness—A Way of Life"	November 19	124
Seminar on Narcotics Education and Prevention	November 2	200
Conference on V.D. Education, Morris and Sussex Counties	May 6	88
Conference on V.D. Education, Warren County	April 6	58
Southern District		
Educational Programs for Nurses on PKU	June 3	50
Seminar on "Diabetes"	March 12	32
Conference on "Neurological Disorders"	April 9	39
Conference on Occupational, Radiation and Air Sanitation for Nurses	May 14	21
Epidemiology Course for Nurses	February 10, 11, 17, 18	172
Educational Programs for Nurses in "Weight Control"	October 27	48
Educational Program for Nurses in "Motivation in Food Management"	November 24	33
Orientation in Psychiatric Hospitals, Ancora and Marlboro		25

Activity	Date(s)	No. Participants
Central District		
Seminar on "Childhood Tuberculosis"	January 9	95
Conference on "The Adult and Tuberculosis"	February 13	92
Seminar on "Diabetes"	March 12	88
Education Program on Neurological Disorders	April 9	90
Institute on "Cerebral Palsy"	April 23	150
Conference on Occupational Health	May 14	63
Orientation of Personnel of Migrant Program	June 29	48
Education Program for Nurses on PKU	June 3	89
In-service Training for Nurses in "Weight Control"	October 20	36
Seminar on "Cardio-Pulmonary Resuscitation and Drugs for Cardiac Emergencies"	December 3	125
Orientation of Nurses in Psychiatric Hospitals		25
In-service Training Program for Nurses in "Motivation in Food Management"	November 17	27
Office of the Director		
Application of Public Health Law	March 11 to May 13	22
Field Training Station for Environmental Health Personnel	January to October	6
Training Program for Health Officers at Columbia University	January 12-17	13
	March 8-13	16
Annual Conference of State and Local Health Officials of New Jersey	April 2-3	419
Introductory Sanitation	March 11 to May 13	32
"Plumbing Regulation and Inspection" for Applicants with Basic Preparation	September 15 to December 8	33
Basic Environmental Sanitation Course	June 1 to October 1	64
Conference on "Community Grants"	December 9	20
Civil Defense		
Medical Self-Help Instructors' Course		150
Public Health Service Training Program for Health Professions	February 18-19	250
Civil Defense Medical Health Training	August 5, 6, 7	100
Civil Defense Training for Nurses	November 19	..
Disaster Hospital Training of Hospital Administrators		250
Division of Preventable Diseases		
Orientation of Migrant Health Personnel	June 5	17
New Jersey Teachers Workshop on V.D. at Jersey City, N. J.	October 27, 28	400

Activity	*Date(s)*	*No. Participants*
New Jersey Teachers Workshop on V.D. at Paterson, N. J.	November 17, 18	138
Educational Program for Nurses	January 15, 19	..
New Jersey Teachers Workshop on V.D. at Montclair, N. J.	December 1, 2	318
New Jersey Teacher Workshop on V.D. at Trenton, N. J.	December 15, 16	156
Vaccination Assistance Orientation	September 23	10
Division of Special Consultation Services		
Workshop—Health Careers Chairman of Local Hospital	May 1	..
Workshop—Health Careers for Hospitals for Chairman of Local Hospital Auxiliaries	May 27	..
Orientation Courses for Health Education Aides of the Vaccination Assistance Program (6)		10
Orientation Program for COSTEP Personnel of Migrant Health Program		1
Seminar on V.D. Education	December 1-4	15
Health Education Workshop for New Jersey Congress of Parents and Teachers	October 29	..
Orientation of Graduate Health Education Personnel of University of California, University of Michigan (2)	September 15	3
Workshop—Teachers, Sponsored by Cancer Society of New Jersey	November 6-8	..
Division of Administration		
Orientation Course for New Personnel	June 26	23
Telephone Operators' Course	May 4	21
	June 6	18
Typing Improvement Course		15
Training of Local Registrars—		
Trenton, N. J.	April 3	40
Vineland, N. J.	October 21	23
Englewood, N. J.	October 27	75
Machine Dictation	October 14	8
Management Training Seminar	November	1
Stenography Refresher Training	October and December	6
Management Orientation Seminar	April and November	4

Division of Vital Statistics and Administration

JOHN B. VAN ELLIS, *Director*

Programs:

Budget and Accounts ..... GEORGE E. FORMAN
Program Coordinator

Examination and Licensing ..... KENNETH J. CARHART
Program Coordinator

Graphic Art Services ..... DONALD J. WERDEN
Program Coordinator

Personnel ..... WILLIAM R. MONYER
Program Coordinator

Public Health Statistics ..... ANNA P. HALKOVICH, B.A., M.B.A.
Program Coordinator

Vital Statistics Registration ..... F. MERTON SAYBOLT, B.S., M.S.P.H.
State Registrar and Program Coordinator

Division of Vital Statistics and Administration

This Division provides administrative guidance and service to all operating units of the Department through the following program activities: Budget and Accounts, Examination and Licensing, Graphic Art Services, Personnel, Public Health Statistics, and Vital Statistics Registration. The Board of Barber Examiners is administered through the Bureau of Examination and Licensing.

Particulars regarding the various services rendered by this Division are presented in the following reports of program coordinators.

Budget and Accounts Program

The Budget and Accounts Program was concerned primarily with the proper accounting of all moneys received and expended by the various programs of the Department. All pre-purchase documents are channelled through this Program for review before being sent to the Division of Purchase and Property, Department of Treasury for processing. Review of Department purchases on a pre-order basis facilitates control of expenditures.

Public Health Service formula grants were continued for water pollution control, tuberculosis control, heart disease control, cancer control, general health, radiological health, and for services for the chronically ill and aged. A new formula grant for dental health was authorized, but will not be available until after January 1, 1965. U. S. Children's Bureau formula grants were continued for Maternal and Child Health and for services for Crippled Children.

During the year, 10 project grants were renewed. Seven new project grants were received by the various programs of the Department. The additional workload involving additional accounting with respect to expenditures of these funds was absorbed without increasing personnel.

During the year, plans were developed for the centralization of receiving, warehousing, and distribution of supplies and equipment. Personnel from the Administrative Services Program were transferred to this Program for this purpose.

Three hundred seventy-four Grant-in-Aid Contracts were processed. Federal fiscal reports totalled 117. Ten thousand, one hundred sixty-seven vouchers were passed for payment. One thousand, one hundred fifty-nine detailed applications were forwarded to the Division of Purchase and Property.

Following is a consolidated financial statement of the Department as of June 30, 1964.

State Department of Health
Financial Statement
July 1, 1963 – June 30, 1964
Receipts

Received for Transfer to State Treasury:	
Licenses and Permit Fees	$301,696.10
Penalties	4,175.00
Certified Certificates	40,609.38
Examination Fees	12,434.00
Miscellaneous	7,644.79
Net Total	$366,559.27
Received for Disbursements:	
State Appropriation and Transfer	$4,223,982.77
United States Department of Health, Education and Welfare—Public Health Service	1,434,388.79
Children's Bureau	1,074,001.37
Other Federal Funds	859,781.61
Milbank Research Grant (Private)	7,041.13
Crippled Children Donations (Private)	5.00
Net Total	$7,599,200.67

DEPARTMENTAL ALLOCATIONS
July 1, 1963-June 30, 1964

DIVISION	Salaries State	Salaries Federal	Other Allocations State	Other Allocations Federal	Private	Total State	Total Federal	Total Private	Total All Funds
Office of the Commissioner	$39,406.00	$81,871.00	$84,780.28	$122,790.62	$7,041.13	$124,186.28	$204,661.62	$7,041.13	$335,889.03
Vital statistics and administration	442,057.00	109,594.00	115,073.30	39,783.00	....	557,130.30	149,377.00	....	706,507.30
Environmental health	755,185.00	178,849.00	151,489.91	137,769.82	....	906,674.91	316,618.82	....	1,223,293.73
Preventable diseases	195,270.00	282,078.00	176,775.36	289,930.12	....	372,045.36	572,008.12	....	944,053.48
Chronic illness	102,724.00	102,336.00	300,231.65	618,487.69	....	402,955.65	720,823.69	....	1,123,779.34
Laboratories	357,148.00	179,465.95	185,909.04	100,354.41	....	543,057.04	279,820.36	....	822,877.40
Constructive health	95,030.00	115,720.00	327,678.89	713,282.84	5.00	422,708.89	829,002.84	5.00	1,251,716.73
Special consultation services	124,863.00	63,639.19	10,598.61	8,922.60	....	135,461.61	72,561.79	....	208,023.40
Local health services	628,326.00	168,288.00	131,486.78	55,010.08	....	759,812.78	223,298.08	....	983,110.76
Total allocations	$2,790,014.00	$1,281,891.14	$1,433,968.77	$2,086,280.63	$7,046.13	$4,223,982.77	$3,368,171.77	$7,046.13	$7,599,200.67

DEPARTMENTAL EXPENDITURES
July 1, 1963-June 30, 1964

DIVISION	Salaries State	Salaries Federal	Other Allocations State	Other Allocations Federal	Private	Total State	Total Federal	Total Private	Total All Funds
Office of the Commissioner	$39,272.75	$77,879.52	$84,716.76	$70,742.87	$395.50	$123,989.51	$148,622.39	$395.50	$273,007.40
Vital statistics and administration	434,589.34	109,144.64	110,452.75	37,445.33	....	545,042.09	146,589.97	....	691,632.06
Environmental health	755,081.42	173,132.68	147,335.23	112,718.61	....	902,416.65	285,851.29	....	1,188,267.94
Preventable diseases	194,700.28	260,636.53	176,280.44	217,729.12	....	370,980.72	478,365.65	....	849,296.37
Chronic illness	84,933.78	94,723.90	293,362.52	574,695.55	....	378,296.30	669,419.45	....	1,047,715.75
Laboratories	356,309.94	167,666.01	91,335.15	70,055.95	....	447,645.09	237,721.96	....	685,367.05
Constructive health	90,098.80	114,619.12	327,148.27	474,238.33	5.00	417,247.07	588,857.45	5.00	1,006,109.52
Special consultation services	123,907.91	62,556.47	10,572.87	8,235.02	....	134,480.78	70,791.49	....	205,272.27
Local health services	564,765.45	161,135.18	130,492.32	52,488.06	....	695,257.77	213,623.24	....	908,881.01
Total expenditures	$2,693,659.67	$1,221,494.05	$1,321,646.31	$1,618,348.84	$400.50	$4,015,305.98	$2,839,342.89	$400.50	$6,855,549.37
Balances June 30, 1964	$96,354.33	$60,397.09	$112,322.46	$467,931.79	$6,645.63	$208,676.79	$528,828.88	$6,645.63	$743,651.30

Examination and Licensing Program

Services rendered by this Program enable the Department to certify to local authorities and agencies Health Officers, Milk Inspectors, Meat Inspectors, Sanitary Inspectors, Plumbing Inspectors, Food and Drug Inspectors, Veterinary Meat Inspectors, and Public Health Laboratory Technicians and also Public Water Supply System Operators, Public Water Treatment Plant Operators, and Public Sewage Treatment Plant Operators qualified to perform essential public health services.

During the period covered by this report, 692 applications were processed for examinations. Seven days were spent in examining 578 persons of whom 278 received licenses during the year 1964.

Eleven Initial Blood Bank Licenses were issued and 128 renewed during the year 1964.

1,596 licenses were renewed covering water supply systems, water treatment plants and sewage treatment plants.

$13,869.50 was deposited to the credit of the General Treasury.

145 licensed operators of water or sewage facilities were issued authorization to operate more than one water or sewage facility.

155 persons who failed examinations requested and were granted reviews of their examination papers.

Records were established for 93 new water or sewage facilities and their management notified of the law requiring their operation by licensed operators.

On recommendation of the Board of Examiners, the Public Health Council adopted new qualifications for admission to Plumbing Inspector licensing examinations.

During the year, a questionnaire was adopted for examinees to complete after taking one of the licensing examinations. Answers received from 223 persons are helping the Program to evaluate its examination techniques.

The Program and Department received immeasurable assistance and guidance from the licensing boards whose members serve without remuneration.

General Summary of What Has Been Accomplished by the Board of Barber Examiners, 1964

Shops Inspected	13,295
Special Investigations	1,383
Shops Found with Sanitary Violations	466
Reinspections	466
Hearings Held	110
Persons Assessed Penalties by Board	70
Barbers Found Working with Expired Certificates	2
Persons Found Working without a Certificate	14
Unlicensed Apprentices	6
Shops Found Operating with Expired Licenses	3
Shops Found Operating without a License	14
Shops Reported Out of Business	152
Complaints Received from Public and Investigated	62
Barbers Reported Deceased	50
Applicants Scheduled for Examination	517
Applicants Failed to Appear	64
Applicants Examined	453
Applicants Passed	369
Applicants Failed to Pass Examination	84
Examination Days	29
Examination Fees Forfeited	19

Graphic Art Services Program

Departmental requirements for exhibits, audio-visual aids, rapid duplicating, printing, and addressographing are handled by this Program. Graphic art service is provided for the design and production of exhibits, art work, charts, signs, and preparation of mechanicals and specifications for printed materials.

This Program operates a state-wide health education exhibit loan service. Nine new exhibits were constructed for specific uses and added to the Department's exhibit library. Sixty exhibit bookings were completed.

Professional films and audio-visual equipment are stored, repaired, scheduled, and shipped throughout the state. Liaison is maintained with the State Museum in its function of handling Departmental lay films. There were 425 professional film bookings and the film technician gave 60 film showings. There were 98 audio-visual equipment loans.

In July, 1964, all mimeograph work being done at seven locations in the Department was consolidated into a "Rapid Duplicating" service. This work is done from typed copy by the offset method and has resulted in fast service and neat appearance for the Department's day-to-day duplicating

needs for such items as directives, memoranda, agenda, minutes, legal briefs, reports and letters intended for one-time use. In the last six months of 1964, this amounted to 647 jobs, totaling 468,000 impressions.

All Departmental printing requests are reviewed by this Program for distribution. Detailed Applications and follow-up to delivery from commercial vendors amounted to 135 jobs in 1964.

The Department's in-plant offset print shop produces short-run items requiring mechanical make-up and quick delivery. This print shop processed 722 jobs totaling 5,238,000 impressions.

The addressograph center maintains 46 special lists and handles all Departmental bulk mailings. Over 560,000 pieces were processed in 270 mailing jobs during 1964.

Personnel Office

During the year, consultation services to Departmental supervisors and employees were provided concerning salary problems, pension inquiries, insurance coverage questions, Civil Service rules, Departmental policies, sick leave and vacation leave, performance ratings, examination problems, disciplinary problems, employee counseling, etc. Several federal and state reports were completed.

Job specifications were reviewed and desk audits were performed to evaluate proper classifications, and needed changes were made. Exit interviews were conducted to determine true reasons for separations and evaluation of supervisors.

Members of this office served on various committees including the State Personnel Council, Public Personnel Association, Service Awards Program, Departmental Safety Committee, miscellaneous fund-raising committees, and Savings Bond Drive.

The Personnel Office provided services to over 815 Departmental employees requiring the processing of approximately 38,000 records, forms, letters, etc., relative to personnel actions, changes, payroll, time reports, etc., during the year. Several job specifications were reviewed and 27 were revised. The Department issued 75 service awards to employees for their length of state service.

This office also handled other projects such as employee relations and recreation programs. Mail distribution services were provided to the eight locations of the Department in the Trenton area.

At the end of this period, there were 187 classifications in the Department. Of the 646 employees on the payroll at the end of this period, 132

were at the minimum of their salary range, 432 at intervening steps, and 82 at their maximum or in no range positions. These positions were filled by 459 employees with permanent Civil Service status, and 187 employees with temporary or unclassified status. There were 354 female employees.

As of the end of this period, 398 employees were paid from state funds and 248 were being paid from federal or project funds.

During this reporting period, 189 employees were separated for various reasons and 182 employees were appointed.

At the end of this period, there were 46 vacant positions which this Program is attempting to fill. Most of these positions require incumbents with specialized professional background for which the recruiting is extremely difficult due to low state salaries and shortages which exist in these fields throughout the country.

Vital Statistics Registration Program

Historical Background

The State Registrar has custody of about 13,000,000 records of births, marriages, deaths, and fetal deaths. These date back to the year 1848. 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 during the session of 1887. All records of births from 1848 to 1903, marriages from 1848 to 1910 plus 1923 to 1928, inclusive, and all death certificates from 1848 through 1954, have been microfilmed. These original records are stored several miles from the State House.

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, and 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 year 1964, the Program received and processed 239,622 original reports of vital events, approximately 2,000 delayed reports of births, and about 10,000 corrections to current and old records. In addition, there were 12,562 office or telephone calls by persons wishing to file corrections or needing help in other registration matters.

New birth records were prepared for 3,041 persons who had been adopted in 1964 or prior years. Copies of these records were sent to the respective local registrars.

The Program examined 91,274 premarital certificate forms for acceptability before detaching them from the marriage certificates forwarded by local registrars.

About 1,000 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. Prior to 1964, this required typed copies, all of which were subsequently sorted by county and forwarded to the respective county supervisors of veterans' interments. In 1964, permission was received and arrangements made to provide photocopies of these 7,102 records to the Division of Veterans' Service of the Department of Conservation and Economic Development. That agency, after internal editing, made the distribution to the county supervisors.

A daily average of 450 pieces of mail was 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 62,962 applications for searches of the records of one or more years for one or more persons. For this the Program received fees of $46,729.60 in calendar year 1964.

The Program continued to assist the New Jersey State Society of Anesthesiologists by supplying monthly, photocopies of death records of deaths possibly associated with therapeutic misadventure due to anesthesia or operation.

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.

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* 1964	1963	1962
Births	127,965	128,407	127,120
Fetal Deaths	1,996	2,038	1,935
Marriages	45,638	43,341	41,462
Remarriages	1,479	1,116	1,161
Deaths	62,544	62,389	60,534
Total	239,622	237,291	232,212

Table 2. Searches Requested and Fees Received

Item	*Fiscal Year* 1964	1963	1962
Searches made and/or certified copies issued for which fees were received	36,142	33,837	36,487
Searches made and/or certified copies issued for which no fees were received	26,168	22,058	21,813
Total searches	62,310	55,895	58,300
Fees received for searches and certified copies	$44,773.05	$41,710.11	$41,958.69

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