NINETY-FIRST ANNUAL REPORT

OF THE

Department of Health

OF THE

STATE OF NEW JERSEY

1968

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 1968.

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 1968-1969

(July 1, 1968 — June 30, 1969)

WILLIAM S. LITTLE, *Chairman* ..... Ridgewood

JOHN J. CANE, D.D.S., *Vice-Chairman* ..... Phillipsburg

MRS. J. DUNCAN PITNEY, *Secretary* ..... Mendham

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

MICHAEL S. KACHORSKY ..... Manville

SYLVIA S. RISKIN, Ph.D. ..... Passaic

HARRY J. ROBINSON, M.D. ..... Short Hills

(Vacancy)*

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

* Nelson S. Butera, who was a member of the Public Health Council for a number of years, died August 3, 1968. Mr. Butera was from Morristown.

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Annual Meeting
Public Health Council

The annual meeting of the Public Health Council was held on July 8, 1968. The following officers were elected for the fiscal year beginning July 1, 1968 and ending June 30, 1969: William S. Little, chairman; John J. Cane, D.D.S., vice-chairman; and Nelson S. Butera, secretary. Mr. Butera died August 3 and Mrs. J. Duncan Pitney was elected secretary at the September meeting.

The membership of the council was as follows:

	Address	*Term of Office Expiration Date*
Harry J. Robinson, M.D.	Short Hills	June 30, 1969*
Henry L. Drezner, M.D.	Trenton	June 30, 1971
Mrs. J. Duncan Pitney	Mendham	June 30, 1972
William S. Little	Ridgewood	June 30, 1973
Sylvia S. Riskin, Ph.D.	Passaic	June 30, 1974
John J. Cane, D.D.S.	Phillipsburg	June 30, 1975
Michael S. Kachorsky	Manville	June 30, 1975
(Vacancy)		

* Reappointed to a seven year term in 1969 by Governor Richard J. Hughes.

Office of the Commissioner

State Commissioner of Health ..... Roscoe P. Kandle, M.D.

Assistant Commissioner for Operations ..... William R. Peebles

Assistant for Legal Affairs ..... Edward P. Mincher

Comprehensive State Health Planning Agency
Director ..... Miriam Sachs, M.D.

Grants Management Unit ..... Walter Trommelen

Office of Program Planning and Education Director .... Ralph T. Fisher

Public Relations Director ..... Donald S. Benson

Secretary ..... Miss Angela Piontek

Office of the Commissioner

The Commissioner provides leadership, over-all direction and oversight to departmental programs and activities. He reports monthly and at other times as necessary to the Public Health Council and to the Governor on significant activities of the department. The Commissioner also sat as a member of the Radiation Protection Commission and of the Hospital Licensing Board. The Commissioner has also doubled for some time as Acting Director of the Division of Chronic Illness Control.

Units of the Office of the Commissioner are concerned with providing legal advice; with the development of comprehensive state health planning; with development and maintenance of effective community health services through grants-in-aid; with providing information to the public; and with education and training programs.

The Assistant to the Commissioner for Legal Affairs provides legal advice to program personnel in the department and to local boards of health. He is involved in the preparation and revisions of departmental regulations. He conducts public hearings and maintains liaison with the Office of the Attorney General and with the Deputy Attorneys General assigned to the department. He provides information to the Governor and to the Governor's counsel. He analyzes proposed legislation that has significance for health and provides a periodic summary of such legislation to departmental personnel. He processes the necessary reports of persons in the department who have accidents.

The Grants Management Unit is responsible for the administration, coordination and control of the department's grant-in-aid system for state and federal grants and contracts. It assists program coordinators in the development of project grant requests and contract negotiations with the federal government. It receives, processes, and controls all grants made by the State Department of Health to local health agencies, hospitals, voluntary agencies, and individuals. The unit processed 334 contracts in 1968.

The public relations unit issued 171 press releases throughout the year in behalf of departmental activities and programs. The editing of Public Health News (12 issues per year) is done in this unit. From reports submitted by the divisions, the public relations section prepares for the approval of the Commissioner a monthly summary of significant activities in the department which is sent to the Governor. The public relations unit also prepares a summary year end report of the department and edits the narrative printed annual report of the department. The unit also provides consultation to

departmental personnel in public relations and assists in preparation of speech material. A good deal of time is spent in answering the questions of newspaper reporters.

The unit assists local health officers in preparing materials on public health subjects for use in their newspapers.

The public relations section also prepares advertisements for newspapers with respect to public hearings and advises program personnel on the timing of such hearings.

The reports of the Comprehensive State Health Planning Agency and the Office of Program Planning and Education, both established in 1967 and placed in the Office of the Commissioner, follow.

Comprehensive State Health Planning Agency

Staff

MIRIAM SACHS, M.D. ..... *Director*
(MRS.) FLORENCE B. FIORI ..... *Chief Personal Health Planning and Coordination*
JOSEPH F. SLAVIN ..... *Health Services Administrator*
ZARON W. BURNETT, SR. ..... *State Consultant, Community Health Organization*

The Comprehensive Health Legislation of 1966, Public Law 89-749, calls for creation of a partnership for health in states and localities, using health planning councils representative of "agencies, nongovernmental organizations and groups concerned with health, and of consumers of health services" to develop a comprehensive state health plan.

Governor Richard J. Hughes in December 1966 designated the State Department of Health as the single state agency for Comprehensive Health Planning. The agency had its Program Plan for fiscal 1968 approved and funded on March 15, 1968, and its Program Plan for fiscal 1969 approved and funded on November 15, 1968.

Mandated by the Comprehensive Health Planning legislation, a State Health Planning Council, with a majority of its 25 members representing consumers of health services, was appointed by the Governor and had its first meeting on September 5, 1968. Getting into high gear immediately, the State Health Planning Council, on November 8, 1968, passed a resolution in support of a Title XIX—Medical Assistance Program, and directed that this resolution be sent to the governor and every member of the state legislature. *The State Health Planning Council has affirmed that the major health issue of these times is the delivery of adequate, high quality health services to the disadvantaged.*

The availability, accessibility, and acceptability of health facilities, services and manpower are major concerns of comprehensive health planning. Based on this concept, the State Health Planning Council has developed a series of six MAJOR ISSUES FOR COMPREHENSIVE HEALTH PLANNING toward which its attention will be directed. These issues are: better provision of health care to the disadvantaged; the rapid rise in health care costs; health manpower supply and demand; environmental health planning; development of area-wide health planning agencies; and consumer involvement in the planning and development of health services.

Members of State Health Planning Council

Mrs. Stewart Alexander
Robert R. Cadmus, M.D.
Mr. Robert Curvin
Jack Elinson, Ph.D.
Honorable Edwin B. Forsythe
Mr. Morris Fuchs
Mr. Ira Gottscho
Mr. Joel Jacobson
John F. Kustrup, M.D.
Mr. J. Robert Lackey
Mr. Charles B. Laing
Honorable Lloyd W. McCorkle
Mr. Charles M. Pike
Mrs. J. Duncan Pitney
Mrs. Hazel Porter
Mrs. M. W. Rothbaum
Professor Herman M. Somers
DeWitt Stetten, Jr., M.D.
Sister Marian Therese
Mr. Martin Ulan
Mr. William F. Ward
The Reverend Levin West
Honorable S. Howard Woodson, Jr.
Honorable Paul N. Ylvisaker

It is expected that having had several monthly meetings for organization and orientation, the council will meet on a regular basis four to six times a year. For specific activities, the council chairman has appointed an executive committee and several other committees.

For the Comprehensive Health Planning Agency, planning activities are concerned with services, manpower, and facilities. A comprehensive range of health service functions such as disease prevention and environmental control, diagnosis and treatment, rehabilitation, health maintenance, the delivery of services, the organization of services, emergency medical services, and emergency health services are included within the purview of the agency's work. Efforts have been focused upon (1) discovery of existing problems, (2) identification of existing resources and gaps, (3) establishment of objectives directed toward improvement of health services, (4) relating the activities of other planning and health programs to meeting these objectives, (5) providing assistance to state and local groups in order to stimulate more effective allocation and development of resources, (6) development of critical indices to be used in evaluating the impact of health services on the people of New Jersey, and (7) studying ways of financing health programs and services.

In its program of work for 1968-69, the agency has had a primary concern for the development of comprehensive health planning areas. These planning areas are of two categories; broad planning areas for the purposes of the state-wide agency and recommendations for comprehensive area-wide health planning agencies or councils based on local initiative.

The Health Facilities Planning Council has completed the first phase of a contract and has presented a report which gives several alternate methods of establishing areas for comprehensive area-wide health planning.

By July 1, 1968, the Hospital and Health Council of Metropolitan New Jersey (Region 3) had been approved under section 314(b) of the Comprehensive Health Planning Law for facilities planning on an area-wide basis. Similarly, the Health Facilities Planning Council was approved for facilities planning for all of New Jersey except Region 3, and Region 10 (Burlington, Gloucester, and Camden counties) where the Hospital Survey Committee of Philadelphia is currently funded for facilities planning.

Agency staff has worked very closely with the Hospital and Health Council of Metropolitan New Jersey and the Health Facilities Planning Council to assist them in developing organizational grant applications for comprehensive area-wide health planning. This has particularly entailed the involvement of local governments and the expansion of interest and activity from facility planning to include health services and health manpower, and environmental health planning as well as personal health planning.

A grass-roots movement of considerable interest and importance has developed in the seven South Jersey counties. Spearheaded by Burlington, Gloucester, and Camden county representatives, the South Jersey counties are joining together to make plans for an independent comprehensive area-wide health planning agency. The Southern District State Health Officer, the Health and Welfare Council of Camden County, and the Camden County Medical Society have made tremendous contributions to the South Jersey effort.

Interagency Planning and Cooperation

A major intent of the legislation which created state comprehensive health planning is that of providing a mechanism for development of joint planning and closer cooperation on the part of governmental and nongovernmental agencies engaged in the delivery of health services. During the past year, efforts related to achieving this goal have involved the formation of an Interdepartmental Committee consisting of commissioners or their representatives from eight departments of state government with major responsibility for

health programs; formation of a Task Force for the Coordination of the Health Aspects of Model Cities Planning; formation of an Ad Hoc Work Group on planning for diagnostic and evaluation facilities for the handicapped; and continuation of the work of the Task Force on Health Manpower. The Task Force on Model Cities, the Task Force on Health Manpower, and the Ad Hoc Work Group function as sub-committees of the Interdepartmental Committee. They consist primarily of governmental representatives but periodically involve representatives of nongovernmental agencies who have a responsibility or concern for problem areas which are under consideration. In addition, strong working relationships have been developed with the New Jersey Regional Medical Program and with the two voluntary health facilities planning organizations. A wide range of professional groups and voluntary agencies has also been involved in planning activities through the work conducted by the New Jersey Health Careers Service under contract to the State Comprehensive Health Planning Agency. These efforts have made it possible to identify mutual goals, develop cooperative action plans and consider the possibilities of joint funding of programs and services which a single agency would be unable to support. Committee meetings have also served a clearing house function which has been helpful in minimizing duplication of efforts and directing attention toward opportunities for decreasing some of the extensive fragmentation which exists in the provision of health services. An example of this can be seen in the extensive cooperation generated by the Departments of Community Affairs, Education, and Health in the development of a proposal to the federal government for funds to underwrite the establishment of a research and demonstration project for the training of health manpower. Another example was the collection and dissemination by the Task Force on Health Manpower of data concerned with health manpower training resources. In addition, through the work of the Task Force on Model Cities, it has been possible to identify the resources which various departments of state government can make available to assist in the expansion of health services within the Model Cities' areas. Efforts to relate these resources and to develop cooperative funding mechanisms are major Model Cities Task Force goals.

Health Manpower

A survey of health manpower training resources throughout the state was completed. This activity involved contact with 600 public and private training institutions. Staff and physical limitations required that this effort be conducted entirely by mail. Nevertheless, a return of 73 percent was achieved. Results of the survey were published in the December 1968 issue of the Guidance Newsletter of the New Jersey Health Careers Service. This news-

letter has been distributed to 4000 guidance counselors in secondary schools and colleges throughout the state as well as to all institutions which participated in the survey. The data have also been used in planning meetings with representatives of the Department of Higher Education and have proven useful to other groups such as the Radiological Health Program of the State Department of Health in the further development of training programs for x-ray technicians.

In cooperation with the Departments of Community Affairs and Education and many community groups, a project proposal designed to create a new careers training center in the City of Newark was prepared and submitted to the U.S. Public Health Service for funding. The project is directed toward meeting some of the agreements reached in the negotiations between the State of New Jersey and the community of Newark following the Newark riots. It is aimed at providing initial training for community residents and building in opportunities to allow for greater career moblity as well as the achievement of academic credit through work experience. A site visit by a Public Health Service Review Committee was made to the City of Newark in December. Final disposition with regard to federal support was scheduled for spring of 1969.

During the past year, the work of the Interdepartmental Task Force on Health Manpower has been focused upon development of the survey of health manpower training resources, work with the Department of Civil Service and other interested departments on the development of new careers in the health field, cooperation in the development of health manpower recommendations contained in the planning report of the New Jersey Rehabilitation Commission, and cooperative efforts related to implementation of the Newark health manpower proposal.

As a result of the Comprehensive Health Planning Agency's work with the New Jersey Health Careers Service, two new Councils designed to develop a work group approach to the solution of manpower problems have been established. A Council of Allied Health Professions is directing its attention to the need for establishment of training programs at both professional and non-professional levels throughout the state. A Council of Voluntary Agencies is investigating the role which local affiliates of such organizations can play in stimulating support for and development of career recruitment activities.

The Health Careers Service also conducted a statewide meeting on health manpower which was attended by more than 100 individuals from official and voluntary agencies, professional health organizations, training institutions and civic groups.

Two projects related to the summer employment of guidance counselors and students in health care facilities were also developed and submitted to a variety of agencies for assistance in developing necessary financial support.

Staff of the Comprehensive Health Planning Agency have participated actively in the work of the Health Careers Service, particularly through membership on the Executive Committee and in the Councils of Allied Health Professions and Voluntary Agencies.

As specified in the Agency's 1969 Plan of Work, a contract involving the Rutgers Institute of Management and Labor Relations and the Rutgers Department of Economics was negotiated. This contract will serve as a means for developing data related to projected manpower needs in the state through the year 1975. Data will be developed for specific occupational categories as well as particular geographic areas within the state. The Agency has also worked in close cooperation with the New Jersey Department of Higher Education in its efforts to recruit and orient a staff member who will have as a major functional responsibility the development of health manpower programs.

Education and Training Activities

In conjunction with Columbia University, School of Public Health and Administrative Medicine, a one week training institute for professional personnel of voluntary and official agencies was conducted during March 1968. A total of 84 individuals participated in this training program which was designed to review and analyze the implications of the federal comprehensive health planning legislation. Attention was directed toward the organization and role of the State Comprehensive Health Planning Agency as well as the organization and role of area-wide comprehensive health planning agencies.

In accordance with the 1969 Plan of Work for the Comprehensive Health Planning Agency, a contract for development of a pilot project related to consumer education and involvement was negotiated with Rutgers University Bureau of Community Services.

Health Services

At the request of the Department of Community Affairs, the detailed plan related to the coordination of health aspects of Model Cities efforts at both the state and local levels was prepared and approved by the Department of Health and the Department of Community Affairs. The plan is being implemented through the work of the Interdepartmental Task Force on Health Aspects of Model Cities referred to earlier.

A contract with Rutgers Bureau of Economic Research to investigate what is happening to medical care costs in New Jersey and to suggest ways by which these costs can be curbed, if such procedures are indicated, has been negotiated. Rutgers personnel will include in their work analysis of the consumer price index and review of existing medical care cost survey data. This contract is complementary to the previously mentioned study on manpower.

A member of the Agency staff serves on the Regional Review Council for project proposals submitted under the provisions of Section 314(e) P. L. 89-749. These proposals are related primarily to the development of innovative methods for the delivery of health services.

During the year, a State Model Cities Task Force on Health was formed in an attempt to coordinate health services and/or health related services being provided model cities by State Agency Programs. Represented on the committee are the State Department of Health, State Department of Institutions and Agencies, Department of Labor and Industry, Department of Education, New Jersey Regional Medical Program and a representative of Region II of Health, Education and Welfare, New York. The Task Force is staffed by the Comprehensive Health Planning Agency. The Task Force is expanding its membership to include representatives from the City Demonstration Agencies and other local interested groups.

A form to collect data including description of service, type of assistance, funding, personnel, consultation and activity in operational or planning stages was developed and distributed. Data compiled will be provided to all members and local model cities staff to assist them in their health planning.

Consultation has been provided to personnel of the Division of Local Health Services assigned to model cities, Regional Medical Program, Urban Health Coordinators, and local citizens on health panels and community groups. Consultation has also been provided to the model cities staff of the Department of Community Affairs.

The Region II Black Caucus for model cities (H.U.D. Region II) was formed during the year. This group, all black, grew out of a need for blacks working with predominantly black communities to become more helpful to the residents through sharing and coordinating their varied experiences and more importantly to see that the power structure more effectively addresses itself to needs of the community, specifically the black community. A member of the Agency staff participated as a member of this group.

The State-wide Minority Committee organized during this period is made up of blacks who are addressing themselves to all problems of the disadvantaged community. Staff has participated on this group's health committee whose primary task is urban health needs.

Health Services for the Disadvantaged

A finance mechanism for reimbursement for health services to the poor will be set up with the state's initiation of a Title XIX—Medical Assistance Program, January 1, 1970. There are many unknowns as to the effect of such a program on the health of the poor—among them, numbers of persons eligible for benefits and availability of needed provider sources. In an attempt to gather predictive data, the Comprehensive Health Planning Agency has negotiated a contract with a health and hospital management consulting firm for a survey and study of the *impact* of a Medicaid program on the health services system in New Jersey.

Health Facilities

The Comprehensive Health Planning Agency has been active in facilities planning through its work with the Health Facilities Planning Council and the Hospital and Health Council of Metropolitan New Jersey.

The Agency has also worked with the Bureau of Medical Facility Construction and Planning in the Department of Institutions and Agencies in developing projects of mutual interest and concern. An extension of these developments has been the evolution of a work program to be conducted by the Division of State and Regional Planning in the Department of Community Affairs under a budgetary transfer agreement.

Office of Program Planning and Education

RALPH T. FISHER, M.P.H., *Director*

Programs:

Health Education ..... LILLIAN H. BAJDA, M.P.H.
Program Coordinator

Library ..... ROBERT E. HOAGLAND, M.S.L.S.
Librarian

Training ..... JOSEPH C. KALE, B.S.
Program Coordinator

Program Plans ..... JULE M. ERDIE, B.S.
Program Coordinator

The Office of Program Planning and Education was established by Executive Order of the Commissioner, November 14, 1967. It includes the following units: Health Education Program, Professional Reference Library, Program Planning, Training and Career Development.

The State-wide Health Education Program of community organization and education promotes the development and maintenance of effective community health services and the attainment of optimum personal health by the people of New Jersey. It provides professional supervision and consultation to health education personnel of the State Department of Health and of local health departments. Consultation and assistance in health education are provided to departmental programs, and liaison and consultation in health education are provided to other departments of the state government.

The professional reference library for the Departments of Health and Agriculture includes biomedical periodicals, reference books, bibliographies, abstracts, and indexes. The library provides an inter-library loan service and specialized research and bibliographical services.

Program planning develops the annual written program for the State Department of Health showing problems, objectives, methods and activities, and evaluation methods for the 54 individual programs of the department. It coordinates the development, review, evaluation, and administrative control of the program plans of the department and ensures that the plans are in accordance with the recommendations of the Comprehensive State Health

Planning Agency. The program reviews and maintains administrative control in cooperation with the Department's Grants Management Unit of federal grant and contract applications of the department and the more than 400 grant-in-aid and professional contracts made by the department with local agencies. Progress and final reports for such grants, contracts, and projects are reviewed. The written programs total in excess of 19 million dollars, the federal grants and contracts exceed three million dollars, and the grant-in-aid and service contracts exceed two million dollars in value. The Program Planning Program is providing leadership and staffing for the introduction of the program planning and budgeting system in the department as a part of the state-wide program of the Department of Treasury.

The Training Program recommends and administers policies for training of personnel. It reviews all applications for training and makes recommendations to the Commissioner. The program provides consultation and assistance to department programs and personnel in the planning, organization and operation of training courses and activities for state and local health personnel. It promotes and develops an Environmental Health Training Center at Rutgers University.

A program of career development for the employees of the State Department of Health reviews the education and experience qualifications and potentials of department employees, works with supervisory personnel and the individual employees in developing career goals and an education and training plan for individuals and categories of personnel. The Training and Career Development Programs provide service for 600 professional and technical personnel and 400 clerical personnel.

The work accomplished by these programs during the past year is detailed in the program reports which follow.

Health Education Program

Trends and Development

Lack of sufficient qualified health education personnel as well as changes in local needs have necessitated changes in focus and activity of the State Consultant in Community Health Organization as well as of some of the remaining health education staff. Specific project assignments are being made where the health education activity can be productive. In addition, health education activities are being extended in selected instances through the use of persons with less than the master's degree functioning under the direct supervision of a qualified health educator.

Emphasis has also been put on providing opportunities for improvement of health education skills of other professional staff during the past year.

Personnel and Program

Changes in health education staff in both the state and local health departments have occurred throughout the year. A health educator was recruited for the Tuberculosis Program in January 1968 and worked through April when he became ill. A health educator employed on short term by the Smoking and Health Project in February resigned in August 1968. The Southern District Consultant was transferred to the central office of the Division of Local Health Services in April. The Central District Consultant was assigned part-time to the Model Cities staff in January 1968 and in September 1968 became the State Consultant for the Office of Comprehensive Health Planning. A Puerto Rican health educator was employed by Local Health Services in August 1968 for a training period of one year and has been working with the Trenton Health Department and its Spanish-speaking community.

A person with a bachelor's degree in health education was employed in September 1968 by the Vaccination Assistance Program and assigned to Metropolitan District.

The health educator employed by the City of Newark resigned in October 1968 and that position has not been filled. The City of Trenton established a position for health educator in the local health department but efforts to recruit a qualified person proved unsuccessful. Fruitless also has been recruitment for the Presbyterian Hospital position vacant since November 1967. The health educator at the Bergen County Health Department had four additional staff members added to the Health Education Program during the year; three of these have bachelor's degrees and one is a high school graduate.

A Health Education Traineeship was initiated in December 1968 under contract with the East Orange Health Department. The incumbent, holder of a bachelor's degree, will work under the supervision of the qualified health educator until September 1969 at which time she will undertake graduate study.

Education and Training

In cooperation with the Tuberculosis Control Program and the New Jersey Health Officers' Association, the State Consultant in Community Health Organization provided assistance in planning and organizing, and participated

in a two-day seminar on "Public Health Methodology in Tuberculosis Control for Health Officers." A total of 86 representatives of state and local programs attended.

As a result of this seminar and as a member of the Preventable Disease Committee of the New Jersey Health Officers' Association, the State Consultant in Community Health Organization participated in developing a program position and plan for action.

Assistance was given to the Division of Local Health Services in planning, organizing and participating in the two-day Workshop on State Aid in May 1968.

In cooperation with the National Communicable Disease Center, a five-day course (in two sessions) on "Developing Community Involvement through Effective Personal Skills and Involvement Techniques" was planned, organized and held in April and May 1968. This course included participation of state and local health professionals as well as consumers, and was financed in part by Montclair State College Adult Resource Center. A total of 34 persons participated in the course.

A Traineeship Grant Proposal for a second course was prepared, submitted and approved by the U.S. Department of Health, Education and Welfare for funding in 1969.

The State Consultant in Community Health Organization and the local health educators from Bergen County and Newark Health Departments planned and organized the Tri-State Society of Public Health Educators meeting held in June in Newark. The subject of the meeting was "Building Two-Way Streets for Health."

In cooperation with the University of Michigan School of Public Health, an eight-week graduate field training experience was provided at the state and the East Orange Health Departments in April and May 1968.

Assistance was given to Christ Hospital, Jersey City in planning and organizing an in-service education program.

In addition to the above mentioned education and training activities, the State Consultant in Community Health Organization prepared and provided in-service as follows:

Consultation Skills (6 sessions)—4 Districts; Model Cities and Public Health Nurse Consultant staffs.

Community Resources (7 sessions)—Model Cities; Dietetic Intern Staffs; Seton Hall University (4); Fairleigh-Dickinson University.

Communications (6 sessions)—Public Health Nurse (3); Occupational Nurse (2); State Health Department students (1).

Group Process (5 sessions)—State Health Department students (1); Hunterdon County Advisory Committee (4).

Special Projects

The Health Education Internship Project became operational in 1968. With the assistance of a screening committee, three health education interns with at least two years of college completed a 10-week college accredited work experience program with both the state and local health departments from the end of June through August 1968. The local health departments participating in this project by contract were East Orange and Newark. The colleges participating included Madison College, Virginia; North Carolina College at Durham, North Carolina; and Ball State University, Indiana.

A Health Education Career Ladder including job specifications and training requirements was designed. This provided a base for the development of a health aide project in cooperation with the Division of Local Health Services and the Jersey City Health Department. In conjunction with the State Civil Service Commission, a job specification was designed for persons of fifth grade literacy levels to be employed and pursue formal and on-the-job training to qualify for health aide positions within the merit system. The curricula was developed in Jersey City with representatives of the health department, the local poverty agency, the local board of education, and the local adult education director. Both the job specification and the training design are being developed as a standard system for both state and local aide projects with flexibility for adoption into other systems, such as Model Cities.

Procurement and Preparation of Educational Materials

Numerous new materials from voluntary and official health agencies as well as commercial sources were reviewed and shared with appropriate program personnel. Recently released educational films were processed for previewing by program personnel.

In cooperation with Montclair Adult Resource Center and Rutgers University Extension Service, the booklet "Food for Your Family" and teachers' guide developed last year were evaluated during the fall of 1968 in the three pilot counties of Essex, Mercer, and Salem. The usefulness of this material, especially for those with low reading and writing abilities, was established. In addition, the need for a Spanish version was indicated.

Accordingly, a Spanish version was developed by the Puerto Rican health educator with assistance from the Spanish-speaking community of Trenton. The printing of the Spanish edition and the revision of the English edition are being financed by Rutgers University Extension Service. Copies will be made available for the adult literacy programs through Montclair State College Adult Resource Center; for the state, county and local welfare workers through Department of Institutions and Agencies; and to the state and local health resources through the State Department of Health.

Program Plan Program

Program planning has played a significant role in the administration of the Department of Health since the late 1940's. It has been developed as part of public health management and it would be impossible to carry on the work that needs to be done without program planning. This is especially true with the advent of such recently enacted and implemented federal programs as Medicare, Comprehensive Health Planning, poverty programs, Model Cities, and others. Public health now embraces the entire field of health and has taken on a new, broader responsibility in the field of health care and environmental control.

In the New Jersey State Department of Health, there are 54 programs and 20 other separately identifiable projects which must be carried on in order to meet the health needs of the citizens of New Jersey.

The State Commissioner of Health is responsible for the direction, scope, and types of public health services and activities of the department. Without organization, his task would be impossible, management of public health would suffer, and money would be wasted. Program plans, evaluations, and fiscal data are required by the Commissioner in order to administer the department within the mandates of law, policy, procedure and effective public health practices.

Program planning in New Jersey must be consonant with the present day practices and concepts of the provision of health services. It must incorporate and provide for optimum delivery of health services at the local level particularly in the high risk, low income, and deprived areas of the state. It must take into consideration the problems of implementing neighborhood health centers and other such facilities and the strengthening of local public health services in order to elicit strong participation by local, regional, metropolitan, and other public non-profit and private agencies.

The plan must show that preventive, diagnostic, treatment and rehabilitative programs include special attention to the health needs of high risk population groups in terms of age, economic status, geographic location, or other relevant factors. The plan must set forth the anticipated impact on the health of the people in terms of the specific objectives towards which the activities are directed.

The Program Planning Program establishes the format and rules and regulations governing the writing of these program plans. It assists the programs in writing the plans to conform to these requirements and reviews, edits, and suggests changes based on knowledge of the total public health plan in New Jersey.

In addition, the program has a direct responsibility to review grant and contract applications for federal funds in order to prevent duplication of effort, insure conformity to program plans and the over-all objectives of the department, and coordination of activities within the Department of Health. During this period, the value of federal grants and contracts to the department was $3,186,498. It has similar responsibility for the more than 400 grant-in-aid and professional service contracts given by this department to agencies in New Jersey each year. During this period, the value of these grants-in-aid and professional service contracts totaled $2,301,125.

The New Jersey Department of Treasury is now in the initial stages of introducing a Planning—Programming—Budgeting System in New Jersey state government. The Department of Health will be one of the three departments chosen to develop this system first. The Program Planning Program will be responsible for assisting in and designing the new system and integrating the present program planning system as part of the new system.

The Program Planning Program received, reviewed and edited 54 department program plans and evaluations. It held several conferences with program coordinators and division directors concerning revisions and changes to these plans. The staff conferred on numerous occasions with the Commissioner and his staff, and staff of the Budget and Accounts Program in the review of these plans and evaluations prior to approval by the Commissioner. In addition, several meetings were held with the Regional Office personnel of Public Health Service to discuss and review these plans and evaluations prior to Public Health Service approval. The Program Planning Program maintains a continuous evaluation process of the department and plans.

Career Development Program

Health manpower shortages in a wide range of technical and professional fields have handicapped several health department programs in past years. The presently inadequate resources of the department are being stretched to cover the basic ongoing programs and do not begin to meet the needs of the newer programs evolving at the local, state, and federal levels which will require manpower. These facts have caused this department to establish a program of Career Development which hopefully will alleviate some of these manpower problems. We need to find better answers to the old hard questions:

1. How to increase our training capacity.
2. How to make better use of the manpower we have.
3. Are we training the best people to meet our future responsibilities?

The major objective is to establish a Career Development Program for professional and technical personnel of the State Department of Health. Working closely with the Personnel Office, the Training Program, division directors, program coordinators, and the Department of Civil Service, this program is endeavoring to conduct, promote, and maintain an effective career development system for the department through:

1. Determining the extent to which present or prospective employees meet manpower standards and needs and developing career plans accordingly.
2. Recommending appropriate career development education and training plans for professional and technical personnel on both an individual and categorical basis.

This program has initiated, as its first step, a system to record and analyze, personal, educational, and experience data on each of the more than 500 professional and technical employees presently with the department. This first step is an enormous job which in all probability will continue for more than a year. It is planned that as each unit of the department, as defined by the Career Development Program, is inventoried, an analysis of this information will assist in the design of individual and categorical educational and training programs.

Presently, the coordinator is surveying the Division of Local Health Services which includes the Office of the Director, State Health Aid, the four District Offices, and the Migrant Health Program. Interviews with supervisors, administrators, and employees are being conducted. This involves approximately 80 employees and will consist of approximately 120 interviews.

Training Program

In addition to the on-going activities of the Training Program in providing consultation and assistance to programs of the department in planning, organizing and conducting various training courses and meetings, primary emphasis in 1968 was directed to the implementation of two new scholarship programs that are designed to provide a reservoir of qualified health professionals to meet the ever-expanding manpower demands of public health in New Jersey.

The Clean Air and Water Scholarship Intern Program was initiated in 1967 along with the passage of legislation creating the Clean Air and Clean Water Councils. It is designed to increase the number of adequately trained scientific and technical personnel required to staff and manage New Jersey's air and water pollution control programs and to bring new professional health personnel into the field through scholarship assistance and a commitment to public service. To date, 15 outstanding college and high school students have accepted this challenge and are enrolled at various undergraduate levels in 10 colleges throughout the United States.

Available only to residents of New Jersey, this academic training is supplemented by an intensive summer program of on-the-job training. Each candidate is provided an opportunity to work in a particular phase of the division's current activities and to develop an understanding and awareness of his future role in the department. Upon completion of their undergraduate training, these students will become permanent employees and will be assigned to specific tasks within the Clean Air and Water Programs.

These coveted scholarship awards have a maximum annual value of $3,600 and are renewable for three years for a total value of $14,400. Recipients of these grants may attend any accredited engineering college of their choice and have complete freedom of selection regarding the specific area of engineering they intend to pursue. The only personal obligation they must accept is to work for the department for a period of three years upon completion of their training. At the end of the year, expenditures for this program were $70,000.

The Sanitarian Traineeship Program is designed to assist health departments in securing qualified, licensed sanitarians. Funds for these grants were made available through the Special Projects and Development Fund of the State Health Aid Act of 1967.

Under this program, traineeships are available to any local health department to expand its existing health services by securing additional professional

staff. Participating agencies are required to provide a candidate who meets the new educational requirements for state licensing of 60 college credits. This individual must attend a 14-week training cycle at the College of Agriculture and Environmental Science of Rutgers—the State University that includes eight weeks of classroom instruction and six weeks of field training at a designated field training station. Upon successful completion of this course, the candidate is eligible to take the state licensing examination.

Traineeships pay the individual a salary of $416 per month plus training expenses. In the initial year of the program, 10 grants were awarded having a cash value of $42,000. In the second year, this was increased to 24 awards and a cash value of $72,000. Anticipated expenditures for the current year are $114,000.

To publicize these scholarships, an intensive recruitment program has been conducted throughout the various municipalities of the state with particular emphasis given to the community colleges. Ads, posters and brochures outlining the program were made available to local health officers to alert qualified individuals of these opportunities. The results of this activity were gratifying. Student enrollment in this course in 1967 was 21. In 1968, the recruiting program increased the student population to 43.

Table 1. Professional Training Activities

January 1, 1968—December 31, 1968

Number of applications received and processed	195
Masters' degrees received 1968	3

Table 2. Activities by Division

Activities	*Date(s)*	*No. of Participants*
Division of Administration		
Orientation Course for Departmental Personnel	December 6	155
	December 17	37
Orientation Course for Departmental Seasonal Personnel	June 6	48
Telephone Operators' Course	October 31	35
Safety Training for Supervisors	October 3	5
Speed Reading	September 27	5

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
Effective Listening Course	November 15	6
Supervisory Principles and Techniques	November 19	23
Typing Proficiency	September 9	11
Management Lecture Series	January 31	..
	March 27	101
	May 29	..
	November 27	..
Machine Dictation	September 16-20	3
Management Orientation Seminar	September 26	3
Civil Defense Survival Course	January to December	156
Data Processing Seminar	January 29	52
Division of Chronic Illness Control		
"Workshop—Dextrostix and Follow-up"	September 19	20
	September 26	25
	October 16	54
Symposium—"Treatment of Diabetes" Warren Hospital	October 18	35
Symposium—"Diabetes and Angiopathy"	November 20	82
Rutgers Summer School of Alcohol Studies	June 30 to July 16	12
Workshops in Alcohol Education—		
Trenton State College	June 10-21	36
Glassboro State College	August 12-23	20
Newark State College	June 3-20	34
Montclair State College	June 19-July 2	48
Seminar—"Group Treatment: An Effective Approach to Alcoholism"	October 17	32
Symposium—"Therapy of Lymphomas"		
Newcomb Hospital	May 21	17
Valley Hospital	June 5	19
Paul Kimball Hospital	June 5	35
Pathology Seminar—"Diagnosis of Retino-endothelial Disease"	December 7	200
Cancer Nursing Observations Workshops	Semi-Monthly	103
Division of Constructive Health		
Institute on Family Planning—Rutgers University	June 3, 4	93
Hospital Conferences on "Mixing Obstetric and Clean Gynecologic Patients"	May 5	14
	August 6, 7	28
	August, 13, 14, 15	42
	August 21, 22	28
Training Seminar on Cerebral Palsy Matheny School, Peapack, N. J.	December 4	85

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
Division of Environmental Health		
Seminar on "Meat Inspection Techniques"	January 11	40
Course in Salmonella Detection	April 22, 23, 24, 25, 26	40
Food Service Sanitation	May 8, 15, 22	25
Survey Officers Training Conference	September 22	4
Seminar for FDA Inspectors on "Inspection Techniques in N. J."	August 19	23
Principles of Housing Inspection		
Bloomfield, N. J.	February	27
New Brunswick, N. J.	October	28
Cherry Hill, N. J.	September	17
Conference—Policies of the Potable Water Program in New Jersey	December	12
Symposium—"The Aging Process in Man and Animals"	May 29	130
Conference—Occupational Accident Prevention	September 1	13
Principles of Food Handling Practices McGuire Air Force Base	February 2	75
Seminar—Control of Foodborne Diseases	April 16	45
Clostridruim Food Poisoning	October 16	16
1968 Pest Control and Pesticide Programs Rutgers University	March 7	
Epidemiology of Pesticide Poisonings New York City Conference on Pesticides	March 5	
Symposium on Air Quality Criteria American Petroleum Institute	June 3-5	
Principles of Chemical Epidemiology "Arsenic Poisonings," Atlanta, Ga.	November 3-6	
Occupational Troubleshooting of Gas Chromatographic Systems Perrine, Florida	January 21-27	
Workshop—Pesticide Data Collection	March 14	
Division of Health Facilities		
In-service Training—P.H. Nurses (14 Training days per course)	April 9	25
	September	24
	October 29	25
Seminars on Industrial & Community Nursing (8 Training days per course)	April 4	19
	September 19	
Workshop—Occupational Health Nurses	March 14	29

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
Workshop—P.H. Nurses and Nutrition Students	June 20	44
Workshop—Public Health Nurses	December 11	63
National League for Nursing Regional Conference	.....	180
Workshop—Home Health Agency Relationships—		
Prudential Offices—Millville	February 1	45
Morristown Memorial Hospital	February 8	41
Health & Agriculture Building	February 16	44
Prudential Office, Newark	February 28	66
Conference—Program Development of Home Health Aides	July 2	50
Conference—Medicare Utilization	April 4	55
Institute on Nursing Direction in Long Term Care Facilities	September 26	27
	November 21	23
Trenton VNA—In-service Training	November 20	15
Conference—St. Clare's Hospital	November 19-26	25
Seminar—Medicare, Trenton State College	November 25	35
Conferences—Relationships Between Home Health Agencies and Homemaker Home Health Aide Agencies	February 1	17
	February 8	16
	February 16	15
	February 28	18
Institute—Nursing Staff Responsibilities in Facilities for Long Term Care	June 12	40
	September 26	27
	November 21	23
	December 5	28
	December 12	34
Workshop for Directors of Home Health Agencies	.....	90
Seminars—"Share and Compare" for P.H. Nursing Supervisors	March 13	15
	June 19	12
	November 6	13
Workshop—Auditing Nursing Records N. J. League for Nursing	September 10	200
Seminar—Diabetes Detection	April 10	26
	October 29	30
	November 6	30

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
Seminar for Physical Therapists and Nurses on "Emphysema"	June 18	30
Seminar—Role of the Nurse and Physical Therapist in "Arthritis"	June 5	35
Division of Laboratories		
Workshop—Enteric Bacteriology	February 5-16	1
Workshop—Sanitary Bacteriology	February 26 to March 8	1
In-service Training in Fluorescent Antibody Techniques	February 1-2 - May 22-24	3
Conference on Differential Thermal Analysis	February 8	14
Conference on Enzyme Analysis	April 24	12
Eastern Analytical Symposium	November 13-15	3
Seminar on Laboratory Quality Control Procedures	July 10, 17, 31, August 7	80
Seminar on Statistical Concepts	November 6, 13, 20, 27	30
Workshops in Basic Hematology	October 3, 24 - December 4	35 each session
Workshop on Blood Banking	March 20	20
	May 22	22
Seminar—New Jersey Antibody Club	September 27	130
Workshop—Immunohematology	November 7	25
	December 11	23
Workshop—Syphilis Serology	September 14	8
Conference on Darkfield Microscopy	October 21, 22	24
Workshop in Syphilis Serology	November 15	24
Laboratory Procedure for Virologic Diagnosis	May 7	1
NCDC Course in Viral Exanthem	June 8	8
Division of Local Health Services		
Annual Conference of State and Local Health Officials of New Jersey	March 28-29	375
Basic Environmental Sanitation Course Rutgers University, New Brunswick, New Jersey	June to December	43
State-Aid Certified Health Services Workshop	May 15-16	100
Short Course—Inspection Techniques Rutgers University, Camden, N. J.	May 8, 15	50
	May 22, 29	50
Short Course—Meat and Poultry Inspection Slaughtering and Processing	March 6 to May 8	31

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
Epidemiology and Control of Salmonellosis—Trenton, N. J.	April 22-26	40
Comprehensive Health Planning	March 11-14	77
Urban Issues Seminars Model City Staff	Bi-Monthly	22
Field Training Migrant Labor Inspectors	February 1 to March 1	19
Developing Effective Personal Skills and Involvement Techniques	April 15-17	30
Plumbing Regulation and Inspection Course	September 15 to October 26	32
Advanced Water and Waste Treatment Course for Operators	February 6 to May 16	110
Division of Preventable Diseases		
Infections Control in Hospital	January 25	110
Seminar on "Hospital Infection Controls"	November 6	20
"Nursing Role in Tuberculosis Casefinding and Prevention"	January 18	23
"Nursing Role in Tuberculosis Case Supervision"	January 25	25
"Orientation & Demonstration of Tuberculin Testing"	March 6	30
"Nursing Responsibilities in the Prevention of Tuberculosis"	March 27	25
"Nursing Responsibilities in Tuberculosis Control"	April 30	25
"Demonstration of Tuberculin Testing"	May 7	27
"Overview of Tuberculosis Control"	May 27	24
"Nursing Responsibilities in Tuberculosis Prevention"	June 27	10
"Tuberculosis, Cause and Effect"	July 2	10
"Nursing Responsibilities in Case Supervision"	July 24	5
"Nursing Records & Reports in Tuberculosis Control"	July 31	5
"Overview of Tuberculosis Nursing"	August 27	12
"Nursing Responsibilities in Tuberculosis Prevention"	August 30	12
"Nursing Responsibilities in Case Supervision"	September 12	12
"Continuity of Care and Nursing Records"	September 16	4
"Nursing Aspects of Tuberculosis Control"	September 30	17

Table 2. Activities by Division—Continued

Activities	*Date(s)*	*No. of Participants*
"Nursing in Tuberculosis Control"	October 2	30
"Demonstration of Nebulization Technique"	October 17	4
"Orientation in Evaluation of Nursing Records"	October 18	12
"Role of Public Health Nurse in Tuberculosis Control in the Family"	October 21	30
"Orientation in Evaluation of Nursing Records"	October 23	12
"Tuberculosis Prevention in Industry"	November 14	18
"Tuberculosis Control in General Hospital"	April 3	75
"Community Aspects of Tuberculosis Control"	April 24	75
"P.H.N. Responsibilities in the Control of Tuberculosis in the Community"	May 1	30
"Tuberculosis Control & Model Cities"	May 21	10
"Role of Occupational Nurse in Tuberculosis"	May 23	25
"Trends in Tuberculosis Control"	June 3	15
"Community Aspects in Tuberculosis Control"	June 10	15
"Tuberculosis Tine Testing"	September 20	2,000
"Model Cities Program and Public Health"	September 23	43
"Chemoprophylaxis in Tuberculosis"	September 25	100
"Epidemiology of Tuberculosis and Public Health Nursing Responsibilities"	October	30
"Nebulizing of Tuberculosis Patients"	November	20
"Nebulizing of Tuberculosis Patients"	November	4
"Clinical Management and Control of Tuberculosis"	Semi-Monthly	10
"Conference on Tuberculosis—New Jersey Health Officers"	February 6, 7	75

New Jersey Health-Agriculture Library

This was the most productive year for the library since it was established in 1965. There were significant increases in services, and the backlog of cataloging was considerably reduced.

Additions

The number of new books purchased decreased for the third year in a row. It decreased from 396 in 1966 to 247 in 1968. This downward trend should be viewed with concern since it means that people in public health do not have available to them the latest information in their specialties.

There was also a slight decline in the number of new periodical subscriptions, dropping from 38 in 1967 to 22 in 1968.

Circulation

There was an increase in the circulation of all library materials in 1968. The number of books circulated rose from 488 in 1967 to 740 in 1968, an increase of 65 percent. The number of periodicals issued rose from 1,866 in 1967 to 2,713 in 1968, an increase of 68 percent. There were 110 pamphlets circulated in 1968 in contrast to 97 in 1967. The increases in the book and periodical circulation are significant and indicate that the library is receiving greater use.

Reference Service

There was a slight drop in the number of reference questions. In 1967 there were 264 handled, and in 1968 there were 260.

Inter-Library Loan Service

The number of items borrowed from other libraries has risen for the last three years. It increased from 163 in 1966 to 330 in 1967 to 347 in 1968.

To improve inter-library loan service, the library undertook an experimental project with the Library of the New Jersey College of Medicine and Dentistry. As a result of this study, we were able to reduce the transaction time of loans from 11 to 5 days.

Another factor that contributed to improved inter-library lending in 1968 was the establishment of the Library of the College of Physicians in Philadelphia as the Mid-Eastern Regional Medical Library. In addition to providing free photocopies of journal articles, they have cut the time it takes to receive an item requested.

Photocopy Service

There were fewer requests for photocopies of articles from bound journals in 1968. The number of requests decreased from 283 in 1967 to 252 in 1968.

Cataloging

The number of books, pamphlets, and serials cataloged decreased in 1968. The decrease is to be expected since the backlog of cataloging was nearly completed last summer and there has been a sharp drop in the acquisition of materials.

Personnel

The library staff consists of two full-time and one part-time member. Although the workload of the library has steadily increased since 1965, the size of the staff has remained the same.

Budget

The library was awarded a Medical Library Resource Grant of $5,173. These funds were used largely to strengthen the serials collection. A considerable amount was also spent for the purchase of reference books, indexes, and microfilm.

Publications

The library published six issues of its *Selected List of Recent Acquisitions*, a regular bi-monthly publication.

The library also compiled and published a *Periodical Holdings List* which shows the range of holdings for each periodical title in the collection. Its attractive design and comprehensive coverage made it one of the most popular library publications.

Another document the library published was the *Union List of Serials of Trenton Medical Libraries*. This is a composite list of serial titles of seven Trenton area medical libraries designed to facilitate inter-library lending.

Statistical Comparison

The following is a statistical comparison of these library services:

Additions	*1967*	*1968*
Books	406	247
Pamphlets	997	1,008
New Subscriptions	38	22

	1967	1968
Circulation		
Books	488	740
Pamphlets	97	110
Periodicals	1,866	2,713
Reference Service		
Reference questions	264	260
Inter-Library Loan Service		
Items borrowed from other libraries	330	347
Items loaned to other libraries	29	17
Binding Record		
Periodicals bound	83	135
Books bound	27	35
Photocopying Service		
Items photocopied	283	252
Cataloging		
Books	1,298	604
Pamphlets	961	787
Serials	146	50

New Services

There were nine bulletin board displays prepared in 1968. One of the most popular displays was entitled "Drugs—Their Use and Abuse." Some of the others featured nutrition, air pollution, immunization, history of medicine in New Jersey, and home safety.

In 1968, the library purchased a microfilm reader-printer and began to give service with it. Selected periodicals on microfilm were purchased and prepared for use. It is expected that purchase of microfilm will be a partial solution to the space problem.

Library Cooperation

For the second straight year, an exchange list of duplicate material was prepared and sent to the Medical Library Association for duplication and distribution to member libraries. In response to requests for our duplicates, we shipped 491 items to other members in the United States and abroad.

The Trenton Medical Librarians met three times in 1968. In order to make their joint resources more readily accessible to all health professionals in the area, they agreed to set up a union catalog of books. The Health-Agriculture Library offered its facilities for housing and maintaining this catalog.

The Library Planning Committee of the Regional Medical Program was formed in late 1968 and the librarian for the New Jersey Health Department library became a member. The committee met twice to discuss proposals for a library program which would bring the latest advances in heart disease, cancer, and stroke to practicing physicians.

Division of Administration

JOHN B. VAN ELLIS, *Director*

Programs:

Budget and Accounts ..... GEORGE E. FORMAN
Program Coordinator

Data Processing ..... ROBERT T. KING, B.S.
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 Administration

This division provides administrative services to all operating units of the department through the following program activities: Budget and Accounts, Data Processing, 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.

Public health statistics are published annually as a separate document entitled "New Jersey Health Statistics."

Particulars regarding the various services rendered by the division are presented in the following reports of program coordinators.

Budget and Accounts Program

The Budget and Accounts Program is responsible for the fiscal operations of the department. It is also responsible for the warehouse functions of receiving and distributing educational materials, office supplies, drugs and biologics. The program is accountable for all departmental revenue and permanent property. It prepares state and federal budgets, fiscal reports, letters of credit, and other fiscal procedures as required. All purchase documents are cleared through the program.

Seventeen project and research grants were continued by the U.S. Department of Health, Education and Welfare and five new federal grants were activated in addition to the continuing formula and categorical grants for services for maternal and child health, and crippled children. The water pollution formula grant was renewed by the U.S. Department of Interior. The department was awarded a grant from the U.S. Department of Transportation for the Emergency Medical Services Project.

There were 239 federal fiscal reports prepared; 13,602 vouchers were passed to payment and 1,156 purchase requisitions were processed and forwarded to the Division of Purchase and Property.

DEPARTMENT OF HEALTH

State Department of Health

Financial Statement

July 1, 1967 — June 30, 1968

Received for transfer to State Treasury:,

Licenses and permit fees	$459,092.50
Penalties	42,309.05
Certified certificates	89,572.27
Examination fees	17,995.00
Miscellaneous	36,474.85
Net total	$645,443.67

Received for disbursements:

State appropriation and transfer	$16,650,841.05
United States Department of Health, Education and Welfare—Public Health Service	3,856,859.47
Social and Rehabilitation Services	2,684,836.00
Other federal funds	307,065.50
Private grants	71,686.00
Crippled children donations (Private)	50.00
Net total	$23,571,338.02

DEPARTMENTAL ALLOCATIONS

July 1, 1967-June 30, 1968

DIVISION	Salaries State	Salaries Federal	Salaries Private	Other Allocations State	Other Allocations Federal	Other Allocations Private	Total State	Total Federal	Total Private	Total All Funds
Office of the Commissioner	$272,728.17	$198,059.00	.....	$95,691.23	$232,159.50	.....	$368,419.40	$430,218.50	.....	$798,637.90
Administration	739,426.99	36,726.00	.....	175,801.72	53,458.00	.....	915,228.71	90,184.00	.....	1,005,412.71
Environmental Health	728,783.41	318,961.00	.....	5,301,430.89	190,185.00	.....	6,030,224.30	509,146.00	.....	6,539,370.30
Preventable Diseases	333,815.34	477,027.00	.....	329,197.00	705,107.00	.....	663,012.43	1,182,134.00	.....	1,845,146.43
Chronic Illness	149,456.30	91,429.00	.....	461,809.08	558,499.23	.....	611,265.38	649,928.23	.....	1,261,194.21
Laboratories	653,692.91	188,942.00	$17,980.00	138,207.36	187,456.00	$13,284.00	791,900.27	376,398.00	$31,244.00	1,199,542.27
Constructive Health	121,445.26	306,365.00	10,947.00	1,001,223.00	2,096,682.00	3,545.00	1,125,668.26	2,403,047.00	20,492.00	3,549,207.26
Special Consultation Services	79,181.42	5,563.54	.....	6,535.00	24,456.00	.....	85,716.42	30,019.54	.....	115,735.96
Clean Air and Water	896,690.18	278,344.00	15,000.00	369,529.85	681,279.70	5,000.00	1,266,220.03	959,623.70	20,000.00	2,245,843.73
Local Health Services	710,889.63	175,599.00	.....	4,082,295.57	42,463.00	.....	4,793,185.25	218,062.00	.....	5,011,247.25
Total Allocations	$4,686,119.66	$2,077,015.54	$49,927.00	$11,964,721.39	$4,771,745.43	$21,809.00	$16,650,841.05	$6,848,760.97	$71,736.00	$23,571,338.02

DEPARTMENTAL EXPENDITURES

July 1, 1967-June 30, 1968

Office of the Commissioner	$272,602.78	$160,437.48	.....	$90,237.36	$139,931.23	.....	$362,840.14	$300,371.71	.....	$663,211.85
Administration	731,800.45	31,943.78	.....	154,022.28	49,061.33	.....	885,812.73	81,005.16	.....	967,817.89
Environmental Health	714,146.19	307,905.04	.....	5,009,743.84	129,333.09	.....	5,723,890.03	437,238.13	.....	6,161,128.16
Preventable Diseases	319,744.33	401,200.63	.....	321,383.91	501,274.26	.....	641,128.32	902,474.89	.....	1,603,603.21
Chronic Illness	149,447.16	84,714.98	.....	434,634.97	556,554.12	.....	584,082.13	640,269.10	.....	1,224,351.23
Laboratories	644,547.24	174,576.68	$6,171.83	148,331.42	163,143.16	$10,514.13	792,878.66	337,719.84	$16,715.96	1,147,314.46
Constructive Health	113,976.58	311,722.21	10,947.00	1,001,867.87	1,871,448.68	2,021.42	1,115,844.45	2,183,170.89	18,968.42	3,317,983.76
Special Consultation Services	79,123.27	5,563.54	.....	4,489.14	22,842.14	.....	83,612.41	28,405.68	.....	112,018.09
Clean Air and Water	894,877.68	228,873.25	19,638.77	341,449.80	629,895.56	4,338.13	1,236,327.48	858,768.81	23,976.90	2,119,073.19
Local Health Services	695,791.03	175,359.47	.....	2,832,375.52	63,401.68	.....	3,528,166.60	238,764.15	.....	3,766,930.75
Total Expenditures	$4,616,146.81	$1,882,297.06	$12,757.60	$10,339,436.14	$4,185,831.30	$16,903.68	$14,955,582.95	$6,008,128.36	$59,661.28	$21,083,372.59
Balances, June 30, 1968	$69,972.85	$194,718.48	$7,169.40	$1,625,285.25	$585,914.13	$4,905.32	$1,695,258.10	$780,632.61	$12,074.72	$2,487,965.43

Data Processing Program

During 1968, data processing services were rendered to the following programs.

	1968		1967
DIVISION OF ADMINISTRATION	35.51%		35.11%
Vital Statistics	28.07%	26.00%	
Budget and Accounts	4.07%	3.89%	
Examination and Licensing	1.96%	4.10%	
Personnel	1.41%	1.12%	
DIVISION OF PREVENTABLE DISEASES	23.91%		21.00%
Tuberculosis	18.75%	16.41%	
Migrant Health	2.44%	.00%	
Venereal Disease	2.15%	3.47%	
Other	.57%	1.12%	
DIVISION OF CLEAN AIR AND WATER	13.38%		10.39%
Air Pollution	11.81%	9.49%	
Water Poilution	.94%	.00%	
Solid Waste	.63%	.90%	
DEPARTMENT OF AGRICULTURE	12.48%		5.51%
Division of Administration	8.71%	N/A	
Division of Dairy Industry	2.22%	N/A	
Crop Reporting	.95%	N/A	
DIVISION OF CONSTRUCTIVE HEALTH	5.55%		5.43%
Crippled Children	3.45%	3.38%	
Maternal and Child Health	2.10%	1.92%	
Other	.00%	.13%	
DIVISION OF ENVIRONMENTAL HEALTH	3.08%		5.40%
Radiological Health	2.47%	1.82%	
Food and Drugs	.61%	3.58%	
OTHER HEALTH PROGRAMS	6.09%		17.16%

A. *General*

On March 14, 1968 the commissioner established a Data Processing Evaluation Committee to ensure the maximum effective use of data processing capabilities within the State Department of Health.

The first task of the committee was the selection of a new computer system for the Department. From six vendors submitting bids, an RCA Spectra 70 computer system was chosen. The computer will be used for the Air Pollution on-line monitoring system as well as expanded services to the department. For the last half of 1968, the Data Processing program has concentrated on converting the existing work from the IBM 1440 system to the RCA Spectra 70 system.

This conversion has involved an analysis and evaluation of existing computer reports to determine those needed reports or necessary new reports that should be processed on the new computer.

B. *Tuberculosis*

The computerized Tuberculosis Case Registration System has been expanded to include all but five of the state's counties.

The system has generated tremendous interest in the health field. An analysis of its progress has shown an improvement in patient care through standardized treatment, more efficient chest clinic management, and faster access to the statistical information necessary for proper tuberculosis care and follow-up.

C. *Comprehensive Health Planning*

During 1968, a survey was conducted of high schools, colleges, universities and institutions in the state to determine the available public health educational facilities. Among those items analyzed and summarized were entrance requirements, past and present student enrollment, program costs and capacities.

D. *Physicians List*

Data Processing has the facilities to print lists or mailing labels of physicians licensed to practice medicine in the State of New Jersey. The file is stored on magnetic tape and is kept in order by license number. The physician lists and labels, however, can be printed in any order.

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. The bureau maintains a close working relationship with the Department of Civil Service as well as with local authorities to determine their needs, and with universities, colleges, and schools offering courses preparing applicants for our licensing examinations to be sure course contents encompass license responsibilities and questions asked are valid and reliable.

After 18 months of effort by participants of the department, Rutgers, the State University, Newark College of Engineering, various community colleges, vocational schools, representatives of the New Jersey Section of the American Water Works Association, and the New Jersey Water Pollution Control Association, a new training program was instituted to prepare persons who desire to become operators of public water and wastewater facilities in the state. A brochure entitled "Careers in Water or Wastewater Operations" prepared under the auspices of the committee and Rutgers has been distributed to all local officials, schools, colleges, etc.

The legislation for Certification of x-ray Technicians was enacted and is known as Chapter 291, P. L. 1968. Under this act, it is declared to be the policy of the State of New Jersey that the health and safety of the people of the state must be protected against the harmful effects of excessive and improper exposure to ionizing radiation. "Such protection can in some major measure be accomplished by requiring adequate training and experience of persons operating x-ray equipment in each particular case under the specific direction of licensed practitioners. It is the purpose of this act to establish standards of education, training, and experience and to require the examination and certification of operators of x-ray equipment."

During the period covered by this report, several examinations were revised to reflect current technological development and terminology. This action was prompted in part by the fact that courses offered by various institutions are pitched toward latest techniques and methods related to employment requiring one of our departmental licenses.

Sixty-three examinations were conducted. The need for licensed personnel increases. This need is reflectd in the additional licensed services requested through the state to be supported by the State Health Aid Act. Increased funds made available for construction and improvement of potable water and sewage disposal facilities have also increased demands for licensed personnel.

During this period, the Public Health Council conducted a public hearing and revoked a Plumbing Inspector First Grade license.

Listing licensing records through the Data Processing Program in 1967 has made available to staff personnel as well as local officials information regarding names and location of licensed personnel heretofore impossible to furnish. Maintaining this material on a current basis is imperative lest material from data processing lose its value.

The program and department receive immeasurable assistance and guidance from the Examination and Licensing Boards whose members serve without remuneration.

General Summary of What Has Been Accomplished by the Board of Barber Examiners

January 1, 1968 - December 31, 1968

Shops Inspected	15,478
Special Investigations	1,624
Shops Found with Sanitary Violations	413
Reinspections	413
Hearings Held	69

Shop Licenses Suspended as a Result of a Hearing	2
Persons Assessed Penalties by Board	46
Persons Found Working without Certificates	12
Shops Found Operating with Expired Licenses	1
Shops Found Operating without a License	11
Shops Reported Out of Business	146
Complaints Received from Public and Investigated	47
Barbers Reported Deceased	65
Applicants Scheduled for Examination	379
Applicants Failed to Appear for an Examination	44
Applicants Examined	335
Applicants Passed Examination	303
Applicants Failed to Pass Examination	32
Examination Days	24
Examination Fees Forfeited	5

Graphic Art Services Program

Centralized services are provided for the department in areas of design and production of exhibits and printing mechanicals, printing, addressographing, and audio visual materials.

Five exhibits were prepared and installed for a particular need; subsequently these exhibits became a part of the department's exhibit loan service which handled 65 bookings throughout the state as requested by the programs involved.

The art shop designed and produced printing mechanicals as required, as well as completed requests for a wide variety of charts, transparencies, 35mm slide mechanicals and signs.

Outside printing jobs required 151 requisitions with follow-up to delivery during 1968.

The department's in-plant shop, a combined activity with the Department of Agriculture, produced 6,331 short-run jobs amounting to approximately 8,287,000 impressions. The workload ratio was 65 percent health and 35 percent agriculture. This activity includes plate making, press work, and bindery as required.

The addressograph section processed over 694,497 pieces, totaling 295 mailing jobs in its function of handling the department's bulk mailing requirements from over 87 special lists maintained by this program.

There were 8,210 bookings of the department's non-professional films, covering a wide variety of public health activities intended for viewing by lay groups. These are housed in the New Jersey State Museum Film Library.

This program expedited the ordering of new prints and replacement footage as required.

Professional films belonging to various programs are stored, repaired, scheduled and shipped throughout the state by the central film library maintained by this program which made 916 bookings. As part of the program's audio-visual function, 405 audio-visual equipment loans were processed. Audio-visual equipment assigned to the training and conference rooms on the main floor of the building is maintained by the program's audio-visual technician.

This program supervises the receptionist-training room operation on the main floor of the Health-Agriculture Building. In addition to aiding visitors and dispensing parking permits, approximately 925 bookings were made for the use of training rooms during 1968.

Personnel Program

The Personnel Program is responsible for providing centralized personnel, payroll and related services to all programs of the department. These responsibilities include recruiting, interviewing, screening and placement of applicants, processing all payrolls, both regular and supplemental, maintaining centralized accurate and current personnel records of all department employees, processing personnel and payroll forms, maintaining an accurate classification of positions, assisting in orientation courses for new employees, providing related employee services, accounting for salary expenditures, and supplying data for department budgets.

Cooperative relationships among all department programs and other federal and state agencies are maintained by personnel of this program. Employees and department supervisors were provided with guidance during the year in personnel and payroll policies, fringe benefits, regulations, and procedures.

Desk audits were performed in order to classify positions properly. Many job specifications were reviewed and 92 were revised. Exit interviews were performed so that true reasons for separations and evaluations of supervisors could be determined.

Office personnel served on numerous committees including the State Suggestion Award Committee, State Personnel Council, Public Personnel Association, Savings Bond Drive, and other fund raising committees.

Services were provided by this office to over 1,160 departmental employees which required the processing of approximately 65,000 records, letters, forms, etc. during the year. Service awards were issued by the department to 115 employees for their length of state service.

Other projects such as employee relations, blood bank plan, and suggestion programs were handled by this office.

There were 258 classifications in the department at the end of this period. Employees on the payroll at the end of this period totaled 913, of which 175 were at the minimum of their salary range, 119 at their maximum or in no range positions and 619 at intervening steps. There were 640 positions filled by employees with permanent Civil Service status, 219 positions were filled by employees with temporary status, and 54 positions filled by employees with unclassified status. There were 434 female employees and 479 male employees.

Employees paid from state funds as of the end of this period totaled 607 and 312 were being paid from federal or project funds.

During this period, 360 employees were appointed and 312 employees were separated.

There were 97 vacant budgeted positions at the end of this period which this program was continually recruiting to fill. Recruiting was increasingly difficult due to low entrance salaries for professional personnel and shortages of highly skilled applicants.

Vital Statistics Registration Program

Historical Background

The State Registrar has custody of about 12,280,000 records of births, marriages, deaths, and fetal deaths. These date back to June 1, 1878. All original records, indexes and microfilm images of birth, marriage, and death reports for the period May, 1848 through May, 1878 were transferred in 1967 to the Bureau of Archives and History, State Department of Education. 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. Records of births from 1848 through 1903, marriages from 1848 through 1935, and deaths from 1848 through 1960 have been microfilmed. These original records are stored several miles away from the film and the film is used in place of the source documents.

By law, the State Registrar has supervisory power over the 567 local registrars and must furnish the forms required for registering vital events. Some forms are used exclusively by the local registrar and others are distributed by him to physicians, clergymen, funeral directors or hospital administrators.

The Registration 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 Assomplishments

In calendar year 1968, the program received, processed and filed 234,212 original reports of vital events, about 1,000 delayed reports of births, approximately 1,500 corrections to current records and an estimated 2,400 corrections to old records. To obtain missing or additional information for coding purposes, approximately 4,000 queries were prepared and mailed. New birth records were prepared for 3,529 persons who were adopted in 1968 or prior years. There were 4,935 office visits and 17,273 telephone calls by persons needing help in various registration matters.

Over 1,000 persons applied for copies of entries in the State Census records of 1905 and/or 1915. Such copies are usually acceptable in lieu of birth certificates as proof of age for benefits under Social Security and Medicare. Including the census requests, the program processed 64,401 applications for searches of the vital records of one or more years under one or more names.

A large amount of the free work listed in Table 2 of this report is done to furnish verifications or certified copies of records for the administrative use of welfare boards of the counties and certain municipalities. By law, the program must furnish to County Supervisors of Veterans' Interments a photocopy of the death record of every veteran who died and was buried in New Jersey.

On behalf of the Cancer Program, approximately 900 man-hours were spent searching for death records of former cancer patients who might possibly have died in New Jersey. Although the number of letters requesting such searches was only 1,479 many were lists of more than 25 names each and required a search of an average of seven years of records per name. Copies of records found are sent for the clearance of Cancer Registers of hospitals and other agencies in and outside of New Jersey. To maintain their accreditation, hospitals must do this follow-up.

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* 1968*	1967	1966
Birth	110,770	113,039	117,301
Fetal Death	1,567	1,748	1,710
Marriage	53,842	49,182	47,074
Remarriage	961	1,027	1,278
Death	67,072	64,262	64,724
Total	234,212	229,258	232,087

* Provisional

Table 2. SEARCHES REQUESTED AND FEES RECEIVED

Item	*Fiscal Year* 1968	1967	1966
Searches made and/or copies issued for which fees were received	36,674	37,764	40,739
Searches made and/or copies issued for which no fees were received	27,727	35,410	42,595
Total searches	64,401	73,174	83,334
Fees received for searches and certified copies	$85,785.16	$91,220.61	$92,003.53

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 ..... LEON A. FRASER, M.D.
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 ..... ROSCOE P. KANDLE, M.D.
Acting Program Coordinator

Division of Chronic Illness Control

The Division of Chronic Illness Control has, since its creation in 1952, been dedicated to the assumption that access to high quality medical care is a basic right of all individuals. In order to ensure the availability of comprehensive health services, the division continued to provide financial assistance through grants-in-aid to such agencies as community hospitals, local health departments, voluntary health and welfare agencies, the New Jersey College of Medicine and Dentistry, and Rutgers—the State University. In 1968, approximately three-quarters of a million dollars, or three-fifths of the division's total budget, was used to establish or strengthen community health services, including public health nursing; homemaker-home health aide; diet counseling; social work; family health centers; friendly visitor services; screening programs for the early detection of cancer, chronic respiratory disease, diabetes, and heart disease; rehabilitation services for the alcoholic and cardiovascular accident patient; diagnostic and treatment programs in arthritis, cancer, cardiovascular disease, chronic respiratory disease, chronic kidney disease, and neurological disorders.

These funds are made available on a short-term, e.g., one to three year, demonstration basis with anticipation of increased local funding each year. In addition to those projects carried out on a state-wide basis, regional projects were funded in 20 counties with about four-fifths of the total aid going to urban areas.

Alcoholism Control

The problem of alcoholism continues to affect approximately 200,000 persons in New Jersey each year. Major objectives of the alcoholism program to deal with this problem are: to care for those who are disabled and ill; to work toward the prevention of alcoholism as well as to prevent the progression of those already involved; to develop methods for the early detection of those individuals with a tendency toward alcoholism; and to follow those cases which have been treated and evaluate the procedures used and to change the procedure as indicated.

Services

A total of 3,320 alcoholics received treatment in the control programs cosponsored by this department. The majority of these patients received help through the nine out-patient treatment and rehabilitation centers located in

six community general hospitals, two county hospitals, and a county guidance center. With appointments usually scheduled on a weekly basis and available to family members as well as the alcoholic, 13,010 visits were made to the centers. These figures represent an increase over last year of more than 300 patients and 2,000 additional clinic visits. No new services were opened during the year; however, additional staff time was added to four of the existing centers.

There were 726 visits made to the three Information and Referral Centers supported in part by this department. Those persons included alcoholics seeking assistance for their problem, members of the alcoholic's family, and other concerned persons such as employers and clergymen. Much of the activity of the Information and Referral Centers is conducted by telephone. During this year, almost 5,000 calls were received and made by the staff members of the councils.

A total of 1,771 alcoholics who have been institutionalized as a result of their excessive drinking or factors related to excessive drinking was reached through the weekly group sessions conducted by the field representative of this program. There were three tuberculosis hospitals, three penal institutions, and the New Jersey Neuro-Psychiatric Institute participating in this program. The aim of the weekly group sessions was to inform the participants of the rehabilitation resources available to assist them once they returned to the community. These individuals made a total of 3,036 visits to the sessions.

The successful rehabilitation of alcoholics is difficult. However, a subjective evaluation for those individuals who attended the nine out-patient centers has been attempted. Included in the evaluation are drinking habits; employment record; adjustment in the family situation and community; and, physical health. At the time of admission the individual is given a numerical rating and at the end of a 12-months period he is again given a rating. On this basis the results are as follows: 24 percent showed marked improvement; 26 percent reasonable improvement, 18 percent no change, five percent deteriorated, and 27 percent were unable to be evaluated or were lost to follow-up.

Educational Activities

Courses and training programs in alcoholism and alcohol education at workshop institutes and summer schools were attended by 151 individuals.

Twelve persons were awarded scholarships to attend the Rutgers Summer School of Alcohol Studies and the Northeast Institute of Alcohol Studies. Both of these courses were held on the New Brunswick campus of Rutgers University in conjunction with the Extension Division.

A total of 138 school teachers and school-nurse teachers enrolled in the two-week alcohol education workshop held at Trenton, Montclair, Newark and Glassboro State Colleges. The workshops, which offer two semester credits, are supported by grants from this department to the respective colleges. The purpose of the course is to enable teachers to acquire information on the use and abuse of alcohol and to help them develop curriculum for classroom presentation.

The six films on alcohol and alcoholism continued to be used extensively. During this year there were 560 film showings attended by 36,454 individuals.

The staffs from the alcoholism treatment centers, the local alcoholism councils, and the departmental staff gave 114 lectures to various civic and professional groups throughout the state.

In an attempt to reach another segment of the population, the department, in cooperation with the National Council on Alcoholism—North Jersey Area, sponsored a course on alcohol and alcoholism as a community health problem in the Montclair Adult School. A total of 13 individuals participated in the 10-session course..

The program's quarterly publication ALCOHOLISM—A TREATMENT DIGEST FOR PHYSICIANS has completed its 17th year of publication. Designed primarily to assist practicing physicians to provide better care to individual alcoholics, the digest contains syndicated material from the Center of Alcohol Studies at Rutgers University. This department has the sole rights and distribution of this information in the state.

Program Emphasis

The first outpatient treatment service for alcoholics, established under the auspices of this program, opened its doors in November 1950 at Helene Fuld Hospital, Trenton. The second clinic was begun in April 1953 at St. Michael's Hospital, Newark. Experience has shown that services of this type are most helpful to those individuals whose family ties have not been completely disrupted as a result of alcoholism. Also, the patients who receive the greatest help from the centers generally have a solid work history with very little change in jobs. The areas served by the hospitals in both Newark and Trenton have undergone a change, so that today the communities surrounding and served by the hospitals are in the middle or are on the fringe of the Model Cities and ghetto areas.

The kinds of patients now utilizing the alcoholism clinic usually have, in addition to their problem with alcohol, many other social problems as well

as psychological problems which may contribute to their excessive drinking. In both clinics the caseload has decreased, although the workload has stayed about the same because the patients present more difficult, time consuming problems. For these reasons, discussions have been held and plans are being made to develop services that will more adequately meet the needs of the patients now being served by the two treatment centers.

During the coming year, it is anticipated that the center in Trenton will become an integral part of the Model Cities Program and the center in Newark will be part of the services rendered by the New Jersey College of Medicine through the Martland Hospital Unit.

Arthritis and Allied Disorders

The Arthritis Program continued its emphasis on providing workshops for the nurse and physical therapist. During the past two years, three such programs have been arranged in an institutional setting.

The 1968 workshop was held in the southern area of the state. The attendance was limited to 40 persons. The morning session consisted of the presentation of didactic information on arthritis. The afternoon workshops stressed rehabilitation procedures and the use of orthopedic equipment.

The program has continued to stock a cross section of pamphlets on the various types of arthritis suitable for lay distribution. Numerous requests for these materials were received.

The services of a well-qualified nurse were provided to the Rheumatology Unit of the New Jersey College of Medicine and Dentistry. This service has significantly strengthened the efficiency of clinic care and follow-up for the arthritis patient. Clinics were held at three different hospitals with emphasis on juvenile arthritis. These clinics are located at the B. S. Pollak Hospital, Jersey City; Martland Medical Center, Newark; and the East Orange Veterans Hospital. A statistical report of the activities of these clinics is as follows:

Number of Patients Tested According to Clinical Categories:

Rheumatoid Arthritis	699
Degenerative Joint Diseases	329
Rheumatic Fever	101
Gout	204
Other	123

Types of Tests Performed:

Joint Fluid Analysis	151
Rheumatoid Arthritis Factor Tests	1,252
Rheumatology Research Tests	2,162

Cancer Control

A total of 36 cancer cases was found by demonstration cytological detection programs supported by grants from this department. A total of 17,034 persons was screened in the programs which are located in 12 community general hospitals and five local health departments. During the year, two new programs were started; one at the Passaic Health Department and the second at Martland Hospital Unit of the New Jersey College of Medicine and Dentistry.

The program at Martland was greatly expanded during the past two years by a grant from the Cancer Program of the U. S. Public Health Service. As of May 31, the federal grant was terminated. Beginning June 1, a grant-in-aid was made available to Martland from this department to enable it to continue its expanded program. The cytology laboratory at Martland has agreed to serve as a regional laboratory for screening programs in the northern part of the state.

Death Certificates

The program continues to provide death certificates to cancer registries in local hospitals in this state as well as other states enabling them to keep more accurate records. During the year, the records were searched for 14,079 certificates; 878 were found and sent to the registries.

Cytotechnician Training

A significant development in the training of cytotechnicians for New Jersey occurred when Muhlenberg Hospital, Plainfield, was granted the first accredited school of cytotechnology in the state by the Council on Medical Education of the American Medical Association. The school will accept its first class of four students in July, 1969.

The training program at Presbyterian Hospital for cytotechnician screeners continues to be in demand. Each year, more applications from qualified students are received than can be accepted. There were seven students trained this year, making a total of 62 since the beginning of the program. The course

is attractive because it enables students to receive training and maintain their full-time job in a New Jersey laboratory. The course, conducted one day each week for nine months, includes lectures and laboratory demonstration. A recent ruling that requires accredited schools to provide training for a 12 month period may require a revision in the course for training cytotechnician screeners.

Educational Activities

The Academy of Medicine of New Jersey accepted a grant from the department to conduct three seminars on the "Therapy of Lymphomas" at Newcomb Hospital, Vineland; Valley Hospital, Ridgewood; and Paul Kimball Hospital, Lakewood. Seventy-one physicians from the hospitals participated in the programs.

The 18th Annual Slide Seminar of the New Jersey Society of Pathologists was held on December 7 in Princeton. The proceedings of the seminar will be published and distributed to all participants for further study and teaching purposes.

The nurse consultant conducted an inservice education program on cancer nursing and rehabilitation for 67 nurses at the Public Health Nursing Service in Burlington County and the Newark City Health Department.

A total of 14 nurses participated in a refresher course at St. Joseph's Hospital, Paterson at which time the nurse consultant presented in detail the nursing implications of cancer.

Pathology Tumor Registry

The pathology tumor registry of the Society of Pathologists was maintained by the Bureau of Pathology of this department for 17 years. In 1968, the registry was moved to Middlesex Hospital, New Brunswick to function as a source of reference material for teaching purposes in cancer and related histopathology. A grant to Middlesex Hospital from this department during this year made it possible for the staff of the registry to screen, document and put on punch cards the large accumulation of material in the registry. As funds become available to the society for maintaining and expanding the registry, the material will be available for advancing educational opportunities in the field of cancer and allied diseases.

Smoking and Health

Smoking control activities during the past year have diminished because the leadership and coordinating role of the health department which was so important during the early 1960's has become less necessary. A number of voluntary health agencies, namely, the American Cancer Society, National Tuberculosis and Health Association, and the American Heart Association all have active programs that are penetrating the mass media and reaching the general public.

Another major factor is the recent ruling of the Federal Communications Commission which requires that those groups and agencies interested in smoking and health be given some time on radio and television as a public service in an effort to portray the health hazards of cigarette smoking and offset some of the cigarette commercials.

The program continues to provide the "Teacher's Reference Guide on Smoking and Health" to local school districts, as well as to individual teachers as requested. Printed material on all aspects of smoking and health is made available to students and other interested persons.

Chronic Disease Control

Community Health Care

First rate medical care is being provided to disadvantaged families of Newark away from the setting of a large, routine clinic with funds provided to the New Jersey College of Medicine and Dentistry by the Chronic Disease Program. In this project, senior, junior and sophomore students of the college, guided by faculty consultants, act as a team of private physicians in providing continuity of comprehensive care to total family units. In addition to the more obvious benefits of services to people, the project affords medical students the opportunity to participate in the total medical and socioeconomic problems of the population.

Selection of the patients is made through review of patients about to be discharged from the Martland Hospital Unit and is based on indigency and lack of a family physician. Each family member receives a thorough history and physical examination, chest x ray, and basic laboratory screening tests. More elaborate diagnostic, laboratory, and radiological procedures are available to the project through the Martland Hospital Unit when indicated.

During the first four months of operation, this project provided 30 patients, representing 20 families, with 83 visits. Fifty-seven percent of the patients were between the ages of 20 and 49 and 63 percent were males. One-fifth of the patients were seen for routine physical examinations and had no significant abnormalities. Seventeen percent of the patients suffered from diseases of

the heart and circulatory system and another 17 percent had neuro-psychiatric problems.

Another family health care project assisted financially by the Chronic Disease Program was established at the Queen of Angels Family Service to serve the disadvantaged population of the Baldwin and Springfield Avenues section of Newark. This project which began in mid-November served 85 patients, 44 percent of whom were under 20 years of age. Eighteen percent of these patients were treated for respiratory diseases.

The Wayne Township Health Department inaugurated a program to provide social casework services to disadvantaged, multiproblem families of the Mountain View area of Wayne Township by contracting for services with the Family Counseling Service of Paterson and Vicinity. During the first six months, this service reached 39 families involving 70 persons. Grant-in-aid assistance was provided by the Chronic Disease Program.

Utilizing another approach aimed at strengthening and upgrading the family life of economically and culturally disadvantaged urban families, the Chronic Disease Program has funded projects being carried out in Trenton by the Visiting Homemaker Service of Greater Trenton and in Essex County by the Chr-Ill Service. These projects use specially trained homemakers, usually indigenous to the cultures being served, to work with multiproblem families. These homemakers function in many roles including housekeeper, teacher, parent, interpreter. They interpret to the professionals the particular meanings or attitudes expressed in various subcultural ways of thinking and speaking as well as class patterns, values or biases. In turn, they interpret to the client a professional attitude or action.

In 1968, the Trenton project provided 5,000 hours of service to 41 families involving 180 persons. The Essex County project which started in April served 13 families comprised of 69 persons in a total of 2,738 hours. These projects report that generally, the placement of the homemaker has resulted in immediate improvement in housekeeping standards and child management. The permanency of such changes is difficult to assess at this stage but the immediate changes in most cases were undeniably evident.

Chronic Respiratory Disease

In November 1968 with financial support from this Department, 2,883 residents of Madison Borough and Pequannock Township participated in a mass screening program to detect chronic respiratory disease among adults. The project, conducted by the TB Respiratory Disease Association of Morris

and Sussex Counties, including securing information from the screenee on previous symptoms and diseases, administering a pulmonary function test and a chest x ray. These procedures are helpful in detecting tuberculosis, cancer, emphysema, chronic bronchitis, asthma, etc. Those persons with suspicious findings were advised to see their physician to whom a complete report was sent.

The results of this pilot project which are not yet available will be of great value in planning future community programs. To date, actual field experience in this area has been limited although there is no question that chronic respiratory diseases are a serious medical, social, and economic problem. Emphysema is the fastest growing incapacitating disease in the country today, ranking second only to heart disease as a crippler of men in their most productive years. It is responsible for more invalidism of men in their prime than cerebral strokes, cancer, tuberculosis or mental disorders.

Homemaker-Home Health Aide

Almost one and a half million hours of service were provided to 9,580 patients by the 23 homemaker-home health aide agencies in the state in 1968. This increase of eight percent over the previous year in hours of service rendered compared with the dramatic 52 percent increase of 1967 over 1966 indicates the stabilizing effect of Medicare on the homemaker services during the second full year's experience. The curtailment of hours of homemaker-home health aide services reimbursable under the Medicare program is reflected in the 20 percent increase in the number of patients served compared with only an eight percent increase in hours of service. In 1967, the average number of hours per patient was 167¾ while in 1968 this was reduced to 150½.

Again this year, heart and circulatory diseases were the medical diagnoses responsible for the largest number of hours of service (36.5 percent of the total hours) rendered. Diseases of the bones followed with 12 percent; accidents and injuries 10 percent; cancer eight percent; diseases of the nervous system six percent; diseases of the digestive system four percent; neuro-psychiatric and personality disorders three percent; diseases of the genito-urinary system three percent; maternity two percent; and other 6.5 percent.

During 1968, the availability of homemaker-home health aide service made possible earlier hospital discharge for 2,383 persons and prevented institutionalization for another 2,334 individuals. Work or school absenteeism was prevented in 2,370 instances.

Efforts were intensified this year to arouse local interest and support in the organization of a Homemaker-Home Health Agency in Cumberland County, the only county of the state where such service was not available. Under the leadership of a local group of interested citizens and with consultation and guidance from the Visiting Homemaker Association of New Jersey and the State Department of Health, a planning committee was formed and in December the Visiting Homemaker Service of Cumberland County was organized.

This year, 557 new homemaker-home health aides were recruited and trained in 31 training courses. Satisfactory completion of this 30 hour training course is a prerequisite for employment as a homemaker-home health aide. This standardized training is subsidized by the Chronic Disease Program without cost to the trainee or the local agency.

The Visiting Homemaker Association of New Jersey, Inc. held four Board of Trustees meetings, in addition to the annual membership meeting held in April. The "Newsletter," the official organ of the association, was published four times during the year.

The Visiting Homemaker Association of New Jersey and the New Jersey State Department of Health sponsored four regional one-day workshops for directors of Home Health Agencies and Homemaker-Home Health Aid Services. These workshops were held in Millville, Morristown, Trenton, and Newark. The program was centered around the guidelines from the Department of Health, Education and Welfare on part-time or intermittent functions of Homemaker-Home Health Aides.

The film, "Homefires" was purchased by the Visiting Homemaker Association of New Jersey. It was placed in the film library of the department for scheduling.

Home Health Agencies and Community Nursing Services

The Chronic Disease Program continued its support to two Home Health Agencies, the Home Health Services of Passaic, Inc. and the Overlook Hospital, Summit, to strengthen generalized public health nursing services, especially for the chronically ill and aged. These two agencies made 20,922 nursing visits last year. Thirty-five percent of these visits were made to patients with diseases of the heart and circulatory system; 11 percent to patients with cancer; seven percent to diabetics; four percent to persons with arthritis; 19 percent to patients with other chronic diseases; and 24 percent to persons with other illness.

The services of a nurse coordinator in a Home Health Agency were supported by this program for six months of 1968. The nurse coordinator worked with three area hospitals to develop, on an individual basis, a plan to assure uninterrupted service for the patient from the day of hospital admission through hospital discharge and rehabilitation.

Nutrition

Ten community diet counseling services provided individualized patient counseling to 1,782 patients during 1968. Several staff changes occurred during the year. In one community, it has not been possible to recruit a diet counselor to fill a long-term vacancy. In another, a new staff member has functioned for only nine months. One service was able to provide continuous service by prompt recruiting, but another had a vacancy of six months duration.

During the preceding five year period (See Table 1), service to patients increased nine percent, from 1,629 patients in 1964 to 1,782 in 1968. In addition to the patients counseled on an individual basis, 21 group meetings were held reaching an additional 1,954 patients.

This year 30 percent of the patients serviced had a diagnosis of diabetes; 26 percent—heart and circulatory diseases; 14 percent—diseases of the digestive system; nine percent—obesity; five percent—pregnancy; and 16 percent —other.

Women composed 60 percent of the patients. Thirty percent were between the ages of 40 and 65; 40 percent were over 65.

Orders for diabetic diets were most frequently received (30 percent) followed by sodium restrictions (22 percent), calorie restrictions and bland and ulcer diets (10 and 11 percent respectively).

Table 1. Number of Patients Served by Diet Counselling Agency in 1964 and in 1968

Agency	*Patients Served 1964*	*Patients Served 1968*
Atlantic County	8	Vacancy
Bergen County	75	45
Burlington County	438	596
Camden County	599	496
Essex County	203	184
Hunterdon County	non-existent	46
Middlesex County	217	146
Monmouth County	non-existent	163
Morris County	60	25
Passaic County	non-existent	29
Union County	non-existent	52
Warren County	29	non-existent
Totals	1,629	1,782

The services continue to explore and develop methods for self support. These include patient fees, clinic services, consultation to extended care facilities and home health agencies, college or school of nursing teaching, and contractual arrangements with county or local health departments providing Certified Health Services.

Distribution of the first printing (2,000) copies of the New Jersey Diet Manual, revised 1967, was completed in 1968. A second printing is on order with delivery anticipated early in 1969. The four diet pads are available also; 300 pads were distributed to physicians, dietitians, and hospitals during the year.

The Nutrition Consultant has continued to cooperate with the American Dietetic Association in the preparation of "Guidelines for the Establishment of Diet Counseling Services in the Community," serving as chairman of the committee preparing these "Guidelines." The material developed by the committee will be printed in the *Journal of the American Dietetic Association,* with reprint distribution handled through that association.

In addition, the Nutritionist served as president of the New Jersey Dietetic Association for 1967-68 and as Education Section Chairman for the current year. Emphasis was on recruiting for nutrition professions and continuing professional education.

Physical Therapy

Support of physical therapy activities of the Monmouth County Organization for Social Service was continued for six months of this year. During that period, 152 patients were served in 184 visits. This year, 70 percent of the patients were females while 59 percent of the total served were 65 years of age or older. Diseases of the heart and circulatory system were the medical reasons that 35 percent of the patients required the service; diseases of the nervous system were responsible for 24 percent; another 24 percent were victims of accidents or injuries; diseases of the bones accounted for 11 percent.

Social Work

The Chronic Disease Program continued its close relationship with Rutgers University Graduate School of Social work in developing and strengthening field work training opportunities, particularly in medical settings, for graduate students enrolled in schools of social work. This field work training program correlates classroom theory with practical work experience in the medical setting under qualified supervision. Upon graduation, persons trained under this program are qualified for employment in hospital social service departments and other official or voluntary health and welfare agencies. The first such field training facility was set up at St Michaels Hospital, Newark, in 1960 and accepted five students. During the current school year, 22 students have been placed as follows:

6 students—Perth Amboy General Hospital
2 students—Roosevelt Hospital
1 student— Hunterdon Medical Center
8 students—East Orange Veterans Administration Hospital
2 students—East Orange Child Guidance Center
3 students—East Orange Veterans Administration, Out-patient Department

Of the 14 students who received their field training during the 1967-68 school year and graduated in June 1968, eight remained in New Jersey, six of whom are working on the social service staffs of community hospitals and two in community agencies.

Grant-in-aid support to community hospitals for the development of social service departments has been continued as a tangible demonstration of the value of long and short term casework service. Funds were made available last year to the following hospitals for the employment of a qualified social worker: Bridgeton Hospital; Jersey Shore Medical Center, Neptune; Hunt-

erdon Medical Center, Flemington; Perth Amboy General Hospital; Princeton Hospital; and St. Peters General Hospital, New Brunswick. A total of 5,174 persons, of whom 72 percent were new patients, received casework services related to problems of a personal or environmental nature which interfered with obtaining maximum benefits from medical care. This involved 8,269 casework interviews.

The opportunity to spend the summer months working in health or social agencies was made available to students interested in social work as a career through the Summer Experience in Social Work Program. The number of agencies accepting students increased to 25 this year, thus enabling the program to accept and place 52 percent, or 108 of the applicants. Eleven voluntary agencies provided placements for 36 students and 14 official agencies accepted 72 students.

Volunteer Friendly Visitors

During 1968, 113 Volunteer Friendlv Visitors were trained in five courses as follows:

County	*Agency*	*No. Trained*
Mercer	N. J. Neuro-Psychiatric Institute	28
Bergen	Volunteer Bureau of Bergen County	22
Union	SAGE	15
Mercer	St. Andrew's Presbyterian Church, Princeton	27
Passaic	Passaic County Community Council	21

Effort has been directed toward combining the Volunteer Friendly Visitor service with other community agencies. In addition, courses have been planned for more than one community, where possible. The Princeton group has been supervised by the church which sponsored the course and they are visiting in conjunction with the Princeton Community Homemaker Service.

One of the most successful agency sponsors has been Bergen Pines County Hospital, Paramus. The hospital held a two-year reunion for the 105 Volunteer Friendly Visitors who had been trained. The Director of Volunteers of the hospital reported that 89 Friendly Visitors had provided 3,971 hours of service during the two-year period beginning 1966 and that 33 of the original group of Friendly Visitors were still active in 1968.

Diabetes, Endocrine, and Metabolic Diseases

The 1968 Diabetes Control Program reemphasized decentralization of case-finding activities, while developing greater interest and diversification in education at all levels. Some selective research and special projects were included as well.

Case Finding

In 1968, the staff promoted the Dextrostix-quantitative venous back-up blood glucose technique once again as standard procedure. This proved very acceptable to many medical and health agencies. Program consultation and processing of the positive venous back-up samples were included; 36 county and local health departments, 27 hospitals, 13 medical and osteopathic societies accepted the proposal during Detection Week alone.

In addition, 20 local health agencies requested and received program assistance for the development of continuous detection programs; 10 of these were funded under the State Health Aid Act. Another small group of health agencies were assisted with short-term screening projects.

Tabular data below refer to Diabetes Detection Week and indicate the logistical success of initial Dextrostix screening resulting in a little more than 10 percent positive on initial screening and approximately 40 percent of the positive Dextrostix still positive on venous retest.

Table 1. Diabetes Detection Week—1968

District	*Total Screened*	*Dextrostix Positive*	*Venous Retest Positive*
Central District	9,896	1,464	488
Southern District	11,645	1,073	445
Metro District	8,054	841	422
Northern District	258	86	42
State Totals	29,853	3,464	1,397

Table 2. Age and Sex of 232 New, Known, and Potential Diabetics

	Male	*Female*	*Total*
1. Under 25	1	3	4
2. 25 - 44	6	19	25
3. 45 - 54	24	32	56
4. 55 - 64	29	38	67
5. 65 - 74	26	33	59
6. 75 and over	7	14	21
	93	139	232

Analysis of 232 new, known and potential diabetics screened during Diabetes Week 1968 clearly reaffirms what has been written on the subject: that the majority of diabetics are from age 45 to 74 (183 out of 232) and that diabetes is more prevalent in females than in males (130 females compared to 93 males). A total of 207 newly diagnosed diabetes cases has been reported so far.

The following field reports from year-round detection centers confirm the same general principles, i.e., the ability of Dextrostix to eliminate quickly most of the non-diabetics and the secondary gain from retesting with venous bloods. The large number of known diabetics tested by these year-round centers is difficult to explain, particularly the 62 cases in Newark.

Table 3. FIELD REPORTS FROM 15 YEAR-ROUND DETECTION CENTERS (1968)*

Agency	Total Screened	Screened Positive	Retested Positive	Final Diagnosis				Yield per 1,000
				New Diabetic	Potential Diabetic	Known Diabetic	Not Diabetic	Follow up	
Newark Health Department	6,810	...	294	24	10	62	83	115	3.5
Morris County Program	6,425	...	307	88	4	104	10	101	13.7
Bergen County Health Department	4,372	124	37	11	9	9	8	0	2.5
Hamilton Township Health Department	3,335	646	67	21	11	12	11	12	6.3
Atlantic County Health Department	2,405	334	117	10	12	24	14	57	4.1
Burlington County Health Department	2,295	448	59	9	4	15	15	16	3.9
Verona Health Department	865	11	5	...	3	1	1	0	0.0
East Orange Health Department	803	90	56	5	8	12	15	16	6.2
Elizabeth Health Department	707	108	35	14	10	8	3	0	19.8
Westfield Health Department	691	86	35	4	2	8	12	9	5.9
Edison Health Department	523	229	58	13	10	14	19	2	24.9
J. F. K. Hospital	473	...	30	15	...	1	6	8	31.7
Somerset County Th. and Health Department	351	87	87	26	14	1	46	0	74.1
Woodbridge Health Department	344	23	11	2	1	1	...	7	5.8
Long Branch P. H. N.	202	43	11	6	3	2	0	0	29.7
TOTALS	30,601	2,229	1,209	248	101	274	243	343	8.1

* *Please note*—Due to different screening and retesting procedures, the screened positive column and the retested positive column can not be analyzed. However, the most pertinent data, i.e., the total screened, the breakdown under "Diabetes" and the yield can be evaluated.

A negative study was done by a county blood bank, despite admonitions to the contrary. They attempted to test blood donors over 35 years of age who were related to diabetics and were obese, and found the project to be a failure both quantitatively and qualitatively.

The concept of quarterly diabetes screening was implemented in Hamilton Township during 1968. Data indicate that the program is becoming more successful at each screening session. Funding for the program has been through State Health Aid Act Funds.

Table 4. HAMILTON TOWNSHIP HEALTH DEPARTMENT QUARTERLY SCREENING

Date	Total Screened	Screened Positive Dex.	Retested Positive	New Diabetic	Known Diabetic	Potential Diabetic	Not Diabetic	Inc.	Yield per 1,000 Screened
May 9, 10	282	41	5	...	1	3	...	1	0.0
August 21	813	86	23	5	6	6	3	3	6.2
November	1,120	200	40	16	5	3	8	8	14.3
TOTALS	2,215	387	68	21	12	12	11	12	9.5

Professional Education

A symposium, "Treatment of Diabetes," held at Warren Hospital, Phillipsburg, was co-sponsored by the Academy of Medicine of New Jersey and this department. Thirty-five physicians and five medical students attended.

A total of 35 physicians attended a symposium on "Current Concepts in the Treatment of Diabetes" sponsored by the Academy of Medicine of New Jersey and this department and held at Englewood Hospital.

There were two diabetes seminars held for nurses and physical therapists with attendance at each meeting limited to 30. Subjects included peripheral vascular surgery, nutrition in diabetes, epidemiology of foot problems in diabetes, and rehabilitation and physical therapy in the general management of the diabetic

The New Jersey Diabetes Association and the State Health Department co-sponsored a symposium on "Diabetes and Angiopathy—Micro and Macro" held at East Brunswick. It was attended by 82 physicians.

Approximately 100 public health nurses, nurse supervisors and physicians participated in three meetings held in the Central, Southern, and Metropolitan Health District offices to review concepts of technical methodology and follow-up of diabetes suspects.

A second-year medical student from the New Jersey College of Medicine spent the summer in a training experience in the Diabetes Control Program. In addition to gaining insight in the broad aspects of public health, he was provided opportunity to observe the clinical aspects of diabetes and internal medicine and to participate in migrant worker clinics.

For the third year, a fellowship was provided by the American Podiatry Association to enable a graduate podiatry student to spend the summer working in the Diabetes Control Program of this department as part of his internship at St. Luke's Hospital and Children's Medical Center, Philadelphia.

More than 7,500 copies of a new brochure "Classification of Diabetes Mellitus for the Physician" prepared by staff of the Diabetes Program were distributed upon request throughout the country.

Non-Professional Education

The program of patient education for diabetics and their families utilizing the Autotutor(R) and Tutorfilm(R), "Taking Care of Diabetes," was continued at Perth Amboy General Hospital with financial support from the Diabetes Program.

Sixty persons including diabetics and their families attended "A Public Forum on Diabetes" presented by this program as part of the Mercer County Component Medical Society—*Trenton Times* series of forums on health.

Published Papers

The following papers prepared by staff members were published during the year:

"A Touch of Sugar," Arthur Krosnick, M.D., CONSULTANT, September 1968, Smith, Kline and French Laboratories.

"Oral Hypoglycemic Drugs," Arthur Krosnick, M.D., HOSPITAL PRACTICE, November 1968.

"Influencing Change in Diabetes Detection." Donald Hustis, JOURNAL OF THE NEW JERSEY ASSOCIATION OF OSTEOPATHIC PHYSICIANS AND SURGEONS, October 1968. Reprinted in PUBLIC HEALTH NEWS, December 1968, New Jersey State Department of Health.

Special Projects

The Salem City Comprehensive Diabetes Project was completed in 1968. Data were accumulated and are being analyzed for reporting in the future. Some of this is being done in the Diabetes and Arthritis Program of U. S. Public Health Service.

The "Diabetic Employee in New Jersey Industry" carried out in conjunction with the Opinion Research Corporation was completed during the year. Some important findings came out of this work that will be the basis for a paper and will influence future program activities.

Heart and Circulatory Diseases

Diseases of the circulatory system were responsible for 47.7 percent of the total deaths in New Jersey in 1967. Of the 31,316 deaths in this category, 28,829 deaths were due to diseases of the heart. Numerically, heart disease deaths were slightly higher than in 1966 when the total was 28,815. The mortality rate for diseases of the heart was 407.3 per 100,000 population in 1967 and 414.0 in 1966, a reduction of 1.6 percent. In 1967, approximately 82 percent of the deaths attributed to heart disease were due to arteriosclerotic heart disease including coronary disease. Vascular lesions affecting the central nervous system (strokes) claimed 9.1 percent of the total deaths in New Jersey in 1967. Death rates for each of these two years showed little change, 84.5 per 100,000 poulation in 1967 and 84.8 in 1966. Taken together,

diseases of the circulatory system and vascular lesions affecting the central nervous system in 1967 accounted for a total of 37,295 deaths or 56.8 percent of the total deaths in New Jersey. Victims of both heart disease and stroke are principally 45 years of age or older. The principal targets for concentrated action by this program in 1968 were coronary heart disease and stroke.

Life Saving Efforts

This department supported programs of education in cardiopulmonary resuscitation for both professional and non-professional health personnel given by the New Jersey College of Medicine and Dentistry. In nine training sessions, 110 physicians, two dentists, 165 nurses, and 25 paramedical personnel were trained for this potentially life saving method needed at the time of heart stoppage. Equipment and materials for cardiopulmonary resuscitation training were loaned to 26 hospitals and voluntary groups.

Training in Specialized Patient Care

Approximately 30 consultations on standardized training and re-training programs were held this year with hospitals and agencies. Acute Coronary Care Courses for nurses were held at Hackensack Hospital and Shore Memorial Hospital, Somers Point. A total of 175 nurses attended these courses, thus adding substantially to potential nursing staff for acute coronary care units.

The nurse consultant assisted 20 hospitals in conducting their own edutional programs in acute coronary care.

The Heart and Circulatory Disease Program cooperated with the New Jersey Heart Association in presenting a two-day workshop on the administrative aspects of intensive coronary care. Approximately 200 persons attended including administrators, physicians, directors of nursing services, and directors of home health agencies. Follow-up evaluation indicated that the benefits were better planning for acute, convalescent, and rehabilitative care as well as increased understanding and knowledge by personnel responsible for the care of coronary patients.

Improved Hospital Patient Care

Assistance was given to the New Jersey College of Medicine and Dentistry for the expansion of services and the improvement of training facilities in the Cardiac Care Section of the Martland Hospital Unit of the New Jersey College of Medicine and Dentistry. New diagnostic, treatment, and training procedures have been implemented but as the project was established late in the year, reports of the results are not yet available.

Cardiologists at the cardiac clinic, Martland Hospital Unit, New Jersey College of Medicine and Dentistry, continued to provide cardiac consultation services to pregnant patients referred to them. Approximately 227 women from the Newark area received these services in 1968.

The well-organized cardiac clinic at the Bridgeton Hospital, Bridgeton, provided approximately 120 patients with the services of a highly qualified specialist in cardiology.

Comprehensive Services for Stroke Patients

The six previously established stroke projects administered by Cooper Hospital, Camden; Morristown Memorial Hospital, Morristown; East Orange General Hospital, East Orange; Presbyterian Hospital, Newark; Bayonne Hospital, Bayonne; and Overlook Hospital, Summit, provided comprehensive stroke services to 467 new stroke patients and to 293 stroke patients whose treatment started the previous year, bringing the total to 760 patients treated in 1968. Emphasis continued to be placed upon accurate diagnosis and treatment in the acute phase as well as during convalescence and upon the team and community approach to rehabilitation.

Since the inception of the first stroke project in 1961, more than 3,000 stroke patients have received care. Persons 65 years or older have the highest incidence of strokes, although 23 percent of the new stroke patients in 1968 were under 60 years of age. Approximately 15 percent of the 760 patients died during 1968. A total of 298 patients reached reasonable rehabilitation goals and were discharged from the program during the year. A total of 22,973 rehabilitation services were provided by the members of the rehabilitation teams. The following table shows the services rendered:

Table 1. Services Rendered to Stroke Patients

	Clinic	Home	Hospital	Nursing Home	Other	Total
Physiatrist	127	2	3,001	93	26	3,249
Physical Therapist	1,899	744	3,997	815	995	8,450
Nurse (Rehabilitation)	188	876	2,185	2	1	3,252
Occupational Therapist	1,839	20	1,351	..	7	3,217
Speech Therapist	1,093	435	1,010	43	63	2,644
Social Service	362	4	413	7	30	816
Nutrition Service	1	32	198	..	35	266
Vocational Counselor	153	6	437	2	17	615
Psychiatric-Psychological	10	..	1	..	..	11
Homemaker-Home Health Aide	..	453	..	..	..	453
Totals	5,672	2,572	12,593	962	1,174	22,973

Special Study

A special study to determine whether certain chemical tests can be used to diagnose myocardial infarction more accurately and more rapidly is being conducted through grants-in-aid to the New Jersey College of Medicine and Dentistry. One hundred and fifty patients with an admitting diagnosis of myocardial infarction have been studied in the acute Coronary Care Unit of the Martland Hospital Unit of the New Jersey College of Medicine and Dentistry. Using ultraviolet spectrophotometer and electrophoretic techniques, six serial determinations of the following enzymes in the serum were made: Creatine phosphokinase, Hygroxbutyrate dehydrogenase, Lactic dehydrogenase, Lactic dehydrogenase isoenzyme, Lactic dehydrogenase isoenzyme (2), Glutamic pyruvic transaminase, and Glutamic oxaloacetic transaminase. A complete report of results of this study is being prepared.

Applied Research

The department has continued to strongly support the Atherosclerosis Research Project at Montclair. The ninth year of the nutritional study continues to show, by laboratory testing and clinical findings, the benefits to coronary patients of dietary management, particularly through modification of the fat dietary intake.

Research in the relationship between the hardness and softness of water and the incidence of coronary artery disease has been expanded. In cooperation with the medical department of the Western Electric Company, clinical and laboratory studies have been made of employees in two different plants, one in Winston Salem, North Carolina, where the water is soft, and the other in Omaha, Nebraska where the water is hard.

Another study in cooperation with the International Playtex Corporation has compared employees in Glasgow, Scotland where the water is soft with employees in London, England where the water is hard. These studies continue to confirm an earlier finding that the blood serum of residents of hard water areas contain higher amounts of calcium and magnesium which in turn may have to do with the acceleration of the atherosclerosis process.

During the year, the Atherosclerosis Research Study Group also has participated in a study of 1,500 employees at the Hoffman-LaRoche Company in New Jersey which has to do with both atherosclerosis and chronic pulmonary disease. The purpose of this study is to detect and define environmental factors such as diet, air pollution, etc. with relation to the determination of chronic heart and lung diseases. Ultimately, the objective of this research is to control some of these environment factors and thereby lessen the incidence of this disease.

Nervous and Sensory Diseases

Professional Education

In cooperation with the Department of Institutions and Agencies, two symposia were presented during the year.

The Neurological Symposium is designed primarily for the physician in general practice and attracted 60 persons. Subject matter included: "The Current Treatment of Epilepsy," "Recent Developments in Neurosurgery," "Inborn Errors of Metabolism" and "Diagnosis and Management of Central Nervous System Infections."

The Symposium on Electroencephalography is sponsored for the electroencephalograph technician. This symposium stressed basic procedures and newer techniques in assisting the technician to take better electroencephalograph tracings. This year's symposium attracted 85 technicians and physicians, the largest number to attend this annual program.

Lay Education

Films and literature are available to the general public and professional groups in various disease categories in the neurological area. Relatives of persons having a neurological disorder and students have sought this service.

Electroencephalograph Machines

The electroencephalograph machine has now become standard diagnostic equipment in all major hospitals. This machine enables the recording of "brain waves," which provides a routine diagnostic approach in delineating lesions of the brain.

Twenty-two electroencephalograph machines have been placed in community hospitals by this program during the past 15 years. The success of this program is evidenced by the frequent use of the machine and its helpfulness in diagnosis. Hospitals are gradually replacing the initial machines by larger and more versatile units as technology advances.

Table 1 shows the participating hospitals in this project.

New Jersey Consultation Service for Neurological Diseases

A five year U. S. Public Health Service grant to expand the Consultation Service terminated in 1968. The Department of Health has provided a grant-in-aid to the Consultation Unit in order to maintain its operation at the expanded level.

In cooperation with the Consultation Unit, the "Directory of Epilepsy Service" is being revised. All agencies, institutions and hospitals providing neurological services have been surveyed, and materials are being assembled.

The epidemiology of a case of Huntington's Chorea evaluated by the Consultation Service has been completed. This study has been in progress for six years. Huntington's Chorea is an inheritable disease and manifests itself by purposeless movements and eventually alterations in personality with complete dependence. The study covered five generations and 45 individuals, 11 of which were affected by the disease. Case histories were prepared on the affected individuals. This report was scheduled to be published in *The Journal of the Medical Society of New Jersey.*

The traveling clinics continued to show an increase in case load and a diversity in neurological affection. A summary of the activities for the year is presented in Table 2.

Table 1. Report of EEG Services in 19 Hospitals—January 1 - December 31, 1968

	Number of Patients Examined	*Number of EEG Examinations*		
		Total	*Normal*	*Abnormal*
All Souls Hospital, Morristown	252	288	214	74
Atlantic City Hospital	878	888	590	298
Burlington County Memorial Hospital, Mt. Holly	425	425	274	151
Clara Maass Memorial Hospital, Belleville	723	723	472	251
East Orange General Hospital	530	530	236	294
Elizabeth General Hospital	744	757	541	216
Englewood Hospital (6 months)	308	308	164	144
Jersey Shore Medical Center Neptune	795	795	527	268
Mercer Hospital, Trenton (3 months)	179	179	122	57
Monmouth Medical Center, Long Branch	1,561	1,561	921	640
Morristown Memorial Hospital	1,781	1,781	959	822
Mountainside Hospital, Montclair	825	825	547	278
Paterson General Hospital	646	658	333	325
Perth Amboy General Hospital	854	854	706	148
Presbyterian Hospital Unit, Newark	513	505	408	97
Princeton Hospital	447	447	329	118
St. Elizabeth Hospital, Elizabeth	598	616	355	261
St. Francis Hospital, Trenton	547	571	383	188
St. Mary's Hospital, Hoboken	302	302	178	124
Totals	12,908	13,013	8,259	4,754

Table 2. CLINIC ACTIVITIES

1968

Total number of patients referred—522

District	*Number of patients seen*	*Number of clinics held*	*No. of patients awaiting evaluation as of 12/31/68*	*Clinic Location*	*Counties served*
Northern	106	12	36	Hunterdon Medical Center, Flemington	Hunterdon, Morris, Somerset, Sussex, Warren
Southern	85	11	36	Ancora State Hospital Hammonton	Atlantic, Cape May, Camden, Cumberland, Gloucester, Salem
Central:					
Trenton	69	11	13	St. Francis Hospital Trenton	Burlington, Mercer, Middlesex
Long Branch	75	10	25	Monmouth Medical Center, Long Branch	Monmouth, Ocean
Metropolitan:					
Paterson	85	11	18	Paterson General Hospital, Paterson	Bergen, Passaic
Newark	84	11	38	Presbyterian Hospital Newark	Essex, Hudson, Union
Totals	504*	66	166		

* New Patients—381 Revisits—123

Total number of patients admitted to Neurology Unit, New Jersey Neuro-Psychiatric Institute, Princeton—36

Division of Clean Air and Water

RICHARD J. SULLIVAN, *Director*

ROBERT S. SHAW, *Assistant Director for Water Pollution Control*

Programs:

Air Pollution Control ..... WILLIAM MUNROE
Program Coordinator

Potable Water Program ..... JOHN WILFORD
Program Coordinator

Solid Waste Disposal ..... ARTHUR PRICE
Program Coordinator

Water Pollution Control ..... ROBERT S. SHAW
Assistant Director

Division of Clean Air and Water

Members of the Clean Air Council

Roslyn Barbash, M.D.
Richard D. Chumney
Franklin W. Church
James W. Conlon
Albin W. Erickson
Henry W. Gadsden
Robert J. Haefeli
John J. Hanson
Joseph Healey
John Horton, Ph.D.
Stephen F. Lichtenstein
Raymond M. Manganelli, Ph.D.
John Sarrus
Arthur R. Sypek
Sidney Willis
Louis A. Winkelmann
Irwin S. Zonis

Members of the Clean Water Council

Ronald A. Breslow
John Byron
James W. Conlon
James Crane
John W. Duckett
Philip G. Fannan
Lawrence F. Kramer
Edwin Landis
Joseph W. Ludlum
John J McCarty
Francis A. Raymaley
Mrs. Lillian M. Schwartz
Theodore A. Schwartz
Sol Seid
Steven P. Tczap
Sidney Willis
Steven Wise
James F. Wright

Air Pollution Control Program

FOREWORD

The year 1968 saw continued expansion of the activity of the New Jersey Air Pollution Control Program. The Clean Air Council was appointed and began its work. Three new chapters of the State Air Pollution Control Code went into effect and were promptly and vigorously enforced, along with all the existing chapters. Some enforcement records were established, outstanding among these the levying of the two largest air pollution penalties ever known to have been assessed. The Planning and Evaluation Section was added to the Program. The National Air Pollution Control Administration made available to the New Jersey Air Pollution Control Program a total of $1,036,916 divided between a maintenance grant, an improvement grant and a demonstration grant. The Metropolitan Field Office moved from Newark to Springfield. Statistical evidence of a significant decrease in sulfur dioxide resulting from the burning of fuel was noted within six months of the effective date of Chapter 10, which limits the allowable sulfur content in fuel oil.

Clean Air Council Organized

The first meeting of the Clean Air Council was held September 25 in the Health-Agriculture Building, John Fitch Plaza, Trenton. The council, which devoted its first session to organizational matters, was created by legislation signed by Governor Richard J. Hughes on June 15, 1967, to be an advisory body to the State Commissioner of Health. At its second meeting, held on October 17, the council elected Trenton attorney Stephen Lichtenstein chairman and John J. Hanson, Health Officer of New Brunswick, vice chairman. Mr. Lichtenstein is one of the six council members representing the general public; Hanson represents the New Jersey Health Officers' Association. At the November 18 meeting of the council, Chairman Lichtenstein appointed five committees to assist in carrying on the work of the council. These committees are the Scholarship and Intern Committee, the Annual Public Hearing Committee, the Air Quality Regions and Criteria Committee, the Code Study Committee, and the Health and Ecology Committee.

The Clean Air Council is required by law to hold at least one public hearing a year, the testimony presented at such hearings to be used by the council in preparing recommendations to the Commissioner. At its December 9 meeting, the council scheduled its first public hearing, to be devoted to an examination of air pollution control in New Jersey. The hearing was planned to consist of two parts, Part I (scheduled to be held on February 5, 1969) to feature comprehensive status reports from key personnel in the federal, state and local air pollution control programs, and Part II (planned to involve two sessions, March 26 and 27, 1969) to provide an opportunity for representatives of civic groups, industry and the general public to speak and to convey information and opinions to the council. All sessions of the hearing were scheduled to be held in the Labor and Industry Center, Rutgers University, New Brunswick.

The membership of the council numbers seventeen. As noted above, six members represent the general public, one of the six necessarily being a New Jersey-licensed physician. Eight members are appointed from persons nominated by a broad spectrum of civic, industrial and professional organizations. The remaining three members are the Commissioners of Labor and Industry and of Community Affairs and the Secretary of Agriculture, or their representatives.

Air Pollution Control Program—Personnel

The organization of the Air Pollution Control Program in New Jersey in 1968 is indicated in the following:

Program Coordinator	William A. Munroe
Supervisor, Field Control Operations	Herbert I. Wortreich
Metropolitan Field Office Supervisor	John J. Tozzi
Central Field Office Supervisor	Joseph A. Rzigalinski
Southern Field Office Supervisor	Martin L. Sanvito
Supervisor, Technical Services Section	Bernhardt V. Lind
Supervisor, Permits and Certificates Section	Thomas M. Leonard, Jr.
Principal Chemist, Laboratory Services	Fred B. Koppenhaver
Supervisor, Research and Development Section	Marvin H. Green
Supervisor, Planning and Evaluation Section	Robert C. Foster
Supervisor, Motor Vehicle Project	John C. Elston
Head, Attorney General's Pollution Task Force	Deputy Attorney General Theodore A. Schwartz
Deputy Attorney General (Air Pollution)	Deputy Attorney General Samuel D. Bornstein
Public Information Officer	Alexander Corson

1968 Air Pollution Regulations

Three chapters of the State Air Pollution Control Code were placed in effect in 1968. (This does not include Chapter 10A, which was promulgated on March 4, 1968, with an effective date of May 6. However, this chapter, which limits the allowable sulfur content in coal, became the subject of litigation in the courts, and on May 2 a stay in enforcement of this regulation was issued, pending the outcome of the case. Ultimately decided in favor of the state, no decision had been rendered by December 31, 1968.)

Chapter 9, dealing with permits to construct, alter or install and certificates to operate control apparatus or equipment, became effective on January 15, 1968. This chapter was promulgated on November 15, 1967, to supplement the Law on Permits signed by Governor Richard J. Hughes on June 15, 1967. The processing of permits and certificates began immediately upon the signing of the law.

Chapter 10, which regulates the sulfur content in fuel oil for the purpose of reducing the sulfur dioxide in the air, was promulgated on January 12, 1968.

and became effective on May 1. New Jersey was the first state in the nation to adopt such a state-wide measure. In October, 1968, the Evaluation and Planning Section of the Air Pollution Control Program issued a report of research carried on by it in conjunction with the Research and Development Section, indicating that sulfur dioxide resulting from burning fuel may have been reduced by as much as 41 percent in the last year in the nine-county northeastern metropolitan New Jersey area alone. Calculations also indicate that 406,050 tons of sulfur dioxide are now emitted into the air, in contrast to 687,736 tons being emitted according to a 1966 emissions inventory. This represents a reduction of 281,686 tons per year. Effective May 1, 1968, the first step in the three-stage reduction in the sulfur content of fuel oils required that lighter oils contain no more than 0.3 percent sulfur, medium oils 0.7 percent, and heavy oils 1.0 percent. Further reductions are required in medium and heavy oils as of October 1, 1970, and in light, medium and heavy oils by October 1, 1971.

Chapter 11, which regulates incinerators throughout the state, was promulgated on June 12, 1968, and became effective on August 15. The first order issued for a violation of this chapter was announced on August 28. By December 31, 1968, 213 orders for violations of Chapter 11 had been cited. A concept of the significance of this figure is readily apparent when it is noted that, in the same time span, 395 orders for violations of all other code chapters combined were issued. Incinerators have been responsible for more complaints than any other single type of equipment.

Further reports concerning Chapters 10 and 11 will be found in the enforcement section of this report.

Field Control Operations

1. Enforcement

A tabular summation of air pollution control enforcement activities is to be found in Table 1. This table includes air pollution control activity conducted by the Attorney General's Pollution Task Force.

Table 1. Legal Actions—1968

	Air Pollution Control Program Code Chapter									
Orders	*II*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*Total*
Metropolitan	113	92	4	3	7	3	4	9	177	412
Central	72	19	4	1	14	1	2	1	29	143
Southern	23	13	1	...	5	3	1	...	7	53
Total	208	124	9	4	26	7	7	10	213	608
Notices of Prosecution										
Metropolitan	38	52	...	...	...	...	...	...	3	93
Central	21	8	...	...	...	...	...	...	1	30
Southern	1	4	...	...	...	...	...	...	1	6
Total	60	64	...	...	...	...	...	...	5	129
Cases Referred to Attorney General										
Metropolitan	16	11	1	3	3	..	...	...	...	34
Central	6	5	...	...	5	...	...	...	...	16
Southern	1	1	...	...	1	...	...	...	...	3
Total	23	17	1	3	9	...	...	...	...	53
Hearings Held										
Metropolitan	1	...	...	4	1	...	...	1	...	7
Central	...	...	...	1	...	...	..	...	..	1
Southern	..	...	...	..	..	...	1	...	...	1
Total	1	...	...	5	1	...	1	1	...	9
Court Actions										
Metropolitan	1	4	1	2	6	...	...	...	...	14
Central	1	3	...	...	4	...	...	...	...	8
Southern	...	...	...	1	2	...	...	...	...	3
Total	2	7	1	3	12	...	...	...	...	25
Totals	...	...	...	...	...	...	...	...	...	...
Metropolitan	169	159	6	12	17	3	4	10	180	560
Central	100	35	4	2	23	1	2	1	30	198
Southern	25	18	1	1	8	3	2	...	8	66
Total	294	212	11	15	48	7	8	11	218	824

In regard to enforcement actions, 1968 was a record-breaking and record-making year. On three occasions (September 19, October 10, and November 18) Richard J. Sullivan, Director of the Division, reported record-establishing numbers of orders to be announced at one time. The rigorous enforcement of Chapter 11 (Incinerators) was partly responsible for the quantity of these orders, totaling 608. Also, during 1968, the two largest known financial penalties for air pollution violations were levied against firms for infractions of the New Jersey Air Pollution Control Code. On March 22, a $10,000 financial penalty was imposed on Koppers, Inc., coke-manufacturing plant in Kearny. This was superseded as the largest penalty on October 17, when a $13,000 fine was issued against Southbridge Plastics Division, W. R. Grace & Company, Clifton.

All told, the State Department of Health received $51,200 in penalties from violators of the various chapters of the Air Pollution Control Code. This includes the monies taken in by the Attorney General's Office and listed in his report. In 1967, the Department received $17,025.

In 1968, the Enforcement Section planned 16 administrative hearings, of which only nine were held. Several respondents chose to accept orders by consent arrangements rather than enter into adversary proceedings.

Several landmark decisions were rendered in air pollution cases in 1968. Most notable among these was the decision of the Appellate Division of Superior Court in favor of the State Department of Health against Owens-Corning Fiberglas Corporation's Barrington plant. The case against the plant began in September, 1966, when it was placed under order for violation of Chapter 6 of the State Air Pollution Control Code. (Chapter 6 is a blanket regulation prohibiting all forms of air pollution; Owens-Corning was charged specifically with emitting odors and certain other pollutants.) The firm contended that the State Air Pollution Control Act was unconstitutional, and therefore that the order which had been served against it was invalid. But the Superior Court upheld the constitutionality of the Act, the validity of Chapter 6, the rule-making power of the State Department of Health, and the Department's method of holding air pollution enforcement hearings. In addition, the court ordered Owens-Corning to stop polluting the air.

The company appealed this verdict to the State Supreme Court, whose decision was still pending at the close of the year. (Early in 1969, the Supreme Court found in favor of the state, affirming the opinion of the Appellate Division of Superior Court.)

Two other significant 1968 cases set precedents in regard to air pollution control enforcement. In one of these, the Erie-Lackawanna Railroad Company

was ordered by the Superior Court, Chancery Division, sitting in Jersey City, to construct stack testing facilities as required by Chapter 5, regulating the emission of fly ash. A financial penalty was also imposed against the company in this action, the first in which a New Jersey firm was brought to court for failure to provide stack testing facilities.

For a violation of Chapter 7 (Particulates), American Abrasive Metals Company, Irvington, was ordered by Superior Court, Chancery Division, Newark, to pay a $1,000 financial penalty, but was told it could receive a rebate of up to 90 percent of the fine if it installed control apparatus within a prescribed time. This was the first time the rebate clause (which was part of the 1967 air pollution legislation) was applied.

The chapters of the New Jersey Air Pollution Control Code which were in effect during 1968 were:

Chapter 1—Definitions
Chapter 2—Control and Prohibition of Air Pollution From Refuse Disposal and Salvage Operations
Chapter 3—Municipal Ordinances or Regulations
Chapter 4—Control and Prohibition of Air Pollution By Smoke
Chapter 5—Control and Prohibition of Air Pollution From Combustion of Solid Fuel
Chapter 6—Prohibition of Air Pollution
Chapter 7—Control and Prohibition of Air Pollution From Solid Particles
Chapter 8—Control and Prohibition of Air Pollution From Sulfur Compounds in the form of Gases, Vapors, or Liquid Particles
Chapter 9—Permits to Construct, Install or Alter and Certificates to Operate Control Apparatus or Equipment
Chapter 10—Control and Prohibition of Air Pollution From Sulfur Dioxide Caused by the Combustion of Fuel
Chapter 11—Control and Prohibition of Air Pollution From Incinerators

No special stress was needed on enforcement of *Chapters 2* and *4*. Activities in regard to these chapters were of a maintenance type to sustain progress made earlier. In regard to *Chapter 5,* Technical Services personnel completed the testing of all Public Service Electric and Gas Company power stations burning coal and began testing all Jersey Central Power and Light Stations. Many problems of long standing previously handled under *Chapter 6* were resolved with the promulgation of Chapter 11. All ferrous foundries in the state were either complying with *Chapter 7* or were under order, and surveys

of many industries not previously investigated (non-ferrous metals, chemicals, foods, furniture, glass) were initiated. All major sources affected by *Chapter 8* are either complying or under order. Survey of lesser sources continues to be carried on.

As to *Chapter 10,* early samples were analyzed by Saybolt Company, Kenilworth. The State Transportation Laboratory later took over the analytical work. The program is planning its own laboratory facilities. Program personnel participated with the Fuel Oil Council in setting up a combustion training course for school custodians.

Table 2. CHAPTER 10 ENFORCEMENT—FUEL OIL SAMPLES

	No. 2	*No. 4*	*No. 5*	*No. 6*	*Total*
Fuel Oil Samples Taken	188	91	27	166	472
Violations	...	11	2	6	19

To correct violations of Chapter 10, it was necessary to issue 10 orders. No notices of prosecution were issued in 1968 for violations of Chapter 10.

As soon as *Chapter 11* became effective, an intensive enforcement drive was undertaken. This activity resulted in 213 orders in the first four and a half months, and it continues unabated. A statewide survey conducted by program personnel showed over 6,000 incinerators subject to the provisions of Chapter 11.

For information concerning *Chapter 9,* see the report of the Permits and Certificates Section. See also the report of the Technical Services Section.

On July 3, 1968, the Southern Field Office completed its first year of operations. The Southern Office has jurisdiction over enforcement activities of the program in Camden, Gloucester, Salem, Cumberland, Atlantic, and Cape May counties.

On September 27, the Metropolitan Field Office moved from its former quarters at 400 Delancy Street, Newark, to new offices in the Varian Building, No. 25, Route 22, Springfield, New Jersey. The new location provided the Metropolitan Office with more modern, convenient facilities; more parking space; and a more easily located address. The Metropolitan Field Office is responsible for enforcement activities of the program in Bergen, Essex, Hudson, Passaic, and Union counties and in the upper portion of Middlesex county.

2. Technical Services Section

Continued expansion of the work of this section was made possible by increasing the number of stack testing crews from three to five. This necessitated an increase of personnel from 10 to 16.

Nine plants were sampled for compliance with *Chapter 5.* Seven of these had one or more stacks in violation. At the nine plants, 13 stacks were sampled; five were in compliance, eight in violation.

Twenty-two plants were sampled for compliance with *Chapter 7;* 16 of these plants had one or more stacks in violation. Of the 92 stacks sampled in all:

59 stacks were in compliance with both the coarse and fine standards in Chapter 7

11 stacks were in violation of both the coarse and fine standards in Chapter 7

11 stacks were in violation of only the coarse standards

11 stacks were in violation of only the fine standards

Three plants were sampled for compliance with *Chapter 8,* all having one or more stacks which exceeded the standards for Chapter 8. Of the six stacks tested, three were in compliance.

3. Permits and Certificates Section

This section administers the Permits and Certificates Program under Chapter 106, P. L. 1967 (Title 26, 2c:9.2) and the Tax Exemption Program for Air Pollution Abatement Facilities under Chapter 127, P. L. 1966 (N. J. S. A. 54.4–3 et seq.).

For the calendar year 1968, 1,012 requests for permits to construct, alter or install control apparatus and equipment were received. Approved requests totalled 860. Of these, 590 involved control apparatus having an estimated cost of $16,524,769 and an estimated annual operating cost of $4,662,023. It is estimated that this control-processing apparatus or equipment achieved an emission reduction totaling 584,170 tons per year, constituted as follows:

Solid Particles (T/yr)*	399,904
Compounds of Sulfur (T/yr)	158,165
Solvents, Vapors, Acids, etc. (T/yr)	26,101

* T/yr = Tons per year.

Since its effective date (January 15, 1968) to the end of 1968, seven orders were issued to violators of Chapter 9 for installing or operating equipment without department clearance.

During 1968, 868 requests for operating certificates were issued. Of these, 295 were permanent certificates (good for five years and subject to renewal under specified circumstances) and 573 were temporary. The purpose of temporary certificates is to allow this section time to test and evaluate equipment thoroughly before issuing a permanent certificate.

Two hundred seventy-seven tax exemption claims were processed during 1968. Of these, 221 were approved. Total cost of approved control apparatus involved was $11,181,055.

4. Laboratory Services

The Air Pollution Control Program Laboratory furnished analytical laboratory service in the evaluation of particulate matter for the quantity and particle size of samples of stack emissions collected by four stack sampling field crews. The analysis of all particulate samples was arranged to conform to the code requirements of Chapters 5 and 7. Miscellaneous analysis or procedures were adjusted and adapted to the field sampling situations that prevailed. The laboratory staff conducted calibrations, standardizations and analytical applicability for methods to meet numerous and varied requirements arising from practical sampling and testing of process emission of air pollutant compounds into the atmosphere.

The laboratory processed, analyzed and released results during 1968 as follows:

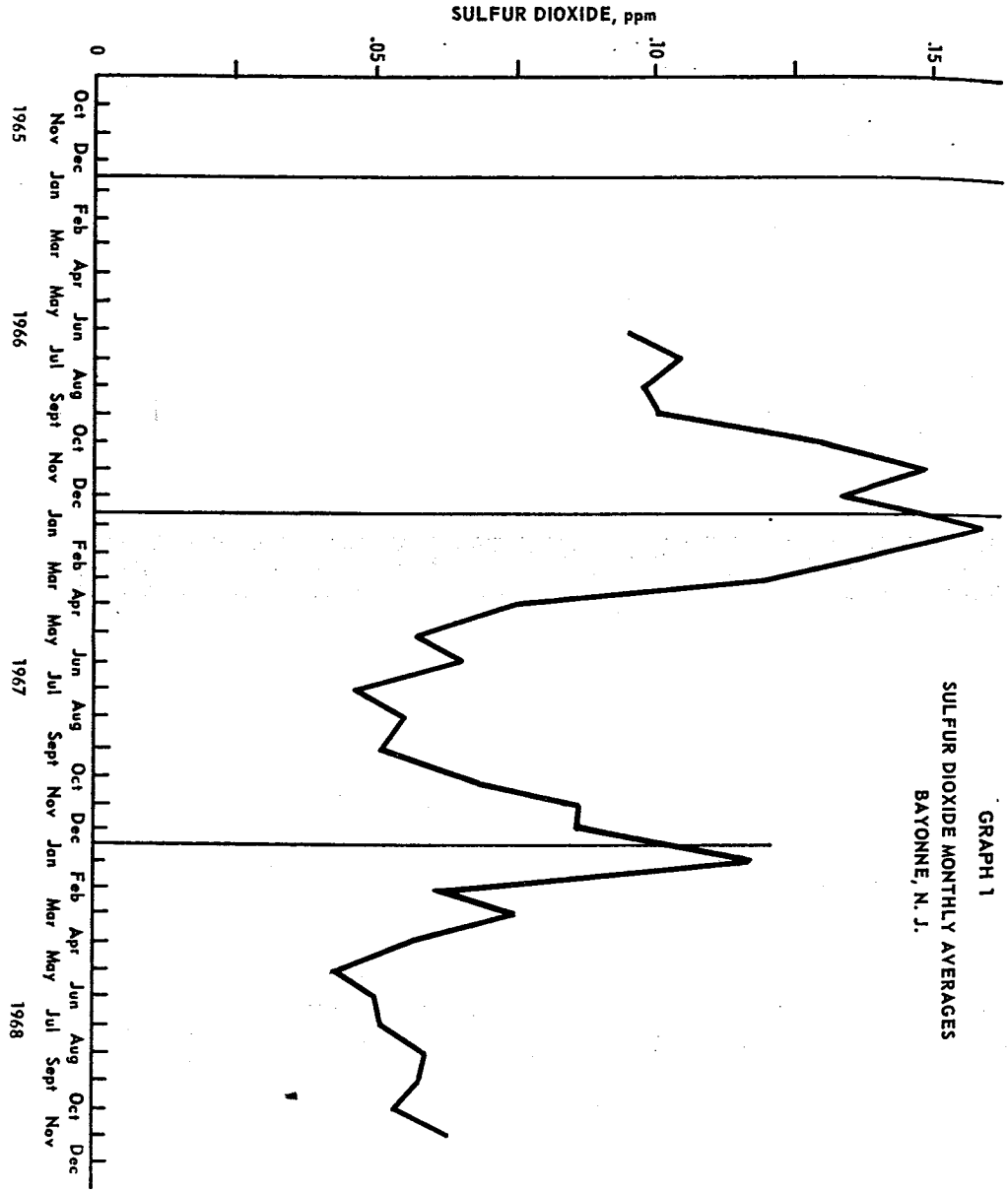
particulate weight samples	432
particle size samples	273
BTU, ash and moisture in coal and oil	72
miscellaneous identifications	3
fuel oil viscosity and percent sulfur	486*

* This figure differs from the total of fuel oil samples listed on page 12 because some samples were tested twice.

Research and Development Section

The Research and Development Section is responsible for operation of the Continuous Air Monitoring Network, which during 1968 consisted of three comprehensive laboratories in trailers and four satellite stations. The

information of most interest that was gathered during 1968 is the fact that sulfur dioxide levels decreased in comparison with concentrations measured during the years 1966 and 1967. Data gathered at the monitoring sites indicate that the major effort to reduce sulfur dioxide through enforcement of Chapter 10 is meeting with success. The attached plot of sulfur dioxide monthly averages as measured in Bayonne (Graph 1) demonstrates the downward trend of this pollutant as measured at the station which has been in longest continuous operation.



GRAPH 1
SULFUR DIOXIDE MONTHLY AVERAGES
BAYONNE, N. J.

Plans were completed, bids were received and contracts were awarded to expand the Air Monitoring System from the present seven stations to a projected total of 22. It is anticipated that there will be four comprehensive laboratories and 18 satellite stations in operation by the end of 1969. Each bit of analog information will be converted electronically to digital values and fed into an electronic computer, which is scheduled for installation in 1969 and which will serve the Department of Health.

Three air pollution emergency episodes were recorded during 1968; June 5 to 8, September 17 to 19, and September 20 to 23. Although none of these episodes went beyond the forecast stage, it was necessary for the Research and Development Section to operate on a continuous 24-hour basis until their termination.

During 1968, studies were made to improve analytical procedures in the operation of monitoring equipment. Although these studies have not been completed, procedures have been developed which will decrease operating costs and reduce the frequency of service to equipment without loss of quality or quantity of resultant data.

The section continued to assist in establishing standards for the development of new codes and the revision of existing ones.

The attached table (Table 3) presents monthly averages of all pollutants and some weather information for the year 1968.

Table 8. MONTHLY AVERAGES OF AIR POLLUTANTS AND WEATHER PARAMETERS
Three New Jersey Air Pollution Laboratories
1968

POLLUTANT	STATION	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
NITROGEN OXIDES ppm	Newark	.205	.194	.097	.085	.062	.037	.041	.004	.117	.143	.184	.170
	Bayonne	.112	.059	.059	.062	.057	.055	.057	.007	.099	.082	.095	.098
	Camden	.120	.084	.059	.062	.057	.055	.057	.007	.070	.081	.095	.112
NITRIC OXIDE ppm	Newark	.191	.180	.040	.022	.012	.013	.012	.004	.014	.077	.153	.119
	Bayonne	.052	.020	.040	.022	.012	.013	.012	.016	.007	.029	.048	.052
	Camden	.071	.037	.033	.015	.015	.013	.014	.015	.028	.039	.056	.071
NITROGEN DIOXIDE ppm	Newark	.070	.093	.059	.055	.051	.054	.052	.060	.073	.064	.050	.059
	Bayonne	.060	.059	.059	.055	.051	.054	.052	.051	.062	.052	.047	.045
	Camden	.068	.047	.058	.049	.042	.042	.043	.043	.049	.051	.039	.041
SULFUR DIOXIDE ppm	Newark	.173	.125	...	...	...	...	...	.031	.040	.080	.079	.090
	Bayonne	.116	.068	.075	.061	.042	.050	.051	.059	.057	.053	.065	.085
	Camden	.106	.101	.070	.057	.040	.054	.040	.055	.017	.051	.070	.093
OXIDANTS ppm	Newark	.007	.013	...	...	...	...	...	.044	.038	.025	.016	.014
	Bayonne	.011	.017	.020	.027	.027	.031	.039	.035	.026	.018	.017	.017
	Camden	.027	.020	.031	.034	.031	.041	.045	.039	.031	.021	.016	.014
ALDEHYDES ppm	Newark	.008	.006	...	...	...	...	...	.010	.008	.007	.008	.007
	Bayonne	.005	.002	.001	.004	.001	.007	.008	.006	.006	.001	.005	.004
	Camden	.001	.003	.001	.003	.003	.001	.005	.006	.004	.003	.001	.001
CARBON MONOXIDE ppm	Newark	8.4	7.7	3.1	2.5	2.8	2.2	1.3	5.2	5.6	5.5	4.7	5.7
	Bayonne	2.8	1.9	2.3	2.0	2.5	1.5	1.7	1.4	2.8	2.0	1.8	1.8
	Camden	2.9	1.9	2.3	2.0	2.5	1.5	1.7	2.2	1.9	2.4	2.6	2.2
HYDROCARBONS ppm	Newark	2.5	2.0	...	...	...	...	...	2.0	2.3	2.3	2.2	2.3
	Bayonne	3.0	2.2	2.4	2.1	2.4	2.6	3.1	2.3	2.3	2.2	2.6	2.2
	Camden	...	...	1.7	1.6	1.6	1.6	1.8	1.9	2.1	1.8	1.8	1.7
SMOKE SHADE (COH)	Newark	3.84	2.81	...	...	...	...	...	1.70	2.07	2.11	1.35	2.08
	Bayonne	1.89	1.29	1.88	1.38	1.09	0.85	1.06	1.01	1.35	1.57	0.91	1.04
	Camden	...	2.14	2.17	1.48	1.84	1.30	1.07	1.51	2.15	0.98	1.14	1.78
CARBON DIOXIDE ppm	Newark	...	...	...	...	...	...	...	...	...	...	...	...
	Bayonne	359	358	360	356	351	344	348	351	346	351	363	365
	Camden	365	374	370	360	361	350	...	...	360	364	378	385
WIND SPEED mph	Newark	7.7	10.0	...	...	...	...	...	6.2	...	...	...	...
	Bayonne	10.7	14.2	13.0	10.4	9.4	8.0	6.5	...	6.5	8.7	11.0	13.1
	Camden	...	10.1	10.2	9.1	8.6	6.7	6.2	6.7	5.5	6.8	...	...
TEMPERATURE deg. F	Newark	30.1	32.2	...	...	...	...	...	74.0	69.1	58.5	45.8	33.5
	Bayonne	31.0	32.1	45.1	55.7	69.4	69.9	78.1	76.1	71.2	59.2	46.5	35.4
	Camden	30.2	32.7	45.4	53.7	68.8	70.6	78.2	76.1	68.8	58.3	46.6	34.5
RELATIVE HUMIDITY %	Newark	67.8	49.8	...	...	...	...	...	57.6	60.3	65.5	62.6	55.3
	Bayonne	72.0	67.6	78.4	71.8	78.6	...	72.3	73.8	72.9	71.4	73.7	69.9
	Camden	64.2	47.6	62.7	64.1	67.8	...	71.8	69.3	69.1	70.8	71.7	67.4

Camden station started on January 12, 1968.
Newark station at Raymond Boulevard and McCarter Highway closed on February 29, 1968; had to vacate parking lot for construction of building.
Newark station at Washington Street and Branford Place started on August 8, 1968.

Evaluation and Planning Section

The Evaluation and Planning Section was established as a separate entity within the Air Pollution Control Program on August 1, 1968. The section was delegated responsibility to (a) determine the effectiveness of control measures promulgated by the Air Pollution Control Program in reducing various classes of pollution emissions and (b) recommend both long- and short-range objectives to insure the achievement of the program's air quality goals. To fulfill this responsibility, four activities have been implemented:

1. Development of a comprehensive, state-wide emissions inventory system which can be updated on a routine basis.
2. Evaluation of present ambient air quality objectives and determination of the need for new or amended emission standards or control concepts.
3. Evaluation of air monitoring data in comparison with existing air quality criteria.
4. Acquisition and analysis of other data as appropriate, and assistance in other special studies as required.

From its inception to the end of the year, the section initiated and completed the following projects:

1. Review and appraisal of Delaware Valley emissions study made by Drexel Institute of Technology. This included a determination of New Jersey Counties' fuel balance and fuel characteristics.
2. Development of emission density maps from past inventory data for the Nine-County Northeastern Metropolitan New Jersey Area (for sulfur dioxide, particulates and carbon monoxide). This project graphically illustrated the area of high air pollution. These maps will be useful in compiling the state-wide emissions inventory.
3. Study of the potential particulate reduction that could come about by changing Chapter 5. This includes the comparison of Chapter 5's regulations with proposed Federal emission limits. Efficiencies required to meet the most stringent particulate control measures were calculated for the individual point sources.
4. Evaluation of the possible revision of Chapter 7, involving the comparison of control regulations presently used by the state with recommended process-weight relationships.
5. Updating of the New York-New Jersey consultation report resulting from the Federal Abatement Conference (see "Interstate Participation,"

page 107) with a follow-up report describing progress in emission control in the Nine-County Northeast Metropolitan New Jersey Area. Contained in the follow-up report are changes from 1965 and 1966 emission data which reflect the impact of all New Jersey regulations presently in force, as well as current estimates for three pollutants.

6. Determining the procedure for preparing monthly air quality reports in which air quality data will be assembled and evaluated with respect to the effect of program activities on air quality. These reports will be useful to other agencies besides the Air Pollution Control Program.
7. Development of an emissions inventory and "mail-out" and "in-plant" survey forms. The purpose of the survey will be to provide a computer-based enforcement system which, in contrast to the present methods, will be a more rapid and efficient data gathering process for the enforcement of air pollution control regulations.

At the close of 1968, two projects were underway but not yet completed: the report of the Evaluation and Planning Section to be delivered at the Clean Air Council Public Hearing, outlining the functions of the section and its immediate and long-range goals; and the first monthly air quality report, including information on the trends, behavior and levels of air pollutants considered for ambient air quality objectives, and data indicating the relationship between actual measured pollutant levels and the state's air quality objectives.

Motor Vehicle Project

In 1968 the Motor Vehicle Emission Project of the New Jersey Air Pollution Control Project had two main thrusts: Control of emissions from diesel-powered vehicles and control of emissions from gasoline-powered vehicles.

1. Diesel-Powered Vehicles

Phase IV of the Motor Vehicle Project was completed in 1968. Phase IV consisted of the research program for the evaluation and determination of smoke measuring instruments, testing procedures and state standards. As a result of the data produced by this research program, specifications were drafted for an opacity type smokemeter for measuring diesel smoke emissions on the road.

It was determined that the best smokemeter for New Jersey's purposes would be a highly portable light-extinction type which reads out in units of opacity. It was also decided that other methods to measure diesel smoke should be available, since the state's objectives for the control of diesel smoke emissions require that vehicles should not only be inspected on the road by State Police and local enforcement officers, but also in safety inspection lanes by the Division of Motor Vehicles and in the home garages of public buses by the Public Utilities Commission. Accordingly, two other methods for measuring smoke opacity have been proposed. The first involves the use of a simple smoke comparator, a hand-held device which is fitted with a neutral density film of the same opacity as the state standard for diesel smoke emissions. A tester can determine immediately if a vehicle is in violation or not by comparing the opacity of its smoke emissions with the New Jersey standard.

The second alternative method for determining smoke opacity is a simple visual method. This method requires that the person making the measurement be trained in a certified smoke reading school. Local enforcement agencies may send their personnel to these schools for training and certification.

In order to assure that the smoke measurements from a given diesel are in correlation with those taken when the vehicle is under actual operating circumstances, a testing procedure had to be developed. Davidson Laboratory of Stevens Institute of Technology, Hoboken, New Jersey, under a contract with the State of New Jersey, developed the required testing procedure, known as the "Free-Acceleration Test."

2. Gasoline-Powered Vehicles

This phase of the Motor Vehicle Project is divided into two subdivisions: laboratory emission testing and demonstration lane testing.

At the close of 1968, plans were being completed for setting up a motor vehicle emission laboratory which would have two basic functions: continuing development of rapid vehicle emission inspection techniques, and gathering vehicle emission data on vehicles both with and without control devices and properly and improperly maintained mechanical systems. The gathering of emissions data will be used for the establishment of state standards for "used" motor vehicles.

For purposes of demonstration lane testing, the New Jersey State Department of Health received in 1968 a rapid motor vehicle emission testing system which was the first of its type. The equipment constituted the third prototype developed under the direction of the department by the Scott Research Laboratories, Inc., Perkasie, Pennsylvania. Scott set up a special laboratory in West Trenton to accomplish the work, which was financed in part by federal funds.

The unit tests crankcase emissions and tailpipe exhausts for carbon monoxide, hydrocarbons and smoke, registering "pass" or "fail" on each test for each contaminant. It can compare the emissions with federal standards and also with state standards, performing the whole procedure automatically in less than 90 seconds at a cost of less than 50 cents a car. The test can be accomplished by semi-skilled inspectors. By comparison, the testing system now used by the federal government takes 20 minutes plus three hours of calculations, costs about $250 per car, and requires a corps of specialists.

Previewed on a television program filmed by WCAU-TV, Philadelphia, late in March, the unit attracted interest far beyond the confines of New Jersey. By the end of the year, the prototype was set up on the grounds of the Division of Motor Vehicles' Baker's Basin inspection lanes, to be used in testing cars submitted voluntarily by those whose vehicles were undergoing safety inspection as required by the state. It is anticipated that results of this sample testing will be available in 1969.

The personnel of the New Jersey Motor Vehicle Project was increased in 1968 as indicated in the section of this report dealing with Personnel, Training and Office Management.

Deputy Attorney General

In earlier pages of this annual report, there are accounts of precedent-setting legal actions relative to air pollution control enforcement. In 1968, there was a sharp increase in the number of cases handled as well as in dollars collected in penalties by the Attorney General's Office in air pollution litigation. In 1968, the office processed 76 cases and obtained over $35,000 in penalties, as against 48 cases and $13,000 in penalties in 1967. These increases are indicative of the added legal machinery available to, and the continued drive of, the Attorney General's Pollution Task Force. A statistical summary of the air pollution cases handled is given below.

Number of air pollution cases	76
Actions in Superior Court	16
Actions for recovery of penalties	35
Administrative air pollution hearings	25

A statistical summary of the chapters of the State Air Pollution Control Code involved in these cases follows:

Chapter	*2*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Cases	18	18	2	21	14	0	1	2	0

The following air pollution cases were handled by the Attorney General's Office in 1968. (For full details, copies of the Attorney General's report are available from the Division of Clean Air and Water.)

Cases tried in Superior Court

1. American Abrasive Metals Company, Irvington
2. Luzerne Rubber Company, Trenton
3. Koppers Company, Kearny
4. Richlee Dyeing and Finishing Company, Inc., Paterson
5. Erie-Lackawanna Railroad Company, Hoboken
6. Owens-Corning Fiberglas Corporation, Barrington
7. Atlantic City Electric Company, Atlantic City
8. Flockhart Foundry, Newark
9. Bierman-Everett Foundry Company, Irvington
10. South Jersey Asphalt Company, Riverside
11. Southbridge Plastic, Clifton
12. Foran Foundry and Manufacturing Company, Flemington
13. Totowa Cleaners, Paterson
14. Barrett Bituminous Company, Lumberton Township
15. T. Shriver & Company, Harrison
16. Edwin McCarrick t/a Ed's Auto Wrecking, Marlboro Township

Penalty Actions

1. Thomas Construction Company, Paterson
2. Trenton Associates, Trenton
3. Pierini Tanning & Dyeing Company, Newark
4. Urban Farms, Inc., Franklin Lakes Borough
5. Garden State Steel Baling Company, Phillipsburg
6. Oradell Construction Company, Mt. Freedom
7. Federal Pacific Electric Company, Newark
8. O'Connor Trucking Company, Inc., Ringwood
9. Foam Rubber Fabricators, Newark
10. Wheaton, Inc., Union
11. Eric Schuster, Inc., Paterson
12. Edward Construction Company, Inc., Linden
13. Wescal, Inc., Elizabeth
14. F & W Construction Company, Inc., Hamilton Township
15. Southbridge Plastics, Clifton
16. Public Constructors, Inc., Springfield
17. Modell's Shoppers World, Lodi

18. Bierman-Everett Foundry, Newark
19. Arrow Mercerizing & Dyeing Company, North Bergen
20. Urban Farms, Inc., Wayne Township
21. Edwin McCarrick, Marlboro Township
22. Barrett Bituminous Company, Lumberton Township
23. South Jersey Asphalt Company, Riverside
24. Luzerne Rubber Company, Trenton
25. Leimpeter's Disposal Service, Cartaret
26. Anthony Pio Costa, Fairfield
27. Giant Mills, Inc., Paterson (Chapter 2)
28. Giant Mills, Inc., Paterson (Chapter 4)
29. M & M Plating Company, Trenton
30. Trenton Associates, Trenton
31. American Abrasive Metals Company, Irvington
32. Koppers Company, Inc., Kearny
33. Rose Manor Estates, West Paterson
34. Greenpoint Drum & Barrel Corporation, Newark
35. Erie-Lackawanna Railroad Company, Hoboken

Administrative Hearings

1. Foran Foundry, Flemington
2. Totowa Cleaners, Paterson
3. Central Railroad of New Jersey, Raritan
4. Southbridge Plastics Division, W. R. Grace & Company, Clifton
5. Royce Chemical Company, East Rutherford
6. S. A. Schonbrunn & Company, Inc., Palisades Park
7. Wood Industries, Inc., Plainfield
8. Wellen Oil, Inc., Jersey City
9. Coralux Perlite Corporation, Edison Township
10. O'Connor Trucking and Hauling Company, Inc., Ringwood
11. Industrial Metal Lithographing Corporation, Wood-Ridge
12. Allied Chemical Corporation, Edgewater
13. Polyrez Company, West Deptford Township
14. Lawter Chemicals, Inc., American Lithographic Varnish Division, Wood-Ridge
15. Thurston, Allendale
16. P. T. & L. Construction Company t/a Sulisa Stables, Wyckoff
17. Hills Brothers Coffee, Inc., Edgewater
18. Crown Cork and Seal Company, Mundet Division, North Bergen
19. Delta Microwave Corporation, Hackensack
20. Fields Plastics and Chemicals, Inc., Paterson

21. National Solvents Company, Millville
22. Drew Chemical Corporation, Boonton
23. U.S. Gypsum Company, Clark
24. Kewanee Oil Company, Harshaw Chemical Division, Gloucester City
25. Seaboard Coal Dock Company, South Amboy

Interstate and Federal Participation

1. Interstate Abatement Conference—Phase II

Phase II of the Federal Abatement Conference on Interstate Air Pollution in the New York-Northern New Jersey Metropolitan Area was held in New York early in 1968. Phase II dealt with control of pollution from particulate matter. Dr. Roscoe P. Kandle, New Jersey State Commissioner of Health, presented the opening statement for New Jersey on January 31, 1968. He reported on the steps taken by New Jersey to carry out (and even exceed) the recommendations made by the Secretary of Health, Education, and Welfare as a result of the Phase I deliberations in 1967. He also described the New Jersey Air Pollution Program in general, with special emphasis on the most recent developments at that time, such as the regulatory measures to control sulfur dioxide.

On February 2, Richard J. Sullivan, Director, Division of Clean Air and Water, addressed the conference on New Jersey's activity in regard to particulate control. He stated that the use of control equipment and stringent regulatory measures had accomplished an 80 percent reduction in New Jersey's particulate emissions.

The official participants at the conference drew up seven recommendations which were read into the record on April 19, 1968, and forwarded to the Secretary of Health, Education, and Welfare for his consideration in making the final and official recommendations of the conference. These were not issued until 1969.

2. Federal Air Quality Control Regions

Under the terms of the federal Air Quality Act of 1967, the Secretary of Health, Education, and Welfare is required to establish air quality control regions in various parts of the country. On September 30, 1968, representatives of the federal government, New Jersey, New York, Connecticut, New York City and the Interstate Sanitation Commission, met in New York City to discuss the area to be included in the New Jersey-New York-Connecticut region. On November 20, 1968, this area was officially declared to be all of Fairfield County, Connecticut (except the townships of Shelton and Sherman);

Kings, Bronx, Nassau, New York, Queens, Richmond, Westchester and Rockland Counties in New York; Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties in New Jersey.

On October 28, 1968, a consultation was held in Philadelphia, Pennsylvania, relative to the establishment of a federal air quality control region embracing the Delaware Valley area. As proposed, this region would consist of five Pennsylvania counties, five New Jersey counties (Mercer, Burlington, Camden, Gloucester, and Salem), and a county of Delaware.

3. Status Criteria for an Air Pollution Warning System

William A. Munroe, Chief of the New Jersey Air Pollution Control Program, and Roland S. Yunghans, represented the state on a panel of 20 persons whose deliberations resulted in the publication, "Status Criteria for a High Air Pollution Alert and Warning System." Fifteen of the panel members were associated with air pollution control agencies in five states (New York, Connecticut, Pennsylvania, Delaware, and New Jersey) and the federal government; five were peripherally involved with air pollution control. The work of the panel was carried on partly by correspondence and partly at a four-day series of meetings in September, 1968, at Lake Mohonk, New York. The status criteria developed by this panel and set forth in the publication named above are to be used by the State of New Jersey in determining air pollution emergencies in accordance with the Air Pollution Emergency Control Act (P. L. 1967, c. 108).

4. Federal Grants

On July 25, 1968, the New Jersey State Department of Health announced that it had received letters of award from the National Air Pollution Control Administration, Washington, D. C., providing $600,000 in a maintenance grant and $250,000 in an improvement grant for the state's air pollution control program. New Jersey's was one of only seven air pollution control programs in the nation that were eligible and met the criteria for such grants. Nearly half of the $600,000 maintenance grant was earmarked for bolstering the enforcement staff of the air pollution control program. The improvement grant was for use in improving the air monitoring network needed for determining air quality and for implementing the emergency warning system.

In addition to these awards, the National Air Pollution Control Administration approved the Department's application for continuation of a demonstration grant to conduct the state's program for controlling exhaust from motor vehicles. The amount of this grant was $186,916.

Personnel, Training and Office Management

The Air Pollution Control Program gained 25 new employees in 1968. However, because of attrition due to resignations and military leaves, the total number of personnel at the end of 1968 was practically the same as at the beginning of the year. In all, 89 persons were employed by the Air Pollution Control Program as of December 31, 1968.

Nine of the new employees were assigned to Field Control Operations: four to the Metropolitan Field Office, three to the Technical Services Section, and one each to Enforcement and to the Permits and Certificates Section. Research and Development acquired five staff members, the Motor Vehicle Project four. Setting up the Planning and Evaluation Section necessitated the employing of two additional staff. One administrative employee was added, and one Deputy Attorney General as a consultant on air pollution cases. There were three new clerical employees, one of whom had formerly been a student assistant.

Many staff members of the Air Pollution Control Program were engaged in educational pursuits during 1968. Eight men were working toward master's degrees and two on doctorates. Several attended short-term training courses offered by the U. S. Public Health Service both in Cincinnati, Ohio, and Durham, North Carolina. Others studied at Rutgers and City College of New York.

Much equipment was acquired by the Air Pollution Control Program during 1968, including stack sampling, safety equipment and a coulter counter for Technical Services; a dynamometer, an electric strip chart recorder, a metal shed, ramps and levelers and other tools and equipment for the Motor Vehicle Project; a station wagon assigned to Enforcement in the Metropolitan Field Office, Springfield.

The Division of Clean Air and Water rented from IBM Corporation a Magnetic Tape Selectronic Typewriter (MTST), which is shared by the Air Pollution Control Program as well as the other three programs in the Division.

Financial

The air pollution control effort continued to be supported during 1968 by both state and federal funds (see INTERSTATE AND FEDERAL PARTICIPATION: (4) Federal Grants).

In 1968, the Air Pollution Control Program began to operate on the budget for fiscal year 1969. This budget totals $2,272,431, as compared to $1,075,982 for the preceding year.

Some of the major expenditures included in the budget are: (Please note that this is only a partial list of the items in the total budget.)

Item	*State Funds*	*Federal Funds*	*Total*
Salaries	$684,607	$200,361	$884,968
Printing and Office	20,772	41,000	61,772
Vehicular Expenses (Supplies, equipment, maintenance)	11,770	70,200	21,970
Motor Vehicle Project	117,677	476,886	594,563
Scientific Equipment	50,957	223,620	273,577
Office Equipment	2,300	31,176	33,476
Rental, Metro. F.O.	12,375	13,800	26,175
Rental, Southern F.O.	5,790	.....	5,790
Rental, Central Motor Pool	22,824	17,000	39,824
Data Processing	10,050	25,000	35,050
Other Professional	8,500	9,505	18,005
Other	98,738	117,523	217,261
Total	$1,046,360	$1,226,071	$2,272,431

Public Information

The New Jersey State Department of Health is authorized by the state air pollution control statute to "conduct and supervise statewide programs of air pollution control education including the preparation and distribution of information relating to air pollution control." During 1968, the Public Information Office of the Air Pollution Control Program carried out this mandate through a variety of activities, and in so doing generated interest in New Jersey's air pollution control activities which spread beyond the confines of the state to many areas throughout the country and abroad. Much of this interest was on the part of official municipal and state agencies. One of the foreign requests came from a Russian government scientific library, which requested copies of the newsletter published by the program.

Information requests continued to pour in from students ranging all the way from third-grade students to university graduate students. Assignments generating these requests were made not only in science classes but also in classes in English, civics and history, indicating a growing awareness of the far-reaching impact of pollution problems on all phases of human life and society. One of the sources of this growing awareness is the emphasis on pollution problems in the mass media of communication, which in New Jersey results in part from press releases prepared by the Public Information Office. 1968 brought an increase in requests from teachers for curriculum material and visual aids such as films and film strips.

Another phase of person-to-person dissemination of information which constituted a large portion of the work load of the Public Information Office was the answering of literally hundreds of letters of inquiry and complaint sent from private citizens directly to the Air Pollution Control Program or referred by the Governor, by legislators, by the State Commissioner of Health, or the Division Director.

Group and large-scale audiences are reached by such activities of the Public Information Office as speeches, press releases, television and radio appearances, mass mailings, exhibits, and the newsletter NEW JERSEY TIMES. Approximately 130 speaking engagements involving personnel of the Air Pollution Control Program were arranged by the Public Information Office in 1968, in answer to requests from service clubs, professional organizations, citizens' groups, school classes, etc. The Director of the Division filled 29 engagements, the Chief of the Program, 16. Some of these addresses contained pronouncements of major significance and elicited substantial press coverage.

Widespread press attention was given in 1968 to the releases prepared by the Public Information Office, especially to those pertaining to new air pollution control regulations and to enforcement activities. In addition to coverage in news stories, considerable editorial comment was stimulated. A cartoon syndicated in 20 leading New Jersey newspapers with an aggregate readership of 1,220,000 was, according to a statement by its artist, "inspired" by the accounts of record-breaking numbers of enforcement measures reported in the fall of 1968 by the Public Information Office. Press releases are sent to New Jersey daily and weekly newspapers, to daily and Sunday papers in Philadelphia and New York City, to the wire service representatives and State House reporters, to radio and television stations, to air pollution newsletters, and to a special distribution list which includes members of the Clean Air Council, citizens' groups, air pollution control officials, health officers, industrial representatives, technicians, etc.

Richard J. Sullivan, Director of the Division of Clean Air and Water, appeared twice on radio and twice on the television program "New Jersey Speaks for Itself." He was also interviewed on WCAU-TV when the Motor Vehicle Project rapid emission testing system was first demonstrated.

One radio spot announcement, concerning the Clean Air and Water Scholarship Program, was prepared by the Public Information Office.

Numerous mass mailings involving several thousand copies of proposed and newly promulgated codes, reports and documents, releases of special interest, and the like, were made in 1968. Recipients of these mailings include

those on the already-mentioned special distribution list, and also members of the State Legislature, the freeholders, government air pollution agencies, the Medical Society of New Jersey, the New Jersey State League of Municipalities, air pollution consultants, engineers, architects, manufacturers, trade and professional groups, attendees at public hearings, and many others likely to be interested or involved in the material constituting the mailing. Some mass mailings were made in response to requests for material offered in the NEW JERSEY TIMES.

NEW JERSEY TIMES is the shortened form of the title, NEW JERSEY AIR, WATER AND WASTE MANAGEMENT TIMES, which began publication in the spring of 1968. This eight-page bi-monthly newsletter reports activity in the four programs comprising the Division of Clean Air and Water, and reaches an international mailing list of approximately 26,000. It replaces the smaller newsletter AIR-SAN, which ceased publication with the advent of the NEW JERSEY TIMES. It is produced by the same editorial staff as that which formerly produced AIR-SAN.

The Public Information Office furnished material for seven exhibits, three of which were held in September, two in February and one each in March and June. The September exhibits were prepared for "Better Air For Bergen;" Civic Development Garden Club, held in Atlantic City; New Jersey State Fair, Trenton. The February exhibits were for the Newark Public Library and for "Engineering Week," Western Electric Company, Newark. The March exhibit was for the Flower Show sponsored by the Federation of Women's Clubs held in the Morristown Armory. The June exhibit was displayed at the Air Pollution Control Association convention in St. Paul, Minnesota.

In addition to exhibits, the Public Information Office also had prepared various charts and slides illustrating aspects of the Air Pollution Control Program.

A poster, first introduced in July and immediately distributed throughout the state, brought considerable popular acceptance and demands totaling in the thousands for copies to display in factories, offices, schools, churches, stores and other public places. The posters, measuring 11" x 14", were printed on paper, for affixing to walls, and on cardboard, for standing in store windows and on counters, etc. In November, 1968, arrangements were made to produce a 4' x 6' enlargement of the poster, weatherproofed, to display at the Baker's Basin inspection station when the Motor Vehicle Emission Testing Project opened in 1969. At the end of the year, plans were afoot, also, to print car cards featuring the poster motif, for use in trains and buses.

The Public Information Office handled all arrangements for the public hearing on Chapter 11, held on March 5, 1968.

Throughout the entire year, the Public Information Office worked in close liaison with members of the press and with groups such as the New Jersey Chamber of Commerce, New Jersey Manufacturers' Association, Chemical Industry Council, State Federation of Women's Clubs, state PTA Association, citizens' air pollution control committees, etc.

Another facet of the work of the Public Information Office in 1968, as in all years, consisted in giving editorial assistance and/or handling details of publication and distribution of speeches and reports, such as the Part II Interstate Air Pollution statements, the Attorney General's Report on Pollution Cases, the program's annual report and year-end report, and many other papers and reports on various phases of the Program. A packet of orientation materials was prepared for the first meeting of the Clean Air Council.

Potable Water Program

The Potable Water Program was transferred from the Division of Environmental Health to the Division of Clean Air and Water on July 1, 1968.

Program personnel continued to be engaged in the supervision of 490 public water supplies in New Jersey including those owned by state and county institutions. In addition, services were provided to other state agencies owning water supplies (Department of Conservation and Economic Development and Department of Transportation) and to several federal agencies such as the Coast Guard, United States Public Health Service, and the National Parks Service. Cooperative endeavors were also maintained with the United States Department of Agriculture, United States Public Health Service, New Jersey Department of Conservation and Economic Development through the Divisions of Fish and Game and Water Policy and Supply, Department of Institutions and Agencies, Department of Education, Department of Community Affairs, Department of Public Utilities, Department of Law and Public Safety and with the Mobile Home Park, Food and Drugs, Pesticide, Dental Health, Migrant Labor, Water Pollution Control, and Solid Waste Disposal programs of this department. Close working relationships were maintained with the district offices, county health departments, and local health departments.

Routine program activities included inspections and special investigations of public water supplies, interstate carrier watering points, and the sampling and sanitary inspections of all new public water supply wells. Plans and

specifications and related engineering data for new water works facilities were examined and appropriate permits for construction, derivation, and distribution were processed.

Other routine work included the review and processing of quarterly sampling results, monthly operating reports on water plant operation, and applications for renewal of Physical Connection Permits. Water Potability Certificates were issued at the request of the Poultry and Meat Processing Divisions of the United States Department of Agriculture.

Emphasis during the year was placed on continued surveillance of all water purveyors to assure the continued safe quality of delivered water. Numerous recommendations were made and implemented regarding correction of potentially hazardous sanitation conditions at water treatment plants and within distribution systems. Bacteriological sampling by the purveyors of their delivered water product was widely promoted.

Much time and work was devoted to improvement of water quality in existing supplies relative to control of taste, odor, color, and turbidity. Corrosion control within the distribution systems was widely emphasized. Department surveillance of delivered water quality was maintained through the quarterly sampling program and through routine and special sampling.

Investigation was made to determine and correct deficiencies of source and delivered water storage capabilities of many purveyors. Emergency interconnections and standby facilities for use during emergency were advocated.

The program was actively engaged in the engineering aspects associated with the promotion of fluoridation of public water supplies and worked closely with the Dental Health Program and the Public Health Council in this respect. Numerous meetings of the Ad Hoc Committee on Fluoridation were attended.

Representatives of the program testified at several Hearings of the Department of Public Utilities and in Superior Court actions.

Program personnel continued to be active in the educational field having conducted courses at Rutgers University and at Essex County Vocational School. Explanation of program activities was also presented to staff personnel of Local Health Services and the Executive Committee of the New Jersey Health Officers Association.

Liaison with the water works industry was maintained through participation at the meetings of the North Jersey and South Jersey Associations of Water Superintendents and Operators, and also through participation in

both the National organization of the American Water Works Association and its New Jersey Section. Program personnel were represented on the Education, Watershed Sanitation, and State Agencies-Liaison Committees of the New Jersey Section of the American Water Works Association. The program chief represented all State Health Departments as a member of the Engineering and Construction Committee of the Technical and Professional Council of the National Association.

Numerous meetings of the Technical Action Committee on Water Supply and Waste Disposal of the Delaware Valley Regional Planning Commission were attended.

Considerable work was done on behalf of the Bureau of Licensing and Examination in the preparation, grading, and reviewing of licensing examinations.

Increased attention was given to the protection of ground water supply from contamination through pesticides, chemicals, and industrial wastes. Diffusion wells whereby water is returned to the ground aquifer were monitored to determine water recharge quality.

Procedures were instituted with the Division of Fish and Game for an interchange of information relative to proposed applications of aquatic herbicides to surface waters involving sources of public supply.

Continued attention was directed to the dangers inherent in accidental cross connections. A circular entitled "Guidelines For a Backflow Protection Program at Industrial-Commercial Establishments" was prepared and distributed to all water purveyors and local boards of health.

The operation of the program was again severely hampered by a shortage of sufficient engineering personnel and it was found impossible to accomplish many of the objectives which were proposed. Existing personnel were apportioned to priority assignments throughout the state in an effort to achieve uniform coverage. An aquatic biologist was added to the staff as a replacement for one who resigned the preceding year.

Statistical data of work load for the year is shown in Tables 1 and 2 at the end of this report.

The following items were of a specialized nature and are presented separately:

1. Widespread flooding occurred in northern New Jersey at the end of May. Program activities were directed largely toward monitoring

public water supplies relative to flood damage and safety of supply. Approximately 30 supplies were visited in the most severely affected areas and approximately 100 others were contacted by telephone. Flood damage to public supply amounted to approximately $65,000. Close to 230 bacteriological samples were collected by program personnel from public supplies and about 400 additional samples were collected from individual well supplies utilizing program facilities.

Unsatisfactory bacteriological samples were found in the Pompton Plains, Morristown, and Elizabethtown Water Company systems. In both the Pompton Plains and Morristown systems, the adverse results were limited to a few samples and further sampling demonstrated satisfactory quality, which may have been attributed to increased chlorination ordered by the program.

In the case of the Elizabethtown Water Company, it was found that three wells had been inundated and that adverse bacteriological results were widespread from samples taken in a limited area in the vicinity of the wells. Precautionary "Boil Water" Orders were issued in Cranford, Kenilworth, Westfield, and Garwood and action was taken by the Water Company to install emergency chlorination facilities to sterilize the affected mains. Though the episode was of brief duration, the memory lingers on and all disturbances in the system since that time have been cause for concern on the part of the consumer.

2. Widespread bacteriological contamination of the Hillsborough Water Company system in Hillsborough Township was brought to the attention of the program by way of unsatisfactory quarterly sampling. Through cooperation from the Elizabethtown Water Company, an emergency interconnection and chlorination was provided and the matter was resolved favorably.
3. Special biological and chemical sampling was performed relative to the supplies of the North Jersey District Water Supply Commission, the Newark Municipal Utilities Authority, and the Jersey City Water Department to further demonstrate the need for more adequate treatment facilities. Jersey City, in particular, experienced considerable difficulty of supply due to discolored water caused by profuse algal bloom in the Boonton Reservoir. All three supplies are currently under order to provide a more sophisticated degree of treatment. Progress, though slow, is being achieved in that direction.
4. Continuous oil run off into the Raritan River from the Central Railroad Maintenance Yard at Raritan was alleviated through combined

endeavors by the Water Pollution Control Program, the Office of the Attorney General, the Potable Water Program, and the water purveyor. This contamination was responsible for numerous taste-odor problems in the distribution area of the Somerville Water Company whose intakes are just downstream of the point of pollution.

5. As a result of accidental spillage of chlordane into a private well supply in Bergen County, a joint investigation was made in cooperation with the Pesticide Project to monitor ground water quality. Prompt measures ordered to prevent the widespread contamination of the aquifer were apparently successful.
6. Studies were made relative to ground water contamination from salt storage piles maintained by the State Department of Transportation at Mansfield Township in Warren County and Dover Township in Ocean County.
7. A Superior Court Order was obtained against Jersey City for failure to submit engineering data for new treatment facilities ordered by the department.
8. Grants-in-Aid were made to the National Sanitation Foundation to assist in establishing a program to evaluate devices or substances intended for use in treating water on domestic premises and to the Center for Continuing Engineering Studies, Rutgers University, to conduct a Seminar for engineering and water works personnel in "Modern Design Trends in Water Distribution Systems."
9. Arrangements were made through which the program cooperated in the extensive testing of a flash-distillation pilot plant desalination unit located at the Kearny Plant of Public Service Electric and Gas Company. The venture was conducted jointly by the Department of Conservation and Economic Development and the United States Geological Survey.
10. New Rules and Regulations were promulgated effective February 15, 1968 to govern the design, installation, and maintenance of physical connections between unapproved private supplies and the approved public supplies.

Table 1. Summary of Permits, etc. Issued

	1966	1967	1968
Combined projects submitted for examination ..	198	193	167
Projects examined and disapproved	15	18	19
Combined Permits issued	183	175	148
Estimated Construction Costs for Approved Projects	$20,241,400	$27,828,600	$20,150,250
Breakdown:			
New public water supply systems	13	11	19
New sources of supply	80	81	56
New water treatment plants	157	113	86
Additions to existing water treatment plants ...	23	42	26
New water storage facilities	36	55	36
New transmission and distribution mains	32	35	36
Major additions to distribution systems	18	33	27
Original Physical Connection Permits Issued ..	18	16	13
Renewal Physical Connection Permits issued ..	271	268	270
Formal Orders served	19	17	25

Table 2. Summary of Field Work

	1966	1967	1968
Routine inspections of public water supplies ...	226	177	210
Percentage of public supplies inspected	45%	40%	47%
Special investigations and revisits	201	232	260
Routine inspections of "special" supplies (Institutions, etc.)	108	42	16
Inspections of water supplies for United States Public Health Service Certification	12	10	19
Inspections of Interstate Carrier Watering Points	18	133	112
Inspections and tests of new physical connections	27	35	26
New well tests	87	117	72
Field meetings and conferences	142	219	218
Bacteriological samples taken and interpreted ..	5,406	4,921	4,505
Chemical samples taken and interpreted	1,751	1,115	1,058
Biological samples taken and interpreted	...	...	32

Solid Waste Disposal Program

All solid waste disposal areas in the state were inspected on a routine basis during the year. The program now shows approximately 338 known disposal areas of which about 50 or so are characterized as small in scope of operations and used primarily by local Departments of Public Works limited to the disposal of leaves and tree parts, and in this sense, not fully representative as solid waste disposal areas.

A shortage in inspection personnel foreclosed the idea of inspecting all the incinerators in the state which would have to include the 6,000 small installations servicing schools, apartments, and supermarkets.

State-local liaison regarding local plans on solid waste disposal was strengthened during the year and meetings and discussions held with boards of freeholders, health board members, local health officers, and mayors.

In this connection, it is now recognized that any overall state plan developed will have to take into account county systems insofar as the regional solid waste disposal concept is concerned. Many meetings have been held with county officials in this regard including freeholders of Sussex, Warren, Morris, Somerset, Middlesex, Monmouth, and Camden.

Enforcement of Chapter VIII through education of operators of landfills has been a continuing process and field personnel of the program were instructed to thoroughly review the deficiencies observed during course of inspection with personnel who are responsible for operating the landfills. In this connection, new sanitary landfill inspection forms were put into use during the past year. Since the forms are adapted to computerization, the information gathered will provide vital input to the overall development of a state plan. An analysis of the data would permit the program to remain current on all solid waste disposal practices in the state.

Although in 1967 approximately 15 cases were referred to the Attorney General's Office for non-compliance with Chapter VIII, only two were referred in 1968. These two, however, were not brought to court since the operators promptly brought their landfills into compliance, obviating court action.

Operational procedures were formulated by a specially picked Commissioner's Task Force to consider proper disposal of hazardous and dangerous chemicals and metal wastes. This plan was placed in operation on a trial basis with the thought that at its conclusion, regulations could be drafted as an addition to Chapter VIII of the Sanitary Code.

A contract was being negotiated with an engineering firm to study an open pit, over-fire air incineration principle which, hopefully, would provide a means for disposal of leaves, tree parts and/or demolition wastes. The study has not yet been completed.

Negotiations are underway with Rutgers University to undertake a comprehensive survey of the problem of disposal of animal wastes. Plans are being prepared which will enable the project to commence during summer of 1969.

A survey of the Hackensack Meadowlands in anticipation of passage of meadowlands developments legislation was undertaken and data and information accrued and made available as a source of information to the Hackensack Meadowlands Commission which is charged now with responsibility of planning for solid waste disposal, a major consideration in meadowlands development.

Water Pollution Control Program

Significant court action backed up the Water Pollution Control Program in 1968. Superior Court rulings variously: (1) bolstered the concept of large regional treatment facilities for major stream valleys; (2) issued injunctions which had the effect of halting further issuance of building permits where serious pollution conditions existed in a receiving stream; and (3) forced compliance with regulations of the department governing post chlorination treatment of wastewater discharges.

The landmark case developed in Morris County when the court issued orders which "indefinitely" enjoined nine Morris communities from issuing new building permits because of the seriously polluted condition of the Rockaway River, a tributary of the Passaic River.

This legal restraint withstood opposition by several municipalities, builders, financial institutions, and prospective home owners. The action occurred after it was found that the Jersey City-owned treatment plant, which processed the wastewaters of the nine municipalities, was handling 13 million gallons of raw sewage a day whereas the plant was designed to handle less than half that volume.

The same action was applied later during the year to the City of Bridgeton directing it to stop issuing building permits of any kind for new homes or industries, to the High Ridge Sewer Company which operates a package plant serving a housing development in Wanaque Township, and to Washington Township, Gloucester County.

Administrative orders continued to be issued in 1968 to direct municipalities and industries to upgrade sewage treatment plants to meet water quality standards of major watershed areas, a phase largely completed in 1967. A total of 236 orders was the final count.

During the year, the Division of Clean Air and Water issued 227 permits for construction of new or improved sewerage systems to help reduce pollution in the major waterways. The estimated combined cost will reach $102 million compared with 242 permits in 1967 for an estimated total construction cost of $53.6 million.

Grants to study the feasibility of regional facilities from the start of the program in 1965 to the end of 1968 totalled $1,450,000. Most of the state has been covered by studies already completed or underway.

State funds are available as loans to sewerage authorities and municipalities for preparation of engineering plans and specifications for sewerage facilities. During 1968, loans were approved for 70 applicants and totalled $5,100,000. This compared with loans to 22 applicants in the amount of $2,202,152 in 1967.

In another area of state aid, construction grants were approved for eight projects with funding coming from approximately $2.9 million appropriated for the year 1968.

Continued for the third straight summer off the Jersey coast were oceanographic studies of tidal drifts and currents to test the practicality of continued discharge of treated sewage wastes into the ocean off four counties. The studies were made to determine how far outfall lines should be extended off Monmouth and Ocean Counties and to supplement previously completed studies for regional treatment facilities for the area.

In an effort to improve its technological position with respect to measuring pollution parameters of the state's river systems, negotiations were completed with the U. S. Geological Survey which would permit the department to set up an automatic water quality monitoring network of seven major rivers. The system when fully operational will give such data as water temperatures, turbidity, oxygen content and will be electronically tied in at Trenton to the present air pollution control equipment.

Division of Constructive Health

WATSON E. NEIMAN, M.D., M.S.H.A.
Assistant Commissioner for Personal Health Services

Crippled Children's Program	WATSON E. NEIMAN, M.D., M.S.H.A. *Program Coordinator*
Dental Health Program	WILLIAM Z. ABRAMS, D.D.S., M.P.H. *Program Coordinator*
Maternal and Child Health Program	BERNARD N. MILLNER, M.D., F.A.A.P. *Program Coordinator*
Accident Prevention and Poison Control Program	EDMOND D. DUFFY, JR., M.P.H. *Program Coordinator*
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Division of Constructive Health

Introductory Statement

The programs of the Division of Constructive Health in their objectives share the basic concepts of prevention of early diseases where possible; early diagnosis where prevention is not possible; and provision of restorative services when needed.

In addition, to fulfill the mission of the division, it has been demonstrated that the activities of the programs must be closely coordinated within the division. There also must be a combined effort on the part of all governmental, private, philanthropic and professional groups throughout the state if these objectives are to be met.

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 32,428 children registered with the program at the end of 1968 as compared with 28,625 children registered in 1967 and 27,183 in 1966. There were 3,803 children added to the program in 1968 compared with 3,442 in 1967, and 3,279 in 1966. Of the total number of children registered with the program, 9,720 received services in 1968 as compared with 9,370 in 1967, and 9,807 in 1966.

Hospitalization and Convalescent Care

The program assisted in underwriting 18,757 hospital bed days and 21,303 convalescent bed days for 859 children in 1968 as compared with 20,013 hospital bed days and 30,930 convalescent bed days for 825 children in 1967, and 23,467 hospital bed days and 29,946 convalescent bed days for 886 children

in 1966. In 1968, the total expenditure for these services amounted to $1,613,294.26.

During 1968, we participated with 80 New Jersey hospitals, and six Philadelphia hospitals. We cooperated with five convalescent centers in New Jersey and one in the State of New York. Effective November 20, 1967, the program withdrew its participation in New York hospitals when the same services were available in New Jersey, as costs in New Jersey are much lower. Patients needing special care which was not available in New Jersey were referred on an individual care basis to hospitals in Connecticut, Maryland, Massachusetts, Minnesota, and New York.

Prosthetic Devices, Bracing and Appliances

In 1968, the program assisted in providing 2,454 braces and artificial limbs for 1,141 children as compared with 2,421 appliances to 1,152 children in 1967, and 2,252 appliances to 1,011 children in 1966. The total cost of these devices in 1968 was $279,494.14.

Nursing Services

The program paid for 11,630 nursing visits to 6,268 children in 1968. This is an increase of six percent from the 9,983 nursing visits provided to 6,307 children in 1967. In 1966, 9,071 nursing visits were provided to 6,180 children. In addition, nursing consultation services were provided to all nursing agencies working with the program.

Table 1. shows the number of evaluations completed in 1968 and children served, compared to similar categories in 1967 and 1966.

Table 1. Children Served, 1966-1968

	1968		*1967*		*1966*	
	Evaluations	*Children Served*	*Evaluations*	*Children Served*	*Evaluations*	*Children Served*
Asthma	6	6	22	22	8	8
Amputee	20	20	46	45	12	11
Cardiac	4	2	8	5	41	20
Cleft Palate	20	20	27	25	28	25
Cystic Fibrosis	1	1	7	7	21	8
Hearing and Speech Evaluations	391	390	312	312	274	213
Hearing and Speech Therapy	..	..	2,522*	150*	5,649	203
Orthodontia	46	45	71	71	323	125
Physical Therapy	..	..	935*	45*	1,179	52

* For the period ending June 30, 1967, at which time these programs were discontinued.

Table 2. Case Numbers and Payment of Hospital, Convalescent Home and Appliance Services

Hospital, Convalescent Care—Total Number of Children	859
Total Bed Days	40,060
Hospital	
Number of children receiving hospital services	685
Number of bed days	18,757
Convalescent Care	
Number of children receiving convalescent services	174
Number of bed days	21,303
Payment of Bed Days (Hospital and Convalescent Care)—Total	$1,613,294.26
State and Federal Funds	$1,077,382.40
County Boards of Chosen Freeholders	490,012.14
Others	25,494.70
Parents	20,405.02
Appliances	
Total Number of Children	1,141
Total Number Purchases	2,454
Total Payments	$279,494.14
State and Federal Funds	$179,125.60
County Board of Chosen Freeholders	80,219.73
Others	6,594.66
Parents	13,554.15

Table 3.

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	9,095	16,883 Visits
Hospital	685	18,757 Days
Convalescent	174	21,303 Days
Total Count of Children and Services	9,954	56,943 Units

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

Total Number of Children 9,720

County	*Number of Children*
Atlantic	236
Bergen	678
Burlington	231
Camden	495
Cape May	42
Cumberland	214
Essex	2,305
Gloucester	246
Hudson	685
Hunterdon	115
Mercer	373
Middlesex	829
Monmouth	533
Morris	703
Ocean	223
Passaic	293
Salem	96
Somerset	318
Sussex	167
Union	793
Warren	57
Military	21
Institutions	10
Dismissed	57

As in the past, some counties have had difficulty in meeting their share of the cost. Before the end of the year, four counties ran out of money to pay their share of costs. All counties which ran out of money had approprited the maximum amount permitted by law, therefore the program picked up their share of the costs for the balance of the year.

Dental Health Program

Introduction

The present Dental Health coordinator was appointed in March, 1968.

A review of all programs including the 62 treatment programs and one dental health education program that the Dental Health Program was assisting financially was begun.

Preventive Programs and Dental Health Education

Matawan Township in May 1968 and Hightstown in November 1968 began bringing the people in their communities the benefits of fluoridated water. The Dental Health Program assisted by supplying consultation and literature.

Examinations continued to decline and dental treatment services increased. Unless a strong education program is part of an examination, we cannot justify the examination by itself. In 1968, the number of extractions per 100 children treated declined from 17 permanent teeth per 100 children treated to 15 permanent teeth per 100 children treated. Because of fewer examinations, more children were treated and more cases were brought to completion (Table 1).

The Division of Local Health Services worked with the Dental Health Program in assisting local health departments in writing requests for State Health Aid for dental programs. A new approach to evaluation was introduced. In previous years, the number of patients or the amount of treatment provided was considered sufficient evaluation. New evaluation criteria included identification of children with rampant decay and documenting their progress over a period of several years.

The greatest loss of teeth beyond the age of 35 is attributed to periodontal disease. The Dental Health Program co-sponsored a program on periodontal disease with the Academy of Medicine of New Jersey. The symposium was held April 24, 1968 at the Veterans Administration Hospital in East Orange, and 200 dentists attended.

Three-day courses in Dental Care for the Handicapped were held at Monmouth Medical Center, Long Branch; Mercer Hospital, Trenton; Children's Seashore House, Atlantic City; and at the New Jersey College of Medicine and Dentistry, Jersey City. Because of these programs sponsored by the Dental Health Program, 390 New Jersey dentists are better able to treat the handicapped.

The Dental Health Program administered the dental portion of the Migrant and Seasonal Workers Health Program, funded by the federal government through the State Department of Education. The Dental Health Program provided 10 clinical dentists and their assistants (Table 2) and recruited and supervised eight dental students receiving United States Public Health Service Traineeship Grants. The students acted as dental health educators in the migrant schools and assisted at evening clinics for adult migrant workers. Portable dental equipment was provided by the Dental

Health Program, and Cumberland and Atlantic Counties loaned their mobile dental trailers for the summer.

The Migrant Dental Project was strengthened by the addition of a dental health educator from the Cancer Control Program. She helped train the dental students, and used her experience to conduct a demonstration of a self-fluoridation program in four schools (Appendix 1).

Dental services for crippled children were provided in the following hospitals: All Souls Hospital, Camden County Hospital, Cooper Hospital, Monmouth Medical Center, Morristown Memorial Hospital, and St. Barnabas Medical Center. Dental services were provided to children in the Crippled Children's Program.

Studies

Two studies were completed by the dental residents in partial fulfillment of the requirements for certification by the American Board of Dental Public Health. One reported on certain senior dental students views on specific dental problems. The other resident completed a study on what the dentists in New Jersey think about specific subjects and possible problems with regard to Title XIX (Medicaid).

The eight dental students on a United States Public Health Service Traineeship Grant reported on their experiences during the summer of 1968.

Cooperation with Other Agencies

Most of the activities mentioned above involved coordination of efforts with various state agencies. The education and treatment program for migrant workers and their children involved the Department of Education, the Department of Labor and Industry, and various divisions within the State Health Department.

The dental director of the Department of Institutions and Agencies, as well as other interested parties, received the final report of our dental public health resident concerning the Medicaid program in New Jersey. The Department of Institutions and Agencies will administer Title XIX, and the report, prepared within the Dental Health Program, is expected to be helpful to the administrators of Title XIX.

We cooperated with the Crippled Children's Program in providing rehabilitation services for patients with cleft palates. We provided dental services for certain handicapped children, including orthodontic treatment for

those with a handicapping condition. We participated as consultants to a hospital exploring the possibility of creating a cleft palate treatment center.

Continuing education courses in dentistry were a cooperative effort of the Academy of Medicine of New Jersey, the New Jersey College of Medicine and Dentistry, Fairleigh Dickinson University School of Dentistry, Monmouth Medical Center in Long Branch, Mercer Hospital in Trenton, and the Children's Seashore House in Atlantic City.

We cooperated with Mercer County Community College in planning a course for dental assistants.

Table 1. Dental Treatment Program

Year	*Number of Dentists*	*School Districts*	*Number of Examinations*	*Number of Children Treated*	*Percentage of Completed Cases*	*Number of Extracted Permanent Teeth per 100 Children Treated*	*Number of Operations per 100 Children Treated*
1964	95	194	49,968	8,563	50	14	592
1965	104	200	52,044	8,288	52	21	735
1966	114	206	67,235	8,161	52	18	706
1967	134	223	59,763	7,719	52	17	774
1968	125	217	44,010	7,910	53	15	659

Table 2. MIGRANT DENTAL TREATMENT PROGRAM FOR CHILDREN OF MIGRANT WORKERS
July, 1968 to August, 1968

County and Community	Number of Examinations	Number of Visits	Permanent Extractions	Deciduous Extractions	Amalgam Fillings	Other Fillings	Temporary Fillings	Linings	Prophylaxis	X-Rays	Fluoride Treatment	Children Treated	Cases Completed	Percentage of Completed Cases
Atlantic County—														
Buena	127	105	2	13	161	103	4	162	5	2	...	127	9	.07
Hammonton	108	190	8	13	174	103	...	187	3	10	...	108	15	.14
Burlington County—														
Vincentown	138	196	7	46	29	6	4	142	136	...	136	138	66	.48
Jobstown	71	104	4	36	42	...	4	8	66	...	65	71	19	.27
Cumberland County—														
Cedarville	76	202	3	13	54	...	4	12	31	5	76	76	11	.14
Port Elizabeth	96	204	17	14	5	...	1	...	78	...	73	96	59	.61
Port Norris	94	213	13	24	17	3	...	8	79	...	76	94	36	.38
Rosenhayn	97	141	1	23	50	...	...	17	27	18	67	97	12	.12
Stown Creek	91	162	...	52	71	...	5	...	...	...	...	91	...	...
Gloucester County—														
Elk Township	75	137	1	16	85	2	12	1	37	...	36	68	...	...
Swedesboro	50	85	3	29	16	1	...	11	45	...	45	50	...	...
Middlesex County—														
Kendall Park	226	379	16	63	231	24	14	208	65	182	44	349	68	.19
Monmouth County—														
Englishtown	73	138	...	22	127	1	7	...	53	...	51	73	39	.53
Imlaystown	64	186	...	35	41	12	8	14	47	...	46	64	46	.72
Perrineville	111	172	4	20	150	8	8	...	109	...	110	111	41	.37
Salem County—														
Woodstown	82	190	1	30	40	7	2	39	78	...	77	82	...	...
Totals	1,579	2,804	80	449	1,203	270	73	869	859	217	905	1,695	421	.25

Eleven dentists worked in 7 counties (16 communities).

Appendix 1. SELF-APPLICATION OF STANNOUS FLUORIDE-ZIRCONIUM SILICATE PROPHYLATIC PASTE
STATE OF NEW JERSEY, 1968

Date	*School*	*Class Sessions*	*Ages of Children*	*Number Treated*
July 18	Deerfield Township Rosenhayn	2	5-12 yrs.	59
July 22	Wm. B. Donini Buena	3	5-12	85
July 31	First Presbyterian Church Hammonton	2	6-13	51
August 1	Myron L. Powell Cedarville	3	6-12	32
Total				227

Maternal and Child Health Program

General Statement

The activities carried out by the Maternal and Child Health Program in 1968 were designed to promote the health of mothers and children in New Jersey by providing for adequate health supervision and preventive services, and for the early detection, and thorough evaluation of health problems.

Phenylketonuria (PKU) Programs

The program provided for the screening of almost all newborn babies born in New Jersey in 1968; over 87,000 of the 113,000 (estimated) born. This compares to 71,000 tested in 1965.

There were seven new cases of phenylketonuria discovered in 1968 as a result of this screening. This raised the total discovered since the program started in 1964 to 35. The program tested the children born in 79 hospitals in 1968.

The program continued to support two centers where suspected cases were evaluated and children with the disease were examined and treated. Forty-nine cases were under care at these centers in 1968. The cost of their dietary and other treatment was paid for entirely or partially by the program.

Screening blood tests for both phenylketonuria and quantitative blood phenylalanine determinations were performed by the Division of Laboratories. In 1968, 137 quantitative determinations were done, compared to 280 in 1967 and 241 in 1966. There were 540 paper chromatograms done in 1968.

Hospitalization of Infants

Five premature infants were hospitalized for a total of 131 patient-days in 1968. Exchange transfusions were done on three infants, requiring 22 days of hospitalization.

An agreement was made with the Monmouth Medical Center, Long Branch, to support financially the hospitalization of newborns requiring intensive care in a special nursery developed for this purpose at that center.

Child Health Conferences

More than 210,000 visits were made by pre-school age children to the 294 child health conferences in New Jersey in 1968. This compares to 17,000 visits in 1965. The Maternal and Child Health Program provided consultation services, educational and administrative materials, and biologicals to all of them. In addition, 18 were given direct financial support.

Table 1. Services Provided in Child Health Conferences, 1968

	Infants under 1 yr.	*Children 1-4 yrs.*	*Children 5 yrs. and over*	*Total*
Complete Examination by Physician	41,017	46,747	8,394	96,158
Smallpox Vaccine	2,451	12,097	2,670	18,184
Diphtheria, Initial Series	8,624	8,500	4,954	22,078
Diphtheria Booster	290	14,616	9,216	24,122
Pertussis, Initial Series	8,559	8,372	3,409	20,340
Pertussis Booster	290	14,616	9,216	24,122
Tetanus, Initial Series	8,624	8,500	4,954	22,078
Tetanus Booster	290	14,616	9,216	24,122
Polio, Initial Series	10,409	10,001	5,953	26,363
Polio Booster	6,778	18,963	9,168	34,909
Measles Vaccine	1,741	15,205	4,736	21,682
Tuberculin Tests	4,615	13,559	1,646	19,820
PKU Tests (Urine)	13,711	587	11	14,309
Referrals for Medical or Dental Care	1,920	2,113	181	4,214

Child Evaluation Centers

More than 500 children were thoroughly evaluated at the seven centers supported by the program in 1968*. This compares with 216 in 1965. These centers provide pediatric, neurological, and psychological evaluations, laboratory studies, social work case study, and other services required by complex health problems. They are located at Babies Hospital Unit of United Hospitals of Newark; Bancroft School, Haddonfield; Barnert Memorial Hospital, Paterson; Hackensack Hospital; Hunterdon Medical Center, Flemington; Jersey Shore Medical Center, Neptune; and Morristown Memorial Hospital.

* Fiscal Year.

Consultation Services

All hospitals in the state were offered the consultation services of nurse and physician specialists in the fields of maternal and child care. These staff members surveyed maternity, newborn, and pediatric in-patient and out-patient services, and provided face-to-face conferences with hospital representatives and written reports of the conditions found and suggested methods of improving the services concerned.

During 1968, 12 hospitals were visited by the program's obstetrical consultant, and 56 by the public health nurse consultant for obstetrics and nurseries. The public health nurse consultant for pediatrics visited 35 hospitals.

In addition, 44 child health conferences were visited by the staff public health nurse consultant, and 136 were visited by the program's pediatric consultants.

The program also provides consultation services to all the hospitals which have combined obstetrics-gynecology services.

Combined Obstetrics-Gynecology Services

The program continued to provide public health nurse consultants for the surveillance of all hospitals mixing obstetrical and gynecological patients, a procedure allowed only under rigid controls. This activity grew to include 19 hospitals in 1968, requiring three members of the program staff for its operation.

Hospitals entering this program in 1968 were Columbus Hospital in Newark; Middlesex General Hospital in New Brunswick; Montclair Community Hospital; Newark Beth Israel Hospital; Paul Kimball Hospital in Lakewood; Valley Hospital in Ridgewood; and West Hudson Hospital in Kearny. One hospital withdrew from the program voluntarily.

Maternity Service Annual Report

Annual reports of maternity services' activities in 1967 were received from 86 hospitals in 1968. The detailed reports were totaled and summaries of these data were distributed widely throughout the state. In addition, a display of this information was presented at the annual meeting of the Medical Society of New Jersey in May 1968.

Revised report forms for 1968 activities were prepared for distribution to all hospitals in January 1969.

The data reported in the annual reports are keyed to information contained in the Maternity Service Record Books now used in almost all hospitals in New Jersey.

Maternal Deaths

The program continued to oversee the investigation of deaths related to pregnancy. This activity is carried out jointly with the Maternal and Infant Welfare Committee of the Medical Society of New Jersey. Field physicians who carry out the initial investigations are appointed by the committee.

In 1968, 43 deaths occurred, and 28 investigations were completed. This compares to 30 investigations among the 47 deaths which occurred in 1967, 48 of 53 in 1966, and 40 of 57 in 1965.

Unattended Births

As a way to bring needed health services to women not receiving them, the program, through the public health nurse consultants in the district state health offices, attempts to have public health nurses visit every mother who delivered a baby unattended by a professional person. The mother's medical and social situations are evaluated, and ways are suggested to meet the needs of the mother and baby.

In 1968, 85 such mothers were visited, compared to 163 in 1967, 191 in 1966, and 168 in 1965.

Midwives

There were two deliveries by midwives in 1968, compared to one in 1967, six in 1966, and three in 1965. There are now 30 midwives licensed in New Jersey.

Migrant Maternal Health Program

Through agreements with 10 hospitals, the program provided for prenatal, delivery, and postpartum care of 62 migrant workers in 1968, compared to 92 in 1967, 51 in 1966, and 60 in 1965.

Prenatal and postpartum clinic visits totaled 212 in 1968, compared to 100 in 1965.

Educational Activities

1. In cooperation with the Academy of Medicine of New Jersey, the program presented seven symposia for physicians, four on "Complications of Oral Contraceptives," and the others on "Hypertension and Kidney Disease in Pregnancy," "Pediatric Surgery," and "Care of the Premature Infant."
2. For the second time, the program joined the New Jersey Association of School Physicians in planning and presenting a three-day course for school physicians.
3. The program helped support a series of six pediatric lectures for physicians at St. Francis Hospital, Trenton.
4. The program supported and helped to staff the demonstration child health conference administered by Monmouth County Organization for Social Service* Family and Home Service Agencies at the Bodman Health Center, New Shrewsbury.
5. The staff participated in 21 in-service programs for public health nurses during 1968. These were directed toward public health nurses, hospital staff nurses, and industrial nurses.
6. A special obstetrical consultant presented programs on the proper implementation of mixed obstetrics-gynecology services for the nurses, physicians, and administrators of nine hospitals.

Health Education Materials

The program purchased a variety of health education materials and provided them without charge to the public. These included materials on maternal and child health, nutrition, emotional problems, and sex education.

Films purchased by the program were distributed through the Audio-Visual Aid Program of the department and through the film library of the State Museum.

* In December, the Monmouth County Organization for Social Service changed its name to the MCOSS Family Health and Nursing Service.

Publications distributed	4,209,006
Film prints made available through State Museum and Audio-Visual Aid Program	143
Number of film showings	3,219
Total film attendance	178,136

Family Planning

Staff members visited four family planning centers in 1968 to evaluate their facilities and services.

Members also worked with one county health department to plan the establishment of a county-wide service. This is expected to begin operations in the first half of 1969, the first such county-wide service in the state.

Accident Prevention—Poison Control Program

As a result of evaluation visits, the number of Poison Control Centers recognized by the department was reduced from 38 to 36 during the year. A total of 3,459 accidental poisonings was reported in 1968, compared to 3,661 in 1967 and 4,077 in 1966. Home follow-up investigations were conducted by local public health nurses and visiting nurses in 1,372 cases in 1968, 1,450 in 1967 and 1,706 in 1966.

The program concentrated its efforts in the latter part of the year on expanding the availability of follow-up agencies and succeeded in securing the services of four local sources for three additional Poison Control Centers. In-service training courses in follow-up procedures were held for the agencies involved. An instructional guide on proper reporting procedures was developed and distributed to Poison Control Directors.

A program to promote poison prevention activities among state-wide women's organizations was presented by the Coordinator at the State Safety Council's Workshop for state presidents and safety chairmen of such groups as the Jay-C-ettes, Congress of Parents and Teachers, Federation of Women's Clubs, the 4H Advisory Council, the American Association of University Women, and women's auxiliaries of the Medical Society of New Jersey, Veterans of Foreign Wars, and pharmaceutical associations. The coordinator also conducted poison prevention programs for nurses, baby sitters and migrant workers, and provided assistance to local health officers in establishing programs in their departments.

Because deaths from accidental poisonings increased by 23 percent in 1967 compared to 1966, a research project was initiated to determine the cause. Based on the results of the study, a news release was issued warning the public of the dangers of carbon monoxide and a copy of the analysis was submitted for publication to the *New Jersey Journal of Pharmacy*.

To coincide with Poison Prevention Week, the program's annual summary and analysis report of the state's accidental poisoning problems was published in *Public Health News* and the *Journal of Pharmacy*. The program was actively supported in its role as chief disseminator of promotional materials by the Pharmaceutical Association and the Dental Society. Highlights of the observance include:

The signing of the proclamation by the governor, and proclamations by several mayors and other local officials throughout the state.

The presentation of a paper by the coordinator at a five credit-hour poison control seminar for pharmacists sponsored by the Rutgers College of Pharmacy Extension Service in cooperation with the State Department of Health and other agencies.

State-wide displays and exhibits set up in Poison Control Centers, schools, hospitals, and public buildings.

The demand for educational materials on poison prevention by local health officers, nurses, hospitals and individuals exceeded the supply provided by the United States Public Health Service. At the conclusion of the week, a special report describing the state's activities was prepared by the program for the National Planning Council for Poison Prevention Week and published in their annual report.

The program provided statistical information and consultation to the editorial service department of the Hospital Service Plan of New Jersey, the Garden Writers of America, and to the editors of many newspapers, for the preparation of poison prevention articles.

Lead Poisoning

Lead poisoning was the leading cause of accidental poisoning deaths in children under 15 years of age in both 1966 and 1967. Comparative data are not yet available for 1968. Regardless of its rank as a cause of death, the outlook for the children who survive a case of lead poisoning remains grim. Chances are that they may become mentally retarded or have behavior or learning problems in later life.

By arrangement with our department's Division of Environmental Health, a free blood lead analysis service is offered to physicians and hospitals in the state. The lead-free collection equipment which must be used is provided as a service by the program in self-mailing kits. During the year, the Bergen County Health Department was added to the list of locations where the kits are available. Th other locations include the Health Departments in Newark, Paterson, Camden, and Trenton, and the Jersey City Medical Center.

Blood lead determinations were performed by the State Laboratory on 1,069 suspected cases in 1968, 1,540 in 1967 and 1,628 in 1966. Values of .06 or over, which are indicative of abnormal absorption of lead, were found in 127 children. Repeat determinations in many of these children raised the total number of abnormal blood lead levels detected to 171. A total of 297 abnormal blood lead levels was detected in 1967, and 617 in 1966. While the reported incidence of lead poisoning has decreased in the past two years, there is no reason to believe the actual incidence of lead poisoning has decreased.

The decrease probably reflects decreased awareness on the part of physicians who mistakenly equate the manufacture of lead free interior paint with the elimination of the problem. Epidemiologic and environmental follow-up investigations were conducted by local agencies in 78 of the abnormal lead absorption cases.

To assist the investigators in identifying the lead source, the program developed an instructional guide for the collection and submission of paint samples. Local health officers requested more than 200 copies of the guide.

In cooperation with the American Academy of Pediatrics, a lead poisoning promotional and educational program for physicians was conducted in the city of Camden.

The program updated the Lead Poisoning Services and Procedures sheet and revised the fact sheet on Lead Poisoning in Children which outlines the problem and the role of the physician in community programs.

Educational materials were supplied to the Newark Health Department to assist its lead poisoning detection program and statistical information and consultation were provided to various newspaper editors in the preparation of articles on lead poisoning problem in the state.

The coordinator presented a program on childhood lead poisoning at the Engineers Training Program for State Building Inspectors conducted by the Bureau of Relocation, Department of Community Affairs.

Domestic Accident Prevention

One of the program's "Resusci-Annes" continues to be on loan to the Newark Chapter of the American Red Cross for the purpose of education and demonstration in the techniques of mouth-to-mouth rescue breathing. The other, which had been on loan for many years to the Trenton Chapter, is now beyond repair and has been removed from service. A total of 7,643 persons representing police and fire departments, schools, service organizations and local church groups utilized these training devices during the first aid classes and/or lectures and demonstrations in the year 1968.

At Fairleigh Dickinson University the coordinator presented a program on the prevention of falls among senior citizens. Similar programs were conducted in cooperation with the Woodbridge Health Department and the Division of Aging for all senior citizen organizations in Woodbridge Township.

A program guide, "Operation Death Trap," was developed in cooperation with the State Safety Council. The guide was prepared to assist local health departments and interested groups in setting up action programs to remove abandoned or unused refrigerators in order to reduce death among children from entrapment.

A project initiated in 1967 by the New Jersey State Chapter of the American Academy of Pediatricians in cooperation with the State Department of Health was completed during the year. Almost four million leaflets entitled "Safe Driving a Parental Responsibility" were distributed through motor vehicle inspection stations, and at gas stations, restaurants, and toll booths along the Turnpike and Parkway.

A training course, "Accident Prevention and Safety in the Home", was conducted by the coordinator for new personnel of the Sussex County Visiting Homemaker Service. Other training activities included a course on accident problems of pre-school children and the role of the nurse in prevention. This was presented at four in-service training programs for public health nurses. Home accident prevention programs were conducted for the nursing staffs of three local health departments and two visiting nurse associations, and a course on fire prevention and escape techniques was presented to migrant workers in Swedesboro.

Consultation and educational materials were provided to three industrial off-the-job safety programs, and the coordinator presented a paper entitled, "Home and Leisure Environment an Employee Hazard" at two off-the-job safety conferences sponsored by the New Jersey State Safety Council for safety officers of business and industry.

Through a project initiated by this program, in cooperation with the Division of Motor Vehicles, the Commonwealth of Puerto Rico and the Humble Oil Company, a booklet on pedestrian safety for children is now available in both English and Spanish.

A fire prevention and escape technique program was conducted for the staff of the Woodbridge Health Department. During Fire Prevention Week, a demonstration of a fire prevention kit was presented for health and fire officials in Madison. As a result of this program, funds were appropriated by the town for purchase of the kit, for use in schools and with community groups. "Fire Demonstration Guides" were provided to the Secretary of the New Jersey State Fire Protection Association for distribution to fire chiefs interested in developing kits. The program assisted two county health departments in planning Fire Prevention Week activities, and provided ad mats, radio spot announcements, and leaflets, to assist their efforts. Additional fire prevention materials were provided to the District Health Offices for distribution at the local level.

During the year, the Injury Control Program of the U. S. Public Health Service placed on loan to this program a set of educational materials on electrical shock injury prevention. The kit has been placed on temporary loan with the Madison Health Officer.

As a result of promotional meetings with 10 local health officers and two District Health Officers, accident prevention programs were conducted at six local health departments.

The program provided educational materials on various aspects of home accident prevention for distribution at the Safety First Demonstration and Exhibition, Willingboro Plaza Shopping Center, the Franklin Township and Bergen County Health Fairs, and for the Somerset Head Start Program.

During the year, the program also answered numerous requests for educational materials on home safety, lead poisoning and poison prevention by first aid instructors, representatives of various news media, rescue squads, local health officers, women's clubs, nursing associations, pharmaceutical associations, scouts, students, and teachers.

There are 20 films available through the State Museum on poisonings, accidents and safety.

	1968	*1967*	*1966*
Films	20	20	26
Showings	497	253	139
Total Film Attendance	29,394	12,966	7,078

The coordinator participated as a member of the Governor's Coordinating Council on Traffic Safety and served on the planning committee for the Governor's Annual Traffic Safety Conference.

Emergency Medical Services

As a further step in the consolidation of Personal Health Services, on August 30, 1968 the Office of Emergency Health Services was transferred from the Office of the Commissioner to Personal Health Services.

Office of Emergency Medical Services

Activities prior to this date (January-August, 1968) had placed emphasis on the development of rapport with agencies and individuals with responsibilities in areas related to rescue, ambulance, accident prevention and emergency medical care. This culminated in appointment of an Ad Hoc Advisory Committee for Emergency Medical Services to advise the Commissioner on development of the Emergency Medical Services Program for the state. This committee is made up of 15 members carefully selected for their experience and knowledge about emergency medical care, emergency first aid care, ambulance response and services in New Jersey, and other skills related to emergency medical services. The initial meeting of the Ad Hoc Advisory Committee was on July 26, 1968 and the Advisory Committee was organized into four working subcommittees.

At its November meeting, the Ad Hoc Advisory Committee developed a questionnaire for the preliminary survey of those agencies which are operating ambulance services but do not have membership in the New Jersey State First Aid Council. Similar information regarding squads with membership in the New Jersey State First Aid Council will be made available by the council to the Emergency Medical Services Program. Two additional subcommittees were formed to handle the public information and the review of local-grant project applications. The Ad Hoc Advisory Committee recommended that highest priority be given to the development of an effective ambulance-hospital communication system state-wide.

The project director, resigned as of December 31, 1968. The new project director was oriented to various aspects of the program.

The principal field representative has made visits to and had conferences with health officials, local police officials, captains of municipal, commercial and volunteer ambulance squads, dispatchers and some interested citizen-consumers.

The enthusiasm and speed with which the Ad Hoc Advisory Committee and its subcommittees approached their responsibilities have resulted in a steadily increasing conversion from a "planning" to an "operational" state program.

Health Mobilization Services Program

Significent developments in 1968 which affected the Health Mobilization Services include:

1. North Jersey floods.
2. Continuation of the contract with the Training Branch, United States Public Health Service for Medical Self-Help Training Program.
3. Continuation of the redirected stockpiling program of United States Public Health Service.
4. Continuation of the orientation and training programs for health personnel and the general public.

North Jersey Floods and Health Surveillance—1968

Over 300 copies of the manual which had been developed by the program for the 1962 floods entitled "What to do during and after Hurricanes and Floods" were distributed to the involved local civil defense and health officials, county agricultural agents, local newspapers and radio stations, and to 15 diet counseling services of visiting nursing associations of five counties. Radio stations announced the availability of the guide for flood-distressed persons and also gave short excerpts from the manual.

Medical Self-Help Training Program

There were 62,843 persons who completed the 6,772 medical self-help training courses conducted this year. During the past four years, 141,108 persons have taken medical self-help training.

Exhibits at annual conventions of State League of Nursing, State Nurses Association, Women's Auxiliary of Medical Society of New Jersey, and the League of Municipalities were manned. Approximately 24,000 pamphlets "If Disaster Strikes" were distributed.

Packaged Disaster Hospital and Hospital Reserve Disaster Inventory Units

Fifteen general hospitals have already signed contracts with United States Public Health Service for the sponsoring of the prepositioned Packaged Disaster Hospital and the rotation of its stocks and those of the Hospital

Reserve Disaster Inventory Units. Hospital Reserve Disaster Inventory Units of 30 back-up stocks of expendable medicines and supplies are placed with community hospitals at no charge to them in exchange for which the hospital agrees to use them in its daily operations and, at the same time, to continue its normal rate of procurement of these or equivalent items. Hospitals signing contracts sponsoring a Packaged Disaster Hospital unit are expected to develop, in conjunction with the local civil defense and health organizations, a feasible plan of operation for staffing and for the provision of necessary supportive services and supplies.

To assist in the development of community preparedness, training programs for hospital staffs including paramedical and ancillary personnel and for other recruited and assigned personnel were held at four hospitals.

Training Programs

Orientation programs continued at Rutgers School of Pharmacy; Trenton State College; and schools of nursing at Raritan Valley Hospital, Green Brook; St. Elizabeth Hospital, Elizabeth; St. Francis Hospital, Jersey City; Riverview Hospital, Red Bank; Helene Fuld School of Nursing, Trenton; West Essex Hospital, Camden; and Holy Name Hospital, Teaneck. About 300 nurse-students and 100 pharmacy students were among the participants.

About 50 industrial nurses from industries throughout the state received an orientation on the "Role of the Plant Nurse in Disasters."

A post-graduate student from University of North Carolina was given orientation to the role of health departments in disaster.

Community Preparedness

1. Communities

Conferences were held with executive officers, local boards of health and with local health officers of Woodbridge and Livingston to guide them in the development of plans for health mobilization in event of natural disasters and civil disorders.

2. Regional

Conferences were held with the Disaster Committee of Health and Hospital Council of Metropolitan New Jersey and the county coordinators of Essex and of Union counties to guide and assist them in the development of regional plan for natural disasters. Arrangements were made (1) for the utilization of special hot line and facilities at either or both county emergency operating

centers during a non-declared emergency (2) for the group to become the "hospital arm" of the respective county disaster medical and health services.

3. State-wide

Many conferences were held with representatives from trauma committees, ambulance squads, hospitals and health officials to integrate and coordinate the several independent and competing plans of these agencies into one overall plan for review by state officials. Much progress has been made.

A conference was held with Disaster Planning Committee of New Jersey Association of Osteopathic Physicians to assist them in the development of their organizational planning and training.

Conferences were held with Disaster Planning Committee of New Jersey State Nurses Association to guide and assist them in the development of their organization's planning and training programs.

4. Special Hazards

Assistance was given to appropriate personnel at state and local levels in the planning for the organization and operation of disaster plans during emergency condition of atmospheric pollution and also to comply with United States Atomic Energy Commission's regulations for reactors.

Division of Environmental Health

ALFRED H. FLETCHER, M.S. in Engineering, *Director*

Programs:

Food and Drugs ..... FRANCIS A. TIMKO, *Chief*

- Food ..... JOSEPH PRINCE, *Program Coordinator*
- Drug, Device and Cosmetic ..... DONALD J. FOLEY, *Acting Program Coordinator*
- Milk ..... HOWARD ABBOTT, M.P.H., *Program Coordinator*
- Shellfish ..... RICHARD E. BELLIS, *Program Coordinator*

General Sanitation ..... ALFRED H. FLETCHER, M.S., *Acting Supervising Engineer*

- Camp and Bathing ..... ANTHONY T. LEAHEY, *Program Coordinator*
- Mobile Home Parks ..... LLOYD S. HIGGS, *Program Coordinator*
- Ragweed and Poison Ivy ..... (Vacancy)
- Housing ..... ARCHIE B. FREEMAN, *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*

Project:

Pesticide Project ..... NORMAN PLUMMER, M.D., *Director*

Division of Environmental Health

The Division of Environmental Health has directed its efforts to developing and implementing improved plans designed to more effectively control or change the environment, in areas of its assigned responsibilities, in order to prevent or alleviate conditions that adversely affect health.

The division's programs deal with the safety and wholesomeness of milk, shellfish, food handling, and with other foods as they are grown, harvested, processed and distributed; sanitation of swimming and camping places; the health aspects of housing, campgrounds, and mobile home parks; and conditions to which workers are exposed. Programs are carried out to protect persons from unnecessary sources of radiation and workers in industry from concentrations of toxic fumes, gases and dusts that exceed safe standards and noise that adversely affects hearing.

Epidemiologic study and field research are carried out to determine reservoirs of infection and mode of transmission of diseases of animals to humans and to develop practical methods of control. Continuing efforts are made to coordinate information and activities relative to comparative medical aspects of diseases of man and animals and to provide ways and means to disseminate such information. The division also fosters programs and undertakes surveys and investigations to control insects, weeds and animal pests to protect and promote health.

The division is organized into five major units or programs and one special project as follows: Occupational Health, Radiological Health, General Sanitation, Food and Drugs, Veterinary Public Health and the Community Pesticide Project. The activities are grouped into the following programs and project:

Food and Drugs
- Milk and Milk Products
- Shellfish
- Food Handling
- Drug Manufacturing and Wholesaling

Occupational Health

Radiological Health

General Sanitation
- Camp and Bathing
- Housing
- Ragweed and Poison Ivy
- Mobile Home Parks
- Campgrounds
- Plumbing

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

Pesticide Project

An Advisory Committee to update the Swimming Pool Code of 1955 held several meetings in 1968 and virtually completed its work on amendments to the current Swimming Pool Code. The updated Code will be issued in 1969 and will include the latest recommended standards for filters now being considered by the American Public Health Association Committee.

Recommendations were agreed upon for amendments to the Plumbing Code by a standing committee on plumbing matters. These amendments, dealing with the use of asbestos cement pipe for storm water drainage and with certain installation procedures, were implemented in 1968.

An advisory committee to update Chapter IX of the State Sanitary Code dealing with mobile home parks sanitation requirements was approved in 1968 by the Public Health Council as Chapter IX revised. A new Chapter XI on Campgrounds was adopted in 1968.

The department recommends various codes to local boards of health for adoption by reference. The following is a list of such 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)
*Mobile Home Parks Code
Plumbing Code
*Private Campgrounds 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
Weed Control Code (1953)
Sewage Disposal Code

* Sanitary standards for Mobile Home Parks, Campgrounds, and Boarding Home for Children are included in the State Sanitary Code and are enforceable by local boards of health.

Bureau of Food and Drugs

To administer effectively and efficiently and enforce laws and regulations concerning food and drugs, the Bureau is divided into the following programs:

Drugs, Devices and Cosmetics
Food (other than milk and shellfish)
Milk and Frozen Desserts
Shellfish

Each program is designed to provide protection to the consuming public within its specific area. Program coordinators are responsible for developing work programs for enforcing laws and regulations to prevent the distribution or sale of foods, drugs, devices and cosmetics that are adulterated, misbranded or otherwise unfit for human consumption or use. Establishments engaged in the manufacture, production, processing, preparation, handling, storage, transportation and distribution of these commodities are routinely inspected.

Programs issue licenses, permits, accept registrations, certify and develop lists of specific industries, collect samples to determine compliance with standards, and review labels of products to determine that all required information is contained thereon and that the information is legible and true.

Program coordinators maintain constant liaison with federal agencies, other state departments, local boards of health, industry and industrial associations and the academic community. Program coordinators are also responsible for reviewing new federal laws, and policies, suggesting changes in state laws and regulations, and adjusting program activities to keep pace with changing conditions.

Table 1. indicates the number of licenses, permits, certificates and registrations issued in the calendar year covered by this report and the revenue derived therefrom.

Table 1. LICENSES, PERMITS, ETC. ISSUED 1968

Establishments	*Licenses*	*Permits*	*Cert.*	*Regs.*	*Revenue*
Drug Manufacturers and Wholesalers	....	....	....	653	$58,680.00
Egg Breaking Establishments	46	....	....	....	No fee
Frozen Desserts Plants	1,199	....	....	....	21,240.00
Frozen Desserts Plants Inspection Fees	....	....	....	....	1,075.00
Milk Plants	....	362	....	....	15,075.00
Narcotic Manufacturers and Wholesalers	99	....	....	....	855.00
Non-Alcoholic Beverage and Water Bottling Plants	133	....	....	....	No fee
Refrigerated Warehouses and Locker Plants	160	....	....	....	7,175.00
Shellfish Establishments	....	....	174	....	No fee
Slaughterhouses:					
Red Meat 69	....	....	....	....	.....
Poultry 151	220	....	....	....	No fee
Totals	1,857	362	174	653	$104,100.00

Penalties amounting to $5,650 were collected through the efforts of the department and the Attorney General's office for violation of various sections of the laws and regulations enforced by the program.

Legislation

In February of 1968, Governor Hughes signed into law Assembly Bill No. 251, creating Chapter 311, P. L. 1967, an act concerning the counterfeiting of drugs, devices and cosmetics. The act is included in Title 24 as Chapter 6D.

Effective July 1, 1968, the department adopted regulations concerning "Good Drug Manufacturing Practices." The regulations are effective in the enforcement of Title 24 under the Drug Program.

Effective April 1, 1968, the department adopted regulations redefining areas from which shellfish can be legally taken. The regulations resulted in reopening 147 acres of shellfish growing waters and the condemnation of 764 acres for the legal harvesting of shellfish.

P. L. 1967, C. 303 amended the butterfat standards for milk, flavored milk, cultured milk and yogurt from a minimum of 3.0 percent to 3.25 percent butterfat. This legislation became effective February 15, 1968.

Regulations of the department which became effective August 31, 1968, defined and established standards for eggnog, eggnog flavored milk, milk shake mix and acidified milk products.

Regulations of the department which became effective September 3, 1968, defined and established standards for imitation milk and imitation fluid milk products, and established sanitary requirements for processing these products.

Education and Training

Program personnel attended the following training courses and conferences during 1967.

Basic Sanitation Course—Rutgers University.
5 men—14 weeks

United States Public Health Service, Region II, Food Seminar—Rutgers University.
2 men—2 days

United States Public Health Service, National Communicable Disease Center Course, Trenton, N. J.—"Epidemiology and Control of Salmonellosis."
2 men—5 days

Central Atlantic States Association of Food and Drug Officials Annual Conference, Philadelphia, Pa.
1 man—3 days

United States Food and Drug Administration Course, Brooklyn, New York—"Organoleptic Detection of Decomposition in Fish."
2 men—1 week

Oyster Institute of North America National Convention, Washington, D. C.
1 man—1 day

National Shellfish Sanitation Workshop, Washington, D. C.
1 man—3 days

Interstate Seafood Seminar, Ocean City, Maryland..
1 man—2 days

Regional Shellfish Planning Conference, Kingston, Rhode Island.
1 man—4 days

United States Food and Drug Administration and Federal Trade Commission Regional Conference on Fair Packaging and Labeling Act, Trenton, N. J.
2 men—1 day

National Conference, Association of Food and Drug Officials of the United States, Hartford, Connecticut.
1 man—4 days

Rutgers University Market Milk Conference.
6 men—1 day

New Jersey-Pennsylvania Milk Reciprocity Conference.
2 men—3 days

United States Public Health Service Annual Conference of Milk Survey Officers.
2 men—3 days

Food Program

(Other than Milk and Shellfish)

State, federal and local food control agencies are continuing their efforts to develop new and more meaningful programs to provide maximum consumer health protection.

A considerable amount of recent food control legislation at all government levels has been consumer oriented. At the federal level, laws such as the Fair Labeling Practices Act and the Wholesome Meat Act have been passed by Congress. Laws regulating fish processing and egg breaking have been introduced.

Bills have been introduced in the state legislature that would require clear, colorless packaging for fresh and frozen meats and dating of perishable foods.

Local boards of health have either passed or are considering similar legislation.

State, federal and local enforcement agencies are now working in very close liaison to develop a "single concept" inspection system to avoid wasteful, costly, unnecessary duplication of inspections and multiple enforcement policies. To implement this program, the department has commissioned 24 United States Food and Drug Inspectors as special agents for the New Jersey State Department of Health. At some future date, department employees will be commissioned as United States Food and Drug representatives. This program will allow each agency to do a complete inspection in any establishment whether in interstate or intrastate commerce. This activity should insure success of the single concept system.

Strong emphasis is being placed on surveillance of potentially hazardous foods. These are foods that are capable of supporting rapid and progressive growth of bacteria including those that are capable of producing disease in man. Federal agencies are giving similar emphasis to potentially hazardous foods in their enforcement programs.

Development of good manufacturing practices for specific food industries and exploration of the possibility of industry self-certification by the United States Food and Drug Administration are examples of new concepts in food control that are being pursued. The Food Program is actively participating in these activities.

On July 1, 1968, the Meat Inspection Program administered by the Bureau since 1959 was transferred to the State Department of Agriculture. Under the new law, the Department of Agriculture is responsible for complete surveillance of meats and poultry down to the retail level. The State Department of Health and local boards of health maintain responsiblity at the retail level. Our small inspection force will continue surveillance of meats, meat products and poultry at the retail level under the Food Program.

Meat and Food Program personnel spent a considerable amount of time in cooperation with the Department of Agriculture to insure an orderly transfer of program functions.

After completion of a training course for Food Service Sanitation Survey Officers conducted by the United States Public Health Service, five department sanitarians were field trained and certified as United States Public Health Service Certified Food Service Sanitation Survey Officers. Our survey officers in turn trained and certified the remaining qualified state sanitarians as State Certified Food Sanitation Survey Officers.

Certified sanitarians are in the process of conducting evaluation surveys of food inspection programs in local boards of health. To date, three local food programs have been evaluated. Certified sanitarians will also train and certify all local sanitarians as required under departmental certified health services.

The following activities have been conducted to revitalize and upgrade food establishment sanitation and food service practices.

Egg Breaking

Routine inspection of egg breaking establishments and selective sampling of frozen broken eggs offered for sale in New Jersey were continued during the year. A total of 80 inspections covering the 46 licensed establishments was conducted. Investigations also disclosed that eight establishments are now equipped with pasteurization units which operate under continuous inspection of the United States Department of Agriculture.

A total of 4,680 pounds of frozen eggs were removed from human food channels due to excessive bacterial contamination. More than 18,000 pounds of adulterated eggs remained under embargo at the year's end awaiting proper disposition.

Potentially Hazardous Foods

The program continued to emphasize and expand activities in this important disease-related phase of our food control activities. This year's sampling was directed to fresh coconut custard pie, fresh pumpkin custard pie, chocolate cream filled donuts, banana cream filled donuts, chocolate covered cream filled eclairs, white cream filled donuts, custard filled donuts, and other bakery products. A total of 661 samples was collected and analyzed for total plate count and coliform determinations. This figure is double the number obtained during 1967. Of this number, 134 or 20 percent of the samples analyzed contained over 100,000 bacteria per gram and 99 or 15 percent indicated coliform counts in excess of 100 per gram. The program continues to use a guideline standard of 100,000 bacteria per gram and 100 coliform organisms per gram that were established as guides by the Commissioner's Advisory Committee on Potentially Hazardous Foods when the program was initiated in 1963.

The program continued to inspect establishments in association with sample collection and obtain follow-up samples from establishments where sample results are below standard for total plate count or coliform determinations.

Surrounding states and municipalities were notified when imported products failed to meet program standards.

A departmental grant to the East Orange Health Department for laboratory aid made it possible for East Orange to institute sampling at the retail level and also to process samples for the state from the metropolitan distribution area.

Emphasis is being placed on hazardous foods control by the United States Food and Drug Administration demonstrated by the establishment of a pilot sampling program to establish the need for a National Center for Microbiological Analysis.

Salmonella in Foods

Salmonella contamination in raw and processed foods continues to be a problem of growing concern to food control agencies throughout the country. The problem, though extremely important from a food borne disease standpoint, also relates to the technological methodology associated with specific food processes.

Recent investigations of the smoked fish industry have proven that times and temperatures traditionally used by the industry are not sufficient to assure destruction of salmonella in the contaminated raw product. Problems associated with contaminated smoked fish caused the industry in the New York area to virtually cease operations until proper processes can be installed.

Good manufacturing practices for specific food industries developed by the United States Food and Drug Administration are being developed to establish guidelines that will be of assistance in the control of this problem.

Two recent deaths in Jersey City from salmonella food infection associated with a family turkey dinner prompted the department to issue a news release to alert the public to the fact that all unprocessed foods are not completely safe unless they are handled in a manner consistent with good public health practices and are cooked sufficiently to destroy pathogenic organisms.

The problem of salmonella contamination is not new. The problem has become apparent because food control agencies and the industry are more aware of the problem and are sampling more foods to detect the presence of salmonella contamination.

It is interesting to note that many of our recent recalls of food are industry initiated on a voluntary basis indicating better quality control programs within the industry.

The program cooperates closely with other departmental agencies in food related salmonella outbreaks and assists the United States Food and Drug Administration in its recall activities.

Interstate Cooperation

Our reciprocal inspection programs with official food control agencies in Pennsylvania, Connecticut, and Rhode Island for inspection and/or licensing of bakeries and non-alcoholic beverage plants shipping products into their jurisdictions continued during the year. There were 197 inspections and reinspections of 111 bakeries and 41 inspections and reinspections of non-alcoholic beverage plants conducted in their behalf. Additional inspections were made upon specific request of other state departments and local boards of health.

A much closer relationship has been established between the program and the United States Food and Drug Administration. Under the single concept inspection system and our cross-commissioning policy, the two agencies are avoiding duplicate inspections. Our overall policy is to allow the agency having the greater interest in a particular problem to pursue inspection and follow-up actions. This policy often results in joint inspections and cooperative follow-up action.

Our cooperative policy extends to the use of the extensive laboratory facilities of the United States Food and Drug Administration upon request of the program for special samples. Our field representatives, upon request, will pick up samples for the United States Food and Drug Administration.

In the interest of better laboratory facilities, the Food and Drug Administration purchased a gas-chromotograph and placed it on loan in our Division of Laboratories.

Catering Program

The reciprocity program for the supervision and control of caterers continued during the year. One hundred and nineteen establishments are now listed in our General Registry of Caterers. Fifty-five inspections were conducted by 23 local boards of health participating in the program. Individual reports of inspection are forwarded to local boards of health upon request and the entire list of establishments including inspection results was forwarded during the year.

Wholesale Food Plant Inspection Activities

A major activity of the program is to locate and place under routine inspection all food establishments doing business in interstate commerce. During the year, 509 inspections and reinspections were conducted at 466 food establishments doing business in interstate commerce. This represents an increase of 45 establishments over last year's total. In addition, there were 288 inspections conducted at food establishments not engaged in interstate commerce. Representatives of the department made 1,231 visits and 342 investigations associated with locating unlisted uninspected establishments, special surveys, special food sampling projects and similar activities. Visits and investigations include work activities in the Meat Program prior to July 1, 1968.

Increased inspection activities resulted in locating and licensing 21 new refrigerated warehouses.

Approximately 165 consumer complaints were handled by the program during the year.

The following table lists the number and type of establishments inspected under the Food Program. Includes activities in Meat Program to July 1, 1968.

Table 1. Establishments Inspected, 1968

Slaughterhouses (Red Meat)	142
Slaughterhouses (Poultry)	157
Meat Processing Establishments	189
Bakeries	197
Confectionery Plants	17
Egg Breaking Establishments	80
Non-alcoholic Beverage Bottling Plants	57
Refrigerated Warehouses	60
Restaurants	4
Wholesale Food Distributors	54
Food Processing Establishments	287
Total	1,244

The table below lists the type and quantities of food destroyed for noncompliance with departmental laws and regulations.

Table 2. Foods Destroyed Because of Non-Compliance, 1968

Eggs, Frozen	5,550 lbs.
Eggs, Shell	850 lbs.
Flour	60,900 lbs.
Fruits and Vegetables	65,874 lbs.
Grocery Items, Assorted	101,328 lbs.
Meat	46,762 lbs.
Misc. Food	1,536 lbs.
Liquor	1,080 lbs.
Total	283,880 lbs.

Approximately 328,800 pounds of food were released from embargo after being cleared for removal by reconditioning, relabeling or being found to be satisfactory by laboratory analysis or physical evaluation. Approximately 203,000 pounds of food were still under embargo at the end of the year.

Under our cooperative program with the New Jersey Turnpike Authority, program personnel responded to 20 calls due to accidents and fires involving food. Approximately 106,000 pounds of damaged food were destroyed, approximately 122,000 pounds of food were released for sale, and 32,000 pounds of food remained under embargo at the end of the year.

United States Food and Drug representatives under their capacity as Special Agents for the department placed seven embargoes on food suspected of being adulterated under state laws.

There were 733 samples of food and 80 samples of water from private water supply systems collected during inspection of food and meat establishments and special sampling surveys and investigations.

Two food establishments paid a total of $300 in first offense penalties for operating under insanitary conditions and one egg breaking establishment and one refrigerated warehouse paid $150 in first offense penalties for operating without a license.

Adulterated Meats

Program and district field personnel continued effective enforcement efforts in the area of consumer health protection through surveillance of retail markets, wholesale processors and other establishments distributing hamburger, sausage and other combinations of fresh ground meats. Hobart fat tests to detect excessive added fats and Malachite Green tests to detect the presence of sodium sulphite used to conceal inferiority were utilized. Four hundred and three Malachite Green tests were made with 12 suspicious sam-

ples collected for official laboratory confirmation. Three of the suspicious samples (0.74 percent) were confirmed as positive for sodium sulphite by laboratory analysis. This year's total of 0.74 percent unsatisfactory samples compares with 1.48 percent for 1967.

A total of 243 Hobart field tests was conducted on ground meats to detect the presence of excessive fat. Twenty-five suspicious samples were collected and submitted to the laboratory for official sample analysis. There were 11 of the 25 suspicious samples (4.5 percent) confirmed in the laboratory as being below standard by chemical analysis. This year's total of 4.5 percent unsatisfactory samples compares with 5.0 percent for 1967. An overall total of 7.4 percent of all field and laboratory samples analyzed this year were unsatisfactory; this compares with 7.5 percent during 1967.

Seven first offense penalties of $50, two $100 second offense penalties, and four $200 third offense penalties were collected for excessive fat. Five $50 first offense penalties and one $100 second offense penalty for added sulphites were also collected. A total of $1,700 in penalties was collected.

Although the Meat Inspection Program has been transferred to the Department of Agriculture, the Food Program will continue the sampling program.

General

Program personnel continued to cooperate with federal, state and local agencies making special joint investigations, collecting samples for special analysis and label review, placing embargoes on fire damaged or foods otherwise adulterated and coordinated special projects involving other agencies. Technical and consultative services were also provided for other department agencies, industry, consumer groups and the consuming public.

The program continued to secure samples of raw agriculture commodities under a limited surveillance program to detect the presence of pesticides in such products. A total of 98 samples was submitted to the laboratory for analysis.

Results of analysis of raw agriculture commodities for pesticides collected by the United States Food and Drug Administration in this state are forwarded to the program for review and follow-up action where indicated.

The Food Program Coordinator continued to serve on the State Emergency Food Advisory Council that is responsible for supplying food for New Jersey residents in the event of an emergency attack. The council operates

under the Department of Agriculture in cooperation with the Department of Defense, Division of Civil Defense.

Drug, Device and Cosmetic Program

Cooperation, not competition; integration, not isolation have been the keynotes of drug program activities in 1968. Significant precedents were established in enforcement of the multifaceted drug, device and cosmetic statutes which greatly benefited the consumer and the State of New Jersey.

Near the end of 1967, Commissioner Kandle arranged for Drug Program personnel to meet with Dr. James L. Goddard, Commissioner, United States Food and Drug Administration, to arrange for a state/federal single system concept in the enforcement of state and federal food and drug laws. Basis of the single system concept was the free interchange of drug inspection reports, accumulated data and inter-communication that would lead to a greater protection to the consumer public in these areas.

Implementation of the single system concept commenced in 1968. Initially, all members of the field inspection staff received federal training in drug plant inspection techniques, preparation of drug sample collection and drug recall surveillance reports, and federal drug laws and regulations. In addition, all field inspectors participated in an intensive two week course in modern drug laboratory instrumentation given at the Food and Drug District Laboratory in Brooklyn, New York. Upon completion of the federal indoctrination and training, Commissioner Kandle, the Chief of the Bureau of Food and Drugs, the Drug Program Coordinator, and 10 field drug inspectors were eligible to receive a Commission as United States drug inspectors, capable of enforcing all federal as well as state laws pertaining to drugs. These commissions were scheduled to be presented in early 1969.

To promote uniformity in the enforcement of drug laws in the single system concept, Commissioner Kandle promulgated, effective July 1, 1968, a regulation establishing "Current Good Drug Manufacturing Practices." These regulations are, in fact, the federal regulations, reworded to relate the requirements to state statutes.

To integrate federal inspectors into state drug activities, a crash training course in New Jersey drug statutes was prepared and held for 23 federal inspectors. Such training included pertinent drug laws and regulations, embargo procedures and drug sample collection requirements. On August 19, 1968, Commissioner Kandle conferred upon the federal inspectors a commission as "Special Agent of the New Jersey State Department of Health."

The benefits of the single system concept quickly became apparent. In a short time, state drug program personnel acting upon a federal libel of adulteration, instituted enforcement proceedings against a New Jersey firm engaged in manufacture and repackaging of drugs for United States institutions and agencies. Commissioner Kandle issued an order closing the drug plant and state inspectors embargoed all remaining drug stock on the premises and monitored the return for destruction of all adulterated drug stock in federal inventory. A second enforcement action instituted by state Drug Program personnel was the closing of a drug manufacturing plant for gross insanitary conditions and violations of current good manufacturing practices. This action resulted in three drug products being recalled from the consumer market for being adulterated with pesticides. Laboratory analyses for these products were conducted by the Food and Drug Administration.

Other state drug program activities performed in participation in the single system concept included 65 man days spent in a national program of collecting and recording 257 United States Food and Drug Administration surveillance drug samples for laboratory analysis. At the request of federal authorities, state personnel performed two effectiveness checks on drug products recalled from the consumer market as being adulterated or misbranded.

United States Food and Drug Inspectors were quick to utilize their state commissions. On September 9, 1968, federal agents embargoed 68,646 vials of drugs in a New Jersey drug firm, and on October 4, 1968, as a suspect hazardous substance, embargoed 200,000 "ice balls."

In addition to the services performed pursuant to the single system concept, plant inspections of drug manufacturers and drug wholesalers were continued as required by N. J. S. A. 24:6B. In 1968, the program registered 653 firms at 761 locations pursuant to the act. Inspections were completed at 135 manufacturing plants and 75 drug wholesalers. A total of 79 special investigations was conducted involving drug manufacturers and wholesalers. In activities concerning drug manufacturers, 133 drug samples were collected for laboratory analysis, of which seven were violative resulting in two embargoes and destruction of $20,000 of adulterated or misbranded drug products. Pursuant to N. J. S. A. 24:6B, fees in the amount of $58,680 were collected and deposited in the state treasury. Program personnel participated in 18 inspections of pharmacies located in after-care facilities requesting certification pursuant to the Medicare act. Personnel also engaged in 48 inspections of self contained underwater breathing apparatus (SCUBA) air manufacturers. Fifty-one samples were collected and field tested; three were found to be in violation of the regulation governing the quality of air manufactured for use in SCUBA. Violative air was released to the atmosphere. The cause of the violative practice was corrected, on site, and new air produced was re-tested for compliance.

In 1968, program personnel investigated two fatalities involving SCUBA divers. On July 6, 1968, a SCUBA diver was hit by a boat while surfacing. The second fatality occurred 10 miles out in the Atlantic Ocean. The deceased was from out-of-state. The body and diving gear were immediately returned to his home state and all requests for information were refused.

Progress and cooperation have been carried forward in the program activities concerning Chapter 262, Public Laws 1966—"New Jersey Hazardous Substances Act"—now titled N. J. S. A. 24:5A. Provisions of this act require proper labeling for household use of such products as rust and stain removers, antifreeze, paint, paint thinners and removers, most bleaches, toilet bowl cleaners and certain photo chemicals. The labeling on these products should caution the household user in the use, misuse, flammability, explosive properties, storage, and disposal of these common household items. Program personnel completed 437 investigations concerning these articles and conducted 38 consumer market surveys regarding retail sales of products subject to the act. Investigators conducted 18 special investigations concerning hazardous substances, resulting in one destruction. In addition, 27 consultations were held with local boards of health resulting in an additional local board commencing its own program in this field as a Certified Public Health Service. In this activity, the program maintains close association with the state's Accident and Poison Control Program. Personnel also assist in special investigations jointly with United States Food and Drug Administration offices. Consultation is also provided to the New Jersey Department of Institutions and Agencies' Bureau of State Use in connection with precautionary labeling on containers of hazardous substances manufactured or repackaged for use within the state institutions.

R. S. N. J. 24:18, "New Jersey Uniform Narcotic Drug Law" provides for the licensing by the State Department of Health of all manufacturers, wholesalers and users of narcotic drugs in research or teaching institutions. Pursuant to this act, the program has conducted 98 inspections and special investigations of the 99 licensed premises. Each licensee is inspected annually for the attendant safeguards, security and accountability of narcotic drugs manufactured, wholesaled or researched on the premise. Statutory fees collected by the program pursuant to this activity amounted to $855 which were deposited in the state treasury.

A companion activity concerning narcotic drugs is the "Marihuana Search and Destroy Mission." Pursuant to R. S. 26:2–81 and 82, personnel, during

the months May through October, search the state for unreported growth sites of wild marihuana. A registry of past known and reported sites is maintained. Each year, old sites are checked for re-growth, new sites are found or reported, marihuana growth is certified and the county prosecutors notified. Program personnel monitor the destruction of such wild marihuana growth. For the growing year 1968, 21,973 plants were destroyed. This resulted in a loss to the illegal market of $19,200,000, an increase of $12,000,000 over the 1967 growing year.

In addition to the licensing provision of the New Jersey Uniform Narcotic Drug Law, the Drug Program is the enforcing authority to control diversion of narcotic drug stocks in possession of registered pharmacies and practitioners in the state. Activities pursuant to that section of Narcotic Drug Law are incorporated into the similar activities of the program regarding N. J. S. A. 24:6C.

N. J. S. A. 24:6C—Chapter 314, P. L. 1966—commonly referred to as "The Stimulant and Depressant Drug Act," provides for the Department of Health to control and account for the disposition of all depressant (goofballs) and stimulant (pep pills) drugs in the possession of licensed manufacturers, wholesalers, practitioners, pharmacies, hospitals, nursing homes, dispensaries and other public health agencies. State and federal agencies in this area of enforcement mutually agreed, in the furtherance of joint cooperation, to share this responsibility. Federal authorities, at present, are exercising their control at the manufacturer and wholesaler level of distribution; the state is assuming control at the retail level to the ultimate consumer.

Commencing with the largest segment of licensed registrants, the 1,863 permitted pharmacies, the Drug Program initiated its activities in June of 1967. To date, 275 pharmacies have been inspected. In 1968, 128 pharmacies were inspected, special inspections of four manufacturers were conducted; special investigations of three wholesalers were made; and five routine inspections of institutions and hospitals. In addition, 127 visits were made and seven inspections conducted of medical practitioners subject to the act. Subsequent to inspections made pursuant to this act, 24 samples of drugs were collected, of which two were violative, resulting in one destruction of an inventory valued at $20,000.

In the spirit of cooperation to other state agencies, the Drug Program has referred pharmacy violators of the act to their licensing authority, the New Jersey Board of Pharmacy, for penalty or any further disciplining action deemed necessary. Since the inception of Drug Program activities pursuant to the act, 52 pharmacies in violation of the act have been referred to the Board of Pharmacy, resulting in levied fines totaling $9,250.

In February 1968, Governor Hughes signed into law, Assembly Bill 751, referred to as "The Drug Counterfeiting Act" and by statutory reference known as Chapter 6D of Title 24 Revised Statutes. This statute provides the Department of Health with the machinery and, by allocation, the needed money to expand its operations to protect the drug consumer from being swindled by substitution of counterfeit drugs for genuine, proven, and accepted drugs. In 1968, after passage of the act, plans were formulated to increase program personnel engaged in this activity and equip additional men with special training and skills in this area of enforcement. Specialized equipment was obtained. In October 1968, two field investigators with acceptable training and experience were hired.

Incidental to all operations of the Drug Program, personnel monitored nine pharmacy firms involving 29 working days. Nineteen embargoes were placed on drugs determined to be adulterated or misbranded. Personnel participated in 134 meetings, conferences or seminars; 23 days were spent at drug oriented conventions. There were 188 days given to office, field and special training in drug problems. Personnel spent 24 days in attendance at drug hearings or testifying in court. The program investigated 18 consumer complaints involving drugs.

In November 1968, personnel surveyed all coastal areas subjected to flooding on November 12-13th. Nine establishments serving food and liquor were inspected, 11 liquor stores were checked, and 13 food stores and 10 pharmacies were visited. One establishment suffered serious damage, resulting in the embargo and destruction of 6,000 pounds of food and 35 quarts of liquor under supervision of program personnel.

Milk Control Program

The program provided supervision of the 327 milk plants, 1,053 frozen dessert plants, and the dairy farms supplying milk to those plants which prepare milk and milk products for New Jersey consumers. The supervision included inspections of the above establishments and sampling of their products as prepared for distribution and sale.

Reports of inspections and analyses of samples, received from qualified official agencies having reciprocal agreements with the department, are correlated with information developed by our staff. This information provides a basis for quarterly releases to all local boards of health on the status of available milk supplies.

Legislation was passed raising the standard for butterfat in milk from 3.0 percent to 3.25 percent. This brought the standard for milk in line with the U. S. Public Health Service recommended standard and with the standards of most of the states in our milkshed. Milk plants apparently have no problem in meeting the new standard, and some plants whose milk had been testing close to the old minimum, have raised their butterfat levels to provide a safer margin over the new minimum standard.

"Imitation milk" made its first appearance in New Jersey in two different forms. One product was made by substituting vegetable fat for the butterfat in milk but retaining the nutritional qualities of milk. The other product was a synthetic product prepared by combining vegetable fat and solids with stabilizers and emulsifiers.

The department promulgated regulations establishing product standards and sanitary requirements for plants which process those products. However, lack of consumer acceptance of both products resulted in discontinuance of their sale in this state.

Another activity of the program involves the rating of milk plants and frozen desserts plants for compliance with the U. S. Public Health Service Recommended Codes. The ratings are made by trained personnel for use in determining the status of plants as suppliers for Interstate Carriers and federal government installations, and for listing as Interstate Milk Shippers. There are 28 such establishments under supervision in this phase of the program, which also includes evaluation of industry farm inspectors and laboratories performing analyses of milk and fluid milk products.

As an adjunct to the Public Health Service milk plant inspections, we are now inspecting plants which manufacture single-service containers and closures for use in the dairy industry. Reports of these inspections are supplied to the Public Health Service for listing as sources of those materials. A special two day seminar in the requirements to be met by such plants was attended by our two Public Health Service Certified Milk Survey Officers.

Penalties in the amount of $3,500 were collected for the following violations: Nine for milk dating violations; five for adulteration; four for insanitary conditions; four for receiving milk from unapproved sources.

The table below shows the number of reports of inspections made, samples collected and analyses performed in the program, which were received during 1968.

Table 1. Summary of Work Performed, 1968

	By Food and Drug Personnel	*By Reciprocal Agency Personnel*
Milk Plant Inspections	251	384
Dairy Farm Inspections	2,855	6,837
Frozen Desserts Plant Inspections (Interstate)	92	39
Samples Collected	1,504	2,930
Analyses Performed (by laboratories)	4,537	9,532

Shellfish Control Program

Shellfish are defined by New Jersey regulation as "All edible species of clams, oysters and mussels, either shucked or in the shell, fresh or frozen." Included under this broad definition are several species produced in New Jersey. They are hard clams, soft clams, surf clams, eastern oysters, and mussels. The following tables indicate New Jersey's rank among the 20 producing states for each of the four most popular shellfish species along with the percentage of total production for that species.

Table 1. New Jersey's Rank in Shellfish Production

	1967		*1966*	
	National Rank	*Percent of National Production*	*National Rank*	*Percent of National Production*
Surf Clams	1	92.3	1	95.5
Hard Clams	2	17.9	2	12
Soft Clams	5	1	6	1
Oysters	10	1.8	12	1

When the total landings for all four species are compared for each of the 20 producing states, New Jersey ranks number one in the United States.

Shellfish are filter feeders and pump great quantities of the water in which they live through their bodies filtering out food for themselves. During the feeding process, they concentrate whatever is in the water in their bodies. Shellfish are traditionally eaten whole including the visceral mass where these concentrations of filtered material are normally found. Shellfish are traditionally eaten uncooked (on the half shell) or partially cooked (steamed). For these reasons, shellfish very closely reflect the quality of the water from which they are harvested. The department conducts comprehensive sanitary surveys of shellfish growing and harvesting waters in order to classify these areas as to their acceptability for direct market harvesting of shellfish. With

the assistance of the Stream Pollution Control Program and the Division of Laboratories, the following sanitary surveys were carried out in 1968:

1. Raritan Bay
2. Shrewsbury River
3. Barnegat Bay (Mathis Bridge to Forked River)
4. Barnegat Bay (Forked River to Main Point)
5. Reed Bay
6. Brigantine Area
7. Absecon Bay
8. Great Egg Harbor Bay
9. Peck Bay to Corson Inlet
10. Great Sound—Jenkins Sound
11. Delaware Bay (Ben Davis Point to Dunks Point)
12. Delaware Bay and Delaware River (Dunks Point to Artificial Island)

In the performance of sanitary surveys, analysis of water samples is required. The table below compares the 1968 water samples analyzed with previous years.

Table 2. Growing Water Samples Collected and Analyzed

1965	*1966*	*1967*	*1968*
9,634	10,798	9,051	9,413

The following table shows the number of acres involved in reclassification over a four year span.

Table 3. Changes in Water Classification

	1965	*1966*	*1967*	*1968*
Acres Opened	1,200	671	260	147
Acres Closed	512	5,372	432	764

In the reclassification, approximately 74 acres of growing waters located in Golden Hammock Thorofare near Brigantine were opened in November 1968. The opening resulted in record breaking catches of hard clams from those waters. One industry representative referred to the catches as "beyond the wildest dreams of some of us." It was noted that 24,000 clams were caught by one man in one day by hand raking from this area. A total of 65 to 75 harvesters benefited from the reclassification of these waters.

The status of shellfish growing waters in New Jersey is compared below for the three year span ending with 1968.

Table 4. Status of Shellfish Harvesting Waters Shown in Acres

	Total	*Approved*	*Seasonally Approved*	*Condemned*
December 31, 1966	392,852	313,760	1,871	77,221
December 31, 1967	392,852	313,068	2,131	77,653
December 31, 1968	392,852	312,937	2,131	77,784

When growing waters are classified as condemned, it is important that shellfish harvesters be made aware that they cannot harvest shellfish from these waters. In order to accomplish this, condemned area charts have been developed showing the status of shellfish waters in New Jersey. A record number of 12,000 such charts were distributed to harvesters throughout the state in 1968.

In addition to the charts, signs are erected indicating condemned areas. Nineteen hundred sixty-eight saw the completion of a program to introduce new and improved signs more clearly indicating their purpose.

As a cooperative effort, a physical patrol of condemned waters is carried out by the Division of Shell Fisheries in the Department of Conservation and Economic Development. Comparative patrol results are shown below:

Table 5. Patrol Results

	1965	*1966*	*1967*	*1968*
Apprehensions	35	78	73	127
Charges	..	..	123	203
Guilty	31	69	96	146
Not Guilty	4	3	12	4
Dismissed	..	..	6	15
Suspended	..	..	2	4
Dropped	..	3	2	..
Pending	..	3	5	18
Probation	..	..	..	11
Committed	..	..	..	2
Warrants Out	..	..	..	3
Fines	$1,939.50	$2,760	$3,470	$5,095

Another function of the program is certification of shellfish dealers for intrastate and interstate trade. The following table compares the numbers and categories of certified dealers over a four year span:

Table 6. Numbers of Certified Dealers

	1965	1966	1967	1968
Shellstock Shipper	74	82	95	92
Reshipper	64	63	55	56
Shucker Packer	11	13	18	16
Repacker	6	7	6	6
Digger Retailer	5	7	7	9
Total	160	172	181	179

In addition to the certified dealers listed above which fall under the legal definition of shellfish dealers, the program supervises bay scallop shuckers and publishes a list of those who are approved. A four year comparison is shown below:

Table 7. Approved Bay Scallop Shuckers

1965	1966	1967	1968
31	35	36	27

In order to determine whether or not dealers meet the requirements for certification, the Shellfish Program conducts sanitary inspections, follow-up visits, collects samples of potable water in the certified establishments and collects samples of market shellfish. The statistics below reflect these activities over the four year period ending with 1968:

Table 8. Inspections and Samples

	1965	1966	1967	1968
Sanitary inspections and follow-up visits	667	744	437	1,004
Potable water samples	172	206	186	178
Shellfish samples	518	743	740	593

The federal government continued to endorse the New Jersey State Shellfish Control Program during 1968 thus allowing certified dealers in New Jersey an approved interstate market for their products.

Rutgers, the State University under a federal grant continued research into the depuration (self-purification) of hard clams. Findings at the end of 1968 indicated that hard clam depuration in New Jersey waters was not yet a dependable means of cleansing. Research is continuing.

The Shellfish Control Program initiated a plan for transplanting shellfish from the condemned waters of Raritan Bay to the approved waters of Sandy Hook Bay in order to utilize a presently unobtainable resource and to discourage illegal harvesting of shellfish from condemned waters. Support for the program was obtained from state and national shellfish industry organizations; Rutgers, the State University; the State Department of Health; and the State Department of Conservation and Economic Development. At the end of 1968, all agencies were working toward accomplishment of the transplant program.

Program personnel conducted a survey and prepared a report of the New Jersey Fisheries Industry. The report indicated a need for closer supervision of this important food industry in New Jersey. Recommendations to that effect were made to the State Commissioner of Health.

Plans were formulated to conduct a special investigation of certain phases of the surf clam processing industry in New Jersey. Field investigations were completed and writing of the report was begun. The investigations centered around two areas of the processing which could potentially contribute to bacterial build-up in the product.

Camp and Bathing Program

Lake Bathing

Seventy-nine lake bathing places or areas were certified by this department during the 1968 bathing season. That figure is significant since it represents an all time program high, exceeding by five the prior high.

Participation in the certification program is voluntary on the part of bathing lake owners or operators. The names and locations of places certified were given public recognition through the medium of the press. Additionally, each certificate holder was issued a large sign for posting on his premises alerting the public to the fact that his place had been found to satisfy criteria established by this department pertaining to water quality, sanitation, and safety.

Camps

There were 298 camps (resident and day) known to this department during the 1968 summer camping season. That figure represents a new program high and tops by 27 the highest number previously recorded. Of the 298, 271 were subjected to inspection, with 243 being awarded certification on the basis of detailed findings.

Table 1. TRENDS

	1965	1966	1967	1968
Lake Bathing Places Certified	64	71	74	79
Camps Certified	218	220	203	243

Mobile Home Parks Program

A major effort was initiated to encourage county health department involvement in program field activities and to orient their personnel to mobile home park problems relative to Chapter IX, State Sanitary Code.

To carry out these goals, a visitation schedule was established in the counties of Salem, Cumberland, Cape May, and Atlantic on a bimonthly basis. An effort has been made to provide office and field consultation as well as field training services.

With the revision of Chapter IX effective September 1, 1968, new inspection forms and application forms were developed, field tested, and, after some revision, placed in general use. The mobile home park inspection form and the mobile home park lot inspection forms have, for the first time, been developed so that inspection evaluation can be made on a scoring basis.

In November 1968, a Sanitarian Trainee was employed by the program and began a mobile home park inventory survey of the northern half of the state. Upon completion of this survey, the sanitarian began discussing local health department involvement in program activities.

Noxious Weed Control Program

The program to eliminate and control noxious weed growths, particularly ragweed and poison ivy, received increased attention from state and local municipal health officials in 1968. The number of municipalities participating in the ragweed pollen monitoring program was increased from 16 to 21 during the year. Also, several municipalities initiated new weed control programs or expanded existing programs including the Townships of Livingston, Middletown, Lakewood, Princeton, and Woodbridge. The health departments of seven municipalities received State Health Aid in carrying out programs to control ragweed and poison ivy, and health officials of the Cities of Camden and Brigantine, Borough of Mountainside, and the Township of Mahwah, requested technical assistance in surveying local noxious weed problems and preparing cost estimates for initiating weed control programs in 1969. Princeton Township was assisted in conducting a one day informational program for its highway employees on proper weed control measures.

The Division of Environmental Health conducted a State Noxious Weed Control Conference on July 24, 1968 with about 70 state and local officials in attendance. The conference provided an opportunity to discuss the public health need for carrying on more effective noxious weed control programs, the organization and operation of existing programs, the latest research information on herbicides and their proper use in weed control programs, and a demonstration of herbicide spraying. The Division of Environmental Health also took an active part in planning, developing, and conducting the program for the Annual Meeting of the Public Health Section, Northeastern Weed Control Conference. Some of the other northeastern states, particularly New York and Pennsylvania, have indicated that increased emphasis will be given to the control of noxious weed growths.

Thirty-six municipalities requested the Division of Environmental Health to review and evaluate the effectiveness of their noxious weed control programs in connection with the special citation awards for 1968. The special citation awards, which will be presented at the Annual State Noxious Weed Control Conference, are intended to give due recognition to those municipalities which are found to be carrying out highly effective or outstanding local programs for the elimination and control of noxious weeds as an aid in improving environmental health and preventing undue suffering by allergic persons coming in contact with poison ivy or being subjected to excessive concentrations of ragweed pollen. It is estimated that at least five percent of the population of New Jersey, some 400,000 people, suffer hay fever attacks during the ragweed pollen season, August through September.

Field surveys have indicated a need for an effective cleanup and beautification program, particularly in some of our urban communities. In order for a program of this type to be successful, it must receive the support and participation of all inhabitants and include the control of weeds, litter, and debris.

Housing Program

The number of municipalities participating in programs to improve housing conditions and control deterioration of existing housing continued to increase in 1968. Approximately 300 copies of the recommended New Jersey State Housing Code were supplied to requesting municipal officials, and eight municipalities reported adoption of the code or revision of their existing housing regulations. Nineteen local health departments received State Health Aid in the amount of $126,012 to assist in carrying on hygiene of housing programs.

There was also a noticeable increase in the number of requests for technical assistance in the interpretation and enforcement of the recommended New Jersey State Housing Code. These requests included:

1. Assistance to the Division of Housing and Urban Renewal, State Department of Community Affairs, in investigating the causes of sewage overflows in a garden type housing project at Paulsboro and a detailed survey of the sewerage system serving this large housing facility.
2. Assistance to Madison Township Health Department in investigating sewage disposal complaints at the new housing project for elderly and retired people.
3. Assistance to the building inspector in getting heating facilities repaired and temporary heat provided at a public housing project in Piscataway Township.
4. Assistance to the Camden Public Housing Authority in connection with complaints on cockroach and rodent infestation.

Numerous general housing complaints were referred to the four district offices and to local health and housing inspectors for investigation and corrective action.

The Bureau of Housing Inspection, State Department of Community Affairs, was assisted in surveying all occupied dwellings and dwelling units in the Northgate Urban Renewal Project Area of Camden. The housing in this blighted and substandard housing area has now been demolished and new high-rise, modern apartment buildings will be constructed. Assistance was also provided to the Department of Community Affairs in conducting an in-service training program for its housing inspection staff.

The Coordinator for the Housing Program served as a member of the Municipal Code Enforcement Training Study Committee organized by the Bureau of Government Research, Rutgers—the State University, which undertook a comprehensive study and evaluation of the duties, responsibilities, educational requirements, and training needs of building, housing, zoning, plumbing, electrical, and fire inspectors. New and revised training courses are expected to be made available to local municipal code officials through the Bureau of Government Research in 1969. The Program Coordinator served as course coordinator for two 60-hour courses entitled, "Principles of Housing Inspection," which were held at Bloomfield and Cherry Hill. Assistance was also given in developing the program for a similar course held on the Rutgers Campus at New Brunswick. Certificates showing satisfactory completion of these courses were issued to 72 local housing inspectors.

At the request of Model Cities Project Officials and State Health Department liaison officers, the Housing Program Coordinator made field reviews of environmental health conditions in Model Cities Project Areas in Perth Amboy and Jersey City. These blighted areas were found to be in need of a thorough cleanup program as a first step in upgrading the environmental health and safety of the residents of these communities.

Housing Program—Plumbing

There were two meetings held during 1968 of the Standing Committee on Plumbing Matters to consider requests for changes, additions and inclusion of new materials in the recommended State Plumbing Code. These meetings and the work of the committee are intended to keep the code for local adoption up-to-date, and provide the best guidelines possible to plumbing inspectors and the plumbing industry in New Jersey.

Seven additional municipalities officially adopted the State Plumbing Code following consultation services provided by the Plumbing Consultant of the Division of Environmental Health. The Plumbing Consultant also participated in four joint meetings of plumbing inspectors and plumbing industrial organizations to discuss and interpret State Plumbing Code requirements, and served as a special consultant at six meetings of the Grand Jury of Somerset County in the interpretation of the State Plumbing Code.

The Plumbing Consultant served as a member of the Municipal Code Enforcement Training Study Committee of the Bureau of Government Research, Rutgers—the State University, and lectured on the plumbing requirements of the State Housing Code at the three short courses conducted during the year for housing inspectors. Increased emphasis is being given to providing needed training for all municipal code enforcement officials, including plumbing.

Occupational Health Program

The year 1968 was a banner one for the Occupational Health Program. More industrial establishments were surveyed and studied, more workers were helped by our services, and more samples were analyzed than at any time since the program's inception in the year 1942. Therefore, it can be reasonably concluded that much sickness and suffering were prevented that would have resulted from exposure to poisons encountered in the work place and that time lost from work was prevented, which would have resulted in a loss to the state's economy. A statistical summary for the 1968 calendar year activities and a comparison for the years 1966 through 1968 are included at the end of this report.

Over 15,000,000 square feet of new industrial construction was approved in New Jersey in 1968. The labor force increased to a total of 2,850,000. During this same period, 47 new chemical compounds were added to the list of more than 300 now recognized as being hazardous to the health of industrial workers. The complexities involved in evaluating these poisons in the work place required diligence and experience by program personnel. Numerous recommendations were made to industrial plant management to improve work conditions, detail methods of treatment for illness, provide better industrial nursing services, and modern recordkeeping. Thirty-eight unsolicited letters of thanks and appreciation for the program's services were received from grateful individuals.

The Occupational Health Program conducted technical studies in 561 industrial establishments that have a combined working population of 201,589. In order to evaluate the environment in these 561 establishments, personnel processed 880 air samples while on location and reported 4,181 evaluations of noise, heat, humidity, and air flow. They also collected 498 samples of air-borne solvents, metal fumes, gases, and dusts for laboratory analyses.

No Band-Aid Queens

A total of 79 industrial nurses in four separate sessions have availed themselves of a unique consulting program. Once a week for nine weeks, the nurses traveled to Trenton to meet with the occupational health nurse consultants and received on-the-spot assistance with their problems; this is part of an in-service course entitled, "Orientation to Industrial and Community Nursing."

The nurses have discussed problems ranging from what to do with an obstreperous alcoholic employee to how to help a worker who is addicted to drugs. No longer is the industrial nurse merely the "band-aid queen of the company's first aid station"—her role is changing to meet the changing needs of the most important commodity in the country today—the American worker.

As an additional result of these courses, four registered nurses left retirement and are now actively employed in industry.

Laser Study

The death ray is now a reality and is freely available to anyone who desires it. Laws exist forbidding the interstate sale of such archaic weapons as the rifle and pistol, but there exists no law or control of the laser ray. In its present state of perfection, the ray is silent and can be constructed so as

to be invisible to the eye. It is, therefore, feasible to use the laser without any visible or audible means of detection.

The Occupational Health Program with assistance from the Radiological Health Program of this department and the U. S. Public Health Service conducted a study of the use of lasers in New Jersey. Thousands of lasers are in use throughout our state in industry and research centers. The energy produced varies from milliwatts to gegawatts or higher. They can be utilized for communication, welding, drilling, surveying, removing a tattoo, medical treatments, and many other peaceful applications.

There is no record of personal injury from lasers in this state at present. However, a government survey reveals that less than 45 percent of the lasers in use today are considered to have a low risk factor. Over 70 percent of the companies visited did not require eye protection, and more than 35 percent were considered to have inadequate controls or required further evaluation.

Community-wide Health Surveys

Community-wide health surveys in industries were conducted in eight municipalities as requested by the local health departments. Over 156 industrial plants were involved. The main purpose of the survey program was to detect poisons that could create occupational diseases and to eliminate or reduce those hazards. Requests for community-wide health surveys continue to be received from local health departments. Our present staff is working to capacity.

New Approaches to Meet the Needs of Workers

Assistance from the Occupational Health Program was given to a private industrial medical clinic operated by two physicians, a nurse and an x-ray technician, along with a clerk-receptionist, which provides medical coverage for 106 small companies in a highly industrialized area of southern New Jersey. Those companies that employ their own nurses also receive medical direction from this particular medical clinic.

Community Noise Complaints

Numerous complaints from citizens of noise intrusion indicated that noise pollution is a major problem in modern society. Noise affects man's ability to communicate by speech and may have some permanent damaging effect on his hearing. It prevents proper sleep and contributes to the aggravation of neurotic symptoms affecting the emotional stability of individuals. It has a great economic importance through its influence on the value of property.

In an effort to control noise, many communities, with assistance from the Occupational Health Program, adopted legislation designed to control noise intrusion. During 1968, six communities adopted new ordinances specifying performance standards in decibels. A Rutgers survey found that 71 percent of the communities responding reflected an awareness and attention to the problem by means of a specific ordinance or segment of an ordinance. Of these 186 respondees, 93 had specific noise ordinances, 36 had general nuisance codes, 13 had health department codes, and 44 had the restrictions in their zoning ordinances. A need has been expressed for a law at the state level to control noise that crosses community boundaries.

Noise in Industry. During the calendar year 1968, noise studies were conducted in 73 plants, nearly all of which had noise levels capable of producing hearing loss. Hearing conservation measures were recommended. However, adoption of these recommendations will, in many cases, not come about without a legal requirement.

New Building Odors

Have you moved into a newly constructed home or work place lately and found vapors so irritating to your eyes and nose that you were unable to remain within the building? Several complaints of this nature have been filed with the Occupational Health Program. Upon investigation by engineers, it was determined that the odor permeated every room and, indeed, was irritating.

Further investigation revealed that the odor was caused by a siding used on the exterior of the buildings. The odor appeared to grow more intense when the temperature and humidity were high. As facts were pieced together, the cause appeared to be a phenolic resin applied to the siding during production. Finally, the odor was narrowed to two possibilities, carbolic acid or formaldehyde. Air samples were collected and evaluated to determine which substance was the villain. Formaldehyde was established as the cause. If the level of contamination within the building should rise above 10 parts per million and a person is exposed for more than eight hours, a health hazard could exist. Should irritating vapors appear in your new home or work place, evaluation by a team of experts is warranted.

Railroad Passenger Car Fumes

Commuter troubles were again this year augmented by fumes from diesel internal combustion engines entering self-propelled railroad cars. Assisted by engineers from the Department of Transportation of this state and the railroad company, Occupational Health Program personnel conducted studies

inside the moving train cars. Air samples proved that conditions were not as bad as suspected. Repairs to vehicles and motors following previous studies appear to have corrected previously proved health hazards.

Education and Training

Program personnel participated in Public Health Service sponsored activities relating to a one-week laser safety conference and workshop, a two-day conference on respirators for protection against asbestos dusts, a two-day conference on health hazards associated with isocyanate exposures, and a three-week course of occupational mental health nursing. Program personnel completed a one-week course on industrial toxicology given at Wayne State University and attended a three-day noise conference in Washington, D. C.

Assistance was given to the preparation of a Code for Non-Ionizing Radiation Protection and a Health Officers Guide to Occupational Health sponsored by the American Public Health Association.

Numerous papers were presented on occupational health subjects before interested organizations, the Lions and Rotary Clubs, schools, and Rutgers—the State University. Occupational health workshops were conducted by program personnel for new sanitarians being oriented to the field of public health.

Blood-Lead Program for Children

The Occupational Health laboratory processed 1,473 blood and urine samples for lead content in the continuing campaign to assist physicians and hospitals in their battle with lead absorption, particularly among children. Ten percent of these cases, or 151, had ingested sufficient lead to be of great concern, since it often leaves children mentally retarded and wards of the state or is the cause of death. Not all of these cases can be followed, as the families are usually poor and move frequently. However, follow-up visits did achieve correction of the cause of the lead poisoning in 90 percent of the cases.

Table 1. Statistical Summary of Occupational Health Activities, 1968

Field Activities	
*Number of industrial establishments given service	493
*Number of employees in establishments visited	201,589
*Number of workers affected by services	73,862
*Number of other places and areas visited	68

Number of field visits made:

Requested

a. Management	51	e. District Health	12
b. Labor	20	f. Citizen	33
c. Plant M.D. or nurse	22	g. Other State Depts.	50
d. Local Health	295	Total Requests	483
Self-Initiated			78
*Total			561

Plant Environmental Services

	No. of Visits
Introductory visit	362
Industrial hygiene survey	369
Technical study of hazards	241
Noise and vibration	46
Consultation only (advisory)	2
Follow-up on recommendations	10
All other	
*Total	1,030

Worker Health Services

Promotion of plant health programs	214
Consultation on medical aspects	16
Consultation on nursing aspects	41
Consultation with local health dept. on plant health services	
Other	
*Total	271

Environmental Recommendations:

Number made	1,280
Number complied with	
Estimated cost	

Field Determinations:

Atmospheric contaminants	880
Physical conditions	4,181
Radiation monitoring	
*Total	5,061

Laboratory Analyses:

Routine	498
Air pollution	
Diagnostic	1,476
Research	322
*Total	2,296

* Starred items represent minimum requirements for a national system for standard reporting of occupational health activities.

Related Activities

Office consultation services and inquiries handled 1,549; lectures given 38; meetings attended 84.

Table 2. Statistical Summary of Occupational Health Activities

Activity	*1968*	*1967*	*1966*
Number of Establishments Given Service	561	522	365
Total Employment in Establishments Visited	201,589	190,530	115,007
Number of Workers Affected	73,862	65,546	44,045
Number of Field Determinations	5,061	3,648	4,008
Number of Laboratory Analyses	2,296	2,727	2,083
Number of Inquiries Answered	1,549	1,513	1,375
Backlog of Requested Studies	690	705	386

Radiological Health Program

Introduction

Man has been exposed to radiation since his earliest days on earth. The effects associated with natural background exposure, if any, are minimal; however, with the increasing use of radiation producing machines and radioactive material in industry, research and medicine, the potential for injury from the improper use of ionizing radiation has increased.

What injuries result from the improper use of ionizing radiation will depend on such factors as partial or total body dose, the magnitude of the dose, whether the dose was received in a short time or over a long period of time, and the form of ionizing radiation.

Trained people are required to use the machines and materials to full advantage with a minimum of radiation exposure to New Jersey residents. One of the positive steps taken toward the reduction of x-ray exposure was the signing into law of the X-ray Technician Certification Act, Assembly Bill 660, as Chapter 291, P. L. 1968. The Bill was signed by Governor Richard J. Hughes on September 6, 1968 and became effective December 6, 1968. The law provides for the regulation and certification of x-ray technicians and establishes an X-ray Technician Board of Examiners as an agency of the Commission on Radiation Protection. In addition to other requirements, applicants for certification must pass an examination encompassing the following subjects: x-ray physics, radiographic techniques, darkroom chemistry and techniques, anatomy and physiology, radiation protection, radiation therapy, medical terminology, basic electronics, radiological equipment maintenance, radiological mathematics, and professional ethics.

In order to continue to encourage and assist the desirable and proper growth of use of nuclear energy for peacetime purposes, Governor Hughes created the New Jersey Atomic Energy Council by Executive Order No. 38 on January 5, 1968. The establishment of this Council will assure that New Jersey will accomplish its objectives more effectively than in the past.

The members of the New Jersey Atomic Energy Council are:

1. Attorney General Arthur J. Sills.
2. Board of Public Utilities President Brendan T. Byrne, Esq.
3. Commissioner Robert A. Roe, Department of Conservation and Economic Development.
4. Commissioner Roscoe P. Kandle, M.D., Department of Health.

The Council appointed two staff members: William Gural, Esq., Deputy Attorney General as Secretary; and Charles G. Amato as Senior Nuclear Engineer.

Commission on Radiation Protection

The Commission on Radiation Protection was created in the Department of Health on July 8, 1958 by the enactment of Chapter 116, P. L. 1958. The Commission consists of the Commissioner of the Department of Health and the Commissioner of the Department of Labor and Industry or their designated representatives and five members appointed by the governor with the advice and consent of the senate. The members have training in medicine, radiobiology, radiation physics, atomic energy or biology or engineering.

The members of the Commission on December 31, 1968 were:

FRANK G. DUNNINGTON, Ph.D., *Chairman*
MAX M. WEISS, Ph.D., *Vice Chairman*
PHILIP D. GILBERT, M.D., *Secretary*
ROBERT C. AXTMANN, Ph.D.
CRAIG F. HAAREN, P.E., R.A.
ROSCOE P. KANDLE, M.D.
BENJAMIN P. SONNENBLICK, Ph.D.

X-ray Certification Act

The enactment of the X-ray Technician Certification Act created an x-ray technician board of 10 examiners as an agency of the Commission on Radiation Protection. The board shall consist of two commission members appointed annually to the membership of the board by the chairman of the commission, and of eight additional members appointed by the governor.

Governor Hughes appointed five to membership in the X-ray Technician Board of Examiners on December 16, 1968. Members thus far appointed are: Bernard LaBove, D.O., two years; Mr. Robert S. Hoyt, Sr., three years; Floyd A. Cray, Jr., R.T., three years; Mr. Robert W. Van Wyck, two years; Bernard H. Olbrys, D.D.S., one year. Max M. Weiss, Ph.D. and Benjamin P. Sonnenblick, Ph.D. were appointed to the board from the Commission on Radiation Protection.

Dr. Dunnington, William H. Aaroe, Chief of the Radiological Health Program, and Kenneth Carhart, Chief of the Examination and Licensing Program have had several planning meetings on the administration of the act. In addition, Commission Chairman Dunnington and Mr. Aaroe met

with representatives of the Public Health Service and New York State regarding reciprocity implications and to discuss possible problem areas with respect to the licensing or certification of x-ray technician programs conducted by each.

Mr. Aaroe and Mr. Russo of the Radiological Health Program, Mr. Kenneth Carhart, Chief, Bureau of Examination and Licensing, and Dr. Frank Dunnington also met in Albany, New York with Mr. Howard Goldman and associates to discuss in detail the New York State licensing program for x-ray technicians. The purpose of this meeting was to take advantage of the experience of New York State during implementation of the New Jersey law.

Technician Training

A committee was appointed by Dr. Kandle to examine and develop the best means of improving the practice of x-ray technology with respect to radiation protection. The committee is as follows:

LILLIAN BAJDA, State Consultant,
Community Health Organization, *Chairman*
SAMUEL INGRAHAM, II, M.D.
WILLIAM AAROE
ALBERT FEERST, R.T.

An Ad Hoc Committee of the Commission on Radiation Protection was appointed by Chairman Dunnington to explore the possiblity of having established technician grade training in health physics and allied technologies. This Ad Hoc Committee consisting of Max Weiss, Ph.D., Chairman; Robert Axtmann, Ph.D. and William Aaroe met with community college authorities and later developed an initial draft of curriculum requirements which were receiving critical review at the end of the year.

Nuclear Medicine Guide

A third draft has been prepared of the Nuclear Medicine Radiation Protection Guide by the Advisory Committee on Nuclear Medicine. A fourth draft is expected in the near future. Members of the Advisory Committee on Nuclear Medicine are: Benjamin P. Sonnenblick, Ph.D., Chairman; William H. Aaroe, Secretary; Francis J. Haughey, Ph.D.; John R. Helff, M.D.; Sidney Ketyer, M.D.; Paul Numerof, Sc.D.; Frank R. Schell, M.D.; and John J. Thompson, M.D.

Nonionizing Radiation

During the spring session of the legislature, Assembly Bill 856 was introduced which, if passed, would extend the powers of the Commission on Radiation Protection to include nonionizing radiation areas. The bill did not leave committee.

The Advisory Committee on Nonionizing Radiation rendered to Dr. Kandle a preliminary report recommending that New Jersey move ahead with the development of expertise in this area and methods for getting reports of injuries. Members of the Advisory Committee on Nonionizing Radiation are: Samuel C. Ingraham, II, M.D., Chairman; William H. Aaroe, Secretary; Francis J. Haughey, Ph.D.; Donald S. Kwalick, M.D.; Robert Pressley, Ph.D.; Mr. E. Lynn Schall; William Schreibeis, P.E.; and Mr. Frank X. Worden.

A pilot project for ascertaining the location and equipment identification data for microwave cooking apparatus has been begun with the aid of state food and drug compliance inspectors. Following this initial test period, it is planned to expand the areas of inquiry by recruiting additional assistance.

Radiation Protection Code

The Commission held a public hearing on September 18, 1968 on amendments proposed for Chapters I and II of the New Jersey Radiation Protection Code. The public was given ample opportunity to comment on the proposals at the hearing. The comments and proposals were collated and evaluated and final changes made. The changes will become effective March 1, 1969 and affect: (1) Chapter I, general requirements; permissible dose rates, radiation levels and concentrations; records; radioactive contamination control; and disposal of radioactive materials. (2) Chapter II, special requirements; medical diagnostic x-ray installations; and dental radiographic installations. There is an entirely new section pertaining to major nuclear facilities, including nuclear reactors.

Registration of Radiation Producing Machines

There were 751 machines registered and 549 machine registrations cancelled in 1968 for net gain of 202 machines. The machines registered in other years were 545 machines in 1967 and 698 in 1966.

The number of machines registered at the end of calendar years 1968 and 1967 together with the number of additional registrations and cancelled registrations by type of owner is given in Table 1.

Table 1. Changes in Machine Registrations in 1968

Registrant	Registrations			Changes in Registration during 1968	
	12-31-68*	12-31-67	Change	Additional Registrations	Cancellations
Total	10,277	10,075	+202	751	549
Industry	675	918	—243**	98	341
Physician	2,299	2,255	+ 44	110	66
Dentist	5,151	4,903	+248	328	80
Chiropractor	298	272	+ 26	27	1
Podiatrist	297	275	+ 2	8	6
Veterinarian	194	182	+ 12	22	10
Institutions	1,241	1,158	+ 83	127	44
Schools	142	112	+ 30	31	1

* Includes 222 in storage.

** Does not mean a drop in machines used but is due to a change in the method of registration.

Inspection of Radiation Producing Machines

The inspection of x-ray machines continued in 1968 with three full time inspectors. The total number of x-ray machines inspected, and reinspected are given in Table 2. The reinspected machines are machines reinspected at five year intervals to determine if they are still in compliance with the code. The number of machines reinspected and found not in compliance is also given in Table 2. These machines were removed from the status of in compliance for such reasons as: former units replaced, units altered by owners; units moved to a new location.

Table 2. Radiation Producing Machine Inspections and Reinspections, 1968

Period Covered	Total Inspections and Reinspections	Inspections	Reinspections	Reinspected and Found Not in Compliance
1968	*2,587*	*795*	*1,792*	*185*
January-March	665	170	495	39
April-June	610	206	404	24
July-September	618	247	371	41
October-December	694	172	522	81

Units in Compliance with the Code

The numbers of machines in compliance with the code increased by 851 to a total of 8,876. The numbers of machines in compliance with the code

in December 1967 and December 1968 are given in Table 3 along with the number of machines registered and the percent in compliance.

Table 3. Number and Percent of Radiation Producing Machines in Compliance With the New Jersey Radiation Protection Code by Type of Registrant, 1968

	December 1968			December 1967
	In Compliance			
Registrant	*Percent*	*Number*	*Registered**	*In Compliance*
Total	88	8,876	10,055	8,075
Industry	84	511	608	419
Physicians	89	2,002	2,238	1,817
Dentists	90	4,621	5,110	4,136
Chiropractors	92	270	293	251
Podiatrists	91	252	276	230
Veterinarians	84	161	191	143
Institutions	76	1,059	1,339	1,029

* Does not include 222 machines in storage.

Reactor Safety

Before the end of 1969, New Jersey will have one power reactor completed and approaching operational status and two under construction. In addition, the state's only research reactor, Industrial Reactor Laboratories (IRL), will have become part of Rutgers—the State University. During the past year, one new radiation processing firm, Ramco, Inc., located in New Jersey within Hanover Township.

It is anticipated nuclear fuel loading of the Oyster Creek Reactor Unit No. 1 will begin in January 1969 and full power operation may take place by the summer of 1969.

In January 1968, Public Service announced it will relocate the Burlington Reactors on an artificial island in the Delaware River off lower Alloways Creek (Salem County). A pair of pressurized water reactors will be constructed simultaneously. Dr. Roscoe P. Kandle read a statement publicly before the Atomic Safety and Licensing Board at Salem, New Jersey on August 15, 1968 in which he welcomed the facility to the state. Mr. Charles G. Amato, Nuclear Engineer, New Jersey State Department of Health, presented testimony (Mr. Amato and Mr. Dotoli, Esq. of the Board of Public Utility Commissioners represented the state at a pre-hearing conference in Washington on August 1). Mr. Amato and Mr. Dotoli have prepared the state's findings in this matter. Mr. Amato's testimony was based on departmental review of this facility.

Radioactive Material Licensing Program

During 1968, 18 permanent licenses were issued to owners and users of naturally occurring and accelerator-produced radioactive materials. This brings the number of permanent licenses issued to 118. Thirty-five amended licenses were issued.

This program, through its educational and specialized assistance efforts, has been responsible for removing from use with ultimate disposal 3.016 grams of radium representing 284 individual sources. In 1968, there were 0.113 grams and 21 sources removed from use.

Surveillance is also maintained over 497 United States Atomic Energy Commission (U.S.A.E.C.) licensees using or possessing radioactive materials under U.S.A.E.C. authorization.

Radiological Health Laboratory

Gross alpha and beta laboratory determinations are usually made in water, silt, vegetation, and soil sample. Gross beta determinations are made on precipitation and air samples. Milk is analyzed for strontium 89, strontium 90, iodine 131, barium 140, and cesium 137. Leak test smears are generally analyzed for gross alpha and beta activity and also for any specific radionuclides indicated.

The laboratory participates in quality control tests with the United States Public Health Service Northeastern Laboratory in Winchester, Massachusetts.

Wipe tests are made in the laboratory to help assure that the laboratory operations are not radioactively contaminated.

Table 4. Environmental Samples Collected and Determinations Made During 1968

Type of Samples	*Samples*	*Determinations*
Totals	3,929	6,525
Municipal—		
Surface Water	188	371
Silt	105	210
Ground Water	81	137
State-wide—		
Water	229	458
Silt	214	428
Precipitation	38	45
Air	343	436

Table 4. Environmental Samples Collected and Determinations Made During 1968—Continued

Type of Samples	*Samples*	*Determinations*
Special—		
Water	503	991
Silt	391	794
Vegetation	330	617
Soil	330	617
Milk	708	674
Marine Samples	58	154
Ore	..	..
Radiogas	190	177
Leak Test and Smear	144	262
Miscellaneous	77	154

Educational Activities

The chief and staff held 109 conferences with representatives of industry, government and various professions to provide technical information on the Radiation Protection Code and radiation protection.

Mr. Robert Hung presented 13 workshops on "Radiological Emergencies" to seven local, county and state police schools. Practical aspects of radiation safety were emphasized along with recognizing radiological problems and how to react. Forty-four workshops were also presented to local groups of firemen, county firemen associations, and first-aid associations.

Staff members presented "Public Exposure to X-rays," "Biological Effects of Radiation," "X-ray Physics and Radiation Biology," "Radiation Detection Equipment" and "Instrument Calibration," to graduate students, dental and medical students, and civil defense instructors, respectively.

Mr. Feerst of this program and Mr. Jerome Levine, Advisor, Radiological Health Center, U.S.P.H.S., Rockville, Maryland, manned an exhibit, "X-ray Protection in Podiatry" at the annual convention, Region 3, American Podiatry Association, April 25-27, 1968, Atlantic City, New Jersey.

The meeting was well attended by members of the Podiatry profession from Delaware, Maryland, Pennsylvania and New Jersey. Advice and instructions were given on x-ray beam collimation and shielding for operator and patient.

Staff attended and staffed scientific exhibits which included the National Center for Radiological Health's exhibit, "X-ray Exposure Reduction by Collimation" as follows:

a. New Jersey Osteopathic Physicians and Surgeons Convention, Shelburne Hotel, Atlantic City on March 15-17, 1968.
b. The Medical Society of New Jersey Convention at the Haddon Hall, Atlantic City, New Jersey on May 19-22, 1968. Total registered at this convention was 2,288. Four hundred and thirty-five physicians observed and made favorable comments and asked questions about the exhibit.
c. New Jersey Chiropractic Society Convention, Saddlebrook, New Jersey on May 25-26, 1968. Total registered at this convention was 250. One hundred chiropractors observed the exhibit and asked questions about collimation. Favorable comments were received.

Mr. Nunamacher presented a two-hour lecture to 40 students of the Union County Vocational and Technical School, Scotch Plains, New Jersey.

Chief and staff member presented a radiation protection lecture and demonstration to student x-ray technicians at Burlington Memorial Hospital, Mount Holly; Middlesex General Hospital, New Brunswick; and Monmouth Medical Center, Long Branch.

Staff Training Activities

Mr. Robert Hung successfully completed the two-week "Instructional Methods" course August 19-30, sponsored by the U. S. Signal Corps, Fort Monmouth, New Jersey. Highlights of this rigorous course were tape and video recordings of students in their impromptu and prepared talks.

Two staff members attended a two-week Public Health Service training course in "Measurement of Airborne Radioactivity," at Winchester, Massachusetts.

The Program Coordinator attended a three-day laser workshop in Cincinnati, Ohio.

He also attended the course on "Auxiliary Utilization" held by the New Jersey Dental Society as part of their program on "Continuing Education in Dentistry." This one day course was geared to new concepts of auxiliary utilization and was directed primarily to the continued education of dental assistants.

Veterinary Public Health Program

Rabies Control Program

There were no cases of rabies reported in humans or animals other than bats in New Jersey in 1968. Rabies remains an endemic disease in bats

as rabies was diagnosed in 14 bats from six counties. This number compares to 21 positive bats in 1967. The last case of rabies in humans occurred in 1949. There has not been a laboratory confirmed case in domestic animals since 1956. This absence of rabies in humans and domestic animals, except bats, is significant as rabies is endemic in domestic animals and wildlife in the neighboring states of Pennsylvania and New York. New York had 45 confirmed rabies cases primarily in foxes and cattle, and Pennsylvania reported 18 cases uniformly distributed among wildlife and domestic animals.

The Veterinary Public Health Program, in cooperation with the districts, administers and implements a vigorous rabies control program. The two main principles of this program center around the fostering of approved dog control practices and the immunizing of dogs through public rabies vaccination clinics. A total of 209,456 dogs was vaccinated in these clinics in 1968. Table 1 illustrates the progress that has been made since 1964 in this aspect of rabies control. Progress has been made in fostering approved dog control methods. Most municipalities hire a Rabies Control Warden or contract for this service from privately operated establishments. This type of service is the solution for municipalities that wish to maintain an adequate dog control activity without having to build and operate a dog pound. To further strengthen this phase of rabies control, the rules and regulations governing the operation and maintenance of kennels, pet shops, shelters and pounds were completely revised. The former rules had been in effect since 1941. A public hearing was held in Trenton on April 3, 1968, on the proposed regulations. After minor changes were made, the rules and regulations were adopted by this department. The new regulations provide better criteria for inspectors, and assures all dogs and other animals the same protection afforded in state approved or federally-registered laboratories, and federally licensed animal dealers.

The number of licensed dogs continued to increase. Table No. 2 is a five year summary of licensed dogs. Licensing for dog control not only provides funds to operate the program, but also assures accurate identification of dogs owned by responsible citizens.

The State Rabies Control Program provides consultation to physicians and veterinarians when humans or pets are exposed to rabies infection. Most of these consultations apply primarily to bat bites as persons or animals bitten by bats must receive anti-rabies prophylaxis regardless of whether or not there is laboratory confirmation of rabies in the bat.

The rabies laboratory accepts heads of animals which have been exposed to people or domestic animals, or are otherwise questionable regarding rabies. There were 2,230 animal heads sent to the laboratory during 1968 which were accepted on an emergency 24 hour service. Bats comprised 392 of these

animals examined, and of the 364 heads that were satisfactory, 14 or 3.8 percent were rabies positive. In addition to the positive bats, two dogs (Alaskan Huskies) sent to the laboratory under a cooperative agreement with the U. S. Air Force were positive. Reports are sent to physicians, health officers, or other applicable persons.

Table 1. Animals Vaccinated at Public Clinics by State Health District—Calendar Years 1964-1968

District	*1964*	*1965*	*1966*	*1967*	*1968*
Central	44,737	46,767	48,999	54,098	56,271
Metropolitan	61,530	66,951	67,397	72,295	91,727
Northern	28,238	31,854	34,079	36,580	38,044
Southern	17,488	18,922	19,824	21,986	23,414
Totals	151,993	164,494	170,299	184,959	209,456

Table 2. Comparison of Dogs Licensed, By County, 1964-1965-1966-1967-1968

District	*1964*	*1965*	*1966*	*1967*	*1968*
Atlantic	10,265	12,000	12,321	13,181	13,017
Bergen	55,706	57,491	60,064	61,424	61,155
Burlington	21,826	22,650	23,508	24,266	25,007
Camden	26,867	27,589	28,877	25,349	27,636
Cape May	3,883	4,465	4,200	3,602	3,752
Cumberland	11,324	10,996	10,006	10,723	9,903
Essex	38,508	39,431	39,551	39,914	40,495
Gloucester	13,707	13,434	13,446	15,756	16,136
Hudson	14,916	13,394	13,850	14,101	14,919
Hunterdon	10,420	10,827	11,015	12,025	12,346
Mercer	21,502	22,252	22,672	25,785	25,562
Middlesex	34,518	37,082	39,925	41,426	42,283
Monmouth	30,009	29,162	29,478	30,478	38,824
Morris	31,620	33,700	34,238	36,200	36,841
Ocean	14,201	15,722	16,398	17,042	20,002
Passaic	25,442	26,034	26,231	26,969	27,252
Salem	7,831	7,362	7,111	6,957	6,767
Somerset	17,049	18,799	19,468	20,761	21,432
Sussex	8,655	8,595	9,522	9,378	9,949
Union	31,085	37,722	32,550	33,997	34,936
Warren	8,468	8,664	8,546	8,956	9,371
Totals	436,802	451,371	462,977	478,290	497,585

Eastern Encephalitis

In 1968, New Jersey experienced the largest outbreak of eastern encephalitis in horses and pheasants since 1959. There were 126 suspected cases in horses. A total of 115 of these was considered positive in tests run by the department. There were probably many more unconfirmed cases in eight pheasant flocks.

As in prior years, the horse cases preceded the 12 laboratory confirmed human cases, and the pheasant flock infections preceded the horse cases. The majority of the horses and pheasant cases were located in the southern tier of the counties with only seven horse cases and one pheasant flock north of Burlington County.

This epizootic in animals and epidemic in humans in a fatal disease such as eastern encephalitis indicates the urgent need for the New Jersey Department of Health to maintain surveillance and research in the field of the arboviruses. The comprehensive knowledge gained during the preceding eight years is beneficial in alerting public health officials of the absence or the presence of viruses in their area.

Arbovirus Surveillance and Research

The above activities continued at two study sites, Belleplain in Cape May County and Oceanville in Atlantic County until late August. Following the epizootic of eastern encephalitis among horses and pheasants and the epidemic among humans, it was designed to expand the collection of mosquitoes, blood and tissue specimens from wild birds, mammals, reptiles and amphibians to Forked River in Ocean County and Great Swamp in Morris County. These areas were operated full scale until November 1, 1969 when all field activities concerning the arbovirus were discontinued for the first time in eight years. In addition, a special study area located in Burlington County was operated for approximately one month. This area was selected because a raging epizootic of eastern encephalitis among horses occurred in a small area which is south of Tabernacle.

For the first time since the initiation of the study, wild mammals were trapped and kept in specially designed holding pens which were designed by personnel of the Veterinary Public Health Program. These animals were routinely bled at approximately two-week intervals until November 1, 1968. At one time, there were 28 mammals housed in these cages. All of the animals were euthanized for virus and tissues were collected for virus isolation on November 1. Four foxes and four descented skunks were saved for future work.

Table 3 lists the number of blood specimens collected from the animals captured at the study sites during the year. Table 4 is a summary of the mosquito collections.

All of the above mentioned field activities are conducted by the two senior public health veterinarians, two principal biologists, one senior biologist and three summer veterinary students assigned to the Veterinary Public Health Program. All of the virus tests were conducted by the virus laboratory of this department.

Table 3. Arbovirus Surveillance and Research
Blood Specimens Collected From Animals
by Kind of Animal, 1968

1968	*Birds Except Starlings*	*Starlings*	*Non-Avians*	*Total*
January	79	175	35	289
February	50	167	42	259
March	50	168	37	255
April	82	21	40	143
May	175	4	48	227
June	155	46	179	380
July	273	0	265	538
August	303	290	194	787
September	395	541	220	1,156
October	504	416	209	1,129
November	....	....	....	....
December	....	....	....	....
Year	2,066	1,828	1,269	5,163

Table 4. Mosquito Collections, 1968

Study Area	*Number*
Woodbine	95,866
Great Bay	22,674
Great Swamp	19,302
Forked River	1,339
Mays Landing	118
Total	139,299

The mosquitoes represent the total number caught using the following methods: light traps, resting boxes, sweeping, human biting, truck traps, and car windshield collections.

Program personnel, in conjunction with entomologists from the Communicable Disease Center, U. S. Public Health Service, selected 35 areas and collected 12,015 mosquitoes actually feeding on horses. The areas were in or near farms where laboratory confirmed cases of eastern encephalitis had occurred. This should extend our knowledge of the vector in horses and may provide a gap in knowledge into the ecology of this arbovirus.

All mosquitoes collected are speciated, identified as to the type of blood, if engorged, and pooled for virus tests performed in the virus laboratory.

Meat Inspection Program

The program provided consultative service to the Meat Inspection Program upon request whenever problems requiring professional knowledge arose. The Meat Inspection Program was administered for one half of 1968 by this department, then was transferred by law to the New Jersey State Department of Agriculture July 1, 1968.

The program continued to procure and examine candidates for licensing as veterinary and meat inspectors. During the year, three tests were given. There were 39 candidates examined and 33 were successful in being licensed. These inspectors will be permitted to continue to inspect meat in licensed slaughterhouses until the Department of Agriculture's program is in full operation on July 1, 1969. In addition, local health departments encourage sanitary inspectors to secure meat inspection training which will be useful in inspecting retail food establishments.

Program personnel conducted a meat inspection course at Rutgers University. The course was partially subsidized by the State Department of Health and was attended by 42 persons primarily representing local health departments.

A member of the program is a member of the department's Board of Examiners. In this capacity, he attends six meetings a year and conducts the above mentioned examination.

Comparative Medicine

A Comparative Medicine—Human Health Program on "The Aging Process in Man and Animals and Animal Research—The Benefits to Human Health" was held on May 29, 1968. The program was jointly sponsored by the Medical Society of New Jersey, the Veterinary Medical Association of New Jersey, the Division on Aging of the New Jersey State Department of Community Affairs, the New Jersey Public Health Association, Humans for

Animals and Humanity, and the New Jersey State Department of Health, and was the fifth in the series of Comparative Medicine Programs held in New Jersey.

Dr. Oscar Sussman, Chief of the Veterinary Public Health Program, received the first Humanitarian Scientist Award at the above conference. The award has been established to recognize outstanding contributions to both human and animal health by an individual active in scientific education, biomedical research, or animal welfare. The award was sponsored by the New Jersey Science Teachers Association of New Jersey, the Medical Society of New Jersey, the New Jersey Public Health Association, New Jersey Association of Operating Nurses, and Humans for Animals and Humanity.

Blood Study of Arbovirus and Heartworm Infection in Dogs

The presence of arbovirus infection in dogs was originally discovered by this department through virus isolation tests using brain material from dogs that had bitten humans. This new disease in canines had been well documented but further knowledge concerning its ecology was needed. The Veterinary Public Health and Virus Programs planned a comprehensive study using the services of personnel from this department and private veterinary practitioners in securing random samples from dogs from the state's 21 counties. Detailed questionaires concerning each dog's environmental history were obtained, and through the consent of each owner, follow-up interviews were conducted. In addition, pound animals were blood tested. This phase was a repeat from a limited study conducted at the time arbovirus infection was detected in dogs. The decision to include heartworm examinations was made with a dual objective. Primarily, the examination would be a service to veterinary practitioners and dog owners concerning a major disease of dogs; and secondarily, it would enhance the cooperation of all concerned in obtaining the large numbers of blood samples needed to make the study of public health significance.

The collecting of canine blood was completed in August 1968. Three thousand, one hundred and thirty-eight samples were secured from all 21 New Jersey counties, and all owners of the dogs, except the 196 pound dogs, were interviewed either by telephone or at the time of the blood collection.

The infection rate for arboviruses was 2.07 percent. Ten percent of the dogs tested had heartworm infection. A detailed report will be published at a later date.

Pesticide Project

The Pesticide Project carries out in-depth studies of people exposed to pesticides to evaluate short-term and long-term effects of pesticide exposure on the health of man. New Jersey is an excellent place to study the effects of pesticide exposure. The state is small and densely populated, with highly industrialized cities with a large number of pesticide formulating and manufacturing plants. Most of the state is still farmland and rural area, and New Jersey ranks first in the percentage of farm acreage treated with pesticides. The project is concentrating now on a detailed study of the people working in the pesticide industry.

Industrial Exposure Groups and Controls

New Jersey is unique in that it has a large concentration of pesticide formulating, manufacturing and distributing plants. This enables the project to study a large population group (750 formulators and 700 manufacturers) exposed to high concentrations of pesticides.

A study of the medical records of employees manufacturing malathion, abate and zinophos in a large manufacturing plant has been completed. Acute eye, skin and respiratory irritations constitute definite occupational hazards among men engaged in this livelihood. There is no evidence that there are any chronic adverse effects from exposure to the materials or finished products in the manufacture of these organic phosphates.

As a result of intensive blood and urine sampling of 184 formulators, we have found an impressive difference between the blood cholinesterase and primary PNP (Paranitrophenol) levels of formulators exposed to organophosphate pesticides and our control population. Also, formulators exposed to chlorinated hydrocarbons had significantly higher blood levels of chlorinated hydrocarbons than did our control population, and urine alpha-naphthol values for many workers formulating sevin were higher than control levels. Not only are these findings important in themselves, but also are important in confirming exposure and as an index or reference point upon which other abnormalities can be based.

New Jersey was the first project to report the presence of TOK-E25 (2, 4-dichlorphenyl, 4-nitrophenyl ether), a new selective herbicide, in the serum of human beings. By gas chromatography, we have detected levels of TOK as high as 168 parts per billion in 38 of 43 formulators, in July. The formulation of TOK was discontinued in August, but 16 of 19 blood specimens obtained in September contained TOK.

Physical examinations done on 69 formulators from five formulating plants showed that 30 men or 43.5 percent had possible minimally abnormally decreased distal pin prick and/or vibratory sensation. The frequency of this finding is higher than is to be expected on a control group of like age and sex, and this may prove to be of significance.

Applicators Exposed to Pesticides (Monmouth County)

The study on farmers and pest control operators in Monmouth County shows little difference from the controls, in cholinesterase, but higher levels of serum chlorinated hydrocarbons have been found. A much higher percentage of farmers have abnormal paranitrophenol levels in their urine than do controls. Out of the original group of 43 farmers and 26 pest control operators, 38 farmers and 22 pest control operators currently are undergoing physical examinations. Seventeen sputum specimens have been obtained for cellular study.

Aerial Applicators

Specimens have been taken from 47 aerial applicators in New Jersey. These men work with such insecticides as TEPP, Phosdrin and parathion, and constitute a stable population to study, as they are prone to remain in the same occupation from year to year. This group shows the highest percentage of cholinesterase depressions and a high percentage of elevated paranitrophenols. Eleven of these men have had at least one poisoning episode with Phosdrin. Fifty percent of this group had one or more red blood cell cholinesterase results less than six International Units compared to zero percent in the control group.

Detection and Study of Pesticide Intoxications

Presently, there are 51 cases of pesticide poisoning in our registry. A complete write-up has been finished on our three arsine intoxication cases, and shall soon be submitted for publication. There have been 122 cases of pesticide ingestion or intoxication reported to us by the Poison Control Centers.

The control group consists of 39 New Jersey state office employees, all males, ranging in age from 19 to 65. Pesticide exposure of this group is minimal. The study of this cohort, with respect to cholinesterase, chlorinated hydrocarbons, paranitrophenol, alpha-naphthol, lead, arsenic, sputum liver profile, urinalysis and medical examinations, has established and is establishing baseline data to compare with data from our exposed groups. Although all of the controls had some residues of chlorinated hydrocarbons in their blood,

laboratory data comparing all groups confirm that this group has the lowest amount of pesticide exposure.

Pesticides in Tissues of the General Population

Studies of the levels of pesticide residues in human tissues indicate the following:

On a fat basis, liver tissue shows the greatest concentration of most chlorinated hydrocarbons, Dichlorodiphenyldichloroethlene (DDE) averaging 13 parts per million, Dichlorodiphenyldichloroethane (DDD) 1.8, and Dichlorodiphenyltrichloroethane (DDT) 2.6 ppm. On the other hand, dieldrin concentrations were greatest in the fat of gonads. Particularly high values were 64 ppm DDE in adipose tissue and 74 ppm DDE in liver. Placental tissue tends to show the lowest values, with some lower values in brain tissue only.

Differences in pesticides in different organs suggest the possibility of differences in metabolic activity related to the organ tissue.

Computer Studies

Biostatistical studies, utilizing computer programs, for the analyses of the data which have been accumulated in the epidemiological studies of farmers, pest control operators, controls and formulators, are under way. The purpose of this computer analysis is to study the biostatistical findings in order to determine the significance and possible effects of pesticide exposures on human health, and to answer such questions as: "What number of parameters are needed to measure exposure to pesticides; can any biochemical trends be discerned in the exposed individuals; are there significant clinical abnormalities in the exposed groups, etc?"

Division of Health Facilities

CURTIS F. CULP, M.D., *Assistant Commissioner*

Office of Certification of Health Facilities ..... CURTIS F. CULP, M.D.
Director

Office of Consultation Services ..... JOHANNA E. KENNEDY, M.A.
Chief

Programs:

Nursing ..... JOHANNA E. KENNEDY, M.A.
Program Coordinator

Nutrition ..... MARGARET P. ZEALAND, M.S.
Program Coordinator

Physical Therapy ..... SUSAN B. GLOCKE, P.T., M.A., M.P.H.
Program Coordinator

Social Work ..... ADRIANE DUFFY, M.S.
Program Coordinator

Division of Health Facilities

Nursing Program

The critical shortage of nurses in New Jersey and methods of increasing the supply were given major emphases during the year. The situation is improving, as evidenced by the following achievements:

1. The *Interim Report on Nursing Education* of the Governor's Task Force on Nursing was completed and given wide distribution. This report summarized the purposes and accomplishments of the Task Force and made long-range recommendations for nursing education in New Jersey. It has been well received within the state and throughout the nation because of its conciseness, clarity, and comprehensive treatment of the subject. The State Commissioner of Health, as Chairman of the Task Force, had direct access to the Governor and heads of other branches of state government in implementing some of the recommendations. It is noteworthy that the State Department of Higher Education has accepted responsibility for nursing education and has appointed an Advisory Committee on Nursing Education to the Board of Higher Education. The Chief Public Health Nurse is a member of that newly appointed committee.

   The Governor's Task Force on Nursing was disbanded in December 1968 after three years of work. During this period two additional baccalaureate programs in nursing were established, one at Trenton State College and the other at Paterson State College; programs in nursing education were started in 10 community colleges; diploma school nursing students were included in the State Scholarship Program and the State Student Loan Program; and support was given for the use of manpower training funds for refresher training of inactive nurses, under sponsorship of the Hospital Research and Educational Trust of New Jersey.

2. The Inactive Health Personnel Project which was funded by the Division of Nursing, Bureau of Health Manpower, Public Health Service, in June 1967 and refunded to carry through November 30, 1969, has focused primary attention on trying to bring back into active employment as many as possible of New Jersey's 11,000 inactive registered nurses. A statewide questionnaire to all inactive nurses yielded more than 7,000 responses as to interest in returning to work,

problems preventing return to work, and requests for further information. Analysis of the responses led to a series of 18 meetings throughout the state in which the project nurse coordinator met with groups of inactive nurses to discuss their particular concerns. These meetings were attended by 165 nurses and resulted in 40 returning to work.

Data available from the Hospital Research and Educational Trust and from the department's project indicate that more than 500 nurses have returned to active employment. Figures from the New Jersey Board of Nursing show that the nursing situation within the state had improved as of January 1, 1968, with an increase of 2,304 active nurses, of whom 1,475 were employed in hospitals or other institutions. The public health nurse census, which was conducted by the nursing staff of the department at the request of the Public Health Service, showed an increase of professional nurses and licensed practical nurses employed in public health agencies.

The Nursing Program of this department has made an important contribution to the improved nursing situation in New Jersey through:

1. The Inactive Health Manpower Project.
2. Continuous efforts by staff to assist local agencies in upgrading personnel policies.
3. Participation in strengthening the nurse refresher programs as a member of the Advisory Committee of the Hospital Research and Educational Trust of New Jersey.
4. Assistance to the Department of Education, Division of Vocational Education in developing a course for practical nurses licensed by waiver to enable these nurses to become eligible for taking the licensing examination.
5. Cooperation in a wide variety of training programs.

Local Nursing Services

The official and voluntary agencies have continued to consolidate, to share their nurse leadership resources through contractual arrangements, and to strengthen the preventive services that in some instances had been neglected due to the pressures of bedside care services for recipients of Medicare. The State Health Aid Program for local health departments provided considerable impetus in restoring priorities to traditional preventive services, in making it possible to add new services, and in using new approaches.

The following progress has been made in strengthening the administration of local agencies:

1. Five small agencies in two counties joined forces with adjacent larger agencies; one small voluntary agency dissolved and services in that community are being provided under contract by a neighboring well-established agency.
2. Three health departments negotiated new contracts with adjacent agencies for qualified nursing direction and supervision; one health department which previously contracted for direction has employed its own nursing director on a part-time basis; one health department negotiated an expanded contract for the provision of all home visiting services by the visiting nurse association serving the community.
3. One voluntary agency, with assistance from State Health Aid, employed a qualified Mental Health Nurse Consultant to coordinate and strengthen follow-up services for patients discharged from the state mental hospital and to provide in-service education and guidance in mental health problems to the nurses in the area. Two other voluntary agencies within the state have started similar programs through the assignment of a qualified public health nurse to the coordination function.
4. The county-wide agency which was created in 1967 under the county board of freeholders has shown steady growth in the amount and variety of services given and has continued to receive financial support as well as other assistance from the department.
5. The accounting systems and cost analyses in home health agencies have improved markedly, partly through efforts of this department in promoting uniform cost accounting terminology and methodology.
6. In recognition of the outstanding progress made by New Jersey's home health agencies and the leadership provided by the department's nursing staff, the Chief Public Health Nurse was invited to be a speaker at a Regional Conference on Home Health Agencies and was an invited guest at the Secretary's Regional Conference on Health Care Costs. Both of these meetings were sponsored by the U. S. Department of Health, Education and Welfare.

Nursing Education

The in-service training courses established in 1965 for local nurses newly employed and those who need a refresher in public health continue to be in such great demand that applications are consistently received for almost double

the number of nurses who can be accommodated. Each course has been set up for two days a week, for seven weeks. Three such courses were given in 1968 involving a total of 74 nurses representing 42 agencies (21 official, 20 voluntary and one other community service). Most of the nursing agencies sending staff to these courses are certified as Home Health Agencies.

Two courses for Occupational Health Nurses, each held one day per week for nine weeks, were completed with a total attendance of 35 nurses from 31 industries throughout the state.

Follow-up workshops for nurses who participated in the courses in previous years were well received with a total attendance of 70 nurses.

A series of educational programs for nursing directors in extended care facilities, approved government medical institutions, nursing homes and homes for the aged were conducted in the Southern State Health District on a pilot basis. An average of 25 nurses attended these programs, which the participants felt were so helpful that they want to continue beyond the four all-day sessions originally planned. The success of this pilot program has led to the start of a similar series in the Metropolitan State Health District. Sixty-two attended the first program of the series in Metropolitan District.

The third Annual Workshop for Directors of Home Health Agencies was held in Princeton this year under the sponsorship of the New Jersey League for Nursing in close collaboration with department nursing staff. Fifty-five persons representing 35 local agencies attended.

Staff of the Nursing Program gave assistance to universities, nursing organizations, and other department programs, for example:

1. Assisted the Chairman of the Department of Public Health Nursing of the University of Pennsylvania in setting up guidelines for field experience and placement for students in the baccalaureate and masters' programs.
2. In cooperation with local agencies, provided field experience for two graduate students, one from the University of Pittsburgh School of Public Health and the other from the University of Pennsylvania. One of these nurses has accepted employment in a Home Health Agency in New Jersey.
3. Assisted Rutgers, the State University College of Nursing faculty and the Public Health Nurse Consultant, Heart Program in planning courses in coronary care for nurses in hospitals, public health nursing agencies and industry.

4. Provided consultation to a committee for planning a cancer nursing course to be conducted by the Presbyterian Hospital School of Nursing of Bloomfield College and financed by the Regional Medical Program.
5. Served on the Paramedical Education Committee of the New Jersey Regional Medical Program.
6. Participated as a member of the Advisory Committee of the Mercer County College, School of Nursing.
7. Provided consultation at a site visit on Federal Nurse Training Grants at the Ocean County College, School of Nursing, and Mercer County College School of Nursing.
8. Cooperated with the Division of Aging in planning and conducting a series of educational programs for nurses in facilities for long-term illness in Morris County. Twenty-one persons from 12 facilities attended this series of four programs focused on the physiology and psychology of aging.
9. Worked with the District Consultant Public Health Nurse, Northern District and a committee representing hospitals, public health agencies and facilities for long-term illness to plan and conduct a series of educational programs on restorative nursing held in the spring of 1968.
10. Participated in planning and conducting a Workshop on Nursing Audit sponsored by the New Jersey League for Nursing.
11. Assisted the District Consultant Public Health Nurse, Central District, in planning and conducting three share and compare conferences for public health nursing supervisors. Fifteen supervisors from 10 agencies attended the sessions.
12. Participated as chairman of one meeting and as group leader at two sessions of the National League for Nursing Regional Conference in Swampscott, Massachusetts. (The Chief Public Health Nurse is a member of the Executive Committee of the Council of Public Health Nursing Services, National League for Nursing.)

Materials Published

1. *Interim Report on Nursing Education* of the Governor's Task Force on Nursing.
2. *A Guide for a Uniform Accounting System for Public Health Nursing Agencies* has been completely revised by Professor John Kitinoja, Bureau of Economic Research, Rutgers—the State University, under contract with the department. His earlier booklet, *Standard Accounting*

Terminology for Public Health Nursing Agencies, has been incorporated in the revised material.

Administrative Changes

One Public Health Nurse Consultant was transferred to the Nursing Program from the Office of Certification.

Nutrition Program

Recent studies of hunger and malnutrition in the United States have focused attention on the need for nutritionists and workers in allied professions to join forces and exchange information on problems and program activities. During 1968, Nutrition Committees at state and community level became increasingly active. The Food Stamp Program was expanded from seven counties in 1967 to 20 counties in 1968. Senate Bill No. 421 was passed, providing a five cent reimbursement from the state to schools, for each Type A lunch served. An amendment to the federal regulations of the National School Lunch Program now requires school districts to develop a uniform policy for determining eligibility of children for a free or reduced price lunch in a manner that will protect the overt identification of children who cannot pay. In the fall of 1968, a Special Food Service Program for children in private, non-profit institutions or public institutions, such as child day care centers, settlement houses, recreation programs providing day care, day care for handicapped children, and similar programs was initiated.

Our food programs in New Jersey do not reach all the people who need them and we have many unmet needs. Many of the poor are ineligible for public assistance, yet are unable to provide themselves with adequate diets. The aged are often physically or psychologically unable to put forth the energy to shop or prepare their own meals. Nutrition education is needed regardless of income, cultural, social or economic patterns or level of education. Only through various types of nutrition education programs can we hope to improve the health of New Jersey citizens.

Developing Nutrition Programs with State Health Aid

The Nutrition Program has spent a great deal of time this year in promoting and developing public health nutrition and dietary consultant services in municipal and local health departments. A well qualified public health nutritionist was employed by the Trenton Division of Health in September of 1967 and a public health nutritionist was employed by the Camden City Department of Health in October of 1968. Selections for both of these positions

were made from a list of eligible candidates provided to the local health officer by the Nutrition Program.

Consultation has been given to the Newark City Health Department and assistance has also been offered to it in setting up a nutrition program and recuriting for a public health nutritionist, but at the end of the year, this position had not been filled. Consultation has been provided to the public health nutritionist in Jersey City, in East Orange, and to diet counselors employed by home health agencies throughout the state.

This year the county and local personnel in nutrition have placed emphasis on in-service education of other health department staff in local and county health departments where they have been employed and offered direct services to individuals, families, and groups. There has been an increase in nutrition services in diabetes clinics of local hospitals not having out-patient dietary services available. Individual instruction, demonstrations and group classes have been offered at child health conferences.

District and local nutritionists have participated in classes for parents and in-service training programs for the staffs of Head Start projects. Refresher courses have been offered through home health agencies to nurses working on their staffs. The nutritionists have been able to assist the nurses with special nutritional problems and in certain instances have made home visits with the nurses.

A nutrition clinic was held as part of the 57th Annual Conference for Local Health Officers. All the public health nutritionists and diet counselors working under contract to local health departments participated and demonstrated to other health officers attending how they were serving the public.

Consultation services to hospitals, homes for sheltered care of adults and homes for the aged and other medical institutions

Seventy-five percent of the time of the Nutrition Consultant, Heart and Circulatory Disease Program, Division of Chronic Illness Control, has been contracted for by the Office of Health Facilities Certification to assist with the valuation of health facilities for certification under Medicare. As a result of the review of the nutrition consultant's reports, these areas of concern were highlighted: sanitation, diet therapy, communication, and in-service training of food service employees.

The Nutrition Program staff in each District State Health Office planned four "Share and Compare" meetings for dietary consultants working in extended care facilities covering these areas. These meetings were offered in each district in cooperation with the Office of Health Facilities and with the

Education Committee of the New Jersey Dietetic Association. Many of the administrators of health facilities also participated in the meetings. A survey was conducted for the purpose of evaluation of these meetings in August. By popular demand, the program will be continued through 1969-70.

Survey of Home Delivered Meals for the Ill, Handicapped and Elderly in New Jersey

The State Consultant in Nutrition and the Director of the Division on Aging, Department of Community Affairs were consultants to the Committee on Aging of the New Jersey Nutrition Council which did a survey of the eight "Meals on Wheels" Projects in New Jersey. "Meals on Wheels" or "Home Delivered Meals" is a community service administered by an official or voluntary health agency. The service is provided to the ill, disabled or elderly, and others whose physical, emotional, mental or social condition handicaps their ability to shop or prepare adequate meals (including modified diets). The projects surveyed were in the following areas: Camden, sponsored by the Division on Aging and Lutheran Churches of Camden; Paterson, sponsored by the Y.W.C.A. Board of Directors and the Food Service Committee of the Y.W.C.A. of Paterson; Hackensack, sponsored by the O.E.O. of Paterson; Montclair, sponsored by Chr-Ill Services, Inc.; Jersey City, originally an O.E.O. Project in the Hudson Garden Housing Project and now incorporated and independent; East Orange, the oldest service in the state, community operated and independent; SAGE, Summit, and Westfield, sponsored by the Visiting Homemakers of Central Union City. The purpose of the survey was to assist agencies and communities which might be interested in developing similar services to determine whether or not delivered meals are needed to round out community services and to recommend guidelines for consideration of the proper financing and quality of service.

Field Training Provided for Dietetic Interns

The educational director of the dietetic internship program of the Bronx Veterans Administration Hospital requested an affiliation with the New Jersey State Department of Health for two weeks supervised field experience in community nutrition for 11 dietetic interns 1967-68. These interns were graduates of colleges and universities throughout the United States. During a day of orientation arranged in Trenton early in October 1967 the intern class met with the commissioner and other department personnel. Throughout the year, the interns were assigned in pairs to district and state staff for two weeks of field observation. An evaluation of the project was held in June 1968, and it was agreed the project was useful and the hospital has again asked for

an affiliation for 1968-69. Two of the 11 original interns have accepted positions in New Jersey. During 1968-69, 11 more interns will be participating in this project.

Manpower Status Survey of Dietitians and Nutritionists in New Jersey Completed

In cooperation with the New Jersey Dietetic Association, the New Jersey Home Economics Association and the Public Health Statistics and Nutrition Programs of the New Jersey State Department of Health, a manpower questionnaire was mailed to 533 nutritionists and dietitians living in New Jersey to acquire information on the manpower status of this profession. A total of 403 questionnaires was returned and of this number 267 or 66.3 percent reported they were employed and 134 or 33.2 percent responded they were not employed at the present time. Of th 267 employed, 74 percent are employed full-time and 26 percent are employed part-time. Fifty-four of the respondents reported they are employed outside of the dietetic and nutrition field; 20 of these were working in related fields. The fact that only 60 dietitians are in the 20-29 age group points up a problem for recruitment. There is a shortage in this profession now but if more young people are not attracted to this profession and opportunities are not provided to develop and implement a career ladder in dietetics, a severe shortage will develop in the next decade. Information obtained in this survey has already been used by Nutrition Program personnel for prospective employers looking for personnel and for personnel looking for job opportunities near their homes. Information on educational needs and specific courses will be made available to community colleges and other educational institutions which are planning and scheduling courses in the areas needed.

Educational Materials

Over 2,000 copies of the New Jersey Diet Manual were sold, and it is now in its second printing.

A leaflet for teenagers "Be On The Move, Eat In The Groove" was developed for use during Nutrition Month.

A set of nutrition displays with an accompanying nurses' teaching guide was developed by the District Nutrition Consultant, Central State Health District for use in Child Health Conferences.

The State Health Nutrition Consultant, assisted with the revision of the "Home Handbook for Emergencies: Floods, Hurricanes, Power Failures and Others."

Committee Activities

New Jersey State Nutrition Council. The State Consultant was co-chairman for "Nutrition Month" designated by Governor Hughes and program chairman for the council.

The State Consultant has served on the executive board of the New Jersey Public Health Association.

The State Consultant is a member of the Subcommittee on Nutrition and Welfare of the State T.A.P. (Technical Action Panel).

Physical Therapy Program

The Physical Therapy Program initially placed major emphasis on the promotion and development of physical therapy consultation services in local community agencies. At the time of its inception, November 1963, 12 local community agencies employed nine physical therapists on a consultation basis.

With the implementation of Public Law 89-97 (Medicare) in 1966, the program emphasis shifted. Agencies and facilities were required to provide direct physical therapy service to meet the Medicare conditions. The state consultant was requested to evaluate and to provide consultation on the staffing and development of these direct physical therapy service programs.

Today, five years later, there are 134 physical therapists either under contract or on the staff of the 53 home health agencies and 92 extended care facilities in the state. In addition, there are continuing requests for additional therapists as new facilities develop and agency programs expand.

It has been necessary to find new ways to meet this ever increasing demand for direct physical therapy services. This has led to the state consultant working with the physical therapy profession to develop educational guidelines and job descriptions for the training and use of physical therapy assistants.

It has also been necessary for the community physical therapists to broaden their initial direct service responsibility to include involvement in the planning and delivery of physical therapy services on a community-wide basis. This requires their gaining additional proficiency in administration, consultation and supervision skills.

Emphasis in the past year's program has been placed on providing consultation to state and community agencies; cooperating with the professional physical therapy association in its recruitment and assistant training guidelines endeavors; and developing educational seminars on specific chronic illness diseases and communication skills.

Consultation

Through consultation to the agency directors and their contractual and staff physical therapists, the state consultant has strengthened and helped to maintain physical therapy services in the 53 home health agencies. Consultation was provided upon request on an individual and a group basis. Specifically, the state consultant was instrumental in stimulating the Ocean County Home Health Agency to include physical therapy as an additional benefit for its Medicare patients and assisted it in the development of this service.

In July of this year, amended Medicare legislation extended outpatient physical therapy benefits for Medicare patients. The state consultant made consultation visits to six Medicare facilities that requested certification to provide these additional services.

Education

The state consultant has been a member of the New Jersey Physical Therapy Association Supportive Personnel and Recruitment Committees. The Supportive Personnel Committee developed guidelines for training physical therapy assistants. The guidelines include objectives and policies, a job description, and educational and clinical curricula. The recruitment committee with the assistance of the state consultant and the New Jersey State Department of Health Graphic Arts Program developed brochures geared toward informing the high school student about the physical therapy profession. Copies were sent to all New Jersey high schools and distributed during career day talks given by community physical therapists.

In order to upgrade the knowledge of physical therapists and other professional disciplines in chronic disease, the state consultant, in cooperation with the public health nurse consultant, Chronic Illness developed four seminars on chronic illness diseases. Two seminars were on the rehabilitation of the diabetic amputee. They included topics on the surgical, medical, and nutritional management of the diabetic patient with individual topics on podiatry and rehabilitation management. One seminar was on arthritis and was concerned with the medical and surgical management of the arthritic patient with individual topics on rehabilitation procedures and the use of orthotic equipment. One seminar was on emphysema with emphasis on medical and rehabilitation management of the emphysemic patient, with individual topics on chronic obstructive lung disease and the use of inhalation therapy equipment. There were 121 physical therapists, public health nurses and representatives from other paramedical disciplines in attendance.

Social Work Program

Medical Social Services

In 1968, this department provided support financed by grants-in-aid as an essential part of total patient care in Perth Amboy Hospital, Perth Amboy; Saint Peter's Hospital, New Brunswick; Bridgeton Hospital, Bridgeton; Jersey Shore Medical Center, Neptune; Hunterdon Medical Center, Flemington; and Princeton Hospital, Princeton.

Direct services provided by professionally qualified social workers in these six hospitals to 5,174 patients in 8,269 interviews aided in resolving problems such as discharge planning, use of community resources or placement in community facilities, thus implementing the medical plan for care.

New opportunities for providing accredited supervision for graduate students enrolled in schools of social work were developed in Perth Amboy Hospital and Hunterdon Medical Center during the year.

Social Work Education

Resources for providing accredited field work training for graduate students enrolled in graduate schools of social work were expanded this year because of increased scholarship support from public and voluntary sources.

The 28 graduate students enrolled at Rutgers Graduate School of Social Work provided direct social work services under professional supervision at Roosevelt Hospital, Perth Amboy Hospital, Veterans Administration Hospitals in East Orange and Lyons Hospital, Millington, as well as the outpatient clinics in Newark and at Hunterdon Medical Center, Flemington.

This internship program of field work training which has received major support from this department provided 16,800 man-hours of service to patients this year.

This year, 14 students graduated with a master's degree in social work. Of these, eight have accepted employment in health related agencies in New Jersey.

Summer Experience in Social Work

Opportunity for apprentice training in the field of social work for undergraduate college students was provided by the New Jersey Association for Careers in Social Work. This department assisted by providing grants-in-aid, in collaboration with other public and voluntary agencies in the state.

During the past five years, 569 students were employed during the summer months on a full-time basis. Of these, 51 completed graduate education for the master's degree. An additional 83 students are currently employed in the field of social welfare.

Volunteer Friendly Visitor Program

During the past five years, the State Health Social Work Consultant has served as Project Director for this community services training program, in collaboration with the 21 members of the State Committee on Volunteer Friendly Visitors.

The 14 hour training course has been provided for 1,232 unpaid volunteers recruited by a variety of sponsoring agencies.

Of the 41 training courses held throughout the state, 14 were given in hospitals and nine for church groups. Ten courses were sponsored by health and welfare agencies, with five training courses being given for multiple agency groups by community health and welfare councils. The Volunteer Bureau of Bergen County sponsored two county-wide training courses. One nursing home in Morris County recruited and trained Volunteer Friendly Visitors for service in the surrounding community and for visiting the residents of this facility.

The contribution of the Volunteer Friendly Visitor as a supportive community service has been demonstrated in a variety of patterns. The Visiting Homemaker Service of Monmouth County and the SAGE Visiting Homemaker Service in Summit have both developed Friendly Visiting as an adjunct community service to supplement their regular agency service programs.

The 17,248 volunteer hours invested by Volunteer Friendly Visitors in attending the training course has resulted in the extension of community services in "Meals on Wheels," in supplementing social service departments in voluntary hospitals and institutions for the long-term ill, in visiting the homebound blind, and as "foster" grandparents in public housing units.

Certified Health Services

Support for Certified Health Services of a Social Worker, Health, under State Health Aid was requested by local health departments in Newark, Englewood, Somerville, Boonton, Bridgewater, River Edge, Wayne, and Franklin Township in 1968.

Division of Laboratories

MARTIN GOLDFIELD, M.D., *Director*

Program:

Bacteriology ..... RUSSELL STEIN
Program Coordinator

Central Services ..... JOHN WOREK
Program Coordinator

Chemistry ..... PETER E. VENTURA
Program Coordinator

Clinical Laboratory Improvement ..... JOHN J. NELSON, M.S.
Program Coordinator

Pathology ..... MARTIN GOLDFIELD, M.D.
Program Coordinator

Serology ..... ELEANOR E. THOMAS
Program Coordinator

Virology ..... BERNARD TAYLOR
Program Coordinator

Division of Laboratories

Although the following individual reports of the seven programs which constitute the Division of Laboratories best describe the variety, volume and value of the laboratory services we were able to provide to the citizens of New Jersey in 1968, a brief summary of all divisional activities is offered to provide an understanding of the overall magnitude of our operations and of the *esprit de corps* and professional pride of our staff of 134 which permitted its successful accomplishment.

The division conducted 1,352,000 complex technical procedures on 473,000 specimens in 1968. The assimilation of this rising workload, increased by 52,000 procedures over 1967, required the processing of 2.9 million pieces of glassware, the preparation of 16.3 million milliliters of media, the procurement, caging and feeding of some 174,000 animals, and the assembly and mailing of 243,000 specimen kits.

In the area of laboratory approval and improvement, a total of 43,500 test specimens were prepared and distributed to 300 public health, hospital and independent clinical laboratories for the purpose of proficiency evaluation, an increase of 61 percent over last year. Of much greater consequence to achieving meaningful improvement of performance in these many laboratories, however, was the rapid acceleration of training activities conducted by this division in 1968. Over 400 laboratorians attended 30 training sessions for a total of some 750 man training days, an increase of 300 percent over 1967, and 225 laboratory visits were made by staff members to provide inspection and consultative services.

In addition to our efforts to evaluate and improve the performance of laboratories under our jurisdiction, we also participated with other agencies in evaluation and collaborative studies to monitor and improve our own techniques through the processing of 325 unknown specimens, an increase of 40 percent over 1967. Also, 14 staff members attended scientific courses, workshops or seminars to increase our own skills and competence.

Bacteriology Program

To report this program's accomplishments in proper perspective, it should be noted that they were achieved despite the many operational handicaps imposed by continued occupancy of inadequate, outmoded laboratory quarters, pending completion of the new laboratory facility.

A record workload effort amounting to more than 426,000 examinations was required to satisfy fully the requests for laboratory services related to more than 154,000 submitted specimens. Moreover, services were expanded and diagnostic routines were improved as a result of the fruitful completion of a series of special studies involving additional thousands of tests. At the same time, a new series of continuing special studies was initiated to improve further other related diagnostic techniques.

In the important area of performance improvement, increased support was furnished for the proficiency testing of private clinical laboratories. Bench training was made available to a number of public health laboratories, while many program personnel were, in turn, recipients of training at numerous courses, workshops and seminars covering a variety of pertinent areas in public health microbiology.

Highlights

Phenylketonuria (PKU)

Among the 87,265 babies screened by the Guthrie Inhibition Assay Test, five cases of phenylketonuria were detected. This represents a detection rate approximating one per 17,500 live births tested, as compared with the overall detection rate of approximately one per 11,000 live births tested during the course of this five-year-old program. A precise breakdown of annual data is presented in Table 4.

At year's end, 80 hospitals were routinely submitting the heel blood samples from their newborns. A half-dozen other hospitals continued to perform their own screening routines, which were monitored by means of mailed check specimens prepared and distributed by the central laboratory.

Tuberculosis

In addition to an all-time high of 153,343 tests, more than 7,200 special tests were performed in the successful completion of a series of technical studies that resulted in significantly improved tuberculosis laboratory services for the citizens of New Jersey. The studies showed that the use of two plates of 7H10 medium, incubated in an atmosphere containing carbon dioxide (10 percent), not only increased the rapidity with which positive tuberculosis cultures could be detected, but also markedly reduced the incidence of unsatisfactory (contaminated) cultures, thereby enchancing the sensitivity of our tuberculosis detection methodology.

Also, some 1,900 specimen slides were screened microscopically, in a continuing study to compare the efficiencies of two basically different staining techniques. Preliminary results indicate the probability of obtaining a much higher yield of microscopically "positive" specimens, by replacing the present conventional staining procedure with a fluorochrome stain technique.

Enteric Bacteriology

In the course of performing more than 31,000 examinations, extensive laboratory support was furnished to the epidemiologic investigations of at least six major episodes of enteric illness involving approximately 900 persons.

An additional 2,250 special study tests were performed on 450 specimens in a continuing series of culture media comparisons, designed to evaluate the effectiveness of newly reported media, and to determine the feasibility of their routine use.

Rabies

With the exception of two dogs submitted by the Air Force Base at Thule, Greenland, via Maguire Air Force Base, rabies detections were limited to bats. Out of 364 examined bats, rabies was detected in 14 or 3.8 percent. It was the 12th consecutive year that no evidence of rabies was found in any examined specimens from the state's canine population.

As in the past several years, round-the-clock diagnostic service was maintained uninterruptedly on a seven-day-a-week schedule.

Stream Pollution

As anticipated, the rising demand for laboratory support of water pollution control programs generated a record workload. A total of 10,359 examinations were performed on 6,906 samplings, representing a 33 percent increase over last year and 114 percent over the 1966 workload total:

Year	*Specimens*	*Examinations*
1968	6,906	10,359
1967	5,182	7,773
1966	3,225	4,838

Food Bacteriology

Stepped-up surveillance of potentially hazardous foods (ready-to-eat frozen and refrigerated salads and baked desserts) was reflected by a workload that exceeded last year's by 90 percent, and more than tripled that of the year

1966, in which the program was initiated. The workload trend for this three-year-old program follows:

Year	*Specimens*	*Examinations*
1968	635	3,810
1967	334	2,004
1966	187	1,122

Laboratory Improvement

Support for the Laboratory Improvement Program was expanded to include the proficiency testing of 116 laboratories for performance of general medical bacteriology. A total of 2,000 slide specimens and bacterial cultures were prepared and mailed for analyses and report. This was in addition to the routine mailings of phenylketonuria surveillance specimens and the milk sample series used to monitor dairy laboratory proficiency. A summary of performance evaluations conducted during the year follows:

Activity	*Participating Laboratories*	*Total No. of Test Specimens*
Medical Bacteriology	116	2,000
Dairy Bacteriology	20	220
Phenylketonuria	6	237
Totals	142	2,457

Branch Laboratories

For the third consecutive survey year, the two shellfish laboratories, at Bivalve and Nacote Creek, were given an excellent rating by the inspecting team of Public Health Service Survey Officers. The latest grade of excellency (95.7) continued the marked improvement shown since the 81.7 rating received in 1964.

Educational Activities

Six laboratorians representing municipal health departments, hospitals, and teaching institutions received bench training in various program units over a period totaling 47 days of instruction:

No. of Trainees	*Organization*	*Subject*
1	Municipal Health Department	Enteric Bacteriology Mycobacteriology Sanitary Bacteriology General Bacteriology
1	Research Institute (Spain)*	Enteric Bacteriology Mycobacteriology Rabies Diagnosis General Bacteriology
3	Private Hospital (2)	Fluorescent Antibody Techniques
1	College Biology Department	Fluorescent Antibody Techniques

*A Spanish laboratory worker from Madrid studied with the N. J. Health Department laboratory and then returned to Madrid.

A total of 60 days training was received by 10 program personnel through their attendance at the following training courses, workshops and seminars:

No. of Trainees	*Subject*	*Sponsor*
3	Water Microbiology	Federal Water Pollution Control Administration
1	Milk Laboratory Survey	U. S. Public Health Service
1	Anaerobe Bacteriology	U. S. Public Health Service
1	Malaria Diagnosis	U. S. Public Health Service
1	Somatic Cell Counts—Milk	Cornell University
1	Milk Laboratory Survey Officer Course	National Center for Urban and Industrial Health
1	Mycobacteriology	U. S. Public Health Service
1	Identification of N. gonorrhoeae	U. S. Public Health Service

Workloads and Trends

Table 1. Three-Year Comparison of Program Workloads

	Specimens			*Examinations*		
	1968	*1967*	*1966*	*1968*	*1967*	*1966*
Program Total	154,400	153,137	158,412	426,132	411,766	419,694
Central Laboratory	144,118	143,029	146,524	410,369	396,196	401,391
Branch Laboratories	10,282	10,108	11,888	15,763	15,570	18,303

Table 2. Central Laboratory Workloads

	Specimens			Examinations		
	1968	1967	1966	1968	1967	1966
Diagnostic Microbiology						
PKU	89,425	89,457	91,477	179,744	179,809	183,868
TB	21,949	22,711	23,303	153,343	145,534	142,148
Enteric Infections	7,453	7,285	7,640	31,682	30,163	33,007
Gonorrhea	2,505	4,192	5,093	2,505	4,192	5,093
Rabies	2,230	2,204	2,298	7,136	7,053	8,973
Miscellaneous*	1,068	1,293	1,522	2,670	3,052	3,297
Sanitary Bacteriology						
Waters	16,455	13,435	12,250	24,683	20,153	18,375
Dairy Products	2,398	1,118	2,600	4,796	4,236	5,200
Potentially Hazardous Foods	635	334	187	3,810	2,004	1,122

* Includes mycology specimens, food poisoning samples, malaria slides, throat swabs, sterility testing, and bacterial cultures referred for identification.

Phenylketonuria (PKU) Detection

Table 3. Workload Breakdown

Specimen Total	Unsatisfactory Specimens	Satisfactory Specimens		Detected Cases
		Total	Babies Tested	
89,425	1,963	87,462	87,265	5

Table 4. Summary of Positive Findings Since Start of Program

Year	Babies Tested	Cases Detected	
		Total	Rate
1968	87,265	5	1:17,453
1967	87,334	11	1: 7,939
1966	89,189	13	1: 6,860
1965	72,123	3	1:24,041
1964	35,890	1	1:35,890
Total	371,801	33	1:11,266

Tuberculosis

Table 5. Workload Breakdown

Total Specimens	Unsatisfactory Speciments	Satisfactory Specimens		Positive TB	
		In Process	Completed	Total	% of Completed
21,949	940	1,675	19,334	1,809	9.4

Table 6. Breakdown of Satisfactory Specimens

Type of Specimen	Total	In Process	Completed	Positive TB	
				Total	% of Completed
Sputum	20,276	1,604	18,672	1,483	7.9
Urine	85	6	79	0	0
Gastric	109	9	100	7	7.0
Bronchial	6	1	5	1	20.0
Pleural	22	1	21	4	19.0
Spinal	2	0	2	0	0
Misc.	24	1	23	0	0
Referred Cultures	485	53	432	314	72.7
Totals	21,009	1,675	19,334	1,809	9.4

Enteric Infections

Table 7. Breakdown of Specimens Submitted for Enteric Bacteriology

Type of Specimen	Total
Feces	3,491
Food Surveillance	1,224
Cultures for Identification	1,009
Rectal Swabs (animal)	709
Urines	144
Rectal Swabs (human)	125
Miscellaneous	57
Total	6,759

Table 8. Sources of 1,135 Salmonella Identifications

Serotype	Total	Laboratory Isolations				Referred Cultures		
		Human	Animal	Food	Environment	Human	Animal	Animal Feed
S. typhimurium	263	71	38	..	..	153	1	..
S. enteritidis	140	18	5	11	10	96	..	..
S. heidelberg	74	32	3	..	..	39	..	..
S. oranienburg	67	47	2	1	..	13	..	4
S. saint-paul	59	16	3	4	..	36	..	..
S. typhimurium var. copenhagen	50	18	2	1	..	28	1	..
S. thompson	48	17	10	1	..	17	3	..
S. derby	46	34	..	3	..	9	..	..
S. infantis	45	24	..	1	..	20	..	..
S. newport	40	8	22	2	..	8	..	..
S. manhattan	34	16	13	..	..	5	..	..
S. give	31	..	29	..	..	2	..	..
S. typhi	24	12	..	..	..	11	..	1
S. poona	22	22	..	..	..	..	..	..
S. muenchen	22	17	1	1	..	3	..	..
S. blockley	19	..	2	..	..	11	6	..
S. anatum	17	9	1	3	..	1	1	2
S. java	16	7	1	..	..	8	..	..
S. montevideo	12	..	..	..	..	4	4	4
S. chester	9	1	..	..	..	8	..	..
S. livingstone	9	..	3	1	..	..	..	5
S. norwich	6	..	5	..	..	1	..	..
S. senftenberg	5	2	..	..	..	3	..	..

S. siegburg	5	..	..	2	..	1	1	1
S. tennessee	4	..	3	..	..	1	..	..
S. schwarzengrund	4	..	1	..	..	3	..	..
S. miami	4	3	..	1	..	..	..	..
S. bern	4	..	4	..	..	..	..	..
S. kentucky	4	..	..	3	..	1	..	..
S. bredeney	3	..	..	..	..	3	..	..
S. berta	3	..	3	..	..	..	..	..
S. muenster	3	..	..	..	..	3	..	..
S. panama	3	..	..	..	..	3	..	..
S. bareilly	3	1	..	..	..	2	..	..
S. newington	3	..	..	..	..	1	..	2
S. memphis	3	..	..	..	..	..	3	..
S. binza	3	..	..	3	..	..	..	..
S. urbana	3	1	..	..	..	2	..	..
S. sandiego	3	2	..	..	..	1	..	..
S. litchfield	2	..	..	..	..	2	..	..
S. stanley	2	..	..	..	..	2	..	..
S. worthington	2	..	..	2	..	..	..	..
S. alachua	2	..	..	2	..	..	..	..
S. cubana	2	..	..	1	..	1	..	..
S. california	1	..	..	..	..	..	..	1
S. paratyphi A	1	..	..	..	..	1	..	..
S. mission	1	..	1	..	..	..	..	..
S. stanleyville	1	..	1	..	..	..	..	..
S. cholera-suis var. kunzendorf	1	..	1	..	..	..	..	..
S. johannesburg	1	..	..	..	..	..	..	1
S. eimsbuettel	1	..	..	1	..	..	..	..
S. reading	1	..	..	..	..	1	..	..
S. meleagridis	1	..	..	1	..	..	..	..

Table 8. Sources of 1,135 Salmonella Identifications—Continued

Serotype	Total	Laboratory Isolations				Referred Cultures		
		Human	Animal	Food	Environment	Human	Animal	Animal Feed
S. drypool	1	..	..	..	..	..	..	1
S. lexington	1	..	..	..	..	..	..	1
Salmonella 16: 1v, -	1	..	..	..	..	..	..	1
Totals	1135	378	154	45	10	504	20	24

In addition, closely related pathogens (Arizona spp.) were isolated at the central laboratory from the following sources:

Serotype	Total	Source
Arizona 12:27-28	5	Human (4); Animal (1)
Arizona 21:1,3,11	2	Animal
Arizona 30:22-31	1	Animal
Total	8	Human (4); Animal (4)

Table 9. Sources of 93 Shigella Identifications

Organism	Total	Laboratory Isolations	Referred Cultures
Sh. sonnei	63	25	38
Sh. flexneri 2a	10	1	9
Sh. flexneri 3a	6	0	6
Sh. flexneri 6	5	2	3
Sh. flexneri 1a	2	0	2
Sh. flexneri 2b	3	1	2
Sh. flexneri 4a	2	1	1
Sh. flexneri 3b	1	0	1
Sh. flexneri (untypable)	1	0	1
Totals	93	30	63

Table 10. Sources of 58 Enteropathogenic E. Coli Identifications

Serotype	Total	Laboratory Isolations		Referred Cultures
		Stool	Rectal Swab	
055:B5	12	12	0	0
0111:B4	12	11	0	1
026:B6	8	6	0	2
086:B7	7	6	0	1
0128:B12	7	4	0	3
0126:B16	5	1	1	3
0127:B8	4	3	0	1
0125:B15	3	1	0	2
Totals	58	44	1	13

Table 11. Breakdown of Specimens Submitted for Enteric Parasitology

Type of Specimen	Total
Feces ("Fresh")	611
Feces (PVA*)	69
Parasites for Identification	9
Pinworm Slides	3
Miscellaneous	2
Total	694

* Polyvinyl alcohol fixative.

Table 12. Breakdown of Positive Parasitologic Findings

Specimen	Total	*T. trichiura (whipworm)*	*Giardia lamblia*	*Hookworm*	*Ascaris*	*E. vermicularis (pinworm)*	*Taenia sp. (tapeworm)*	*Entamoeba histolytica*
Feces	74	20	19	19	9	5	1	1
Parasites for Identification	4					1	1	
Pinworm Slides	2					2		
Totals	80	20	19	19	9	8	2	1

Rabies

Table 13. Workload Breakdown

Specimen Total	*Unsatisfactory Specimens*	*Satisfactory Specimens*	*Positive Total*	*% of Satisfactory Found Positive*
2230	41	2,189	16	0.7

Bats	392	Guinea Pigs	21
Dogs	310	Ground Hogs	16
Hamsters	306	Opossums	16
Mice	252	Skunks	15
Cats	245	Monkeys	9
Squirrels	169	Birds	4
Rabbits	118	Moles	4
Raccoons	78	Weasels	4
Gerbils	73	Snakes	2
Chipmunks	52	Alligator	1
Rats	48	Cow	1
Foxes	32	Kinkajou	1
Muskrats	32	Turtle	1
Shrews	28		
		Total	2,230

Of 16 positive findings, 14 occured in bats:

Total Bats Submitted	*Unsatisfactory Specimens*	*No. of Bats Acceptable*	*Positive Total*	*% of Acceptable Bats Positive*
392	28	364	14	3.8

Rabies was also detected in 2 dogs submitted by the Air Force Base, Thule, Greenland through McGuire Air Force Base.

Gonorrhea

A total of 2,505 specimen slides were received for microscopic examination. The workload breakdown follows:

Specimen Total	*Unsatisfactory Specimens*	*Satisfactory Specimens*	*Positive Findings*	
			Total	*% of Examined Slides*
2,505	164	2,341	1,226	52.3

MISCELLANEOUS

Table 14. WORKLOAD BREAKDOWN

Referral Cultures for Identification	400
Malaria Slides	158
Mycology Specimens	136
Biologicals for Sterility Tests	119
Throat Swabs	77
Foodborne Illness Specimens	101
Others	77
Total	1,068

SANITARY BACTERIOLOGY

Water Bacteriology

The central laboratory processed 16,455 water samples in accordance with procedures detailed in the 12th edition of "Standard Methods for The Examination of Water and Wastewater."

Table 15. WORKLOAD BREAKDOWN

Potable Waters:	
Public Supplies	3,790
Private Supplies	1,850
Migrant Camps	1,641
Schools	547
Institutions	305
Recreational Camps	271
State Parks	199
Abattoirs	74
Ice Cream Stands	70
Food Establishments	34
Dairies	8
Miscellaneous	32
Total	8,821
Bathing Waters:	
Swimming Areas	587
Pools	86
Total	673
Pollution Control:	
Sewage Effluents	3,875
Streams	2,947
Trade Wastes	84
Total	6,906

Dairy Bacteriology

A total of 2,398 samples of milk and other dairy products was tested in accordance with techniques recommended in the 12th edition of "Standard Methods for the Examination of Dairy Products." Of this total, 2,197 surveillance samples were examined for coliform counts and total bacterial populations in support of the Milk Control Program. Findings are tabulated below:

Table 16.

Sample	*Total*	*No. Found Acceptable*	*No. Found "Below Standard"**				*% of Total "Below Standard"*
			A	*B*	*C*	*Total*	
Whole Milk	942	821	72	38	11	121	12.7
Cream	453	359	34	25	35	94	20.7
Chocolate Milk	260	221	18	13	8	39	15.0
Skim Milk	254	210	25	11	8	44	17.3
Half and Half	174	153	13	5	3	21	12.0
Nonfat Milk	103	90	3	6	4	13	12.6
Imitation Milk	9	6	0	3	0	3	33.3
Ice Cream	2	1	1	0	0	1	50.0
Totals	2,197	1,861	166	101	69	336	15.6

*Key: A = Samples below standard due to excessive coliform count[1] only
B = Samples below standard due to excessive total plate count[2] only
C = Samples below standard due to both excessive counts
[1] More than 10 coliforms per ml.
[2] More than 20,000 bacteria per ml. (milks), or more than 30,000 bacteria per ml. (creams), or more than 50,000 bacteria per ml. (ice cream).

Potentially Hazardous Foods

A total of 635 potentially hazardous foods was checked for coliform counts and total bacterial populations, with the following results:

Table 17.

Sample	*Total*	*No. Found Acceptable*	*No. Found "Below Standard"**				*% of Total "Below Standard"*
			A	*B*	*C*	*Total*	
Frozen Foods	102	92	2	8	0	10	9.8
Refrigerated Foods	533	387	31	61	54	145	27.3
Totals	635	479	33	69	54	156	24.5

*Key: A = Samples below standard due to excessive coliform count[1] only
B = Samples below standard due to excessive total plate count[2] only
C = Samples below standard due to both excessive counts
[1] Count of 100 or more coliforms per gram
[2] Count of 100,000 or more bacteria per gram

Branch Laboratories

At the two branch laboratories (Bivalve and Nacote Creek), a total of 15,763 examinations was made on 10,282 samples of shellfish and waters collected from shellfish-growing areas. All analyses were performed in compliance with methodologies detailed in the 3rd edition of "Recommended Procedures for the Bacteriological Examination of Sea Water and Shellfish," and the 12th edition of "Standard Methods for the Examination of Water and Wastewater."

Table 18. Workload Breakdown

Laboratory	Specimens			Examinations		
	Waters	*Shellfish*	*Total*	*Waters*	*Shellfish*	*Total*
Bivalve	4,939	492	5,431	7,409	984	8,393
Nacote Creek	4,664	187	4,851	6,996	374	7,370
Totals	9,603	679	10,282	14,405	1,358	15,763

Central Services Program

This program provides all glassware, reagents, media, specimen kits, care of animals and other appropriate ancillary services to all programs in the Division of Laboratories. It is also responsible for the processing of all mail, both incoming and outgoing, related to specimen collection. Additionally, pending full occupancy of our new laboratory, personnel of this program must service the Bacteriology Program, still housed in the State House, and the Virology Program, operating at Donnelly Memorial Hospital, on the outskirts of Trenton. The latter responsibility of this program requires two round trips daily to each installation to provide the supplies necessary for the routine functioning of these two programs plus special trips when unusual and unforeseen requirements arise.

The Central Services Program is comprised of four basic functional units:

1. Specimen kit preparation
2. Glassware preparation
3. Media preparation
4. Animal care

Work load statistics for calendar 1968 pertinent to these four units, and to other ancillary supportive services, are cited below, with similar figures for the previous year for comparative purposes.

Specimen Kit Preparation

Type of Specimen Container	*1967*	*1968*
Syphilis Serology	184,185	203,285
Spinal Fluid	334	294
Tuberculosis	28,270	23,194
Feces and Urine	5,424	6,344
Poly Vinyl Alcohol (PVA)	74	81
Gonorrhea	4,201	2,215
Throat Swabs	636	49
Viral Blood	851	1,735
Viral Stool	720	1,815
Viral Throat	162	564
Water Samples	3,723	3,627
Totals	228,580	243,203

The total number of specimen kits mailed during calendar 1968 represents a 6.4 percent increase over the previous year.

Glassware Preparation

The glassware preparation unit processed a total of 2,926,274 pieces of glassware during calendar year 1968, as compared to 2,364,440 pieces in the previous year; an increase of 23.3 percent. An additional 2,300,000 pieces of glassware were processed at Donnelly Memorial Hospital by Central Services Program personnel assigned to the Virology Program.

Media Preparation

The media unit prepared and dispensed a total of 16,291,000 milliliters of media in 1968; an increase of 2.8 percent over the 15,849,000 mls. processed in 1967.

Animal Care

Some 173,646 animals were procured and caged and fed at Donnelly Memorial Hospital during calendar 1968, a decrease of 86.9 percent compared to the 324,476 total for 1967. This decrease is due to the discontinuance of encephalitis research activities that had been financed by research grant funds.

Incoming Specimen Mail

Over 262,000 speciments were received, sorted and distributed to the respective programs, as follows:

Types	*1967*	*1968*
Syphilis Serology	219,271	223,549
Spinal Fluid	811	608
Tuberculosis	22,711	21,949
Feces and Urine	7,257	7,542
PVA	58	69
Gonorrhea	4,192	2,505
Throat Swabs	361	77
Viral Bloods	900	1,851
Viral Stool	950	1,409
Viral Throat	150	167
Water Samples	3,701	2,353
Totals	260,362	262,079

Outgoing Specimen-Related Mail

In addition to mailing the 243,000 specimen kits described above under specimen kit preparation, the following forms were also posted:

Form	*Number*
Pre-marital certificate	65,050
Serology - 1	35,415
Serology - 2	3,750
Virology - 1	1,735
Laboratory - 25	1,225
Bacteriology - 45	419

The Central Services Program has reason to be proud of its accomplishments and effectiveness during 1968 but we are looking forward eagerly to 1969 when full occupancy of our new laboratory building will allow more efficiency in the use of our personnel and our physical plant.

Chemistry Program

The overall workload of biochemical, chemical and physical analyses performed during this period increased significantly. A grand total of 78,638 determinations was conducted on 14,253 samples. These figures represented determination and sample increases of 26 percent and 13 percent, respectively, in comparison to the workload statistics for the previous calendar year.

Summarized workload statistics, a breakdown of the number and character of samples including the number of determinations, and five year comparisons to show trends are presented in Tables 1-4.

Table 1. Summarized Workload Statistics, January 1 - December 31, 1968

Character of Samples	*Number of Specimens*	*Number of Determinations*
Milk and Dairy Products	1,564	3,551
Other Foods	271	801
Drugs	62	400
Potable Water	1,639	10,187
Sewage, Streams and Tradewastes	8,538	59,364
Clinical Chemistry*	1,788	2,997
Miscellaneous**	391	1,338
Totals	14,253	78,638

* Includes proficiency test specimens and confirmatory PKU specimens.
** Includes methods development and collaborative studies.

The 3,511 simple automated confirmatory blood sugar determinations conducted for our Diabetes Program were excluded from this summary since 74 percent of the specimens were processed during Diabetes Detection Week and their inclusion would distort the true clinical chemistry workload.

Also, the routine biochemical tests conducted on 2,559 bloods, urines, feces, and tissues in the Lipid Laboratory for Atherosclerosis Research at St. Vincent's Hospital at Montclair were excluded from the summarized workload statistics of the central laboratories.

Table 2. Five Year Workload Comparisons
Samples Analyzed

Character of Samples	*1964*	*1965*	*1966*	*1967*	*1968*
Milk and Dairy Products	1,298	1,723	1,751	1,682	1,564
Other Foods	630	581	610	434	271
Drugs	139	109	119	141	62
Potable Water	2,285	1,965	1,818	1,493	1,639
Sewage, Streams and Tradewastes	2,347	3,420	4,496	6,584	8,538
Clinical Chemistry	1,683	1,008	573	1,984	1,788
Miscellaneous	270	295	190	162	391
Totals	8,652	9,101	9,557	12,480	14,253

DETERMINATIONS CONDUCTED

Character of Samples	*1964*	*1965*	*1966*	*1967*	*1968*
Milk and Dairy Products	2,555	3,389	3,690	3,334	3,551
Other Foods	1,200	909	1,433	1,086	801
Drugs	336	348	727	794	400
Potable Water	13,069	12,861	10,753	9,604	10,187
Sewage, Streams and Tradewastes	15,858	19,634	25,598	43,673	59,364
Clinical Chemistry	1,921	1,925	1,226	2,854	2,997
Miscellaneous	1,052	1,078	456	977	1,338
Totals	35,991	40,144	43,883	62,322	78,638

Highlights

In the past five years, the number of water and wastewater determinations increased from 28,927 to 69,551. This year the increase amounted to 30 percent, and it was apparent that the extensive increase in the number of specific tests made automation practical. Accordingly, two automated analytical chemistry instruments were introduced to the laboratory. A Technicon Auto-Analyzer which runs four chemical determinations simultaneously was placed in operation to automate 20 percent of our stream sample determinations. This instrument performs the necessary chemical procedures on samples that are placed in disposable plastic cups onto a sample turntable and prints out the analytical results on a strip chart recorder. The other device is a solid-state fluoride activity ion-selective electrode which is a "dip stick" type probe that selectively measures the concentration of fluorides in dilute aqueous solutions in a matter of minutes, with extremely good precision and accuracy.

The expansion of the Laboratory Improvement Program resulted in increased supportive services in clinical chemistry to the extent of preparing, analyzing, and mailing 10,400 proficiency evaluation specimens to participating and reference laboratories.

The increased participation in external proficiency testing services and collaborative studies provided an excellent means of monitoring our own analytical techniques, evaluating methodologies, incorporating newer modified official methods and providing a training aid indirectly by using the residual portions of the proficiency test specimens to monitor our in-service training of new employees.

A total of 97 proficiency test serum specimens for the determination of carbon dioxide, chloride, cholesterol, creatinine, calcium, glucose, magnesium, potassium, sodium, urea nitrogen, and uric acid was provided by the National

Communicable Disease Center Clinical Chemistry Proficiency Testing Unit. Also, their Cooperative Lipid Standardization Laboratory Section provided 28 specimens to monitor our cholesterol techniques.

Table 3. NUMBER AND CHARACTER OF SAMPLES ANALYZED, JANUARY 1 - DECEMBER 31, 1968

MILK AND DAIRY PRODUCTS

Product	*Above Standard*	*Below Standard*	*Total*	*Determinations**
Milk—Chemical	420	19	439	
Milk—Chemical and Phosphatase	561	22	583	
Milk—Phosphatase	182		182	
Chocolate Milk—Phosphatase	135		135	
Goat Milk—Chemical and Phosphatase	7		7	
Imitation Milk—Chemical and Phosphatase	5		5	
Imitation Half and Half—Chemical	1		1	
Ice Milk	1	1	2	
Milk—Filth		2	2	
Cream—Phosphatase	299	3	302	
Cream—Chemical	2		2	
Sour Cream	2		2	
Cheese	10	4	14	
Cottage Cheese	1		1	
Ice Cream—Chemical	15	2	17	
Ice Cream—Filth		1	1	
Butter	1		1	
Milk Shake	1		1	
Milk (Experimental)	26		26	
Totals	1,669	54	1,723	3,562

* Totals of determinations by item are not recorded; only grand totals are maintained.

OTHER FOODS

Product	*Above Standard*	*Below Standard*	*Total*	*Determinations**
Artichoke	1		1	
Baby Foods	21		21	
Beer	1		1	
Boned Chicken	1		1	
Bread	1		1	
Bread Crumbs		1	1	
Butteroil	1		1	
Candy		1	1	
Cider	3		3	
Coffee	1		1	
Crabmeat	1		1	
Cranberry Sauce	1		1	
Doughnuts	26		26	
Food Additives		2	2	
Frozen Eggs	3	1	4	
Frozen Foods	7		7	
Fruit Ice	1	1	2	
Fruit Juices		9	9	
Fruit Pops	1		1	
Fruit Sherbet	2		2	
Lard	1		1	
Macaroni		1	1	
Meat	163	58	221	
Orange Juice, Frozen		1	1	
Onions, Fresh	1		1	
Peppers, Fresh	1		1	
Potatoes, Fresh	1		1	
Soda	15	2	17	
Tomatoes, Canned		2	2	
Tuna Fish	1		1	
Tomato Juice	1		1	
Syrup	1		1	
Pineapple, Canned	1		1	
Vegetables, Canned	4	1	5	
Nuts	1		1	
Wheat Germ	1		1	
Wheat, Rolled	1		1	
"Yum-Yum"	1		1	
Totals	266	80	346	790

* Totals of determinations by item are not given; only grand totals are maintained.

DRUGS

Product	*Above Standard*	*Below Standard*	*Total*	*Determinations**
A P C Tablets	1		1	
Aspirin	1		1	
Anhydroxeral		3	3	
Buffered Aspirin		1	1	
Codeine Phosphate	4		4	
Diiodohydroxyquin	3		3	
Dolamite Tablets	1		1	
Distilled Water, USP	2		2	
Iodine, Tincture		2	2	
Iodine Ration Tablets	14	15	29	
Fay-Sherr Formula	1		1	
Quinine Sulfate	1	2	3	
Meprobamate	1		1	
Pronestyl	1		1	
Red Dye No. 34		1	1	
Rutin	1		1	
Sodium Fluoride and Calcium Lactate Tablets	1		1	
Sulfisoxazole	4	3	7	
Tetracycline	5	1	6	
Unknown Capsules for amphetamines, alkaloids, and barbiturates identification	5		5	
Unknown Tablets for amphetamines, alkaloids, and barbiturates identification	3		3	
Multivitamins	1		1	
Vitamin C Tablets	1		1	
Totals	52	28	80	417

* Totals of determinations by item are not given; only grand totals are maintained.

Diabetes Detection

Analysis	*Number of Specimens*	*Determinations*
Blood Sugar	3511	3511

CLINICAL CHEMISTRY RELATED TO PROFICIENT TESTING

Analysis	*Number of* Specimens	*Determinations*
Calcium	63	63
Carbon Dioxide	7	14
Chlorides	38	76
Cholesterol	279	558
Creatinine	137	137
Glucose	91	91
Magnesium	15	30
Phosphorus	50	50
Potassium	192	192
Sodium	192	192
Total Protein	97	97
Urea Nitrogen	181	283
Uric Acid	45	45
Totals	1,387	1,828

CLINICAL CHEMISTRY RELATED TO PKU DETECTION

Analysis	*Number of Specimens*	*Determinations*
Phenylalanine	245	746

MISCELLANEOUS ANALYSES

Item	*Number of Samples*	*Determinations*
Love Beads	1	3
Milk—Butterfat Evaluation	5	105
Milk—Freezing Point Survey	20	40
Phenylalanine Evaluation Specimens	8	36
Phosphatase Evaluation Specimens	3	9
Urines (STATE POLICE EXAM.)	263	1,052
Lead in tissue	90	90
Toy Gun	1	3
Totals	391	1,338

Table 4. WATERS AND WASTEWATERS ANALYZED JANUARY 1 - DECEMBER 31, 1968

	Public Water	*Miscellaneous*	*State Parks*	*School*	*Bottled Water*	*Stream*	*Sewage*	*Tradewastes*	*Sand*	*Total*	*Determinations*
January	39	33	...	...	...	116	572	81	2	843	6,645
February	104	43	...	3	1	154	395	23	1	724	4,924
March	44	34	1	...	...	152	586	11	5	833	5,587
April	58	49	...	...	...	176	363	15	2	663	4,376
May	117	43	18	...	...	264	503	30	2	977	6,932
June	60	63	5	...	...	237	454	23	...	842	5,269
July	144	55	5	...	...	261	453	32	1	951	6,223
August	58	62	4	...	...	309	471	28	1	933	6,331
September	63	33	...	...	...	313	427	97	...	933	6,683
October	191	66	...	...	...	310	544	95	...	1,206	7,948
November	53	67	...	...	...	163	276	17	1	577	4,578
December	80	43	...	...	...	107	348	17	...	595	4,055
Totals	1,011	591	33	3	1	2,562	5,392	469	15	10,077	69,551

Clinical Laboratory Improvement Program

The continuing objective of this young program, which was established on July 1, 1967, is to improve the quality of performance in New Jersey's clinical laboratories in the specialties of bacteriology, blood banking, chemistry, hematology, immunohematology, and serology. Coordinated and staffed by a small nucleus of competent specialists and ancillary personnel, and obtaining all possible supportive assistance from talent now existent in the several programs of the Division of Laboratories, this unit plans, coordinates, and assists in the performance of all activities relating to clinical laboratory improvement, including proficiency testing, quality control, visitations, and remedial training. Additionally, this program is also the instrument for certifying clinical laboratories' performance to the federal government under the provisions of Medicare participation.

Working within the framework of a modest budget and against a national competition for the necessary highly trained specialists for each laboratory discipline, the recruitment of a competent nuclear staff continued to be a major problem for this program in 1968. Some progress, however, was made in this respect in March, at which time a specialist in hematology was hired. Accordingly, our current staff, supplemented by competencies previously existent in the Division of Laboratories, now permits some degree of laboratory improvement activities beyond mere proficiency testing in the areas of blood banking, hematology, immunohematology, and serology. Funding and the search for similar specialists in bacteriology and chemistry must be made before effective improvement measures may be undertaken in those specialties.

The total number of check specimens related to proficiency testing prepared in the Division of Laboratories rose from 27,000 in 1967 to 43,500 in 1968, an increase of 61 percent. This enormous upsurge in proficiency testing activities, resulting from more clinical laboratories participating in the program and our inauguration of proficiency testing exercises in bacteriology and hematology's, however, not felt to be of great consequence in terms of effective laboratory improvement. Our experience with some 100 volunteer clinical laboratories in a program limited to proficiency testing in chemistry over a six year period has demonstrated that such a program does not in itself result in improved performance. Remedial measures, including visitation, consultation and training, must be applied once the problems are delineated through proficiency testing.

Accordingly, the true measure of this program's accomplishment during 1968 in improving the reliability of results of ensuing from New Jersey's clinical laboratories is believed to be the acceleration of consultative and training activities: 376 clinical laboratory personnel attended 26 training sessions for a total of 747 man training days and some 220 visits were made to provide on site consultations. These total figures are broken down in the brief reviews by specialty which follow:

Bacteriology

Some 1,200 specimens were prepared and distributed to 116 participating laboratories and referees relative to two exercises conducted in 1968. The first study consisted of six pairs of unstained slides (simulated throat smears); the second study, four freeze-dried cultures of organisms theoretically isolated from the throat.

A total of 47 days of training in such subjects as general bacteriology, enteric bacteriology and fluorescent antibody techniques was extended to six laboratories.

Chemistry

A total of 10,400 test specimens was prepared for distribution to participating and reference laboratories and for use in future exercises to evaluate inter-day precision.

Six separate evaluations were conducted in 1968, requiring the issuance of 22 unknown specimens to each participating laboratory, and some 2,400 specimens to five reference laboratories for replicate analyses over 15 consecutive days to establish target values and standard deviations. Proficiency testing in 1968 included uric acid, total protein, glucose, cholesterol, calcium, chloride, phosphorus, sodium and potassium determinations. The number of participating laboratories increased from 128 at the beginning of 1968 to 197 at the end of the year.

Four all-day seminars on all subjects which may affect the reliability of laboratory results, with particular emphasis on quality control procedures and statistical concepts, were held in July and August for 80 independent clinical laboratory directors and supervisors. These four seminars were repeated in November for 30 laboratory directors and supervisors who, for one reason or another, could not attend the summer sessions.

Hematology

Some 5,000 vials of check specimens were prepared and distributed to 195 participating laboratories and referees relative to three proficiency testing exercises conducted in 1968. Two of these studies evaluated the performance of the hemoglobin determination; the third concerned hematocrit. Each evalua-

tion included the issuance of five unknowns to participants and 75 to the five reference laboratories for the establishment of target values and standard deviations.

Over 90 laboratory visits were made by our hematology specialist during calendar 1968 in spite of the fact that he did not join our staff until March 18. Also, three workshops in hematology were given and attended by a total of 105 laboratory directors, supervisors, and technicians.

Immunohematology
(Including Blood Banks)

New Jersey's 137 licensed blood banks and 101 Medicare certified or volunteer clinical laboratories performing immunohematologic procedures received 4,840 proficiency testing specimens in 1968. Also, 126 primary inspections, re-inspections or visitations for the purpose of providing consultation were conducted. Six new blood bank licenses were granted and one bank ceased operations. Training included the giving of four all-day workshops in immunohematology to a total of 90 laboratory directors, supervisors and technicians.

Serology

Over 20,000 test specimens were required to monitor the proficiency of 261 laboratories in syphilis serology in 1968. Ten separate evaluations were conducted but the numbers of test specimens made available to each laboratory were not necessarily equal but depended rather on each laboratory's past performance and upon the time of their entry into this program. An additional 2,200 check specimens were prepared and distributed to 246 laboratories relative to two non-syphilis serology studies: one in infectious mononucleosis; the other in antistreptolysin titer.

In the area of training, two all-day lecture-workshops were given to 32 laboratorians and one two-day lecture-workshop to 24 laboratory personnel. The former workshops were in syphilis serology; the latter, in darkfield microscopy.

Pathology Program

This relatively small program affords the people of New Jersey the means of detecting threats to the public health which are not immediately apparent, threats which might be completely missed if these histologic services were not available and which would, therefore, go uncorrected. This program has also

played an important part in improving the recognition and identification of tumors by New Jersey's pathologists.

The full energy of this program was initially directed in channels calculated to contribute to improved performance by hospital pathologists in the recognition and identification of tumors. Its activities included providing consultation services, wherein pathologists submitted problem cases and a panel of experts gave opinions, the preparation of teaching collections, and the holding of an annual slide seminar.

Over the years, the very marked increase in proficiency of New Jersey's pathologists is reflected in the gradual but definite increase in their ability to make the proper diagnoses in the series of unknowns sent to each of them prior to each annual seminar. Thus, this objective has largely been accomplished and, by the techniques employed, little further benefit is to be derived. The New Jersey Society of Clinical Pathologists has assumed the responsibility for the maintenance of a consulting service and with the development of two medical schools in New Jersey the need for State Health Department activity in the preparation of teaching collections has become less acute.

It is fortunate that the full energies of this program are no longer required in the improvement of tumor recognition and identification since its services are now of utmost value in detecting threats to public health which are not immediately apparent; these are threats to the health of our citizens which would go undiscovered if these histologic services were not available.

WORKLOAD DATA

	1966	*1967*	*1968*
Number of Contributions to Tumor Registry	348	330	56
Number of Consultation Cases	8	6	0
Number of Slides Prepared	6,467	7,729	6,485
Number of Slides Stained	6,429	5,485	4,499
Number of Specimens Processed	1,614	1,437	1,166
Number of Requests for Special Staining	67	6	9
Number of Slides Distributed	2,510	1,713	784
Number of Slides Stained with Special Stains	952	560	81
Number of Pollen Slides Counted	258	225	405
Number of Dog Lymphomas	192	143	5
Number of Miscellaneous	67	82	120

Serology Program

The workload of the Serology Program increased significantly from 361,604 in 1967 to 396,523 total tests performed in 1968. This was due, in great measure, to an increase of 17,170 reference tests. Since the performance of reference tests was limited to follow-up specimens of previous positives, we must assume there was increased activity by private physicians, hospitals, and independent laboratories in follow-up of cases with reactive specimens. Other contributing factors included the increase of 5,000 specimens for premarital testing and 2,100 fluorescent antibody tests for toxoplasmosis in parallel with the National Communicable Disease Center.

The 1968 syphilis serology evaluation included 261 laboratories, of which 111 were hospital laboratories. They consisted of laboratories approved for premarital, prenatal testing, blood banks, and laboratories accredited to perform serologic tests under Medicare. Mailed specimens were submitted to the participants on a pre-arranged schedule—either 10 unknown specimens every month for a total of 100 specimens or 10 specimens bimonthly for a total of 50 specimens, depending upon their performance in the 1967 syphilis serology evaluation. The results for each mailing were compared with those of the state laboratory, which served as the control laboratory, with the Venereal Disease Research Laboratory of the National Communicable Disease Center acting as a co-reference laboratory. The findings of the control laboratory were reported for each set of specimens. Any gross deviation was pursued immediately to determine the cause for the inaccuracy. Eighty-seven telephone calls were made in an effort to raise the level of proficiency among the participating laboratories. A final summary was compiled, listing the results of all the participants by code number and areas where improvement was needed were emphasized by brackets. Thus, each laboratory was able to compare its performance with that of the other laboratories in the state. By maintaining such close relationship with the laboratory personnel, we were able to make them keenly aware of any inadequacies in performance. As an outcome of the syphilis serology evaluation, 12 hospital medical technologists and seven technicians representing independent and municipal laboratories received individual training at the state laboratory. As can be seen from the table below, satisfactory performance in 1968 improved in all areas; in agreement with the reference laboratory and in the proficiency to reproduce results on duplicate specimens. It is noteworthy that in 1968, 100 percent of the laboratories engaged in quantitative testing, whereas only 79 percent of the laboratories performed quantitative tests in 1967.

Table 1. Satisfactory Performance in Syphilis Serology

	Qualitative			*Quantitative*		
Year	*No. of Labs.*	*Satisfactory Agreement*	*Satisfactory Reproducibility*	*No. of Labs.*	*Satisfactory Agreement*	*Satisfactory Reproducibility*
1967	247	94.7%	63.5%	196	90.3%	85.2%
1968	261	98.0%	72.0%	261	95.2%	88.8%

In addition, two categories outside of syphilis serology were selected for evaluation: tests for infectious mononucleosis and antistreptolysin 0 titers. Three unknown specimens for infectious mononucleosis testing were mailed twice in 1968 (1,503 specimens to 246 laboratories) and three unknown samples for antistreptolysin 0 titers were sent to the laboratories performing the test (732 specimens to 244 laboratories). A summary was prepared for each evaluation, using code numbers for laboratory identifications. Since this was the first year that tests in the field of general serology were included, it was difficult to make comparisons in test performance because of the wide variety of procedures and reagents used. These variations were noted in the summary and we pointed out the fact that well-defined laboratory procedures were lacking in this area.

The quality of the serology evaluation program was monitored continuously by external quality control measures through participation in the syphilis serology evaluation studies conducted by the National Communicable Disease Center (NCDC). Two hundred specimens were examined during the year by the state laboratory. Adequacy was defined as follows: agreement of 90 percent with the control laboratory on individual serums and reproducibility of 98 percent. The test results submitted by the state laboratory indicated that our performance was above those standards in all areas. Participation in evaluation surveys on a federal level also included serologic testing for brucellosis and tularemia, Q fever and infectious mononucleosis. The New Jersey laboratory was also requested to serve as a co-referee with the State of Missouri for its evaluation program.

Three training sessions, including both lecture and practical work, were conducted by the Serology Program with a total attendance of 56 laboratory personnel. The preparation of specimens for the workshops involved large quantities of serum and much time, but was compensated by the enthusiasm and persistence of the students to obtain results that were in agreement with the control laboratory. In turn, three of our professional personnel attended courses given by the National Communicable Disease Center.

The chief serologist visited five laboratories upon their applying for approval for premarital and prenatal testing. In each instance, the results from such extensive observations brought to light the need for a broader visitation program. The training, consultation, and evaluation program would be greatly enhanced by visits, where hand-carried specimens could be brought to all the laboratories involved in approval and accreditation in serologic procedures.

Table 2. Comparison Statistics in Serology

	1966	*1967*	*1968*
Routine Specimens for Syphilis:			
Bloods	221,982	219,271	223,549
Spinal Fluids	1,483	811	608
	223,465	220,465	224,157
Routine Tests for Syphilis:			
Bloods	232,259	228,475	247,269
Spinal Fluids	1,925	1,094	590
	234,184	229,569	247,859
Reference Tests for Syphilis:			
Kolmer Reiter Protein (KRP)	45,190	51,300	56,590
Fluorescent Treponemal Antibody—Absorbed (FTA)	49,695	52,995	64,875
	94,885	104,295	121,465
Total Protein	2,532	1,564	734
Rapid Plasma Reagin Test (RPR)	.....	.....	1,463
Evaluation Specimens:			
Syphilis Serology	19,178	19,976	20,764
Infectious Mononucleosis	.....	.....	1,503
Antistreptolysin Titer	.....	.....	732
	19,178	19,976	22,999
Miscellaneous Tests:			
Antistreptolysin Titer	3,680	3,040	3,160
Cold Agglutinins	188	196	138
Febrile Agglutinations	822	482	244
Heterophile Antibodies	22,400	21,688	18,696
Leptospirosis	462	498	293
Q Fever	.....	.....	17
Trichinosis	388	272	354
Toxoplasmosis	.....	.....	2,100
	27,940	26,176	25,002
Total Tests	359,541	361,604	396,523

Virology Program

Two major epidemics occurred in 1968. These events resulted in the Virology Program receiving an 11 percent increase in specimens handled, although the number of tests performed by our program was about the same as the previous year.

One of the major epidemics that occurred in New Jersey, as well as the country, was the new A2/Hong Kong/68 strain of influenza virus. This was the eighth consecutive year that evidence of influenza was detected in New Jersey. We were the first laboratory in the country to document an outbreak of A2/Hong Kong/68 strain of influenza virus. A total of 19 isolates was made. Three of our earliest isolates were sent to the World Health Organization International Influenza Center for the Americas for antigen comparison with earlier viruses and with contemporary strains from other areas. They confirmed our laboratory findings that these isolates are similar to the new A2/Hong Kong/68 strains of influenza virus.

The other major epidemic, cited above, was the first outbreak of eastern encephalitis (EE) in humans since 1959 and the largest documented outbreak of eastern encephalitis in horses ever reported. There were 12 laboratory confirmed cases of eastern encephalitis in humans. Of the 12 affected persons, six died. A total of 126 horses in southern New Jersey was found to be positive for eastern encephalitis infection. In spite of the fact that only two study sites were used, instead of our previous four, on a year around basis prior to the eastern encephalitis episode, there were unprecedented numbers of eastern and western encephalitis (WE) viruses isolated from mosquitoes, birds, and other animals brought into our laboratory from southern New Jersey as part of our constant mosquito-borne virus surveillance activities. Indeed, it was this intensive and extensive monitoring, through our mosquito-borne surveillance program, that enabled us to make the first laboratory confirmation of eastern encephalitis activity in horses in this country.

Since we have discontinued isolation attempts of mosquito pools in suckling mice, we are unable to ascertain whether or not either California or Saint Louis encephalitis was present in the state. We did, however, have inconclusive serologic evidence of California encephalitis in one human during 1968. More and more, the fluorescent antibody techniques, developed in this laboratory, have proven to be an invaluable procedure for the rapid diagnosis of eastern encephalitis. Moreover, on some occasions, we have made identification of eastern encephalitis positive specimens as early as 12 hours after receiving these materials.

There were five cases of Herpes simplex virus detected in our laboratory in 1968. Of these, four were encephalitis fatalities while the fifth one was non-fatal.

During 1968, Echo 9, Mumps and Coxsackie B3 were most often laboratory confirmed as the viruses causing aseptic meningitis.

There was a three-fold increase in the numbers of specimens received for Rubella (German Measles) diagnosis. Earlier in the year, a Rubella serum survey was conducted. Our data have enhanced our ability to interpret with more intelligence our laboratory results and to choose the most sensitive and reliable procedure for serological confirmation of Rubella. Additionally, the director has sent letters to the hospital laboratories informing them of our findings and cautioning them about the interpretation of their results predicated on an insensitive test procedure or lack of certain expertise needed to evaluate their test results.

Lastly, the dog serum survey, that was begun in 1967, has reached its goal of 3,000 bloods. All sera have been tested for Hemoglutination Inhibition antibody. To date, all sera have been tested for eastern encephalitis and western encephalitis neutralizing antibodies. About 500 sera remained to be tested for Saint Louis encephalitis neutralizing antibodies. During July and August, a limited pound survey was carried out. There were 200 dogs bled throughout the state. The results of this survey are incomplete.

Table 1. Workload Data, Virology Program, Three Year Comparison

	1966	*1967*	*1968*
Specimens received	29,100	29,226	35,009
Tests performed	273,700	476,507	474,905
Types of tests:			
Virus isolation	133,300	185,798	195,353
Serologic tests	140,410	290,709	248,752

Table 2. Workload Breakdown by Subject, Virology Program, 1968

			Tests
Specimens Received			35,009
Tests Made			474,905
Virus Isolations:			
Feces, Pharyngeal Wash			22,820
Brains			9,320
Miscellaneous (Tissue, Swab and Spinal Fluid)			12,070
Mosquito Pools	1967 in Suckling Mice		13,008
	1967 in Chick		8,130
	1968 in Chick		9,000
Fly Pools	1968 in Chick		125
Horses (brains)	1968 in Mice		695
Horses (bloods)	1968 in Mice		370
Horses (brains)	1968 in Chick		370
Horses (bloods)	1968 in Chick		1,105
Pheasants (brains)	1968 in Mice		425
Pheasants (bloods)	1968 in Mice		65
Pheasants (brains)	1968 in Chick		315
Pheasants (bloods)	1968 in Chick		30
Passages:			
Mosquito Pools	1967 in Suckling Mice		5,992
	1967 in Chick		2,185
	1968 in Chick		2,915
Fly Pools	1968 in Chick		55
Horses (brain and blood)	1968 in Mice		210
Horses (brain and blood)	1968 in Chick		85
Pheasants (brain and blood)	1968 in Mice		55
Pheasants (brain and blood)	1968 in Chick		45
Ectoparasite Pools	1968 in Suckling Mice		488
	1968 in Chick		710
Rabies	1968 in Suckling Mice		8,800
	1967 in Chick		5,500
	1968 in Suckling Mice		6,400
	1968 in Chick		6,800
Avian Specimens:			
DOA Birds			1,275
Live Birds			21,020
Non-avian Specimens:			
Brains Isolations			5,295
Bloods Isolations			7,405
Passages: All year in Chicks			9,155

	Tests
Special Project:	
Neutralization Test Study	16,750
California Encephalitis	1,261
Powassan Virus	1,313
Dr. Mazzur's Research Projects:	
Isolations	425
Titrations	1,870
Neutralizations	4,380
Specimens Examined by Fluorescent Antibody	5,628
Influenza Isolations	1,488
Serology:	
Chick Neutralizations	94,660
Mouse Neutralizations	58,140
Complement Fixation (3,425):	
Screens	4,184
Quants	14,298
Blocks	6,180
Rubella	2,100
Hemagglutination—Inhibition (5,047):	
Non-avian	23,920
Human Arbovirus	43,300
Rubella	30,800
Influenza	1,020
Weil Felix	950
Total	474,905

Division of Local Health Services

WILLIAM J. DOUGHERTY, M.D., M.P.H.
Assistant Commissioner for Local Health Services

STATE HEALTH DISTRICTS

Central State Health District ..... ISIDOR MARKOWITZ, M.D., M.P.H.
District State Health Officer

Metropolitan State Health District ..... ADELE SHEPARD, M.D., M.P.H.
District State Health Officer

Northern State Health District ..... DONALD S. MYERS, M.D., M.P.H.
District State Health Officer

Southern State Health District ..... HUGH D. PALMER, M.D., M.P.H.
District State Health Officer

Migrant Health Program ..... THOMAS B. GILBERT
Coordinator

State Health Aid Program ..... JOHN H. HARRISON, D.V.M.
Coordinator

Division of Local Health Services

Central State Health District

The most significant progress in establishing larger health units in the Central State Health District was the establishment of a Middlesex County Health Department, with a full-time health officer as public health coordinator, by the Board of Chosen Freeholders. The six participating municipalities which contracted for health services with the County Health Department are South Amboy City, North Brunswick Township, Jamesburg Borough, Dunellen Borough, South River Borough and Spotswood Borough. This health department will provide services to an estimated population of 64,000 which was previously uncovered. At the end of the year, the Board of Freeholders was in the process of recruiting a public health coordinator.

Moorestown Township, population 14,680, joined the Burlington County Health Department. At the end of the year, this health department was providing services to 38 of the 40 municipalities in the county. As a result of meetings with health officials in Burlington City, it is anticipated that this municipality will join the county health unit in the near future.

At the beginning of the year, West Windsor Township in Mercer County, population 6,570, contracted with the Princeton Borough Health Department for full-time health services.

In Middlesex County, South Brunswick Township, population 13,040, contracted for full-time health services with the East Brunswick Township Health Department.

In Monmouth County, Shrewsbury Township, population 1,300, and Shrewsbury Borough, population 1,590, joined the Monmouth County Regional Health Commission No. 1 on January 1, 1968.

The following chart shows the status of full-time health officer coverage in the Central State Health District at the close of the year. In 1968, the population of the district with such coverage was 66.6 percent, as compared to 60 percent in 1967. The greatest increase was in Middlesex County with coverage of almost 80 percent, as compared to 60 percent in 1967.

Table 1. Health Officer Coverage in Central State Health District

As of December 31, 1968

County	Population Estimated 7/1/68	No. of Municipalities in County	Municipalities with Full-time Health Officers			Municipalities without Full-time Health Officers		
			No.	Pop.	Percent	No.	Pop.	Percent
Burlington	329,930	40	38	310,710	94.2	2	19,220	5.8
Mercer	309,530	13	6	243,970	78.8	7	65,560	21.2
Middlesex	578,090	25	15	459,650	79.5	10	118,440	20.5
Monmouth	449,860	53	13	208,170	46.3	40	241,690	53.7
Ocean	166,780	33	0	0	0	33	166,780	100
Totals	1,834,190	164	72	1,222,500	66.6	92	611,690	33.4

In April, the State Commissioner of Health designated the District Consultant in Community Health Organization, the District Chief of Environmental Health, and the Program Coordinator of the Dental Health Program as Model Cities Health Service Officers. These officers were assigned to assist the administrators of the Model Cities Programs in Trenton, Perth Amboy, and New Brunswick, respectively. In October, Perth Amboy's application for its Model Cities program was approved by the federal government.

In cooperation with the Program Coordinator of the Camp and Bathing Program, 54 camps and nine lake bathing places were inspected. Certificates of compliance were issued to those found to be in compliance with departmental requirements, while those failing to meet the requirements were advised of the deficiencies needing correction.

There were 78 establishments under order by the department for violating Chapter IV of the New Jersey Air Pollution Control Code, and they were maintained under surveillance. In addition, 120 observations of stacks in highly industrialized areas of the district for violations of Chapter IV were made.

At the request of the Program Coordinator of the Migrant Health Program, sanitarians conducted inspections and sampled the individual water supplies serving 80 of the migrant labor camps within the district.

Assistance was given to the Health Officer of Pequannock Township (Morris County) during the heavy floods which occurred in the spring. Food establishments, public water supplies, and sewage disposal plants were checked for possible damage caused by the flood waters.

A significant step was taken during the past year to improve sanitation levels in retail food establishments within the district. The United States Public Health Service trained and certified the District Principal Sanitarian as a Food Sanitation Survey Officer. This qualified him to conduct surveys of local health departments' food programs and will, in turn, enable him to standardize the inspection techniques of local sanitary inspectors. A survey of the City of Trenton was made and the results were forwarded to the health officer. That report will serve as a baseline for future surveys and assist the city health officer in planning his food inspection program.

The training of sanitary inspectors continued to be an important activity during the past year. District personnel took part in the classroom exercises and field experience of sanitarian trainees who attended the basic environmental sanitation course conducted by Rutgers University.

Foods embargoed and/or destroyed under district supervision because they were adulterated or suspected of being adulterated included 120 cans of beef and pork, sweet potatoes and peas. In addition, 70 containers of tomato juice and 25 pounds of meat were voluntarily destroyed because of adulteration.

Over 300 establishments licensed by this department were inspected. In addition, over 280 field tests were conducted to determine the quantity of fat in ground beef, and to determine the presence of adulterant sulfites. Where warranted, legal samples were collected and submitted for laboratory analysis.

There was a substantial increase in municipal participation in state-sponsored anti-rabies vaccination clinics. During 1968, 153 municipalities participated in the clinics and 56,271 animals were vaccinated, as compared to 150 municipalities in 1967 with 54,098 animals vaccinated.

Ordinances requiring compulsory vaccination of dogs were adopted by three municipalities.

Efforts are continuing to secure compliance with the state law requiring an annual census of unlicensed dogs in each municipality. While 100 percent participation has not been achieved, there was a marked improvement; 132 of the 165 municipalities in the district conducted the census, as compared to 118 municipalities in 1967. Follow-up of the annual census of unlicensed dogs has resulted in an increase in the number of dogs licensed, and a decrease in bites by stray dogs.

There has been a reduction in the number of people receiving post-exposure rabies treatment during the past year. It is believed that this reduction was the result of educational campaigns concerning rabies conducted by local health departments, with technical assistance from this department. The public has

become aware of this disease and has learned of the incidence of rabies in wildlife, especially bats, and the serious health hazard of transmission to humans and domestic animals.

The district veterinary public health staff conducted 212 inspections of kennels, pet shops, dog shelters, and pounds.

The Division of Laboratories examined 771 animals for rabies; of these, 225 were bats, of which 10 were positive.

Surveillance reports were completed for 215 cases of viral hepatitis, 16 cases of serum hepatitis, 134 cases of salmonellosis, and 16 cases of shigellosis. Other epidemiological investigations included one case of each of the following diseases: Rocky Mountain spotted fever, trichinosis, brucellosis, and malaria.

State Health Aid has continued to give impetus to the growth of nutrition services in municipal and county health departments in Burlington, Mercer, and Monmouth Counties. Frequent consultation has been provided for the health officers and nutritionists involved in these services. There were two meetings conducted for the nutritionists and diet counselors who are employed by local health departments in the district to provide an opportunity for a sharing of activities, ideas and mutual problems, and for a discussion of possible solutions to these problems.

There were 40 health care facilities represented at two "share and compare" meetings conducted for administrators and dietary consultants of nursing homes and extended care facilities in the district. The meetings were conducted by the District Nutrition Consultant in cooperation with the Office of Health Facilities Certification, and the Central District of the New Jersey Dietetic Association.

A pilot study involving the use of nutrition displays in child health conferences was concluded this year. The project was conducted with the cooperation of the Monmouth County Organization for Social Service. Results of the study indicated that the displays and accompanying nurses' teaching guide and nurses' in-service education program could be used effectively in furthering the educational aspects of child health conferences. The displays and the teaching guide, prepared by the District Nutrition Consultant, are now being produced for wider distribution.

Social change and its implications for dietitians and home economists was the theme of the fall meeting of the New Jersey Dietetic Association held at the State Museum Auditorium on October 1, 1968. A total of 125 persons attended the meeting.

Progress in the public health nursing agencies has occurred in the following three main areas: strengthening of the public health nursing agencies, the Bureau of Manpower Project, and educational activities.

The number of local public health nurses working without supervision has decreased. Qualified nursing supervision has been provided for 15 public health nurses formerly without these essential benefits.

All home health agencies in the district initially certified for Medicare by the Office of Health Facilities Certification received re-certification in 1968. All home health Agencies provide homemaker-home health aide and physical therapy services in addition to public health nursing services.

There were five regional meetings for inactive nurses residing in the Central State Health District in October. As a result, 29 nurses have been contacted through personal interviews, letters and telephone calls. Employment has been accepted by two nurses, and eight were referred to local nursing agencies for employment.

The public health nurse census conducted for the U. S. Public Health Service in 1968 indicated a significant increase in nursing staff, particularly among the licensed practical nurses.

Two "share and compare" conferences were held for public health nursing supervisors in agencies within the district. The sessions were held at the request of the nursing agency directors to sharpen supervisory skills.

Social work activities have focused on strengthening existing professional hospital social service departments and promoting establishment of additional ones. Emphasis was also placed on improving the quality of social work services provided in extended care facilities.

There has been a gradual expansion of the professional social service department staffs in six hospitals in the district. This has resulted in broader department programs which included increased participation in community planning. The social service department at Burlington County Memorial Hospital, Mount Holly, established in January, initiated a pilot project which extends social work services to all patients in two extended care facilities in Burlington County. The social service staff at Perth Amboy General Hospital participated in comprehensive mental health planning for Middlesex County and was active in the Model Cities project in Perth Amboy. At Jersey Shore Medical Center, Neptune, the social service staff provided service to the expanding county-wide child evaluation clinic which is held at the hospital. In addition, the director of the Social Service Department participated in formulating plans for the hospital's home care program. The staff at Roosevelt

Hospital, Metuchen, was active in planning Middlesex County's drug addiction program.

Through cooperative planning with the Office of Health Facilities Certification, emphasis was placed on improving the quality of social work services provided to patients in extended care facilities. This entailed consultation visits to 18 extended care facilities for conferences with the administrators and the social work consultants. When indicated, return visits were made. In two extended care facilities, the social work consultants arranged for the professional staff to meet with hospital social workers in the area and the District Social Work Consultant. This proved mutually beneficial.

The District Social Work Consultant participated in planning and attended an institute on Family Planning sponsored by the Rutgers' Graduate School of Social Work. The medical, legal, cultural, and religious aspects of family planning were presented. It was attended by 85 social workers in health, education and welfare settings.

Burlington County

In cooperation with the Armed Forces Disciplinary Control Board at the McGuire Air Force Base Fort Dix military complex, district sanitarians conducted inspections of food establishments and housing units in Wrightstown. Several establishments found to be unsatisfactory were placed off-limits to military personnel. Copies of the inspection reports were sent to the local board of health for corrective action.

At the request of the Public Health Coordinator, Burlington County Health Department, the District Nutrition Consultant made an evaluation of the part-time diet counseling services sponsored by this health department. In addition, assistance was provided in the preparation of policies and procedures for the services being rendered. Recommendations were submitted for the establishment of a full-time public health nutrition program.

The Moorestown Visiting Nurse Association has employed a qualified nurse director. State Health Aid funds are being provided this agency in partial support of the director's salary.

The Burlington County Case Register was transferred from the Burlington County Tuberculosis and Health Association, Inc., to the Burlington County Health Department.

Mercer County

In May, 1968, an investigation was conducted jointly with the Division of Preventable Diseases of a food poisoning outbreak which occurred in an

industrial plant located in Hamilton Township. The investigation revealed that about 100 of 391 employees and guests who ate lunch in the company cafeteria became ill with symptoms of diarrhea, abdominal cramps, fever, and chills. The suspected vehicles were baked macaroni and veal parmesan. No food was available for sampling. However, of the 43 stool specimens examined, 23 were positive for Salmonella typhimurium and Salmonella typhimurium var. copenhagen. Food handlers in the cafeteria submitted two of the positive specimens.

The full-time public health nutrition program of the Trenton Division of Health has completed a notable first year with emphasis being placed on direct services to individuals, families and groups. When an overwhelming number of requests for diet counseling services threatened to jeopardize the preventive aspects of Trenton's nutrition program, the District Nutrition Consultant, at the request of the city's health officer, developed a proposal for a diet counseling service to supplement the public health nutrition program.

The Nutrition Education Committee for the Merecr County Food Stamp Program made significant progress in 1968 in meeting educational goals. A total of 95 staff members of health, welfare, and social agencies in Mercer County attended a Nutrition Education Conference sponsored by the committee on May 24, 1968. In addition, two four-session consumer education seminars were conducted, with the cooperation of the Mercer County Extension Home Economist, for 20 (10 at each seminar) employment counselors and social service aides employed by United Progress, Inc., Trenton. It is hoped that similar programs will be conducted by seminar participants for low-income families at neighborhood centers and for those enrolled in employment programs sponsored by the Trenton anti-poverty agency.

Promotion of professional social work services in hospitals progressed slowly. However, the administrators of St. Francis Hospital and Mercer Hospital, both located in Trenton, have requested the District Social Work Consultant to assist in recruiting a qualified social worker to develop a social service department.

The Visiting Nurse Association of Trenton is now making all home visits in the City of Trenton on a priority basis. This arrangement was the result of a crisis caused by the mass resignation of the nursing staff of the Trenton Division of Health.

The District Consultant Public Health Nursing served as a lecturer at the Trenton State College, and assisted with arranging for the required public health field experience for the college's nursing students.

Middlesex County

An environmental survey of the Model Cities neighborhoods of Perth Amboy was conducted by district and departmental environmental health personnel. Their findings disclosed a number of insanitary conditions involving retail food establishments, and food processing plants; overcrowded housing, rodent infestation, and inadequate solid waste disposal operations. Documentation of their findings was incorporated in Perth Amboy's Model Cities application. Subsequently it received federal approval.

A comprehensive sanitary survey of individual subsurface sewage disposal systems serving homes in a section of North Brunswick Township was conducted. The survey disclosed many residences had overflowing subsurface sewage disposal systems which require public sanitary sewerage as a corrective measure. Findings of the survey team were submitted to the local board of health.

In February, 1968, the District Public Health Veterinarian, in conjunction with personnel of the Division of Preventable diseases, investigated a food poisoning outbreak at Rutgers - the State University, New Brunswick. It was estimated that 400 students were victims of gastroenteritis. The causative agent was Salmonella derby, traced to London broil served in the school cafeteria.

In August, 1968, the Perth Amboy General Hospital reported that a brother and sister had been admitted to the hospital with severe gastroenteritis. The brother, age 68, had expired and the sister was in critical condition. Also, it was reported that blood, urine and stool specimens of both the deceased and patient were found positive for Salmonella Group B by the hospital laboratory. Investigation was immediately conducted. The source of infection was traced to a cake which was consumed by both victims and had been given to them by a neighbor. Salmonella typhimurium var. copenhagen was recovered from a left-over piece of the cake, as well as from a stool specimen of the neighbor.

At the request of the Visiting Nurse Association in Middlesex County, the Public Health Veterinarian gave a talk on "Investigation of Salmonellosis, Shigellosis and Hepatitis" to the public health nurses of that agency.

The Edison Township Board of Health has contracted for nursing supervision and direction for their nursing personnel from the Visiting Nurse Association in Middlesex County.

The District Consultant Public Health Nursing served on the Advisory Board of the Middlesex Community College.

Through cooperative planning with the Feild Instructor, Medical Social Work, Rutgers' Graduate School of Social Work, the graduate student program in two hospitals in Middlesex County expanded. A unit of four casework students has been assigned jointly to Perth Amboy General Tospital, and Roosevelt Hospital, Metuchen. This will provide experience in a general hospital serving patients of all ages and in a hospital for the chronically ill which has an alcoholism treatment unit and a rehabilitation program. In addition, three groupwork students were assigned to Perth Amboy General Hospital under the supervision of a faculty member from the school.

Monmouth County

Nutrition services provided by the Middletown Township Health Department have continued to expand. Additional services provided in 1968 include diet counseling for the medically indigent and nutrition services for the prenatal patients at the Middletown Health Center.

Three agencies in Monmouth County (Atlantic Highlands Public Health Association, Keyport Public Health Nursing Association, and the Rumson, Sea Bright and Fair Haven Public Health Nursing Association) have merged into the MCOSS Family Health and Nursing Service.

A graduate student from the University of Pittsburgh School of Public Health received field experience in administration through the cooperative efforts of the MCOSS Family Health and Nursing Service and the District Consultant Public Health Nursing.

Metropolitan State Health District

Personnel Assignments

Model Cities Assignments

The District State Health Officer was given the assignment of being Model Cities Health Services Officer to Jersey City. She resumed her activities as full-time District State Health Officer in October.

One of the nursing consultants was assigned full time as Model Cities Health Services Officer to the cities of Orange and East Orange.

Public health veterinarian was assigned part time as Model Cities Health Services Officer to Hoboken.

Social Worker Assigned to Martland Hospital Unit

The social work consultant was assigned temporarily to study the Social Services Department at the Martland Hospital Unit of the New Jersey College of Medicine and Dentistry. She was assigned to head the Social Work Department on a full-time basis at the end of 1968.

Additions and Losses to Staff

The nutrition consultant resigned to accept a position at the Bergen County Health Department.

At the beginning of the year, two part-time pediatric consultants were recruited. One died unexpectedly in September.

In November, the vacancy of District Chief Environmental Health was filled after being open since the beginning of the year.

A program assistant was added to the staff with duties in the State Health Aid Program and as an administrative assistant to the District State Health Officer.

Three sanitarian trainees joined the district after completing the environmental sanitation course given at Rutgers—the State University.

During 1968, there were three positions unoccupied on the clerical staff. Great difficulties were experienced in recruiting new personnel.

Services to Local Health Departments Not Eligible for State Aid

Local Environmental Health Services

Training of Local Sanitarians

At the request of the Health Officer of Teaneck, district sanitarians accompanied local sanitarians to train them to perform inspections in catering establishments. District sanitarians, at the request of the Health Officer of Livingston, assisted in a training program designed to introduce two sanitarians to the use of fat testers and legal sampling procedures.

State Aid Program Audits

District environmental health personnel, in accordance with standard procedures set by the administrators of the State Health Aid Act, performed

program audits of certified health services selected by the Union City Health Department to determine compliance with program standards. This was the first time that the Metropolitan State Health District environmental staff was involved in this activity.

Rodent Control

A rabies control warden assisted Paterson, Kearny, Bayonne, and Hoboken with expert advice regarding rodent control activities.

Rabies Control

Immunization Level of Dogs

A total of 91,727 animals was immunized against rabies in a cooperative effort including all but five municipalities in the Metropolitan District. Those not cooperating were Weehawken, North Arlington, Alpine, South Hackensack, and Teterboro, licensing 300, 600, 200, 100, and two dogs respectively. Since 180,000 dogs are licensed annually in the district, less than one percent are uncovered by public antirabic inoculations, and 50 percent of the total population is immunized. These figures do not include those dogs immunized by nonsubsidized private practitioners. They do, however, include a small number of animals other than dogs vaccinated at clinics.

Control of Stray Dogs

Assistance was given to Elizabeth in capturing wild stray dogs living in the meadows and foraging in the city.

Services to Improve Maternal and Child Health

Child Health Conference Starts Operation in Mahwah

A child health conference started operation in Mahwah. Nursing service was contracted from the neighboring community of Ramsey. The State Department of Health is providing a three-year grant-in-aid contract for community reimbursement of physician services.

Improvements in Procedures Made in Union City

Union City has received State Health Aid funds to provide health supervision for infants and preschool children. Consultations have been directed toward gearing up immunization station services to a status equal to child health conference services. There have been improvements in making procedures compatible with current practices.

Consultative Assistance Given Child Health Conference in North Bergen

Consultative assistance was given to operations in the newly established child health conference funded by State Health Aid.

Detailed Survey Made of Child Health Care in Jersey City

A detailed survey of the child health conferences, boarder floor, daily immunization station, pediatric ward, and pediatric clinic was made in this community; it receives State Health Aid funds for health supervision of infants and preschool children. Consultations occurred at each station and a final written summary of findings and recommendations was discussed with the Assistant Medical Director, the Assistant Health Officer, and the Nursing Director before submission to the Medical Director of the Jersey City Health Services and to the Health Officer.

Over the past five years, there have been gradual improvements in the scope and quality of the type of care that is offered, with the most outstanding thrust being made at School No. 5 where a district nursing office is located. A negative situation at the border quarters at the Jersey City Medical Center continues. These quarters are used to house children who cannot be housed elsewhere. The children's confinement is relieved only by daily teaching services and by very limited services offerd by the Jersey City Can-Do Child Development Center.

Consultative visits have also been made to the Office of Economic Opportunity-funded Child Development Center (preschool children centers) to aid referral of children for further medical care following health screening procedures.

Consultation Given Neighborhood House in Plainfield

A community citizens' group requested consultative services to help plan some solutions of problems that were aired in the Neighborhood House in Plainfield. In several meetings, groundwork was outlined to solve immunization and dental needs of children. Other State Department of Health consultants were brought into these programs.

Cooperation Between Planned Parenthood and Plainfield Model Cities

A consultative visit was made to evaluate facilities of the Planned Parenthood Tri-County League. Connections were established for this enthusiastic group to work with the Plainfield Model Cities Coordinator.

State Health Aid Enables Westfield to Come to Grips with Problem

Operating with State Health Aid funds, the health officer and nursing service came to grips with a problem that has been handicapping this otherwise excellent child health service, i.e., a system of volunteer rotating physicians. Difficulties resulting from rotation were resolved by the recruitment of a single physician by the district.

Conference with Staff Results in Plan to Improve Verona Child Health Conference

After a consultative visit to the child health conference, the Public Health Nursing Consultant and pediatric consultant met with the health officer and his nursing staff. The result was a plan to improve the method of keeping child health conference records and a plan to extend the child health conference services to include preschool vision and hearing screening.

Plans Submitted to Health Officer of Orange for Improving Child Health Conferences

Following visits to the child health conferences conducted by the Orange Health Department, the pediatric consultant submitted to the health officer recommendations for improving services, such as extending nurse counseling of the parent. The health officer promptly accepted the suggestions for improvements. Orange has contracted with the Community Nursing Service of Essex and West Hudson to provide public health nursing direction to the public health nursing services of Orange.

New Child Health Conferences Planned for Newark

The pediatric consultant made a survey of the Newark child health conferences and then conferred with the health officer. A new child health conference at Babies Hospital was planned and another new station was promised for the Martland Hospital Unit in the near future.

Local Health Education

Recruitment of New Personnel

There were four health educators employed by local health departments in the district during the year. These health departments were East Orange, Newark, Jersey City, and Bergen County. Unfortunately, a vacancy was created by resignation in the Newark Division of Health in October. Vacancies for positions of health educators exist at United Hospitals of Newark,

Montclair, and Newark. Replacement is difficult due to the shortage of personnel in this field.

Advances in the Bergen County Health Education Division

The health education program at the Bergen County Health Department has set a pace for what can be accomplished on the local level.

There are seven staff members in the Health Education Division.

The innovative antismoking program has been noteworthy. A program using smoking mannequins is presented throughout the county on the Bergen County Health Department's new multiphasic mobile unit called a healthmobile. The program was enthusiastically received by students and educators.

The Health Education Division has been deeply involved in the problems of drug abuse.

The health education staff has worked with several agencies in the development of a series of sex education workshops.

The acquisition of many films, filmstrips, books, audio-visual equipment, pamphlets, and periodicals has been valuable to the program. These materials are available to residents of Bergen County.

The Health Education Division has also actively promoted programs in dental health education, courses in air pollution, water pollution, alcohol prevention, and for Spanish-speaking food handlers.

This program is representative of the type of health education activity which can be performed on a local basis.

"Pop Goes The Measles" Campaign

Approximately 6,800 children rolled up their sleeves to receive measles immunization at a one-day crash program in Newark on Sunday, March 3. An intensive educational program referred to as the "Pop Goes the Measles" campaign was conducted by a committee of about 40 representatives from local health and welfare agencies including the Office of Economic Opportunity and the Board of Education. The program was aimed at children from one year to 10 years of age. Sites selected for the campaign were mostly in the deprived areas of the city.

Nutrition

Nutrition Education for Disadvantaged Youths in Newark

Upon request of the Newark Division of Health, a program was given on nutrition education for disadvantaged youths in Newark at the Morris Avenue Vocational School. This project, sponsored by the CIO-AFL Union, was one of a series given for the educational benefit of young men between the ages of 17 and 25. There were 40 persons in attendance.

Local Nursing Contracts

New Nursing Contract for North Bergen

The nursing consultant assisted the North Bergen Health Officer in formulating a nursing contract with the North Hudson Public Health Nursing Services.

Evaluation of Union Township Nursing Services

The Union Township Health Officer requested assistance in the analysis of the nursing program and its relationship to the current contract with a voluntary nursing agency.

Nursing Direction

Bergen County Obtains Nursing Direction

The Bergen County Health Department contracted with Hackensack Hospital Community Nursing Service to purchase 40 percent of the time of its nurse director's time and 100 percent of a nurse supervisor's time.

Passaic Nursing Direction

The District Nursing Consultant accompanied the Director of Local Health Services to Passaic City to discuss with the Business Manager and Health Officer the Passaic nursing program in relation to State Health Aid funds.

A subsequent meeting was held with the above persons and the Civil Service Director of Municipalities to clarify the legality of an official agency contracting with a voluntary agency for nursing direction and supervision.

Attempt to Increase Nursing Services

Effort to Develop Nursing Services in Bergen County

Consultation was requested by the Bergen County Health Department's Nursing Advisory Committee to discuss the nursing patterns in the county. A recommendation from a member of the committee resulted in the decision to select five communities as a demonstration study for a generalized program. No progress was made due to the resignation of the county health officer and the subsequent resignation of the nurse director.

Effort to Expand Nursing for Cranford

Consultation was given to the assistant administrator and nursing director of Overlook Hospital's Public Health Nursing Service to explore the feasibility of entering into a contract for services with the Cranford Health Department related to certified health services. The contract was not negotiated because the Cranford Health Officer resigned, thus making Cranford ineligible for State Health Aid.

Services to Local Health Departments Not Eligible for State Health Aid

Direct Environmental Health Services Are Reduced

The environmental health staff has continued to provide services to municipalities. However, we attempted to limit activities to those services such as migrant labor camps, ice cream plants, camps, etc., in which the department has specific responsibilities (see listing below). Exceptions to the aforementioned were the governor's or the commissioner's requests to investigate alleged problems in specific municipalities.

Table 1. Inspections

Type of Inspection	*Number of Inspections*
Public water supplies	1
Semipublic and private water supplies	12
Water samples collected	26
Public sewage disposal plants	2
Private sewage disposal	13
Bathing places	45
Camps	33
Solid Waste Disposal	33

Table 1. Inspections—Continued

Type of Inspection	*Number of Inspections*
Insect and rodent control	2
Bottling plants—nonalcoholic	34
Nonalcoholic beverage samples collected	2
Refrigerated warehouses	15
Shellfish plants	3
Egg-breaking plants	2
Ice cream plants	311
Ice cream samples collected	20
Food establishments	146
Food samples collected	205
Malachite green tests	200
Housing	91

Table 2. Conferences

Type of Conferences	*Number of Conferences*
Representatives of local health agencies	371
Other officials	54

Child Health Conference Established in Roselle Park

A child health conference was established in Roselle Park. A physician was recruited by the district consultant pediatrician to provide this service, who will be reimbursed by a three-year-amortizing grant-in-aid contract. A second contract has been requested because successful operation caused an overloading of sessions.

Child Health Conference at West Milford

The new child health conference site in West Milford was visited. Current immunization schedules were discussed.

Activities to Promote the Development of Larger Health Units

Flood Shows Deficiency of Health Services

The district environmental health staff provided assistance to four Union County municipalities whose public water supply became contaminated during spring floods. As a result of this and other assistance provided to these municipalities, they are considering regionalization.

Regionalization Effort in Essex County

Division of Local Health Services and district personnel met with officials of four western Essex County municipalities to discuss the formation of a larger health agency. Environmental health personnel were charged with

surveying the municipalities to determine their needs and to show how regionalization, coupled with State Health Aid eligibility, would benefit them.

Other Services

Model Cities

Rodent and Housing Survey for Hoboken

District environmental health staff, at the request of the Model Cities Health Services Officer, assisted the Hoboken Health Department and Model Cities officials in a survey to determine housing, rodent and insect problems. This survey has helped Hoboken prepare for Urban Rodent and Insect Control Project monies.

Acute Communicable Diseases

Epidemiological Investigations

To control communicable diseases, district personnel assisted in the epidemiologic investigation of the following reported cases of diseases:

Salmonellosis	195
Hepatitis	58
Shigellosis	37

There were six smallpox contacts kept under surveillance, and 23 outbreaks of mumps were reported from the district. Probably for the first time, a typhoid carrier was removed from surveillance after complying with criteria indicating that he was no longer a carrier.

Control of Psitticine Birds

Parrots brought into the state illegally were found in two Bergen County pet shops. In the first case, which occurred early in the year, the parrots were donated to the Bergen County zoo.

Encephalitis Investigation

The district assisted the department in obtaining blood from dogs, foxes and raccoons to study the incidence of eastern encephalitis and related diseases.

Rabies Control Work

The two rabies control wardens provided the following services to various agencies in the district.

Table 3. Routine Workload

	Bergen	*Passaic*	*Union*	*Essex*	*Hudson*
Inspections of Kennels, Pet Shops, Pounds and Shelters	186	49	63	40	24
Clinic Conferences Included Vaccination Delivery and Pickup	191	59	141	120	60
Investigations:					
Animal Bites in State	148	63	20	17	12
Animal Bites Out of State	49	55	24	33	6
Patrolling	34	28	17	9	3
Rabies Reported in Bats		1 Wayne			1 North Bergen

Work on New Child Health Conference Manual

District consultant pediatricians of all districts worked together to revise the New Jersey State Child Health Conference Manual. Sections were added on vision and hearing screening of preschool children, dental screening, and updating the immunization schedule.

Workshops

Health Care Crisis Discussed at Workshop

The Health Care Crisis of the Newark Metropolitan Area was discussed by more than 200 representatives of hospitals, health, and welfare agencies at the Fifth Annual Health Education Workshop in October.

The Annual Health Education Workshop is sponsored by a Planning Committee developed as a result of the widespread interest in the health education project at United Hospitals of Newark.

Guidance Directors Attend Medical-Health Careers Workshop

Approximately 100 guidance directors and counselors attended the Medical-Health Careers Workshop at the Veterans Administration Hospital in January. The conference was sponsored by the Health Careers Planning Committee which consists of 23 health and hospital agencies, the Essex County Medical Society, the New Jersey College of Medicine and Dentistry, and the Veterans Administration Hospital.

24 High Schools Participate in Second Health Careers Conference

Approximately 400 Essex County junior and senior high school students attended the two-day Medical, Dental, Nursing, and Health Careers Conference in March at the Veterans Administration Hospital in East Orange. They came from 24 schools.

Coordination Between Hospitals and Agencies

Nursing Coordination with Overlook Hospital is Extended

The nursing consultant on request of the Administrator of Overlook Hospital gave nursing consultation to the hospital's Home Care Program and surrounding voluntary nursing agencies.

Coordination Between Clara Maass Hospital and Nutley Nursing Service

The nursing consultant participated in a meeting with the Director of Nutley's Nursing Service and the Director of Nursing at Clara Maas Hospital. Plans were made to inaugurate a referral system between the hospital and the community agencies.

Nursing Coordination at Overlook Hospital

Consultation was given to the Overlook Hospital administrator and the Nursing Service Director relating to the functions of the public health nurse coordinator within the hospital and the community agencies. Prior to the reorganization, only the patients eligible for the hospital's Home Care Program were seen by the nurse coordinator.

Medicare

Nursing Certification

The nursing consultant accompanied and participated with the Consultant Nurse, Medicare Program, to five official and one combination nursing agencies for the purpose of recertification of the agencies as required by the Social Security Administration.

Voluntary Home Health Agency Certification

The nursing consultant accompanied the Consultant Nurse from the Medicare Program to 14 voluntary home health agencies for the purpose of Medicare recertification of the agencies as required by the Social Security Administration.

Medicare Nursing for Bloomfield

The fiscal intermediary of Prudential Insurance Company requested a recertification of the Public Health Nursing Association of Bloomfield for Medicare purposes. The nursing consultant and Medicare nurse consultant met with the board members to discuss the deficiencies in the agency.

Subsequent to the meeting, the Community Nursing Service of Montclair agreed to expand its geographic area and provide nursing services to families in Bloomfield and Glen Ridge.

Institute on Nursing and the Retarded

The district nursing consultant served on the planning committee for an institute entitled "The Community Health Nurse Serves the Retarded" sponsored by the evaluation clinic of the child study center of Newark State College. The primary purpose of the institute was to acquaint nurses in the referral area with the services of the evaluation clinic and to acquaint community nurses with new solutions for old problems in their contacts with families of the mentally retarded. The full-day session was attended by 125 nurses.

Field Experience for Nursing Students at Fairleigh Dickinson

The nursing consultant met with the nursing faculty of Fairleigh Dickinson University to discuss resources for public health field experience and for suggestions related to the integration of public health and mental health concepts. Fairleigh Dickinson's basic four-year program has been reviewed by National League of Nursing.

Hudson County Tuberculosis Education

An inservice education program on tuberculosis forms and nursing services was held for nurses in the North Hudson area, for a period of one and one-half days over a three-week period. There were three sessions held; 15 nurses attended.

Bergen County Tuberculosis Program

The district nursing consultant gave assistance to the Nursing Consultant of Bergen County Health Department in relation to an inservice program on tuberculosis for nurses in Bergen County.

Nutrition

Lecture to Senior Citizens

Upon request of the director of the East Orange Community Action Program, the nutrition consultant gave a lecture to senior citizens which included nutrition for them and a demonstration on choosing a balanced food intake for the day. Buying hints, the Food Stamp Program and food fads and fallacies were also presented. There were 35 persons present.

Dietetic Interns from Bronx Veterans Administration Hospital

A two-week schedule of activities in the district was conducted with two dietetic interns from the Veterans Administration Hospital, Bronx, New York. This internship program was coordinated with the New Jersey State Health Department Nutrition Program to give the dietetic interns an orientation and perspective of public health nutrition in the four districts. A one-year dietetic internship in an accredited hospital is available to students receiving a bachelor's degree in nutrition from an accredited college. Upon completion of this internship, the student is eligible for membership in the American Dietetic Association.

Consumer League Conference Workshops

The statewide annual Consumer League Conference held in March 1968 included workshops on marketing for food, making major purchases, credit, and discussion of frauds. The district nutrition consultant has been a leader of a workshop for the last two years. These workshops are designed for leaders of consumer groups interested in problems of frauds; how to budget incomes; how to buy food, clothes and furnishings; credit problems; and other related subjects. Attendance last year was limited to 100.

Meals-On-Wheels Programs

The nutrition consultant has visited three Meals-On-Wheels Programs; i. e., Paterson, Jersey City, and Montclair. At the request of the New Jersey Nutrition Council, the nutrition consultant made a detailed survey of the Montclair program. The survey included inspection of the physical facilities, information on funding, sponsorship, communities served, employees, volunteers, record keeping, eligibility of clients, special diets, time and route of deliveries, costs of meals and services, food containers, and instruction on food handling.

Essex County Children's Shelter Visited

The nutrition consultant visited the Essex County Children's Shelter at the request of the director to evaluate the menus, the physical setup, and type of service involved. It was suggested that the menus in certain circumstances be modified, that tables be rearranged in the children's dining room, and that a slight change be made in the serving time.

Social Services

Extended Care Certification

Consultation was given to five nursing homes in meeting social work criteria for certification as extended care facilities, and social work personnel were recruited for all five homes.

Social Work in Passaic County

The social work consultant participated in formation of a Passaic County Committee to study needs and develop services for unmarried pregnant women. She also served as liaison in developing interagency and multidisciplinary services in home health services in Passaic County.

Assistance Given to Essex County Children's Shelter

Consultation was given and nutrition and pediatric consultant services were secured for the Essex County Children's Shelter. Planning with community agencies and the shelter was instigated toward the goal of expanding shelter services for children under three years of age, for whom no emergency resources exist.

Assignment to Martland Hospital Unit

At the request of New Jersey College of Medicine and Dentistry, the social work consultant made a survey of the Social Service Department at Martland Hospital Unit, formerly the Newark City Hospital. Efforts to recruit a director for the department being unproductive, the social work consultant was assigned to the hospital as director of the department, pending the recruitment of a director.

Northern State Health District

District Administration

The prime objective of the district office continued to be the strengthening of local health services already established and encouraging the establishment

of new services where none existed. State financial aid contributed to both facets of this objective.

Previously established health agencies that had availed themselves of state aid in 1967 and continued to accept aid in 1968 were: In Morris County—Boonton Town, Dover Town, and Parsippany-Troy Hills Township; and, in Somerset County—Franklin Township and Somerville Borough. In addition to these, Madison Borough, which had been eligible for state aid in 1967 but had not applied, elected to apply for 1968. In Somerset County, Bridgewater Township became eligible by virtue of exceeding the 25,000 population minimum, and so applied. The Boards of Chosen Freeholders of Hunterdon and Sussex Counties continued to receive state aid support for their health departments. Both of these county agencies completed their first full year of operation in 1968. A regional health commission was formed by five municipalities in and around Phillipsburg, Warren County. The commission, known as the South Warren County Regional Health Commission, was approved in the early part of the year and became operational shortly thereafter. The organization of the commission was the result of more than a year's work by the Northern District staff in conjunction with local boards of health.

While reviewing health activities conducted by the various municipalities in the district, it was discovered that 15 were over 10,000 population (as indicated by the July 1, 1968 estimates published by the New Jersey Department of Conservation and Economic Development) and did not employ full time health officers as required by the State Sanitary Code. The deficient municipalities are: In Morris County—Chatham Borough, Denville Township, Hanover Township, Jefferson Township, Montville Township, Morris Township, Morristown Town, Randolph Township, and Rockaway Township; in Somerset County—Bernards Township, Bound Brook Borough, Manville Borough, and North Plainfield Borough; and, in Sussex County—Sparta Township. At year's end, the district staff was conferring with the boards of health involved apprising them of possible means of joining their neighbors in the establishment of larger health agencies in order that they might become eligible for state aid.

Community Health Services

The District State Health Officer served on the Board of Directors of the Northwest Area TB and Health Association (the name of which was later changed to the TB/Respiratory Disease Association serving Morris and Sussex Counties). He was also on the Executive Board of the Morris County Committee on Drug Abuse, and was a member of the Advisory Committee to the Prevention of Narcotics and Drugs Abuse Committee of Sussex County.

He served as an ex officio member of the Morris County Mosquito Extermination Commission, representing the State Commissioner of Health in this capacity.

The District Consultant on Environmental Health represented the State Commissioner of Health as an ex officio member of the Sussex County Mosquito Extermination Commission. The Principal Public Health engineer served in a similar capacity on the Warren County Mosquito Extermination Commission, and the Senior Sanitarian represented the Commissioner on the Somerset County Mosquito Extermination Commission.

The Senior Public Health Veterinarian served on the Executive Board of the Morris Regional Health Council, on the Comparative Health Committee of the New Jersey Public Health Association, and was chairman of the Public Health Committee of the New Jersey Health Officers' Association.

The District State Health Officer was appointed late in 1967 the liaison representative from the State Department of Health to the Model Cities program in Newark. He served in this capacity for four months in 1968 when it became apparent that it was not feasible to serve in two capacities (i.e., District State Health Officer, and Model Cities representative) adequately. The position of Model Cities representative was, therefore, assigned to the newly employed Medical Social Worker as her primary duty. This, it was felt, was a logical move, since she lived near Newark, had worked in Newark in the Model City area, and knew and understood the problems of the area.

Education and Training

The Senior Public Health Veterinarian:

As chairman of the Comparative Medicine Committee of the New Jersey Public Health Association, the Senior Public Health Veterinarian met with representatives of the Medical Society of New Jersey, the Division on Aging of the Department of Community Affairs, the New Jersey Public Health Association, and Humans for Animals and Humanity. Plans were made for the fifth annual conference on comparative medicine in Princeton.

Attended the program on Disaster Control and Preventative Medicine Activities which was sponsored by the Morris County Civil Defense Coordinator's office, together with the Army and Air Force liaison officers.

Participated in a career day seminar on veterinary public health activities, Passaic Township (Morris County) public school system.

Attended a five-day training conference on urban insect and rodent control in Atlanta, Georgia.

Met with the advanced biology students of Mountain Lakes (Morris County) High School for the purpose of presenting career opportunities in veterinary medicine and related bio-medical fields.

Gave assistance to a group of missionaries from the First Baptist Church of Somerville (Somerset County). A training program was set up so the group can carry out a health education type of rodent control program in Haiti early in 1969.

The District Nutrition Consultant in Health:

Attended a one-week intensive course in pediatric nutrition, sponsored by the Children's Bureau, and administered by the University of Iowa. Information obtained was shared with the other nutrition program staff as well as several nurse consultants.

Met with a committee of the Northwest Jersey Home Economics Association to discuss the need for adult home economics courses in Morris County. The dean of the newly established County College of Morris expressed interest in obtaining suggestions for such courses, such as food service supervision, consumer buying skills, etc.

Provided further orientation to the new diet counselor at the Hunterdon Medical Center. Promotional letters were sent to all physicians in the county and visits to health-related agencies were made.

Conducted share-and-compare conferences for dietary consultants to extended care facilities. Subjects included sanitation training for food service workers, communications, preparation of policy-procedure manuals for dietary departments, and the "Five-Meal-a-Day Plan."

Conducted a class on nutrition at a meeting of the newly organized local chapter of the Childbirth Education Association of New Jersey. About 12 expectant mothers, and the husbands of several of them, were in the group.

Participated in two programs sponsored by the Morris County Heart Association. A weight control symposium for the public which featured speakers and sample foods for holiday entertaining drew about 150 persons. The second program was presented to a group of approximately 30 nurses on diet in coronary care, as part of a Coronary Care Training Course.

Met with the public health nurses of the Sussex County Health Department, Division of Public Health Nursing, to discuss diet in pregnancy and child nutrition.

The District Consultant in Community Health Organization:

Attended a five-day training program on Developing Community Involvement through Effective Personal Skills and Involvement Techniques.

Attended the meeting of the Women's Traffic Safety Forum. A request was made for the initiation of local programs on traffic safety. Copies of audio-visual aids were demonstrated and printed material distributed.

The Senior Sanitarian attended a course put on by the United States Public Health Service on food service establishment rating. He was subsequantly certified as a food service establishment rating officer.

Following his certification as a food service establishment rating officer, the Senior Sanitarian trained the two sanitarians on the district staff in the techniques involved. By the end of the year, the district had three certified food service establishment rating officers.

District sanitarians attended a two-day seminar conducted by the Bureau of Food and Drugs and United States Public Health Service personnel on evaluating a health agency's food service establishment control program.

The District Consultant in Public Health Nursing:

Collaborated in the presentation of a series of 14 programs for nurses in Warren County. The subject of the series was "Community Focus on Restorative Nursing."

Attended the Office of Certification of Health Facilities workshop on "Relationship Between the Home Health Agency and the Homemaker-Home Health Aide Agency."

Participated in an educational program of the Visiting Nurse Association of Morris County regarding crippled children policies, forms, resources, etc.

Attended the Newark State College Child Study Center workshop on "The Community Health Nurse Serves the Retarded."

Completed a one-day workshop on disaster nursing conducted by the American Red Cross at the East Orange Chapter of the A.R.C.

Assisted the Director of the Warren County Public Health Nursing Agency to conduct a nurse training session on diabetes screening.

Planned an educational program on "Understanding the Special Needs of the Cerebral Palsy Child" with the staff of the Matheny School (Peapack-Gladstone Borough, Somerset County). Eighty-five nurses and related health professionals attended.

The District State Health Officer:

Attended 31 sessions concerning the model cities program. Among the subjects discussed were minority groups and their problems, the ghetto, involvement of the "consumer" in model cities programs, comprehensive health planning, governmental structures, and power structures at various levels.

Conferred with approximately 20 groups of interested people on state aid. The groups involved were boards of chosen freeholders, local governing bodies, and local boards of health.

Delivered five talks on the hazards of smoking to parent-teachers' associations and to junior high school students.

Gave 13 talks to service clubs, women's clubs, parent-teachers' associations and student groups on narcotics and drug abuse.

Attended seven in-service training programs including such diverse subjects as tuberuclosis nursing, smoking and cancer, community involvement, health careers.

Attended a day-long seminar on rat control conducted by the United States Public Health Service.

Planned, organized, conducted and participated in a 10 session weekly course on narcotics and drug abuse for the Adult Education Night School of the Morristown High School (Morris County).

Delivered a talk on sex education to a parent-teachers' association.

Environmental Health Programs

Food

Consultation concerning renovation of a large Boy Scout training center, open all year, in Morris county continued. A district sanitarian made recommendations to assure an efficient and sanitary operation in the food preparation and service area.

A survey was made of those food establishments which claim to be caterers to determine the extent to which the state should become involved in direct inspection. Nineteen such establishments were given preliminary inspections. It soon became apparent, however, that the control of caterers was a state-wide, and maybe interstate, problem. One fact became evident: inspections of such establishments must be standardized. Further action was therefore deferred until local sanitary inspectors could be certified as food service establishment rating officers throughout the district.

District personnel have, in the past, taken the responsibility for inspection of the five county fairs which are held once each year in the district. Efforts to have local authorities assume these responsibilities were realized this year in Sussex, Hunterdon, and Morris Counties. The Somerset and Warren County Fairs were inspected by district sanitation personnel.

Camps and Bathing

An even 100 camps were inspected by district staff this year. Considerable success has been realized in having local authorities perform camp inspections, especially the Hunterdon and Sussex County Health Departments. The Sussex County department found that there were more camps in the county than it could handle with its current staff, so it asked for aid from the district. This aid was given. Five of the 100 camps inspected by district personnel were found not to merit certification, for reasons other than unsatisfactory water. Water is often a problem where chlorination is required because the chlorinators are not operated properly.

Thirty bathing beaches were certified during the 1968 season. This is not the total number of beaches in the district, but since the program is a voluntary one, there is no way to force the owners or operators to join.

Veterinary Public Health

There were 12 reports received from the United States Department of Agriculture indicating that herds of dairy cattle in Hunterdon, Morris, Sussex, and Warren Counties were positive upon tuberculin testing. In each instance, a notice was sent to the owner of the herd advising that persons consuming raw milk from his herd receive appropriate medical examination. Information was also supplied to the appropriate county tuberculosis and health association.

Letters were sent to each of the 134 municipalities in the district announcing the schedule for the annual anti-rabies clinics. Vaccine, disposable syringes and needles, certificates of vaccination, and publicity materials were subsequently distributed. Although some municipalities waited until fall to hold their clinics, there was ultimately 100 percent participation during the year. Some municipalities hold two, and a few conduct four, clinics annually.

Every municipality in the district is covered in one way or another, to one degree or another, by some type of dog pound activity. This varies from newly constructed municipal buildings that meet all of the standards set forth by the State Department of Health, through buildings that meet none of these standards to no physical pound facilities at all. The latter municipalities are served by a near-by municipality or a privately operated dog pound service

agency which may be a number of miles from the area served. Efforts of the district dog control warden, therefore, are directed toward improving dog control programs and dog pound services in the municipalities that do not have their own facilities or do not belong to a regional type of dog control activity.

Inquiries were received by the district office questioning the right of local lay personnel (dog wardens) to euthanize animals which have completed the required quarantine or observation period. Recommendations were made approving this procedure providing it was accomplished under the supervision of a consulting or supervising veterinarian engaged by the municipality.

In cooperation with the Bureau of Veterinary Public Health's program to identify arbovirus in wildlife and concurrently determine if these animals are carrying the rabies virus, a total of 61 captured wildlife specimens from the Great Swamp were submitted to the state laboratory. All were negative for both diseases.

Upon request of the management of a corporation, whose research facilities are located in Sussex County, investigation was held to determine action required to prevent leptospirosis from occurring in the employees of the facility. Dogs are used as research animals in the laboratory and certain employees are responsible for handling these dogs. Several dogs had died from leptospirosis. There was an extensive rodent infestation at the facility. Serological studies on the dogs were positive for leptospira icterohemmorrhagiae. The housing facilities used at the time of the incident were abandoned and the dogs were relocated in a modern rodent protected facility. Consultation was held with the pest control operator who was employed by the corporation. Suggestions were made regarding the initiation of rodent control procedures prior to, and subsequent to, relocation of the plant in order to prevent rodent migration and possible spread of leptospirosis to the neighboring animals and residents of the community.

There were more than 500 investigations, consultations, and inspections held by the Rabies Control Warden during the year to promote the dog control program in the district. In each instance, for education and training purposes, efforts were made to involve local officials in the investigation, inspection or consultation.

At least three instances occurred in which humans had been exposed to dogs that were infected with sarcoptic mange mite. In two instances, the disease had been contracted by children of separate families. The sources of the infections in the dogs were traced to two animal stores. Prompt action by veterinary personnel and the shop owners resulted in treatment of both the human and the canine cases. Remedial action was taken within the establishments to preclude a recurrence of the incident.

A report was received from a resident in the Metropolitan District indicating that children in the family were under medical treatment for ringworm. The family cats had been housed, for a period of time, at a cat breeding establishment in Morris County. A visit was made by the Senior Public Health Veterinarian to determine whether the establishment could be the source for the disease. The owner of the establishment was directed to have all his cats examined by a veterinarian, and based upon his clinical and laboratory findings, appropriate action would be taken. Three of the 22 cats examined were positive. In cooperation with the local board of health, the establishment was put under quarantine during the time the cats received appropriate treatment.

Consultation was held with a breeder of champion Burmese cats in Morris County when it was learned that several of the cats were found to have serological tests positive for toxoplasmosis. Eye lesions, considered characteristic of the disease in cats, prompted the practicing veterinarian to seek laboratory confirmation. Medical histories relative to the status of the family, with special reference to females of childbearing age, were obtained, and blood specimens were collected and submitted to the state laboratory for testing. Results on these specimens were negative.

Potable Water and Water Pollution Control Programs

Contamination and pollution of wells continued to be a major problem in the district. The sub-surface structure in many areas of northwest New Jersey lends itself to easy contamination, and man has contributed to the problem by improper planning, negligence, ignoring basic principles of sanitation, or all three.

In one instance, a school water supply was contaminated by salt which entered the aquifer from a sand-salt stockpile of the Transportation Department. Over a period of some two years, the problem was finally solved. Before the school was provided potable water, however, two new wells were drilled, the location of the stockpile was moved, and the ground at the location of the previous stockpile was removed and replaced with fresh soil. The salt content of the well water was finally reduced to the point of potability for all except those on salt free diets.

Another source of contamination of wells has been hydrocarbon products, i.e., gasoline or fuel oil. A number of instances of this occurred in widely scattered parts of the district. In several instances, the contamination was traced to a nearby gasoline station. In one instance, however, a gasoline storage tank that had been used during World War II, and since forgotten, was located and found to be leaking.

Pollution from underground sewage disposal systems is, of course, the greatest source of concern in this part of New Jersey. Neighbors accuse each other, and fight each other, and many times are justified. In at least one instance, however, it was found that the complainant's own private sewage system lines were clogged by tree roots; he was polluting his own well.

Lake Hopatcong (Sussex and Morris Counties) is used by several public water suppliers as a source of water. The Department of Conservation and Economic Development decided to have an aquatic weed control program at the lake. They proceeded, by contract with an extermination company, to make application of an herbicide over areas where water was being taken for potable use. Signs forbidding swimming and boating were posted. A wild flurry of telephone calls then reached the Northern District office. The callers asked if the water was dangerous to drink, since it was too dangerous to swim in. The Northern District ordered the herbicide program to be stopped until an agreement could be reached between the two departments involved. A joint meeting was held and a revised poison application program was worked out and jointly agreed upon.

Illness was suffered by a number of families after an herbicide known as Diquat had been used in the River Styx area of Lake Hopatcong (Sussex County). The illness was not brought to the attention of the district office until late during the episode.

Heart and Circulatory Disease

The District Consultant in Community Health Organization, who is a member of the Phonocardioscan Committee of the Morris County Heart Association, observed the administration of the Phonocardioscan test at Madison Borough (Morris County). Approximately 1,000 children were screened with the equipment. Children on whom the examinations were positive were referred to their family physicians for evaluation. Follow-up on the program was accomplished by the Madison Health Department.

The District Consultant assisted with the promotion of instructor courses on external cardio-respiratory resuscitation in Morris County. A course for physicians was given at Warner-Lambert Laboratories in Morris Plains (Morris County). Approximately 25 physicians attended.

Constructive Health Programs

Crippled Children

The District Consultant Public Health Nurse continued to serve as chairman of the Morris County Sub-committee on Services to Handicapped Children. On October 1, 1968 the Executive Committee of Riverside Hospital (Boonton Town, Morris County) formally accepted the services of the program and agreed to participate. Interest in the activities of the hospital has came to the attention of the President's Committee on Employment of the Handicapped. Two meetings of selected parents, who have had handicapped children, were held, and six referrals of parents of newborn handicapped children were made to the consulting parents. An epidemiological form was also developed for recording future referrals.

Maternal and Child Health

On request from the Sussex County Division of Nursing, a planning conference on Maternal and Child Health was held. Several suggestions were offered for an in-service program and interest continues in establishing a child health conference in Sussex County.

As a potential means of reducing the disparity between the ever increasing demand for medical services and the availability of qualified professional personnel, the district staff planned and gave a series of in-service education programs for nurses serving in the child health conference stations. The aim was to expand the nurses' role by providing them with current knowledge and thus strengthening their concepts in this service area. Two programs were held in 1968, one on "Growth and Development," the other on "Nutrition of the Infant."

Early in December the last licensed midwife (age 76) in the Northern State Health District terminated her midwife activities by notifying the Medical Society of New Jersey that she would not renew her license. This Somerville (Somerset County) woman had delivered over 800 babies since 1916.

Dental Health

Nearly all of the dental health programs in the district continue to be in conjunction with school health programs. Only two boards of health participated in a dental health program, namely, Dover Town (Morris County), and Phillipsburg Town (Warren County). Further expansion of programs is limited due to lack of funding.

Preventable Disease Programs

Communicable Disease

Epidemiological investigations relative to a number of diseases were accomplished during the year. Included were typhoid fever, shigellosis, aseptic meningitis, fifth disease, hand, foot and mouth disease, brucellosis, leptospirosis, viral encephalitis, the zoonoses feline toxoplasmosis and bovine tuberculosis. The United States Public Health Service requested surveillances on persons exposed to cholera, pulmonary fibrosis, and smallpox and on interstate shipment of parrots for psittacosis.

Vaccination Assistance

Immunization programs were accomplished in several communities after susceptibility surveys were made. In Manville Borough (Somerset County) 1,100 doses of diphtheria-pertussis-tetanus, measles, poliomyelitis, smallpox and diphtheria-tetanus immunizing agents were given during a multiphasic program. Three hundred children in Franklin Township (Somerset County) received poliomyelitis, diphtheria-pertussis-tetanus, and measles immunizations. In Branchburg and Peapack-Gladstone (also Somerset County) 145 measles vaccine doses were administered.

In Sussex County, three separate programs were set up; two in Vernon and Green Townships and the third for the rest of the county. A total of 300 measles vaccine doses was administered at the Vernon and Green Township programs; 406 doses of measles vaccine were given during the other one.

In Washington Township (Warren County) 144 measles vaccinations were administered, while in Hope Township, also in Warren County, 27 measles inoculations were given.

In Hunterdon County, 86 measles doses were administered to children in Flemington in a program sponsored by the Flemington Woman's Club.

Division of Health Facilities

Nutrition

1. *Child Nutrition*

During the 1968 calendar year, nutrition activities were focused to a significant degree on the improvement of child nutrition. It is continually brought to the attention of the nutrition consultant that there are children with nutritional problems.

One of the ways to improve nutrition of children in need is to provide a lunch in school. Provision of such a lunch is often most difficult to accomplish, as illustrated by the following example.

Early in the year, a school nurse in a Sussex County school requested assistance in obtaining commodity foods for use in preparing lunches for needy children. This school had no lunch program except for milk, and certain children were coming to school without breakfast, bringing no lunch and possibly having had very inadequate suppers the night before. Teachers were buying sandwich ingredients from their own personal funds to provide lunches for these children. The nutrition consultant conducted a food intake study among the third to eighth grade students. Results showed a high incidence of no breakfast and great inadequacies of milk and foods rich in vitamins A and C. Commodity foods were promised from the distribution center, but were never received by the school. The State School Lunch Supervisor visited the school to investigate the possibilities of instituting a school lunch program. Since no funds were available immediately for purchase of equipment, it was suggested that the school apply for a special breakfast program, as a temporary measure until facilities for lunch could be obtained. This program could have begun by April 1, had the school board approved the program, which involved no expenditures. The board however, vetoed the breakfast program, and has not yet approved a lunch program. Emergency commodity foods were never obtained for lunch for the hungry children.

During the year throughout the state, there was much attention placed on promotion of the school lunch program. In the Northern District, the health educator cooperated by holding a conference for school nurses and planning a radio panel discussion on the school lunch program. Senate Bill 421 was passed, providing a five-cent reimbursement from the state to schools, for each Type-A lunch served. Heretofore, only the federal four-cent reimbursement was made. New Jersey had ranked 49th in the nation in school lunch participation. Hopefully, the new funds will encourage more schools to institute school lunch, and schools to provide more free and reduced price lunches.

School lunch programs need competent management in order to successfully meet the needs of children. The nutrition consultant has attempted to influence school administrators to employ qualified dietitians to manage the program. The nutrition consultant assisted the administrator in one school district in employing a qualified dietitian to manage the three school cafeterias in the system. Such professional supervision improved nutrition education as well as quality and economy of the lunches served. Maintenance of a professional roster of qualified dietitians and nutritionists is essential for

helping to raise standards in such food service facilities. (See item 2—Professional personnel.)

The nutrition consultant worked intensively with a Headstart Project Committee in one county. In cooperation with the Extension Service home economist, menus and food orders for a seven-week period were planned and a training session for the cooks was held. During the program, each of the four centers was visited and on-the-job training was given to cooks. The home economist also met with the parents of the children attending classes.

The nutrition consultant attended a one-week intensive course in pediatrics nutrition sponsored by Children's Bureau and administered by the University of Iowa. The highlights of the program centered on prenatal care of teenage mothers, prevention of iron deficiency among children, and methods of nutrition education for low income parents.

2. *Professional Personnel*

As in the previous year, considerable time was spent on consultation and educational programs for professional workers in health-related fields.

The nutrition consultant participated in preparation and distribution of an employment questionnaire for dietitians and nutritionists in the state. The New Jersey State Health Department Public Health Statistics office tabulated the data, which will be used to prepare a professional roster and to plan needed refresher training. The survey was included as part of the Inactive Health Manpower Project.

Conferences for dietitians and dietary consultants to extended care facilities were held, and individual consultation to hospital dietitians has been provided.

Public health and school nurses have often requested consultation on specific nutrition topics. Nursing agency directors have requested in-service training for their nurses in several nutrition subject matter areas such as food budgeting, therapeutic diets, infant nutrition, and food for the elderly. In addition, the nutrition consultant participated in two large county-wide in-service programs for nurses. On one occasion, the nutrition consultant was requested to lecture to the staff nurses in a hospital.

The two diet counseling services in the district receive continued in-service education and guidance. In Morris County, a change in personnel necessitated recruitment and orientation of a new diet counselor.

The nutrition consultant has constantly strived to encourage home economists, particularly teachers, to be aware of community needs in health areas and to provide needed services within their realms. In poverty programs

particularly, the nutrition consultant has been able to cooperatively work with Extension Service home economists. The nutrition consultant has also been cooperative with Homemaker Services, such as in Morris County, where support and suggestions were provided in a project to develop an emergency food kit for homemakers to use in needy homes. The kit, which can be stored on the shelf, contains food for a family for three meals.

3. *Institutional Food Services*

Extended care facilities and nursing homes continue to request consultation in dietary practice. Since there is an inadequate supply of available qualified dietitians, most such facilities and some small hospitals have no professional supervision of their dietary departments.

Six share-and-compare conferences for dietary consultants and administrators of nursing homes and small hospitals were held. Attendance and receptivity were good at all these meetings. Topics covered were: food service sanitation, communications, therapeutic diet management, menu planning and preparation of policy-procedure manuals.

Visits were made to a number of boarding homes for sheltered care and nursing homes to provide consultation and in-service education to dietary managers.

4. *Poverty Programs*

Participation in poverty programs in the Northern District included Headstart in one county and the Food Stamp program in one county. There are many unmet needs, even in existing programs, where professional consultation could contribute but is neither recognized nor requested. The attention on hunger and malnutrition at the national level will perhaps help to make available consultation services better accepted.

5. *Public Education*

Provision of nutrition education to the general public continues to be a challenge. Programs on diet in heart disease and weight control are requested more often than in the past. Consumer information was the topic of one program for professional home economists. Parent Teacher Associations and other community groups occasionally request nutrition programs.

Public Health Nursing

On March 1, 1968 the Visiting Nurse Association of Morris County initiated a program of public health nursing supervision and direction for the

public health nurses of the Madison Borough (Morris County) Health Department. This activity was made possible in part through the assistance of state aid funds.

Starting with the first semester of the newly organized Morris County College, the Visiting Nurse Association of Morris County initiated a part-time public health nursing service to the college. The association staffs the health service department, from the nursing standpoint, for the total college staff and student body. The original planning for this program was done at the suggestion and guidance of the district staff.

Southern State Health District

On January 2, Gloucester County became the sixth and last county in the Southern State Health District to activate a County Department of Health. The legal structures were thus completed which would make it possible for all municipalities within the six counties in the Southern State Health District to obtain the services of a full time health officer with appropriate staff. This completed the sequence which began with the formation of New Jersey's first county department of health in Cape May County, which employed the first County Public Health Coordinator on May 23, 1960.

The Board of Chosen Freeholders of Gloucester County employed as their County Public Health Coordinator a licensed health officer with the Master of Public Health degree. Initially, he was obligated to provide services to 11 participating boards of health which had contracted with the freeholders. These comprised about 58,000 people or 35 percent of the county's total estimated population. Before the end of the year, there were contracts with 20 municipalities, involving 143,000 people or 85.4 percent of the total population of the county. A contract with an additional board of health was negotiated near the end of the year, scheduled to become effective in 1969.

As of January 1, 106 municipalities (of 129 in the district) had obtained the services of a full time health officer by contract with their respective board of chosen freeholders and two (Camden City and Cherry Hill Township in Camden County) were employing their own full time health officers. These 108 municipalities had an estimated population of 842,000 or 78.4 percent of the district population. By the end of the year, the number of municipalities covered had risen to 119, involving 969,740 people or 90.28 percent of the estimated total population of the district. Of the 129 municipalities in the district, 10 with a population of 105,000 were without the services of a full time health officer at year's end.

Coverage in Camden County reached 36 municipalities in April and all 37 were covered in June. Thus Camden County joined Atlantic County as the only two counties in New Jersey with 100 percent coverage by full time health officers.

Personnel—Throughout the year, the district continued to function without the services of a District Social Work Consultant. Camden City's Division of Health had the services of a well qualified professional social worker, but her services were lost in September when she accepted a teaching position out of state.

Beginning in April, the district functioned without the services of a District Consultant in Community Health Organization, as the incumbent was assigned to special program duties in other parts of the state.

Comprehensive Health Planning

In May, the President of the Health and Welfare Council of Camden County appointed a practicing physician to chair a committee on Comprehensive Health Planning. The committee was formed and held its first meeting early in June. The County Public Health Coordinators from Burlington, Gloucester, and Camden Counties and the District State Health Officer were among those participating. It was early decided to move toward the formation of a comprehensive areawide health planning agency and in September, representatives from other South Jersey counties were included on the committee. In December, in a meeting at Mt. Holly, formal action was taken by the committee to request that the Health and Welfare Council of Camden County be the applicant agency for an organizational grant under Section 314(b) of P. L. 89-749 on behalf of the interested counties in southern New Jersey. It was also voted to set up a permanent group representing consumer and provider interests in the seven counties of southern New Jersey (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Salem). These have a population in excess of 1.4 million, which is 20 percent of the population of New Jersey.

In mid-October, the State Commissioner of Health relieved the District State Health Officer of his regular duties and placed him on special assignment for the purpose of determining the most practical and effective approach to Comprehensive Areawide Health Planning for southern New Jersey. Throughout this assignment, which continued until the end of the year, the District Chief of Environmental Health functioned as the Acting District State Health Officer. Also during 1968, a committee appointed by the Camden County Board of Chosen Freeholders completed its study of the need

for a medical and dental school to serve the needs of the seven counties of southern New Jersey. The report was scheduled for release early in 1969. Planning for New Jersey's third medical school will be a vital component of Comprehensive Health Planning activities in southern New Jersey.

Model Cities

On April 3, the State Commissioner of Health wrote to mayors of three cities designating the members of the district staff assigned to assist the particular city in the development of its Model Cities program. The District Chief of Environmental Health, the Public Health Veterinarian, and the District State Health Officer were each assigned to an applicant city, and designated as Model Cities Health Service Officers. By mid-April, applications had been submitted for Model Neighborhood—Demonstration Cities grants on behalf of Atlantic City, Cape May City and Camden. On November 21, the Department of Housing and Urban Development announced that it had made a grant to Atlantic City. The applications of Camden and Cape May City were not approved. Assigned members of the district staff worked with local officials and interested groups concerning the health component of the respective applications. This consultation was concentrated on problems of the deprived areas of the respective municipalities and continued throughout the year, even after it became apparent that only one of the applications would be approved.

Regional Medical Programs

The District State Health Officer continued to represent the department on the Regional Advisory Group of the Greater Delaware Valley Regional Medical Program. Since the territory in this agency's region includes large parts of southern New Jersey, a meeting was held in Haddonfield in April, at which the members of the South Jersey Health Officers Association (which covers seven counties) heard presentations by representatives of the New Jersey Regional Medical Program and from the Greater Delaware Valley Regional Medical Program. On June 27, the formation of the Delaware Area-Wide Committee was announced by the Greater Delaware Valley Regional Medical Program, to serve the interests of all of Delaware, plus Salem County. On September 30, the South-Central Jersey Area-Wide Committee of the Greater Delaware Valley Regional Medical Program was officially organized, to cover Burlington, Camden, and Gloucester Counties, plus the Borough of Elmer in Salem County. The Southern and Central District State Health Officers established and maintained liaison with this new committee. During the year, program grant applications were made by both agencies

which, if approved and implemented, would bring direct benefits to southern New Jersey.

Community Health Services

The number of municipalities covered by full time health officers increased from 97 at the end of 1967 to 119 at the end of 1968. With these changes, the district staff was called upon to give less and less direct services and concentrated its attention on providing consultation to local health officers and their staffs and to voluntary health agencies.

Progress in the development of community health services was due in large measure to the activities of the eight health departments in the district, each staffed by a full-time health officer, and each partly, but significantly, financed by State Health Aid.

A major stimulus to the development of new or augmented local health services was the availability of increased amounts of State Health Aid money. As each new contract between a municipal board of health and the board of chosen freeholders went into effect, the respective county department of health became entitled to an additional amount of State Health Aid. District staff, in cooperation with the assigned representatives of the State Health Aid unit, assisted local health officers in planning their programs, budgeting and rebudgeting their funds, and modifying their programs to meet changing needs throughout the year. Selected district personnel also participated in the State Health Aid audits and worked with the local health department staffs to assist in bringing about necessary improvements. In those instances where the health officer obtained services by contract, district staff assisted the contract agencies in meeting both the personnel and program standards required in accordance with the certified health services selected for financing through State Health Aid.

District personnel also assisted in surveys of home health agencies required for recertification under the Health Insurance for the Aged Program.

In August, the Directory of Community Services was published by the Health and Welfare Council of Camden County. For the first time, it covered health and welfare agencies in all six counties of the Southern State Health District. The directory was the result of efforts by representatives in each county and cost about $6,000, which was to be amortized through sales.

Home Health Agencies—Qualified nurse directors were employed by the Atlantic City Visiting Nurse Association in Janaury, and in March by the Cape May County Department of Health. In September, a nurse director

was employed by the Collingswood Community Nursing Service. By inter-agency contract, she simultaneously became director of the Haddonfield Visiting Nurse Association. In April, the nurse who had been employed for some years by the Salem County Board of Chosen Freeholders but assigned to a voluntary tuberculosis control agency, was transferred to the County Department of Health. The net result of these personnel changes was to increase the quantity and quality of coverage by certified Home Health Agencies within the district.

There was also an increase in the availability of Home Health Aides through Home Health Agencies—both to Medicare and other clients. In August, the Haddonfield Visiting Nurse Association contracted with the Homemaker Service Department of the Family Counselling Service (Camden). In December, the Collingswood Community Nursing Service negotiated a similar contract.

In the summer of 1967, a psychiatric nurse was employed by the Visiting Nurse Association of Camden to assist in obtaining continuity of care for patients discharged from mental hospitals. This pilot project was so successful that it was decided to set it up on an ongoing basis. On July 1, a psychiatric nurse was employed as Mental Health Nurse Coordinator, for Camden County. She was employed jointly by the Visiting Nurse Association of Camden and the New Jersey State Hospital at Ancora, one unit of which serves Camden County. This project is noteworthy because that portion of the Nurse Coordinator's salary not supplied by the New Jersey State Hospital at Ancora was provided by the Departments of Health of Camden County and Camden City. During the first six months of activity, the coordinator established meaningful contacts with all agencies involved in mental health in the county, including the four Home Health Agencies. Significant progress was made in bringing about improved attitudes and understanding of the mentally ill, coordinated in-service training, development of an improved referral form, discharge planning and follow-up within the home and community.

In the fall, a contract was negotiated between the Camden City Division of Health and the Community Child Guidance Clinic of Camden County. As a result, two part time mental health clinics became operational early in October, each staffed by a professional team and each located in a depressed area of the city. These neighborhood clinics provided service to both adults and children.

Preliminary results of the screening done during Diabetes Detection Week in November showed over 11,600 individuals had been tested. Although only

five of the six counties in the District participated, this total was 39 percent of the total realized throughout the state.

At the beginning of September, all tuberculosis clinic activities carried on by the respective voluntary agencies in Gloucester County and Cumberland County were transferred to the County Departments of Health.

July 17 marked the onset of the first 1968 case of eastern encephalitis in southern New Jersey. The Public Health Veterinarian acting in his capacity as District Epidemiologist worked closely with other department personnel in investigating all cases and suspects throughout the 1968 outbreak. He was also instrumental in obtaining 59 specimens of equine tissue, 44 of which were positive for the virus. The Rabies Control Warden was also active over a period of several weeks, doing small animal work in connection with the department's on-going program of research on arbor viruses.

The total number of animals vaccinated against rabies in the annual municipal clinics increased five percent over the 1967 total.

Considerable interest was stimulated in Cape May County in the desirability of setting up a regional dog pound to improve the availability of services and to make them more efficient.

The district sanitarian staff worked diligently in cooperation with local health and municipal officials to upgrade the quality of work in sanitary landfills. In September, the Cape May County Planning Board officially recommended to the Board of Chosen Freeholders the esablishment of three regional sanitary landfills to serve the northern, central, and southern parts of the county.

In mid-April, the Principal Sanitarian was certified by the Public Health Service as a Food-Service Sanitation Survey Officer for a three year period.

Eleven Sanitarian Trainees successfully completed the basic environmental sanitation course at Rutgers—the State University and began work in the fall in their respective assignments for field experience. This program benefited most of the health departments in the district, resulting in the availability of an increased number of trained sanitarians in all health departments except Gloucester County.

Migrant Health Program

Since 1963, with the aid of federal funds, the State Department of Health has been engaged in the promotion of community-sponsored services for migrant workers. Beginning with the direct employment of seasonal personnel,

this project has moved toward its objectives through the involvement of local voluntary organizations furnishing services under contract. Now approaching its seventh season, New Jersey's Program of Health Services for Migrant Agricultural Workers is obtaining support for a wide range of health care for migrant workers in both public and private agencies.

County migrant health programs covered most of the counties in central and southern New Jersey. Seven county health departments provided at least one program of health services directed toward improving the health of migrant workers. Each of those counties employed qualified sanitarians to survey the water systems and to take samples from the water supply for testing at the state laboratory. Some of the counties use their public health nursing services to furnish visits to camps and to set up clinics and medical referrals. Voluntary visiting nurse associations run programs in five counties. Four family counseling agencies furnish medical casework help in seven counties.

In seven counties, either through a voluntary community agency or in a team relationship with county government, contract health services were provided for migrant workers. In Cumberland County, comprehensive health services are supported by a direct federal grant to the County Health Department. A contract between the New Jersey State Department of Health and the Monmouth County Board of Freeholders was continued in 1968. Through this agreement, funds were provided to two outstanding community voluntary agencies which gave direct services to migrant workers and their families on a contract basis, Monmouth County Organization for Social Service and the Family and Children's Service, Inc. In Middlesex and Mercer Counties, four voluntary community service agencies aided by an Area Migrant Committee, teamed together to mobilize existing services and community leaders in behalf of the personal and health needs of migrant men, women, and children. In Gloucester County, the State Department of Health continues to contract directly with the Gloucester County Visiting Nurse Association for the organization of personal health services for migrant workers and their families. For the sixth consecutive year, nursing and other health services to the migrant workers and their families who resided in Burlington County were provided by the Public Health Nursing Association for Burlington County, Inc. As in 1967, the County Health Department contracted with this agency to provide services.

The year 1968 marked a milestone in the progress of Migrant Health Services in Salem County. This was the first year in which complete responsibility for the migrant health field operations was assumed by the County Health Department under contract. The County Health Coordinator accepted

the role of presenting the Migrant Health Program to the Board of Chosen Freeholders as an essential service contributing to the health of migrant workers and to the agricultural economy of the county. An initial contract between the county and the State Department of Health was effective February 1, 1968, and county-employed personnel staffed the Woodstown Migrant Health office at that time.

In 1968, in all seven of the principal counties having migrant workers, public health nursing service was provided by local agencies, either county health departments or visiting nurse associations. In addition to direct services provided to migrant workers and their families in clinics and in the camps, public health nurses and nursing agencies were called upon to furnish their services in many other situations. The Migrant Family Clinics required a staff of two to four nurses at each of the 61 sessions held. Consultation services in public health nursing have been available in the State Health Districts and have been used by agencies in the service of migrant workers.

The employment of professional social work agencies and trained caseworkers by New Jersey's Migrant Health Project to help migrant men, women, and children to solve some of life's perplexing dilemmas represents an added dimension in comprehensive health care. A coordinated program, which over six years has involved agreements between five counseling agencies and the State Department of Health, represents a new departure in reaching out to communicate with and offer help to the isolated and deprived. In many cases, social service has been the strongest link between the affluent community and those in need.

The Coordinator of the New Jersey State Department of Health's Diabetes, Endocrine and Metabolic Disease Program offered the participation of a summer intern in podiatry in the Migrant Health Program. With the cooperation of the respective programs, a graduate of the Philadelphia School of Podiatry, under a fellowship, provided a survey of foot problems of patients attending migrant family clinics in Salem County.

On December 24, 1967, the governor signed into law a new Migrant Labor Act. The effects of the new regulations were felt in a matter of days. To receive approval, migrant camp operators were required to furnish a certificate of potable water. Between March and November, requests were forwarded to the State Department of Health by the Bureau of Migrant Labor for the testing of water supplies in migrant camps. The requirement of a certificate of potable water engaged the services of public health sanitarians in county, local, and state health departments. Nearly 1,600 camps had their water

systems inspected and samples were forwarded to the laboratory of the State Department of Health for testing.

Through a long-standing agreement between the New Jersey State Department of Health and the New Jersey Hospital Association, member hospitals continue to admit migrant workers for emergency care. During the calendar year 1968, 15 hospitals in nine counties reported 95 admissions for migrant workers who received 824 days of care valued at $47,621.98. Bills processed for migrants eligible under the federal program provided a reimbursement of $17,398.33 according to the Interim Medicare Cost Formula. State appropriations totalling $10,000 were made available to meet part of the remaining cost. Hospital out-patient charges for clinics, emergency room services, laboratory and x-ray services were submitted for 249 patients who received 323 visits. A total of $7,006.25 represents hospital out-patient charges for the entire calendar year 1968. This is only $800 less than in 1967.

State Health Aid

The 1968 annual report represents an evaluation of the State Health Aid program for the year. Major accomplishments and significant program trends, illustrated by charts, follow.

Major Accomplishments

In mid-May, the second annual State Health Aid Conference was held in Point Pleasant. Our 1967 experience dictated the conference theme to be "Maximum Effective Utilization of State Health Aid." The two-day meeting was highlighted by a faculty of four health officers who conducted workshops for peer health officers who had experienced difficulties in administering their state aid programs.

In addition, the conference catalyzed concrete suggestions for major improvements in the state's administration of the program. The first request was for a State Health Aid Manual which would crystalize in writing the many administrative decisions necessary for an efficiently conducted program. A manual was prepared and presented to each participating health officer for review and comment. At the year's end, the manual was being readied for printing.

The second request called for the 1969 application to be less voluminous. This was accomplished by revising the application so that only the five functional activities would be considered for budgeting. By this method, paperwork was cut in half.

During 1968, 12 local health agencies received program audits. Major violations of the program and personnel standards within the certified health services were not found in significant numbers. Major and minor discrepancies uncovered through audits were followed up for correction.

There were 24 traineeships for Sanitary Inspectors funded through the Special Project and Development Fund. As a result of this program, 18 Sanitary Inspectors, First Grade, were available to local health agencies. A significant reduction in the overall need for sanitary inspectors throughout the state was accomplished.

To continue the program, it is expected that 35 traineeships will be funded during 1969.

Significant Trends

During 1968, 79 local health agencies participated in state health aid as compared to 70 in 1967.

Table 1. Local Health Agencies Participating in State Health Aid
1967 and 1968

Local Health Agencies	*Number Participating*		*Total Municipalities Involved*	
	1967	*1968*	*1967*	*1968*
Municipal Health Department	59	66	59	66
Regional Health Commissions	2	3	12	17
County Health Departments	9	10	161	194
Totals	70	79	232	277

Forty-five additional municipalities received state health aid benefits during 1968. The upward trend is expected to increase in 1969.

Table 2. 1968 State Health Aid Participation by District

District	Participating Local Health Agencies		Total Population of District	Percent Population Participating
	Number	Population		
Central	20	955,040	1,777,760	53
Metropolitan	41	2,521,830	3,499,950	72
Northern	10	301,640	748,120	40
Southern	8	817,930	1,052,570	77
Totals	79	4,596,440	7,078,400	64

Full-time health officer coverage and planned public health programs were provided to 64 percent of the state's population.

Table 3. Certified Health Services Programmed, 1967 and 1968

Functional Activity	Number of Certified Health Services Programmed	
	1967	1968
Administration	91	112
Environmental Sanitation	204	163
Communicable Disease	44	53
Maternal and Child Health	67	67
Chronic Illness	76	97
Totals	482	492

During 1968, participating local health agencies budgeted $2,907,842 of state health aid funds into 492 certified health services.

Significantly the agencies veered away from environmental sanitation services and selected more certified health services from the categories of communicable disease and chronic illness. The trend is toward increasing the personal health services.

Division of Preventable Diseases

Ronald Altman, M. D., *Director*

Programs:

Communicable Diseases Control ..... Ronald Altman, M.D.
Acting Coordinator

Tuberculosis Control ..... Ronald Altman, M.D.
Acting Coordinator

Vaccination Assistance ..... Ronald Altman, M.D.
Project Director

Venereal Disease Control ..... Michael Wishengrad, M.D.
Coordinator

Division of Preventable Diseases

Communicable Disease Program

Acute Central Nervous System Diseases (Aseptic Meningitis and Encephalitis)

There were 420 known cases of acute central nervous system diseases of presumed viral cause in New Jersey in 1968. Aseptic (viral) meningitis accounted for 361 or 86 percent of the cases. This represents nearly a 150 percent increase over the 146 cases of aseptic meningitis reported in 1967. The increase is largely due to improved reporting of this disease by physicians and hospitals; in part probably due to the eastern encephalitis outbreak which will be described later.

1. *Aseptic Meningitis*

Ten specific viral agents were identified in 46 (13 percent) of the cases of aseptic meningitis—a non-bacterial infection of the meningeal coverings of the brain. (Table 1). The identification was made by laboratory tests of the blood and spinal fluid. ECHO 9 and mumps viruses were the most frequently identified agents, accounting for 41 and 28 percent respectively of the identifications.

The distribution of cases by month of onset is shown in Table 2. Most of the cases occurred in late summer. The distribution by county is shown in Table 3.

Several clusters of cases were investigated. An outbreak of aseptic meningitis due to an ECHO 9 virus spread by person-to-person contact occurred among several members of a large family in Hunterdon County in June. Contact spread of an ECHO 9 virus was also implicated as the cause of four cases of aseptic meningitis occurring in July in adjoining townships in Somerset County. Although no viral agent could be identified, person-to-person transmission was also thought to have caused a cluster of nine cases of meningitis in Atlantic County in August.

Table 1. Acute Central Nervous System Diseases by Etiology, New Jersey, 1968

Aseptic Meningitis	
Mumps	13
Echo 4	1
Echo 6	1
Echo 9	19
Echo 11	1
Echo 12	1
Echo 14	1
Coxsackie B3	7
Coxsackie B4	1
Herpes Simplex	1
Unknown	315
Total	361

Encephalitis	
Primary-type unknown	40
Primary Herpes Simplex	5
Eastern	12
Post Infectious:	
Varicella	2
Total	59

Table 2. Acute Central Nervous System by Month of Onset, New Jersey, 1968

Month	*Aseptic Meningitis*	*Primary Encephalitis*	*Post-Infectious Encephalitis*
January	8	3	..
February	5	3	1
March	8	3	1
April	8	5	..
May	10	2	..
June	24	1	..
July	60	6	..
August	132	8	..
September	71	5	..
October	25	4	..
November	8	2	..
December	2	3	..
Total	361	45	2

Table 3. Acute Central Nervous System Diseases by County, New Jersey, 1968

County	*Aseptic Meningitis*	*Primary Encephalitis*	*Post-Infectious Encephalitis*	*Total*
Atlantic	33	1	..	34
Bergen	36	4	..	40
Burlington	21	1	..	22
Camden	22	5	..	27
Cape May	3	0	1	4
Cumberland	6	1	..	7
Essex	30	7	..	37
Gloucester	3	0	..	3
Hudson	25	2	..	27
Hunterdon	19	0	..	19
Mercer	18	3	1	21
Middlesex	29	3	..	33
Monmouth	21	8	..	29
Morris	25	1	..	26
Ocean	6	0	..	6
Passic	6	1	..	7
Salem	2	2	..	4
Somerset	32	0	..	32
Sussex	1	1	..	2
Union	18	5	..	23
Warren	3	0	..	3
Military	2	0	..	2
Total	361	45	2	408

The majority of viral meningitis cases occurred in the pediatric age group. The five to nine year age group was most frequently affected. (Table 4.) Almost two-thirds of the cases occurred in males.

2. *Encephalitis*

Of the 59 known cases of encephalitis occurring in New Jersey in 1968, 40 were due to unidentified viruses, five were related to the Herpes Simplex virus, two "post-infectious" cases followed chickenpox (varicella) infection, and 12 were due to the eastern encephalitis virus. (Table 1.)

The Communicable Disease Control Program worked closely with the Division of Laboratories in the investigation of an outbreak of eastern encephalitis that resulted in 134 horse cases (115 confirmed) and 12 confirmed human cases in the summer of 1968. The horse cases occurred between the weeks of July 14 and September 22 in 12 counties (Atlantic, Burlington,

Camden, Cape May, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean, Salem, and Somerset). The human cases occurred between the weeks of July 17 and October 2. (Table 5.) The illness was contracted by exposure to virus-infected mosquitoes in five counties (Atlantic, Burlington, Cumberland, Ocean, and Salem). One case resided in Philadelphia but was exposed in Ocean County. The age range of the human cases was six months to 92 years. All but one of the cases were males. All of the cases had a high fever, convulsions, and abnormal spinal fluid findings. Confirmation of the diagnosis was either by serologic studies or actual isolation of the virus from brain tissue. Six of the twelve human cases were fatalities and three of the surviving cases have residual neurologic difficulty. The State Department of Health worked with the Departments of Conservation and Economic Development and Agriculture in an interdepartmental effort to identify illness and to direct the mosquito control activities which helped limit the outbreak.

Table 4. Acute Central Nervous System Disease by Age and Sex, New Jersey, 1968.

Age	*Aseptic Meningitis*				*Primary Encephalitis*				*Post Infectious Encephalitis*			
	Male	*Female*	*Total*	*Percent of total Affected*	*Male*	*Female*	*Total*	*Percent of Total Affected*	*Male*	*Female*	*Total*	*Percent of Total Affected*
Under 1 yr.	15	5	20	5.5	4	2	6	13.3				
1-4	23	9	32	8.9	2	1	3	6.7	1		1	50%
5-9	61	32	93	25.8	4	2	6	13.3				
10-14	41	26	67	18.6	6	2	8	17.7		1	1	50%
15-19	24	8	32	8.9	4	1	5	11.1				
20-24	9	11	20	5.5	1	1	2	4.5				
25-29	12	21	33	9.1	1		1	2.2				
30-39	10	14	24	6.6	2	1	3	6.7				
40-49	5	7	12	3.3	5		5	11.1				
50-59	5	4	9	2.5	1	2	3	6.7				
60+	2	6	8	2.2	1	1	2	4.5				
Unknown	9	2	11	3.1		1	1	2.2				
Total	216 (60%)	145 (40%)	361	100.0	31 (69%)	14 (31%)	45	100.0	1 (50%)	1 (50%)	2	

Amebiasis

Twenty-six cases of amebiasis were reported this year. Ten cases were reported by four state mental institutions, ten were migrant workers, and six were residents. No common source outbreaks were known to exist. These findings are similar to the 22 cases reported last year.

Anthrax

No cases of anthrax were reported in New Jersey during 1968.

Brucellosis

Three acute cases were reported during 1968. Two were infected with *B. abortus* and in neither case could the source be established. The third case was a meat packer who was positive for *B. suis*.

The patient having the *B. suis* infection is a 25 year old Camden County resident who became ill in January. Although he usually works with beef products, the plant where he is employed also handles fresh pork. This is the probable source of his exposure.

Both patients infected with *B. abortus* had their onsets in August. One was a 23 year old female resident of a state mental institution in Passaic County who became ill during a home visit. The other case was a 12 year old boy residing in Mercer County. In neither case was there a history of contact with suspected animals or animal products or consumption of raw dairy or meat products.

Diarrhea of Infancy

Several hospitals in New Jersey use the state laboratory for primary isolation or confirmation of enteropathogenic E. coli. During the spring of 1968, six cultures of enteropathogenic E. coli serotype 0119:314 were isolated from ill infants at the nursery of the Margaret Hague Hospital, Jersey City. An investigation was made, culture measures were instituted, and the problem was brought under control. A culture survey failed to reveal a carrier among the hospital personnel.

Table 5. Eastern Encephalitis by Age and Sex, New Jersey, 1968*

County of Residence	*Age*	*Sex*	*Onset*	*County of Probable Exposure*	*Comments*
Atlantic	8 years	M	7/17	Atlantic	question of residual changes
	5 years	M	8/27	Atlantic	recovered
	21 months	F	9/5	Atlantic	severe neurologic damage
	92 years	M	9/19	Atlantic	expired 9/20
Burlington	6 months	M	8/6	Burlington	recovered
Cumberland	12 years	M	8/13	Cumberland	expired 8/23
	74 years	M	9/7	Ocean Cumberland	expired 9/9
	6 years	M	10/2	Cumberland	expired 10/14
Ocean	19 years	M	9/1	Ocean	neurologic damage
Salem	68 years	M	8/25	Cape May	Expired 8/29
	84 years	M	9/6	Salem Salem	expired 9/9
Out of State ...	48 years	M	8/22	Ocean Burlingotn	recovered

* One patient, a Philadelphia resident, received his exposure in Ocean or Burlington County.

Erythema Infectiosum

Because of the unusually wide-spread occurrence of erythema infectiosum during the first half of 1968, a special study was undertaken by this department to study the epidemiology of this disease. From January to June 1968, almost 2,000 cases of erythema infectiosum from 19 out of 21 counties were reported to the New Jersey Health Department. A survey done in one elementary school in Edison, New Jersey, showed an attack rate of 19 percent with higher attack rates in the lower grades. Attack rates were higher in females. The 14 week length of the outbreak as well as the high incidence of secondary infections in households suggests person-to-person spread of the illness. Viral studies were negative.

Food Poisoning (other than Salmonellosis)

During 1968, approximately 35 suspected food poisoning incidents were reported to the Acute Communicable Disease Program, which is significantly fewer than the 47 reported during 1967. Numerous incidents involving illness in the home were reported. At least 20 of these reports were investigated in detail.

Minor gastrointestinal disturbances are usually ignored or accepted by the general public without comment. The more severe illnesses are more likely to be reported, particularly when a large group or organization is involved. Deaths associated with food poisoning invariably are brought to our attention.

Clostridium perfringens was determined to be the etiologic agent in several food poisoning incidents which were investigated. All were restaurant-associated incidents involving gravy-prepared products, such as turkey or roast beef. Although food poisoning, which is caused by this organism, is not fully understood, a liquid or semi-liquid protein substance such as gravy is usually involved. Gravy is commonly reused or allowed to simmer for prolonged periods, thereby driving off oxygen and killing competing organisms, leaving the spore-formers such as *Clostridium* which are heat-resistant in a desirable environment in which to grow. The temperature in a large container of gravy which is slowly heated will stratify so that areas will be quite suitable for vegetative growth.

Food poisonings which are associated with *Clostridium perfringens* usually require epidemiologic procedures for identification. There are no readily available laboratory procedures which may be used to identify the presence of the toxin. Since this is an ubiquitous organism, its presence in fecal or food specimens is not, in itself, significant. There should also be a patient history of an average incubation period of 10 to 14 hours and symptoms which are principally abdominal cramps and diarrhea having a duration of about 24 hours.

One food poisoning incident, which was probably caused by *Clostridium perfringens,* was reported by a health officer who had become ill after eating in a local restaurant. The early reporting of the illness made it possible to identify other persons who had eaten the same meal at the restaurant. A total of 18 patrons was contacted, nine of whom had become ill subsequent to eating the suspected meal. The common food item for those persons who became ill was gravy which was served with either the turkey or chicken platter. None of the persons who were not ill ate these main courses. The illness was characteristic of a *Clostridium perfringens* food poisoning.

A family outbreak of food intoxication associated with deviled eggs was also investigated. An incubation period of three hours, with symptoms of nausea, vomiting and diarrhea lasting less than a day suggest that the outbreak was probably a staphylococcal intoxication. Eight out of 10 persons became ill subsequent to a meal attended by 15 family members. The deviled eggs were prepared the day before serving, were not refrigerated, and remained at temperatures of 90°F or higher for several hours while being stored in the trunk of a car.

Hospital Infections Control Program

The Division of Preventable Disease started a Hospital Infections Control Program in November, 1965. Four conferences have been held in the state. The most recent conference was held January 26, 1968. Participation at this conference was oversubscribed, indicating the interest of New Jersey hospitals in improving their infection controls. The working method of surveillance was discussed along with legal aspects and the necessity for a thorough infections surveillance program.

From the original four hospitals participating in this program in 1966, the number has increased to 17 hospitals now maintaining an active surveillance program. One metropolitan hospital continues to have surveillance only in the newborn nurseries. This hospital plans to have a full surveillance program during the coming year. Three hospitals employ a fulltime nurse surveillance officer. The remaining 14 hospitals employ a part time registered nurse or use a nurse already employed in another capacity for the surveillance coverage.

The Division of Preventable Diseases assists, upon the individual hospital's request, in both starting and supervising the program. Assistance is also given, when indicated, regarding control measures to prevent major problems. Information on related subjects such as isolation precautions, audiovisual aids, sterilization, etc. are included when a hospital infections committee or surveillance nurse indicates interest.

The monthly rate of infections developing after admission for the participating hospitals varied from 0.1 percent to 5.8 percent in 1968. The predominant organism involved in these infections continued to be *Escherichia coli* with the exception of one hospital where *Staphlococcus aureus* predominated.

A major problem was averted in a Bergen County hospital when the surveillance program indicated a rise in the nursery infection rate from 0.7 percent to 5.3 percent. The Communicable Disease Program investigated. Eight newborn infants were infected with *Staphlococcus aureus.* Nursery technique was appraised. The usual nursery supervisor was on leave of absence. Her replacement had not continued to follow recommended nursery techniques. The standard of care immediately improved and no subsequent infections were noted. Another hospital, in Mercer County, has noted a significant decrease in urinary tract infections once urinary catheters were used only when absolutely necessary.

A round table discussion was held in November for the surveillance nurses currently participating in the Hospital Infections Control Program.

Much has been learned about realistic workable methods since the inception of this program three years ago. Interest continues to increase both in the hospitals now participating in the program and those hospitals expressing the desire to start the surveillance of hospital associated infections.

Influenza

The 1968-69 influenza season will be described in this report, since the 1967-68 was covered in the 1967 Annual Report. During the summer of 1968, a new strain of influenza designated Influenza A2/Hong Kong/68 was isolated from the Far East. Since public health officials felt that this new strain could possibly cause widespread disease, all physicians and appropriate agencies in the state were notified to be alert for an outbreak of influenza. State institutions and agencies, public and parochial schools, as well as selected industries, were asked to report increased absenteeism due to febrile respiratory disease directly to the Acute Communicable Disease Program.

Influenza-like illness was first reported from a state institution at New Lisbon on November 13, 1968. There were approximately 180 persons ill with a mild respiratory illness. That same week Influenza A2/Hong Kong/68 was confirmed from some of these cases. Except for sporadic travelers, these cases were the second group of confirmed cases in the United States to have this new strain of influenza.

The following is a history as to when influenza-like illness was first reported and influenza was confirmed for each county by time:

Week	*First Reports of Flu-like Illness*	*Counties where Influenza A2/Hong Kong/68 was confirmed*
Nov. 10-16	Burlington	Burlington
Nov. 17-23	Camden, Mercer, Salem	Camden, Mercer
Nov. 24-30	Atlantic, Middlesex	Atlantic, Middlesex
Dec. 1-7	Bergen, Essex, Gloucester	
Dec. 8-13	Hudson, Hunterdon, Monmouth, Morris, Ocean, Passaic, Somerset, Warren, Union	Morris
Dec. 15-21	Cumberland	
Dec. 22-28		Somerset
Dec. 29-Jan. 4		Essex, Gloucester, Salem, Cumberland
Jan. 5-11		Passaic, Monmouth
Jan. 12-18		Bergen, Warren, Hudson, Union

Influenza-like illness was reported from 19 of 21 counties and Influenza A2/Hong Kong/68 was confirmed in 17 counties. The consensus of a phone survey done on January 2 placed the peak of the epidemic at about the last week in December.

Attack rates varied from the various institutions at which influenza was confirmed. Most areas had an attack rate of 10-20 percent. At the New Lisbon school, the attack rate was approximately 30-40 percent.

The epidemic appeared to begin in south-central New Jersey and then to spread north to the metropolitan areas. This is in contrast to Influenza A2 during 1967-68 which began in the metropolitan area and spread south.

Though there were no formal surveillance activities, 36 cases of flu were confirmed from individuals who had complications of influenza. The majority of these cases had pneumonia but some also had congestive heart failure, and two had encephalitis. None of these people died. The ages varied from 3½ to 88 years with seven persons over 50. Many of these people had some underlying illness and developed pneumonia or congestive heart failure as a complication to acute influenza. Vital statistic records noted an excess mortality from mid-December to mid-January.

Leprosy

Two cases of leprosy were reported during 1968. Both were young men recently from Colombia, South America, where they had had the onset of their disease. One man, 18 years old, from Paterson, was referred to the Public Health Service Hospital at Staten Island. The second man in his early twenties, was a resident of Linden, Union County and was referred to the Dermatology Department at New York University.

Malaria

As was observed in 1967, there were many reported cases of malaria in 1968 due to returning servicemen from Viet Nam.

Year	*Number of Cases of Malaria*
1965	4
1966	6
1967	122
1968	85

Men in military or veteran's hospitals made up 84 percent of the cases. At least one of the other cases was a Peace Corps volunteer.

Table 6. Reported Cases of Malaria by Month, New Jersey, 1968

January	9
February	11
March	16
April	9
May	5
June	9
July	9
August	10
September	14
October	2
November	9
December	2
Total	85

Table 7. Malaria Cases by Species, New Jersey, 1968

Plasmodium Species	*Number of Cases*	*Percent*
P. Vivax	53	96
P. falciparum	2	4
P. malaria	..	..

Measles (Rubeola)

Since January 1, 1968, this division has maintained a surveillance program by which all cases of measles reported to the State Department of Health are investigated to attempt to varify the diagnosis, define the source of transmission, and determine the relationship of the case to a history to previous measles or immunization. This surveillance program has also been effective in eliminating misdiagnosed cases, in detecting unreported cases and in defining clusters of cases in areas of poor immunization where programs are needed.

Surveillance for measles involves reporting cases to the state and interviewing the family and physician when one is in attendance. A standard surveillance form is used to record all information pertinent to the source and spread of the disease.

The program investigated 84 percent of the 984 reported cases of measles in the above manner. Of these 861 investigated cases, 236 or 27 percent were found not to be measles. (Table 8.)

Epidemiologic data were available on approximately 75 percent of the 747 cases confirmed as measles. Over 90 percent of the cases occurred in children between one and 15 years of age, and approximately 50 percent of the cases were in the five to nine year age group. (Table 9.)

Table 8. Investigation of Reported Measles Cases, New Jersey, 1968

	No. of Cases reported to N.J.S.D.H	*No. of Cases Investigated*	*No. of Cases Found not to be measles*	*Percent of Cases Investigated Found not to be measles*	*No. of Cases reported to N.C.D.C.**	*Percent of Cases reported to N.J.S.D.H. not reported to N.C.D.C.*
January	51	48	18	37.5	33	64.7
February	86	83	30	36.1	56	65.1
March	149	139	52	37.4	97	65.1
April	176	140	55	39.3	120	68.8
May	175	117	43	36.8	132	75.5
June	96	88	10	11.3	86	89.6
July	58	54	3	5.2	55	94.8
August	33	32	3	9.1	30	90.9
September	10	10	3	30.0	7	70.0
October	62	62	9	14.5	53	85.4
November	38	38	6	15.7	32	84.2
December	50	50	4	8.0	46	92.0
Total	984	861	236	27.4	747	75.9

* National Communicable Disease Center—Includes the cases which are not investigated.

Table 9. Measles Cases by Age, New Jersey, 1968

Years	*Percent*
under 1	2.6
1 - 4	19.8
5 - 9	52.5
10 - 14	19.0
15 - 19	4.6
20+	1.5
Total	100.0

Approximately 73 percent of the measles cases were seen by a private or clinic physician. Only four percent were hospitalized. One child died of a complication of measles. This was a two year old Puerto Rican boy in Jersey City who died in October of bronchopneumonia following an attack of measles.

A previous history of measles was elicited from four percent of the cases, and 16 percent of the cases allegedly had measles immunization at some time prior to the onset of disease. Some of these immunizations were administered during the incubation period and some immunizations were with killed vaccine, which is known to be associated with subsequent infection.

Although 17 percent of the cases had traveled during the incubation period, less than two percent of the infections were thought to be acquired outside the home community. Almost 19 percent of the cases had had known contact with other cases. About 22 percent of the cases were in communities where other cases were occurring at the same time, even though contact with such a case was not known. Thirty-seven percent of the cases could not be classified by the source of transmission.

The main value of the surveillance program has been that it has alerted us to pockets of poorly immunized children where measles programs were needed. About 16 immunization programs were initiated on the basis of information acquired through the surveillance system.

The number of reported measles cases has declined dramatically since 1963 when measles vaccine first became available. (Table 10.)

Table 10. Number of Reported Cases of Measles by Year, New Jersey

Year	*Number of Cases*
1964	12,691
1965	4,260
1966	2,090
1967	625
1968	747

An increased interest in reporting measles and an intensive surveillance system coordinated by this department resulted in a 19.5 percent increase in the number of reported measles cases in 1968 as compared with 1967. This increase is thought to be due to reporting of cases which previously would have gone unreported, rather than an actual increase in the number of cases.

An examination of the 747 cases by month of onset, shows that the bulk of the cases occurred in the spring. Almost 60 percent of the cases occurred in the four months of March to June 1968.

Table 11. Measles Cases by Month of Onset, New Jersey, 1968

Month	*Number*	*Percent*
January	33	4.4
February	56	7.5
March	97	13.0
April	120	16.0
May	132	17.7
June	86	11.5
July	55	7.4
August	30	4.0
September	7	0.9
October	53	7.1
November	32	4.3
December	46	6.2
Total	747	100.0

A breakdown of measles cases by county indicates a geographic concentration in the more heavily populated counties. Essex, Monmouth, Hudson, Passaic, and Bergen counties accounted for more than two-thirds of the cases. (Table 12.)

Table 12. Measles Cases by County, New Jersey, 1968

County	Cases	Percent	Population*	Incidence per 100,000 Pop.
Atlantic	36	4.8	186,030	19.3
Bergen	71	9.5	913,520	7.8
Burlington	14	1.9	329,930	4.2
Camden	20	2.7	471,310	4.2
Cape May	1	0.1	54,840	1.8
Cumberland	2	0.3	127,770	1.5
Essex	191	25.6	966,560	19.8
Gloucester	50	6.7	167,770	29.9
Hudson	82	11.0	607,230	13.5
Hunterdon	14	1.9	66,530	21.0
Mercer	10	1.3	309,530	3.2
Middlesex	33	4.4	578,090	5.7
Monmouth	90	12.0	449,860	20.0
Morris	21	2.8	361,250	5.8
Ocean	16	1.4	166,780	9.6
Passaic	74	9.9	463,810	16.0
Salem	1	0.1	66,950	1.5
Somerset	2	0.3	198,720	1.0
Sussex	3	0.4	68,120	4.4
Union	15	2.0	575,190	2.6
Warren	1	0.1	74,290	1.3
Total	747	100.0	7,203,510	10.4

* New Jersey 1968 population estimates by county.

Meningococcal Infections

A total of 274 meningococcal infections was reported during 1968, of which 76 were civilian and 198 were military. In 1967, there were 66 civilian cases and 58 military cases. The figures for the civilian population have been fairly consistent during the last four years, but the rise of infection among military personnel has been quite dramatic. This is due to the increasing number of soldiers going through basic training, a group which may have a higher incidence because of their fatiguing work and close contact within large groups of men. Out of 274 military cases, 205 were 17 to 24 years of age. Within the civilian population, however, the attack rate is highest in children under five years of age and declines rapidly with advancing age. (Table 13.)

The highest incidence by month is during the winter and spring. This is consistent with previous years. This year peaked in March for both the civilian and military populations, and accounted for 17.5 percent of all cases. (Table 14.)

No outbreaks were noted, and the seemingly high attack rates for Salem and Warren Counties is due to their relatively small population figures. Each of these two counties had only four cases. Cape May, Cumberland, Hunterdon, and Passaic Counties had no reported cases of meningococcal infections during 1968. (Table 15.)

Table 13. Meningococcal Infections Among Residents by Age, New Jersey, 1968

Age	No. of Cases	Attack Rate per 100,000 Population
Under 1	10	6.6
1	4	2.6
2	2	1.3
3	10	6.5
4	4	2.6
5-9	10	1.4
10-14	6	1.0
15-19	15	3.2
20-24	1	0.3
25-29	2	0.5
30-39	3	0.3
40-49	2	0.2
50-59	2	0.3
60+	5	0.5
Total	76	1.1

Table 14. All Meningococcal Infections by Month, New Jersey, 1968

Month	Meningococcal Meningitis Civilian	Military	Total	Meningococcemia Civilian	Military	Total	Percent of Total by Month
January	12	3	15	2	4	6	7.7
February	8	10	18	..	18	18	13.1
March	10	17	27	1	20	21	17.5
April	7	6	13	..	7	7	7.3
May	8	11	19	..	16	16	12.8
June	6	11	17	1	13	14	11.3
July	3	1	4	..	8	8	4.4
August	4	1	5	..	6	6	4.0
September	5	1	6	..	2	2	2.9
October	1	6	7	..	2	2	3.3
November	5	7	12	..	7	7	6.9
December	3	13	16	..	8	8	8.8
Total	72	87	159	4	111	115	100.0

Table 15. Meningococcal Infections Among Residents, by County, New Jersey, 1968

County	No. of Cases	Attack Rate per 100,000 Population
Atlantic	3	1.6
Bergen	5	0.5
Burlington	5	1.5
Camden	4	0.8
Cape May	0	0
Cumberland	0	0
Essex	17	1.8
Gloucester	4	2.4
Hudson	4	0.7
Hunterdon	0	0
Mercer	1	0.3
Middlesex	5	0.9
Monmouth	5	1.1
Morris	4	1.1
Ocean	1	0.6
Passaic	0	0
Salem	4	6.0
Somerset	3	1.5
Sussex	1	1.5
Union	6	1.0
Warren	4	5.4
State Institutions	0	0
Total	76	..
State-wide Attack Rate	..	1.1

Pertussis (Whooping Cough)

Although pertussis is not a reportable disease, three scattered cases were reported to the State Health Department during 1968.

Poliomyelitis

For the third straight year, there were no cases of poliomyelitis in New Jersey.

Psittacosis

Only one case of psittacosis was reported, a 15 year old boy residing in Cherry Hill. A complement fixation titer of 1:16 was determined on a blood specimen taken 13 days after onset of an atypical pneumonia. There is no history, however, of exposure to psittacine birds other than a pet parakeet which has been in the household 10 years and is in apparent good health. There is also no indication of an occupational or other environmental exposure. The patient was placed on tetracycline therapy and made an uneventful recovery.

Rabies

No cases of human rabies were reported during 1968.

Rocky Mountain Spotted Fever

There were six cases of Rocky Mountain Spotted fever reported and confirmed in New Jersey during 1968. All of the cases were in males and five were under 15 years of age. One case had his exposure in South Carolina. There were no fatalities.

Table 16. Incidence of Rocky Mountain Spotted Fever by Month of Onset, New Jersey, 1968

Month	Cases
May	2
June	2
July	1
August	0
September	1
Total	6

Table 17. Incidence of Rocky Mountain Spotted Fever by County of Residence, New Jersey, 1968

County	Cases
Burlington	3
Essex	1
Ocean	1
Salem	1
Total	6

Table 18. Reported Cases of Rocky Mountain Spotted Fever, New Jersey, 1964 - 1968

1964	17
1965	17
1966	13
1967	18
1968	6

The decline in cases may be real, since surveillance activities were increased this year. A letter went out in the spring of 1968 requesting all physicians to be aware of Rocky Mountain Spotted Fever and to report all suspected cases to the State Health Department.

Rubella (German Measles)

Rubella is reportable only in 40 municipalities scattered throughout the state. All school nurses, however, have been asked to report cases.

Table 19. Monthly Reports of Rubella Cases, New Jersey, 1968

Month	*Cases*
January	36
February	208
March	380
April	392
May	361
June	215
July	11
August	2
September	2
October	8
November	25
December	33
Total	1,673

Twenty women who were pregnant (presumedly most were in their first trimester) had serologic diagnoses of current rubella infections. Four babies were diagnosed as having congenital rubella syndrome and six were reported as probable rubella syndrome.

Two large serologic studies were carried out in the spring of 1968. Outbreaks at two schools were studied prospectively. The program obtained 371 paired bloods at the Clifton T. Barkalow School, Freehold Township, and 195 bloods were obtained at the St. Veronica School, Howell Township. There was evidence of serologic conversion, indicating a rubella infection in 37 percent of the susceptible population. The inapparent infection to case ratio was 1:3 with no significant difference for age or sex. At the end of the study period, 23 percent of the population did not have antibodies to rubella.

Salmonellosis (Excluding Typhoid Fever)

During 1968, 626 persons were reported to have salmonellosis which had been confirmed by a positive culture of blood, urine, feces, and/or suppurative discharge. At least 14 patients were positive at the time of death. In six deaths, salmonellosis was the primary cause, but in three others, there were underlying causes. The isolation of salmonella in the remaining five deaths was probably incidental.

The 626 case total does not differ significantly from the five year average of 570 cases. The incidence of one serotype, *S. typhimurium*, was more than 50 percent over the five year average of sporadic cases and accounts for 33.6 percent of the cases that were serotyped.

There was nothing unusual about the incidence of cases in regard to sex. About half, or 295 cases, were female and the remaining 331 were male. These findings are consistent with those observed in previous years.

The age distribution showed over 28 percent of the cases were in children one year old or younger. Infections in children under 10 years old accounted for 56.4 percent of all known cases. The lowest incidence occurred in persons 40 to 49 years old. (Table 20).

Table 20. Salmonella Isolation by Age, New Jersey, 1968

Age, Years	*Cases*	*Percent of Total Known*
1	121	21.2
1	39	6.8
2	41	7.2
3	34	6.0
4	27	4.7
5-9	60	10.5
10-14	30	5.3
15-19	27	4.7
20-24	37	6.5
25-29	22	3.9
30-39	37	6.5
40-49	22	3.9
50-59	34	6.0
60+	39	6.8
Total, age known	570	100.0
Age unknown	56	
Case total	626	

Table 21 illustrates the number of cases and the attack rate per 100,000 population for each county.

Table 21. Frequency of Salmonella Isolations by County, New Jersey, 1968

County	*No. of Cases*	*Attack Rate per 100,000 Population*
Atlantic	15	8.1
Bergen	50	5.0
Burlington	10	3.0
Camden	18	3.6
Cape May	0	0
Cumberland	8	6.3
Essex	122	12.4
Gloucester	4	2.4
Hudson	88	14.2
Hunterdon	9	13.4
Mercer	40	12.3
Middlesex	80	13.8
Monmouth	28	6.0
Morris	34	9.4
Ocean	3	1.8
Passaic	24	5.2
Salem	3	4.5
Somerset	34	17.1
Sussex	7	10.3
Union	42	7.1
Warren	4	5.4
Total residents	623	8.5
Institutions	1	
Military	2	
Grand total	626	

A total of 38 different serotypes was isolated from residents of New Jersey during 1968. At least five persons were positive for more than one serotype. One serotype, *S. norwich*, was isolated this year in New Jersey for the first time. *Salmonella typhimurium* accounted for one-third of all the serotyped cases. Nearly 83 percent of all cases were among the 10 most common serotypes. Nine of the 10 most common serotypes are repeats from last year. *S. derby*, the organism associated with a food borne outbreak in February, replaced *S. java* among the top ten. (Table 22 and 23).

Table 22. Frequency of Salmonella Isolations from Humans by Serotype, New Jersey, 1968

Serotype	*Number Isolations*	*Percent of Isolations Identified by Serotype*
anatum	1	0.2
bareilly	4	0.8
blockley	9	1.8
bredeney	3	0.6
chester	8	1.5
derby	29	5.6
enteritidis	56	10.5
give	2	0.4
heidelberg	40	7.6
infantis	24	4.6
java	9	1.8
javiana	1	0.2
kentucky	1	0.2
litchfield	2	0.4
manhattan	4	0.8
montevideo	3	0.6
muenchen	7	1.4
muenster	2	0.4
newington	1	0.2
newport	11	2.1
norwich	1	0.2
oranienburg	16	3.1
panama	2	0.4
paratyphi A	2	0.4
paratyphi B	4	0.8
poona	6	1.2
reading	1	0.2
st. paul	33	6.3
san diego	1	0.2
schwartzengrund	3	0.6
senftenberg	3	0.6
siegburg	1	0.2
stanley	2	0.4
tennessee	1	0.2
thompson	19	3.7
typhimurium	175	33.4
var. copenhagen	30	5.8
urbana	3	0.6
Total Serotype	520	100.0
Untyped	111	
Total	631	

Table 23. Serotypes Most Frequently Found among New Jersey Residents, 1968

Serotype	*Number Isolations*	*Percent of Total Known Isolations*
typhimurium	175	33.4
enteritidis	56	10.5
heidelburg	40	7.6
st. paul	33	6.3
typhimurium var. copenhagen	30	5.8
derby	29	5.6
infantis	24	4.6
thompson	19	3.7
oranienburg	16	3.1
newport	11	2.1
Total	433	82.7

The incidence of salmonellosis is usually higher during the warmer months of the year. During 1968, however, the gradient was not as apparent as it has been in the past. By averaging each season, however, the anticipated changes with the weather are again in evidence. (Table 24).

Table 24. Salmonella Cases by Month of Onset, New Jersey, 1968

Month	*No. Cases Monthly*	*Percent of Monthly Total*
January	40	6.4
February	63	10.1
March	43	6.9
April	40	6.4
May	58	9.3
June	44	7.0
July	77	12.3
August	65	10.3
September	47	7.5
October	43	6.9
November	66	10.5
December	40	6.4
Total	626	100.0

An outbreak of Salmonellosis involving 18 persons who attended a family Thanksgiving dinner in Jersey City occurred on November 28 and 29. The people ranged in age from seven months to 56 years. Onset of the illness occurred three to 17 hours after the meal, with a median onset of seven hours. Symptoms were primarily vomiting, diarrhea, fever, and abdominal pain. One person, a teenager who ate very little, was asymptomatic. However, 16 persons were hospitalized for an average stay of six days. There were two deaths among the group. The first, a 17 year old male, died without hospitalization 37 hours after onset of illness. The second death was a hospitalized 56 year old female, after three days of illness. Both were in good health before the food poisoning episode. Blood and stool cultures showed that everyone had been infected with *Salmonella enteritidis*.

The dramatic course of this outbreak prompted a quantitative bacteriologic count of food leftovers. *Salmonella enteritidis* was identified in virtually every food that was submitted. Unusually high concentrations of the organisms were found in the stuffing, turkey meat, and the gravy. No other pathogenic organisms were found. The organism was probably introduced into the foods by an infected handler or by infected foods. Turkey or the eggs and fresh sausage used in the stuffing may have been contaminated prior to purchase, which is not unusual with today's marketing, processing, and inspection procedures. Once the pathogen was introduced into the stuffing, it multiplied while the bird was being roasted. The turkey was 23 pounds, probably not thawed out completely, and roasted at 300° F for seven hours. It is unlikely that the internal temperature exceeded 140° F.

Fatal cases of salmonellosis usually occur in infants, the elderly or persons with severe underlying pathology. The severity of this outbreak, which is apparent by the 100 percent morbidity and two deaths, an unusually short average incubation time of seven hours, and the seriousness of the illnesses, were probably due to the enormous number of organisms that were ingested and perhaps an interaction with other pathogens.

An outbreak of *Salmonella chester* occurred during August in the premature nursery of a Trenton hospital. Five out of six in the nursery were positive for the organism. No source of infection was identified. Overcrowding in the nursery and deficiencies in operating procedures probably contributed to the spread of the infection. No deaths were involved in this outbreak.

In February, the Rutgers Infirmary saw 73 students who complained of gastrointestinal symptoms during a four-day period. Stool specimens were cultured on 20 students, 15 of whom were positive for *Salmonella derby*. A questionnaire was distributed among the ill students and it was learned that the Commons Dining Hall was frequented by all those involved. Furthermore, everyone had eaten dinner the Sunday before the outbreak at the Commons. Further questioning of other students revealed that probably several

hundred more had also been infected. An investigation of the foods served during the suspected meal led to the conclusion that London broil was the vehicle. It was assumed that the meat was contaminated after it had been cooked and sliced, probably by being placed on trays that had been used for thawing out poultry. It was then held at room temperature for several hours before serving.

An outbreak of Salmonellosis associated with an industrial cafeteria in Mercer County occurred during May. The suspected meal was rapidly pinpointed, since a group of visitors from the Merchant Marine Academy who had eaten lunch at the plant on May 7th became ill. Questionnaires were completed by 72 plant employees, 31 of whom were ill, and by 40 students, 16 of whom were ill. It was estimated that 250 persons were served lunch on that day. Stool specimens were submitted by 13 students and 36 employees. All the students were positive for *S. typhimurium* and 24 employees were also positive. Five of the positive employees, including two food handlers, were also positive for *S. typhimurium var. copenhagen*. Symptoms occurred four to 46 hours after the meal and lasted two to three days in most instances. The symptoms were primarily diarrhea, fever, abdominal pain, chills, and nausea. The food attack rates were significant for baked macaroni, a food item which had been leftover from the week before in a refrigerator which had been shut down over the weekend. No leftover foods were available for laboratory analysis.

In May, a hospital reported seven patients with blood cultures positive for *S. typhimurium*. Although one patient also had a positive stool, none had symptoms compatible with a Salmonella infection. No epidemiologic association such as location on the same ward or common dietary item linking the patients could be demonstrated. Five of the seven blood cultures contained multiple organisms, including enterococci and *Streptococcus fecalis*. Isolation of multiple organisms in a blood culture strongly suggests contamination either when the blood is drawn or in the laboratory. The equipment used to draw the blood and the media itself were negative when cultured. Stool cultures were taken from the attending physicians and the laboratory technicians and these were also negative. The specific source of contamination was not determined. Several recommendations were made to improve the techniques for obtaining cultures and processing them. A follow-up did not reveal any additional cases.

Salmonella typhimurium var. copenhagen was transmitted by birthday cake to two elderly siblings causing severe illness in both the sister and brother and the subsequent demise of the latter. The cake was commercially prepared with pineapple filling and a whipped topping. It had been purchased by a

neighbor who cut it and dropped off two pieces at their apartment. The cake remained at room temperature and was eaten four hours later. The sister became ill in 18 hours. The brother's onset is unknown since he expired before the investigation commenced and it was not determined if his source of the infection was also the cake or if he contracted the infection from his sister via another food vehicle. Both had fever, chills, weakness, abdominal cramps, and diarrhea and were subsequently hospitalized.

The bakery assisted in contacting persons who purchased similar cakes which were made at the same time as the one in question. No illnesses occurred among these people. The neighbor who bought and cut the cake in question was interviewed and did not relate any family illness. Her stool, however, was positive for *Salmonella typhimurium van. copenhagen*. Another slice of cake which was given to another neighbor was found in a frozen state. It revealed the same pathogen when cultured. It is, therefore, probable that the woman who purchased the cake was a carrier and introduced the organism into the pieces of cake which were given to the couple.

Shigellosis

During 1968, a total of 194 cases was reported. This is similar to the 1967 figure of 192. All the cases during 1967 were sporadic or in family groups. An outbreak, however, occurred during 1968 in which 86 cases of diarrhea were found and 18 were positive for *Shigella sonnei*. Prior to 1967, the annual reported incidence was usually less than 100 cases. The five year average for 1962 through 1966 was 87 cases.

There were 125 reported sporadic cases and three institutional cases. Twenty-one households had two or more cases, accounting for 48 of the reported infections. One family had four cases and three families had three illnesses.

Newark City Hospital and Jersey City Medical Center have increased their diagnostic efforts during the last two years, which probably accounts for the significant rise in reported cases. Hudson and Essex Counties provided 60 percent of the cases—Morris County, where the outbreak occurred, accounted of 11.4 percent of the cases. (Table 25)

Table 25. Shigella Isolations by County in New Jersey, 1968

County	*No. Cases*	*Percent Total Cases*
Atlantic	0	0
Bergen	3	1.5
Burlington	1	0.5
Camden	1	0.5
Cape May	0	0
Cumberland	4	2.1
Essex	87	44.8
Gloucester	1	0.5
Hudson	30	15.5
Hunterdon	0	0
Mercer	7	3.6
Middlesex	4	2.1
Monmouth	13	6.7
Morris	22	11.4
Ocean	0	0
Passaic	5	2.6
Salem	1	0.5
Somerset	4	2.1
Sussex	2	1.0
Union	6	3.1
Warren	0	0
Institutions	3	1.5
Unknown	0	0
Total	194	100.0

The incidence of serotypes this year is consistent with the anticipated findings. This year, two-thirds of the cases were *Shigella sonnei*, a slight rise over the 60.9 percent for 1967 which was probably due to the fact that the 18 persons associated with the outbreak in 1968 were infected with this serotype. The second most common serotype was *Shigella flexneri*, with 21.1 percent. The remaining serotypes accounted for less than 10 percent of the cases. These findings are consistent with those reported for this area of the United States by the National Communicable Disease Center. (Table 26.)

Table 26. Shigella Isolations by Serotype, New Jersey, 1968

Serotype	*Number of Cases*	*Percent of Known Cases*
Group A (S. dysenteriae)	5	2.7
Group B (S. flexneri)	41	22.4
Group C (S. boydii)	4	2.2
Group D (S. sonnei)	133	72.7
Subtotal	183	100.0
Unknown	11	5.7
Total	194	...

Ninety-four cases, representing 48.5 percent of all cases during 1968, were male and 100 were female. No deaths were known to have occurred. Over half of the cases were three years old or under and three-quarters of the cases were nine years old or under. This too, is consistent with the findings in previous years. (Table 27.)

Table 27. Shigella Isolations by Age, New Jersey, 1968

Age	*Cases*	*Percent of Total Known Cases*
Under 1	14	8.0
1	24	13.6
2	33	18.8
3	20	11.4
4	16	9.1
5-9	26	14.8
10-14	9	5.0
15-19	5	2.9
20-24	5	2.9
25-29	9	5.0
30-39	6	3.4
40-49	5	2.9
50-59	2	1.1
60 +	2	1.1
Subtotal	175	100.00
Unknown	19	9.8
Total	194	...

The average monthly incidence of Shigellosis was 16 cases during 1968. July had the greatest number of cases. The outbreak occurred during July, accounting for 18 of the 34 cases. October had 24 case onsets. There are usually more cases during the warmer months of the year. (Table 28.)

Table 28. SHIGELLA CASES BY MONTH OF ONSET, NEW JERSEY, 1968

Month	*Number Cases*	*Percent of Total*
January	9	4.6
February	7	3.6
March	17	8.8
April	11	5.7
May	15	7.7
June	18	9.3
July	34	17.5
August	13	6.7
September	12	6.2
October	24	12.4
November	18	9.3
December	16	8.2
Total	194	100.0
Monthly Average	16	...

One outbreak of shigellosis was investigated during 1968. It was in a middle class garden apartment complex in Morris County which was still under construction. The complex had 738 inhabited apartments with an approximate population of 1,700 residents, including about 210 preschool children and 135 children between five and 18 years. A pinkish diarrhea was reported by a local pediatrician which had been seen in several children. A house to house survey of 665 persons uncovered 86 with diarrhea, the onset of which had occurred during the first three weeks of July. Fecal specimens were positive for *Shigella sonnei* in 18 persons. Nearly half of the positives were under 10 years old.

An extensive survey was conducted to be certain that the outbreak occurred only in this complex of buildings. The actual source of the infection was not determined although a mode of spread was suspected. There was a semi-public wading pool for children which was hand chlorinated. The maintenance man left his job on the weekend prior to the outbreak and it is assumed that the pool was not chlorinated. There were also unchlorinated privately owned wading pools which were being shared by neighbor's children. It was not unusual to have a two to four year old child as the first one ill in a family and then the siblings and parents. It was therefore recommended that the pools be emptied, personal hygiene be strictly followed, and interfamily contact be kept to a minimum. The outbreak declined subsequent to compliance with these recommendations.

Smallpox

No cases of smallpox were reported in New Jersey during 1968. One case of suspected smallpox was investigated, an 18 year old male in Newton, Sussex County. The boy was believed to have had the Stevens-Johnson syndrome.

As part of a National Communicable Disease Center survey, a study is in progress on the complications of smallpox vaccination and the use of vaccinia immune globulin. Four cases of eczema vaccination and one case of accidental infection have been reported.

Leptospirosis

No human cases of leptospirosis were reported in New Jersey during 1968.

Tetanus

One case of tetanus, a 78 year old woman from Passaic County, was reported in October. The woman cut her knee during a fall in the garden. The wound was cleaned and five days later toxoid was given. Symptoms commenced two days later and lasted three days until the patient expired. Antitoxin was used therapeutically in conjunction with antibiotics. The woman had never been immunized against tetanus.

Trichinosis

During 1968, six cases of acute trichinosis were reported. There had been a steady decline in the incidence of this disease in this state and the United States as a whole. New Jersey's reported infections were 16 in 1965, six in 1966, and four in 1967.

Diagnosis of trichinosis is usually made on a combination of symptoms and laboratory findings. Among the cases this year, an eosinophilia of five percent or greater was noted in five of the six patients. Periorbital edema was also noted in five of the patients. These symptoms, in combination with myalgia, diarrhea, malaise, fever, and conjunctivitis, are the basis for a presumptive diagnosis. Additional laboratory tests are then run, including skin sensivity tests, muscle biopsy and specific diagnostic procedures, such as the Suessenguth-Kline flocculation test. In all instances, the source of infection was believed to be the inadequate preparation of pork prior to eating.

Typhoid Fever

During 1968, nine persons were identified as having *S. typhi* infections. There were six cases acutely involved, one carrier was identified during the investigation of an acute case, and two persons were found to be harboring *S. typhi* in organs which were cultured during surgical intervention.

The 68 year old wife of a known carrier became infected and expired in the acute phase. There was no history of immunization although her husband has been a known carrier for many years. Another infection occurred in a 19 year old laboratory technician who was working with *S. typhi* cultures. The source of infection for a 12 year old girl was traced to her grandfather who was previously unknown to be a carrier. He had typhoid fever over 20 years ago.

One case, a 26 year old female, probably became infected during a visit to India. *Salmonella oranienburg* was also isolated from her stool. The other two cases, both female, ages 13 and 56, could not be traced to a probable source. The girl, however, did drink from a private well which has since been closed because of its high coliform counts.

A 72 year old woman recently had her gall bladder removed; it was positive for *S. typhi.* She had typhoid fever 60 years ago. A 71 year old male recently had a liver abscess removed; it was also infected with *S. typhi.* He does not recall ever being ill with the disease. All cases were confirmed by isolation of *S. typhi* from the blood, feces, or the organ involved. Three cases occurred in Essex County, two in Passaic County, and one each in Bergen, Mercer, Morris, and Union Counties.

Viral Hepatitis

There were 1,820 cases of viral hepatitis reported in New Jersey in 1968, the largest number of cases reported in any year except 1961. As seen in Table 29 there was a decline in reported hepatitis cases from the 1961 peak of 2,188 cases until 1965. Since 1965, there has been an upswing up to the present year. The 1,820 cases in 1968 represent a 19 percent increase over the 1,534 cases reported during the previous year. This trend in New Jersey is in accord with the national trend in hepatitis.

Of the 1,820 cases reported this year, 1,464 were classified as infectious hepatitis and 356 cases were classified as parenterally transmitted hepatitis. Of the latter, 186 occurred among narcotic addicts whose infections resulted from contaminated needles. Another 17 cases of hepatitis occurred among laboratory technicians, physicians, and nurses whose infections were probably transmitted parenterally. The remaining 153 parenterally transmitted cases were infected by means of transfusions. There were 50 deaths. (Table 30.)

There was a 1.7 to 1 ratio of males to females for infectious hepatitis as compared to 2 to 1 ratio in 1967. Cases of infectious hepatitis occurred in 934 males and 540 cases occurred in females. A total of 601 cases was reported in persons under 20 years of age and 863 cases were reported in persons over 20 years of age. This represents a ratio of adult to childhood cases of 1.4 to 1. This ratio differs from the nation as a whole. The greater incidence occurs in New Jersey in the age groups in which the highest number of addict-related cases may be found. The high incidence of infectious hepatitis in the 15-24 year old group may be due to unrecognized narcotic-associated hepatitis, Table 31. This is also implied in the age-sex distribution of the infectious and narcotic-associated hepatitis cases, as seen in Table 31.

Table 29. Viral Hepatitis in New Jersey, 1960-1968

Year	*State Population*	*Number of Cases Viral Hepatitis*	*Attack Rate Per 100,000 Population*
1960	6,098,000	441	7.23
1961	6,221,000	2,188	35.17
1962	6,344,000	1,488	23.46
1963	6,467,000	1,337	20.67
1964	6,590,000	1,126	17.09
1965	6,803,910	1,083	15.92
1966	6,959,650	1,093	15.70
1967	7,078,400	1,534	21.67
1968	7,203,510	1,820	25.27

Table 30. Mortality Due to Viral Hepatitis by Age Groups, New Jersey, 1968

Age	*Infectious Hepatitis*	*Parenterally Transmitted Hepatitis*	*Total*
Under 1	..	..	..
1-4	1	..	1
5-9	1	..	1
10-14	..	..	..
15-19	2	2	4
20-24	3	4	7
25-29	..	..	..
30-39	4	2	6
40-49	3	1	4
50-59	3	3	6
60 +	8	13	21
Totals	25	25	50

Table 31. Infectious and Narcotic Associated Hepatitis by Sex and Age, New Jersey, 1968

Age	Infectious Hepatitis				Narcotic Associated Hepatitis			
	Male	Female	Total	Percent of Total	Male	Female	Total	Percent of Total
1	5	..	5	0.3	..	..	..	..
1-4	10	9	19	0.3	..	..	..	..
5-9	47	50	97	6.7	..	..	..	..
10-14	75	50	125	8.6	1	..	1	0.5
15-19	247	108	355	24.4	60	6	66	35.5
20-24	226	93	319	21.9	78	14	92	49.5
25-29	91	53	144	10.0	16	2	18	9.7
30-39	96	64	160	11.1	8	..	8	4.3
40-49	57	46	103	7.1	..	1	1	0.5
50-59	36	35	71	5.0	..	..	..	..
60 +	34	32	66	4.6	..	..	..	..
Totals	924	540	1,464	100.0	163	23	186	100.0

Table 32 shows the monthly incidence in hepatitis during 1968. Seasonal peaks, generally associated with hepatitis, did not occur in New Jersey in 1968. Table 33 shows the incidence of hepatitis by county in 1968.

A total of 157 individuals with infectious hepatitis gave a history of ingesting raw clams during the 60 day period prior to the onset of their illness. Eleven percent of the total reported cases of infectious hepatitis had eaten clams within the anticipated incubation period. There was no evidence of a shellfish-associated common source outbreak. This is the fourth consecutive year in which there has been no clam-related outbreak in New Jersey.

There were 356 cases of parenterally transmitted hepatitis reported during 1968. This represents an increase of 83 cases, or 30.40 percent, over cases reported in 1967. One hundred and eighty-six, or 52.25 percent, of the parenterally transmitted cases reported in 1968 were narcotics addicts. Included in the total cases of parenterally transmitted hepatitis were 17 cases which occurred in hospital personnel such as laboratory technicians, nurses, and physicians who gave a history of handling contaminated equipment or needles.

There were 153 cases of hepatitis in 1968 associated with transfusion of blood or blood products. Of these, 71 cases appeared to have an incubation period of less than 60 days, and therefore could be considered parenterally-transmitted infectious hepatitis, while 82 cases had an incubation period of over 60 days and were thus classified as serum hepatitis. (Table 34.)

Single unit blood transfusions accounted for 23 cases of transfusion-transmitted hepatitis. Two unit transfusions accounted for 22 cases. Two cases occurred after being recipients of a transfusion from a common donor. Sixty-nine donors were placed on a list for blood banks prohibiting them from donating blood in New Jersey.

Table 32. Monthly Incidence of Cases of Viral Hepatitis, New Jersey, 1968

Month	Infectious	Transfusion Transmitted	Narcotic Associated	Total
January	100	19	11	130
February	118	5	7	130
March	126	7	13	146
April	109	16	7	132
May	145	20	9	174
June	153	16	23	192
July	108	15	16	139
August	121	12	15	148
September	108	8	22	138
October	160	16	19	195
November	128	9	33	170
December	88	10	11	109
Total	1,464	153	186	1,803*

* Total does not include 17 cases among hospital personnel which were probably parenterally transmitted.

Table 33. Viral Hepatitis by County of Residence, New Jersey, 1968

County	Infectious		Parenterally Transmitted									
			Transfusion Transmitted		Attack Rate Per 100,000 Population	Narcotic Associated	Attack Rate Per 100,000 Population	Parenteral Total	Attack Rate Per 100,000 Population	Total	Attack Rate Per 100,000 Population
	Cases	Attack Rate Per 100,000 Population									
Atlantic	42	22.58	12		6.45	7	3.76	19	10.22	61	32.79
Bergen	86	9.41	8		0.88	31	3.39	39	4.27	125	13.68
Burlington	35	10.61	4		1.21	2	0.61	6	1.82	41	12.43
Camden	89	18.88	16		3.40	10	2.12	26	5.52	115	24.40
Cape May	16	27.19	2		3.65	0	0	2	3.65	18	32.82
Cumberland	19	14.87	2		1.57	0	0	2	1.57	21	16.44
Essex	291	30.11	31		3.21	68	7.04	99	10.24	390	40.35
Gloucester	11	6.58	2		1.20	1	0.60	3	1.79	14	8.37
Hudson	174	28.65	18		2.96	16	2.64	34	5.60	208	34.25
Hunterdon	3	4.51	1		1.50	0	0	1	1.50	4	6.01
Mercer	80	25.85	9		2.91	2	0.65	11	3.55	91	29.40
Middlesex	88	15.22	11		1.90	16	2.77	27	4.67	115	19.89
Monmouth	56	12.45	12		2.67	3	0.67	15	3.33	71	15.78
Morris	52	14.39	5		1.38	4	1.11	9	2.49	61	16.89
Ocean	21	12.59	5		3.00	0	0	5	3.00	26	15.59
Passaic	89	19.19	7		1.51	9	1.94	16	3.45	105	22.64
Salem	4	5.97	1		1.49	0	0	1	1.49	5	7.47
Somerset	21	10.57	2		1.01	1	0.50	3	1.51	24	12.08
Sussex	15	22.02	0		0	0	0	0	0	15	22.02
Union	110	19.12	21		3.65	12	2.09	33	5.74	143	24.86
Warren	8	10.77	0		0	0		0	0	8	10.77
State Inst.	99		0			0		0		99	
Military	55		1			4		5		60	
Total	1,464	20.32	170*		2.36	186	2.58	356*	4.94	1,820	25.27

* Includes 17 hospital personnel with probable parenteral transmitted.

Table 34. Serum Hepatitis, New Jersey, 1964-1968

Year	Serum Transmitted: Single Pint Recipients	Serum Transmitted: Commercial Pint Cases	Narcotic Associated	Type: Type A	Type: Type B	Type: Indeterminate	Total
1968	23	66	186	71	82	203	356
1967	5	8	151	43	65	151	273
1966	13	12	84	40	68	91	199
1965	15	13	37	33	64	37	134
1964	9	4	43	37	50	50	137

Viral Hepatitis Investigations of Special Interest

Outbreak at Woodbine

The largest outbreak in New Jersey during 1968 occurred in a state facility for retarded males in Woodbine, Cape May County. Seventy-eight cases of infectious hepatitis occurred in that institution between January and July, 1968. The 78 cases represented an attack rate of 6.3 percent for residents and 0.6 percent for employees, with an overall attack rate of 4.5 percent. In general, the cases of hepatitis were not severely ill and there were no deaths.

The introduction of hepatitis into the institution in the beginning of the outbreak could not be explained. An unrecognized anicteric case of hepatitis in either an employee or resident worker as an initial source of infection is strongly suspected. The mode of transmission of hepatitis after the first group of cases clearly was person-to-person contact spread.

It was evident that lack of adequate isolation facilities in the hospital caused the initial surge of cases through contact spread of disease. As in other institutions for the retarded, incontinence, fecal contamination, and crowding were major factors facilitating rampant spread within each cottage.

Further spread was contained by quarantine within each cottage where infections occurred. The use of gamma globulin was an additional effective means employed to reduce the severity and the number of infections. Other means employed were educational measures, sanitary inspections, and control of laundry procedures. It is interesting to note that this outbreak occurred in an institution where hepatitis has been endemic for many years and the interval between admission to the institution and the development of hepatitis during the outbreak varied between one and 33 years, with an average interval of 6.7 years.

Sub-Human Primate-Associated Hepatitis in Toms River, New Jersey

Between April and June, 1968, five cases of viral hepatitis occurred among 12 animal handlers who cared for approximately 50 sub-human primates. None of the patients gave a history of contact with a jaundiced person or ingestion of raw shellfish during the two months prior to their illness and all denied parenteral use of drugs or blood transfusions during the six months prior to illness. Two of the men who developed hepatitis near the end of the outbreak were not employed at the time of the onsets of illness of the first three cases. The first three cases and the last two were not acquaintances.

The collection of primates in the home included six woolly monkeys, five spider monkeys, 19 capuchins, 17 ringtail monkeys, two celebes apes, and two black siamangs. It was interesting to note that there have never been any chimpanzees on the premises. None of the primates were purchased from establishments where there were reported cases of hepatitis.

Waterborne Gastroenteritis: Cranford, Kenilworth, Westfield

A water-borne outbreak of mild gastroenteritis occurred during the first week of June 1968 in areas of Cranford, Kenilworth, and Westfield associated with flooding on May 29, 1968. Surveillance forms were completed on 477 cases of vomiting and/or diarrhea in four municipalities. The distribution of cases by municipality was:

	No. of Cases	*Attack Rate Per 1,000 Population*
Cranford	262	9.1
Westfield	100	2.9
Kenilworth	100	10.8
Garwood	15	2.5
	477	6.1

No bacteriological or viral agent could be identified as the cause of the outbreak. Approximately two weeks after the flooding, three cases of hepatitis occurred in the area. Because of the danger of water-borne hepatitis 47,870 doses of gamma globulin were administered in three public health clinic sites in these municipalities. No further cases of hepatitis were reported.

Biologics Unit

Requests for free state biologicals and tuberculosis drugs for physicians and local health agencies through distributing stations continued at about the same level as the preceding calendar year. In addition, requests from migrant and Head Start programs were honored.

One of the unanticipated projects in which the department was involved was the need to purchase 105,000 cubic centimeters of gamma globulin for those residents of Cranford, Kenilworth, and Westfield in Union County where flash floods endangered the public water supply and an outbreak of hepatitis was feared.

In the early fall, 75,000 doses of the A-2 Bivalent strain of influenza vaccine was purchased and released through distributing stations.

In December, when the Hong Kong strain of influenza became rampant, the department placed orders for 52,500 doses of this material. However, due to the short supply and the nationwide demand, the department received only 24,500 doses in December. Of this amount 16,570 doses were given to nursing and convalescent homes on certified lists submitted to us by the Office of Certification of Health Facilities. Additional vaccine was received in January, 1969.

The balance of 7,930 doses of this vaccine was released to senior citizen groups, age 65, and over, plus a few state institutions who were unable to procure this material.

Through distributing stations and child health centers over 316,000 doses of polio vaccine were made available. It is noteworthy that this is the third consecutive year in which there were no reported cases of polio in this state.

In a continued effort to eradicate measles, over 93,000 doses of vaccine were furnished to physicians and clinics throughout the state.

Release of tuberculosis drugs continued at a pace commensurate with the preceding year.

Recognition is made of the 66 distributing stations located throughout the 21 counties of our state, which without any renumeration, have performed an outstanding service in handling our free state biologicals.

A table showing distribution of biologicals and tuberculosis drugs compared with 1967 is attached.

Table 35. Distribution of Biologicals and Tuberculosis Drugs

	1967 Doses	*1968 Doses*
Smallpox Vaccine—5 pts. per pkg.	228,010	255,000
Diphtheria-Pertussis-Tetanus 7½cc per pkg.	429,375	315,000
Typhoid—1.5cc per pkg.	8,230	11,000
Gamma Globulin (10cc)	120	105,000 cc
Gamma Globulin (2cc)	1,512	None
Trivalent Polio Vaccine—10 dose per vial	369,240	316,700
Measles Vaccine—Single dose	90,954	93,749
Influenza Vaccine—10cc per pkg.—		
Asian (A-2 Bivalent)	136,520	75,000
Hong Kong	None	52,500
Diphtheria and Tetanus (Adult) 5cc per pkg.	151,840	100,000
Diphtheria and Tetanus (Pediatric) 5cc per pkg.	101,760	70,000
Rocky Mt. Spotted Fever Vaccine—		
3cc per pkg.	50	None
Rabies (Human) Vaccine—Single dose	1,885	1,330
Anti-Rabies Serum—1,000 units per pkg.	25	25
INH (100 tabs. per btl.)	69,319 btls.	63,000 btls.
PAS (1,000 tabs. per btl.)	7,335 btls.	5,000 btls.
Tine Tests (25 tests per box)	89,125 tests	87,500 tests
Streptomycin (1 gram) with disposable syringe	177	444
P.P.D. (50 tests per pkg.)	102 boxes	286 boxes

Tuberculosis Control Pragram

Despite steady decreases in morbidity and mortality due to tuberculosis in New Jersey, this disease remains a major problem in the state in terms of numbers of patients, severity, length of invalidism, spread to members of the family and other contacts, and deprivation of the family and individual of earning power. Technological advances have been made in the diagnosis, treatment, rehabilitation and epidemiology of tuberculosis which make the disease more amenable to satisfactory management and control. However, to be successful, these measures must be used by the people who need the service and this requires a well functioning public health Tuberculosis Control Program.

Tuberculosis is largely a disease of poverty. All of the aspects of poverty, such as overcrowding, poor housing, poor diet and inadequate sanitation, seem to predispose toward tuberculosis. Such conditions of poverty are found in many of the urban areas of New Jersey and some of the most severe tuberculosis problems in the state and in the nation are located in these areas.

The Tuberculosis Control Program is based on four broad objectives, as follows:

1. Early casefinding to detect all cases and foci of tuberculosis.
2. Complete treatment of all cases of tuberculosis and surveillance to detect and treat recurrence.
3. Examination and surveillance of family members and household and other contacts of all tuberculosis cases and tuberculin converters and reactors.
4. Tuberculin testing and survey of school and other population groups associated with chemoprophylaxis usage for selected tuberculin reactors.

With the advent of effective drugs for the treatment of tuberculosis, there has been a steady shift in the emphasis of treatment programs. Previously, adequate treatment of tuberculosis required a long period of hospitalization until the patient essentially reached an inactive status. Today, the trend is for shorter and shorter hospitalization of the tuberculosis patient, as the patient rapidly becomes non-infectious soon after the initiation of drug therapy and can adequately continue therapy on an outpatient basis. However, since tuberculosis therapy must be continued over several years, an adequate control program is necessary to be sure that the tuberculosis patient being treated on an outpatient basis receives an adequate course of therapy. Much of the efforts of the Tuberculosis Control Program are directed toward the attainment of an adequate course of therapy for tuberculosis patients.

In order to administratively monitor the therapy and progress of tuberculosis patients, tuberculosis case registers were established in all 21 counties of New Jersey. These were manually recorded records of the status and therapy of all patients. These records became so voluminous that they could not efficiently be maintained manually. Therefore, it was decided to replace the county case register with a central register using electronic data processing (EDP).

A computer program was written in 1967, and during that year, eight southern counties were entered into the EDP system. During 1968, nine additional counties were initiated into the EDP system, and it is anticipated that the entire state will be in the system by mid 1969.

The major long range goals in the New Jersey Tuberculosis Control Program require hospital treatment for selected cases, and extended out-patient treatment and surveillance for all cases not requiring hospital treatment. Greater progress in the tuberculosis program requires that facilities for diagnosis, treatment, and rehabilitation be adequately available and accessible to

patients in the local communities. The essential services to be provided by the organized system of tuberculosis clinics and out-patient facilities consist of public health education, casefinding and diagnostic services, reporting and data processing, tuberculin testing, periodic bacteriologic examinations, treatment and follow-up services, consultation for private physicians, social appraisals for rehabilitation, welfare and vocational services and patient education and other services. It is important that all of these services be available and made known to every individual in need of them without financial obligation.

Supplementary assistance is required by counties and municipal governments in the provision of adequate clinical and out-patient services for all phases of the tuberculosis program. This assistance may be in the form of medical services, such as x rays, or even actual provision of personnel, such as physicians. The New Jersey State Department of Health has given active assistance in developing and improving tuberculosis clinics and out-patient services, including provision of staff for some of these clinics. There is an urgent requirement for development of an effective health service delivery system for tuberculosis, to provide essential high quality clinical and out-patient services at places accessible to the patients who need these services. The ready availability of these services to the patients is a most valuable means of insuring the continuation of an active course of tuberculosis treatment and extended surveillance after a cure has been obtained.

Tuberculosis Statistics

Review of data of the last 10 years reveals a continual slight annual reduction in new cases reported with mortality declining by over 50 percent and morbidity by over 30 percent. (Table 1.)

Table 1. TUBERCULOSIS CASES AND DEATHS, NUMBERS AND RATES PER 100,000 POPULATION, NEW JERSEY, 1959-1968

Year	Estimated Population(10)	Deaths Number	Deaths Rate(3)	Total Cases Number	Total Cases Rate(3)	Active Cases Number	Active Cases Rate(3)
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
1965	6,713,000	304	4.3	2,614	38.9	1,602	23.9
1966	6,951,336	291	4.2	2,567	36.9	1,592	22,9
1967	7,078,400	249	3.5	2,493	35.2	1,455	20.6
1968	7,203,510	245	3.4	2,271	31.5	1,297	18.0

The more densely populated five-county Metropolitan District of New Jersey, which is composed of Bergen, Essex, Hudson, Passaic, and Union Counties accounts for over half the cases of active tuberculosis reported in the state and the principal cities of Newark, Jersey City, Paterson, and Trenton have the highest incidence.

The data in Table 2 show active tuberculosis cases and case rates per 100,000 population for the counties and cities of the state in 1968. Many of these fatalities were over 65 years of age and were diagnosed as having tuberculosis through "Medicare" treatment for some other illness, which required relatively short periods of hospitalization and care before death occurred. (See Table 2.)

Table 2. TUBERCULOSIS CASES, DEATHS, NUMBERS AND RATES PER 100,000 ESTIMATED POPULATION BY COUNTIES AND MAJOR CITIES, NEW JERSEY, 1968

Area	All Cases Number	All Cases Rate	Active Cases Number	Active Cases Rate	*Deaths Number	*Deaths Rate
State Total	2,271	31.5	1,297	18.0	245	3.4
Atlantic County	49	26.3	24	12.9	8	4.3
Atlantic City	31	49.2	16	25.4	6	9.5
Bergen County	176	19.3	50	5.5	15	1.6
Burlington County	36	10.9	22	6.7	4	1.2
Camden County	59	12.5	38	8.1	7	1.5
Camden City	28	23.9	20	17.1	4	3.4
Cape May County	27	49.2	14	25.5	3	5.5
Cape May City	..	..	..	..	..	..
Cumberland County	48	37.6	27	21.1	3	2.3
Bridgeton	13	55.1	10	42.4	..	..
Essex County	535	55.4	385	39.8	51	5.3
East Orange	47	60.0	26	33.2	2	2.6
Newark	416	104.1	304	76.1	43	10.8
Orange	12	34.3	12	34.3	..	..
Gloucester County	21	12.6	12	7.2	1	0.6
Hudson County	345	56.8	192	31.6	42	6.9
Hoboken	30	65.5	12	26.2	2	4.4
Jersey City	161	59.7	112	41.5	26	9.6
Hunterdon County	12	18.0	7	10.5	7	10.5
Mercer County	145	46.8	90	29.1	8	2.6
Trenton	106	96.7	69	63.0	7	6.4
Middlesex County	129	22.3	72	12.5	20	3.5
New Brunswick	20	43.9	13	28.6	6	13.2
Perth Amboy	15	36.9	6	14.8	2	4.9
Monmouth County	104	23.1	64	14.2	10	2.2
Morris County	48	13.3	30	8.3	9	2.5
Ocean County	38	22.8	17	10.2	7	4.2

Table 2. Tuberculosis Cases, Deaths, Numbers and Rates per 100,000 Estimated Population by Counties and Major Cities, New Jersey, 1968—Continued

Area	All Cases		Active Cases		*Deaths	
	Number	Rate	Number	Rate	Number	Rate
Passaic County	241	52.0	104	22.4	18	3.9
Passaic City	43	74.4	21	36.3	8	13.8
Paterson	108	72.2	66	44.1	8	5.3
Salem County	31	46.3	28	41.8	2	3.0
Somerset County	40	20.1	12	6.0	5	2.5
Sussex County	6	8.8	4	5.9	2	2.9
Union County	159	27.6	95	16.5	20	3.5
Elizabeth	80	67.4	35	29.5	8	6.7
Plainfield	18	35.9	15	29.9	3	6.0
Warren County	14	18.8	8	10.8	2	2.7
State Institutions	6	..	2	..	1	..
Military Posts	2	..	..	..	..	..
Aliens	..	..	..	..	..	..

* Tuberculosis deaths and death rates are provisional and subject to revision when final tabulations are completed.

The status of all tuberculosis cases on the register for each year from 1964 to 1968 is shown on Table 3. The decrease in number of "inactive" cases carried under surveillance from 9,879 to 7,462 between 1967 and 1968 is attributed to more accurate accounting with the advent of the Electronic Data Processing System.

Table 3. Tuberculosis Patients Under Registration
New Jersey, 1964-1968

Status	1964	1965	1966	1967	1968
Total	15,432	14,474	14,188	13,678	11,102
Hospitalized	1,629	1,016	1,430	1,268	1,303
Non-hospitalized	13,803	12,143	12,758	12,410	9,799
Active	727	646	564	779	806
Probably Active	184	160	150	134	128
Probably Inactive	290	448	361	304	278
Inactive	11,876	10,889	10,368	9,879	7,462
Non-Pulmonary	726	815	888	788	610

Table 4 presents the examination status of non-hospitalized tuberculosis patients.

Table 4. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Examination Status
New Jersey, 1964-1968

Status	1964	1965	1966	1967	1968
Total	100.0	100.0	100.0	100.0	100.0
Not Due for Examination	59.2	64.2	69.1	60.8	38.7
Overdue Up to 12 Months	16.1	21.2	17.0	22.2	21.9
Overdue 12 Months or More	2.9	3.2	1.6	1.9	1.7
No Date Assigned	21.8	11.4	12.2	15.0	37.7

The effectiveness of surveillance and follow-up of outpatient tuberculosis patients appears to have decreased since Electronic Data Processing was introduced, since only 38 percent of non-hospitalized cases of active tuberculosis had completed a current medical examination at the end of the quarter as compared to 60.8 percent in December, 1967. This reported decrease is due to report decrepancies. In this instance, the Electronic Data Processing System has pointed out the numbers of individual reports with "no assigned data" in the reports processed. As the EDP Program proceeds through the transitional stage, better controls will be expected and improved reporting procedure will ensure.

Table 5 indicates the status of bacteriologic studies on sputum of non-hospitalized tuberculosis patients.

Table 5. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Sputum Status
New Jersey, 1964-1968

Sputum Status	1964	1965	1966	1967	1968
Total	100.0	100.0	100.0	100.0	100.0
Studied within 6 months	75.5	76.7	81.1	80.5	52.3
Studied over 6 months	19.4	19.7	16.3	16.7	18.6
Not Studied	5.1	3.6	2.6	2.8	29.1

The inordinately high percentage of 29.1 percent of patients non-studied is not thought to indicate a reduction in control, but rather a failure of the EDP system to indicate sputum studies, either through lack of input data to the system or through revealing deficiencies that were previously present, but not adequately reported.

In Table 6, the drug status of non-hospitalized patients with active tuberculosis is compared for the years 1964 through 1968. The Data Processing

System again points out discrepancies where "status unknown" is high. The bulk of the problem is located in the Metropolitan District where a substantial portion is related to patients reported by the Newark City Health Department. A similar problem exists in the Southern State Health District involving the six southern counties where the problem centers in Camden and Atlantic City.

Table 6. Percentage of Non-Hospitalized Cases of Active Tuberculosis by Drug Status New Jersey, 1964-1968

Drug Status	*1964*	*1965*	*1966*	*1967*	*1968*
Total	100.0	100.0	100.0	100.0	100.0
Receiving Drugs	63.0	73.2	77.1	72.5	61.4
Not on Drugs	4.5	3.2	2.9	2.8	3.1
Status Unknown	32.5	23.6	20.0	24.6	35.5

The tuberculosis case register report for the quarter ending December 1968 indicates that there were 7,462 non-hospitalized cases of inactive tuberculosis. Of these, 1,015 or 13 percent were without medical examination in excess of three months; 2,126 of the non-hospitalized cases of inactive pulmonary tuberculosis had a sputum examination within six months; 2,597 were being maintained continually on medication and had received drugs within the quarter ending December 31, 1968; 3,236 of the patients were considered by physicians to have completed their drug therapy. A substantial number, 1,629, were recorded in an unknown drug status. Most of these patients were located in the Metropolitan State Health District of which two major counties, Bergen and Essex, were the main contributors.

Contact Register and Investigation

The development of tuberculosis contact investigation, which has proved to be the most effective method for discovering new cases of active tuberculosis, has moved forward with increasing momentum throughout the year 1968.

Table 7. Cases of Active Tuberculosis Available for Contact Interview, New Jersey, 1968

Quarter Ending	*Number New Cases of Active Tuberculosis Available for Interview*	*Number Interviewed*
Total	1,505	1,041
March	452	306
June	375	252
September	312	222
December	366	261

In the year 1968 (Table 8) contact information was obtained from 849 new patients with active or reactivated tuberculosis. Investigation elicited 4,440 contacts, resulting in a contact index of 5.2.

Table 8. Patients Giving Contact, Number of Contacts Given, Contact Index, New Jersey, 1968

Quarter Ending	*Number Active and Reactivated Patients Giving Contacts*	*Number Contacts Given*	*Contact Index*
Total	849	4,440	5.2
March	245	1,456	5.9
June	221	1,045	4.7
September	174	917	5.2
December	209	1,022	4.8

The examination of 10,722 contacts in 1968 uncovered 60 new cases of active tuberculosis, a case discovery rate of 5.6 new cases of active tuberculosis per 1,000 contacts examined. At the end of 1968, there remained 8,088 contacts in the contact register system and there were 4,888 contacts who were overdue for examination. There were 2,152 of these contacts who had not been observed in over 12 months.

Table 9. Results of Examination of Contacts by Quarters, 1968

Quarter	*Number Exams*	*New Tuberculosis Total*	*New Tuberculosis Active*	*Known TB*
Total	10,722	82	60	86
March	2,631	27	17	34
June	2,432	22	18	21
September	3,195	21	18	16
December	2,464	12	7	15

Table 10. Contacts Overdue for Examination by Duration of Delinquency, 1968

Quarter	*Total*	*Within 3*	*3-6*	*6-12*	*12+*
March	4,998	1,360	661	1,208	1,769
June	5,210	1,330	640	781	2,459
September	4,744	1,181	610	734	2,219
December	4,888	1,290	823	623	2,152

Drug Distribution

The State Health Department distributed 63,000 bottles of Isoniazid in 1968 to patients, 6,000 less than in 1967, 5,000 bottles of para aminosalicylic acid, 2,000 less than 1967, and small amounts of Streptomycin, Seronmycin and Treacator.

Child Health Conference Testing

Child health conferences are arranged to serve families who are unable to afford pediatric care. The presence of a reactive tuberculin test in a child attending a child health conference is indicative of exposure to tuberculosis and the presence of active tuberculosis in the family or close environment of the child. The data that are presented are highly selective and represent only a small sample of New Jersey's children, and therefore cannot be applied generally. A total of 8,968 children under 10 years of age was tuberculin tested in the child health conferences with 69 showing positive reactions and no new cases diagnosed in these reactors.

School Tuberculin Testing Program

The Public School Tuberculin Testing Program tested 524,024 persons in 1968 with 11,089 positive reactors and the discovery of 11 cases of active tuberculosis.

The Parochial School Testing Program tested 46,069 persons resulting in the discovery of 2 cases of active tuberculosis. See Tables 14, 15, 16, and 17.

Table 14. TUBERCULIN TESTING IN NEW JERSEY PUBLIC SCHOOLS—SCHOOL YEAR 1967-68

Number of Persons

	Number Enrolled	Number Tested	Reactors	Percent Reactors	Reactors Followed	Results—Tuberculosis				No Disease
						Active		Inactive		
						Primary	Reinfect	Primary	Reinfect	
Total Counties	669,913	524,024	11,089	2.11	10,260	11	....	106	2	10,141
Atlantic	15,704	12,403	148	1.3	148	....	....	....	1	147
Bergen	69,578	61,851	1,578	2.55	1,578	....	....	6	....	1,572
Burlington	35,822	31,961	506	1.58	455	1	....	4	....	450
Camden	50,587	32,318	731	2.28	711	....	....	4	....	707
Cape May	3,600	3,469	94	2.7	94	....	....	....	1	93
Cumberland	11,273	10,227	548	5.35	389	....	....	16	....	373
*Essex	45,752	33,935	1,022	3.00	876	3	....	4	....	869
Gloucester	15,968	15,593	284	1.8	278	....	....	....	....	278
Hudson	35,226	33,248	1,234	3.71	1,020	....	....	4	....	1,016
Hunterdon	6,788	6,449	69	1.06	44	....	....	1	....	43
Mercer	22,286	20,775	241	1.16	218	....	....	....	....	218
Middlesex	46,214	44,228	573	1.32	563	....	....	....	....	562
Monmouth	46,531	37,594	657	1.74	626	....	....	1	....	617
Morris	33,827	32,606	450	1.38	395	1	....	1	....	393
Ocean	15,585	14,952	315	2.10	294	1	....	....	....	293
Passaic	33,030	30,939	637	2.05	616	....	....	30	....	586
Salem	11,595	6,892	112	1.69	108	....	....	1	....	107
Somerset	18,643	17,210	132	.75	116	....	....	....	....	116
Sussex	7,572	7,023	115	1.63	101	....	....	1	....	100
Union	41,548	39,920	658	1.64	645	....	....	....	....	644
Warren	6,557	6,104	45	.74	45	....	....	....	....	45
City of Newark	90,232	24,327	940	3.9	940	5	....	23	....	912

* Essex exclusive of Newark

Table 15. NEW JERSEY STATE DEPARTMENT OF HEALTH

SUMMARY OF TUBERCULIN TESTING FOLLOW-UP

Breakdown by Grades 1967-1968

	Number of Persons									
						Results—Tuberculosis				
						Active		Inactive		
	Number Enrolled	Number Tested	Reactors	Percent Reactors	Reactors Followed	Primary	Reinfect	Primary	Reinfect	No Disease
Totals	659 913	524,024	11,089	2.11	10,260	11	....	106	2	10,141
Grade 1	118,349	113,532	1,320	1.16	1,277	2	....	17	....	1,258
Grade 5	98,740	96,391	1,386	1.43	1,273	2	....	8	....	1,263
Grade 9	103156	100,690	2,676	2.65	2,554	1	....	7	....	2 546
Grade 12	154,567	81,787	2,380	2.90	2,268	3	....	8	....	2,257
Post Graduates	1,825	1,557	89	5.71	80	....	....	....	....	80
Other Grades	10,353	4 943	99	2.00	99	....	....	....	....	99
Unclassified	75,278	36,547	1,032	2.90	991	1	....	8	....	932
Teachers and Employees	107,645	88,577	2,077	2.34	1,718	2	....	58	2	1,656
Others	10,353	4,943	99	2.00	99	....	....	....	....	99

Table 16. TUBERCULIN TESTING IN NEW JERSEY PAROCHIAL SCHOOLS—SCHOOL YEAR 1967-68

	Number of Persons									
						Results—Tuberculosis				
						Active		Inactive		
	Number Enrolled	Number Tested	Reactors	Percent Reactors	Reactors Followed	Primary	Reinfect	Primary	Reinfect	No Disease
Total Counties	54,260	46,069	826	2.	743	1	....	6	....	736
Atlantic	2,314	2.261	25	1.10	25	....	....	1	....	24
Bergen	1,371	1,223	22	2.	22	....	....	....	....	22
Burlington	385	363	17	5.	17	....	....	....	....	17
Camden	4,836	4,222	83	2.	78	....	....	....	....	78
Cape May	171	166	3	2.	3	....	....	....	....	3
Cumberland	250	244	3	1.22	3	....	....	....	....	3
Essex	15 609	12,736	238	2.	207	....	....	....	....	207
Gloucester	88	88	5	6.	5	....	....	1	....	4
Hudson	8,766	8,3 0	130	.15	123	....	....	4	....	119
Hunterdon	75	75	0	0	0	....	....	....	....	0
Mercer	3 129	2,413	42	2.	23	....	....	....	....	23
Middlesex	4 468	3,318	43	1.3	42	....	....	....	....	42
Monmouth	85	80	1	1.3	1	....	....	....	....	1
Morris	962	621	40	6.44	32	....	....	....	....	32
Ocean	0	0	0	0	0	....	....	....	....	0
Passaic	7,893	7,556	131	2.	120	1	....	....	....	119
Salem	228	223	1	.44	1	....	....	....	....	1
Somerset	2.144	765	2	.38	2	....	....	....	....	2
Sussex	553	521	28	5.4	27	....	....	....	....	27
Union	900	854	12	1.	12	....	....	....	....	12
Warren	0	0	0	0	0	....	....	....	....	0

Table 17. NEW JERSEY STATE DEPARTMENT OF HEALTH
SUMMARY OF TUBERCULIN TESTING FOLLOW-UP
Breakdown by Grades 1967-1968

	Number of Persons					Results—Tuberculosis				
						Active		Inactive		
	Number Enrolled	Number Tested	Reactors	Percent Reactors	Reactors Followed	Primary	Reinfect	Primary	Reinfect	No Disease
Totals	54,260	46,069	826	2.	743	1	....	6	....	736
Grade 1	14,930	14,035	94	1.	78	....	....	....	....	78
Grade 5	14,490	13,834	166	1.2	143	....	....	1	....	142
Grade 9	7,248	6,742	92	1.4	76	....	....	....	....	78
Grade 12	5,053	4,766	93	2.	93	....	....	....	....	93
Post Graduates	501	491	5	1.01	0	....	....	....	....	0
Other Grades	0,632	2,140	67	3.13	53	....	....	....	....	53
Unclassified	979	602	30	4.33	27	....	....	....	....	27
Teachers and Employees	4,427	3,309	279	8.3	266	1	....	5	....	260

Clinic Services

There are almost 50 clinics providing tuberculosis diagnostic and treatment services in the 21 counties of New Jersey. During 1968, 31,955 persons were registered in these clinics for the first time. These persons made a total of 97,615 visits to the clinics during the year with 15,051 sputum examinations and 23,656 tuberculin tests were performed resulting in 592 positive sputum specimens and over 3,900 positive tuberculin reactors.

In association with the clinic activity, public health nursing services were provided to 2,598 persons with tuberculosis and to 5,145 contacts and persons suspected of tuberculosis.

The New Jersey State Laboratory processed 20,276 tuberculosis sputum specimens in 1968 in the provision of services to physicians, clinics and hospitals throughout the state.

The Passaic County Tuberculosis Sub-Project has placed additional emphasis upon the City of Paterson's tuberculosis program. The project is supplying additional professional service to the city in order to establish a more effective tuberculosis control program. Paterson, with a case rate of 61.4, ranked third in the nation for a city of 100,000 to 250,000 population. The program in Paterson is being augmented with physician services, nursing services, and field representatives. Dr. Donald Sickler of the State Health Department has been appointed as Dirctor of the Paterson Board of Health's tuberculosis clinic.

The project has again conducted a preventive chemoprophylaxis program for six selected schools in Paterson. Approximately 100 school children who are tuberculin reactors with negative chest X-rays are completing a course of chemoprophylaxis in school. In the Wayne and Passaic clinics, vigorous attempts are being made to offer chemoprophylaxis to tuberculin reactors and old cases of tuberculosis.

The Newark Sub-Project's extensive efforts to follow contacts of new active cases, delinquent cases and positive bacteriologic patients has caused the clinic attendance to rise markedly. A new tuberculosis control officer has also been appointed.

The Hudson County Sub-Project proposes to provide more tuberculosis services to those in need of them with one clinic initiated in the City of Hoboken and furnishing services one night a week to approximately 15 persons attending each clinic session. The Union City Clinic expanded its operations

to include two clinics per week and efforts are under way to establish an evening clinic in Jersey City.

In the Union County Sub-Project, the remodeling of the new clinic site in Elizabeth was completed. The field representatives and nurses maintain continuing surveillance over patients and contacts in cooperation with the local health departments. Much effort was expended in filling project and county paid positions.

The Trenton and Southern District Sub-Projects were added during the last six months with a number of field representatives, nurses, and clerks hired and recruiting to fill the vacancies. The field representatives and nurses are extending efforts upon delinquent cases of tuberculosis, contacts, the Data Processing System and tuberculin testing programs.

Public Health Nursing

The Public Health Nurse Consultants functioned extensively in consultation activities to promote and improve all aspects of the tuberculosis nursing service.

The highlight and emphasis in in-service education programs for nurses has been placed on casefinding through tuberculin testing and careful surveillance of contacts of tuberculin positive individuals in casefinding and control of tuberculosis. Greater effort was placed on selective use of tuberculin testing as an instrument in identifying high risk neighborhoods and surveillance of known contacts of reported cases. Educational programs were provided to public health nurses in North Hudson, Passaic County, Salem County, Gloucester County, Cumberland County, Burlington County, the Visiting Nurse and Health Services of Elizabeth, and the Newark Health Department.

Public Health Nurse Consultants assisted program personnel in initiating and facilitating the conversion of the case registers of the Northern District and the Southern District to the electronic data processing system. Visits were made to case registers, and nursing agencies to improve the tuberculosis nursing service and in some instances, new nursing services were initiated for tuberculosis patients and their families.

Consultation and direct assistance were provided to Roosevelt Hospital Out-patient Department, Union County Tuberculosis Clinic, Cape May public health nurses and Gloucester County public health nurses in developing nebulization procedures.

Public Health Nurse Consultant's services in the tuberculosis program for 1968 provided a total of 150 visits to official and voluntary nursing agencies, tuberculosis clinics, hospitals and schools.

In-service nursing education and consultation were provided to hospitals such as Passaic General Hospital, St. Francis, Burlington and Chestnut Hill Nursing Home concerning the infectiousness of tuberculosis and treatment of tuberculosis patients in general hospitals.

The attitudes toward contagion and the practices used in accommodating tuberculosis patients in general hospitals have not kept pace with the advent of newer practices. In the general hospitals, there continue to be inordinate fears of tuberculosis as a highly communicable disease and patients are subjected to excessive precautions.

The chemoprophylaxis program in which drugs are administered to recent converters, regardless of age, and high risk contacts of cases even before actual infection is evident poses problems to nurses such as how to "keep people who aren't sick taking pills every day" and how to bridge the gaps between these new practices and the private physician and local health departments. Public Health Nurse Consultants assisted voluntary agencies such as the Passaic Tuberculosis and Health Association, and the Tuberculosis Respiratory Disease Association of Central New Jersey in planning and participating in programs for school nurses in Passaic, Monmouth County, and Atlantic County.

Vaccination Assistance Program

The emphasis in the Vaccination Program in 1968 was on the attempt to eradicate measles, for practical purposes, as a significant source of morbidity and mortality in New Jersey. To this end, an attempt was made to investigate all cases of measles reported to the department since January 1, 1968. Reported cases were investigated by Vaccination Assistance Project field staff under the supervision of Epidemic Intelligence Service medical officers.

The following data summarize this surveillance activity for the year 1968:

Table 1. Reported Measles Morbidity—1968

Month	*Number of Cases Reported to New Jersey State Health Department*	*Number of Cases Investigated*	*Number of Cases Found Not to be Measles*	*Percent of Cases Investigated Found Not to be Measles*	*Number of Cases Reported to National Communicable Disease Center*
January	51	48	18	37.5	33
February	86	83	30	36.1	56
March	149	139	52	37.4	97
April	176	140	56	39.3	120
May	175	117	43	36.8	132
June	96	88	10	11.3	86
July	58	54	3	5.6	55
August	33	32	3	9.3	30
September	10	10	3	30.0	7
October	57	57	4	8.5	53
November	38	38	6	15.7	32
December	50	50	4	8.0	46
Total	979	856	232	27.6	747

Measles cases are recorded weekly by municipality, thereby enabling division personnel to stimulate prompt programming where needed. Using this method of approach throughout the year, immunization programs aborted outbreaks in Hazlet (Monmouth County), Vernon Township (Sussex County), Elizabeth (Union County), and Hackensack (Bergen County).

In February, because of the continued occurrence of measles in the City of Newark, an analysis was made of the amount of New Jersey State Department of Health vaccine distributed within the city over the past three years. In a total population of 80,000 children in the City of Newark in the one to 10 year old group, it was estimated that 20,000 of these children were susceptible to measles. To meet this need, a three phase program was established with officials of the Newark Board of Health and Board of Education in cooperation with numerous local agencies.

In the first phase, a mass measles immunization program was conducted on Sunday, March 3, 1968 at 16 sites within the City of Newark. Each clinic was manned by volunteer physicians and nurses in addition to State Health Department district office personnel and department field personnel.

This was a community based program which involved the following community agencies: (1) Newark Board of Health, (2) Newark Board of Education, (3) Essex County Medical Society, (4) United Community Corporation, (5) Urban League of Essex County, (6) Housing Authority of Newark, (7) Newark Division of Welfare, (8) Welfare Mothers Club, (9) Focus on Newark Committee, (10) Field Neighborhood House, (11) Essex County Welfare Board, (12) Essex County PTA, (13) Newark Preschool Council, Inc., (14) Community Nursing Service of Essex and West Hudson, (15) Newark Ministerial Association, (16) newspapers: *Newark Star Ledger* and *Newark Evening News*. There were 6,807 susceptible children immunized against measles during the six-hour mass program. Of this total, 3,746 were kindergarten age and below. The balance or 3,061 were in the age range seven years through 10 years.

Phase II of the Newark Measles Program was conducted in October and November. The objective was to make the clinics available and accessible to the parents of the preschool population involved. Clinics were held in all eight of the neighborhood health area boards from 3 P.M. to 7 P.M. Two repeat clinics were requested by the local boards and were conducted. A total of 811 preschool children was immunized against measles.

The third phase of the Newark program, which began in December, was aimed at screening over 29,000 children in grades kindergarten through three in 62 elementary schools for susceptibility to measles. Susceptible children discovered in the survey were immunized in the schools by the school physician and nurse with the assistance of program personnel. By the end of 1968, 3,500 children had been immunized.

To summarize, in Newark in 1968, 138 cases of measles were reported. Of these, 46 cases occurred within the "Model Cities" area of the city. The three phase immunization program resulted in 11,118 children being immunized against measles.

On July 26, 1967, the Governor signed a bill (Chapter 178. Public Law 1967, N.J.S.A. 18:14–64.10) which enables the board of education of any New Jersey school district to require that all pupils be immunized against poliomyelitis or measles (or a history of natural disease) or both, as a prerequisite to attendance at school.

At the beginning of this project year, under the direction of the Program Epidemic Intelligence Service medical officers, a questionnaire was sent to all superintendents of schools asking them whether measles immunization was a prerequisite for school entrance. There are approximately 590 school districts in New Jersey. Of the 333 school systems which responded, 123 indicated that measles vaccine or a prior history of illness was a prerequisite for entrance into school. A total of 184 other districts indicated that measles vaccine was not a prerequisite for entrance into school, and 26 districts indicated that measles vaccination is encouraged. In the ensuing months, field intelligence indicated that many more school systems are taking positive action along these lines.

In Jersey City, a local ice cream company cooperated with the local board of health by redeeming coupons good for a free ice cream cone to every child immunized in the Jersey City Division of Health immunization clinics from June 10 to September 9. Ten thousand one hundred and forty-seven immunizations were administered as follows:

DPT initial shots	2,460
DPT and pediatric DT boosters	2,178
Polio-Trivalent, Initial Shots	2,627
Polio-Trivalent, Booster Shots	1,242
Measles	1,107
Smallpox	533
	10,147

On June 5, 1968, 516 children were given Schwarz strain measles vaccine by jet injector gun in a measles immunization program held in eight parochial and public schools in Orange, New Jersey. On June 25,. 1968, the parents of 256 children participating in the program were contacted by telephone regarding symptoms possibly associated with the measles immunization. The most frequent symptoms, occurring in 12.1 percent of the children, was mild local tenderness lasting less than a day at the vaccination site on the arm. Mild fever, rash and upper respiratory symptoms were noted in less than eight percent of the children. Only 1.2 percent had symptoms of sufficient severity to warrant telephoning the private physician and only one of the children immunized (less than 0.5 percent of the sample) was actually seen by a physician and that child had a slight fever and rash lasting less than 48 hours.

This experience is in agreement with reports in the medical literature as to the minimal reactions to be expected from immunization with the further attenuated measles vaccine.

During 1968, 80 special community measles programs were conducted by program staff in cooperation with local health and education personnel. This information is summarized in Table 2. The accompanying Table 3. reflects the impact of the measles program effort as reflected in reported morbidity since licensing of the vaccine in 1963 and demonstrates the effectiveness of the intensive surveillance systm instituted at the beginning of the current year.

There were nine poliomyelitis programs (Table 4.) conducted during the year resulting in the immunization of 7,090 children. During the year, 252,930 doses of DPT (Diphtheria-Pertussis-Tetanus) vaccine were distributed through the biologics distributing stations to child health stations, local health departments and private practitioners of medicine.

Table 2. Special Community Measles Campaigns
January 1, 1968 to December 31, 1968

County	*Number of Programs*	*Total Number of Children Immunized*	*Sub-Total Preschool Children Immunized*
Atlantic	1	158	58
Bergen	5	1,282	193
Burlington	3	364	...
Camden	8	665	106
Cape May	3	656	82
Cumberland	4	1,316	324
Essex	5	8,618	4,237
Gloucester	2	676	216
Hudson	1	207	57
Hunterdon	3	409	120
Mercer	2	202	17
Middlesex	8	1,575	276
Monmouth	5	2,086	679
Morris	3	281	114
Ocean	5	1,123	76
Passaic	4	1,588	472
Salem	1	133	4
Somerset	4	319	50
Sussex	8	1,368	182
Union	2	899	195
Warren	3	329	65
Total	80	24,254	7,523

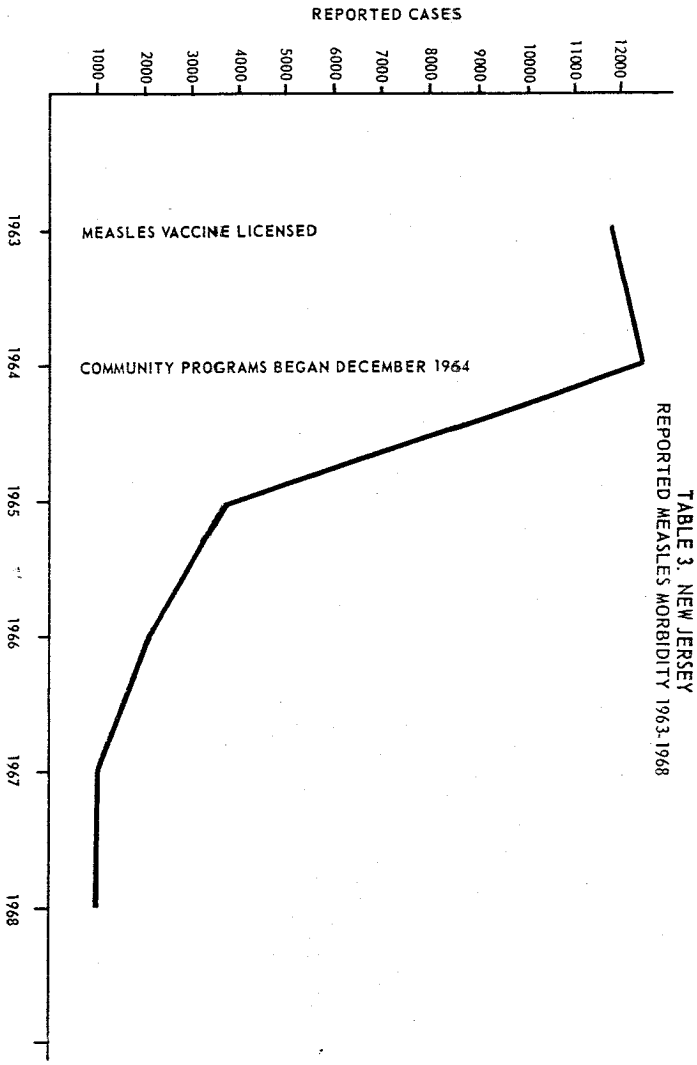


TABLE 3. NEW JERSEY REPORTED MEASLES MORBIDITY 1963-1968

Table 4. Poliomyelitis Immunization Programs
January 1st Through December 31st, 1968

Municipality	*County*	*Date*	*Number Immunized*
Plainfield	Union	June 23	549
Jersey City	Hudson	June 10 to Sept. 9	3,869
Paterson	Passaic	Aug. 1 to Oct. 17	1,604
Cliffside Park	Bergen	June 8	158
Franklin Twp.	Somerset	May 4 and May 5	17
Warren Twp.	Somerset	Sept. 22	95
Headstart Programs	Cumberland Gloucester Salem	June - Aug.	388
Manville	Somerset	Oct. 20	342
Cliffside Park	Bergen	Oct. 26	68
		Total	7,090

An additional 338,610 doses of poliomyelitis vaccine was distributed to Child Health Stations, Local Health Departments and private practitioners of medicine during Calendar 1968.

Venereal Disease Control Program

I. *Introduction*

The Venereal Disease Control Program has made dramatic progress toward the goal of practical syphilis eradication in New Jersey. Although there is no effective vaccine against this disease, the treatment of syphilis in the infectious state almost immediately renders the disease noninfectious. The program is based on the philosophy that the earlier infectious cases of syphilis are detected and treated, the greater will be the likelihood that treatment will prevent the spread of the disease to others.

Unfortunately, although the incidence of syphilis is declining in New Jersey, the incidence of gonorrhea is rising to epidemic proportions. Both new techniques and much greater use of present methods will be needed to reverse this trend in gonorrhea incidence.

II. *Morbidity Trends*

A. *Syphilis*

The trend of reported cases of primary and secondary syphilis, the infectious stages of the disease, has changed direction during the past decade. Primary and secondary syphilis increased from 114 cases in 1957 to a peak of 1,191 cases in 1962. Following this high, the reported incidence of syphilis declined to 457 cases reported in 1968; a decline of 61.62 percent. The 457 cases of primary and secondary syphilis reported in 1968 constitutes the lowest number of reported cases since 1959 and represents a decline of 23.83 percent from the 600 cases reported in 1967. Of the 457 reported cases, 48.79 percent were among persons less than 25 years old.

For 1968, early latent syphilis continued to decline with 291 reported cases. This represents a decline of 68.71 percent from the high of 930 cases reported in 1964 and a decline of 28.68 percent from the 408 cases reported in 1967.

Congenital syphilis of less than one year's duration, a sensitive index of incidence, declined in 1968 with eight cases reported. This represents a decline of 38.46 percent from the 13 cases reported in 1967.

The total reported cases of syphilis continued the general decline begun in 1962. There were 2,935 reported cases representing a decline of 23.35 percent from the 3,829 cases reported in 1967. This is the lowest reported morbidity since 1946.

B. *Gonorrhea*

Except for 1964, reported cases of gonorrhea have steadily increased since 1962. For the past two years, reported gonorrhea morbidity has shown an annual increase in incidence of more than 20 percent. The 8,098 cases reported in 1968 represent an increase of 23.78 percent over the 6,173 cases reported in 1967. Of the 1968 reported cases, 57.73 percent occurred in persons less than 25 years old.

The number of reported cases of gonorrhea among males is more than five times the number of reported female cases. However, it is believed that the difference in frequency of reported cases between the sexes is due primarily to the difficulty of diagnosing gonorrhea in females and the lack of a concentrated control program.

It is well known that gonorrhea is markedly under-reported in New Jersey as well as elsewhere. Most of this lack of reporting represents cases seen by private physicians. It is estimated that there are 10 cases of gonorrhea for every one that is reported.

III. *Program Activities*

Venereal disease cases come to medical attention in three basic ways: 1) People who volunteer for diagnosis of their own volition because of signs and/or symptoms of disease, or because of knowedge or fear of exposure; 2) cases found by screening devices which are independent of patient motivation; or 3) cases found through application of epidemiology to known, early cases.

A. *Epidemiology of Early Syphilis*

Epidemiology (intensive case finding), when applied to syphilis cases, becomes meaningful and practical if its application finds and brings to examination existing infections and incubating disease earlier, thus limiting the possibility of spread within the community.

1. *Infectious Syphilis*

The following are indices of the quantity and quality of the epidemiology performed:

a. Interviewing: Of the 466 (Civilian and Military) cases of infectious syphilis reported, 460 (98.71 percent) were interviewed.

b. Reinterviewing: Of the cases interviewed, 420 (90.13 percent) were reinterviewed one or more times.

c. Investigation: Follow-up of the 1,588 suspects obtained yielded 91 cases of primary and secondary syphilis, 70 cases of early latent syphilis, and two cases of syphilis in other stages.

2. *Early Latent Syphilis*

Early latent syphilis, for epidemiologic purposes, is divided into two categories; early latent of less than one year's duration and early latent of one to four year's duration.

Because the yield from applied epidemiology to early latent cases of one to four years duration is low in terms of case detection or prevention, the application of epidemiology varies and is dependent upon the availability of personnel and on an evaluation of the potential yield from the individual case.

Epidemiology performed on early latent cases of less than one year's duration is similar to that applied to infectious syphilis cases and is summarized as follows:

a. Interviewing: Of the 302 (civilian and military) early latent cases reported, 215 were determined to be of less than one year's duration. Of these cases, 209 (97.02 percent) were interviewed.

b. Reinterviewed: Of the cases interviewed, 192 (91.86 percent) were reinterviewed one or more times.

c. Investigation: Follow-up of the 716 suspects obtained yielded 17 cases of primary and secondary syphilis, and 26 cases of early latent syphilis.

3. *Epidemiologic (Preventive) Treatment*

When possible, contacts to infectious syphilis who are clinically and serologically negative upon initial examination, but who may be incubating syphilis, are given preventive treatment. During 1968, there were 418 contacts to infectious syphilis who were negative upon initial examination. Of these contacts, 271 (64.83 percent) received preventive treatment. It is estimated that this control technique prevented 27 cases of syphilis from developing.

B. *Reactor Program*

1. *Laboratory Visitation*

The purpose of laboratory visits is to gather base line and trend data on the number of specimens tested, the number found reactive, the test being performed, the availability of darkfield microscopic services, and other related information needed to evaluate the level of screening for syphilis in New Jersey. Laboratories throughout the state are visited during the year to accomplish these objectives.

2. *Reactor Follow-up*

The purpose of this program activity is to ensure that persons known to have a reactive test for syphilis and in high priority groups for follow-up are followed to obtain a final disposition.

During 1968, a total of 14,189 reactive specimens were reported to the Venereal Disease Control Program. Field follow-up of these reactors was responsible for bringing to treatment 106 cases of primary and secondary syphilis, 114 cases of early latent syphilis, and 229 cases of syphilis in other stages.

C. *Physician Visitation*

The purpose of this activity is to build understanding of and positive attitudes toward venereal disease control, to provide report forms and the latest information on venereal disease trends, diagnostic tools and treatment schedules, and to establish for the physician a liaison with venereal disease control personnel, local and state health departments, and other health agencies.

Each visit emphasized the need for an increased index of suspicion for venereal disease, prompt reporting of all diagnosed cases, participation in the epidemiologic process, and the administering of preventive treatment to clinically and serologically negative contacts.

During 1968, field personnel visited 512 physicians. These visits were made to physicians newly establishing practice in New Jersey, in response to requests from other physicians to follow reactor reports, and to confirm reported diagnoses.

In 1968, physicians participated in the control effort by diagnosing and reporting 192 cases of primary and secondary syphilis (42.01 percent of the reported cases), 107 cases of early latent syphilis (36.77 percent of the reported cases) and 2,277 cases of gonorrhea (28.12 percent of the reported cases). Physicians also requested 171 darkfield examinations on their patients of which 58 (33.92 percent) were positive for Treponema pallidum. Even with this show of participation, the 1968 National Survey of Venereal Disease, conducted by the American Social Health Association, indicated that physicians in New Jersey are reporting only a 10.8 percent of their diagnosed infectious syphilis cases and 8.7 percent of their diagnosed gonorrhea cases.

D. *Venereal Disease Education*

During the first eight months of 1968, the program was without the services of an information-education specialist, but all requests for venereal disease education programs were honored. The staff participated in 61 venereal disease information-education programs with an audience of 7,263 people. These programs were presented to students, teachers, parents, and professional groups.

In cooperation with the Department of Health, the Department of Education revised the publication, "Venereal Disease—A Teaching Reference Guide" in order to bring the latest venereal disease information to the teachers of New Jersey.

Mass media coverage of venereal disease problems within the state was excellent. Many requests for additional information were generated by articles appearing in local newspapers. This interest caused the program to distribute 15,011 pieces of literature to professional and lay groups.

Activity was increased in the area of professional education with 21 professional groups requesting lectures. Attending these lectures were 3,745 physicians and nurses. The New Jersey College of Medicine held its first annual seminar on venereal disease during 1968, a further effort to improve the training of physicians in the area of venereal disease control.

IV. *Summary*

For 1968, reported cases of primary and secondary syphilis continued the declining trend begun in 1963, with 457 reported cases. This represents a decline of 61.62 percent from the high of 1,191 cases reported in 1962 and a decline of 23.83 percent from the 600 cases reported in 1967.

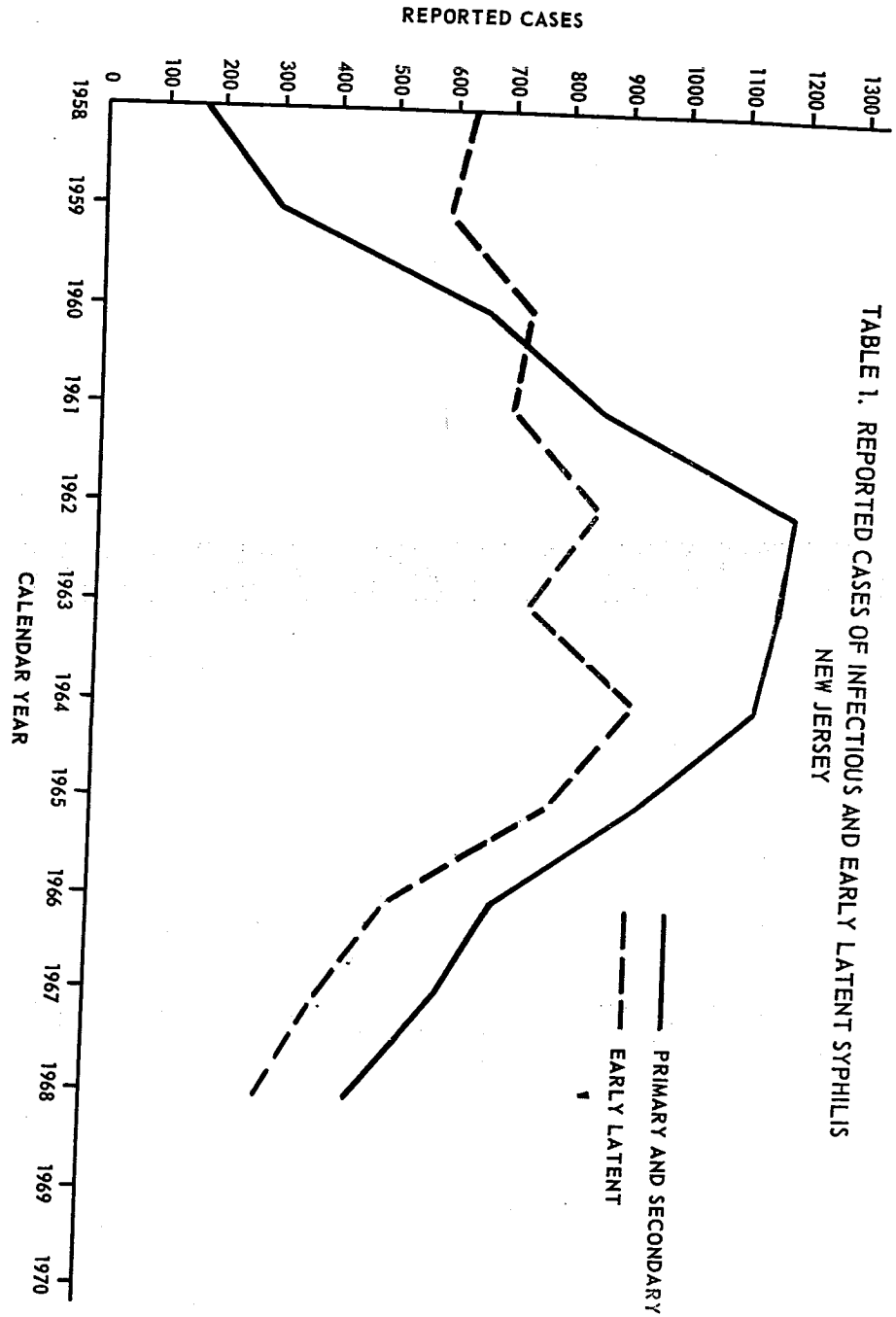
During 1968, reported cases of early latent syphilis declined 28.68 percent from the 408 cases reported in 1967; a decline of 68.71 percent from the high of 930 cases reported in 1964.

An accurate evaluation of program effectiveness is the desirable ratio of more reported infectious cases than early latent cases in any given report period. This relationship has existed in New Jersey since 1961.

Reported cases of gonorrhea continue to increase at a rate greater than the population of New Jersey is growing. The 8,098 cases reported in 1968 represents an increase of 23.78 percent over the 6,173 cases reported in 1967.

During 1968, interviewing and investigating activities were responsible for bringing to treatment 214 cases of primary and secondary syphilis and 210 cases of early latent syphilis.

TABLE 1. REPORTED CASES OF INFECTIOUS AND EARLY LATENT SYPHILIS NEW JERSEY



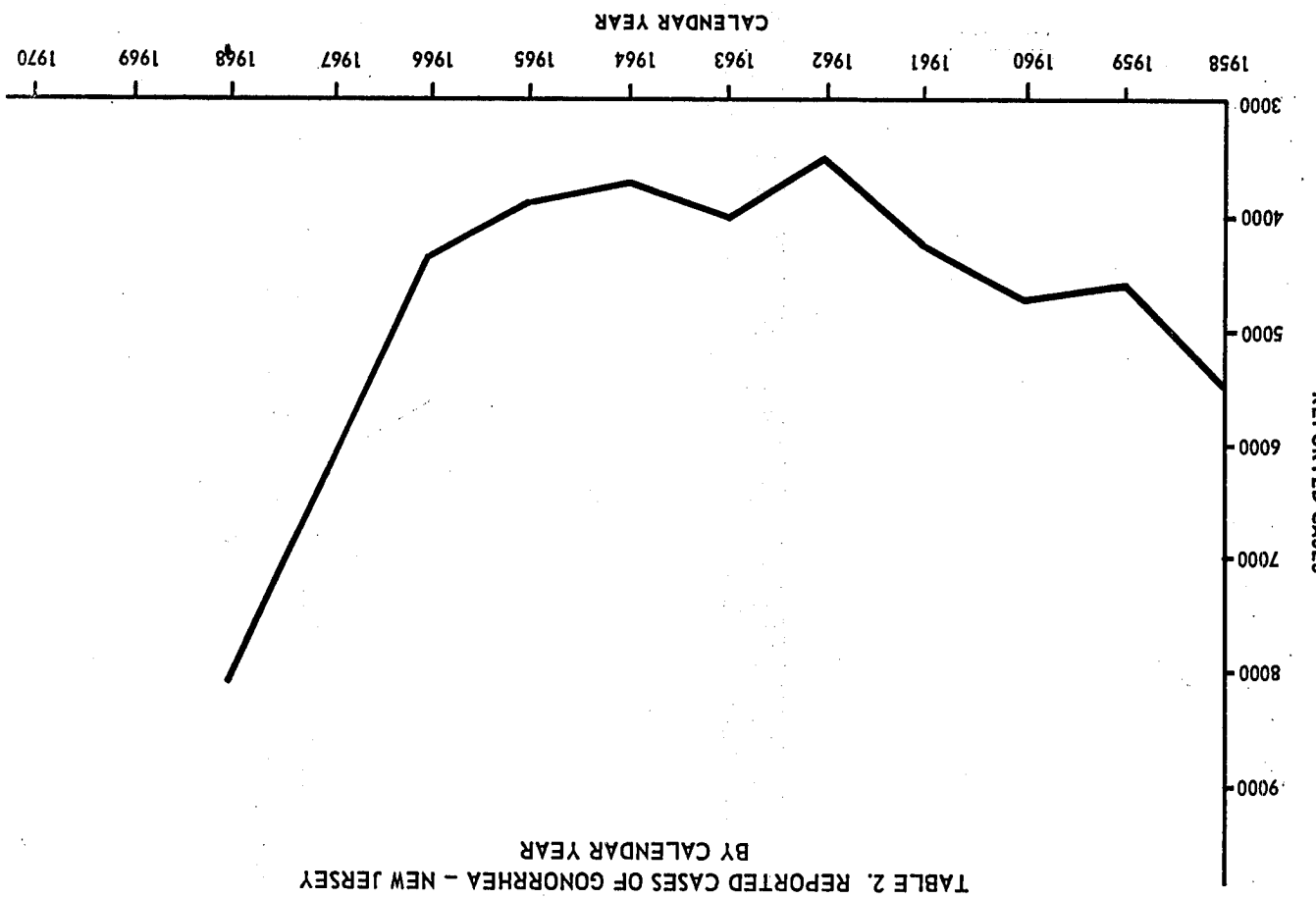


TABLE 2. REPORTED CASES OF GONORRHEA – NEW JERSEY
BY CALENDAR YEAR

Table 3. Civilian Cases of Syphilis by Stage and Gonorrhea
Numbers and Rates per 100,000 Population
New Jersey: 1949-1968

Year	Population Estimate	Syphilis						Gonorrhea	
		Total Cases		Primary & Secondary		Early Latent			
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
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	8.05	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	1,095	20.0	4,150	75.7
1956 ..	5,605,000	4,263	76.1	92	1.6	578	10.3	3,828	68.3
1957 ..	5,728,000	5,429	94.8	114	2.0	462	8.1	4,789	83.6
1958 ..	5,851,000	6,055	103.5	170	2.9	638	10.9	5,493	93.9
1959 ..	5,974,000	4,863	81.4	302	5.1	609	10.2	4,646	77.8
1960 ..	6,098,000	5,265	86.3	665	10.9	752	12.3	4,778	78.4
1961 ..	6,221,000	5,170	83.1	864	13.9	721	11.6	4,302	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	17.3	930	14.1	3,744	56.8
1965 ..	6,713,000	4,927	73.4	944	14.1	798	11.9	3,938	58.7
1966 ..	6,951,336	3,731	53.7	704	10.1	522	7.5	4,327	62.2
1967 ..	7,078,400	3,829	54.1	600	8.5	408	5.8	6,173	87.2
1968 ..	7,203,510	2,935	40.7	457	6.3	291	4.0	8,098	112.4

Note: Data for 1949 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. Included in 1966 through 1968 figures

Table 4. Venereal Disease Cases (Including Military) by Age Groups
New Jersey: 1968

Age Group	Total	Syphilis	Gonorrhea	Other Venereal Diseases
All Ages	11,761	2,950	8,802	9
Under 1	21	9	12	
1-4	9	1	8	
5-9	18	2	16	
10-14	106	11	95	
15-19	1,774	156	1,617	1
20-24	3,895	378	3,513	4
25-44	4,370	1,107	3,260	3
45-64	1,042	902	140	
65+	318	312	6	
Unstated	208	72	135	1

Table 5. Syphilis Cases (Including Military) by Age Groups
New Jersey: 1968

Age Group	Total All Stages	Primary & Secondary	Early Latent	Late Latent	Late	Congenital
All Ages	2,950	468	293	1,987	97	105
Under 1	9				1	8
1-4	1	1				
5-9	2					2
10-14	11	7	2	1		1
15-19	156	73	40	33		10
20-24	378	148	82	130		18
25-44	1,107	217	148	692	10	40
45-64	902	21	20	796	41	24
65+	312	1		268	41	2
Unstated	72		1	67	4	

Table 6. Syphilis and Gonorrhea Cases by Counties and Major Cities
Numbers and Rates per 100,000 Estimated Population
New Jersey, 1968

Area	Syphilis: All Stages Number	Syphilis: All Stages Rate	Syphilis: Primary and Secondary Number	Syphilis: Primary and Secondary Rate	Syphilis: Early Latent Number	Syphilis: Early Latent Rate	Gonorrhea Number	Gonorrhea Rate
State Total	2,950	41.0	468	6.5	293	4.1	8,802	122.2
Atlantic County	140	75.3	21	11.3	19	10.2	286	153.7
Atlantic City	100	158.8	20	31.8	14	22.2	252	400.3
Bergen County	157	17.2	24	2.6	16	1.8	69	7.6
Burlington County	38	11.5	3	0.9	...	...	52	15.8
New Hanover Twp.	...	...	...	...	...	...	...	...
Camden County	149	31.6	20	4.2	21	4.5	145	30.8
Camden City	97	82.7	19	16.2	17	14.5	115	98.1
Cherry Hill Twp.	2	3.4	...	...	...	...	5	8.4
Cape May County	14	25.5	...	...	1	1.8	7	12.8
Cumberland County	91	71.2	8	6.3	10	7.8	13	10.2
Essex County	936	96.8	197	20.4	88	9.1	5,145	532.3
Bloomfield	11	20.1	2	3.7	...	...	5	9.1
East Orange	96	122.6	19	24.3	6	7.7	238	304.0
Irvington	18	28.1	3	4.7	1	1.6	18	28.1
Newark	728	182.2	165	41.3	78	19.5	4,642	1,162.0
Gloucester County	40	23.9	3	1.8	4	2.4	18	10.8
Hudson County	332	54.7	43	7.1	46	7.6	222	36.6
Bayonne	22	29.7	1	1.4	5	6.8	7	9.5
Hoboken	23	50.2	2	4.4	6	13.1	20	43.6
Jersey City	216	80.0	34	12.6	29	10.7	169	62.6
Union City	41	78.0	4	7.6	5	9.5	13	24.7
Hunterdon County	11	16.5	...	...	1	1.5	8	12.0
Mercer County	152	49.1	17	5.5	12	3.9	676	218.4
Hamilton Twp.	2	2.4	...	...	...	...	5	6.1
Trenton	136	124.1	17	15.5	11	10.0	646	589.4
Middlesex County	125	21.6	3	0.5	14	2.4	277	47.9
Edison Twp.	7	10.3	...	...	...	...	21	30.9
Woodbridge Twp.	15	15.3	...	...	1	1.0	12	12.3
Monmouth County	123	27.3	19	4.2	11	2.4	82	18.2
Middletown Twp.	4	7.9	...	...	...	...	...	...
Morris County	68	18.8	9	2.5	7	1.9	69	19.1
Parsippany-Troy Hills	10	19.4	...	...	...	...	14	27.1
Ocean County	58	34.8	13	7.8	4	2.4	46	27.6

Table 6. Syphilis and Gonorrhea Cases by Counties and Major Cities
Numbers and Rates per 100,000 Estimated Population
New Jersey, 1968—Continued

Area	Syphilis						Gonorrhea	
	All Stages		Primary and Secondary		Early Latent			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Passaic County	194	41.8	49	10.6	18	3.9	259	55.8
Clifton	9	10.4	1	1.2	1	1.2	4	4.6
Passaic City	33	57.1	5	8.7	1	1.7	26	45.0
Paterson	139	92.9	37	24.7	16	10.7	222	148.4
Salem County	34	50.8	3	4.5	1	1.5	24	35.8
Somerset County ...	23	11.6	...	...	...	...	14	7.0
Sussex County	20	29.4	1	1.5	1	1.5	26	38.2
Union County	152	26.4	13	2.3	7	1.2	591	102.7
Elizabeth	63	53.1	10	8.4	5	4.2	376	316.8
Plainfield	25	49.9	...	...	2	4.0	129	257.3
Union Twp.	2	3.5	...	...	...	...	13	22.7
Warren County	11	14.8	2	2.7	1	1.3	13	17.5
State Institutions ...	52	...	5	...	4	...	34	...
Military Posts	15	...	11	...	2	...	704	...
Job Corps	15	...	4	...	5	...	22	...

Note: Rates not computed for State Institutions, Military Posts and Job Corps Center due to lack of population base.

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SUBJECT INDEX