

Forty-Sixth Annual Report

OF THE

Department of Health

OF THE

STATE OF NEW JERSEY

1923



TRENTON, N. J.

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Department of Health of the State of New Jersey.

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The offices of the Department are in the State House,
Trenton, N. J.

TRENTON, N. J., June 30, 1923.

To His Excellency George S. Silzer, Governor of New Jersey:

SIR: I am transmitting herewith the Forty-sixth Annual Report of the Department of Health of the State of New Jersey for the year ending June 30, 1923, in accordance with Chapter 288 of the Laws of 1915.

Very respectfully,

J. C. PRICE,
Director.

Report of the Director.

There must be public sentiment back of health laws in order to enforce them without which our authorities cannot hope to secure protection for the many even though they may be burdensome to the few. The health laws of New Jersey are based on common sense and administered with justice. They seek to promote the spread of sanitation and hygiene throughout the State. In order that the public may reap the advantages there must be education and publicity along the lines of health promotion and disease prevention.

There has been little change in the working force of the Department, though some important investigations had to be postponed for lack of appropriations, but an effort has been made to disseminate knowledge for the public we are trying to serve.

A lack of physicians in the smaller towns and rural districts in this State presents a problem that is difficult to solve. In many of these smaller municipalities only old physicians are found. Some of them have retired, others have gone to larger towns in search of rest and comfort in their declining years. The younger graduates shun these communities seeking locations where there is a general hospital of adequate size where all maternity cases can be cared for, tuberculosis treated, and with the advantages of

laboratory and nurses. This is a condition which must be met at no distant day by the State, or counties, or jointly, and is worthy of our earnest consideration.

During the past year two epidemics of typhoid fever of singular origin have occurred in this State, one of which was at Franklin, Sussex County, and the other at Rockaway, Morris County. The epidemics were the result of a pollution of the town's water supply caused by untreated waters of an industrial plant gaining access to the water mains of the town supply through a cross-connection, a check valve having become defective, and this was not discovered until epidemiologists of the State Department of Health were investigating conditions. Franklin has a population of 4,000 inhabitants. Of this number there were 114 cases and eighteen deaths. Forty-one cases occurred at Rockaway with four deaths. The practice of cross-connections between town water supplies used for potable purposes and that used by industrial plants for fire and other essentials cannot be too strongly condemned.

Smallpox is an entirely preventable disease. Vaccination is the infallible preventative. So long as local authorities are given discretionary powers of enforcement, just so long will we be cursed with the disease. Many of our outbreaks are due to roving negroes from the south coming north during the period of incubation to inoculate the neighborhood of unvaccinated citizens with whom they come in contact. A compulsory law is our only salvation.

One of the big problems that confronts the State to-day is the care and proper disposal of sewage. This should be removed as quickly as possible as it becomes a menace to the health of the public if allowed to remain. The other is a safeguarding of our water supplies. While polluted water has often been used by individuals with impunity, the question of its importance in relation to health and disease is now recognized and makes safeguarding a necessity.

There are many acres of riparian lands on our east coast devoted to the production of shellfish, and these must be protected from sewage contamination, which requires the constant vigil of our engineering department. The oyster industry alone is worth

four millions of dollars to our citizens. There are in New Jersey more than 3,500 square miles of water sheds, and they are to be kept free from pollution for the protection of the people. There are 338 sewage treatment plants superintended by licensed men and are supposed to turn out a non-putrescible effluent.

Through the persistent efforts of the Bureau of Food and Drugs much has been accomplished in giving the citizens of this State a safe and reliable food supply and one fit for human consumption. The meat inspection act, the milk ordinances, and the local surveillance over markets, provision shops and dairies are all part of a movement to obtain a decent wholesome food supply. Misbranded and adulterated articles have largely been driven from the State, and the purveyors of these goods made amenable to the courts, and it is the determination of this Bureau to continue this campaign until all food supplies meet the State requirements.

There is no branch of public health service that appeals to our human instincts more than mental afflictions. These are found in every walk of life, and have caused more chronic suffering and more anguish with the resulting poverty than any other disease, and the expense of housing, clothing and segregating these unfortunates means millions of dollars to the State. A number of States have formed mental hygiene associations in the hope that many of these afflicted ones may by proper treatment regain health, but more is hoped for by the early discovery of these defectives and with suitable remedies the malady may be relieved. New Jersey has been neglectful in this respect, and the overcrowding and insanitary conditions of these institutions is a blot on the State's fair name.

The Bureau of Vital Statistics has been in existence forty-five years. It has the custody of some 6,000,000 records of births, marriages and deaths which date back to 1848. These records are partially indexed and in fair condition for searching. They are stored in fire-proof vaults in the basement of the State House and are arranged in metal cases.

That the use of these records is increasing daily, is proven by the fact that the Bureau received applications for 9,898 searches, which is 850 in excess of the number made during the previous year. The majority of this increase appears among records re-

DEPARTMENT OF HEALTH.

quested for pension, school and employment purposes, and under the law no fees are allowed for these certificates. The \$3,609.00 received in fees covers approximately one-fifth of the cost of the operation of the Bureau, and if fees are exacted in all cases, the amount received would probably cover the cost to the State of receiving, arranging and searching these records.

For a number of years a series of mortality charts and tables has been included in the Director's report. However in order to arrange all such data in natural sequence these compilations will hereafter appear in the report of the Bureau of Vital Statistics.

A system of cross-indexing has been started in the Bureau, which will greatly facilitate searching, and no doubt result in more favorable reports to applicants who apply for birth records. This is necessary for the reason that many foreigners have various ways of spelling their names.

A number of successful prosecutions against physicians who failed to report births during the past year, as required by law, will probably result in more complete birth registration.

Report of Bureau of Administration.

CHARLES J. MERRELL, CHIEF.

The membership of the Department remained the same for the year beginning July 1, 1922, as for the previous year, Oliver Kelly and Howard E. Winter, D.V.M., being reappointed by Governor Edwards for terms of four years. At the reorganization on July 7, 1922, Dr. Henry Spence, of Jersey City, was re-elected president, and Dr. Thomas B. Lee vice president for the year.

A number of changes occurred, however, in the staff of the Department during the year. In October, 1922, R. B. Fitz-Randolph, who had been associated with the Department since 1902 as Chief of the Laboratory of Hygiene, and also as Assistant Director during the last nine years, passed away. Resolutions of appreciation for service rendered by Mr. Fitz-Randolph, regret concerning his loss to the Department, and of sympathy for his family and friends, were adopted by the Department, and the passage of a law by the Legislature granting a pension of One Hundred Dollars per month to his widow was secured.

On September 1, 1922, George W. McGuire applied for retirement under the State Employees Retirement System, and his application was granted. Mr. McGuire began his service for the State over thirty-five years ago under the State Dairy Commissioner. Not long after taking up the work he was appointed Dairy Commissioner and continued in this position until 1901, when the work of the Dairy Commissioner was consolidated with the work of the State Department of Health. Mr. McGuire continued with the Department in the Food and Drug work, and during the last few years of his service gave all of his time to special work in relation to the manufacture and sale of ice cream.

Chiefly through his efforts the enactment of a law by the legislature fixing a standard for ice cream was secured in 1922, and the ice cream industry of the State was raised to a much higher degree of excellency.

In February, 1923, the application of Dr. A. Clark Hunt for retirement under the State Employees Retirement System was granted. Dr. Hunt began his service in the health work of the State in 1886, a few years after the formation of the State Board of Health. In connection with his work during these years Dr. Hunt served at various times as Assistant Secretary of the Board, Chief of the Bureau of Local Health Administration, Chief of the Bureau of Medical Supervision, and Editor of the monthly bulletin, the Public Health News. He had a wide knowledge of public health administration, and his experience in the work rendered his service of value to the Department. Expressions of appreciation were adopted by the Department regarding the services of both Mr. McGuire and Dr. Hunt.

In December, 1922, Charles J. Merrell, in addition to his duties as Chief of the Bureau of Administration, was appointed Assistant Director. The special ice cream work carried on by Mr. McGuire at the time of his retirement was placed in charge of the Bureau of Food and Drugs, and R. S. Patterson, Chief of the Bureau of Venereal Disease Control, was selected as Editor of the Public Health News.

The sum of \$298,800.00 was granted by the Legislature of 1923 for the work of the Department for the year beginning July 1, 1923. An appropriation of \$401,380.00 was granted for the year beginning July 1, 1921, and \$305,490.00 for the year beginning July 1, 1922. This decrease in appropriation is chiefly due to the fact that while \$150,000.00 was granted for Child Hygiene work in 1921, only \$60,000.00 was appropriated in 1923. In addition to the \$60,000.00 appropriated over \$30,000.00 is available for Child Hygiene work from Federal funds under the Sheppard-Towner Law. Many communities in which demonstration work has been carried on for several years have taken over the expense of conducting the Child Hygiene work under the supervision of the State Department, and therefore the cost to the State for this work is gradually being reduced.

A special appropriation of \$3,000.00 was granted for the year 1923 for the employment of clerks to index back records in the Bureau of Vital Statistics in order that these certificates may be quickly available for searching, and to insure the finding of all records desired, which is sometimes very difficult in the case of foreign names.

On March 6, 1923, B. H. Obert, Health Officer of Asbury Park; James J. Hagan, Health Officer of Jersey City; D. C. Bowen and William H. MacDonald of the staff of the Department, were reappointed as members of the Board of Examiners of Health Officers and Sanitary Inspectors. R. S. Patterson, of the Department, was appointed in place of Dr. A. Clark Hunt who retired in February, 1923. The Board reorganized by selecting D. C. Bowen as President and William H. MacDonald as Secretary. Examinations were conducted during the year on the last Friday of July, October, January and April, in accordance with the resolutions adopted by the Board last year, and one hundred applicants appeared before the Board for examination including those for license as Sewage and Water Plant Operators, the examination for which was conducted by representatives of the Bureau of Engineering of the Department. License was issued to eight applicants to serve as Health Officers, ten as Sanitary Inspectors of the First Class, sixteen as plumbing inspectors, one food and drug inspector, one milk inspector, one meat inspector, one water plant operator and fifteen sewage plant operators.

Plans and specifications for two wings or extensions to the present mausoleum of the New York and New Jersey Mausoleum Co., located in North Bergen Township, Hudson County, were approved by the Department in accordance with the provisions of Section 2 of Chapter 233 of the Laws of 1916 on July 3, 1923.

A hearing was given by the Department on June 19, 1923, concerning the application of the Congregation Bnai Israel for reversal of the decision of the Board of Health and Township Committee of Saddle River Township in refusing to grant consent to the said Congregation to enlarge its cemetery in said township. After the hearing, which was attended by representatives of the Township Committee and of the congregation named,

a report by a representative of the Department of a recent inspection of the cemetery in question and the additional lands which it is proposed to devote to cemetery purposes, was submitted and after careful consideration of all the facts in the case the following resolution was unanimously adopted:

WHEREAS, Application has been made to the State Department of Health by the Congregation Bnai Israel for reversal of the decision of the authorities of Saddle River Township in refusing to grant consent to said corporation to enlarge its cemetery in said Township, and

WHEREAS, A public hearing has been given by the Department at which persons interested for and against said application were given opportunity to be heard, and a report of an inspection of the proposed addition by a representative of said Department was presented, and

WHEREAS, No facts were submitted in said report or at said hearing to show that there is any objection to the enlargement of the cemetery from a sanitary standpoint, but that the objections are merely sentimental,

Therefore Be It Resolved, That said application for reversal of the decision of the Township Committee and Board of Health of Saddle River Township in this case be granted and that permission be given to the Congregation Bnai Israel to enlarge its cemetery as requested in Saddle River Township, Bergen County, New Jersey.

On September 12, 1922, plans for a Nurses' Home to be used in connection with the Monmouth County Tuberculosis Hospital, located at Allenwood, N. J., were approved by the Department.

The following bills introduced at the 1923 session of the Legislature were of interest to the Department:

Senate Bill No. 143, Requiring health certificate before marriage; Senate Bill No. 144, Governing examination for social diseases; Senate Bill No. 207, Allowing the State Department of Health to divide the State into districts and appoint health officers for supervision of each; Senate Bill No. 208, Allowing Health Departments to disclose the names of persons affected with tuberculosis; Senate Bill No. 209, Permitting Health Departments to give the names of persons affected with contagious diseases; Senate Bill No. 262, Requiring report to Health Department instead of Medical Board of convictions for violations of Midwifery Act; Senate Bill No. 263, Giving State Department of Health instead of Medical Board powers for control of midwifery; Senate Bill No. 264, Giving authority to State Depart-

ment of Health instead of the Medical Board to license midwives. None of these Senate Bills became laws.

Assembly Bill No. 123, Directing indictment of persons polluting potable water either in county where pollution occurs or where water is used; Assembly Bill No. 151, Permitting the formation of Health Boards in townships of more than 20,000 inhabitants, applying to North Bergen Township; Assembly Bill No. 194, Restricting manufacture of soft drinks under health regulations; Assembly Bill No. 235, Delegating to local Boards of Health power to enforce the provisions of the Shellfish Act; Assembly Bill No. 236, Giving local Boards of Health power to enforce provisions of Shellfish Act; Assembly Bill No. 241, Allowing the State Department of Health to control the bottling of water and non-alcoholic drinks; Assembly Bill No. 257, Providing for health organizations in municipalities with 10,000 inhabitants or less; Assembly Bill No. 272, Facilitating the checking up and inspection by the State Department of Health of articles of food held in cold storage warehouses; Assembly Bill No. 425, Relating to the procuring of evidence of violation of law by the sale of impure milk or cream.

The only Assembly Bill above mentioned which became a law was Assembly Bill No. 236 which is now Chapter 46 of the Laws of 1923.

Report of the Bureau of Local Health Administration.

D. C. BOWEN, CHIEF.

The personnel of the Bureau of Local Health Administration remains the same as set forth in last year's report except for the few changes made necessary by resignations in the clerical force. The duties of the Bureau, however, have been increased, since it has been called upon to do the diagnostic work that was formerly a part of the duties of the Bureau of Medical Supervision.

Failure to procure an appropriation for the employment of additional district health officers to be permanently stationed in given localities throughout the State has prevented any extension of this work during the past year. From the standpoint of economy as measured by direct results obtained in preventing the spread of infectious diseases and in stimulating greater activities on the part of local health boards along the more important lines of public health administrative work, no other activity in which this Bureau is engaged promises greater returns. The soundness of the program which the Department has adopted, and which provides for the extension of the service to all parts of the State, has been demonstrated beyond any doubt by our experience in the two sections of the State where sanitary districts have thus far been established. One of these districts has now been in operation for a period of four years, and the other for about eighteen months. In the Monmouth County district the board of chosen freeholders has made substantial contributions toward the work by providing office facilities with heat, light and telephone service, in addition to making an appropriation from County funds amounting to \$2300 to be expended by the health officer during the fiscal year 1923.

Two of the most important functions of the Bureau are to co-operate with local health officials in the control of epidemic diseases and to assist them in solving their problems growing out of the enforcement of the health laws and regulations of the State Sanitary Code. The law under which the State Department of Health is required to enact a State Sanitary Code, also provided that the regulations therein shall be enforced by all local health officials. It was clearly the intention of the legislature that these regulations should not be enforced by the State Department of Health, except under unusual conditions, and then only in accordance with a definite procedure laid down in the act itself. The same is true in respect to the enforcement of the statute laws enacted for the protection of the public health, unless otherwise provided therein. It is the duty of the State Department of Health, however, to see to it that the regulations in the State Sanitary Code, as well as the provisions of the statute laws, are enforced by all local health officials. This is not a difficult task in the larger municipalities in which there are local health departments that function more or less efficiently, but it is quite a different matter in most townships and small municipalities.

These two groups of local governments, townships and the smaller incorporated municipalities, present the most troublesome problems under our present system of local health administration. In the former, by virtue of the office to which they are elected, the members of the township committee and the assessor, together with one physician to be appointed by the township committee, constitute the local board of health. There are 231 townships in this State varying in population from less than two hundred to twenty-five thousand. Only one of these employs a full-time health officer, and this happens to be a township in which the population is less than seven thousand. One other, with a population slightly over 5,000, employs a part-time health officer at a salary of \$2,000, and twenty-one townships employ part-time health officers at salaries ranging from \$25.00 to \$1,000 per year. This leaves 208 townships that have no inspector or other executive health officer.

In many townships a very substantial part of the money that is expended on account of public health is paid to members of the board for attendance upon meetings that are usually held directly

after the township committee has adjourned, and at which only routine business is transacted. The townships in which any systematic health work is carried on by the local board of health are relatively few. Where such work is undertaken it is usually done by some unofficial organization. In cities, boroughs, towns and other forms of local government, public health affairs are administered by a separate board appointed by the governing body of the municipality, the members of which receive no compensation for their services, the only exception to this being where commission form of Government has been adopted and the management of the health department placed under one of the commissioners. In the smaller municipalities it is becoming more and more difficult to find men and women who are willing to accept an appointment on the local board of health, and the members of such boards seldom have the time and rarely have the knowledge and experience necessary to do the work of an efficient health officer even though they are so inclined. Furthermore, the amount of money the average small municipality can afford to appropriate for health work is not sufficient to enable the board of health to employ a competent health officer, even on part time, without which little or nothing is accomplished.

For the reasons stated it is doubtful if local health administration in townships and smaller municipalities can be much improved under our present system requiring that each local government shall maintain a separate board of health. The first essential in carrying out a health program that will meet the needs of any community, no matter how small, is a full-time administrative officer. This, of course, would not be warranted in rural districts unless several small municipalities should combine, each bearing its pro rata share of the expense. Considerable sentiment has been shown in support of legislation that would abolish health boards as now constituted in small municipalities and establish larger health districts. If the details of such a plan can be satisfactorily worked out, this may correct the main difficulties that are now met with in getting sanitary regulations enforced in the rural districts and small urban communities.

During the fiscal year just closed, the State has been notably free from widespread epidemics of acute infectious diseases, the

occurrence of which very naturally results in urgent demands from local health officials for assistance from this Bureau. However, there has been an increase in the number of requests for representatives of the Bureau to assist local health departments in dealing with localized epidemics that have occurred in various parts of the State.

Our special investigations have included forty-seven outbreaks of typhoid fever, in which there were two hundred and eighty-three cases and twenty-nine deaths; three outbreaks of diphtheria; six of scarlet fever; four of measles; three of smallpox, and one of trachoma.

The most extensive epidemic of typhoid during the year was that which occurred in Franklin Borough, and in which there were 114 cases with 18 deaths reported in a population of about four thousand. This epidemic was caused by untreated water contaminated with raw sewage, introduced into the borough's water supply through a defective check valve in a cross connection between the main distributing pipes and the water system for an industrial plant that used raw water from the Walkill River. All of the cases that occurred in this epidemic were confined to that section of the borough through which the infected water was shown to have been distributed.

Another typhoid epidemic which bears a striking similarity to the one in Franklin occurred in the borough of Rockaway. Here, too, our investigations have shown a cross connection between the water pipes in an industrial plant and the town supply, a check valve being relied upon to prevent water from the industrial supply being forced into the street mains. The gate in this valve was held open by incrustation so that no barrier existed to prevent river water used by the industrial system, and which was shown to receive the discharges from a nearby toilet used by a known typhoid carrier, from being forced into the distributing pipes in that part of the borough in which the epidemic was confined.

The facts set forth in the detailed reports of our epidemiologist who investigated these two epidemics show beyond a reasonable doubt that they were due to the all too common practice that prevails of making cross connections between potable water

supplies and industrial supplies known to be dangerously contaminated or of doubtful purity.

The third largest typhoid epidemic investigated by this Bureau during the past year occurred in the City of Newark among families supplied with Grade A raw milk distributed by a local dealer. There were 35 cases and 3 deaths. This milk was produced and bottled on a farm in Warren County under fair sanitary conditions. A typhoid carrier was found among the milkers on this dairy, who was undoubtedly the source of infection. This typhoid carrier was first discovered in 1921 by this Bureau during the investigation of a milk-borne outbreak in a summer camp located in Morris County, where he was then employed as a dairyman. After his condition became known he went to New York City where his stools were later examined in a commercial laboratory and certified free from typhoid organisms. Following this, he returned to New Jersey and accepted employment on the dairy in Warren County, under an assumed name. That he was still eliminating typhoid bacilli in his feces was demonstrated by examination of a series of specimens in the State Laboratory of Hygiene.

Including cases restricted to a single household, the Bureau investigated forty-seven outbreaks of typhoid fever during the year, in which there occurred a total of two hundred and eighty-four cases and twenty-nine deaths. In nine of these outbreaks the source of infection was traced to carriers. We now have a record of the names and addresses of twenty-six persons at present residing in the State who are chronic typhoid carriers that have been identified through investigations conducted by this Bureau during the past eight years. In all probability this number will be increased from year to year as our methods for the identification of typhoid carriers are improved and more generally applied. That the facilities of this Bureau for keeping informed concerning the movement of known typhoid carriers are inadequate to prevent them from causing other outbreaks has been pointed out in previous reports, and demonstrated on at least two occasions during the past year. A milk-borne epidemic in Newark and a water-borne epidemic in the borough of Rockaway both had their origin in typhoid carriers of which we had previous

knowledge. Logically the local boards of health should exercise supervision over known carriers of the causative agent of infectious diseases. But as already pointed out, all attempts to place this responsibility on local boards of health, except those in the larger municipalities that maintain a properly organized and efficient health department, have proved quite as ineffectual as have attempts to get them to investigate cases when reported, to establish the sources of infection.

Ninety-one cases of scarlet fever, twenty-three of diphtheria, six of typhoid fever and three of tuberculosis that occurred on seventy-three dairy premises were reported and supervised by this Bureau during the year. Such supervision over communicable diseases reported on dairy premises is restricted to those in which the causative agent is known to be transmitted through milk or its products, and consists in instituting precautionary measures to prevent the spread of infection in this manner. As a general rule, if the dairy products are wholly consumed in the township or municipality in which they are produced it is left with the local board of health to carry out such regulations as the Department recommends. If the milk is shipped out of the sanitary district in which the dairy is located, a representative of the Bureau visits the premises and makes such arrangements with the dairyman as, in his judgment, are adequate to prevent the transmission of disease. Instead of enforcing arbitrary regulations that would prohibit the sale of products from a dairy during the prevalence of a case of communicable disease, arrangements are usually made to continue the production and sale of the milk under restrictions which protect the consumers. Whatever precautionary measures are established, however, are rigidly enforced until we have reasonable assurance that there is no longer a source of infection on the premises.

The sanitation of summer camps is now a problem of recognized importance and will increase as the number of camps and density of camp population becomes greater each year. It is partly an engineering and partly a public health administrative problem. The enforcement of the health laws and regulations in camps, as in all the territory under its jurisdiction, is a duty of each local board of health. In addition an efficient health officer

or inspector would have a rare opportunity for constructive and educational work in a growing camp population, besides the direct prevention of communicable diseases. Unfortunately, however, little or no active work is done by most local boards of health in the rural districts where camps are located, and in consequence conditions are almost sure to develop which will cause outbreaks of preventable diseases in the future. This Bureau is attempting to make inspections of camps for boys and girls and to educate campers, as far as its limited staff will permit.

Another problem, which is developing even more rapidly and with greater opportunities for the widespread distribution of disease, is formed by the roadside refreshment stands which now exist in great numbers along the principal highways. The questionable source of water supply, insanitary methods of cleaning used glasses, dishes, etc., and lack of personal cleanliness of the attendants of many of these constitute potential dangers to their patrons, while the presence of flies, proximity to insanitary privies, and primitive methods of preserving perishable foods frequently increase the hazard.

To attempt a State-wide inspection of these stands by the Department is impossible. To put the burden on local boards of health would, in most cases, be unproductive of results, until such time as they are organized to do effective work. It has been suggested that the State Sanitary Code be amended by a regulation requiring that a license be secured from the local board of health by the proprietor of each roadside refreshment stand, and that certain minimum requirements, specified therein, shall be met before such license is granted.

A very considerable part of the time of our district health officers and epidemiologists is taken up in conferences with local health officials, attending meetings of local boards of health, taking part in public gatherings at which health topics are considered, and in delivering addresses before clubs and other official or non-official organizations. Representatives of the Bureau attended one hundred and thirty-four such meetings during the year and delivered forty-five addresses, in addition to giving two hundred and forty-seven talks before classes in public schools, on personal hygiene and the ways in which communicable dis-

eases are spread. Six hundred and eighty conferences were held with local health officials; two hundred and ninety of these were by special request and three hundred and ninety were in line with the routine work of the Bureau. Six hundred and seventy-seven conferences were held with private citizens and public officials other than those connected with boards of health, all of these conferences having to do with some phase of public health administration.

Ninety-six field investigations have been made by the Bureau during the year, other than those made in connection with outbreaks of communicable diseases. Many of these were made at the request of local health officials to aid them in the abatement of nuisances against which complaints had been lodged and which the local boards were either in a quandary how to handle or preferred to have the backing of the State Department of Health before they took action. A considerable number of these investigations were made on complaints lodged by private citizens direct to the State Department of Health after failing to secure relief through local health authorities and after the Department had in turn failed to get any response to a letter or to get them to act.

Reportable Communicable Diseases; Typhoid Fever.—During the calendar year 1922, 851 cases and 129 deaths from typhoid fever were recorded, which is equivalent to 25.6 cases and 3.8 deaths per 100,000 population. These rates are substantially lower than the rates for 1921 and it is believed that they mark a resumption of a downward trend in typhoid fever incidence which was interrupted in 1921 by the occurrence of several outbreaks of unusual magnitude. The indicated fatality rate, based on reported cases and deaths, for 1922, was 15.15. This high rate indicates that cases of this disease are not completely reported.

Diphtheria.—The case incidence of diphtheria was reduced from 242.9 per 100,000 population in 1921 to 229.6 in 1922. The death rate and fatality rate for these two years were practically identical. There were 7,613 cases reported and 605 deaths recorded from this disease in 1922. The more general use of toxin-antitoxin for immunization of susceptible persons against

diphtheria should shortly be reflected in a definite reduction of the case and death rates.

Scarlet Fever.—Morbidity and mortality figures for scarlet fever for the year 1922 show a slight decrease in the number of reported cases from 1921 and a reduction of about 50 per cent in the number of deaths. The fatality rate, 1.33, is the lowest recorded since 1917. Table I which follows presents morbidity and mortality figures for this disease from 1909 to 1922 inclusive.

TABLE I

REPORTED CASES AND DEATHS FROM SCARLET FEVER IN NEW JERSEY FROM 1909 TO 1922, INCLUSIVE; REPORTED CASES AND DEATHS PER 100,000 POPULATION AND THE INDICATED FATALITY RATE.

Year.	Cases.	Deaths.	Cases per 100,000 Pop.	Deaths per 100,000 Pop.	Per Cent. Fatality.
1909.	4,821*	338*	204.9	14.3	7.05
1910.	6,955*	229*	274.1	9.0	3.29
1911.	5,335*	214*	204.2	8.1	4.01
1912.	3,987*	129*	148.4	4.8	3.23
1913.	5,255*	227*	190.0	8.2	4.31
1914.	6,552*	255*	230.7	8.9	3.89
1915.	4,735*	101*	166.4	3.5	2.31
Five-year average.	5,172	185	188.1	6.7	3.57
1916.	4,209	69	142.7	2.3	1.63
1917.	4,776	49	158.4	1.6	1.02
1918.	2,817	57	91.4	1.8	2.0
1919.	4,240	70	134.6	2.2	1.65
1920.	4,782	103	151.4	3.2	2.15
Five-year average.	4,164	69	135.6	2.2	1.65
1921.	9,228	232	283.8	7.1	2.51
1922.	9,066	121	273.46	3.64	1.33

* For year ending October 31.

Smallpox.—Eighteen cases of smallpox were reported during the year 1922. This is the lowest number of cases reported since 1917. No deaths from this disease were recorded; in fact there have been no deaths from smallpox in New Jersey during the past seven years. Table II which follows gives smallpox statistics from 1909 to 1922 inclusive.

TABLE II

REPORTED CASES AND DEATHS FROM SMALLPOX IN NEW JERSEY FROM 1909 TO 1922, INCLUSIVE; REPORTED CASES AND DEATHS PER 100,000 POPULATION AND THE INDICATED FATALITY RATE.

Year.	Cases.	Deaths.	Cases per 100,000 Pop.	Deaths per 100,000 Pop.	Per Cent. Fatality.
1909,	88*	2*	3.7	0.08	2.27
1910,	20*	0*	0.7	.....	.....
1911,	47*	1*	1.7	0.03	2.12
1912,	12*	1*	0.4	0.03	8.33
1913,	86*	0*	3.1	.....	.....
1914,	23*	1*	0.8	0.02	4.34
1915,	156*	1*	5.4	0.03	0.64
Five-year average, ..	65	0.8	2.3	0.02	1.23
1916,	9	0	0.3	.....	.....
1917,	6	0	0.1	.....	.....
1918,	65	0	2.1	.....	.....
1919,	109	0	3.4	.....	.....
1920,	182	0	2.4	.....	.....
Five-year average, ..	74	0	2.4	.....	.....
1921,	255	0	7.8	.....	.....
1922,	18	0	0.54	.....	.....

* For year ending October 31.

Standard Morbidity and Mortality Tables showing for the year 1922 the reported cases of reportable diseases by months, cases and deaths by age groups and sex, and also showing morbidity rates per 1000 population and indicated fatality rates for these diseases by counties and for the State as a whole, are appended to this report.

REPORTED CASES OF CHICKENPOX IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	187	27	25	28	16	26	11	8	4	1	3	13	25
1 year,	251	37	35	29	26	23	18	9	6	2	4	21	41
2 years,	340	59	39	31	35	43	28	10	3	2	7	31	50
3 years,	341	66	43	37	35	34	22	11	4	3	2	31	53
4 years,	428	71	54	43	60	44	27	6	8	4	10	32	69
Under 5 years,	1547	260	198	168	172	170	106	44	27	12	26	128	298
5 to 9 years,	3311	643	403	371	315	282	217	41	15	16	122	382	504
10 to 14 years,	510	117	52	34	39	64	47	3	1	3	14	44	72
15 to 19 years,	63	19	9	7	4	3	5	0	0	0	2	4	12
20 to 24 years,	37	12	6	2	2	2	3	1	1	0	3	2	3
25 to 34 years,	51	10	11	5	4	4	2	3	2	1	0	3	6
35 to 44 years,	23	4	3	2	2	3	3	0	0	0	1	3	2
45 to 54 years,	3	0	1	0	0	1	0	0	0	0	0	0	1
55 to 64 years,	1	0	0	0	0	0	0	0	0	0	0	0	1
65 years and over,	3	0	1	0	0	1	0	0	0	0	0	0	1
Age not stated,	3	0	1	0	1	1	0	0	0	0	0	0	0
Total,	5354	1065	683	609	539	531	383	92	46	32	168	566	840

REPORTED CASES AND DEATHS FROM CHICKENPOX IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	86	2	101	0	187	2
1 year,	118	0	133	0	251	0
2 years,	176	0	164	0	340	0
3 years,	181	0	159	0	341	0
4 years,	214	0	214	0	428	0
Under 5 years,	775	2	772	0	1547	2
5 to 9 years,	1290	0	2111	0	3311	0
10 to 14 years,	259	0	251	0	510	0
15 to 19 years,	33	0	32	0	65	0
20 to 24 years,	20	0	17	0	37	0
25 to 34 years,	22	0	19	0	51	0
35 to 44 years,	18	0	5	0	23	0
45 to 54 years,	1	0	2	0	3	0
55 to 64 years,	1	0	0	0	1	0
65 years and over,	3	0	0	0	3	0
Age not stated,	3	0	0	0	3	0
Total,	2345	2	3209	0	5554	2

REPORTED CASES OF DIPHTHERIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	115	17	14	12	5	9	7	1	4	6	7	17	16
1 year,	403	34	31	23	29	35	18	14	25	27	39	60	68
2 years,	637	66	64	53	37	38	28	33	22	43	73	100	95
3 years,	792	84	67	59	38	51	46	33	44	53	84	111	122
4 years,	761	76	70	53	43	52	40	27	48	32	57	105	108
Under 5 years,	2728	277	246	205	152	185	139	105	143	181	290	393	406
5 to 9 years,	2938	276	181	190	150	157	132	160	136	226	448	473	379
10 to 14 years,	932	92	85	65	54	50	46	51	32	72	125	132	118
15 to 19 years,	274	49	27	20	16	15	16	12	9	11	31	25	43
20 to 24 years,	290	28	19	20	24	19	9	6	7	13	17	29	27
25 to 34 years,	274	37	29	29	18	26	10	6	7	14	21	41	39
35 to 44 years,	143	25	20	13	17	6	8	3	4	6	17	10	14
45 to 54 years,	37	2	3	4	5	2	2	1	1	1	2	5	9
55 to 64 years,	13	4	2	1	0	2	1	0	2	0	0	0	1
65 years and over,	3	1	0	0	0	0	0	0	0	0	0	2	2
Age not stated,	21	4	3	3	3	1	4	2	1	1	3	4	2
Total,	7613	795	615	550	487	483	387	349	352	525	954	1125	1041

REPORTED CASES AND DEATHS FROM DIPHTHERIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	64	20	51	10	0	0	115	30
1 year,	237	49	168	50	0	0	405	99
2 years,	384	49	293	43	0	0	677	93
3 years,	430	34	362	29	0	0	792	63
4 years,	390	33	370	38	1	0	761	71
Under 5 years,	1485	183	1242	173	1	0	2728	358
5 to 9 years,	1480	109	1498	90	0	0	2958	190
10 to 14 years,	431	17	321	22	0	0	932	39
15 to 19 years,	109	4	163	2	0	0	274	5
20 to 24 years,	62	0	136	1	2	0	200	1
25 to 34 years,	78	0	196	4	0	0	274	4
35 to 44 years,	43	3	100	2	0	0	143	5
45 to 54 years,	12	3	25	0	0	0	37	1
55 to 64 years,	5	1	8	0	0	0	13	1
65 years and over,	1	0	2	0	0	0	3	0
Age not stated,	17	0	14	0	0	0	31	0
Total,	3703	311	3097	294	3	0	7613	605

REPORTED CASES OF DYSENTERY IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	5	0	0	0	0	1	2	2	0	0	0	0	0
1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
2 years,	1	0	0	0	0	0	0	0	0	0	1	0	0
3 years,	1	0	0	0	0	1	0	0	0	0	0	0	0
4 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
Under 5 years,	7	0	0	0	0	1	1	2	2	0	1	0	0
5 to 9 years,	3	0	0	1	0	0	1	0	0	1	0	0	0
10 to 14 years,	2	0	1	0	0	0	0	0	0	1	0	0	0
15 to 19 years,	2	0	0	0	0	0	0	0	1	1	0	0	0
20 to 24 years,	2	0	0	1	0	0	0	0	0	0	0	0	0
25 to 34 years,	2	0	0	0	1	0	0	0	0	0	0	0	0
35 to 44 years,	1	0	0	0	0	1	0	0	0	0	0	0	0
45 to 54 years,	3	0	0	0	1	1	0	0	1	0	0	0	0
55 to 64 years,	1	0	0	0	0	1	0	0	0	0	0	0	0
65 years and over,	1	0	0	0	0	1	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0	0	0	0	0	0	0
Total,	24	0	1	3	0	4	4	3	4	4	1	0	0

REPORTED CASES AND DEATHS FROM DYSENTERY IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	4	2	1	4	5	6
1 year,	0	0	0	0	0	0
2 years,	1	0	0	0	1	0
3 years,	1	0	0	0	1	0
4 years,	0	0	0	0	0	0
Under 5 years,	6	2	1	4	7	6
5 to 9 years,	2	0	1	0	3	0
10 to 14 years,	2	1	0	0	2	1
15 to 19 years,	2	0	0	0	2	1
20 to 24 years,	2	0	0	0	2	1
25 to 34 years,	2	0	0	1	2	1
35 to 44 years,	1	0	0	0	1	0
45 to 54 years,	3	1	0	0	3	1
55 to 64 years,	1	1	0	1	1	2
65 years and over,	0	3	0	5	0	8
Age not stated,	1	0	0	0	1	0
Total,	22	9	2	11	24	20

REPORTED CASES OF GERMAN MEASLES IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	33	1	7	2	7	6	2	1	1	1	0	4	1
1 year,	30	8	4	4	5	6	7	1	1	1	0	4	7
2 years,	43	4	4	3	3	12	7	3	0	0	1	1	5
3 years,	37	1	1	6	5	12	2	1	2	0	1	4	2
4 years,	43	2	4	6	4	9	10	2	1	2	0	2	1
Under 5 years,	206	16	20	23	24	45	28	8	5	3	6	12	16
5 to 9 years,	322	22	31	39	62	79	25	15	1	1	9	14	24
10 to 14 years,	80	6	6	15	15	18	10	4	0	0	3	1	2
15 to 19 years,	33	3	4	17	3	1	0	1	0	1	1	2	0
20 to 24 years,	11	1	4	2	1	1	0	0	0	0	0	0	2
25 to 34 years,	9	0	2	2	3	0	0	1	0	0	0	1	0
35 to 44 years,	3	1	0	0	2	0	0	0	0	0	0	1	1
45 to 54 years,	3	0	1	0	0	0	0	1	0	1	0	0	0
55 to 64 years,	1	0	0	0	1	0	0	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	7	1	1	1	1	2	0	0	0	1	0	0	0
Total,	677	50	69	99	112	146	63	30	6	7	19	31	45

REPORTED CASES AND DEATHS FROM GERMAN MEASLES IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	16	0	17	0	33	0
1 year,	25	0	26	0	50	0
2 years,	25	0	18	0	43	0
3 years,	19	0	18	0	37	0
4 years,	22	0	21	0	43	0
Under 5 years,	108	0	98	0	206	0
5 to 9 years,	147	0	175	0	322	0
10 to 14 years,	39	0	41	0	80	0
15 to 19 years,	18	0	15	0	33	0
20 to 24 years,	3	0	8	0	11	0
25 to 34 years,	3	0	6	0	9	0
35 to 44 years,	3	0	2	0	5	0
45 to 54 years,	0	0	3	0	3	0
55 to 64 years,	0	0	1	0	1	0
65 years and over,	0	0	0	0	0	0
Age not stated,	4	0	3	0	7	0
Total,	325	0	352	0	677	0

REPORTED CASES OF INFLUENZA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	57	7	54	10	4	3	0	0	0	1	2	1	5
1 year,	158	13	119	9	4	0	0	1	0	0	3	2	5
2 years,	198	7	167	16	2	0	0	0	0	0	2	1	8
3 years,	179	18	136	18	3	2	0	0	0	0	0	2	2
4 years,	170	12	122	20	7	0	0	0	0	0	2	0	7
Under 5 years,	792	57	598	73	20	5	0	1	0	1	11	4	22
5 to 9 years,	958	59	497	32	15	8	0	3	1	1	0	7	9
10 to 14 years,	441	46	349	26	6	0	0	0	0	0	1	3	10
15 to 19 years,	449	23	372	33	3	4	2	0	0	2	2	3	8
20 to 24 years,	639	43	509	50	14	1	1	1	1	3	7	3	6
25 to 34 years,	1834	117	1399	168	37	8	4	9	10	8	12	23	37
35 to 44 years,	1178	97	872	126	29	6	4	3	3	3	13	13	16
45 to 54 years,	335	45	225	73	12	8	2	4	2	4	2	7	6
55 to 64 years,	332	27	244	34	7	4	2	0	2	1	1	4	6
65 years and over,	220	13	150	31	7	3	0	0	2	1	3	5	5
Age not stated,	192	4	168	16	4	0	0	0	0	0	0	0	0
Total,	7430	522	5886	694	151	45	15	21	21	23	59	73	120

REPORTED CASES AND DEATHS FROM INFLUENZA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	43	39	44	27	0	0	87	66
1 year,	91	28	67	13	0	0	158	36
2 years,	111	8	87	3	0	0	198	11
3 years,	SS	2	2	0	0	0	179	0
4 years,	SG	2	84	3	0	0	170	5
Under 5 years,	419	74	375	48	0	0	792	122
5 to 9 years,	229	5	335	8	0	0	564	13
10 to 14 years,	222	3	212	9	0	0	434	12
15 to 19 years,	224	14	225	6	0	0	449	20
20 to 24 years,	274	10	363	9	0	0	637	19
25 to 34 years,	799	19	1036	36	0	0	1834	55
35 to 44 years,	573	31	694	23	0	0	1173	54
45 to 54 years,	329	33	366	26	0	0	695	59
55 to 64 years,	161	28	171	30	0	0	332	58
65 years and over,	90	57	129	74	1	1	220	131
Age not stated,	63	0	124	0	3	3	192	0
Total,	2453	274	3946	269	4	4	7430	543

REPORTED CASES OF MALARIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
2 years,	2	0	0	0	0	1	0	1	0	0	0	0	0
3 years,	2	0	1	0	0	0	0	1	0	0	0	0	0
4 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
Under 5 years,	4	0	1	0	0	1	1	0	1	0	0	0	0
5 to 9 years,	7	0	0	0	3	0	4	0	0	1	1	2	0
10 to 14 years,	5	0	0	0	1	0	4	0	0	0	0	0	0
15 to 19 years,	9	0	0	0	0	0	3	1	1	3	0	0	1
20 to 24 years,	3	0	0	0	0	0	0	2	0	0	0	1	0
25 to 34 years,	21	1	0	0	1	3	0	6	8	1	0	2	0
35 to 44 years,	17	1	0	0	2	0	2	3	7	1	1	0	0
45 to 54 years,	4	0	0	0	0	0	0	1	0	0	1	0	0
55 to 64 years,	4	0	0	0	0	0	0	1	0	0	1	0	0
65 years and over,	1	0	0	0	0	0	0	0	0	0	0	1	0
Age not stated,	3	0	0	0	0	1	0	0	2	0	0	0	0
Total,	78	3	2	0	7	4	11	14	18	9	3	5	2

REPORTED CASES AND DEATHS FROM MALARIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	0	0	0	0	0	0
1 year,	0	0	0	0	0	0
2 years,	1	0	1	0	2	0
3 years,	1	0	1	0	2	0
4 years,	0	0	0	0	0	0
Under 5 years,	2	0	2	0	4	0
5 to 9 years,	3	0	4	0	7	0
10 to 14 years,	5	0	0	0	5	0
15 to 19 years,	6	0	3	0	9	0
20 to 24 years,	3	0	0	0	3	0
25 to 34 years,	14	0	7	0	21	0
35 to 44 years,	11	1	6	0	17	1
45 to 54 years,	2	1	2	0	4	1
55 to 64 years,	2	0	2	1	4	1
65 years and over,	1	0	0	0	1	0
Age not stated,	0	0	3	0	3	0
Total,	49	2	29	1	78	3

REPORTED CASES OF MEASLES IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	385	31	36	57	93	106	78	38	11	10	11	37	71
1 year,	1329	88	81	129	280	341	226	78	37	24	23	84	160
2 years,	2002	77	93	164	357	469	281	128	34	21	30	110	238
3 years,	2174	88	115	202	405	504	299	100	22	29	112	264	
4 years,	2350	81	110	231	459	507	322	119	34	31	34	128	287
Under 5 years,	6840	363	435	783	1580	1927	1218	463	133	115	128	474	1020
5 to 9 years,	12083	460	590	1537	2179	2738	1435	375	64	85	206	689	1710
10 to 14 years,	1186	47	59	143	213	225	122	35	8	10	13	75	235
15 to 19 years,	277	13	12	36	51	68	27	9	3	4	2	16	38
20 to 24 years,	114	8	4	10	23	23	13	9	1	2	0	6	15
25 to 34 years,	142	11	9	14	24	27	16	6	1	1	3	8	18
35 to 44 years,	45	2	2	4	4	12	3	3	1	0	1	2	11
45 to 54 years,	8	0	0	1	3	0	1	0	0	0	1	1	1
55 to 64 years,	3	0	0	0	0	1	1	0	0	0	0	0	1
65 years and over,	6	0	1	1	0	1	1	0	0	0	0	1	1
Age not stated,	132	5	5	10	12	24	21	4	4	2	48	5	12
Total,	25661	909	1108	2559	4091	5047	2856	907	224	219	402	1277	3062

REPORTED CASES AND DEATHS FROM MEASLES IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	293	39	292	40	0	0	585	79
1 year,	810	67	719	56	0	0	1529	123
2 years,	1016	22	986	19	0	0	2002	41
3 years,	1073	19	1101	10	0	0	2174	29
4 years,	1215	9	1183	4	0	0	2398	13
Under 5 years,	4407	147	4233	129	0	0	8640	276
5 to 9 years,	6182	13	5093	10	3	3	12083	23
10 to 14 years,	261	1	625	2	0	0	1186	3
15 to 19 years,	149	5	128	1	0	0	277	6
20 to 24 years,	52	2	62	0	0	0	114	3
25 to 34 years,	45	0	92	0	0	0	142	0
35 to 44 years,	17	0	28	0	0	0	45	0
45 to 54 years,	4	0	4	0	0	0	8	0
55 to 64 years,	2	0	1	0	0	0	3	1
65 years and over,	1	0	5	1	0	0	6	1
Age not stated,	71	0	74	0	7	7	152	0
Total,	11496	163	11155	145	10	10	22661	308

REPORTED CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	22	1	4	1	2	3	0	2	1	2	1	2	3
1 year,	9	0	1	0	0	2	4	0	1	0	1	0	0
2 years,	7	3	0	1	0	0	1	1	0	1	0	0	0
3 years,	6	1	0	0	0	1	1	1	1	0	0	0	1
4 years,	8	1	0	0	1	1	1	1	0	1	0	2	0
Under 5 years,	52	6	5	2	3	7	7	5	3	4	2	4	4
5 to 9 years,	25	1	4	3	2	3	5	2	0	1	2	1	1
10 to 14 years,	9	1	2	0	1	0	0	0	2	1	1	0	1
15 to 19 years,	12	1	3	3	2	0	0	0	0	0	2	1	0
20 to 24 years,	3	1	2	0	0	0	0	0	0	0	0	0	0
25 to 34 years,	7	0	0	1	0	0	1	1	2	2	0	0	0
35 to 44 years,	4	0	1	0	0	0	0	0	1	0	0	1	1
45 to 54 years,	2	0	0	0	0	0	0	0	0	0	0	0	0
55 to 64 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0	0	0	0	0	0	0
Total,	114	10	17	9	8	10	13	8	8	8	7	9	7

DEPARTMENT OF HEALTH.

REPORTED CASES AND DEATHS FROM EPIDEMIC CEREBROSPINAL MENINGITIS
IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.	Total	
	Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.
Under 1 year,	9	11	13	8	0	22	19
1 year,	8	4	6	6	0	9	10
2 years,	4	2	2	2	1	7	4
3 years,	4	3	4	4	0	6	7
4 years,	4	2	4	1	0	5	4
Under 5 years,	22	23	29	21	1	52	44
5 to 9 years,	10	3	15	3	0	25	8
10 to 14 years,	4	4	5	5	0	9	9
15 to 19 years,	7	0	5	1	0	12	1
20 to 24 years,	2	2	1	2	0	7	3
25 to 34 years,	4	3	3	2	0	7	4
35 to 44 years,	1	3	3	2	0	4	5
45 to 54 years,	2	0	0	1	0	2	1
55 to 64 years,	0	2	0	0	0	6	2
65 years and over,	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0
Total,	52	49	61	39	1	114	79

REPORTED CASES OF PARATYPHOID FEVER IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
2 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
3 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
4 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
Under 5 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
5 to 9 years,	1	0	0	1	0	0	0	0	0	0	0	0	0
10 to 14 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
15 to 19 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 34 years,	2	0	0	0	0	0	0	0	0	1	0	0	0
35 to 44 years,	0	0	0	0	0	1	0	0	1	0	0	0	0
45 to 54 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
55 to 64 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0	0	0	0	0	0	0
Total,	5	1	0	1	0	0	1	0	0	1	1	0	0

REPORTED CASES AND DEATHS FROM PARATYPHOID FEVER IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	0	0	0	0	0	0
1 year,	0	0	0	0	0	0
2 years,	0	0	0	0	0	0
3 years,	0	0	0	0	0	0
4 years,	0	0	0	0	0	0
Under 5 years,	0	0	0	0	0	0
5 to 9 years,	0	0	1	0	1	0
10 to 14 years,	0	0	0	0	0	0
15 to 19 years,	0	0	0	0	0	0
20 to 24 years,	2	0	0	0	2	0
25 to 34 years,	1	0	1	0	2	0
35 to 44 years,	0	0	0	0	0	0
45 to 54 years,	0	0	0	0	0	0
55 to 64 years,	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0
Total,	3	0	2	0	5	0

LOCAL HEALTH ADMINISTRATION.

REPORTED CASES OF PNEUMONIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	709	128	161	89	50	28	27	23	13	15	36	57	102
1 year,	748	112	159	75	53	54	35	22	32	16	36	65	86
2 years,	544	90	139	50	39	45	16	20	10	10	21	44	60
3 years,	356	56	88	39	30	24	14	6	4	10	12	29	44
4 years,	299	42	45	41	33	19	12	5	12	5	11	22	44
Under 5 years,	2656	429	592	274	207	170	104	76	71	56	114	227	336
5 to 9 years,	811	112	169	135	91	81	24	9	7	10	31	66	76
10 to 14 years,	292	46	61	50	37	29	9	1	3	4	11	17	24
15 to 19 years,	290	26	87	36	24	17	6	5	3	4	8	21	23
20 to 24 years,	241	26	79	32	25	18	5	6	3	5	7	15	20
25 to 34 years,	640	83	194	89	47	36	12	9	14	14	17	35	45
35 to 44 years,	578	87	173	81	56	47	13	6	10	8	17	35	45
45 to 54 years,	426	70	113	70	35	23	7	9	3	8	10	33	43
55 to 64 years,	371	60	75	67	31	28	12	8	7	5	11	24	43
65 years and over,	303	75	123	83	43	36	4	6	8	10	12	36	67
Age not stated,	44	5	22	8	4	2	0	0	0	1	1	0	1
Total,	6782	1021	1858	935	690	487	196	135	129	123	235	521	706

REPORTED CASES AND DEATHS FROM PNEUMONIA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.	Total	
	Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.
Under 1 year,	395	500	314	416	0	709	1006
1 year,	414	296	354	176	0	748	412
2 years,	301	81	242	83	1	544	144
3 years,	195	34	161	30	0	356	64
4 years,	149	24	150	17	0	299	41
Under 5 years,	1434	965	1201	702	1	2656	1697
5 to 9 years,	463	45	343	43	0	811	88
10 to 14 years,	166	21	126	38	0	292	59
15 to 19 years,	164	37	96	23	0	260	60
20 to 24 years,	149	48	92	31	0	241	79
25 to 34 years,	340	122	259	118	1	600	240
35 to 44 years,	292	292	220	127	1	578	329
45 to 54 years,	257	233	168	138	0	426	301
55 to 64 years,	189	214	182	173	0	371	357
65 years and over,	182	332	320	482	1	503	814
Age not stated,	25	9	18	9	1	44	0
Total,	3749	2219	3025	1895	5	6782	4114

REPORTED CASES OF ACUTE ANTERIOR POLIOMYELITIS IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	9	2	0	1	0	0	0	0	1	1	0	2	2
1 year,	21	0	1	2	0	0	0	5	1	2	5	4	1
2 years,	23	0	0	2	1	0	7	7	2	2	2	2	0
3 years,	15	1	1	0	0	2	3	2	3	1	0	1	0
4 years,	10	0	0	0	0	0	3	6	0	1	0	0	0
Under 5 years,	78	2	2	3	2	3	2	18	17	8	9	8	4
5 to 9 years,	20	0	0	0	1	0	1	1	7	4	3	2	1
10 to 14 years,	6	0	0	0	1	0	0	1	3	0	1	0	0
15 to 19 years,	3	0	1	3	0	0	1	0	1	1	0	0	0
20 to 24 years,	2	0	0	0	0	0	0	0	0	1	0	0	0
25 to 34 years,	1	0	0	0	0	0	0	0	0	1	0	0	0
35 to 44 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 54 years,	3	0	0	0	1	0	0	0	1	0	1	0	0
55 to 64 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0	0	0	0	0	0	0
Total,	115	2	3	8	5	4	3	21	30	14	14	11	5

REPORTED CASES AND DEATHS FROM ACUTE ANTERIOR POLIOMYELITIS IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	4	0	5	1	9	1
1 year,	12	2	9	1	21	3
2 years,	13	0	10	2	23	2
3 years,	9	2	6	0	15	2
4 years,	5	0	5	1	10	1
Under 5 years,	48	4	35	5	78	9
5 to 9 years,	5	2	15	5	20	7
10 to 14 years,	4	1	2	1	6	2
15 to 19 years,	2	2	3	1	5	3
20 to 24 years,	1	0	1	1	2	1
25 to 34 years,	1	0	0	0	1	0
35 to 44 years,	0	0	0	0	0	0
45 to 54 years,	2	1	1	0	3	1
55 to 64 years,	0	0	0	0	0	0
65 years and over,	0	0	0	1	0	1
Age not stated,	0	0	0	0	0	0
Total,	58	10	57	14	115	24

REPORTED CASES OF SCARLET FEVER IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	59	13	14	6	7	3	1	0	4	0	4	4	3
1 year,	159	24	28	25	17	9	13	7	4	6	4	8	14
2 years,	394	66	68	71	40	88	18	11	6	7	15	20	34
3 years,	391	106	80	104	69	60	27	11	14	13	16	29	60
4 years,	651	120	107	98	67	82	16	19	14	32	36	46	
Under 5 years,	1854	331	297	304	200	172	93	45	47	40	71	97	157
5 to 9 years,	3798	594	536	549	399	445	249	98	65	86	178	206	291
10 to 14 years,	1888	289	319	301	213	210	117	31	34	34	66	118	146
15 to 19 years,	908	98	102	112	83	56	30	13	13	8	9	45	57
20 to 24 years,	347	46	60	70	44	35	13	9	3	8	5	24	30
25 to 34 years,	386	66	68	59	54	36	18	7	6	9	7	21	35
35 to 44 years,	113	25	17	18	13	12	2	2	1	2	3	6	12
45 to 54 years,	28	7	6	2	2	1	1	0	0	1	2	3	1
55 to 64 years,	6	1	3	1	1	0	0	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	54	17	11	9	4	5	0	3	0	0	1	1	3
Total,	9066	1484	1419	1425	995	972	523	203	169	138	342	600	732

REPORTED CASES AND DEATHS FROM SCARLET FEVER IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Sex Not Stated.	Total	
	Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.
Under 1 year,	31	3	28	2	0	59	5
1 year,	76	9	83	2	0	159	11
2 years,	225	8	169	12	0	394	20
3 years,	303	9	288	10	0	591	19
4 years,	343	4	308	4	0	651	8
Under 5 years,	978	33	876	30	0	1854	63
5 to 9 years,	1843	10	1808	13	0	3786	26
10 to 14 years,	876	3	1012	4	0	1888	7
15 to 19 years,	300	0	306	6	0	606	6
20 to 24 years,	128	0	219	6	0	347	6
25 to 34 years,	132	2	254	4	0	386	6
35 to 44 years,	38	4	75	2	0	113	6
45 to 54 years,	10	0	16	1	0	26	1
55 to 64 years,	3	0	3	0	0	6	0
65 years and over,	0	0	0	0	0	0	0
Age not stated,	22	0	27	0	5	54	0
Total,	4835	52	4726	69	5	9068	121

REPORTED CASES OF SMALLPOX IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	1	0	0	1	0	0	0	0	0	0	0	0	0
1 year,	0	0	0	0	0	0	0	0	0	0	0	0	0
2 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
3 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
4 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
Under 5 years,	1	0	0	1	0	0	0	0	0	0	0	0	0
5 to 9 years,	4	2	0	0	0	1	0	1	0	0	0	0	0
10 to 14 years,	1	1	0	0	0	0	0	0	0	0	0	0	0
15 to 19 years,	1	1	0	0	0	0	0	0	0	0	0	0	0
20 to 24 years,	4	2	0	1	0	1	0	0	0	0	0	0	0
25 to 34 years,	3	1	1	0	0	0	0	0	0	0	1	0	0
35 to 44 years,	3	1	2	0	0	0	0	0	0	0	0	0	0
45 to 54 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
55 to 64 years,	1	0	0	0	0	0	0	0	0	0	0	1	0
65 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0	0	0	0	0	0	0	0
Total,	18	8	3	2	0	2	0	1	0	0	1	1	0

REPORTED CASES AND DEATHS FROM SMALLPOX IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	1	0	0	0	1	0
1 year,	0	0	0	0	0	0
2 years,	0	0	0	0	0	0
3 years,	0	0	0	0	0	0
4 years,	0	0	0	0	0	0
Under 5 years,	1	0	0	0	1	0
5 to 9 years,	3	0	1	0	4	0
10 to 14 years,	0	0	1	0	1	0
15 to 19 years,	0	0	1	0	1	0
20 to 24 years,	3	0	1	0	4	0
25 to 34 years,	2	2	0	1	3	3
35 to 44 years,	3	0	0	0	3	0
45 to 54 years,	0	0	0	0	0	0
55 to 64 years,	0	0	1	0	1	0
65 years and over,	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0
Total,	12	0	6	0	18	0

REPORTED CASES OF TUBERCULOSIS IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 1 year,	30	0	4	3	5	2	4	1	2	1	3	3	2
1 year,	50	3	6	4	4	3	1	6	6	4	3	4	6
2 years,	37	3	3	3	4	2	4	1	0	3	1	7	6
3 years,	46	5	3	3	4	3	4	1	6	4	2	0	4
4 years,	33	5	3	2	5	3	0	2	3	1	2	3	4
Under 5 years,	190	17	19	15	22	13	13	11	17	13	11	17	22
5 to 9 years,	298	33	15	28	15	21	26	25	16	16	21	20	20
10 to 14 years,	352	34	15	24	11	29	27	23	11	12	20	24	16
15 to 19 years,	494	44	33	57	45	52	50	43	28	33	47	28	29
20 to 24 years,	798	79	54	69	53	74	75	89	45	62	77	62	57
25 to 34 years,	1477	143	105	159	111	121	137	126	104	120	149	98	104
35 to 44 years,	979	93	63	73	71	96	108	94	65	81	86	84	78
45 to 54 years,	632	65	36	70	63	89	59	54	41	55	36	41	54
55 to 64 years,	323	30	25	35	33	23	27	23	16	32	26	23	23
65 years and over,	168	11	7	19	17	14	9	13	18	13	15	15	17
Age not stated,	50	5	2	2	5	7	1	6	4	2	4	8	4
Total,	5642	554	379	551	446	514	532	500	362	439	518	423	422

REPORTED CASES AND DEATHS FROM ANTHRAX IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 1 year,	0	0	0	0	0	0
1 year,	0	0	0	0	0	0
2 years,	0	0	0	0	0	0
3 years,	0	0	0	0	0	0
4 years,	0	0	0	0	0	0
Under 5 years,	0	0	0	0	0	0
5 to 9 years,	0	0	0	0	0	0
10 to 14 years,	0	0	0	0	0	0
15 to 19 years,	1	0	0	0	1	0
20 to 24 years,	1	0	0	0	1	0
25 to 34 years,	0	0	0	0	0	0
35 to 44 years,	0	0	0	0	0	0
45 to 54 years,	0	0	0	0	0	0
55 to 64 years,	0	0	0	0	0	0
65 years and over,	0	0	0	0	0	0
Age not stated,	0	0	0	0	0	0
Total,	2	1	0	0	2	1

REPORTED CASES OF CHANCROID IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 2 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
2 to 9 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
10 to 14 years,	0	0	0	0	0	0	0	0	0	0	0	0	0
15 to 19 years,	5	0	1	1	0	0	0	1	0	0	0	0	0
20 to 24 years,	18	2	0	4	0	0	0	3	4	1	3	1	0
25 to 34 years,	19	0	0	1	3	0	1	4	3	3	3	1	0
35 to 39 years,	3	0	0	1	0	0	0	0	0	1	0	0	1
40 to 49 years,	3	1	0	0	0	0	0	0	0	0	0	0	1
50 to 59 years,	3	0	0	0	1	1	0	0	0	0	0	0	1
60 years and over,	0	0	0	0	0	0	0	0	0	0	0	0	0
Age not stated,	1	0	1	0	0	0	0	0	0	0	0	0	0
Total,	50	3	2	7	4	1	1	8	7	5	7	3	2

REPORTED CASES OF GONORRHEA IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 2 years,	48	9	5	1	1	4	3	3	5	2	10	2	3
2 to 9 years,	52	1	4	1	3	0	3	4	12	7	6	6	5
10 to 14 years,	8	0	1	1	0	0	0	1	0	2	2	1	0
15 to 19 years,	302	31	14	19	23	34	20	23	20	32	23	24	28
20 to 24 years,	714	74	31	59	47	56	58	63	42	70	108	53	51
25 to 34 years,	729	76	42	65	52	61	53	74	58	72	85	50	41
35 to 39 years,	118	14	5	15	9	9	13	5	12	7	16	4	7
40 to 49 years,	97	6	0	8	9	3	9	11	8	8	13	7	9
50 to 59 years,	20	3	0	0	1	2	2	3	1	2	5	1	0
60 years and over,	9	1	1	1	0	1	0	1	1	2	5	1	0
Age not stated,	31	1	0	8	3	3	3	1	1	2	3	5	1
Total,	2126	216	100	178	150	173	164	191	169	204	272	155	145

REPORTED CASES OF SYPHILIS IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Months.

AGE GROUPS.	NUMBER OF CASES												
	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Under 2 years,	23	2	0	1	3	2	3	2	2	1	1	1	5
2 to 9 years,	66	4	4	1	5	5	8	6	1	4	10	8	12
10 to 14 years,	58	4	2	4	1	14	4	3	3	2	4	12	5
15 to 19 years,	190	20	12	18	13	23	20	19	11	15	12	19	8
20 to 24 years,	523	45	32	41	36	64	31	46	38	41	57	42	50
25 to 34 years,	922	86	59	91	78	108	60	60	60	71	98	80	71
35 to 39 years,	345	35	21	32	29	39	31	24	31	21	37	22	21
40 to 49 years,	453	27	51	39	61	32	38	22	37	42	43	32	32
50 to 59 years,	215	14	13	21	19	20	24	15	21	11	21	24	12
60 years and over,	91	6	5	10	8	5	14	5	6	6	11	5	10
Age not stated,	58	10	3	5	1	6	6	3	6	5	4	7	2
Total,	2944	225	181	275	230	346	233	221	201	214	297	263	228

REPORTED CASES AND DEATHS FROM VENEREAL DISEASES IN NEW JERSEY

For the Calendar Year 1922 by Age Groups and Sex.

AGE GROUPS.	Male		Female		Total	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Under 2 years,	28	28	43	19	71	47
2 to 9 years,	40	0	78	3	118	3
10 to 14 years,	29	1	37	1	66	2
15 to 19 years,	330	0	167	1	497	1
20 to 24 years,	966	4	289	7	1255	11
25 to 34 years,	1238	9	432	14	1670	23
35 years and over,	1014	84	339	30	1353	114
Age not stated,	60	0	30	0	90	0
Total,	3705	126	1415	75	5120	*20

*190 Deaths occurred from Syphilis.
11 Deaths occurred from Gonorrhoea.
0 Deaths occurred from Chancroid.

201 Total Deaths.

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR CHICKENPOX AND DIPHTHERIA.

COUNTIES.	CHICKENPOX.			DIPHTHERIA.			
	Cases.	Cases per 1000 Pop.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Per Cent. Fatality.	
Atlantic,	170	1.95	0	33	0.60	8	15.09
Bergen,	455	1.98	1	479	2.08	45	9.39
Burlington,	158	1.61	0	239	3.41	23	7.64
Camden,	236	1.40	0	731	3.69	48	6.39
Cape May,	33	1.70	0	29	1.49	3	10.34
Cumberland,	47	0.74	0	58	0.92	4	6.89
Essex,	2046	2.97	0	1063	1.54	96	8.92
Gloucester,	74	1.45	0	90	1.76	3	8.58
Hudson,	423	0.65	0	1619	2.47	129	7.96
Hunterdon,	23	0.70	0	34	1.03	3	8.82
Mercer,	136	0.80	0	912	5.40	68	7.45
Middlesex,	107	0.61	0	496	2.85	47	9.43
Monmouth,	136	1.45	0	69	0.64	10	14.49
Morris,	182	2.11	0	146	1.72	11	7.53
Ocean,	15	0.67	0	9	0.40	0	0
Passaic,	487	1.80	0	619	2.28	41	6.62
Salem,	56	0.90	0	49	1.23	4	8.16
Schenectady,	81	1.60	0	43	0.85	5	11.62
Sussex,	7	0.28	0	14	0.57	1	7.14
Union,	626	2.90	1	734	3.40	43	5.85
Warren,	1	0.02	0	49	1.07	9	18.26
Total,	5554	1.67	2	7613	2.29	606	7.94

DEPARTMENT OF HEALTH.

REPORTED CASES AND DEATHS BY COUNTIES FOR 1922 FROM DYSENTERY,
LEPROSY, OPHTHALMIA NEONATORUM AND PARATYPHOID FEVER.

COUNTIES.	DYSENTERY.		LEPROSY.		OPHTHALMIA NEONATORUM.		PARA- TYPHOID.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Atlantic,	0	0	0	0	3	0	1	0
Bergen,	0	0	0	0	1	0	0	0
Burlington,	1	0	0	0	1	0	0	0
Camden,	0	2	0	0	1	0	0	0
Cape May,	0	0	0	0	0	0	0	0
Cumberland,	0	0	0	0	3	0	0	0
Essex,	17	7	1	0	31	0	2	0
Glocester,	0	1	0	0	0	0	0	0
Hudson,	3	5	0	0	3	0	0	0
Hunterdon,	0	1	0	0	6	0	0	0
Mercer,	0	0	0	0	3	0	0	0
Middlesex,	0	2	0	0	2	0	0	0
Monmouth,	1	1	0	0	1	0	0	0
Morris,	0	0	0	0	1	0	0	0
Ocean,	0	0	0	0	0	0	0	0
Passaic,	2	0	0	0	1	0	0	0
Salem,	0	0	0	0	0	0	0	0
Somerset,	0	0	0	0	0	0	0	0
Sussex,	0	0	0	0	0	0	0	0
Union,	0	0	0	0	2	0	2	0
Warren,	6	0	0	0	0	0	0	0
State,	24	20	1	0	53	0	5	0

REPORTED CASES AND DEATHS, DEATH RATE AND FATALITY RATES BY COUNTIES
FOR 1922, FOR INFLUENZA AND PNEUMONIA.

COUNTIES.	INFLUENZA.				PNEUMONIA.			
	Cases.	Deaths.	Deaths Per 1000 Pop.	Per Cent. Fatality	Cases.	Deaths.	Deaths Per 1000 Pop.	Per Cent. Fatality
Atlantic,	26	17	0.19	65.38	36	105	1.20	*
Bergen,	504	37	0.16	7.34	391	246	1.07	62.51
Burlington,	149	27	0.31	18.12	94	89	1.03	94.68
Camden,	62	31	0.15	30.00	185	302	1.48	*
Cape May,	34	4	0.20	11.76	12	29	1.49	*
Cumberland,	15	18	0.28	*	63	63	1.00	100.00
Essex,	3338	80	0.11	2.85	3680	764	1.11	20.78
Glocester,	22	7	0.13	31.81	59	55	1.07	93.22
Hudson,	490	88	0.13	17.95	541	937	1.43	*
Hunterdon,	21	6	0.18	28.57	13	54	1.65	*
Mercer,	298	51	0.30	17.11	610	259	1.53	42.45
Middlesex,	52	29	0.16	55.76	128	212	1.21	*
Monmouth,	172	17	0.15	9.88	113	132	1.41	*
Morris,	125	11	0.12	8.80	178	91	1.07	51.12
Ocean,	2	6	0.26	*	3	18	0.80	*
Passaic,	1875	44	0.16	2.34	263	320	1.19	*
Salem,	4	7	0.17	*	17	32	0.81	*
Somerset,	33	7	0.13	21.21	41	52	1.03	96.29
Sussex,	52	7	0.28	13.46	85	45	1.84	52.94
Union,	135	38	0.17	28.14	237	248	1.15	96.49
Warren,	1	11	0.24	*	2	41	0.90	*
State,	7430	543	0.16	7.30	6782	4114	1.24	60.66

* More deaths than cases reported.

LOCAL HEALTH ADMINISTRATION.

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR
MALARIA AND EPIDEMIC CEREBROSPINAL MENINGITIS.

COUNTIES.	MALARIA.				EPIDEMIC CEREBRO- SPINAL MENINGITIS.			
	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.
Atlantic,	0	0	0	0	0	0	1	*
Bergen,	3	0.01	0	0	8	0.03	4	50.00
Burlington,	0	0	0	0	0	0	1	*
Camden,	0	0	0	0	2	0.009	3	*
Cape May,	0	0	0	0	0	0	0	0
Cumberland,	0	0	0	0	3	0.04	1	33.33
Essex,	33	0.04	1	3.03	39	0.03	20	51.28
Glocester,	0	0	0	0	3	0.05	2	66.66
Hudson,	2	0.003	1	50.00	21	0.03	20	95.23
Hunterdon,	0	0	0	0	1	0.03	0	0
Mercer,	6	0.03	0	0	2	0.01	2	*
Middlesex,	6	0.03	0	0	3	0.01	5	*
Monmouth,	4	0.03	0	0	2	0.01	1	50.00
Morris,	3	0	0	0	3	0.03	2	66.66
Ocean,	0	0	0	0	1	0.04	1	100.00
Passaic,	9	0.03	0	0	4	0.01	4	100.00
Salem,	0	0	0	0	0	0	0	0
Somerset,	7	0.13	0	0	3	0.05	2	66.66
Sussex,	6	0.24	0	0	2	0.08	1	50.00
Union,	2	0.009	0	0	17	0.07	8	47.06
Warren,	0	0	1	*	0	0	0	0
State,	78	0.02	3	3.84	114	0.03	79	69.29

* More deaths than cases reported.

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR
MEASLES AND GERMAN MEASLES.

COUNTIES.	MEASLES.				GERMAN MEASLES.			
	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.
Atlantic,	633	7.50	5	0.76	2	0.02	0	0
Bergen,	1313	5.72	14	1.06	39	0.16	0	0
Burlington,	808	5.92	7	1.37	5	0.06	0	0
Camden,	703	3.46	8	0.85	1	0.004	0	0
Cape May,	189	9.74	0	0	3	0.15	0	0
Cumberland,	486	7.72	2	0.41	3	0.04	0	0
Essex,	7173	10.42	63	0.87	363	0.53	0	0
Glocester,	273	3.35	1	0.36	6	0.11	0	0
Hudson,	3100	4.76	39	2.86	3	0.004	0	0
Hunterdon,	67	2.94	0	0	0	0	0	0
Mercer,	1441	8.54	42	2.91	4	0.02	0	0
Middlesex,	391	2.23	15	3.82	10	0.05	0	0
Monmouth,	844	7.84	7	0.82	13	0.13	0	0
Morris,	672	7.92	7	1.04	11	0.12	0	0
Ocean,	46	2.05	0	0	0	0	0	0
Passaic,	2474	9.15	30	1.21	6	0.02	0	0
Salem,	83	2.12	0	0	1	0.02	0	0
Somerset,	269	5.34	4	1.48	2	0.03	0	0
Sussex,	15	0.61	1	6.66	0	0	0	0
Union,	1942	9.00	15	0.77	198	0.91	0	0
Warren,	8	0.17	0	0	0	0	0	0
State,	22661	6.83	308	1.35	677	0.20	0	0

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR ACUTE ANTERIOR POLIOMYELITIS AND SCARLET FEVER.

COUNTIES.	POLIOMYELITIS.				SCARLET FEVER.			
	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.
Atlantic,	2	0.02	0	0	215	2.47	2	0.93
Bergen,	6	0.02	0	0	588	2.50	9	1.53
Burlington,	3	0.03	2	66.66	228	2.66	3	1.31
Camden,	1	0.004	1	100.00	244	1.20	3	1.22
Cape May,	0	0	0	0	39	2.01	0	0
Cumberland,	4	0.06	2	50.00	143	2.27	2	1.38
Essex,	33	0.04	5	15.15	2623	3.81	32	1.21
Gloucester,	0	0	0	0	95	1.86	1	1.06
Hudson,	10	0.01	2	20.00	1303	1.99	32	2.45
Hunterdon,	2	0.06	0	0	73	2.23	1	1.36
Mercer,	3	0.01	2	66.66	405	2.40	5	1.23
Middlesex,	9	0.05	2	22.22	611	3.49	5	0.81
Monmouth,	5	0.04	0	0	604	5.61	2	0.33
Morris,	1	0.01	0	0	250	2.94	4	1.60
Ocean,	2	0.08	0	0	16	0.71	0	0
Passaic,	18	0.04	5	38.46	618	2.28	7	1.13
Salem,	1	0.02	0	0	57	1.48	0	0
Somerset,	0	0	0	0	110	2.13	0	0
Sussex,	1	0.04	1	100.00	20	0.81	0	0
Union,	19	0.08	2	10.52	794	3.68	9	1.13
Warren,	0	0	0	0	30	0.65	4	13.33
State,	115	0.03	24	20.86	9066	2.73	121	1.33

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR SMALLPOX AND TUBERCULOSIS.

COUNTIES.	SMALLPOX.				TUBERCULOSIS.			
	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.
Atlantic,	0	0	0	0	153	1.75	82	53.59
Bergen,	0	0	0	0	262	1.14	178	67.93
Burlington,	1	0.01	0	0	122	1.40	71	59.16
Camden,	10	0.04	0	0	438	2.15	209	47.71
Cape May,	0	0	0	0	13	0.67	13	100.00
Cumberland,	0	0	0	0	59	0.93	52	88.13
Essex,	3	0.004	0	0	1639	2.35	687	41.91
Gloucester,	0	0	0	0	50	0.98	39	78.00
Hudson,	1	0.001	0	0	980	1.50	649	66.22
Hunterdon,	0	0	0	0	20	0.61	21	*
Mercer,	1	0.005	0	0	349	2.06	212	60.91
Middlesex,	0	0	0	0	238	1.36	150	63.02
Monmouth,	0	0	0	0	198	1.84	106	53.53
Morris,	0	0	0	0	129	1.52	92	71.31
Ocean,	0	0	0	0	28	1.25	26	92.85
Passaic,	2	0.007	0	0	413	1.52	249	60.29
Salem,	0	0	0	0	40	1.02	25	62.50
Somerset,	0	0	0	0	63	1.25	49	77.77
Sussex,	0	0	0	0	27	1.10	32	*
Union,	0	0	0	0	407	1.88	207	50.85
Warren,	0	0	0	0	17	0.37	26	*
State,	18	0.005	0	0	5642	1.70	3175	56.27

*More deaths than cases reported.

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR TYPHOID FEVER AND WHOOPING COUGH.

COUNTIES.	TYPHOID FEVER.				WHOOPING COUGH.			
	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases per 1000 Pop.	Deaths.	Per Cent. Fatality.
Atlantic,	29	0.33	5	17.24	17	0.19	6	35.29
Bergen,	23	0.10	4	16.90	239	1.04	7	2.92
Burlington,	47	0.54	10	21.27	94	1.09	4	4.23
Camden,	85	0.41	10	11.76	32	0.15	2	6.25
Cape May,	10	0.51	0	0	2	0.10	0	0
Cumberland,	16	0.25	2	12.50	6	0.09	0	0
Essex,	166	0.24	15	9.03	3488	5.94	40	1.15
Gloucester,	21	0.41	3	14.23	7	1.33	1	14.29
Hudson,	35	0.05	10	28.57	297	0.45	66	22.22
Hunterdon,	4	0.12	1	25.00	16	0.48	1	6.25
Mercer,	60	0.35	13	21.66	187	1.10	20	10.69
Middlesex,	25	0.14	2	8.00	77	0.44	29	37.66
Monmouth,	74	0.68	12	16.21	88	0.81	9	10.22
Morris,	15	0.17	1	6.66	241	2.84	3	1.24
Ocean,	1	0.04	0	0	4	0.17	0	0
Passaic,	39	0.14	7	17.94	516	1.90	17	3.29
Salem,	26	0.71	6	21.42	3	0.07	3	100.00
Somerset,	4	0.07	0	0	33	0.65	1	3.03
Sussex,	122	4.99	18	14.75	6	0.24	0	0
Union,	39	0.18	10	25.64	555	2.57	23	4.14
Warren,	6	0.13	0	0	0	0	0	0
State,	851	0.25	129	15.53	5888	1.77	232	3.94

REPORTED CASES AND DEATHS BY COUNTIES FOR 1922 FROM RABIES, TRACHOMA AND TRICHINOSIS.

COUNTIES.	RABIES.		TRACHOMA.		TRICHINOSIS.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Atlantic,	0	0	0	0	0	0
Bergen,	0	0	7	0	0	0
Burlington,	0	0	0	0	0	0
Camden,	0	0	0	0	0	0
Cape May,	0	0	0	0	0	0
Cumberland,	0	0	0	0	0	0
Essex,	1	0	18	0	2	0
Gloucester,	0	0	0	0	0	0
Hudson,	0	0	2	0	0	0
Hunterdon,	0	0	0	0	0	0
Mercer,	0	0	0	0	0	0
Middlesex,	0	0	0	0	0	0
Monmouth,	0	0	2	0	0	0
Morris,	0	0	0	0	0	0
Ocean,	0	0	0	0	0	0
Passaic,	0	0	10	0	0	0
Salem,	0	0	0	0	0	0
Somerset,	0	0	0	0	0	0
Sussex,	0	0	2	0	0	0
Union,	0	0	1	0	0	0
Warren,	0	0	0	0	27	1
State,	1	1	42	0	29	1

DEPARTMENT OF HEALTH.

CASE INCIDENCE AND INDICATED FATALITY RATES BY COUNTIES FOR 1922, FOR GONORRHEA, SYPHILIS, AND CHANCROID.

COUNTIES.	GONORRHEA.				SYPHILIS.				CHANCROID.	
	Cases.	Cases Per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases Per 1000 Pop.	Deaths.	Per Cent. Fatality.	Cases.	Cases Per 1000 Pop.
Atlantic,	131	1.50	1	0.76	181	2.08	16	8.83	0	0
Bergen,	64	0.27	2	3.12	71	0.30	16	22.33	1	0.004
Burlington,	68	0.79	0	0	33	0.38	6	18.18	6	0.07
Camden,	250	1.23	0	0	225	1.09	12	5.38	5	0.02
Cape May,	7	0.36	0	0	4	0.20	2	50.00	0	0
Cumberland,	58	0.92	0	0	112	1.77	3	2.67	0	0
Essex,	793	1.15	2	0.25	775	1.12	32	4.12	22	0.03
Gloucester,	28	0.54	0	0	19	0.37	3	15.78	1	0.01
Hudson,	2131	0.32	2	0.93	3338	0.51	30	8.87	5	0.007
Hunterdon,	9	0.27	0	0	56	1.71	3	5.35	0	0
Mercer,	134	0.79	0	0	362	2.14	16	4.41	1	0.005
Middlesex,	26	0.14	0	0	46	0.26	4	8.69	1	0.005
Monmouth,	37	0.32	1	1.75	194	1.80	10	5.15	0	0
Morris,	29	0.30	0	0	97	1.14	5	5.15	0	0
Ocean,	9	0.40	0	0	4	0.17	0	0	1	0.04
Passaic,	154	0.56	3	1.94	195	0.72	13	6.66	4	0.01
Salem,	17	0.43	0	0	23	0.64	8	32.00	2	0.05
Somerset,	3	0.05	0	0	23	0.43	1	4.34	0	0
Sussex,	6	0.24	0	0	7	0.28	0	0	0	0
Union,	65	0.30	0	0	171	0.79	8	4.67	1	0.004
Warren,	1	0.02	0	0	3	0.06	2	66.66	0	0
State,	2119	0.63	11	0.51	2939	0.88	190	6.46	50	0.01

Report of the Bureau of Food and Drugs.

WALTER W. SCOFIELD, CHIEF.

The purpose of laws passed by Congress and the different States to prevent the adulteration and misbranding of foods is to enable the consumer to secure foods which are wholesome and which meet certain established standards of quality or strength and which are not misrepresented by false or misleading statements. The Departments charged with the enforcement of such laws have been granted authority generally by the law-making bodies, to draft regulations and standards for the enforcement of the acts.

In general, public opinion has supported these laws liberally, and the gross adulteration of foods with foreign substances has become relatively rare. The greater interest shown by associations of women recently in the purity of foodstuffs, has been most effective in checking such forms of adulteration.

Various associations of food manufacturers have also gone on record as favoring pure foods, and have assisted materially in securing legislation and food standards intended to prevent unfair practices. Such efforts are to be commended and encouraged, as the support of those directly affected is most essential for the successful enforcement of law and regulation. It does seem necessary, however, to point out that certain associations of food manufacturers have succeeded in directing public opinion to relatively minor adulterations of food for the purpose of diverting attention away from the real purpose of the proposed legislation. While attention has been diverted to the correction of such minor forms of adulteration, definitions and standards which aim to make legal the use of questionable ingredients, or which fix low limits of quality or strength, have

been inserted in other sections of the same legislation, and have been enacted without objection from the public.

Legal standards for the strength and quality of foods which have been established in the past, cannot be considered as ideal, but do represent the minimum fixed as a basis of control. Much of the food on the market exceeds these minimum standards in quality or strength, although it is becoming a common practice to reduce the quality and strength of foods to the legal standard.

Without exception legal standards for foods have been fixed at such reasonable points that all foods which have been produced, prepared and distributed with ordinary care and without adulteration or misbranding of them, will meet such standards. It seems necessary to make every effort to prevent any lowering of these liberal standards, as the general consumption of foods which fall below such liberal standards would result in general impairment of the health of the public at large, and also in fraud of great proportions.

During the past year emphasis has been placed upon the necessity of securing the adoption of uniform ordinances and regulations to govern the production and handling of milk by municipalities. The model milk ordinance which was prepared by this Bureau in 1922, has been distributed throughout the State and has been discussed with health and agricultural officials and milk producers and distributors. Several of the local boards of health have adopted it after public hearings and many boards are giving it consideration with a view toward its adoption. It is pleasing to note that the officials of the State Department of Agriculture and the State Experiment Station, as well as agricultural associations, are supporting and working for the adoption of this ordinance by local boards of health.

The principal thought which we had in mind in preparing this ordinance was to include only those requirements which seemed practical and which were essential for the protection of milk supplies, and which would not impose unnecessary burdens upon the producer, the distributor, and those charged with the enforcement of the ordinance.

This ordinance provides for three grades or classes of milk: "Certified," "Raw," and "Pasteurized." The ordinance requires

that "Certified Milk" shall be produced in accordance with Chapter 237 of the Laws of 1909 and with the requirements of Section 11 of the State Sanitary Code; that "Raw Milk" shall be produced by cows which have successfully passed a tuberculin test within a period of twelve months of the sale of the milk and that all milk other than "Certified Milk" and "Raw Milk" shall be pasteurized.

Another important requirement of the ordinance deals with the labeling of milk and cream and prohibits the use of symbols, designs, devices or statements of indefinite character, which have frequently resulted in misleading consumers regarding the quality of milk and cream so labeled.

Dairy Inspection.—It is gratifying to note a general improvement in the sanitary conditions of dairy premises upon re-inspection of certain supplies after recommendations for changes and improvements had been made by notice from the Department. This work has been carried out to a large extent in co-operation with local officials. As a result of this co-operative work, there has been much less confusion from conflicting orders and duplication of inspections.

The testing of milk for sediment or visible dirt, upon delivery at creameries and milk receiving stations, has been a most valuable aid in securing clean milk. 1,182 sediment tests have been made during the year at milk receiving stations located in Southern New Jersey. The cotton discs used to filter the milk were dried, and those showing considerable sediment were mailed to the producers of the milk, together with a recommendation that the necessary care be taken to prevent the contamination of the milk by dirt. Other sediment tests made a short time after the first discs and recommendations were sent out, showed that a considerable improvement had taken place.

The sediment test is an excellent method of showing the presence of dirt in milk. As far as possible, these tests were made in the presence of the producers to create an interest in the production of clean milk. It is intended to continue this work in other sections of the State during the coming year.

The Bureau has followed the policy adopted by the Department, of recommending only those changes in equipment or

methods which are necessary to secure a clean milk. We believe that this reasonable policy has brought about a better understanding between dairymen and food officials. The support of milk producers is necessary in order to accomplish the successful enforcement of regulations which affect them so vitally.

It has been necessary, however, to take drastic action in certain cases to compel dairymen to produce milk under sanitary conditions, where it has been found that recommendations for improvements have been ignored. In certain cases, the sale of milk has been prohibited until insanitary conditions and practices have been remedied.

1,780 inspections have been made of dairy premises. Physical Examination of Dairy Animals—Section 5, Chapter 78, of the Laws of 1914, requires that each dairyman engaged in the production of milk for sale, shall submit a certificate to the Department of Health of the State of New Jersey, at least once each year, stating the results of the examination of the cows, signed by a duly licensed veterinarian, with reference to the existence of any disease with which the animals may be affected. A compilation of the data contained in reports of physical examinations of dairy animals which were received during the period from July 1, 1921, to January 1, 1922, shows that the number of animals examined was 30,227, and 119 animals were reported as suspected of being affected with tuberculosis. From January 1, 1922, to July 1, 1922, there were 48,725 animals examined, and 135 were suspected of being affected with tuberculosis. During the period from July 1, 1922, to January 1, 1923, the number of animals examined was 25,010, and 91 were reported as suspected of being affected with tuberculosis. During the time from January 1, 1923, to July 1, 1923, there were 46,598 animals examined, and 83 were suspected of being affected with tuberculosis.

Upon receipt of information that animals are suspected of being affected with tuberculosis, as a result of these physical examinations made by veterinarians, a notice is sent to the dairyman calling his attention to the fact that the sale of milk from a diseased animal constitutes a violation of the Food and Drug Act of this State. The Bureau has continued to make every effort

to prevent the sale of milk from animals affected with disease, and many replies have been received from dairymen as a result of these notices, that the sale of milk from diseased animals has been discontinued. Information regarding suspected cases of tuberculosis in dairy animals, received by the Department, is reported to the Bureau of Animal Industry, New Jersey Department of Agriculture, which has control of diseases in animals.

Creameries and Milk Pasteurizing Plants.—The process of pasteurization of milk is growing in popularity, both among the milk dealers and consumers, and from a public health standpoint, it is to be greatly encouraged on account of the safety it affords against disease-producing organisms. It is frequently argued that pasteurized milk may have been produced and handled under insanitary conditions, and for this reason may be regarded as an inferior product. The production and sale of milk which is filthy, or which is produced and handled under insanitary conditions, constitutes a violation of the laws of this State, whether it is intended for pasteurization or not. This Bureau makes inspections of premises upon which milk is produced and intended for sale to proprietors of pasteurizing plants, and exactly the same recommendations are made for changes in equipment and methods, as are made in the case of dairymen who produce milk intended for sale in the raw state.

The Department considers the pasteurization of milk important enough to devote much time to the inspection and control of the 200 creameries and pasteurizing plants in the State. During the year, 729 visits have been made to these plants. With few exceptions, they have been operated in a satisfactory manner. As in the past, strict attention has been given to the requirement of proper temperature for pasteurizing milk. It has been the aim of the Department to impress upon every milk dealer the advantages of pasteurization in safe-guarding milk against disease-producing organisms. This safety depends almost entirely upon correct heating and holding temperatures. Other important matters urged upon all milk dealers have been the necessity of insisting upon a supply of milk that has been carefully produced and handled before pasteurization; prompt cooling of the milk

after pasteurization to 50° F. or below; thorough cleansing of all equipment and containers for milk; proper marking of bottle caps, and cleanliness of employees in handling milk. Licenses have been withheld from proprietors of pasteurizing plants or creameries, who have neglected to comply with our regulations. However, such action has been necessary in but a very few cases.

At a meeting of the Department held on April 3, 1923, Regulation 27, of the Rules governing the operation of creameries and milk pasteurizing plants, regarding the washing of bottles and other containers, was amplified so as to make it applicable to improved bottle washing apparatus, and result in greater efficiency in this important work. This regulation now reads as follows:

"Bottles, cans, or other receptacles used as containers for milk and its products, shall be cleansed by washing with a solution of at least one per cent. alkali, regarding the washing of bottles and other containers, was amplified so as to make it applicable to improved bottle washing apparatus, and result in greater efficiency in this important work. This regulation now reads as follows:

"Bottles, cans, or other receptacles used as containers for milk and its products, shall be cleansed by washing with a solution of at least one per cent. alkali, scrubbed inside and out with suitable brushes, then rinsed with warm water, then scalded with hot water or steam. If any other method is used, such method shall result in the same degree of cleanliness as the method described."

Certified Milk.—Investigations have been made of the production and distribution of certified milk for the purpose of ascertaining whether or not the provisions of the law and of the State Sanitary Code were fulfilled. In general, the regulations of the State Sanitary Code have been carried out in a careful and intelligent manner by the producers and the medical milk commissions.

This Department recommended that one additional safeguard be placed over the production of certified milk, the laboratory examination of specimens from the throats and also specimens of stools and urine from all persons engaged in the handling of milk. This work is necessary if the chronic carriers of diphtheria and typhoid fever are to be detected. An offer was made by this Department to examine such specimens from all employees on certified milk dairies located in this State, without charge. All of the commissions certifying to milk sold in this State have carried out this suggestion voluntarily. The value of this work has been demonstrated in that diphtheria carriers have been detected before they handled milk. The voluntary action of the

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medical milk commissions in carrying out this recommendation shows the close co-operation which exists between dairymen, medical milk commissions and law enforcement officials.

Ice Cream.—Upon the retirement of Mr. George W. McGuire, in 1922, the enforcement of Chapter 5 of the laws of 1922 was transferred to this Bureau. Samples of ice cream from manufacturers in different parts of the State have been collected for analysis. Sanitary inspections have been made of the establishments where ice cream is manufactured in this State as well as of those establishments in other States from which ice cream is shipped into New Jersey.

The results of the examinations made of samples of ice cream prove that ice cream as sold in this State generally complies with the present standard of eight per cent. milk fats and of six per cent. milk fats when the ingredients include fruit, nuts and eggs. Examinations were also made to detect the presence of fats other than milk fats but no adulteration of this character was discovered.

From the results of examinations made of samples of ice cream the conclusion is drawn that the minimum standard of milk fats which shall be present in ice cream as fixed by law is too low. Ice cream should be the frozen product made from cream with the addition of other milk products or eggs and flavoring materials and should have the general characteristics of a product made from cream.

As a result of our investigations it has been found that certain of the ice cream manufacturers have realized that there was a demand for a product which contained a higher percentage of milk fats than that specified by the act. These manufacturers have prepared and sold ice cream which has been found to average at least 10 per cent. of milk fats.

It is pleasing to report that there are a few manufacturers of ice cream who do not use gelatine, vegetable gums or other fillers but who use only milk products, sugar, certified colors and flavoring substances. While a section of the ice cream law permits the use of gelatine and vegetable gums in ice cream, the average consumer expects ice cream to be made from milk products and flavoring substances, which are held in a semi-solid frozen con-

dition without the aid of foreign stiffening agents. It has been demonstrated that ice cream may be successfully made and distributed on a commercial scale without the use of these fillers and stiffening agents.

On the other hand, there are a group of manufacturers who attempt to prepare ice cream which barely complies with the legal standard for milk fats. When this grade of product is prepared, there is a tendency to use a considerable quantity of fillers or stiffening agents in order to imitate the characteristics of a product rich in milk fats and solids.

We have pointed out in past years the importance of the pasteurization of milk in order to protect the consumer from the possibility of the transmission of disease by this food. It seems equally important that cream and milk products, which are used in ice cream, be pasteurized to afford the same protection. While a large proportion of the milk and cream used in ice cream is pasteurized, a considerable quantity is prepared and sold in this State from raw dairy products. The Bureau recommends the use of pasteurized cream and milk products in the preparation of ice cream.

As a result of the sanitary inspections made of ice cream manufacturing establishments, it has been learned that many of them are located in cellars or basements. These cellar plants can be divided into three classes; the well constructed and well equipped plant, the plant constructed and equipped fairly well, and the plant which is a common cellar with beam ceiling and rough side-walls. In these poorly constructed plants the heater and coal bin are generally located in the manufacturing room and miscellaneous articles not used in the manufacture of ice cream are stored there. This type of a plant is usually conducted in the basements of bakeries, confectionery stores and ice cream stores. The ventilation and lighting is inadequate in a large number of these plants and the drainage system is poor. Many of these establishments have been operated for a long period of time without reconstruction and without material improvement.

There are many establishments located in cellars which are finely equipped and are operated in strict compliance with the provisions of the Sanitary Act. These plants demonstrate the

fact that a cellar or basement may be a satisfactory place in which to manufacture ice cream, providing the proper construction and equipment is used and providing the operations are conducted under clean conditions. However, the Bureau has made recommendations that changes be made in many of the poorly constructed and equipped places which will result in preventing contamination of the product. This work will be continued during the coming year.

1,005 inspections have been made of the 520 ice cream plants in this State.

Concentrated Milk and Filled Milk.—Chapter 110 of the Laws of 1922 fixes standards for condensed whole milk, sweetened condensed milk and condensed skimmed milk. This act prohibits the sale of milk, cream or concentrated milks to which any fats or oils other than milk fats had been blended or mixed.

Samples of concentrated milks were collected and analyzed. All of the samples analyzed were found to comply with the standard. Investigations were made of the stocks of concentrated milks in the possession of grocers of the State to ascertain whether or not milk products to which fats other than milk fat had been mixed, were being offered for sale. Our investigations proved that the manufacturers of these filled milks had recalled them from the dealers of this State and no violations of this law have been discovered.

Cider Vinegar.—An investigation was made during the year of the cider vinegar sold in this State. At the present time, the Food Law fixes a definite standard of acidity, apple solids, ash and alkalinity of ash for cider vinegar. The general provisions of this act also classifies as "adulterated" an article of food if any substance has been substituted wholly or in part for the article. It has become a common practice of cider vinegar manufacturers and bottlers to dilute cider vinegar with water to the minimum standard of four per cent acidity. This practice has been fostered by a ruling issued by a Secretary of the United States Department of Agriculture several years ago, permitting dilution, providing a statement was made upon the label or container that the vinegar had been diluted to four per cent acidity. No ruling or regulation of this kind has been adopted in this State. As a

result of the examinations made of samples of cider vinegar collected by the Bureau, it has been found that many samples of vinegar have been diluted so that the acidity is less than the legal standard four per cent. acidity and the other constants fall below the minimum standard fixed by the law. Warnings have been sent to vendors of such sub-standard products advising them to sell only such cider vinegar as complies with the standard in force in this State.

Certain manufacturers of cider vinegar have drawn up a proposed uniform law and attempts have been made by them to secure the necessary changes in existing laws or the adoption of this proposed law in order that the laws of the different states may be uniform. This proposed law would fix a standard for acidity of 4 per cent. but no other constants are mentioned. This Bureau favors attempts to secure uniformity in legislation but it is opposed to any proposed legislation which will lower the standards for foods now in effect and it is believed that this proposed law would result in lowering the standard of cider vinegar, if it is enacted.

The Bureau discovered that vinegar which was not cider vinegar, but a product which was artificially colored to imitate that article, was being sold in this State as cider vinegar. Legal action was brought against those persons who offered this material for sale.

Non-Alcoholic Beverages.—Much attention has been given to the inspection of establishments where non-alcoholic beverages are prepared and bottled and large numbers of samples of beverages have been collected for laboratory examination. The sanitation of certain of these establishments was found to be poor at the time of our first inspection during the year and orders in writing were forwarded in those cases in which changes in equipment or methods were needed. Reinspections were made after a reasonable period of time had elapsed and improvement was found in most of the establishments. As pointed out in the report of the Bureau for 1922 it seems necessary to secure legislation which would require all persons operating establishments where non-alcoholic beverages are prepared and bottled to obtain a license from this Department. A bill was introduced in the

Legislature at the last session which provided for such licensing, but this bill did not become a law. The Bureau recommends that another attempt be made to secure such legislation.

Large numbers of samples of non-alcoholic beverages have been collected and a large percentage of them were found to contain saccharin in violation of Chapter 357 of the Laws of 1915. Hearings have been granted to those persons charged with the violation and generally the admission has been made that saccharin was used intentionally with the knowledge that it constituted a violation of the laws of the State. In many of these cases first offense penalties of \$50.00 each have been paid and several second and third offense penalties of \$100.00 and \$200.00 respectively have been received. Samples of non-alcoholic beverages prepared in other States and shipped into New Jersey have also been collected and in one case saccharin was found. A penalty was collected from this firm. Samples collected from the possession of manufacturers outside the State have been found in general to be free from adulteration.

Cold Storage.—Demands were made upon the Department for the adoption of regulations which would permit the holding of foods for periods of time less than thirty days, in special rooms in the warehouses, without marking the goods with the words "Cold Storage." It is necessary at times to place perishable foods under refrigeration for short periods of time in order to make arrangements for distribution or to afford time for repacking of goods. The following regulations were adopted to meet this situation:

Supplement to Rules and Regulations Governing Cold Storage and Refrigerating Warehouses and Places.

Adopted April 4, 1922.

18. Special rooms in cold storage warehouses may be used for the temporary storage of foods providing the door or doors of the rooms intended for such use are plainly marked "For temporary storage only." For the purpose of this regulation "Temporary Storage" shall be held to mean the holding of foods for periods of time less than thirty days.

19. All foods placed in temporary storage shall be plainly marked, stamped or tagged, either upon the container in which they are packed or upon the article of food itself, with the word "Received" or its abbreviation, followed by marks indicating the day, month and year when placed therein and no further marking shall be required while such goods remain in such temporary storage.

Investigations proved that certain firms were attempting to evade the provisions of the cold storage law and regulations relative to the labeling of cold storage foods, by attaching cards or labels to wooden containers by means of small tacks and by instructing the warehousemen to place the dates of entrance into storage upon them. These cards or labels could be removed very easily and in that way all marks to indicate that the foods had been in cold storage were destroyed. In order to prevent this practice the following regulation was adopted by the Department:

"If tags or labels are used, on which dates of entrance into cold storage are to be marked, in the case of articles of food packed in containers other than those of metal, such tags or labels shall be securely fastened to the container by some adhesive material."

The inspections made of cold storage warehouses prove that the cold storage rooms have been maintained at temperatures suitable for the preservation of the foods stored in them. It has also been found that the storage rooms have been maintained in a clean and sanitary manner.

Very few requests for extensions of the period of storage have been received during the year. A detailed report of the extensions granted for the storage of foods for periods longer than twelve months will be found in the report of the Director.

The following table shows the kinds and amounts of foods held in cold storage warehouses in this State on the last day of each month during the year:

SUMMARY OF THE KINDS AND AMOUNTS OF FOODSTUFFS HELD IN NEW JERSEY ON THE LAST DAY OF EACH MONTH DURING THE PAST YEAR

ARTICLE	July 1922	Aug. 1922	Sept. 1922	Oct. 1922	Nov. 1922	Dec. 1922	Jan. 1923	Feb. 1923	Mar. 1923	April 1923	May 1923	June 1923
Eggs, cases,	768,252	724,531	623,811	501,670	330,632	144,855	27,261	227	19,448	251,539	647,345	917,743
Eggs, broken—lbs.,	952,937	819,081	707,966	690,865	574,680	853,959	356,637	198,859	274,455	255,195	618,335	840,440
Cheese, lbs.,	746,443	1,053,804	889,092	919,346	725,723	570,364	521,065	376,414	299,357	208,903	526,019	830,515
Butter, lbs.,	3,861,847	4,331,985	3,511,610	2,134,688	1,295,146	764,252	475,578	522,780	279,881	96,322	234,627	2,868,991
Poultry, lbs.,	2,197,111	1,895,931	1,926,942	1,984,085	3,693,629	7,607,828	10,195,592	10,611,943	8,900,350	6,903,845	4,882,175	5,149,906
Fresh meats, lbs.,	4,154,836	4,150,465	4,057,577	4,207,253	3,692,979	4,692,765	6,152,560	6,592,569	8,207,578	7,621,094	6,970,879	7,930,727
Fresh fish, lbs.,	420,066	449,079	1,016,914	1,703,561	1,814,048	1,570,761	606,625	270,495	124,350	267,271	505,927	917,673
Milk and milk products, lbs.,	232,950	188,705	227,515	86,745	76,800	90,500	123,250	155,000	324,650	303,740	415,400	551,940
Edible fats and oils, lbs.,	422,635	478,968	537,116	291,619	2,140	210,595	124,942	305,131	254,101	192,670	426,930	410,953
Game, lbs.,	320	320	320	720	930	1,057	430	.....	100	150	225	200
Miscellaneous articles, pkgs.,	49,268	35,746	61,030	146,837	227,362	255,245	187,450	169,334	79,460	63,135	33,724	42,794

Canning Factories.—The Bureau has co-operated with the Bureau of Chemistry of the United States Department of Agriculture in making inspections of the canning factories in this State. In general these factories have been operated in compliance with the Sanitary Act and no adulterations have been found in the foods packed in these establishments.

Particular attention was given to the care exercised in preventing unsound material from gaining access to the food and also to the thoroughness with which the foods were washed and prepared for the final container.

Several operators of canning factories in this State have operated their plants during a large part of the canning season during recent years and have packed several different kinds of fruits and vegetables instead of packing tomatoes and tomato products alone as in past years. It is believed that there is an opportunity for the canning industry of this State to expand and to pack such fruits as berries and peaches extensively.

The canned foods packed in this State enjoy a high reputation for quality. This Bureau intends to continue to give this industry as close supervision as possible to aid in maintaining this high standard.

Meat Inspection.—The following table shows the kinds and amounts of meats which have been inspected during the year:

CARCASSES.		PARTS OF CARCASSES.			
Passed.	Condemned.	Passed.	Condemned.		
Beef,	440	4	Beef,	6560	910
Calves,	609	2	Veal, .....	..	10
Sheep,	130	2	Lamb,	290	..
Hogs,	186	..	Hogs,	1910	30
Totals,	1,365	8	Totals,	8,760	950

The above table represents inspections made in connection with post-mortem investigations of dairy cattle slaughtered as a result of physical examinations and in conjunction with slaughter-house inspection work. It also represents special investigations of complaints concerning the sale of meat alleged to be unfit for food purposes. With the small force of inspectors available to carry on food inspection work it is not possible to carry on a State-wide meat inspection service. It is of interest to note, how-

ever, that with the co-operation of municipal inspectors and representatives of the State and Federal Bureaus of Animal Industry, a greatly increased number of animals are being slaughtered under inspection.

Slaughter-house Inspections.—Chapter 295 of the Laws of 1910 requires that the operators of slaughter-houses in this State must obtain a license from the State Department of Health. One of the regulations adopted by the Department under authority contained in the above-mentioned act, provides that the approval of the site of a proposed slaughter-house must be obtained from the local board of health of the municipality where the slaughter-house is to be located and submitted to this Department in writing before application for a license is considered. In this way the local boards of health are enabled to prevent the erection of such establishments in districts where they are liable to become nuisances.

During the year 943 inspections have been made of the slaughter-houses located in this State by representatives of the Bureau.

Sanitary Inspections of Food Establishments.—The following table shows the kinds and number of inspections made of establishments where food products are produced, prepared, packed, stored and otherwise handled:

Dairies,	1780
Creameries,	729
Milk depots,	205
Ice cream factories,	1005
Slaughter-houses,	943
Cold Storage warehouses,	197
Bottling establishments,	248
Canning factories,	107
Egg Breaking establishments,	23
Restaurants,	198
Miscellaneous inspections,	38

Chemical Examinations of Milk Samples.—During the year 2,852 samples of milk and cream were collected for analysis. Of this number 335 samples were found to differ from the legal standard.

The following table shows the number and kinds of samples of food other than milk and cream collected during the year:

<i>Article.</i>	<i>Total.</i>	<i>Above Standard.</i>	<i>Below Standard.</i>
Baking powder,	2	..	2
Butter,	171	161	10
Cider,	57	34	23
Chocolate,	1	..	1
Condensed milk,	13	13	..
Eggs, liquid,	11	..	11
Flavoring, vanilla,	5	4	1
Flavoring, cherry,	1	..	1
Food coloring,	1	..	1
Hamburg steak,	59	56	3
Honey,	2	2	..
Ice cream,	45	43	2
Macaroni,	3	3	..
Olive Oil,	60	60	..
Peas, canned,	1	..	1
Sausage, pork,	19	19	..
Shrimp, canned,	2	2	..
Soft drinks,	418	316	102
Strawberries, preserved,	5	5	..
Tomato products, canned,	37	23	14
Vinegar,	138	58	80
Totals,	1,051	799	252

The following table shows the number and kinds of drugs collected during the year which were purchased under names recognized by the 9th Revision of the United States Pharmacopœia:

<i>Article.</i>	<i>Total.</i>	<i>Above Standard.</i>	<i>Below Standard.</i>
Aromatic Spirit of Ammonia,	22	..	22
Camphor Liniment,	29	15	14
Chloroform,	1	1	..
Emulsion of Cod Liver Oil,	18	9	9
Hamamelis Water,	38	36	2
Poison Tablets of Corrosive Mercuric Chloride,	18	17	1
Solution of Hydrogen Dioxide,	36	29	7
Solution of Magnesium Citrate,	1	1	..
Spirit of Nitrous Ether,	3	3	..
Spirit of Peppermint,	29	25	4
Sugar of Milk,	18	18	..
Tincture of Ferric Chloride,	1	1	..
Tincture of Ginger,	1	..	1
Tincture of Iodine,	62	45	17
Tincture of Nux Vomica,	1	..	1
Totals,	278	200	78

Co-operation.—The Bureau has co-operated with the Bureau of Chemistry, United States Department of Agriculture, in the collection of samples and evidence in the inter-state shipment of food and drugs. We have also co-operated with the various Bureaus of this Department, the Department of Agriculture of the State of New Jersey and with various local boards of health in matters pertaining to food control work.

Report of the Bureau of Engineering.

H. P. CROFT, C. E., CHIEF.

The Bureau of Engineering has continued during the year, with the same number of employees, the general supervision and control of the public water supplies as to their sanitary qualities, sewage treatment plants, and the sanitary conditions of the State's waters, except those waters included in the Passaic Valley Sewerage District.

At the end of the fiscal year there were 338 sewage treatment plants discharging effluents into the waters of the State, and 4 being constructed; the total number of public water supplies is 261, of which 74 supplies are treated for iron removal, bacterial removal, etc.

In line with the report for the year 1922, there were examined 19 applicants for licenses for water and sewage plant operators, and 17 licenses were issued. Plans and specifications for 20 sewerage systems and sewage treatment plants were examined for 18 municipalities and corporation; 7 plans for alterations and additions to sewage treatment plants for 7 municipalities, institutions and corporation; 68 plans for sewer extensions for 30 municipalities and corporations; 9 plans for water supply systems and works for 9 municipalities and corporations; 37 plans for alterations and additions to water systems and works for 24 municipalities and corporations; and 2 plans for extensions to mausoleums for 1 corporation.

The field work included 117 routine, and 665 special field examinations of existing systems, including the collection of samples. There were 65 special investigations relating to nuisances caused by stream pollution; 31 investigations of violations of the State Sanitary Code; 19 investigations of the pollution of streams used for potable water supplies; 1 investigation of application for the establishment of manufacturing plants upon

potable watersheds, together with the collection of legal evidence for cases referred to the Attorney-General for action. There were also 25 water samples collected for certification upon public conveyances engaged in interstate traffic.

Report of the Bureau of Bacteriology.

JOHN V. MULCAHY, CHIEF.

The report for the year ending June 30, 1923, deals with the operation of the laboratory responsible for the examination of bacteriological and serological specimens from suspected and known cases of communicable diseases, suspected carriers of communicable diseases, and any examinations relating to the protection of the public health which can be made by laboratory methods. These specimens are submitted for examination by the physicians of the State, by local boards of health, and by other bureaus of the Department.

The report of the work for the year ending June 30, 1923, of the Sewage Substation operated jointly by the State Department of Health and the New Jersey Agricultural Experiment Station, immediately follows the report of the Bureau of Bacteriology. A detailed report, giving all the technical data, is to be published in a separate bulletin, and will be sent to the sewage works operators of the State, health officials, and other sanitarians interested in the disposal of sewage.

Through the loss by death of our esteemed chief, Mr. R. B. Fitz-Randolph, on October 22, 1922, under whose supervision the operations in the Laboratory of Hygiene were formerly conducted, provision was made for the conduct of this work by the State Department of Health at its meeting in December, 1922, creating two bureaus, to be known as the Bureau of Bacteriology and the Bureau of Chemistry, appointing the Senior Bacteriologist and the Senior Chemist as chiefs of their respective departments.

The staff of the Bureau of Bacteriology consists of two bacteriologists, three technicians, four laboratory assistants and two clerks. The appointment of an additional bacteriologist authorized by the Board, will help materially to relieve the stress under

which the diagnosticians have been subject, due to the large number of specimens examined during the year.

It is to be hoped that with the employment of this additional bacteriologist the laboratory will be provided with sufficient diagnostic assistance to be able to undertake the work incident to the inspection and approval of laboratories doing work for the health authorities of municipalities, as provided for in Regulation 41 of the Sanitary Code.

There is a noteworthy increase in the volume of work performed this year, which makes more acute the ever increasing need of larger laboratory quarters, alluded to in several previous reports of this division.

The attention of the Legislature should be again called to the inadequate housing of the laboratory, in the hope that some relief may be provided.

With increased laboratory space, several new lines of work could be established. The laboratory should be in a position to render service to the physicians in the preparation of bacterial vaccines, therapeutic immune serums, Schick test material, and toxin-antitoxin mixture for the active immunization against diphtheria.

Preventative medicine has made such a remarkable advance in recent years that the demand on the laboratories for various biological products is bound to increase as the knowledge of their value becomes more widespread amongst the general public through the educational efforts of federal, state and municipal health officials.

Through an arrangement with the New York City Department of Health, which produces a considerable number of carefully tested potent biological products, the Bureau of Bacteriology is prepared to furnish at cost Schick test material, toxin-antitoxin, triple typhoid vaccine and smallpox vaccine, to physicians, local boards of health, boards of education and institutions of the State.

The work of the laboratory has been conducted along the same lines as in previous years, and the feeling is justified that it has been meeting satisfactorily the needs of the physicians of the

State as indicated by the large increase in the total number of specimens examined.

Every effort is made to handle the specimens promptly upon their receipt in the laboratory, and report the results of the examination without delay.

The laboratory, however, is absolutely dependant upon the postal service for the delivery in the laboratory of specimens sent by physicians, except those physicians located in the city of Trenton, and it is to be regretted that the service from South Jersey and points in the State north of Jersey City is slow.

This is especially unsatisfactory in the case of diphtheria specimens sent from these places, a delay of 48 hours frequently elapsing from the time of collection of a specimen to its receipt in the laboratory. When a mail report is sent a corresponding delay ensues in its receipt by the physician. This service inadequately answers the needs of physicians in those places remote from the laboratory.

Improvement in respect to this service could be accomplished in two ways, either by the establishment of two branch laboratories, one to be located in the northern and the other in the southern part of the State, or by securing a sufficient appropriation from the Legislature to permit sending by prepaid telegram positive reports on diphtheria specimens submitted for diagnosis.

For the purpose of improving the laboratory service to physicians located in Trenton and nearby surrounding towns in respect to the examination of swabs from the nose and throat of suspected cases of diphtheria collected after the regular laboratory hours, arrangements were made about May 1st last with W. Scott Taylor for the installation of an electric incubator in his store for the incubation of specimens collected too late in the evening to be planted and incubated in this laboratory.

Collections of diphtheria specimens from the Post Office and local specimens left at the State House are made every evening at 7:00 P. M. and planted by a member of the laboratory staff, but it sometimes happened that diphtheria specimens were taken by local physicians after this evening collection had been made, and arrived at the State House too late to be planted and incubated that night. These specimens were not handled until the

following morning, necessitating a delay of twenty-four hours in reporting the results of examination to the physician.

By this new arrangement specimens for diphtheria examination left at the drug store between the hours of 5 P. M. and 11:30 P. M. are planted and incubated, and are then ready for examination in this laboratory the following morning. Advantage has been taken of this service by the physicians, and specimens are now received regularly from the drug store.

Specimens from suspected cases of diphtheria are examined twice daily, at 9 A. M. and at 4 P. M. Specimens reaching the laboratory before 12 M. are planted on blood serum and incubated at 37°C. until 4 P. M. At this time all primary specimens are examined, and those showing the presence of diphtheria bacilli are reported upon; the others are returned to the incubator over night for further incubation. The following morning these specimens, together with the ones received up to 7:30 P. M. the preceding evening are examined and reported upon.

An agreement was reached during the year by the Bureau of Food and Drugs with the owners of dairies producing certified milk in this State, that they submit for laboratory examination throat specimens, blood, feces and urine specimens from all their employees to determine if any of these persons might be diphtheria or typhoid carriers.

The owners appreciated the importance of this additional safeguard to protect their milk supply from infection by an unrecognized carrier, and have submitted, through physicians engaged for this purpose, a large number of specimens for examination in this laboratory.

Specimens were taken at stated intervals until every person in the employ of these different companies had been examined. As additional help is engaged they are required to submit specimens for examination.

In the case of investigations regarding the source of typhoid fever either food borne or by contact, it is often necessary to examine a large number of specimens to detect a possible carrier who is responsible for the spread of the disease. In cases convalescent from typhoid fever it is important to know which of these convalescent cases are likely to become chronic carriers, and

this can only be determined by submitting specimens of feces and urine until one or more negative results have been obtained.

During the year almost 1,500 specimens of this character were received and examined from persons representative of the above groups, and of this number 70 were positive. While the greatest number of positives of course was obtained from convalescent cases of typhoid fever, several chronic typhoid carriers were discovered who were responsible for outbreaks of typhoid fever occurring in different sections of the State within the past year.

This is a very important phase of the laboratory work, affording valuable assistance to the Bureau of Local Health Administration in their investigations of typhoid fever outbreaks, by detecting the source of the infection, thereby permitting the application of proper control measures.

The volume of routine work shows an increase of more than 10,000 specimens examined over any previous year, reaching a total number of 52,709 specimens.

The number and kind of specimens examined are shown in the following table:

TABLE I.

Diphtheria,	25,906	Gonorrhoea,	2,116
Tuberculosis,	7,127	Syphilis,	12,965
Typhoid fever,	2,110	Miscellaneous Diseases,	2,272
Malaria,	213		
		Total,	52,709

The above table shows that the volume of work accomplished in the number of specimens examined from all the suspected diseases shown in this table has been maintained at the high level reached last year, and that the increase has occurred in the number of specimens examined for the presence of diphtheria bacilli.

Diphtheria was unusually prevalent in several localities this past year. A large number of cases occurred in Trenton, resulting in many examinations for the purpose of diagnosis, and repeated examinations from recovered cases for release from quarantine.

Many specimens were also received from Burlington.

In an effort to control the spread of diphtheria occurring amongst pupils attending certain schools of Burlington it was

decided by the health authorities of the city to take cultures from every pupil attending these schools for the purpose of detecting any diphtheria carriers responsible for the infection. During the course of this investigation throat and nose specimens taken separately were submitted for examination from between three to four thousand pupils. In many cases one or more subsequent specimens were taken.

These examinations revealed a considerable number of carriers, upon whose specimens it was necessary to test for virulency, to determine which ones were carrying virulent organisms. In many cases, such carriers may be only harboring non-virulent organisms, which can only be determined by a virulence test. If a test shows the bacilli non-virulent, it is safe to release the person from quarantine before negative cultures have been obtained. When the test shows the organisms to be virulent, the person should be isolated until two consecutive negative reports are obtained from both the nose and throat, at intervals of not less than twenty-four hours.

Virulence tests are also made on any convalescent case when the diphtheria bacilli persist in the throat or nose for six weeks or longer after the disappearance of the membrane. Recovered cases of diphtheria are usually found to be carrying virulent organisms until negative cultures are obtained, but in certain cases, a test made six to eight weeks after recovery, will show the organisms then present to be non-virulent.

The table of miscellaneous examinations, Table V, shows that 95 specimens were received to be examined for rabies. With two exceptions, all these specimens were from dogs, and of this number, 36 were found to be rabid.

These 36 rabid animals were received from twelve different counties of the State, but the majority of cases occurred in the counties of Essex, Passaic, Somerset and Union.

For several years the number of animals examined in this laboratory and found to have been affected with rabies, has been high. This shows the need for the application of restrictive measures, and the adoption of preventive treatment of all dogs in areas where rabies is prevalent, if this disease is to be eradicated.

The specimens examined during the year, as shown by Table I, are further classified, and are shown in the following tables. The following tables give a summary by months of the specimens examined from July 1, 1922, to June 30, 1923, inclusive:

TABLE II.

MONTH.	* DIPHTHERIA.						TUBERCULOSIS.					
	Primary.			Secondary.			Primary.			Secondary.		
	P ¹	N ²	U ³	P	N	U	P	N	U	P	N	U
July,	55	262	11	85	194	10	109	370	8	56	97	2
August,	63	247	12	66	200	5	98	285	1	47	100	1
September,	93	282	13	74	219	14	98	325	1	35	106	1
October,	310	3270	98	337	3141	108	37	345	.....	78	143	1
November,	276	1332	54	635	1640	69	64	301	.....	3	26	94
December,	284	843	50	732	1185	49	37	305	.....	3	22	107
January,	199	748	27	577	1002	54	86	296	.....	4	52	122
February,	122	371	29	332	789	35	80	333	.....	4	29	77
March,	73	733	32	254	671	14	96	396	.....	4	37	121
April,	78	423	29	202	434	12	83	389	.....	4	49	131
May,	52	700	36	101	367	17	123	407	.....	2	56	137
June,	46	325	21	73	310	17	97	367	.....	4	55	121
Total,	1656	9785	409	3550	10132	394	1058	4101	.....	38	542	1339

* During the year 40 tests were made for the virulence of the diphtheria bacillus.
(¹) P=Positive. (²) N=Negative. (³) U=Unsatisfactory.

TABLE II—(Continued).

MONTH.	TYPHOID FEVER.						MALARIA.					
	Primary.			Secondary.			Primary.			Secondary.		
	P	N	U	P	N	U	P	N	U	P	N	U
July,	21	191	10	8	17	4	1	21	1	.....	1	.....
August,	37	179	14	17	13	3	3	30	2	.....	3	.....
September,	21	168	11	3	17	4	2	23	6	.....	3	.....
October,	15	151	5	7	10	7	1	19	2	.....	1	.....
November,	30	129	15	3	13	3	.....	11	1	.....	.....	.....
December,	15	109	3	.....	11	1	.....	9	.....	.....	.....	.....
January,	4	121	2	2	6	.....	8	3	.....	.....	.....	.....
February,	5	98	1	3	4	.....	6	2	.....	.....	1	.....
March,	6	99	1	3	8	4	.....	10	1	.....	.....	.....
April,	2	117	.....	.....	11	.....	.....	12	.....	.....	.....	.....
May,	2	129	4	4	15	3	.....	9	.....	.....	3	.....
June,	6	162	13	7	28	6	.....	17	.....	.....	.....	.....
Total,	164	1620	79	59	153	35	7	175	18	.....	12	1

TABLE III.

MONTH.	GONORRHOEA.						MISCELLANEOUS.					
	Primary.			Secondary.			Primary.			Secondary.		
	P	N	U	P	N	U	P	N	U	P	N	U
July,	37	74	27	5	25	2	36	54	7	18	18	3
August,	45	82	26	4	21	3	36	54	8	26	10	3
September,	54	69	42	7	26	6	34	61	10	34	10	6
October,	55	80	34	7	17	16	37	61	14	25	21	6
November,	30	74	21	7	33	10	41	48	9	44	2	3
December,	37	76	13	6	28	6	21	169	12	11	14	1
January,	27	80	18	6	31	8	41	234	16	18	74	8
February,	34	60	20	6	32	4	30	137	12	18	35	8
March,	24	85	17	6	38	6	25	132	6	19	59	13
April,	42	82	15	8	21	2	30	84	3	11	9	.....
May,	48	78	17	5	23	3	18	50	8	9	23	1
June,	32	96	19	6	19	3	28	100	7	8	21	.....
Total,	400	836	269	73	309	69	377	1194	112	241	296	52

TABLE IV.

MONTH.	COMPLEMENT FIXATION FOR SYPHILIS. (Guinea pig heart antigen.)													
	Primary.						Secondary.							
	4+	3+	2+	+	±	—	U	4+	3+	2+	+	±	—	U
July,	54	1	13	7	1	564	61	24	1	9	9	1	204	18
August,	101	3	17	3	5	716	58	59	4	16	5	5	1771	15
September,	86	2	22	5	12	531	74	73	3	23	13	9	156	23
October,	96	4	17	5	3	576	33	84	3	32	8	7	174	14
November,	122	2	17	5	4	817	27	109	5	38	7	15	210	23
December,	91	3	7	3	2	559	30	53	2	20	3	6	160	6
January,	119	4	14	4	4	586	27	63	19	22	2	9	180	13
February,	84	3	17	7	2	496	30	49	3	16	7	4	130	2
March,	130	5	11	7	3	783	36	42	3	4	6	4	147	12
April,	91	2	10	2	1	663	31	69	3	10	4	3	133	6
May,	105	3	7	1	2	782	27	56	3	13	4	9	203	11
June,	90	3	5	3	3	591	34	39	8	17	1	11	172	11
Total,	1189	35	158	52	42	7694	468	715	49	220	73	88	2046	157

TABLE IV—(Continued).

MONTH.	COMPLEMENT FIXATION FOR SYPHILIS. (Cholesterinized Antigen.)													
	Primary.							Secondary.						
	4+	3+	2+	+	±	—	U	4+	3+	2+	+	±	—	U
July,	85	7	11	2	.....	533	61	53	5	18	6	.....	186	18
August,	158	7	8	2	.....	670	58	115	1	14	3	.....	124	15
September,	139	5	14	8	2	491	74	137	11	9	8	1	116	26
October,	188	8	8	2	.....	545	33	174	11	10	4	.....	109	14
November,	148	5	14	6	.....	794	27	203	12	29	3	.....	132	23
December,	108	2	7	.....	576	39	102	5	13	3	.....	113	6	
January,	145	4	9	2	3	568	27	121	6	14	12	4	133	13
February,	119	3	8	4	1	472	30	84	6	10	5	5	99	2
March,	184	7	6	4	6	732	36	77	5	10	2	7	105	12
April,	125	4	9	3	.....	628	31	102	4	7	3	.....	108	6
May,	141	3	12	2	.....	742	27	117	4	13	2	1	146	11
June,	123	3	8	1	.....	558	34	99	3	5	2	.....	139	11
Total,	1615	60	114	36	14	7311	468	1384	73	162	58	18	1495	157

TABLE V—The following table shows the number and various kinds of miscellaneous specimens examined from July 1, 1922, to June 30, 1923, inclusive:

Specimen for	Unsatis-		
	Positive.	Negative.	factory.
Rabies,	36	49	10
B. tuberculosis (pleural and spinal fluid, urine and various other lesions),	5	54	4
E. typhosus (feces, urine, blood and water),	70	1272	116
E. para-typhosus (blood and feces), .....	.....	14	.....
Bacterial infection (pus, body fluids, feces, blood, sputum, urine, etc.),	408	48	28
Gonococcus infection (urine), .....	.....	5	1
Ophthalmia neonatorum,	75	15	1
*Pneumonia,	5	2	3
Treponema pallida,	4	17	1
Vincent's Angina,	13	8	.....
Miscellaneous,	2	6	.....
Total,	618	1,490	164

* 21 other specimens were examined for pneumonia, but were found to be positive for other organisms, and so are not included in this total.

TABLE VI—The following table shows the number and species of animals examined for rabies, from July 1, 1922, to June 30, 1923, inclusive:

Dogs—Positive, 36; negative, 47; unsatisfactory, 10.
Calves—Negative, 1.
Squirrels—Negative, 1.

TABLE VII—Following are the towns arranged by counties, from which animals found to be rabid were received from July 1, 1922, to June 30, 1923, inclusive:

Bergen County—Fairview, 1; Midland Park, 3.
Burlington County—Mt. Holly, 2.
Camden County—Sicklerville, 1.
Cape May County—Ocean City, 1.
Cumberland County—Vineland, 1.
Essex County—East Orange, 3; Orange, 1.
Gloucester County—Paulsboro, 1; Williamstown, 1.
Morris County—Dover, 1; Morris Plains, 1.
Passaic County—Little Falls, 4; Passaic, 1.
Somerset County—Bernardsville, 4.
Sussex County—Newton, 1.
Union County—Cranford, 1; Elizabeth, 5; Plainfield, 1; Westfield, 2.

TABLE VIII—The following table shows the number of outfits supplied to repositories maintained throughout the State, and to physicians who are not conveniently located near repositories, from July 1, 1922, to June 30, 1923, inclusive:

Diphtheria—Regular outfits,	17,821	
Serum tubes and swabs,	8,486	
Extra swabs,	3,785	
		30,092
Tuberculosis outfits,	10,663	
Typhoid fever outfits,	3,323	
Malaria outfits,	855	
Gonorrhoea outfits,	3,177	
Syphilis outfits,	14,161	
Feces and urine outfits,	1,748	
Ophthalmia neonatorum outfits,	322	
Total,		64,341

ANNUAL REPORT OF THE SEWAGE SUBSTATION. Joint Project of the New Jersey Agricultural Experiment Station and the New Jersey State Department of Health.

The investigations on the biology of sewage disposal, begun in the year 1921-1922, under the direction of Dr. R. O. Smith, have been continued during the year 1922-23. In November, 1922, the resignation of Dr. Smith necessitated a reorganization, and from that date Dr. Willem Rudolfs has directed the enterprise.

The staff at present consists of the chief of the investigations, a chemist, a protozoölogist, a botanist and a bacteriologist, who are assisted by a clerk and a laboratory assistant. Four of the staff members are employed on half time.

A controlling committee, consisting of a representative from the New Jersey Agricultural Experiment Station, Dr. Thomas J. Headlee; a representative from the State Department of Health, Mr. John V. Mulcahy; and the chief of the Sewage Substation, Dr. Willem Rudolfs, directs the policies of the investigation. A research committee of the New Jersey Sewage Works Association, consisting of Mr. H. M. Beaumont, Philadelphia; Mr. John R. Downes, Plainfield; Mr. Paul Molitor, Chatham; and Mr. Chester G. Wigley, Maplewood, has given active and most satisfactory co-operation to the joint Control Committee.

The joint sewage disposal plant of Plainfield, North Plainfield and Dunellen, has been used as the experimental plant for these investigations.

Summaries of the experiments conducted by the chemist, protozoölogist, botanist and bacteriologist follow.

CHEMICAL INVESTIGATIONS.

Imhoff Tanks.

Studies on Imhoff tanks of Plainfield, North Plainfield and Dunellen, were begun in November, 1922. Attention has been centered on sludge digestion. The system of alternating operation of tanks at this plant has made possible the observation of rapid changes in sludge digestion. The following remarks are

not to be considered conclusions, but rather a summary of observations to date.

(1) Contents of sludge digestion chambers are stirred up during operation by increasing gas evolution. For several weeks, fresh solids come in faster than they can be digested. Resting allows a tank to catch up its digestion.

(2) Free ammonia determinations on liquid and sludge of operating and resting tanks, point out that diffusion of ammonia out of the digestion chambers takes place fast enough to account for greater ammonia content of effluent over influent.

(3) Ph. values show, however, that the effluent of a tank is always less alkaline than the influent. Some acid compound must diffuse out of the digestion chambers also.

(4) No nitrites or nitrates have, as yet, been found in liquid or sludge to check the presence of nitrifying organisms found by the bacteriologist.

(5) Gas analyses on gases from sludge digestion show that gas composition is fairly constant in weekly samples from one gas vent over a two-month period. No hydrogen was found. Gas collected from sludge alone, 17 feet below surface of the vent, showed less CO_2 than samples collected at the surface. CO_2 content decreases from inlet to outlet end of a tank.

Sprinkling Filter.

Studies on chemical changes in three layers of the sprinkling filter beds of this disposal plant have been continued. Samples were taken from pipes which tapped the bed in the sampling pit instead of from holes in the sampling pit.

(1) Sampling from pipes which tapped the bed was the best method possible without building a special experimental bed, but samples were often not representative because sample-volumes were not constant; and a true index of the chemical change was found only in those samples whose volumes were equal to the constant average volume of sewage flowing through a large unit area of the bed. It is pointed out in what direction the results were in error.

(2) The greater part of the effective nitrification takes place at the bottom of the bed throughout the whole year. It is be-

lieved that old solids, which collect at the bottom, offer a large active surface to the sewage flowing through them, and so are responsible for the nitrification at the bottom. The analogy between these solids and activated sludge is pointed out.

(3) Free ammonia is removed chiefly at the bottom of the bed. Ammonia formation in the bed often obscures the degree in ammonia originally present in the influent as it passes through the bed.

ZOOLOGICAL INVESTIGATIONS.

These preliminary studies of the numerical and the seasonal status of the lower animals found in the filter bed and Imhoff tanks, have brought out some interesting relationships. It has been found that the free moving forms, such as the free swimming ciliates and worms, increase in numbers as the film on the stones builds up, and that during the slough, these pass out with the filter effluent along with the sloughing film. Their numbers in the film therefore decrease, and simultaneously their numbers in the effluent increase. It is significant to note also that just before sloughing beings, the worms (nematodes and annelids), begin to increase. It may be, and very probably is, true that these forms in their continual migrations through and through the film (migrations which render the film more porous) help to loosen the film and thus accelerate the slough. Again, the growth of Opercularia, the stalked, fixed protozoan form, increases greatly after the slough is over and when the film from the stones is removed, so as to permit its free growth. That this form may be important in respect to its excretions into the filter bed is the present judgment of the zoologist. Work on this important form (the most important in numbers at least of all the protozoa in the filter bed) is now being carried on.

In the influent and effluent of the Imhoff tanks is found a considerable assemblage of organisms. These together with those in the wind-blown dust are probably sources of the population to be found in the filter beds. The role which the various organisms found in the liquid and sludge in the Imhoff tank play in the digestion work of the tanks has still to be investigated.

BOTANICAL INVESTIGATIONS.

Algæ, namely *Oscillatoria* and *Stigeclonium*, were the predominating organisms in the surface samples of the filter bed, the amount of fungi being comparatively small. The relative amount and the occurrence of algæ and fungi remained about the same throughout the year.

In the sub-surface samples filamentous bacteria and *Beggiatoa alba* were found constantly, with one exception, throughout the year. These two organisms appeared with more regularity than any of the fungi. Common fungi found in the sub-surface were a species of *Pencilium*, *Dictyuchus*, *Pythium*, and Fungus No. 2, an unknown form, Fungus No. 3, another unknown form, sometimes occurred but rarely in abundance. *Pythium* often appeared, but only in traces.

It seems apparent that there is a seasonal change in the growth and development of certain fungi found in the filter beds. *Pencilium* did not make its appearance during the summer months, but did occur rather abundantly during the fall, winter and early spring. Although *Dictyuchus* appeared at irregular intervals, it occurred most abundantly during late winter and spring.

BACTERIOLOGICAL INVESTIGATIONS.

During the period from November, 1922, to April, 1923, a survey has been made of bacteria responsible for certain biochemical changes. The bacterial groups thus studied include proteolytic organisms, organisms responsible for sulfur reductions and oxidations, those concerned with nitrogen transformations and those causing the destruction of cellulose.

The bacterial population of both Imhoff tanks and sprinkling filter was found to be similar during the winter months and the groups of organisms bore approximately the same numerical relationship. Of the types studied, those present in the highest dilutions of the inoculum, and therefore the predominating organisms, were the proteolytic bacteria and the bacteria concerned with the transforming of nitrogen. The nitrate reducers were somewhat more abundant than the nitrogen oxidizing bacteria in both the sprinkling filter and the Imhoff tank. The

bacteria concerned with sulfur changes were less abundant than those concerned with the nitrogen cycle while cellulose destroyers were only found in the low dilutions.

Not only was the numerical relationship of the groups of bacteria alike for these two units of the sewage disposal plant but the variation in numbers of nitrogen reducers and oxidizers was the same during this period. In general an inverse ratio was found to exist with the nitrogen oxidizers present in large numbers at first and then decreasing while the nitrogen reducers increased in numbers during the winter months.

Three observations were made on tanks in the resting condition and with this limited number of observations it was found that approximately the same distribution of organisms occurred as in the tanks under operation.

The length of the incubation period is an indication of the ease with which the different substances were attacked by the bacteria. Arranged in order of incubation time the substances and end products tested for were:

- A. Soluble protein (peptone), tested for the production of ammonia. Incomplete protein (gelatine), tested for liquefaction.
- B. Soluble protein (peptone and meat extract), for H_2S production. Thiosulfate tested for sulfate production.
- C. Inorganic sulfate, tested for H_2S production.
- D. Nitrate, observed for nitrogen gas, tested for nitrite and ammonia production.
- E. Ammonium salt, for nitrite production.
- F. Nitrite salt, for nitrate production.
- G. Complete protein (coagulated albumin), for liquefaction.
- H. Cellulose, for destruction and disappearance.

PRACTICAL STUDIES.

As opportunity presents, studies are also made on the application of methods for the improvement of the practical operation of the sewage disposal plant. During the past year the work begun by Dr. Van der Meulen and Dr. R. O. Smith on the treatment of sludge with alum has been continued.

The experiments were made with about 3 pounds of commercial alum (cost \$1.75 per 100 pounds) per cubic yard sludge. With the sludge at Plainfield good results were obtained with 1.33 pounds alum per cubic yard.

The mixing of alum with sludge is very simple. The amount of alum necessary to treat a bed was put in barrels with water the day before. Using about 100 pounds alum to 60 gallons of water. This solution was simply siphoned with a rubber tube into the sludge as it flowed slowly by in the sludge channel at a point where the stream of sludge turns at right angles to itself to pass through a shear gate to the bed. The right-angle turn folds the sludge over on itself, which motion, together with the drop into the bed gives adequate mixing and the reaction is completed in quiescence, so that the floc (or curd) is not broken up.

In comparing the results of drying it was found that the time required could be cut in half. Larger amounts of alum would produce still shorter drying periods, but in view of the fact that with even the smallest amounts used rapid drying is secured, it is still felt that no great advantage is gained by shortening the drying periods with one or two days at a much higher cost.

The dose is not critical within a wide range. The two critical points in the application of alum are to *avoid undue agitation* and to add the alum at such a point that the reaction will take place in the bed itself. The reaction is very rapid, varying with sludges, but usually not more than 20 seconds.

In addition to rapid drying, the treated sludge has a better texture for handling off the bed. Rain, even during the first few hours, has little effect on the drying as compared with untreated sludge.

There are no odors from the treated sludge. The treated sludge, when dry, is less voluminous than the untreated. The treated sludge cracks within five hours. As with untreated sludge best drying results are obtained by keeping the original thickness on the bed down to nine or ten inches.

Much stirring or agitating of sludge when treated is detrimental to good results. If the sludge is to be pumped add alum just before the sludge flows upon the beds.

These chemical and biological studies on the composition of material throughout the sewage disposal plant under observation together with the studies on the flora and fauna of the plant are to be continued and amplified during the coming year. It is felt by all connected with the project that a thorough and extended investigation along these lines will eventually give an insight into some of fundamental factors which contribute to the biological purification of sewage.

Report of the Bureau of Chemistry.

JOHN E. BACON, CHIEF.

The Bureau of Chemistry was created in December, 1922, after the death of Dr. R. B. FitzRandolph, Assistant Director and Chief of the Laboratory of Hygiene. This Bureau has supervision over the chemical and bacteriological examinations of foods, drugs, water and sewage, and field investigations of shellfish.

Food and Drug Analyses.—The following summary is a tabulation of the number and character of samples analyzed in the Food and Drug Laboratory during the past fiscal year:

TABLE SHOWING THE NUMBER AND CHARACTER OF SAMPLES ANALYZED IN THE
FOOD AND DRUG LABORATORY DURING THE FISCAL YEAR ENDING JUNE 30, 1923

<i>Character of Sample.</i>	<i>Above Standard.</i>	<i>Below Standard.</i>	<i>Total.</i>
Milk,	2,369	340	2,709
Cream,	193	4	197
Human milk,	22	0	22
Condensed milk,	14	1	15
Ice cream,	51	3	54
Butter,	151	7	158
Meat products,	75	6	81
Soft drinks,	320	100	420
Tomato products,	21	17	38
Olive oil,	59	0	59
Cider vinegar,	53	77	130
Distilled vinegar,	4	7	11
Oysters,	62	0	62
Cider,	27	27	54
Eggs,	0	9	9
Miscellaneous foods,	97	15	112
Alcoholic beverages,	127	0	127
Milk sugar,	18	0	18
Soap,	5	0	5
Total foods,	3,668	613	4,281

Drugs.

Witch hazel,	35	3	38
Hydrogen peroxide,	29	7	36
Camphorated oil,	16	13	29
Bichloride tablets,	16	1	17
Spirits of nitre,	3	1	4
Tincture of iodine,	39	13	52
Aromatic peppers of ammonia,	0	22	22
Spirits of peppermint,	24	7	31
Emulsion of cod liver oil,	9	8	17
Total drugs,	171	75	246
Total number of foods and drugs examined,	3,839	688	4,527

Fifteen and nineteen-hundredths per cent. of the samples analyzed were below the legal requirements.

Water and Sewage Analyses.—The following summary is a tabulation, by months, of the analytical work performed in the Water and Sewage Laboratory:

TABLE SHOWING THE NUMBER AND CLASSIFICATION OF SAMPLES ANALYZED EACH MONTH IN THE WATER AND SEWAGE LABORATORY DURING THE FISCAL YEAR ENDING JUNE 30, 1923.

MONTH	Total Samples	Public	Private	Railroad Certification	State Institutions	County Institutions	Sand	Sewage	Trade Wastes		Bottled Waters
									Ice		
July,	217	129	18	15	4	0	2	49	0	0	0
August,	186	160	22	2	2	0	0	0	0	0	0
September,	297	148	31	5	6	0	0	107	0	0	0
October,	239	110	17	1	7	0	0	98	0	0	6
November,	275	155	15	2	5	0	13	79	0	0	6
December,	274	159	9	5	1	12	0	61	0	0	27
January,	227	145	18	3	6	6	0	43	9	2	0
February,	156	81	0	17	2	6	1	45	4	0	0
March,	178	121	5	5	1	4	0	36	2	1	1
April,	289	106	20	8	8	3	1	138	1	1	3
May,	468	146	20	18	10	3	3	266	2	0	0
June,	292	107	36	7	2	3	7	128	2	0	0
Totals,	3,098	1,567	211	88	54	32	27	1,050	20	4	45

A comparison study for the determination of bacillus coli was carried on by use of the two media, lactose broth and brilliant green.

Detection of Added Water in Milk.—Some work has been done on the detection of added water in milk by means of the Hortvet cryoscope. It is believed that this freezing point method is much superior for the detection of added water in milk to the procedure of determining the refractive index of the acetic acid serum by the immersion refractometer. The appended tables give the freezing point of individual and herd samples of milk of known origin, as well as the freezing point of the same samples systematically watered.

Under the prohibition enforcement act (Hobart Act), the amount of work which devolves upon the laboratory is considerably increased, as the State Police now desire the alcoholic content of various samples of seized beverages before filing complaints. The courtesy of the laboratory has also been extended to the federal enforcement agents for the analysis of alcoholic beverages.

DEPARTMENT OF HEALTH.

FREEZING POINT DETERMINATIONS ON MILK OF KNOWN PURITY.
 Samples Taken from Normal and Diseased Cows at the Walker-Gordon Dairy at Plainsboro.

Sample Number.	SOURCE OF MILK.	Quantity Produced on Dec. 11, 1922.	Lactometer Reading.	Per Cent. Total Solids.	Per Cent. Fat.	Per Cent. Solids Not Fat.	Refractometer Reading on Serum at 20° C.	Per Cent. Acidity.	Corrected Freezing Point.	REMARKS.
L 525	Holstein,	3.5 lbs.	110	11.76	4.00	8.76	41.4	215	-564° C.	
L 526	Holstein,	7.0 "	110	13.16	4.10	9.06	42.9	202	-576° C.	
L 527	Holstein,	4.4 "	108	12.06	3.40	8.66	41.3	274	-524° C.	
L 528	Holstein,	7.5 "	113	12.21	3.00	9.21	40.4	177	-558° C.	Below standard milks.
L 529	Holstein and Jersey,	11.0 "	113	14.22	4.80	9.42	42.3	185	-550° C.	Mixed milk from four cows.
L 530	Holstein and Jersey,	11.3 "	113	14.22	4.80	9.42	42.3	221	-538° C.	Mixed milk from eight cows.
L 531	Jersey,	2.4 "	109	14.96	5.20	9.76	43.8	186	-532° C.	
L 532	Jersey,	5.1 "	112	12.85	3.50	9.35	43.8	186	-532° C.	
L 535	Holstein,	7.0 "	112	12.22	3.50	8.72	41.7	169	-550° C.	Mixed milk from six cows.
L 536	Holstein,	1.0 "	112	12.22	3.50	8.72	41.7	169	-550° C.	Mixed milk from twelve cows.
L 537	Holstein,	2.5 "	107	12.47	3.6	8.87	42.5	215	-534° C.	
L 538	Holstein,	68 "	108	13.53	4.5	9.03	43.6	223	-570° C.	In one test, apparently good quarters of cows with mastitis.
L 539	Holstein,	106 "	106	10.02	1.9	8.12	38.1	120	-522° C.	From diseased quarter of abnormal cow. Below standard.
L 540	Holstein,	2.0 "	103	10.04	1.9	8.14	37.7	194	-574° C.	From diseased quarter of cow represented by No. L 537.
L 541	Bottled milk,	100 "	100	12.58	3.7	8.88	42.0	193	-531° C.	From apparently good quarters of cow. Below standard. Bottle of milk ready for delivery.

FREEZING POINT DETERMINATIONS ON MILK OF KNOWN PURITY.
 Samples Taken from Normal and Diseased Cows at the Walker-Gordon Dairy at Plainsboro.

Sample Number.	SOURCE OF MILK.	Quantity Produced on Feb. 5, 1923.	Lactometer Reading.	Per Cent. Total Solids.	Per Cent. Fat.	Per Cent. Solids Not Fat.	Refractometer Reading on Serum at 20° C.	Corrected Freezing Point.	REMARKS.
L 542	Mixed red cow,	6 lbs.	94	14.45	0.0	8.45	40.8	-566° C.	Milk from apparently normal three quarters of cow with mastitis in left posterior quarter.
L 543	Mixed red cow,	2 "	89	12.50	4.6	7.90	38.8	-578° C.	Infected quarter of cow L 542.
L 544	Holstein,	2 "	101	12.73	4.1	8.63	41.6	-580° C.	From apparently normal three quarters of cow with mastitis in right posterior quarter.
L 545	Holstein, .....	.....	.....	15.91	3.4	12.51	38.7	-575° C.	In left posterior quarter, 300 cc. of thick viscous creamy secretion containing large amount of insoluble organic matter.
L 546	Holstein,	0 "	102	15.22	4.3	8.42	42.4	-567° C.	From apparently normal three quarters of cow with mastitis in left posterior quarter, caused by injury to end of teat.
L 547	Holstein, .....	.....	.....	102	13.10	4.5	8.60	-582° C.	From infected quarter of cow L 546.
L 548	Holstein,	4 "	74	12.94	4.3	7.84	38.6	-572° C.	Jan. 25, '23, cow gave thirty quarts daily. After development dropped to four quarts daily.
L 549	Colarum, .....	.....	.....	114	12.24	2.1	10.14	-546° C.	Apparently normal three quarters of cow with mastitis in left anterior and right posterior quarters.
L 550	Ayrshire,	6.4 "	116	10.25	5.9	10.35	44.8	-536° C.	Healthy conditions, from certified stable.
L 7635	Guernsey,	7.0 "	108	14.54	5.2	9.34	43.6	-553° C.	Healthy conditions, from certified stable.
L 7636	Guernsey,	38.3 "	115	14.97	5.2	9.77	44.6	-546° C.	Mixed milk from four healthy cows.
L 7637	Bottle delivered milk,	1 "	110	12.58	3.9	8.68	42.3	-551° C.	Bottle of milk ready for delivery.

FREEZING POINT DETERMINATIONS ON MARKET MILK OF KNOWN PURITY SYSTEMATICALLY WATERED.

Sample Number.	SOURCE OF MILK.	Lactometer Reading.	Per Cent. Total Solids.	Per Cent. Fat.	Thermoscope.	Refractometer Reading at 20° C.	Per Cent. Acidity.	Per Cent. Water Added by Freezing Point.	REMARKS.
L 7201	Holstein,	103	11.80	3.3	-547° C.	.....	.....	.....	Mixed milk from whole herd. Choice cows selected for following samples.
L 7202	Holstein,	105	13.24	4.7	-547° C.	.....	.....	.....	Sample taken at sixth month of lactation period.
L 7203	Guernsey,	98	13.52	5.0	-545° C.	40.8	.....	.....	.....
L 7204	Plus 10% added water,	108	10.27	1.95	-533° C.	41.8	.....	.....	.....
L 7205	Plus 7% added water,	108	9.55	1.7	-510° C.	39.4	.....	.....	Partially skimmed. Original acidity higher than normal.
L 7204	Plus 12% added water,	66	9.12	1.6	-487° C.	.....	.....	.....	.....
L 7204	Plus 21% added water,	84	8.10	1.3	-425° C.	35.55	.....	.....	Sour odor and taste.
L 7204	Portion held two days, .....	.....	.....	.....	-545° C.	.....	.....	.....	Very sour and ready to flocculate.
L 7205	Guernsey,	100	15.40	5.8	-577° C.	44.3	.....	.....	Original acidity higher than normal.
L 7205	Plus 9% added water,	81	14.15	5.5	-508° C.	41.2	.....	.....	.....
L 7205	Plus 10% added water,	88	13.07	5.1	-500° C.	39.95	.....	.....	.....
L 7205	Plus 25% added water,	58	11.12	3.9	-533° C.	35.2	.....	.....	.....
L 7206	Holstein,	93	11.43	3.4	-533° C.	.....	.....	.....	Sample of whole milk from cow represented by sample L 7204.

Shellfish.—The growth of the summer populations along the waterways of New Jersey, which are also shellfish districts, has and will continue to result in making it necessary for this Department to extend each year those areas which are unsatisfactory for shellfish culture. As the population increases, contamination of shellfish areas becomes greater, and even though the greatest precautions are taken to prevent obvious pollutions, the increasing amount of bathing and general contamination in these sections will render them unsuitable as a source from which to remove shellfish.

At the time of condemnation of a portion of the Navesink River, a permit system was inaugurated whereby shellfish could be removed from this section and transplanted to unpolluted waters, but it having appeared upon complaint of the Red Bank Board of Health that certain unscrupulous rivermen were not abiding by the terms of the permit, and were selling contaminated shellfish direct, the Department under the provisions of a resolution adopted January 2, 1923, revoked all permits for the gathering of shellfish from that portion of the condemned area of the Navesink River lying west of Guyon's Point. Therefore, the gathering of shellfish from the condemned portion of the Navesink River will be permitted only in that section lying between Guyon's Point and Oceanic bridge during the so-called hibernation period, from November 15 to April 1.

It is the aim of the Department to thoroughly placard all condemned areas each year so that summer visitors and others not knowing that the areas have been condemned may be warned of the danger of removing contaminated shellfish from polluted waters. This work is done by the captain of the shellfish boat, usually in conjunction with the local health authorities.

Tuckerton Section.—In the fall of 1922, the borough of Tuckerton was given a specific time in which to perfect an efficient, permanent sanitary service to safeguard Tuckerton Creek for shellfish culture, and was advised that failure to establish such service would result in condemnation of the creek and prohibition of floating the shellfish therein. A general sanitary clean-up was thereafter accomplished along this creek. All privies were removed to the road, a distance of approximately one hundred yards

from the oyster houses, certain obvious sources of pollution were permanently abated, and adequate toilet facilities afforded at the head of the basin where pleasure boats tie up. The oystermen and other responsible citizens realized the importance of safeguarding the creek, and it appears that dangerous pollutions have been abated. The local health inspector makes frequent investigations of the creek and keeps a careful watch over sanitary conditions.

Following periods of heavy rains, an occasional high score in the oysters will be found, but it is believed that this is caused by street washings and the high scores, therefore, do not have particular sanitary significance. Following are the scores of oysters examined:

Number of floated oyster samples examined,	24
Number of floated oyster samples scoring 0,	2
Number of floated oyster samples scoring 1,	4
Number of floated oyster samples scoring 2,	6
Number of floated oyster samples scoring 3,	2
Number of floated oyster samples scoring 4,	2
Number of floated oyster samples scoring 14,	2
Number of floated oyster samples scoring 23,	2
Number of floated oyster samples scoring 50,	1
Number of floated oyster samples scoring 230,	3
— 24	

Following are the bacteriological results of samples of water collected in Tuckerton Creek, from the upper end of the creek to that portion below the lowest oyster house, which is owned by Parker Brothers. The majority of samples were taken at low water as maximum pollution would be indicated at that time:

Number of samples taken at low water,	40
Number samples showing bacillus coli in 1 cc.,	30 = 75%
Number samples showing bacillus coli in 0.1 cc.,	15 = 37.5%
Number samples showing bacillus coli in 0.01 cc.,	1 = 0.3%
Number of samples taken at high water,	10
Number samples showing bacillus coli in 1 cc.,	6 = 60%
Number samples showing bacillus coli in 0.1 cc.,	0
Number samples showing bacillus coli in 0.01 cc.,	0

West Creek.—Our sanitary survey did not disclose any pollutions along this creek. The bacillus coli in the water is un-

doubtedly due to surface washings which gain access to the stream. Following is a tabulation of the samples of water and oysters analyzed:

Number of floated oyster samples examined,	8
Number of floated oyster samples scoring 0,	6
Number of floated oyster samples scoring 1,	2
Number of floated oyster samples scoring 2,	0

Results of analyses of samples of water collected from West Creek at low water:

Number of samples taken at low water,	10
Number samples showing bacillus coli in 1 cc.,	10 = 100%
Number samples showing bacillus coli in 0.1 cc.,	2 = 20%
Number samples showing bacillus coli in 0.01 cc.,	0

Cohansey River Section.—Large numbers of oysters are shipped in the shell from Greenwich Pier, principally by Messrs. Schellenger and Johnson. Our sanitary inspection along the Cohansey River at the oyster houses revealed no objectionable evidence of pollution. The banks of the stream were free of fecal deposits, privies were found to be in good condition with proper containers.

Following is a tabulation of the water and oyster samples examined:

Number of floated oyster samples examined,	35
Number of floated oyster samples scoring 0,	1
Number of floated oyster samples scoring 1,	2
Number of floated oyster samples scoring 2,	3
Number of floated oyster samples scoring 3,	1
Number of floated oyster samples scoring 4,	4
Number of floated oyster samples scoring 5,	4
Number of floated oyster samples scoring 14,	2
Number of floated oyster samples scoring 23,	11
Number of floated oyster samples scoring 32,	2
Number of floated oyster samples scoring 41,	4
Number of floated oyster samples scoring 50,	1

Results of analyses of samples of water collected from the Cohansy River:

Number of samples taken at low water,	70
Number samples showing bacillus coli in 1 cc.,	65 = 93%
Number samples showing bacillus coli in 0.1 cc.,	24 = 34%
Number samples showing bacillus coli in 0.01 cc.,	0
Number of samples taken at high water,	40
Number samples showing bacillus coli in 1 cc.,	9 = 22.5%
Number samples showing bacillus coli in 0.1 cc.,	1 = 2.5%
Number samples showing bacillus coli in 0.01 cc.,	0

During the months of August and September, investigation was made to determine the percentage of saturation of dissolved oxygen of the Cohansy River; this is the season of the year when the river receives large quantities of tomato canning wastes from the factories along the stream. The tomato canning season extends from the first of August to the middle of October, the height of the season occurring during the latter part of August and first weeks of September. During this season, the river assumes a reddish appearance, and a constant flow of tomato refuse can be seen discharging through large pipes from the several factories into the stream. At such times the odor of the river becomes decidedly disagreeable, and some idea of the amount of wastes gaining access to the stream can be had from the following.

There are eight tomato canning factories at Bridgeton, and during the season a single factory handles 250,000 to 300,000 baskets of tomatoes, 50% of which is waste. The depletion of the dissolved oxygen of the stream to such a dangerously low figure as this investigation showed, is augmented of course by the volume of domestic sewage and dye plant wastes gaining access to the stream.

Below Fairton, due to dilution the wastes and reoxygenation, the stream shows the saturation of dissolved oxygen at all times to be over 50%, but the condition of the river opposite Bridgeton, between the lower sewage disposal plant and the park bridge, where the per cent saturation of oxygen at times reaches 3%, shows that the oxygenating powers of the stream have been exceeded. These chemical figures are borne out by the physical appearance of the river and nauseating odors arising from the waters at low tide.

Following are tabulations showing the results of bacteriological and dissolved oxygen samples examined:

RESULTS OF BACTERIOLOGICAL ANALYSIS:

Number of samples collected from Park bridge to Hettinger's Engine Works at low water,	20
Number showing bacillus coli in 1 cc.,	20 = 100%
Number showing bacillus coli in 0.1 cc.,	19 = 95%
Number showing bacillus coli in 0.01 cc.,	11 = 55%
Number of samples collected from Fairton Creek to Bridgeton at low water,	50
Number showing bacillus coli in 1 cc.,	49 = 98%
Number showing bacillus coli in 0.1 cc.,	36 = 78%
Number showing bacillus coli in 0.01 cc.,	15 = 30%
Number of samples collected from Fairton Creek to Greenwich Pier at low water,	10
Number showing bacillus coli in 1 cc.,	10 = 100%
Number showing bacillus coli in 0.1 cc.,	2 = 20%
Number showing bacillus coli in 0.01 cc.,	0
Number of samples collected from Fairton Creek to Greenwich Pier at high water,	10
Number of samples showing bacillus coli in 1 cc.,	10 = 100%
Number of samples showing bacillus coli in 0.1 cc.,	4 = 40%
Number of samples showing bacillus coli in 0.01 cc.,	0

TABLE SHOWING PERCENTAGE SATURATION OF DISSOLVED OXYGEN SAMPLES TAKEN FROM THE COHANEY RIVER.

STATION.	August 19		August 21		August 23		August 25		August 26		August 29		August 30		August 31		September 11	
	Low Water		High Water		High Water		Low Water		Low Water		Low Water		Low Water		Low Water		Low Water	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
Bridgeton at Park bridge,	14.02	9.00	54.97	46.93	68.79	41.05	40.00	38.74	67.42	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commerce Street,	7.40	6.67	71.89	51.69	52.56	41.43	36.87	26.71	28.15	47.97	.....	.....	.....	.....	.....	.....	.....	.....
Mound Street,	7.10	4.07	63.23	51.69	52.56	41.43	36.87	26.71	28.15	47.97	.....	.....	.....	.....	.....	.....	.....	.....
Blair's boat house,	22.05	6.81	66.53	53.47	52.56	41.43	36.87	26.71	28.15	47.97	.....	.....	.....	.....	.....	.....	.....	.....
Hettinger's,	52.35	31.70	81.69	66.46	97.57	74.42	15.05	22.87	20.88	86.84	.....	.....	.....	.....	.....	.....	.....	.....
			58.17	75.63	114.1	14.41	13.09	11.00	11.00	84.21	.....	.....	.....	.....	.....	.....	.....	.....
			58.15	69.70	112.5	16.23	19.66	32.73	3.45	3.06	.....	.....	.....	.....	.....	.....	.....	.....
			58.15	69.70	112.5	16.23	19.66	32.73	3.45	3.06	.....	.....	.....	.....	.....	.....	.....	.....

Aug. 19. Weather: Clear, moderate southeast wind, low water.
 Aug. 21. Weather: Clear, moderate southeast wind, high water.
 Aug. 23. Weather: Clear, moderate southeast wind, low water.
 Aug. 25. Weather: Cloudy, moderate northeast wind, low water.
 Aug. 26. Weather: Cloudy, slight southwest wind, low water.
 Aug. 29. Weather: Clear, moderate southwest wind, low water.
 Aug. 30. Weather: Cloudy, moderate southwest wind, low water.
 Aug. 31. Weather: Cloudy, moderate southwest wind, low water.
 Sept. 11. Weather: Clear, moderate southeast wind, low water.

DISSOLVED OXYGEN SAMPLES TAKEN FROM BRIDGETON TO FAIRTON, SPACED EQUALLY.

SAMPLE.	Per Cent. Saturation with Oxygen.			
	August 18.	August 22.	August 26.	August 29.
1.	29.07	88.71	18.08	34.21
2.	34.49	96.45	13.37	41.12
3.	42.05	97.02	3.06	29.76
4.	30.36	102.47	16.34	19.95
5.	50.18	97.96	25.53	18.19
6.	53.33	82.65	43.07	21.47
7.	53.28	83.90	61.64	19.71
8.	62.59	75.20	78.32	35.75
9.	64.55	.....	89.15	52.68
10.	77.68	.....	99.84	58.33
11.	87.59	.....	100.50	*79.85
12.	107.75	.....	.....	*73.19

* Top and bottom.

August 18. Weather: Clear, moderate southwest wind, low water.

August 22. Weather: Clear, moderate southwest wind, high water.

August 26. Weather: Cloudy, slight southwest wind, low water.

August 29. Weather: Clear, southwest wind, low water.

DISSOLVED OXYGEN SAMPLES TAKEN FROM FAIRTON TO GREENWICH PIER, SPACED EQUALLY.

SAMPLE.	Per Cent. Saturation with Oxygen.		
	August 22	September 1	September 1
1.	84.42	69.23	65.83
2.	72.35	64.74	72.73
3.	67.40	59.51	71.00
4.	71.90	55.90	67.42
5.	67.94	55.32	58.23
6.	77.15	53.77	55.96
7.	67.89	53.77	54.33
8. ....	.....	62.90	58.19
9. ....	.....	64.50	61.45
10. ....	.....	69.10	62.14
11. ....	.....	64.43	.....

August 22. Weather: Same as above, high water.

September 1. Weather: 1st column—high water, strong northeast wind, cloudy after heavy rain.

2d column—low water, moderate south wind, clear.

Maurice River Section.—The major portion of the oyster season was spent at Maurice River in the usual work of making bacteriological examinations of oysters and water samples taken from Long Reach, as well as sanitary surveys along both banks of Maurice River in the vicinity of the oyster floats. The former habit of stooing along the banks of the stream on the Bivalve side has been abolished through the foresight of the freight agent, who had the tall grass and weeds cut down, making it almost imperative that the men use the privies furnished. Inspections of these privies on both sides of the river showed them to be in

satisfactory condition, all vaults tight and not overflowing. While it does not appear possible to keep the privies in an absolutely neat condition where so many men of untidy habits use them, there is, however, need for keeping them so that they will not be repulsive, which would defeat the purpose for which they were installed. This point was emphasized in conversation with freight agent Lambert.

The scavenger system was observed from day to day, and appeared to be working in the usual efficient manner.

Several days were spent assisting representatives from the Philadelphia Section of the Bureau of Chemistry, in obtaining information and data relative to floating oysters. Assistance was also rendered in procuring salt oyster samples from various sections of Maurice River Cove, and the same representative samples after they had been floated various tides.

Due to the permanent illness of Mr. Covert, who acted in the capacity of sanitary inspector for Maurice River Township Board of Health, he was unable longer to fulfill the duties of that position. At the present time, this side of the river is without an authorized sanitary inspector, but the matters of sanitation are being supervised by Mr. J. N. Fowler, sanitary inspector for Commercial Township. The necessity of appointing an efficient sanitary inspector, who understands what sanitation means to the shellfish industry of Maurice River, to succeed Mr. Covert is obvious.

Signs of a revival of the shucking business were apparent during the past year at Maurice River. A canner who had previously been in business in Delaware, located on the Bivalve side of the river and opened a shucking house. According to his general plan, the oysters were to be shipped in their own shell liquor without being washed. The method of handling oysters was similar to that usually carried on in the shucking business, however, it was found it was necessary to wash the oysters in order to remove shell liquor. Due to this particular dealer's unfamiliarity with the rules and regulations of this Department, it was necessary for him to revise all his advertising matter, and make considerable improvements in the shucking house, such as equipping same with screens, furnishing hot water with which

to wash utensils, remove all accumulations of shells and the disposal of waste liquids. While there is undoubtedly a big field at Maurice River for the business of shucking oysters, yet this Department believes that no relaxation in the rules and regulations governing the operation of shucking houses should be permitted, inasmuch as the production of canned oysters requires extreme care to obtain a clean, wholesome product. This particular dealer desired to conduct a shucking business experimentally for a year, and seemed to feel that concessions should be made in the sanitary requirements.

Following are tabulations of the bacteriological examinations of water and shellfish samples from the Maurice River Section:

SCORES OF OYSTER SAMPLES FROM MAURICE RIVER.

Number of samples of floated oysters examined,	50
Number of samples of salt oysters examined,	8

	<i>Number of Samples Giving Score.</i>	
	<i>Floated Oysters.</i>	<i>Salt Oysters.</i>
Number of samples scoring 0,	6	3
Number of samples scoring 1,	5	3
Number of samples scoring 2,	11	0
Number of samples scoring 3,	4	1
Number of samples scoring 4,	2	0
Number of samples scoring 5,	9	0
Number of samples scoring 14,	4	1
Number of samples scoring 32,	4	.
Number of samples scoring 41,	1	.
Number of samples scoring 50,	3	.
Number of samples scoring 500,	1	.

Results of Analyses of Water Samples from Long Reach are as Follows:

Number of samples collected at low water,	70
Number samples showing bacillus coli in 1 cc.,	48 = 68.6%
Number samples showing bacillus coli in 0.1 cc.,	16 = 22.8%
Number samples showing bacillus coli in 0.01 cc.,	0
Number of samples collected at high water,	40
Number samples showing bacillus coli in 1 cc.,	21 = 52.5%
Number samples showing bacillus coli in 0.1 cc.,	3 = 1.5%
Number samples showing bacillus coli in 0.01 cc.,	0

Ocean City Section.—The shellfish area in the Ocean City Section is located in Great Egg Harbor Bay and Garrett or Back Thorofare. Approximately forty to fifty men are engaged in

the oyster and clam business. Very few oysters or clams are found in that portion of Great Egg Harbor Bay on the inland waterways in the immediate vicinity of Ocean City. In the southern portion of Garrett Thorofare, however, there are about fifteen acres of leased oyster grounds from which hard clams are also obtained. The oyster grounds of Great Egg Harbor Bay are southwest of a line running from Jobs Point to Beesleys Point, being in reality located at the mouth of Great Egg Harbor River. The river itself has some commercial importance as an oyster seed ground. Considerable clamming is done in that portion of Great Egg Harbor Bay between Jobs Point, Somers Point, Beesleys Point and Dry Thorofare. Most of the clams so obtained are shipped by a dealer at Somers Point, while all oysters obtained from this section are floated near Jobs Point and in Patcong Creek.

During the summer the population of Ocean City is greatly increased by summer visitors, and at this time of the year approximately 800,000 gallons of sewage, treated with hypochlorite of lime, enters Beach Thorofare at Third Avenue. There are four by-passes located at Sixth, Eleventh, Sixteenth and Seventeenth Streets but it is claimed same are not used.

Float experiments indicate that the larger portion of the sewage from Ocean City is carried on the flood tide up Beach Thorofare and Garrett Thorofare into Pecks Bay, reaching there in about three hours, and what portion enters Great Egg Harbor Bay through Finger Channel is greatly diluted. On the ebb tide all sewage is carried through Egg Harbor Inlet to the ocean.

The bacteriological examination of the water samples showed Beach and Garrett Thorofares are badly polluted and the lower portion of Great Egg Harbor Bay is slightly polluted, but the upper portion of the bay receives little contamination. Insufficient time did not permit a more extended investigation, and no samples of oysters or clams were examined. This investigation will be carried out in more detail during next summer.

BACTERIOLOGICAL EXAMINATION OF WATER SAMPLES COLLECTED FROM THE SEWAGE PLANT OUTLET TO PECKS BAY THROUGH BEACH THOROFARE AND GARRETT THOROFARE.

Number of samples examined, 93
 Number samples showing bacillus coli in 1 cc., 81 = 87.1%

Number samples showing bacillus coli in 0.1 cc., 52 = 55.9%
 Number samples showing bacillus coli in 0.01 cc., 8 = 8.6%

Samples of Water Collected from Peck's Bay

Number of samples examined, 5
 Number samples showing bacillus coli in 1 cc., 0
 Number samples showing bacillus coli in 0.1 cc., 1 = 20%
 Number samples showing bacillus coli in 0.01 cc., 0

Samples of Water Collected from Great Egg Harbor Bay.

Number of samples examined, 20
 Number samples showing bacillus coli in 1 cc., 12 = 60%
 Number samples showing bacillus coli in 0.1 cc., 2 = 10%
 Number samples showing bacillus coli in 0.01 cc., 0

Wildwood Section.—On August 16, 1921, the waters of Sunset Lake and Post Creek and their tributaries were condemned and the taking of shellfish therefrom prohibited. This action was based on the sanitary survey following cases of typhoid fever caused by eating clams removed from the above named area. At that time the Main Channel and Beach Creek were not condemned, but in July, 1922, complete investigations were carried out to secure definite bacteriological information as to the purity of the waters of the entire section, with a view to ascertaining if the established condemned area should be extended to include the Main Channel and Beach Creek.

The waters of the Main Channel and all tributaries were sampled on the various tides, the boundaries being Hereford Inlet on the north and Jarvis Sound on the south. In addition to this work baskets of oysters were placed in the waters at seven different points, enough oysters being used so that several samples could be taken after floating varying periods of time. Locations of these oyster stations are shown on the accompanying map.

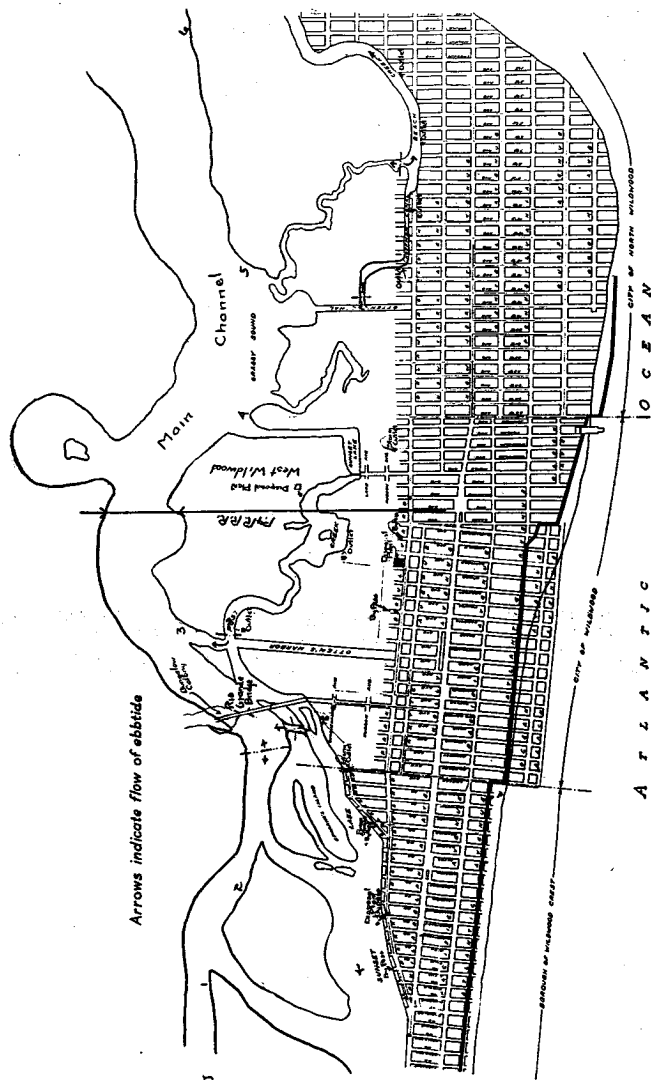
Oyster station No. 1 was located at the mouth of Turtle Gut Inlet off Stringray Point; station No. 2, southeast from Ephraim Island Cut; station No. 3, opposite Otten's Harbor; station No. 4, halfway between Otten's Harbor and the railroad bridge; station No. 5, north of Otten's Canal; station No. 6, halfway between Otten's Canal and the Pennsylvania Railroad bridge, all in the Main Channel. Station J was put in at the north en-

trance to Jarvis Sound. Several of the oyster baskets were stolen and had to be replaced, and, therefore, the analytical results were not as complete as could be desired, but enough scores were obtained to establish the polluted condition of the Main Channel.

Major pollutions of the waterways in the vicinity of Wildwood are from the Wildwood Crest sewage disposal plant, the Wildwood sewage disposal plant and North Wildwood sewer outlets. These pollutions are fixed in character and vary only in amounts due to the summer and winter populations of the resorts. Under the minor pollutions reaching these waters may be grouped the wastes from the bungalow colonies along the waterways, fishing boats and pleasure craft. The largest bungalow colony is at Rio Grande bridge on the main highway into Wildwood, where some sixty or seventy houses are grouped closely together. These houses have outside privies, most of which discharge on the swampy ground underneath. The accumulations of fecal matter are easily washed into the surrounding waters by the rain, and sometimes are carried away by the rise and fall of tides. As this settlement is located near the main tide meet, however, the pollution is not as widespread as the sewage flows from the municipalities. Scattered along the Sound are boat houses and some bungalows on the water's edge, most of which have open privies.

Otten's Harbor is a rendezvous for the market fish boats, which tie up at the wharves inside the harbor. Toilet facilities on these boats are supposed to be locked while in the harbor and accommodations are provided on the wharf for the use of the crews. It is not certain, however, that this procedure is always followed, so that we may expect more or less pollution from this source.

The waters of Grassy Sound and its tributaries have two outlets to the ocean, Cold Spring Inlet at the south and Hereford Inlet to the north, the Turtle Gut Inlet at the southern boundary of Wildwood Crest is now closed. The main tide meet is located south of the Rio Grande highway bridge, nearly opposite the Main Channel to Sunset Lake, in back of Wildwood Crest. Other tide meets occur in the waterways tributary to the Main Channel (see map).



On the ebb tide the sewage from Wildwood Crest goes out through the Turtle Gut Channel to Jarvis Sound. The Wildwood sewage from the south outlet flows up Post Creek to the West Wildwood Channel, being joined on the way by the sewage from the north outlet. North Wildwood sewage enters Beach Creek and flows north to Hereford Inlet. In general all pollution north of the Rio Grande highway bridge flows north on the ebb tide to Hereford Inlet and all pollution south of the highway bridge flows to Jarvis Sound and Cold Spring Inlet. On the flood tide somewhat different areas are traversed. Wildwood Crest sewage stays near the outlet as the tide meet below Rio Grande bridge creates a slack water in Sunset Lake. The sewage from both Wildwood outlets is carried through Post Creek southward, emptying into Otten's Harbor near the Main Channel. Beach Creek sewage from North Wildwood reaches Otten's Canal and from there goes to the Main Channel. All of the above flow directions were verified by floats consisting of a 2x4 foot stick weighted at the bottom so that the effective depth was about three feet. The float was nearly submerged so that wind occurrences were negligible.

From the above data it may be seen that the entirety of Grassy Sound together with its tributaries is exposed to pollution during one or both tides, the main pollution being the sewage flows from the adjoining municipalities. This means that shellfish taken from any portion of the area included between Hereford Inlet and Jarvis Sound are unsuitable for food purposes, therefore, on October 3, 1922, the Department condemned all of Grassy Sound and its tributaries from Hereford Inlet on the north to Jarvis Sound on the south.

A summary of the analyses of the water and oyster samples from this area shows that out of 446 samples of water from various points through the inland waterways above mentioned as being condemned 60% showed bacillus coli in 1 cc., 30% showed coli present in 0.1 cc., and 10% showed their presence in 0.01 cc.

Out of 40 samples of oysters collected and analyzed from the various stations only those samples from station J and station No. 2 were anywhere within the permissible limit of 50, the others

running considerably higher than this limit. When it is taken into consideration that the sanitary survey shows the pollution to be from freshly discharged, untreated sewage, the danger of eating shellfish from this area is obvious.

Following is a tabulation of the oyster scores of samples taken at the stations established:

Station J—Scores obtained, 23, 14, 14, 23, 32, 32, 23, 50. Average score, 27.
Station 1—Scores obtained, 14, 32, 32, 41, 41, 50, 410, 500, 140, 32. Average score, 129.
Station 2—Scores obtained, 14, 3, 14, 2, 50, 41, 32, 41, (clams) 4, 23. Average score, 25.
Station 3—Scores obtained, 50, 32, 140, 50, 230, 230, 50, 140, 230, 230. Average score, 138.
Station 4—Scores obtained, 320, 41, 50, 50, 230, 320, 230, 50, 50, 50. Average score, 139.
Station 5—Scores obtained, 140, 230, 230, 140, 410, 320, 410, 500, 41, 41. Average score, 246.
Station 6—Scores obtained, 500, 140, 140, 230, 50, 50. Average score, 185.

TABULATION OF RESULTS OF ANALYSES OF THE WATER SAMPLES COLLECTED AND LOCATION OF SOURCES.

LOCATION OF SAMPLES COLLECTED.	Number Samples Examined.	Number of Samples Showing Bacillus Coli in		
		1 cc.	0.1 cc.	0.01 cc.
Beach Creek and Upper Otten's Canal,	70	57	41	9
Lower Otten's Canal,	25	22	12	7
Upper Sunset Lake,	10	10	8	6
Post Creek,	45	44	22	12
Otten's Harbor,	10	10	6	2
Main Channel to Turtle Gut Channel to Jarvis Sound, ...	30	4	1	0
Main Channel to Turtle Gut Channel to Sunset Lake Channel,	10	8	3	0
Main Channel to Turtle Gut Channel,	15	9	1	1
Main Channel to Sunset Lake Channel,	10	6	0	0
Main Channel to Turtle Gut Channel to Rio Grande bridge, ..	3	1	1	0
Main Channel from Otten's Harbor to 2,000 feet north, ...	10	9	4	2
Main Channel 1,000 feet south of Rio Grande bridge to Otten's Harbor,	10	10	4	1
Main Channel 1,000 feet north of Rio Grande bridge to Sunset Lake Channel,	10	8	0	0
Main Channel 1,000 feet north of Rio Grande bridge to 1,000 feet south,	20	19	8	0
Main Channel 2,000 feet north of Otten's Harbor to 500 feet north Otten's Canal,	13	12	2	1
Main Channel, P. R. E. bridge to Rio Grande bridge, ...	20	9	3	2
Main Channel, P. R. E. bridge to Otten's Harbor, ...	10	1	0	0
Pennsylvania Railroad bridge to oyster station No. 6, ...	10	4	0	0
Main Channel, Oyster Station 6 to P. R. E. bridge (Lower Sunset Lake),	10	5	0	0
Beach Creek boat wharf to Sunset Lake Channel,	5	4	2	0
Main Channel, P. R. E. bridge to Hereford Inlet,	5	5	2	1
Sunset Lake in vicinity of Wildwood Crest,	15	12	5	0

Pleasantville Section.—Screened sewage from the city of Pleasantville, approximately 150,000 to 200,000 gallons per day, passes through a wooden force main into a tributary of Beach Thorofare. Inspections of this force main by representatives of this Department showed that it was in such condition that the entire flow of sewage entered Clark's Ditch, a tributary to Lakes Bay.

Officials of the city of Pleasantville were cited to appear for a hearing before the Director of Health on April 19, 1923. At this hearing the City Solicitor was informed that it would be necessary to immediately repair the leaky force main to prevent access of Pleasantville sewage into Lakes Bay and until such was done a patrol of the bay should be instituted by the city authorities to prevent the removal of shellfish from this area. Later investigations having shown that the force main had not been satisfactorily repaired and that the larger portion of the Pleasantville sewage was gaining access to the bay, on May 7, 1923, the Department condemned all the waters of Lakes Bay and prohibited the removal of shellfish therefrom.

In addition to the above mentioned action, information was filed with the Attorney General with the request that injunction proceedings be instituted in the Court of Chancery against the City of Pleasantville restraining them from further pollution of the waters of Lakes Bay by sewage.

The Department was loathe to condemn this area and thereby deprive the rivermen of their means of livelihood, but it was believed that the possibilities of a typhoid epidemic from eating the shellfish polluted by domestic sewage was entirely too potential, and condemnation of the area was necessary to protect the public health.

Solid Content of Oysters.—For the purpose of obtaining information on the solid content of salt oysters from various locations of the State and of the same representative oysters after they had been floated two or four low waters, arrangements were made for the collection of representative samples, which before and after floating were sent to the laboratory at Trenton for analyses. The following tables summarize the data for the different areas from which samples were collected:

SOLID CONTENT OF OYSTERS FROM LITTLE EGG HARBOR BAY BEFORE AND AFTER FLOATING IN FVOKERTON CREEKS.
Analysed by Laboratory of Hygiene of the New Jersey State Department of Health, November, 1922.

Sample No.	Location of Oyster Grounds in Little Egg Harbor Bay.	Per Cent. Oyster Meat.		Per Cent. Shell Liquor.		Per Cent. Solids in Shucked Drained Oys.		Per Cent. Solids in Shell Liquor.		Salinity of Shell Per Cent. Na Cl.	
		Salts.	Floats 2 low tides.	Salts.	Floats 4 low tides.	Salts.	Floats 2 low tides.	Salts.	Floats 4 low tides.	Salts.	Floats 2 low tides.
1	Sec. C, Lot 217	73.6	69.3	29.4	30.7	19.65	15.03	4.05	3.60	2.43	1.35
2	Sec. D, Lot 273	68.5	65.4	31.5	31.4	20.47	15.23	4.65	3.07	2.05	1.25
3	Sec. D, Lot 286	67.7	64.5	32.3	35.5	19.67	14.63	4.45	2.86	2.27	1.36
4	Parker's Riparian Right, Gaunt	71.2	69.7	28.3	40.3	21.25	15.64	4.86	3.33	2.40	1.33
5	P. D., Lot 295	68.6	65.6	33.4	33.5	19.16	15.26	3.32	2.52	2.24	1.31
6	Sec. D, Lot 286	68.6	67.5	33.4	33.5	20.08	15.31	4.68	3.11	2.24	1.28
	Average	68.66	65.1	33.1	34.9	20.06	15.21	4.33	3.04	2.33	1.34

SOLID CONTENT OF OYSTERS FROM LITTLE EGGS HARBOR BAY BEFORE AND AFTER FLOATING IN WEST CREEK.

Analysed by Laboratory of Hygiene of the New Jersey State Department of Health, November, 1922.

Sample No.	Location of Oyster Grounds in Little Egg Harbor Bay.	Per Cent. Oyster Meat.		Per Cent. Shell Liquor.		Per Cent. Solids in Shucked Drained Oys.		Per Cent. Solids in Shell Liquor.		Salinity of Shell Liquor cal. as Per Cent. Na Cl.					
		Salts.	Floated 2 low 4 low tides.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.			
													Floated 2 low 4 low tides.	Floated 2 low 4 low tides.	
1	Sec. B, Lot 597, Shoals	68.9	65.2	36.1	34.8	42.7	15.76	14.04	12.87	3.40	2.82	3.41	1.78	1.24	1.10
2	Sec. E, Lot 603, Shoals	63.3	71.4	72.7	81.5	23.6	22.89	21.61	16.93	4.75	4.73	3.63	2.42	2.24	1.54
3	Sec. D, Lot 402, Shoals	67.3	77.4	79.7	82.7	31.5	21.68	16.80	15.46	4.69	3.47	3.31	2.32	1.36	1.30
4	Sec. D, Lot 404, Shoals	67.5	66.1	72.0	82.5	30.0	21.77	20.66	15.00	4.45	3.06	3.05	2.34	1.26	1.28
5	Sec. E, Lot 631, Shoals	70.4	70.7	72.3	29.6	29.3	22.63	20.34	15.88	4.79	4.60	3.43	2.24	2.22	1.90
6	Sec. E, Lot 723, Shoals	66.8	71.13	71.2	33.2	28.86	20.91	18.03	15.77	4.45	3.05	3.41	2.24	1.73	1.34
	Average														

SOLID CONTENT OF OYSTERS FROM MAURICE RIVER COVE BEFORE AND AFTER FLOATING.

Analysed by Laboratory of Hygiene of the New Jersey State Department of Health, October, 1922.

Sample No.	Location of Oyster Grounds in Maurice River Cove.	Per Cent. Oyster Meat.		Per Cent. Shell Liquor.		Per Cent. Solids in Shucked Drained Oys.		Per Cent. Solids in Shell Liquor.		Salinity of Shell Liquor cal. as Per Cent. Na Cl.					
		Salts.	Floated 2 low 4 low tides.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.	Salts.	Floated 2 low 4 low tides.			
													Floated 2 low 4 low tides.	Floated 2 low 4 low tides.	
1	Sec. B, Lot 230, Dead Man Shoals	73.4	78.3	81.8	20.6	21.7	22.05	17.03	16.3	4.04	3.94	3.46	1.76	1.10	.84
2	Sec. C, Lot 477, Deep Water	62.4	66.4	70.1	37.6	15.4	10.1	16.95	16.5	3.62	4.52	3.94	1.76	.96	.88
3	Sec. C, Lot 624, Outer Deep Water	75.4	80.5	84.6	24.6	13.5	21.95	16.05	15.05	4.42	3.02	3.32	1.84	.68	.80
4	Sec. D, Lot 308, Outer Deep Water	63.8	68.8	73.1	31.2	11.2	22.45	17.3	17.0	4.30	3.02	3.02	1.68	.84	.80
5	Sec. D, Lot 464, Mianah, Shoals	66.2	69.1	85.8	33.8	10.9	22.0	10.3	17.0	4.00	4.32	4.00	1.94	.76	.80
6	Sec. D, Lot 241,274, Dead Man Shoals	69.2	73.1	78.1	31.6	23.6	21.0	15.6	15.0	4.30	3.32	3.02	1.76	.84	.84
7	Sec. D, Lot 696, Leidge, Shoals	71.8	62.8	71.2	24.2	11.2	21.25	17.3	17.0	4.32	4.30	3.02	1.96	.64	.....
8	Sec. D, Lot 318, Shoal Sands, Shoals	69.3	71.8	71.2	30.7	11.2	21.25	17.3	17.0	3.94	3.02	3.02	1.78	1.75	.....
9	Sec. E, Lot 229-40, Lower Dead Water	72.2	77.8	88.2	27.8	16.8	22.3	17.6	16.1	4.32	4.12	3.90	1.70	1.02	.72
10	Sec. E, Lot 333, near 509, Mianah	71.1	66.9	86.8	28.9	13.1	22.85	17.9	16.3	4.58	4.24	4.70	1.68	1.04	.72
	Average	69.68	64.54	67.88	30.12	15.46	22.08	16.01	16.40	4.20	4.13	3.87	1.83	.88	.82

TOTAL SOLIDS IN 100 GRAMS OF OYSTER MEAT AND SHELL LIQUOR MAURICE RIVER COVE OYSTERS BEFORE AND AFTER FLOATING.

Analyses by Laboratory of Hygiene of the New Jersey State Department of Health, October, 1922.

	Per Cent. Solids in Shucked, Drained Oysters.	Per Cent. Solids in Shell Liquor.	Total.
Salt oysters.	15.43	1.29	16.72
"floated 2 low tides,	14.28	.84	14.92 equals loss of 1.80 per cent
Floated 4 low tides,	13.79	.62	14.41 equals loss of 2.31 per cent

Report of the Bureau of Child Hygiene.

JULIUS LEVY, M.D., CONSULTANT.

STATISTICAL SUMMARY.

BIRTHS AND DEATHS UNDER ONE YEAR AND UNDER ONE MONTH, STILLBIRTHS AND MATERNAL DEATHS PER 1,000 LIVE BIRTHS FOR THE YEAR 1922.

1. Deaths under one year per 1,000 live births—
 - a. For entire State, 78.7
 - *b. For infants supervised by Bureau, 20.3
 2. Deaths under one month per 1,000 live births—
 - a. For entire State, 37.2
 - b. For infants whose mothers received prenatal supervision from Bureau, 25.0
 3. Stillbirths per 1,000 live births—
 - a. For entire State, 40.7
 - b. For infants whose mothers received prenatal supervision from Bureau, 28.9
 4. Puerperal deaths per 1,000 live births—
 - a. For entire State, 6.25
 - b. For mothers who received prenatal supervision from Bureau, 5.28
- 103 nurses supervise annually approximately 2,700 expectant mothers, 9,000 babies and 55,000 school children.
 67 are paid by the State Department of Health.
 34 are paid by municipalities and
 2 are paid by private organizations.
 202 communities are carrying on the State Child Hygiene program under State supervision.
 74 Baby Keep-well Stations have been established where mothers can bring their babies and pre-school children.
 6 nurses supervise 355 midwives who deliver 26 per cent. of the births in the State.
 39 communities have passed ordinances regulating and licensing boarding homes for children.

Infant Mortality.—The infant mortality rate for 1922 for the State was 78.7. Only one county in the State, Mercer County, presented an infant mortality rate above 100. Twelve counties

*Does not include infants under 1 week.

presented infant mortality rates below 80. We adopted the scheme of showing those counties in black which show an infant mortality rate above 100, those in white with an infant mortality rate below 80, and those in gray between 80 and 100. In 1921 there were no counties that were listed in black. In 1922, Mercer County is the only one in the State that must be shown in this color. The lowest infant mortality rate appeared in Cape May County, and the second lowest in Monmouth County. Particular attention is called to Gloucester County where the infant mortality rate in 1921 was 78.1 and for 1922 was 63.5. During the year 1922 a great deal of intensive child hygiene work, in co-operation with the Gloucester County Health Association, was carried on, and we believe Gloucester County should be set up as an example to other rural counties both as to method for obtaining the best results in child health work, and effective co-operation between the State Department and non-official organizations or agencies.

Among the ten largest cities of the State, Trenton shows the highest infant mortality rate, 107.7, while Elizabeth again shows the lowest infant mortality rate of 66.7. Elizabeth probably has the most complete Child Hygiene work in proportion to population of any of the large cities and is conducting its child hygiene work under the supervision of the State Bureau of Child Hygiene.

Deaths Under One Month.—The highest neonatal rate (deaths under one month per one thousand births) appears in Trenton with a rate of 48.2, the lowest in Perth Amboy with a rate of 29.2. The important fact in the neonatal mortality figures is that the deaths under one month as in Trenton present practically a little less than one-half of the total deaths under one year, and that this is true in most of the cities—even those that present low infant mortality rates; that is, we must recognize that the infant mortality problem has shifted from a consideration of the deaths that occur in the latter months of the first year and are associated with summer heat and infant diarrhea to the deaths in the first month which, on more careful analysis, show a preponderating number in the first days of life and that these deaths are associated with conditions that are closely related to

conditions of pregnancy and the obstetrical care of the parturient woman. Even in Elizabeth which presents a very low neonatal rate as well as a low infant mortality rate, it will be found that the deaths under one month present almost one-half of the total deaths under one year. These observations should be taken not as evidence that the work for the prevention of deaths among infants between one and twelve months is no longer needed, but that the methods for the prevention of these deaths have been successfully applied and that further progress will come by developing as intensively and successfully methods that will prevent maternal deaths and deaths in infants associated with delivery.

In counties the lowest neonatal mortality rate in 1922 appears in Hunterdon County which presents a rate of 19.6, and the highest in Sussex County with a rate of 47.1. Mercer County presents the second highest neonatal rate of 46.4. Caution should be exercised in interpreting rates in rural counties where the total number of births and the total number of deaths under one month are naturally small. In Cape May County the deaths under one month represent more than one-half the deaths under one year; similarly in Monmouth, Ocean, Passaic, Somerset, Sussex and Union Counties.

A careful study of the maternal mortality and neonatal mortality in the State of New Jersey was made by the Bureau and was presented before the American Public Health Association. It seems to indicate that the most immediate results for reduction of this mortality will come from interesting the Medical organizations and doctors more actively in a careful study of this question.

Maternal Mortality.—The maternal mortality for the State was 6.2 which is three-tenths of a point higher than in 1921 when it was 5.9.

The following counties show an increase over 1921, viz:

Atlantic,	Gloucester,	Ocean.
Bergen,	Hudson,	Sussex.
Cape May.	Hunterdon.	Union.
	Monmouth,	

The following counties show a decrease over 1921, viz:

Burlington,	Mercer,	Salem,
Camden,	Middlesex,	Somerset,
Cumberland,	Morris,	Warren.
Essex,	Passaic,	

The highest maternal mortality rate appears in Cape May and Sussex Counties but we must again point out that inasmuch as these are rural counties with a small number of births and small number of puerperal deaths, rates for single years cannot be properly used for comparison.

The following counties show maternal mortality rates about the average for the State, viz:

Atlantic,	Gloucester,	Ocean,
Burlington,	Hudson,	Sussex,
Camden,	Hunterdon,	Union.
Cape May,	Monmouth,	

The following counties show maternal mortality rates below the average for the State, viz:

Bergen,	Mercer,	Salem,
Cumberland,	Middlesex,	Somerset,
Essex,	Morris,	Warren.
	Passaic,	

Among the more populated counties Monmouth appears with a very high maternal mortality rate of 8.6. Atlantic County presents a maternal mortality rate of 9.8.

Among the larger cities the following present maternal mortality rates above the average for the State, viz:

Newark,	Paterson,	Elizabeth,
Jersey City,	Camden,	Bayonne.

The lowest maternal mortality in the State is in Passaic, and the second lowest appears in Perth Amboy.

Stillbirths.—The average stillbirth rate for the State is 40.7 which has approximately been the rate for a number of years.

The following counties present stillbirth rates above the average for the State, viz:

Atlantic,	Mercer,	Sussex,
Camden,	Monmouth,	Warren.
Hudson,	Salem,	

The following counties present stillbirth rates below the average for the State, viz:

Bergen,	Essex,	Ocean,
Burlington,	Gloucester,	Passaic,
Cape May,	Hunterdon,	Somerset,
Cumberland,	Middlesex,	Union.
	Morris,	

Gloucester County presents the lowest stillbirth rate in the State—26.4, which is twelve points lower than it was in 1921. A particularly high stillbirth rate appears in Atlantic, Camden and Sussex County.

Among the ten largest cities, Camden presents the highest stillbirth rate—58.4. Three others, Jersey City, Trenton and Hoboken present a stillbirth rate above the average for the State. The lowest is found in Perth Amboy presenting the remarkably low rate of 20.8, which is nine points lower than it was in 1921.

The problems associated with the stillbirths, deaths under one month and maternal mortality are to be considered together, as they undoubtedly are affected by similar factors, amongst which may be listed racial stock, freedom from syphilitic or gonorrhoeal infections, the percentage of multipara in the population and the availability of expert obstetrical care.

Nurses' Activities.—In 1922 fewer Child Hygiene nurses were employed by the State Department of Health than in 1921. This does not indicate a smaller amount of Child Hygiene work in the State as it is the result of many of the municipalities assuming the salaries of nurses who were previously employed by the State Department. This has been off-set by the large number of nurses who have been placed under State supervision although under municipal control. In 1922 there were 103 nurses working in communities of which 67 were paid by the State Department of Health, 34 by local municipalities and 2 by private organizations. We wish to direct attention to these figures as they indicate one of the very important accomplishments of the Bureau and one of

the fundamental principles underlying the method of carrying on child hygiene work by the State Department, that is, there has been an increase in the number of nurses paid by local municipalities and placed under State supervision from 22 in 1921 to 34 in 1922, with a decrease in the number of nurses paid by the State Department from 72 in 1921 to 67 in 1922. It can readily be seen that this represents a considerable increase in the total amount of child hygiene work carried on in the State of New Jersey with a diminishing expense to the State. These nurses made 144,991 visits of which

15,032 were made to expectant mothers
113,436 to babies, second year and pre-school children and
16,523 to homes of school children.

41,177 visits were made to the stations by mothers with infants, and 9,222 with second year and pre-school children.

ANNUAL REPORT OF THE NURSES' ACTIVITIES

1922

<i>Baby Keep-Well Stations</i> ,	74		
(15 of these stations were opened during 1922)			
Cities, towns and communities where Child Hygiene Nurses under State supervision are working,	202		
Nurses under supervision of State Department of Health,	103		
Paid by State Department of Health,	67		
Paid by Municipalities,	34		
Paid by Private Organizations,	2		
Physicians in charge of work at Baby Keep-Well Stations,	102		
<i>Visits Made by Nurses</i> ,	144,991		
To expectant mothers,	15,032		
To babies, 2d year and pre-school children,	113,436		
To school children,	16,523		
<i>Baby Keep-Well Stations</i> —			
Baby visits to the stations,	41,177		
Second year and pre-school children visits to stations,	9,222		
<i>Prenatal Care (Expectant Mothers)</i> —			
Supervised prenatal cases during 1922,	3,649		
Placed under supervision during 1922,	2,690		
Pregnancies ended,	2,266		
Miscarriages,	15		
Live Births,	2,196		
Deaths of babies under one month,	55		
Maternal deaths,	12		
Stillbirths,	43		
Attendants at birth—			
Midwife	Doctor	Hospital	No Attendant
2,817—34%	4,407—53.58%	987—12%	35—(0.42%)

<i>Infant Care</i> —	
Babies supervised during 1922,	16,742
Placed under supervision during 1922,	9,082
Infant Deaths,	341
<i>Illnesses and Defects</i> —	
Detected (including babies, pre-school children and older members of the family, but not including school children,	4,636
Corrected (including babies, pre-school children and older members of the family, but not including school children,	1,750
Cases referred to doctors,	3,418
<i>School Hygiene</i> —	
Number of communities where school hygiene work is carried on,	187
Number of school children supervised,	55,067
Inspections (general, class-room, annual, etc., assisting doctor or nurses working alone,	208,879
Defects detected,	36,259
Defects corrected,	10,846
Illnesses detected,	824
Illnesses corrected,	551
Pupils excluded,	2,393
Treatments in school,	3,606
Home Visits,	16,523
<i>Contagious Diseases</i> —	
Suspected cases or cases improperly quarantined,	565
<i>Late Reported Births</i> ,	233
<i>Unreported Births Discovered</i> ,	68
<i>Bad Housing and Unsanitary Conditions Reported</i> ,	246
<i>Eye Smears Taken by Nurses</i> ,	124
<i>Nose and Throat Cultures for Diphtheria</i> —	
Nurses assisting doctor or working alone,	1,290

DENTAL AMBULANCE

The Burlington County Rural Dental Clinic, purchased in 1921 by the State Department of Health, was used in cooperation with the school authorities in the county for the past year, except for two weeks in August, during which time it was operated in Ocean County. The purpose of the ambulance is to reach the remote sections of the State to teach Oral Hygiene, and correct dental defects. The necessity for this is shown by medical inspection in the schools and the follow-up work of the Child Hygiene Nurses. A demonstration of the ambulance is then arranged for; the children are examined, and those who cannot otherwise afford dental service are cared for at a nominal cost. The upkeep of

the ambulance, and the salary of the dentist, is the responsibility of the community in which the ambulance is operating.

The value of the work is recognized by many of the local dentists, who have in some instances contributed dental supplies.

The following table shows work accomplished during the year:

County.	No. of Children Treated.	Treatments.	Extractions.
Burlington,	2545	1803	1062
Ocean,	85	241	135

Midwifery.—The general plan of work outlined in previous reports in reference to the supervision of midwives has been continued. During the year 6,686 visits have been made to midwives or in connection with their work, for purposes of instruction and to determine the general competence and efficiency of their work. 404 puerperal deaths were investigated, but only in 277 cases was it possible to determine whether a midwife was in attendance at any time. Of this number, 17 were attended by midwives at some time during the pregnancy or labor.

There has been a marked increase in the cooperation of the midwives with the Bureau and particularly with the supervisors, as is indicated by their reporting 200 labors at the time of delivery and 2,037 prenatal cases. Inasmuch as the midwives know that the purpose of reporting the prenatal cases to the supervisor is to have them promptly referred to a clinic or physician for examination, we look upon this cooperation as one of the best evidences of the great change that has taken place in New Jersey in the attitude of the midwives toward their own work and their cooperation with the State Department of Health.

During the year, midwives reported 468 abnormal cases to the Supervisors of Midwives, and called in 395 physicians. It is very encouraging to find that the midwives reported 11 cases of placenta previa, and 73 cases of abnormal presentation, and promptly referred to physicians 23 cases of premature babies. I merely mention these three to show that the midwives are becoming alert to the necessity of having medical service in abnormal conditions.

According to our records, there are 355 active midwives in New Jersey, of which 18 are still unlicensed. We are classifying as

active midwives all who deliver more than five cases in the course of a year.

During the year, the midwives continued their organization meetings and held 61 meetings among 8 organizations, which were distributed among 9 counties, and represented the total membership of 244. As high as 74 per cent of the membership has attended some of the meetings at which the district supervisor discusses various obstetrical, prenatal and child hygiene problems, and usually arranges for an address by a physician on some special phase of midwifery.

The district supervisors investigated 44 puerperal deaths, 93 infant deaths, and 131 stillbirths, to determine if any special responsibility was attached to the midwife, and to use the data obtained from such investigations for further instructions to other midwives.

During the year the midwives delivered 19,205 births, which represents 26 per cent of the total births in the State.

Legislation.—At the last Legislature several bills relating to midwifery practice were introduced, two of which became law, the principal features of which were annual registration and granting the right to the State Board of Medical Examiners to suspend as well as revoke midwives' licenses.

A bill was prepared at the recommendation of the Committee on Health and Sanitation of the Medical Society of New Jersey which would place the entire control, including the licensing and revocation of the licenses of midwives, in the State Department of Health. This bill was not reported out of committee.

It was pointed out in previous reports that while the State Department of Health has the responsibility, in connection with its work for the protection of the lives and health of mothers and infants, to properly supervise midwives, it lacks the necessary power properly to enforce its decisions in reference to midwives whom it considers unfit to practice, or to determine what type of midwife should be permitted to practice. It is hoped that the power of suspension that now rests with the State Board of Medical Examiners will assist the Department in carrying out its work.

There has been a very marked and constant improvement in the character of the work carried on by the midwives which is

clearly evidenced by the fact that many are wearing gowns, caps and sterile gloves at the deliveries, reporting and taking their expectant mothers to prenatal clinics, and actively co-operating with the Department of Health in every possible way. A recent study of the maternal mortality and neonatal mortality in New Jersey clearly indicates that the character of work carried on by midwives in the State is highly credible.

MIDWIVES' ORGANIZATION.

Visits made by District Supervisors to midwives in connection with midwifery supervision,	6,686
Puerperal deaths referred to Bureau and Investigated,	404
Cases where it was possible to ascertain attendant,	277
Number of these cases which were attended by a midwife at any time during pregnancy,	17
(6% although midwives attend 26% of all births.)	
Deliveries witnessed by District Supervisors,	15
Labors reported by midwives to District Supervisors,	200
Prenatal cases reported by midwives to District Supervisors,	2,037
Ophthalmia cases referred to Bureau,	45
Cases investigated and placed under proper medical supervision	37
Number of cases attended by midwives,	11
Active midwives in the State,	355
Licensed,	337
Unlicensed,	18
Midwives' Association meetings,	61
Number of midwives' associations,	8
With a membership of,	244
Counties covered by these associations,	9

Bergen,	Essex,	Middlesex,
Burlington,	Hudson,	Passaic,
Camden,	Mercer,	Union.

Boarding Homes.—The Department has continued its policy to prevent the unnecessary separation of children from parents and to give adequate health protection to such children as need to be boarded out by developing a system of licensed boarding homes.

During the year, seven baby farms were closed which housed 105 children, of whom it was possible to return 99 to their parents. 68 boarding homes were licensed by the State Department of Health, and 50 by local boards of health who, in most instances,

have requested the State Department of Health to make the initial investigations and recommendations.

Surveys of the boarding home situation were made in 17 communities. As a result of activities in connection with this work, boarding home ordinances have been adopted in 39 communities distributed through 12 counties.

County.	Community.	County.	Community.
Bergen,	Bergenfield, Englewood, Fairview, Hackensack, Leonia, Little Ferry, North Arlington, Palisades Park, Ridgefield Park, Teaneck.	Hudson,	Bayonne, Kearny-Arlington.
		Mercer,	Ewing Township, Princeton, Trenton.
		Middlesex,	Perth Amboy, South Amboy.
		Monmouth,	Long Branch.
		Morris,	Dover, Morristown.
Camden,	Camden.	Ocean,	Point Pleasant.
Essex,	Belleville, Bloomfield, Caldwell, East Orange, Newark, Orange, South Orange, West Orange.	Passaic,	Paterson.
		Somerset,	Bound Brook, Somerville.
		Union,	Cranford, Elizabeth, Hillside Township, Plainfield, Summit, Westfield.

The policy of the Department is to induce as many communities as possible to adopt local ordinances to regulate and govern the conduct of boarding homes for children and placing of children. Inasmuch as the State law does not give this authority to all communities, and many are not organized to pass such an ordinance or to enforce it, the State Department will necessarily continue to carry on such work in these places.

Emphasis in licensing boarding homes has been placed on restricting the number as far as possible to one or two children to each home, as extensive experience has taught us that it is impossible to obtain proper care for young children in homes that make a commercial project of this work.

Maternity Homes.—Maternity homes are required to have a license in the same way as boarding homes. There are at present in the State, 12 licensed maternity homes:

- 1 conducted by doctor.
- 6 conducted by trained nurses.
- 5 conducted by midwives.

During 1922, three additional homes were licensed.

The primary purpose of licensing these homes is to enable the Department to keep in touch with midwives who may be conducting maternity homes to prevent malpractice, over-crowding, or carrying on activities that properly belong to medical practice.

Unmarried Mother Problem.—During the year, 1,028 illegitimate births were reported to the Bureau, of which 443 were referred to local welfare organizations for supervision. The excellent cooperation obtained from the local bureaus and departments is evidenced by the fact that 353 reports were obtained from the cases referred.

During the year, the unmarried mother problem was submitted to a number of Women's Organizations, and a North Jersey and South Jersey Committee organized to further study this question, and to develop methods for carrying out the plans referred to in previous reports in which emphasis was placed—

First—On the necessity of the supervision of the unmarried mother before she leaves the hospital, so that her baby may be kept with her.

Second—The establishment of convalescent homes for nursing mothers in different parts of the State, where such mothers may continue to nurse their infants and receive instruction in home-making before being sent out with their young infants.

Prevention of Blindness.—The Department has continued to make the prevention of blindness an integral part of its preventive child hygiene program. The nurses made 124 smears of suspicious cases of discharge in the eyes of the newborn. 45 cases of gonorrhoeal ophthalmia were referred to the Bureau for supervision. These babies were followed up by nurses until cured, and in all instances were placed under active medical supervision.

Extension.—In 1922, 25 additional communities assumed the salary, or part of the salary, of the child hygiene nurse, and

adopted the State preventive child hygiene program. We are not including in this group communities employing school or other nurses that may do only part of the child hygiene program. During 1922, 15 additional baby keep well stations were established. On January 1, 1923, there were 202 communities with child hygiene nurses under State supervision, representing 103 nurses, of which 67 were paid by the State Department of Health. 34 by municipalities, and 2 by private organizations. 102 physicians gave volunteer service in conducting the baby keep well stations, at which, I wish to emphasize, the doctors confine themselves strictly to preventive, educational measures dealing largely with the value and importance of maternal nursing and proper hygiene. The doctors have received instructions that they are at no time to treat diseases except those related to conditions associated with improper hygiene such as rickets, or a slight gastrointestinal disturbance that is the result of improper technique in feeding or nursing.

This statement does not include the child hygiene work carried on under separate bureaus as in Essex, Hudson and Monmouth Counties, and Trenton.

It is interesting to contrast the present status of child hygiene with the status of child hygiene prior to 1918, and the reorganization of the Bureau, when there was no work under State supervision and child hygiene was restricted to the exhibiting of lantern slides and motion picture films on health, and lectures on child hygiene subjects.

Reports show that on January 1, 1919, we had 12 nurses in 7 counties:

Burlington,	Gloucester,	Middlesex,
Camden,	Mercer,	Salem,
		Warren.

and baby keep well stations had been opened in 11 communities within these counties. Three nurses employed by private organizations were under State supervision.

The most encouraging phase of extension work is that municipalities are not only appropriating moneys for child hygiene, but that they are adopting the continuous child hygiene program and,

in many instances, placing their workers under State supervision, which you can readily see makes not only for uniformity, but saves considerable sums of money to the community as well as places at the disposal of these communities a trained, expert force.

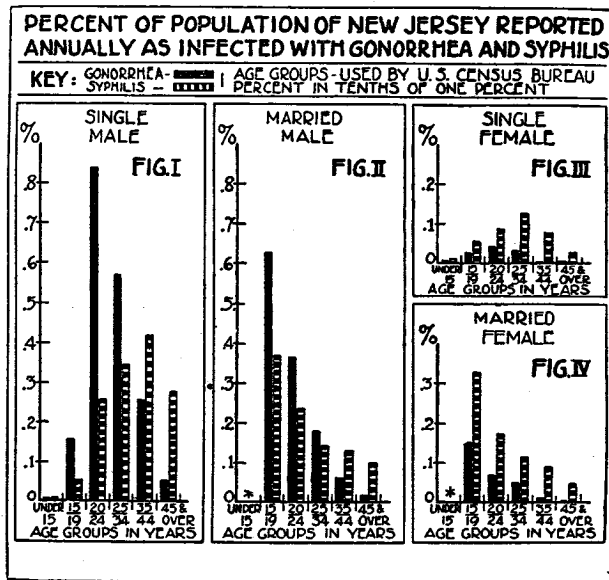
Bureau of Venereal Disease Control.

A. J. CASSELMAN, M. D., DR. P. H., CONSULTANT.

The Study of Venereal-Disease Case Reports Suggests a New Line of Attack.—An analysis of more than 10,000 case reports of venereal diseases, received by the State Department of Health during the fiscal years of 1921 and 1922, suggested an important line of attack against the diseases which hitherto had been omitted from the program of the Bureau of Venereal Disease Control. The per cent. of venereal infections reported in both sexes among both the single and married was computed by using the population statistics compiled by the U. S. Bureau of the Census. The accompanying table and graph show the total number of infections and the per cent. of infections in the various groups by age, sex, and marital condition.

	Male.		Female.		Total.
	Single.	Married.	Single.	Married.	
Gonorrhoea	3,366	1,186	301	274	5,127
Syphilis	1,821	1,753	1,300	1,500	5,501
Total	5,187	2,939	923	1,574	10,628

The significant fact indicated by the graph is the disproportion of the number of venereal infections reported in the two sexes. The very small number of infections reported in the female group cannot be assigned to the hesitancy of physicians to report women patients, for it may be noted that married women infected with syphilis are reported in about the same proportion as are married men similarly infected. In the case of gonorrhoea, the number of infections among males is eight times the reported number among females. The only tenable conclusion is that women infected with gonorrhoea are reported not as completely



as are men so infected, because infected women usually do not seek examination or treatment.

Greater Effort to Find the Source of the Infections Is Indicated.—If we are to treat only the patients after they have become infected with gonorrhea and are to neglect the persons responsible for these infections, we are dabbling merely at the surface of the problem and can hope to achieve no real check upon the disease. What can be done? The problem, in its essentials, is that of discovering the sexually promiscuous women who are infected with a venereal disease, for it is known that they do not seek medical treatment as it is usual for men to do. Only in two cities of the State have we found recognized districts given over to prostitution, and whereas a number of infections have been traced to these sources, by far the greater number of infections

have been contracted elsewhere; from clandestine or occasional prostitutes who hardly can be controlled by ordinary police measures. The only way to prevent the spread of the disease by these infected women is by learning of their condition through the patients whom they have infected and by supervising them, after they are known, under the authority given the local health boards.

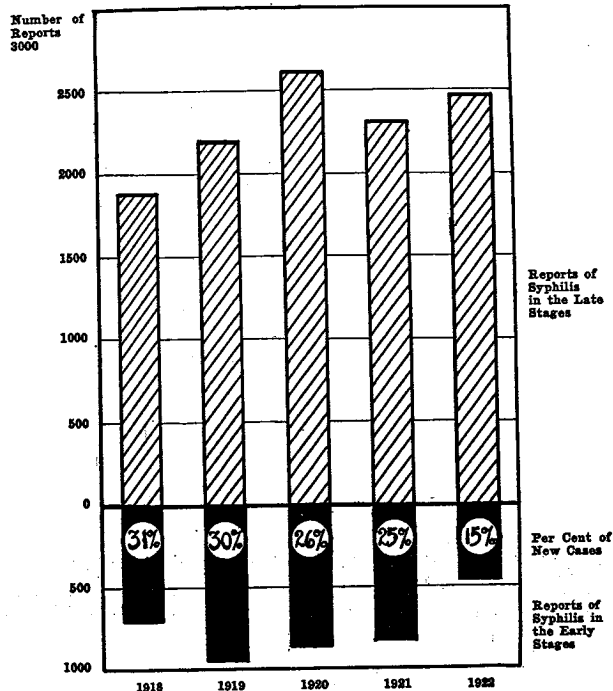
Physicians Must Be Induced to Learn to Report the Probable Source of Infection of Each of Their Patients.—Throughout the year the Bureau of Venereal Disease Control has made a concerted effort to induce physicians to determine from their recently-infected venereal patients, whenever possible, the probable source of infection. It has been made clear to physicians that neither their names nor their patients' names would be used in making the investigations. Whenever a report has been received by the State Department of Health, in which the probable source of infection is named, the Bureau has notified the local health authorities having territorial jurisdiction over the person named; has urged an investigation by an inspector or health nurse; has urged that the person be required to submit to an examination to determine whether or not a venereal disease does exist in a communicable stage, and compulsory medical treatment or isolation if the examination does reveal the existence of an infectious venereal disease; and has urged that a report be sent to us on the disposition of the case so that we may in turn advise the physician concerned.

Practicing Physicians Who Report Venereal Diseases Have Responded to the Request for Information About Source of Infection.—There has been a marked increase in the number of reports of recent infections in which the probable source of infection is named. Practicing physicians generally, throughout the State, have responded to repeated appeals to give greater effort than that given in the past to determine the source of infection of each case of venereal disease. At the same time the local health officials have evinced a greater interest in the investigations of the persons named as the probable source of infection. We are justified in believing that this line of attack, if pursued vigorously enough, will bring under treatment a sufficiently large number of sexually promiscuous and venereally infected persons

who are responsible for the spread of gonorrhoea so that we may hope to check the spread of gonorrhoea as effectively as syphilis is being checked.

An Indication of the Control of Syphilis.—We believe that syphilis is being controlled and that a relatively few years will see the disease reduced to the irreducible minimum, which exists in the case of every communicable disease which can be imported readily from nearby states. There is every reason for this assumption: Modern treatment, which has been generally available for only a decade, renders the disease rapidly non-infectious (and although the disease frequently relapses, due to insufficient treatment, it becomes less infectious with age); the modern treatment is available for the indigent free or at a very moderate charge throughout the entire State; there is a large body of medical practitioners now treating the disease, whereas before the war there was but a handful of such physicians; the public at large is cognizant of the danger of the disease and seeks medical treatment. What evidence have we that this assumption is correct? The accompanying table shows that while the number of reports of cases of syphilis in the late stages continues to increase, the number of cases of syphilis in the early stages has declined markedly from 31 per cent. of the total to 15 per cent. This can mean only that fewer and fewer cases of syphilis are being contracted, while the educational campaign and the activities of physicians and clinicians are bringing year by year more of the long-established cases of syphilis under treatment. Until we can find and treat the infectious carriers of gonorrhoea, especially the sexually promiscuous woman, we can hope for no such achievement in that disease.

SYPHILIS CASE REPORTS FOR FIVE YEARS.



The striking contrast between the gradual increase in reports of late cases of syphilis under medical treatment and the marked decrease of early cases—new infections—is an indication of the control of syphilis.

MEDICAL ACTIVITIES.

Public Venereal Disease Clinics.—The public venereal disease clinics in the State which cooperate with the Bureau of Venereal Disease Control are situated in the following hospitals or public buildings:

Atlantic City,Municipal Hospital, North Virginia Avenue.
 Bayonne,Bayonne Hospital, 12 E. 30th Street.

Camden,	Cooper Hospital, 6th & Steven Streets.
Elizabeth,	Eliz. Gen. Hospital, Reid & E. Jersey Streets.
Greystone Park,	State Hospital at Morris Plains.
Jersey City,	Christ Hospital, 176 Palisade Avenue.
Long Branch,	Monmouth Mem. Hosp., Third Avenue.
Montclair,	Mountainside Hosp., Highland Avenue.
Morristown,	Memorial Hosp., 66 Morris Street.
Newark,	City Dispensary, Plane & William Streets.
Orange,	Memorial Hospital, 302 Henry Street.
Passaic,	General Hospital, Lafayette Avenue.
Paterson,	General Hospital, Market Street & Madison Ave.
Paterson,	Barnert Hospital, 680 Broadway.
Plainfield,	Muhlenberg Hospital, Park Avenue & Randolph Road.
Spring Lake,	Ann May Mem. Hospital, First Avenue.
Trenton,	Municipal Building, East State Street.
Weehawken,	North Hudson Hosp., Park Avenue.

Smaller clinics at the Middlesex General Hospital, New Brunswick; the West Jersey Homeopathic Hospital, Camden; Burlington County Hospital, Mt. Holly; Hackensack Hospital, Hackensack; and the Salem County Memorial Hospital, Salem, have not reported treatments regularly during the year. The Jersey City Hospital Clinic is the only one of the larger clinics which ceased to cooperate with the Bureau when the regular supply of arsphenamine to the clinics had been discontinued because of lack of funds. The Bureau has continued to offer to the clinics occasional supplies of drugs and breakable equipment, in order that clinic routine might not be disrupted by unforeseen emergencies.

Treatment Facilities in Smaller Municipalities.—In rural communities distant from established public clinics, an attempt has been made to induce some practicing physician to agree to treat venereal cases referred to him by the local or State health board, or by volunteer social agencies. These physicians are asked to treat, at a nominal fee, those patients who cannot pay the usual fees for such medical treatment; the fee to be paid either by the patient himself, the overseer of the poor, or the referring agency. Although this arrangement is obviously a makeshift, it has worked advantageously in many of the communities, and at the present time, in thirty-six of the municipalities of the State, over 3,000 population but too small to maintain a public clinic, physicians have been induced to agree to treat these cases. There are

few sections of the State in which medical service is not available, and every effort will be made to increase this service until all parts of the State have been covered.

Relations with Practicing Physicians.—The demonstration clinics described in the 1922 report have been continued. The subject of diagnosis and treatment of syphilis has been presented to groups of physicians not reached during the year 1922. At the present time more than one-fourth of all the practicing physicians of the State have attended meetings at which this subject was discussed and, apparently, all the sections in the State in which such a meeting seemed advisable have been covered. It is planned to attempt the discussion of the diagnosis and treatment of gonorrhea in a similar manner.

1. *Clinics*—

(a) Number of venereal disease clinics reporting regularly,	18
(b) Number of cases of gonorrhoea treated,	1323
(c) Number of cases of syphilis treated,	3636
(d) Number of cases of chancroid treated,	20
2. Number of doses of arsphenamine administered,	14844
3. Total number of treatments administered (including arsphenamine),	47163

The Social-Hygiene Program.

Preventive Venereal-Disease Education.—Educational effort in the venereal-disease control program includes more than the mere giving of information about the venereal diseases: what they are, how acquired, whom they affect, their dangers and effects. It has been demonstrated that the most valuable part of the educational effort is that which is concerned with prevention and this must include a discussion of sex functions, sex psychology, and sex behavior, as well as of venereal diseases. Indeed, much may be accomplished in the control of venereal diseases without even mentioning them.

It is undoubtedly true that this informational feature of the social hygiene program, taken in a broad sense, includes much that is considered in this report as medical or repressive activities. Practicing physicians and hospital officials are not always cognizant of the public health aspect of the venereal diseases, and police authorities frequently are indifferent or antagonistic: frequently there is the necessity for missionary labor among these groups. But ordinarily the social hygiene program refers to work with the general public only, and is confined to the dissemination among the laity of knowledge helpful in the control of venereal diseases.

The Military Educational Measures First Applied to the Civil Population.—At the close of the war, when the burden of venereal disease control was shifted from the Federal government to the states, the latter naturally were imbued with the belief that the policy, so successfully adopted for the men in the service, was the proper one to pursue with the civilians. In short, it was thought that if instruction in the dangers of venereal diseases, together with a knowledge of the usual manner of their acquisition, were imparted to the general population, there would be a general avoidance of the diseases. And in the army this hope was well justified. The ignorance of venereal diseases among

the men called to arms was found to be great. So it became necessary to teach the very rudiments of the subject; lectures, films and pamphlets were employed to tell and illustrate the salient facts about gonorrhoea and syphilis. The dangers were stressed and emphasized: it was the doctrine of fear, but it gave the government a clean, physically-fit fighting machine that accomplished its purpose and helped to win the war. This program met the emergency, but post-war conditions were more than temporary, and permanent results had to be attained.

Different Methods Necessary After the War.—Soon it was evident that the doctrine of fear was efficacious only while the impression was new and that its effect lessened as time passed. Then came the realization that knowledge merely of the dangers of venereal disease was not sufficient, that with it must be an appeal to some higher power outside the person. This superior power might be a sense of religion or morality: a belief in God or church or, in its place, an appeal to self-respect, idealism, loyalty to one's family or friends. Whatever name we may choose to give it, there is a need for some method of emotional control to be invoked as a reliance in time of stress. The combination of such an influence with the knowledge of the true facts about gonorrhoea and syphilis is the effective means to prevent exposure to venereal infection; the State Department of Health program was broadened to include social-hygiene education considered in the light of a constructive aid to character.

Where to Begin.—Sex education to be effective must be continuous and incidental to general ethical training; therefore, it should begin in the home. The school can teach the facts of sexual biology, but no group instruction can give the surrounding atmosphere of reverence and sanctity, if it is not present in the home. Almost universally, parents have shirked this duty, yet many have done so not from lack of the sense of obligation. A mother usually desires her child to know the essentials of sex, which she does not know how to impart: here has come the first opportunity of the Bureau; to teach the parents how to instruct their children. It is a distant outlook, but if the children of today are properly taught not only how they must live but how in turn to teach their own children the fundamental truths of sex hy-

giene, a big step will have been taken in the control of venereal disease.

It is our purpose to have the parents give to the child sex information in the atmosphere of the home in the hope that sordid sexual associations will give place to those of decency; to disassociate the sex relation from the smutty story idea and instill a better attitude toward sex.

What Was Done.—The educational work was carried out in three ways: by lectures, by the intelligent distribution of pamphlets, and by the presentation of films. As the emphasis was placed upon the early sex education of the child, special effort was made to interest the parent-teacher associations and home and school clubs in lectures bearing directly on why the child should be taught and how—the same type of address was made to organized groups of women, evoking invariably a sympathetic response with a request for explanatory literature which was sent quickly and freely. A corresponding appeal was made to men's clubs and mixed gatherings of men and women.

Groups of young men were met and given usually some frank, outspoken advice as to the need for avoiding exposure to venereal infection. Young women received more cautious words of advice about the effect of venereal infections and the manner of their spread. In fifteen communities, in widely separated sections of the State, courses of from four to six lectures, each on different aspects of the social-hygiene and sex-education program, were delivered to representative women by leading experts of the country. The attendance has ranged from twenty-five to five hundred. The very delicate matter of addressing high school girls and boys was met by furnishing speakers of the highest tact and of the sex required. The U. S. Public Health Service assigned one of its assistant educational directors from the Division of Venereal Diseases to New Jersey for a month, and he brought with him a remarkable film, "The Science of Life." It was shown widely and especially appreciated by the public schools. Our own film, "The Gift of Life," has been in constant demand.

Pamphlets to meet the need of the parent in home instruction of the child at various ages were given intelligent distribution.

We have had the services of twenty-two different lecturers, some from other state bureaus and others from volunteer associations. The American Social Hygiene Association of New York City has been particularly cooperative and contributed the services of nine of their experienced staff who lectured eighty-five times. Grateful acknowledgment is made of this assistance.

<i>Lectures Given During Year 1922-23</i>	<i>No.</i>	<i>Attendance.</i>
In fifteen lecture courses for women,	68	6577
To women (Parent-Teacher Ass'ns, League of Women Voters, Women's Clubs, churches, Y. W. H. A., W. C. T. U. etc.),.....	68	5790
To men (Men's clubs, churches, Y. M. H. A., luncheon clubs, etc.),	39	3009
To men and women together (Churches, Y. M. & Y. W. H. A., Parent-Teacher Associations, etc.),	21	1189
To physicians,	5	138
In public schools (U. S. Public Health Service film and speaker),	28	13355
Total,	229	30058

LAW ENFORCEMENT.

Physicians Are Impressed with the Need for Complete Case Reports.—The study of the case reports referred to in the introduction to this report indicated the need for a method of impressing upon the practicing physicians of the State, the importance of determining the source of infection whenever possible, especially when the patient reported was in an early stage of the venereal disease. To this end, an analysis of the statistics was published and copies sent to all of the physicians of the State, with a letter pointing out the need for this help by the reporting physician. The marked increase in complete reports received already has been noted.

The Supervision of Reported Carriers of Venereal Infection.—If persons reported as the source of infection are to be supervised effectively, some agency for this purpose must be provided. Local health boards have been urged to appoint venereal-disease social-service nurses where the size of the city made the problem sufficiently big to warrant the services of such a nurse. The

health departments of Jersey City, Newark, Elizabeth, the Oranges, Plainfield, and Trenton now employ one or more full-time social workers to investigate and supervise delinquent patients referred to them by the public clinics, practicing physicians, and State Department of Health. In smaller communities, the health boards have been urged to provide the occasional services of a public health nurse, if one be employed, or to obtain the services of a nurse employed by some outside agency, either official or voluntary. In many of the smaller communities, such service has been arranged and we have received effective support. In the communities too small to support any type of nursing services, the Bureau has called upon the representative of the local health board to do the work. Thus far, no difficulties have arisen in the investigation of these cases.

Vice Conditions Responsible for the Spread of Venereal Disease Are Not Satisfactory.—The Interdepartmental Social Hygiene Board ceased to function on July 1, 1922, consequently we have not had Federal assistance, which was given to us formerly, in the investigation and suppression of prostitution. Thanks to the cooperation of the American Social Hygiene Association, however, we have had the services of skilled investigators who have gone into all of the more important cities of the State to report on vice conditions, at our request. During the year only two well-defined districts devoted to prostitution were discovered and in both cases the city officials were asked to close them. It cannot be determined at this time whether or not this closing will prove permanent. In neither city have we been able to enlist the support of influential residents sufficiently interested in the condition to demand a permanent closing of the vice district. However, efforts to find and interest such residents will be continued.

Report of the Bureau of Vital Statistics.

DAVID S. SOUTH, CHIEF.

All of the statistical data prepared by the Bureau for use in this annual publication appears in the following report. In previous years a number of charts and tables were published as part of the Director's report and a few tables on infant and maternal mortality appeared in the report of the Bureau of Child Hygiene. Beginning with the present year all such material will be included in the Report of the Bureau of Vital Statistics. The preparation of this matter together with data furnished various persons and organizations from time to time throughout the year consumes a great amount of the time of the eleven employees of the Bureau.

The records of births, marriages and deaths on file in the Bureau of Vital Statistics are only partially indexed, and for a number of years a specific appropriation for indexing purposes has been requested. At the 1923 session of the legislature an appropriation of \$3,000.00 was granted for this purpose. A small force has been organized and is working on an approved index of births, it being apparent that there is greater need for the indexing of these records than those of marriage and death. The need is occasioned by the fact that a great many of the records are of children of foreign parents, who with difficulty report the facts to the attendant at birth, which results in a great number of mistakes in names and makes the location of such records without a system of cross indexing, almost impossible. At present some 35% of these births are attended by foreign midwives, some of whom are ignorant or careless, and others unable to legibly make the required reports. Various styles of foreign lettering are used, some of which it is impossible for even the most experienced clerks in the Bureau to decipher. The index

being worked at present is for a five-year period and is arranged by towns and cities, alphabetically by first letters of the surnames of the children and then chronologically. The completion of such a system of indexing for all of the records on file, will greatly facilitate searching and will partially compensate for the amount expended on the work, by a saving in the time consumed in searching.

It is believed that the law which requires each local registrar to present a free birth certificate to the parents of each child born in his district, will greatly assist in securing complete registration of births. An attractive placard giving this information has been prepared and distributed to a large number of registrars for exhibition in prominent places throughout their districts. Each individual placard contains a facsimile of a birth certificate with explanatory wording in English, Italian, Polish, Yiddish, Slavish and Hungarian. In some districts the local registrar has failed to avail himself of this opportunity to advertise the service rendered the residents of his community and in such places the Bureau is endeavoring to place placards by communication with the officials of large manufacturing or other establishments, with which a large number of employees are connected. The placards have also been placed in schools in certain cities.

An extensive system of checking birth registration is employed by the Bureau and by the Bureau of Child Hygiene through its nurses stationed throughout the State. News items have been employed and the direct circularization of persons whose duty it is to report births. Forms are given to local officers to accompany certificates issued by them, which form combines a graphic explanation of the future uses for which the certificate may be required, with a space for making additions or corrections to the original record, if such are necessary.

During the year five physicians were successfully prosecuted by the Bureau for failure to report births within the time specified by law. These physicians were all habitual offenders and the Bureau secured conviction in every case presented. A total of \$175 was collected in fines and the costs approximated an additional half of this amount. Four of the offenders were

located in separate counties in the northern part of the State with one residing and practicing in a county near the centre of the State. It is anticipated that the successful termination of these cases will be invaluable in promoting better registration.

This report does not contain any additional statistical tables over those published last year, other than those mentioned above, as it is the policy of the Bureau to prepare and present only tables which are concise and for which it is believed there is urgent demand.

GENERAL SUMMARY.

	1920.	1921.	1922.	Total.
Deaths registered, indexed and tabulated,	40,820	37,362	40,086	118,268
Births registered, indexed and tabulated,	76,431	78,172	74,479	229,082
Stillbirths registered, indexed and tabulated,	3,221	3,242	3,033	9,496
Marriages registered, indexed and tabulated,	31,327	27,815	27,114	86,256
Total records registered, tabulated and permanently preserved,	151,799	146,591	144,712	443,102
Certified copies issued and searches made for which fees were received,	4,664	4,081	4,337	13,082
Certified copies issued and searches made in pension cases for which no fees were received,	4,232	4,967	5,561	14,760
Fees returned to State Treasurer for certified copies and searches,	\$4,051.00	\$3,899.50	\$3,609.00	\$11,559.50

CHARTS AND TABLES, 1922.

- Table 1. Births, marriages and deaths reported, with rates, 1879-1922.
 Table 2. Deaths by age periods, with percentage of each period of total deaths.
 Chart 1. Total deaths per 1,000 population for 44 years.
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- Table 17. Deaths by causes, by days, weeks and months of the first year of life.
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- Table 19. Births, marriages and deaths and infant deaths by counties, cities, boroughs and townships.
- Table 20. Deaths by counties and cities according to the Detailed International Classification.
- Table 21. Deaths by occupation, age groups and certain selected causes.
- Table 22. Deaths by causes, sex, color and age periods, New Jersey, each county and the following municipalities (county figures include cities which follow):

Atlantic County—	Cumberland County—	West Orange.
Atlantic City,	Bridgeton,	Gloucester County.
Hammonton.	Millville,	Hudson County—
Bergen County—	Vineland.	Bayonne,
Englewood,	Essex County—	Guttenberg,
Garfield,	Belleville,	Harrison,
Hackensack,	Bloomfield,	Hoboken,
Ridgewood,	East Orange,	Jersey City,
Rutherford.	Irvington,	Kearny,
Burlington County—	Montclair,	Town of Union,
Burlington City.	Newark,	West Hoboken,
Camden County—	Essex County (Con.)	West New York.
Camden City,	Nutley,	Hunterdon County.
Gloucester.	Orange,	Mercer County—
Cape May County.	South Orange,	Princeton,

Trenton.	Morris County—	North Plainfield,
Middlesex County—	Dover,	Somerville.
New Brunswick,	Morristown.	Sussex County.
Perth Amboy,	Ocean County.	Union County—
Roosevelt,	Passaic County—	Elizabeth,
South Amboy.	Clifton,	Plainfield,
	Passaic City,	Rahway,
Monmouth County—	Paterson.	Summit,
Asbury Park,	Salem County—	Westfield.
Long Branch,	Salem City.	Warren County—
Red Bank.	Somerset County—	Phillipsburg.

Population.—The estimated mid-year population of the State for 1922 is 3,315,223. This is arrived at by the arithmetic method, using the United States census figures of 1910 and 1920. The estimated population of the counties and cities of the State, having 5,000 or more inhabitants appears at the foot of the mortality tables for these places, printed in this report.

Births.—The birth rate for 1922 is 22.46, which is almost 2 points lower than the previous year, when it was 24.04. It is thought that a low birth rate will prevail as long as our present high cost of living continues.

Marriages.—The rate for 1922 is 16.35, a decrease of nearly one point from the figure for the previous year. The highest rate during the past decade occurred in 1916, when it was 21.15. It has gradually decreased since that year, a small part of which may be due to the stringent marriage laws in effect in New Jersey which cause some couples to visit neighboring states.

Deaths.—A very slight increase appears in the death rate for 1922. In 1920 the rate was 12.80, in 1921, 11.49 and in the present year 12.09. This increase is well distributed among the various classified causes of death, no unusual increase appearing in any special group.

TABLE 1.—POPULATION: BIRTHS, MARRIAGES AND DEATHS REPORTED WITH RATES PER 1,000 POPULATION.

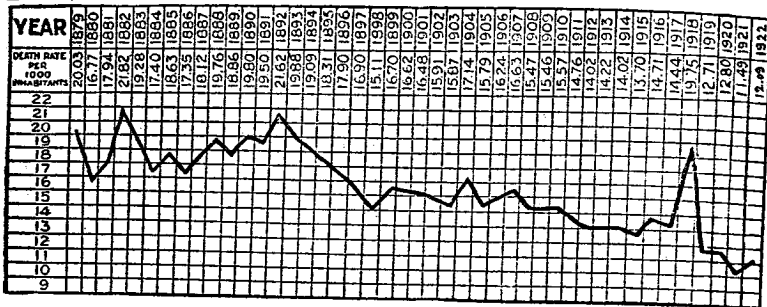
YEAR.	Population.*	BIRTHS.		MARRIAGES.		DEATHS.	
		Number of births reported.	Birth rate per 1,000 population.	Number of marriages.	Persons married per 1,000 population.	Number of deaths.	Death rate per 1,000 population.
1879	1,020,584	23,116	22.65	7,098	18.91	20,440	20.03
1880	1,130,892	25,690	20.94	7,963	14.08	18,967	16.77
1881	1,160,275	23,484	20.24	8,100	13.96	20,812	17.94
1882	1,159,638	23,108	19.42	8,837	14.86	25,959	21.82
1883	1,208,048	24,439	20.21	9,188	15.16	23,310	19.28
1884	1,248,224	25,263	20.20	8,968	14.37	21,716	17.40
1885	1,278,033	24,077	18.84	8,989	14.07	22,807	18.63
1886	1,310,431	25,497	19.46	12,351	18.85	22,734	17.36
1887	1,342,520	27,840	20.36	15,418	22.96	24,331	18.13
1888	1,375,227	28,074	20.41	16,025	23.81	27,173	19.76
1889	1,407,625	29,099	20.67	15,726	22.34	26,543	18.86
1890	1,441,017	30,103	20.89	15,564	21.60	26,330	18.29
1891	1,478,784	28,882	19.53	15,305	20.70	26,840	18.14
1892	1,511,063	30,627	20.26	16,082	21.28	32,686	21.63
1893	1,538,799	32,285	20.98	17,173	22.53	30,596	19.88
1894	1,573,373	33,632	21.33	16,243	20.58	30,004	19.09
1895	1,672,942	31,742	18.97	15,878	18.99	30,354	18.11
1896	1,718,543	31,207	18.16	18,570	21.88	30,767	17.90
1897	1,764,144	31,595	17.91	18,171	20.60	29,822	16.90
1898	1,810,066	32,515	17.96	13,213	14.89	27,337	15.11
1899	1,853,872	29,419	15.84	13,338	14.37	30,969	16.70
1900	1,883,669	32,270	17.13	14,311	15.51	31,474	16.62
1901	1,923,781	34,812	18.08	16,539	17.18	31,739	16.48
1902	1,967,893	35,116	17.84	18,150	18.45	31,819	16.19
1903	2,016,797	37,242	18.47	19,512	19.35	31,820	15.87
1904	2,069,906	38,751	18.82	19,919	18.28	35,298	17.14
1905	2,144,148	39,889	18.51	20,712	19.19	35,884	16.74
1906	2,196,238	42,877	19.43	21,580	19.38	36,670	16.72
1907	2,248,331	44,551	19.86	23,649	21.04	37,408	16.63
1908	2,300,427	47,405	20.61	26,135	22.74	38,597	16.47
1909	2,353,522	47,506	20.19	29,724	25.27	38,859	16.40
1910	2,537,167	53,942	21.26	27,612	22.00	39,494	15.57
1911	2,618,772	58,183	22.22	28,614	19.18	40,512	14.76
1912	2,694,377	60,073	22.30	28,821	19.91	37,772	14.02
1913	2,772,981	61,482	22.15	27,697	19.98	39,425	14.22
1914	2,851,586	65,408	22.94	28,528	20.01	39,967	14.02
1915	2,877,832	66,476	23.10	27,694	19.25	38,485	13.39
1916	2,948,016	70,211	23.82	31,190	21.13	43,876	14.71
1917	3,014,193	75,309	24.98	30,060	19.94	43,838	14.44
1918	3,080,371	74,549	24.20	23,989	18.58	40,832	13.27
1919	3,146,547	70,938	22.64	29,281	18.61	39,979	12.71
1920	3,187,767	78,431	23.97	31,827	19.66	40,820	12.80
1921	3,251,494	78,172	24.04	27,815	17.00	37,829	11.49
1922	3,315,228	74,479	22.46	27,114	16.33	40,086	12.09

* Estimated except for census years.

TABLE 2.—TOTAL DEATHS BY AGE PERIODS SHOWING PERCENTAGE OF TOTAL DEATHS—1922.

AGE PERIODS.	Percentage of total, ..	
	Number of deaths.	Percentage of total, ..
Under 1 year.	40,086	5.864
1 year.	1,274	3.2
2 years.	506	1.6
3 years.	362	.9
4 years.	275	.7
Under 5 years.	8,871	20.9
5 to 9.	603	2.4
10 to 19.	1,459	3.6
20 to 29.	2,975	6.9
30 to 39.	3,110	7.8
40 to 49.	3,646	9.0
50 to 59.	4,983	12.5
60 to 69.	5,098	15.0
70 to 79.	5,500	13.0
80 to 89.	2,887	7.2
90 and over.	498	1.0
Unknown.	5	..
Total.	100.0	100.0

CHART I.—TOTAL DEATHS PER 1,000 POPULATION FOR 44 YEARS.



Infant Mortality.—The rate of 78.7 for 1922 is 5 points in excess of the decidedly favorable year of 1921, when the rate dropped from 87.2 for the previous year, to 73.8. The infant mortality rate of New Jersey has been cut exactly in half since 1910. Part of this improvement is undoubtedly due to better birth registration, but it cannot entirely be laid to this, as the death rate of infants under five years of age, figured on a population basis, has decreased 20 points during the same period and the percentage of deaths both under one year and under five years of total deaths has been steadily lowered.

Colored Race.—The infant mortality of the colored race for 1922 was 127.6, which is considerably in excess of the rate prevailing among the total population. Birth and death rates of this class of population may not accurately portray existing conditions, as estimated population figures cannot be adjusted to include the large number of negroes known to be migrating now to northern states. It has, however, been definitely proven that an excessively high mortality rate prevails among the negroes from practically all diseases except cancer.

Maternal Mortality.—It is regretted that the death rate from puerperal causes has recently been showing a slight increase annually, the rate for 1922 being 6.2, while for 1921 the rate was 5.9. The rate for 1920 was 5.5. The high rate from this cause

also appears among our colored inhabitants, which in New Jersey are mainly negroes, the rate being 11.6.

Stillbirths.—The number of stillbirths reported annually varies but little, the number for 1922 being 3,033, which is equivalent to a rate of 40.7 per 1,000 living births. The rate for the colored population is 72.3.

TABLE 3.—NUMBER OF DEATHS AT ALL AGES, UNDER ONE YEAR OF AGE AND UNDER FIVE YEARS OF AGE, AND THEIR PERCENTAGE OF THE TOTAL.

CALENDAR YEAR.	Deaths in New Jersey.				
	All Ages.	Under one year.		Under five years.	
		Number.	Percentage of Total.	Number.	Percentage of Total.
1904	35,298	7,472	21.2	10,927	31.0
1905	33,864	6,951	20.5	9,864	29.1
1906	35,670	7,773	21.8	11,246	31.5
1907	37,408	7,732	20.7	10,867	29.0
1908	33,597	7,823	23.0	10,869	30.5
1909	36,359	7,658	21.1	11,137	30.6
1910	39,491	8,552	21.7	11,048	28.0
1911	38,012	7,642	19.8	10,740	27.8
1912	37,772	7,457	19.7	10,390	27.3
1913	39,453	7,542	19.1	10,686	27.1
1914	39,967	7,431	18.6	10,278	25.7
1915	39,455	7,077	17.9	9,828	24.9
1916	43,376	7,348	16.9	11,188	25.8
1917	43,532	7,582	17.4	10,267	23.6
1918	40,852	8,372	20.5	13,709	33.6
1919	39,979	6,111	15.3	8,661	21.7
1920	40,520	6,672	16.5	9,569	23.6
1921	37,362	5,773	15.4	8,047	21.5
1922	40,086	5,864	14.6	8,371	20.9

CHART 2.—DEATHS UNDER FIVE YEARS OF AGE PER 10,000 POPULATION FOR 44 YEARS.

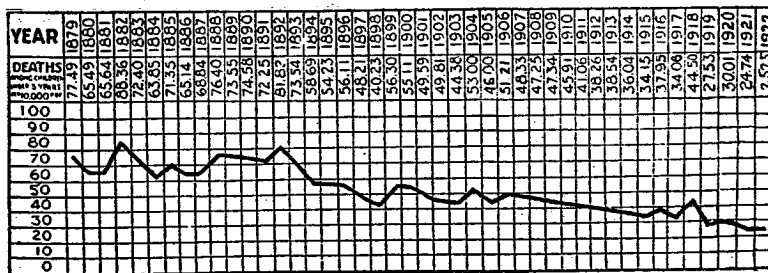


TABLE 4.—BIRTHS REPORTED, DEATHS UNDER ONE YEAR OF AGE AND DEATHS UNDER ONE YEAR PER 1,000 LIVING BIRTHS.

YEAR.	Births reported.	Deaths under 1 year of age.	Infant mortality rates.
1905,	42,677	7,773	182.1
1907,	44,051	7,732	173.2
1908,	47,405	7,823	165.2
1909,	47,508	7,658	161.2
1910,	53,942	8,352	154.8
1911,	58,133	7,642	131.4
1912,	60,073	7,457	124.1
1913,	61,432	7,542	122.7
1914,	65,403	7,431	113.6
1915,	66,476	7,077	106.4
1916,	70,211	7,348	104.7
1917,	75,309	7,582	100.7
1918,	74,549	8,372	112.3
1919,	70,935	6,111	86.1
1920,	76,431	6,672	87.2
1921,	78,172	5,773	73.8
1922,	74,479	5,864	78.7

TABLE 5.—INFANT MORTALITY, DEATHS UNDER ONE MONTH, STILLBIRTHS AND MATERNAL MORTALITY PER THOUSAND LIVING BIRTHS—1922.

Counties.	Deaths Under One Year.	Deaths Under One Month.	Still-births.	Puerperal Deaths.
New Jersey,	78.7	37.2	6.2	6.2
Atlantic,	76.8	38.9	49.2	9.8
Bergen,	70.9	34.6	40.3	4.9
Burlington,	93.6	38.2	39.3	6.6
Camden,	88.0	42.6	50.1	6.4
Cape May,	53.9	31.1	39.4	12.4
Cumberland,	90.2	43.6	33.8	5.2
Essex,	72.3	34.9	39.7	6.0
Gloucester,	63.5	30.0	26.4	7.0
Hudson,	83.4	35.3	44.3	6.3
Hunterdon,	70.3	19.6	36.0	6.5
Mercer,	102.3	46.4	43.5	5.5
Middlesex,	86.2	38.2	32.2	5.4
Monmouth,	63.2	34.6	44.1	8.6
Morris,	73.5	35.3	40.4	5.6
Ocean,	67.4	35.9	38.2	8.9
Passaic,	72.9	38.9	36.9	5.8
Salem,	90.9	45.4	45.4	4.2
Somerset,	81.6	41.2	39.4	4.5
Sussex,	89.2	47.1	48.8	15.1
Union,	70.0	37.7	33.7	6.7
Warren,	88.5	38.8	44.2	.0

TABLE 6.—INFANT MORTALITY, DEATHS UNDER ONE MONTH, STILLBIRTHS AND MATERNAL MORTALITY PER THOUSAND LIVING BIRTHS IN NEW JERSEY AND TEN LARGEST CITIES—1922.

	Deaths Under One Year.	Deaths Under One Month.	Still-births.	Puerperal Deaths.
New Jersey,	78.7	37.2	40.7	6.2
Newark,	78.1	35.8	39.2	7.3
Jersey City,	86.2	33.5	47.7	7.3
Paterson,	78.0	42.1	38.0	7.1
Trenton,	107.7	48.2	43.4	5.9
Camden,	88.3	40.0	58.4	8.0
Elizabeth,	66.7	31.0	34.4	6.3
Bayonne,	81.3	38.3	36.5	6.3
Hoboken,	86.4	37.7	41.4	5.4
Passaic,	70.6	37.4	27.0	3.0
Perth Amboy,	80.9	29.2	20.8	3.3

TABLE 7.—INFANT MORTALITY RATES, TOTAL BIRTHS AND DEATHS UNDER ONE YEAR IN THE COUNTIES OF NEW JERSEY AND CERTAIN MUNICIPALITIES HAVING FIVE THOUSAND OR MORE POPULATION—1922.

	Infant Mortality Rate.	Total Births.	Deaths Under One Year.
Atlantic County,	76.8	2,029	156
Atlantic City,	79.3	1,160	92
Hammonton,	64.8	216	14
Bergen County,	70.9	5,229	371
Englewood,	68.9	262	18
Garfield,	61.7	680	42
Hackensack,	69.6	445	31
Ridgewood Village,	37.8	132	5
Rutherford Borough,	58.4	154	9
Burlington County,	93.6	1,805	169
Burlington,	88.0	250	22
Camden County,	88.0	4,507	397
Camden City,	88.3	2,875	254
Gloucester City,	99.6	251	25
Cape May County,	53.9	482	26
Cumberland County,	90.2	1,330	120
Bridgeton,	84.1	321	27
Millville,	102.8	321	33
Vineland,	73.8	203	15
Essex County,	72.3	15,280	1,105
Belleville Town,	94.0	457	43
Bloomfield,	63.4	457	29
East Orange,	33.5	895	30
Irvington,	56.1	552	31
Montclair,	85.7	548	47
Newark,	78.1	10,335	808
Nutley,	46.6	257	12
Orange,	70.2	797	56
South Orange,	35.9	139	5
West Orange,	44.1	317	14

	Infant Mortality Rate.	Total Births.	Deaths Under One Year.
Gloucester County,	63.5	1,133	72
Hudson County,	83.4	15,003	1,252
Bayonne,	81.3	2,188	178
Guttenberg,	62.5	144	9
Harrison,	98.0	408	40
Hoboken,	86.4	1,642	142
Jersey City,	86.2	7,163	618
Kearny,	76.9	572	44
Town of Union,	75.7	383	29
West Hoboken,	76.4	759	58
West New York,	60.8	756	46
Hunterdon County,	70.3	611	43
Mercer County,	102.3	3,811	390
Princeton,	85.3	82	7
Trenton,	107.7	2,878	310
Middlesex County,	86.2	4,369	377
New Brunswick,	76.1	861	61
Perth Amboy,	80.9	1,198	97
Roosevelt,	91.4	328	30
South Amboy,	58.8	170	10
Monmouth County,	63.2	2,310	146
Asbury Park,	43.9	273	12
Long Branch,	69.2	332	23
Red Bank,	42.8	210	9
Morris County,	73.5	1,780	131
Dover,	76.2	223	17
Morristown,	49.4	283	14
Ocean County,	67.4	445	30
Passaic County,	72.9	6,030	440
Clifton,	65.5	687	45
Passaic,	70.6	1,628	115
Paterson,	78.0	2,920	228
Salem County,	90.9	704	64
Salem City,	78.7	165	13
Somerset County,	81.6	1,090	80
North Plainfield,	101.4	138	14
Somerville,	57.3	157	9
Sussex County,	89.2	594	53
Union County,	70.0	5,011	351
Elizabeth,	66.7	2,351	157
Plainfield City,	79.8	751	60
Rahway,	61.6	227	14
Summit,	62.5	224	14
Westfield,	86.2	197	17
Warren County,	88.5	926	82
Phillipsburg,	109.8	355	39

Typhoid Fever.—While it is gratifying to note a slight decrease in the death rate from this disease from the previous year, the rate is still considerably higher than the rate for 1920. During both 1921 and 1922 serious local epidemics of this disease occurred. The one during 1922 is charged with eighteen deaths. New Jersey has a death rate from this disease of less than half of the rate for the registration area of the United States. This difference is not only for this one year, but is shown in the average for the past ten years. As is expected, the rate in rural communities is considerably higher than that existing in municipalities of 5,000 or more population. The number of deaths from this disease and others of the international list of classified causes, can be secured by counties and cities, by referring to Table 20. Table 22 shows the more important causes by sex, color and age periods.

CHART 3.—DEATHS FROM TYPHOID FEVER PER 10,000 POPULATION FOR 44 YEARS.

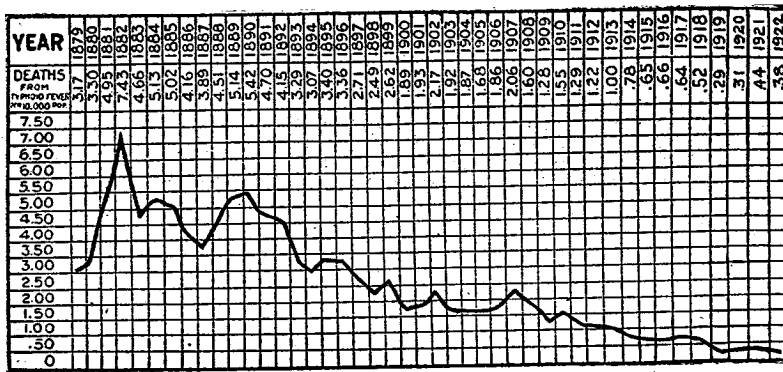


TABLE 8.—COMPARATIVE DEATH-RATES FROM TYPHOID FEVER, PER 10,000 INHABITANTS, IN THE REGISTRATION AREA OF U. S. AND IN N. J. FOR 10 YEARS.

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	Average for ten years.
Registration area of United States,	1.65	1.79	1.54	1.24	1.33	1.34	1.25	0.92	0.78	0.90	1.27
New Jersey,	1.22	1.00	0.78	0.68	0.66	0.64	0.52	0.29	0.31	0.44	0.65

TABLE 9.—DEATHS FROM TYPHOID FEVER IN URBAN AND RURAL DISTRICTS FOR 1922.

1922.	Estimated population.	Deaths from typhoid fever.	Rate per 10,000 population.
State.....	3,315,223	129	0.38
Incorporated municipalities of 5,000 population and above.....	2,449,736	74	0.30
Remainder of State.....	865,487	55	0.63

TABLE 10.—DEATHS FROM TYPHOID FEVER, BY COUNTIES, PER 10,000 POPULATION, FOR 10 YEARS.

COUNTIES.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	Average for ten years.
Atlantic County.....	1.14	1.47	0.59	1.59	0.77	0.43	0.42	0.11	0.69	0.57	0.77
Bergen County.....	1.00	0.36	0.41	0.63	0.72	0.27	0.16	0.16	0.40	0.17	0.43
Burlington County.....	1.39	1.23	1.13	1.11	1.05	1.50	0.94	4.48	2.37	1.16	1.72
Camden County.....	1.53	1.20	0.36	1.53	1.08	0.55	0.52	0.49	0.40	0.49	0.92
Cape May County.....	1.42	0.32	0.43	1.26	0.41	0.79	.....	0.31	.....	.....	0.57
Cumberland County.....	0.88	1.89	1.04	1.04	1.03	1.58	0.51	0.32	1.92	0.31	1.03
Essex County.....	0.66	0.55	0.35	0.43	0.37	0.30	0.20	0.18	0.17	0.10	0.34
Gloucester County.....	1.23	1.01	1.49	1.47	0.73	0.95	0.47	0.20	0.90	0.38	0.89
Hudson County.....	0.53	0.73	0.63	0.55	0.36	0.30	0.16	0.36	0.34	0.15	0.44
Hunterdon County.....	2.37	0.59	0.69	0.39	0.31	0.61	.....	0.30	0.30	0.50	0.39
Mercer County.....	1.36	1.45	0.35	0.48	0.61	0.46	0.65	0.43	0.60	0.77	0.81
Middlesex County.....	0.96	1.09	0.33	0.51	0.33	0.70	0.67	0.24	0.35	0.11	0.37
Monmouth County.....	1.62	1.50	1.68	1.40	1.35	1.71	1.31	0.28	0.75	1.11	1.27
Morris County.....	0.25	1.12	0.35	0.37	0.61	0.48	0.39	0.39	0.33	0.11	0.43
Ocean County.....	2.32	0.43	0.90	0.90	0.45	.....	0.44	0.45	0.89	.....	0.68
Passaic County.....	0.63	0.52	0.57	0.39	0.85	0.34	0.18	0.11	0.39	0.25	0.41
Salem County.....	1.09	0.36	1.08	1.43	1.06	1.06	.....	0.80	1.05	1.53	0.94
Somerset County.....	.....	0.24	0.24	0.47	1.36	0.69	.....	0.41	1.01	.....	0.49
Sussex County.....	.....	0.36	0.36	0.35	0.35	0.69	.....	0.40	.....	.....	0.95
Union County.....	.....	0.36	0.36	0.42	0.47	0.52	0.17	0.44	0.14	0.46	0.49
Warren County.....	0.89	0.66	1.66	.....	0.42	0.41	.....	0.44	.....	.....	0.59
The State.....	1.00	0.78	0.65	0.66	0.64	0.52	0.20	0.31	0.44	0.38	0.66

Malaria.—As the following figures show, deaths during recent years from this affection are practically negligible in this State.

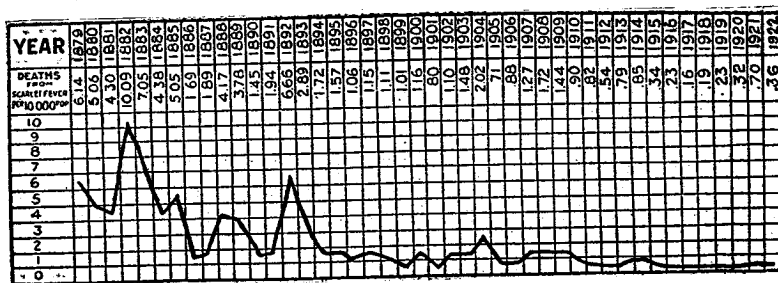
1879.....	268	1890.....	195	1901.....	50	1912.....	20
1880.....	293	1891.....	180	1902.....	35	1913.....	11
1881.....	431	1892.....	198	1903.....	40	1914.....	10
1882.....	379	1893.....	148	1904.....	47	1915.....	17
1883.....	290	1894.....	162	1905.....	21	1916.....	10
1884.....	230	1895.....	144	1906.....	33	1917.....	5
1885.....	209	1896.....	119	1907.....	29	1918.....	13
1886.....	243	1897.....	132	1908.....	30	1919.....	2
1887.....	217	1898.....	82	1909.....	25	1920.....	5
1888.....	264	1899.....	96	1910.....	25	1921.....	10
1889.....	203	1900.....	84	1911.....	25	1922.....	3

Smallpox.—No deaths from smallpox occurred in New Jersey during 1922, although a few mild cases of the disease were reported during the year.

Measles.—The number of deaths from measles during 1922 was 308, while during the previous year only 104 deaths were attributed to this cause. Deaths by age periods follow: Under one year, 79; one year, 123; two years, 41; three years, 20; four years, 13; five to nine years, 23; ten to nineteen years, 4; twenty to twenty-nine years, 3; fifty to fifty-nine years, 1; seventy to seventy-nine years, 1.

Scarlet Fever.—Very little variation is noted in the death rate from this disease during the past ten years, the average rate for this period being about half of that which prevailed during the previous decade.

CHART 4.—DEATHS FROM SCARLET FEVER PER 10,000 POPULATION FOR 44 YEARS.

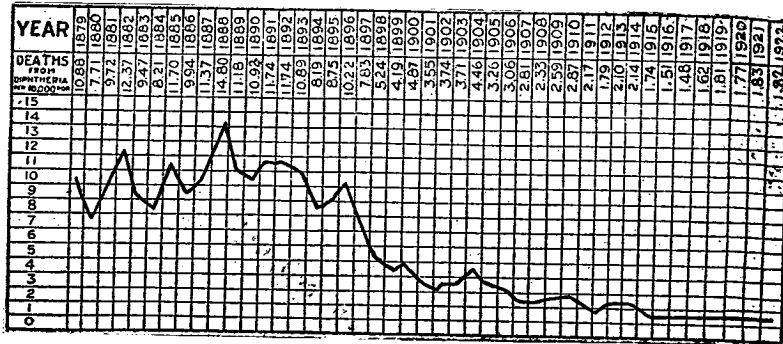


Whooping Cough.—This disease caused 232 deaths during 1922, while for 1921 the figure was 320. The experience of a number of years shows that this disease with others of its nature, fluctuates greatly from year to year.

Diphtheria.—During 1922, 605 persons died from diphtheria and laryngeal croup, which results in a rate of 1.82 per 10,000 population. During the past four years this rate has remained stationary, while for three years prior to this period, a slightly more favorable rate prevailed. The continued high rate from diphtheria demonstrates the need of more effective preventive meas-

ures against this affection than now in common use. The Shick Test for susceptibility and the use of toxin-antitoxin when necessary, would it is believed, greatly lower the mortality from this disease. Over one-third of the deaths were among children of school age.

CHART 5.—DEATHS FROM DIPHTHERIA PER 10,000 POPULATION FOR 44 YEARS.

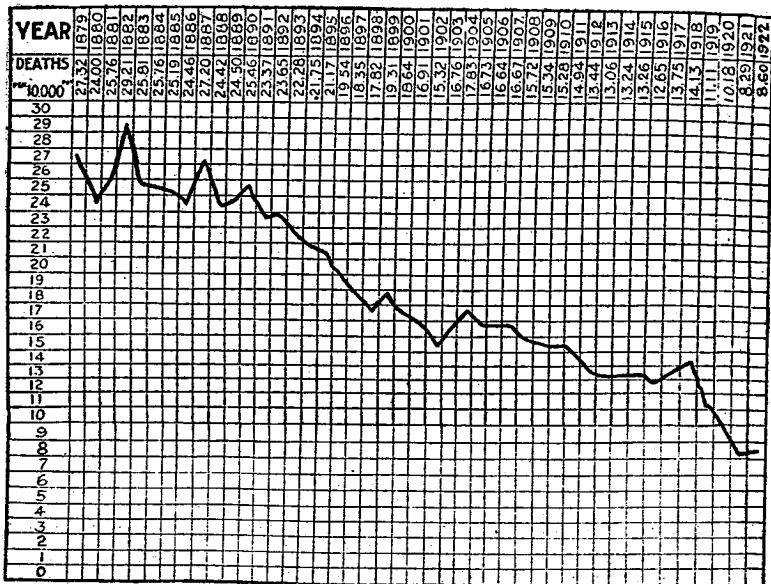


Tuberculosis.—The number of deaths from all forms of tuberculosis during 1922 was 3,169 and from tuberculosis of the lungs alone, 2,853, which is equal to a rate of 8.60 per 10,000 population. While this rate is slightly higher than for the previous year, attention is directed to the gradually declining rate from this disease in Chart 6, which covers a period of 44 years. This decrease is also demonstrated by counties in Table II, as is the decreasing rate of deaths from all causes. Those few counties which show an increased rate from all causes are those which are affected by a changing class of population, being mainly composed of farm area, where there is a preponderance of adults of advanced age.

TABLE II.—AVERAGE ANNUAL DEATH-RATES, PER 10,000 POPULATION, FROM ALL CAUSES AND FROM TUBERCULOSIS OF LUNGS FOR 44 YEARS, COMPARED WITH RATES FOR 1922.

COUNTIES.	Average annual death-rate from all causes.	Death-rate from all causes, 1922.	Average annual death-rate from tuberculosis of lungs.	Death-rate from tuberculosis of lungs, 1922.
Atlantic County,	158.4	153.3	13.00	8.50
Bergen County,	138.7	108.4	14.33	7.06
Burlington County,	153.3	138.1	15.45	7.81
Camden County,	175.0	127.7	18.51	9.40
Cape May County,	135.2	164.0	11.20	6.70
Cumberland County,	102.1	138.6	16.59	6.99
Essex County,	167.0	115.8	20.53	8.99
Gloucester County,	145.4	130.5	14.78	7.05
Hudson County,	180.9	117.9	20.51	9.25
Hunterdon County,	141.4	159.8	13.24	5.80
Mercer County,	166.3	131.9	19.43	10.19
Middlesex County,	155.7	106.2	14.17	8.01
Monmouth County,	152.9	151.7	14.14	9.29
Morris County,	120.4	127.9	16.42	7.55
Ocean County,	141.7	160.9	16.55	10.20
Passaic County,	159.3	106.2	16.61	8.10
Salem County,	146.3	103.7	15.82	5.37
Somerset County,	140.0	119.5	12.78	8.14
Sussex County,	132.1	174.4	12.49	10.64
Union County,	135.5	111.2	13.08	8.95
Warren County,	143.9	126.9	12.59	5.48
The State,	160.5	120.9	17.32	8.60

CHART 6.—DEATHS FROM TUBERCULOSIS OF LUNGS PER 10,000 POPULATION FOR 44 YEARS.

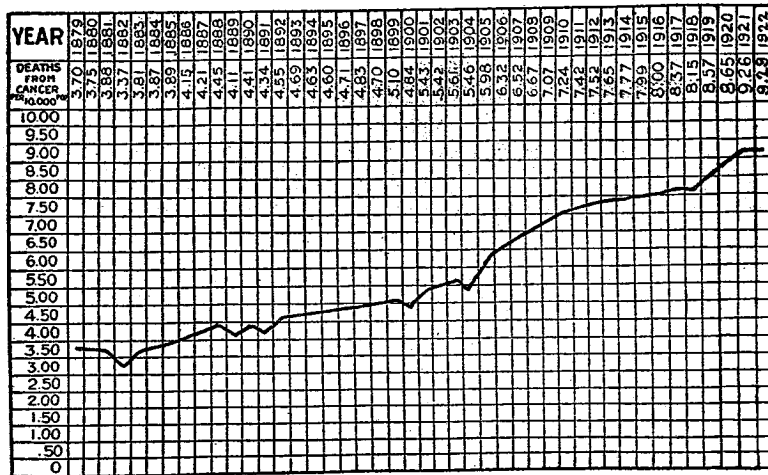


Cancer.—This disease has been steadily increasing during the 44 years of which there is record in New Jersey. The increase for 1922 is smaller than for the majority of recent years. This may be due to the fact that people more generally realize the seriousness of this affection and resort earlier to treatment.

TABLE 12.—DEATHS FROM CANCER AND OTHER MALIGNANT TUMORS IN NEW JERSEY BY ORGAN AFFECTED, 1922.

CANCER AND OTHER MALIGNANT TUMORS.	AGE PERIODS.											
	Under 1 yr.	1 to 4.	5 to 9.	10 to 14.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	Total.
Buccal Cavity,	1	1	1	1	1	1	1	1	1	1	1	166
Stomach, liver,	1	1	1	1	1	1	1	1	1	1	1	21137
Peritoneum, intestines, rectum,	1	1	1	1	1	1	1	1	1	1	1	449
Female genital organs,	1	1	1	1	1	1	1	1	1	1	1	427
Breast,	1	1	1	1	1	1	1	1	1	1	1	306
Skin,	1	1	1	1	1	1	1	1	1	1	1	70
Other organs or organs not specified,	2	3	4	2	4	2	8	6	12	26	54	585
Total,	2	6	6	5	7	13	25	64	102	190	336	63082

CHART 7.—DEATHS FROM CANCER PER 10,000 POPULATION FOR 44 YEARS.



Encephalitis Lethargica or Sleeping Sickness.—Forty-five deaths are directly attributed to this affection during the year

1922. This is the first year that the disease has been separately classified and comparison is therefore impossible.

Bright's Disease.—During 1922, 3,386 deaths occurred from acute and chronic nephritis, which is 150 more than the total recorded for 1921, which was 3,236.

Suicide.—Deaths by this means increased only one during 1922, there being 419 reported, the most used method being firearms with asphyxia ranking in second place.

TABLE 13.—DEATHS BY SUICIDE IN NEW JERSEY, 1922.

MODE OF DEATH.	AGE PERIODS.													Total.			
	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 to 64.	65 to 69.	70 to 74.	75 to 79.		80 to 84.	85 and over.	Not Stated.
Poison.	3	5	2	2	10	7	2	5	4	5	1	1	1	1	1	1	45
Asphyxia.	5	6	10	11	9	10	5	14	14	16	8	1	1	1	1	1	108
Strangulation.	1	2	6	3	9	7	12	11	8	9	8	1	1	1	1	2	78
Drowning.	2	3	3	3	3	7	3	5	4	6	1	1	1	1	1	1	37
Firearms.	4	11	14	7	8	9	9	15	13	13	8	1	1	1	1	1	116
Cutting Instruments.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
Precipitation from height.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
Crushing.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Others.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Total.	15	29	37	28	48	46	38	51	44	38	26	3	3	3	3	2	419

Automobile Fatalities.—Deaths from this source were first separately recorded for the present year and 501 residents of the State were killed as a direct result of this mode of transportation. This figure does not include persons traveling in automobiles who were killed in collisions with street cars or railroad trains, the above total being mainly composed of pedestrians. Attention is directed to the fact that of the 501 deaths, 168 were children under working age and 73 were persons aged sixty and over.

In addition to the 501 fatalities, 40 non-residents of New Jersey were killed by automobiles upon the roads of the State. These deaths are distributed according to residence of deceased, as follows: Connecticut, 2; Delaware, 2; New York, 22; Pennsylvania, 14. It might also be of interest to note the age arrangement of the deaths of residents of the State and they are pre-

sented by individual years up to age 14 and by five-year periods thereafter. In future reports, deaths which are the result of collisions between automobiles and street cars and railroad trains, will be separately classified.

DEATHS FROM AUTOMOBILE ACCIDENTS BY AGE PERIODS.

Under 1 year,	2	15 to 19 Years,	37
1 Year,	1	20 to 24 "	28
2 Years,	7	25 to 29 "	37
3 "	16	30 to 34 "	26
4 "	9	35 to 39 "	28
5 "	25	40 to 44 "	24
6 "	25	45 to 49 "	26
7 "	20	50 to 54 "	23
8 "	19	55 to 59 "	25
9 "	17	60 to 64 "	14
10 "	13	65 to 69 "	22
11 "	4	70 Years and Over,	37
12 "	6		
13 "	4		
14 "	6		
		Total,	501

TABLE 14.—PERCENTAGE OF DEATHS BY CAUSES TO TOTAL DEATHS AND BY SEX TO TOTAL, 1922.

Abridged International List Number.	CAUSE OF DEATH.	Percentage of total.		
		Percentage of total.	Males—Percentage of total.	Females—Percentage of total.
1	Typhoid fever, .....	.3	65.1	34.9
2	Typhus fever,			
3	Malaria,			
4	Smallpox,		66.7	33.3
5	Measles, .....	.3	52.9	47.1
6	Scarlet fever, .....	.3	43.0	57.0
7	Whooping cough, .....	.6	49.3	51.7
8	Diphtheria and croup,	1.5	51.4	48.6
9	Influenza,	1.4	50.5	49.5
10	Asiatic cholera,			
11	Cholera nostras,		100.0	
12	Other epidemic diseases, .....	.3	47.5	52.5
13	Tuberculosis of the lungs,	7.1	54.9	45.1
14	Tuberculous meningitis, .....	.4	63.0	37.0
15	Other forms of tuberculosis, .....	.4	56.5	43.5
16	Cancer and other malignant tumors,	7.7	42.4	57.6
17	Simple meningitis, .....	.4	53.3	46.7
18	Cerebral hæmorrhage and softening,	7.8	47.1	52.9
19	Organic diseases of the heart,	13.7	49.6	50.4
20	Acute bronchitis, .....	.9	52.9	47.1
21	Chronic bronchitis, .....	.3	46.7	53.3
22	Pneumonia,	6.3	54.3	45.7
23	Other diseases of the respiratory system (tuberculosis excepted),	4.9	53.9	46.1
24	Diseases of the stomach (cancer excepted), .....	.8	63.9	36.1
25	Diarrhoea and enteritis (under 2 years),	3.0	35.7	64.3
26	Appendicitis and typhlitis,	1.0	57.7	42.3
27	Hernia, intestinal obstruction, .....	.7	51.9	48.1
28	Cirrhosis of the liver, .....	.7	67.8	32.2
29	Acute nephritis and Bright's disease,	5.4	47.6	52.4
30	Noncancerous tumors and other diseases of the female genital organs, .....	.4	100.0	
31	Puerperal septicaemia (puerperal fever, peritonitis), .....	.4	100.0	
32	Other puerperal accidents of pregnancy and labor, .....	.7	100.0	
33	Congenital debility and malformations,	5.3	56.5	43.5
34	Senility, .....	.5	35.4	64.6
35	Suicide,	1.0	73.5	26.5
36	Violent deaths (suicide excepted),	6.0	73.4	26.6
37	Other diseases,	15.8	53.3	46.7
38	Unknown or ill-defined diseases, .....	.2	62.1	37.9
	Total,	100.0	52.1	47.9

TABLE 15.—DEATHS IN NEW JERSEY PER 100,000 POPULATION, TOTAL, AND BY WHITE AND COLORED INHABITANTS, 1922.

Abridged International List Number.	CAUSE OF DEATH.	Total deaths per 100,000 population.		
		Total deaths per 100,000 population.	White deaths per 100,000 white population.	Colored deaths per 100,000 colored population.
1	Typhoid fever,	3.8	3.5	12.7
2	Typhus fever,			
3	Malaria,			
4	Smallpox,	9.2	9.3	7.1
5	Measles,	3.6	3.6	3.9
6	Scarlet fever,	6.9	6.2	25.4
7	Whooping cough,	13.2	13.1	21.4
8	Diphtheria and croup,	16.3	16.1	22.2
9	Influenza,			
10	Asiatic cholera,			
11	Cholera nostras,	3.6	3.6	3.9
12	Other epidemic diseases,	86.0	80.2	232.7
13	Tuberculosis of the lungs,	4.4	4.1	11.1
14	Tuberculous meningitis,	5.1	4.7	15.3
15	Other forms of tuberculosis,	92.9	93.2	85.7
16	Cancer and other malignant tumors,	5.3	5.3	3.1
17	Simple meningitis,	94.6	94.5	99.2
18	Cerebral hæmorrhage and softening,	165.5	162.7	235.3
19	Organic diseases of the heart,	10.4	10.1	13.2
20	Acute bronchitis,	4.1	4.0	5.5
21	Chronic bronchitis,	75.8	72.7	156.4
22	Pneumonia,	59.2	57.2	110.3
23	Other diseases of the respiratory system (tuberculosis excepted),	9.7	9.6	11.9
24	Diseases of the stomach (cancer excepted),	35.8	35.0	57.1
25	Diarrhoea and enteritis (under 2 years),	12.1	11.8	18.2
26	Appendicitis and typhlitis,	8.1	8.1	7.9
27	Hernia, intestinal obstruction,	7.8	7.7	10.2
28	Cirrhosis of the liver,	10.1	9.2	174.7
29	Acute nephritis and Bright's disease,			
30	Noncancerous tumors and other diseases of the female genital organs,	5.0	4.3	20.6
31	Puerperal septicaemia (puerperal fever, peritonitis),	5.2	5.1	7.9
32	Other puerperal accidents of pregnancy and labor,	8.7	8.2	21.4
33	Congenital debility and malformations,	64.2	62.6	103.2
34	Senility,	5.9	6.0	8.1
35	Suicide,	12.6	12.7	9.5
36	Violent deaths (suicide excepted),	72.0	70.6	108.8
37	Other diseases,	191.1	187.4	285.1
38	Unknown or ill-defined diseases,	1.9	1.7	7.9
	Total,	1209.1	1181.0	1919.7

TABLE 16.—TOTAL DEATHS IN NEW JERSEY BY MONTHS AND CAUSES OF DEATHS, 1922.

Abridged International List No.	CAUSES OF DEATH.	MONTH OF DEATH.																							
		January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1	Typhoid fever.	120	15	13	15	15	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
2	Typhus fever.	2653	217	317	317	250	260	237	204	207	204	207	213	222	218	218	218	218	218	218	218	218	218	218	
3	Scarlet fever.	121	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
4	Diphtheria.	2322	12	23	15	26	14	12	2	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	
5	Measles.	995	84	65	80	33	40	26	26	27	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
6	Whooping cough.	543	63	180	120	51	29	9	4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
7	Whooping cough, with convulsions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8	Whooping cough, with convulsions, and convulsions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9	Whooping cough, with convulsions, and convulsions, and convulsions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
10	Asiatic cholera.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
11	Cholera nostras.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
12	Cholera infantum.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
13	Other epidemic diseases.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
14	Tuberculous meningitis.	2653	217	317	317	250	260	237	204	207	204	207	213	222	218	218	218	218	218	218	218	218	218	218	
15	Other forms of tuberculosis.	170	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
16	Cancer and other malignant tumors.	3682	248	264	275	250	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
17	Cancer and other malignant tumors, of the stomach.	176	16	24	15	12	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
18	Organic diseases of the heart.	5430	287	281	287	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	
19	Acute bronchitis.	348	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	
20	Chronic bronchitis.	137	17	20	18	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
21	Other diseases of the respiratory system (tuberculous excepted).	2574	175	228	365	215	100	78	47	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
22	Other diseases of the respiratory system (tuberculous excepted).	1003	270	355	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	354	
23	Other diseases of the respiratory system (tuberculous excepted).	327	14	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
24	Diseases of the stomach (cancer excepted).	1184	56	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
25	Diphtheria and enteritis (under 2 years).	1184	56	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
26	Diphtheria and enteritis.	1184	56	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
27	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
28	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
29	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
30	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
31	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
32	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
33	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
34	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
35	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
36	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
37	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
38	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
39	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
40	Other diseases of the liver.	270	21	27	10	26	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	10	25	
Total.		40,098	3938	4217	4001	3500	3212	2778	2785	2806	2860	2806	2806	2806	2806	2806	2806	2806	2806	2806	2806	2806	2806	2806	

TABLE 17.—DEATHS IN NEW JERSEY ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH BY SUBDIVISION OF DAYS, WEEKS AND MONTHS OF THE FIRST YEAR OF LIFE (STILLBORN EXCEPTED), 1922.

Abridged International List Number.	CAUSE OF DEATH.	AGE UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS AND MONTHS.																						
		DAYS.			WEEKS.			MONTHS.																
		Under 1 year.	One.	Two.	3 to 6.	Under 1.	One.	Two.	Three.	Under 1.	One.	Two.	3 to 6.											
1	Typhoid fever.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Typhus fever.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Malaria.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Smallpox.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Measles.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Whooping cough.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Whooping cough, with convulsions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Diphtheria and croup.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Infantum.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	Other diseases of the liver.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	Other diseases of the liver.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	Other diseases of the liver.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	Other diseases of the liver.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	Tuberculous meningitis.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Other diseases of the liver.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Cancer and other malignant tumors.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Simple meningitis.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	Cerebral haemorrhage and softening.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	Organic diseases of the heart.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Other diseases of the heart.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	Chronic bronchitis.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	Pneumonia.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	Other diseases of the respiratory system (tuberculous excepted).	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	Other diseases of the respiratory system (tuberculous excepted																							

BERGEN COUNTY—Continued.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Park Ridge Borough,	44	13	25	5
Ramsey Borough,	35	20	26	3
Ridgefield Borough,	29	8	21	8
Ridgefield Park Borough,	150	65	94	8
Ridgewood Village,	182	72	94	5
Riverside Borough,	24	10	19	5
Riverdale Township,	9	3	4	1
Rutherford Borough,	154	62	117	9
Saddle River Borough,	4	2	2	..
Saddle River Township,	88	7	35	2
Teaneck Township,	93	12	45	10
Tenafly Borough,	70	27	43	1
Teterboro Borough, .....	..	..	..	..
Upper Saddle River Borough,	4	2	..	..
Waldeck Borough,	32	11	19	3
Wallington Borough,	232	5	65	19
Washington Township,	4	1	..	..
Westwood Borough,	39	26	43	3
Woodcliff Lake Borough,	13	2	9	..
Woodridge Borough,	35	6	17	2
Total,	5229	1350	2489	371

BURLINGTON COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Bass River Township,	11	2	13	..
Beverly City,	85	15	55	7
Beverly Township,	49	16	30	6
Bordentown City,	75	48	60	4
Bordentown Township,	6	1	7	1
Burlington City,	250	95	154	22
Burlington Township,	41	1	16	2
Chester Township,	129	34	64	7
Chesterfield Township,	17	6	17	3
Cinnaminson Township,	24	5	2	..
Delran Township,	36	2	10	4
Easthampton Township,	11	1	4	1
Evesham Township,	30	6	25	2
Feldsboro Borough,	14	2	11	2
Florence Township,	214	40	94	24
Lumberton Township,	44	8	34	3
Manfield Township,	28	8	25	3
Mansfield Township,	50	12	37	3
Moorestown Township,	59	31	47	9
Mount Laurel Township,	30	2	15	4
New Hanover Township,	49	14	27	13
Northampton Township,	117	70	113	18
North Hanover Township,	16	5	2	..
Palmyra Township,	70	82	60	8
Pemberton Borough,	6	9	13	1
Pemberton Township,	24	13	33	2
Riverside Township,	171	66	77	12
Riverton Borough,	37	15	32	4
Shamong Township,	8	..	4	..
Southampton Township,	34	11	28	1
Springfield Township,	10	5	11	2
Tabernacle Township,	8	4	7	..
Washington Township,	13	..	7	..
Westhampton Township,	13	..	6	..
Willingboro Township,	19	2	8	1
Woodland Township,	5	1	5	..
Wrightstown Borough,	7	3	4	..
Total,	1805	675	1184	161

CAMDEN COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Audubon Borough,	94	34	50	4
Barrington Borough,	35	7	15	2
Berlin Township,	60	87	43	10
Camden City,	2875	955	1590	254
Centre Township,	146	9	47	16
Chesilhurst Borough,	4	2	8	..
Clementon Township,	105	19	67	14
Collingswood Borough,	136	33	66	6
Delaware Township,	60	3	28	6
Gloucester City,	251	92	179	25
Gloucester Township,	70	23	49	5
Haddonfield Borough,	90	34	64	2
Haddon Heights Borough,	43	21	35	2
Haddon Township,	63	14	31	9
Laurel Springs Borough,	12	10	15	2
Magnolia Borough,	27	4	23	8
Merchantville Borough,	45	37	41	3
Oaklyn Borough,	30	2	15	3
Pensauken Township,	119	20	33	6
Tavistock Boro., .....	..	..	..	..
Voorhees Township,	42	4	20	3
Waterford Township,	60	7	27	3
Winstow Township,	111	4	52	13
Wood Lynn Borough,	25	10	8	1
Total, Borough,	4507	1421	2594	397

CAPE MAY COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Avalon Borough,	2	1	1	..
Cape May City,	46	22	36	..
Cape May Point Borough,	3	..	2	..
Dennis Township,	38	9	25	2
Lower Township,	21	6	15	..
Middle Township,	46	14	52	4
North Wildwood City,	62	5	23	2
Ocean City,	98	39	55	1
Sea Isle City,	15	5	11	5
South Cape May Borough, .....	..	..	..	..
Stone Harbor Borough,	6	3	3	..
Upper Township,	7	2	23	2
West Cape May Borough,	18	3	15	2
West Wildwood Borough, .....	..	..	2	..
Wildwood City,	77	34	37	..
Wildwood Crest Borough,	5	..	4	..
Woodbine Borough,	27	8	15	4
Total,	482	176	318	26

CUMBERLAND COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Bridgeton City,	321	146	257	27
Commercial Township,	46	14	45	4
Deerfield Township,	60	17	34	3
Downe Township,	26	11	20	6
Fairfield Township,	21	11	9	2
Greenwich Township,	27	8	17	1
Hopewell Township,	43	5	20	5
Lands Township,	155	51	88	14
Lawrence Township,	41	3	28	3
Maurice River Township,	32	21	19	2
Millville City,	321	107	204	33
Stow Creek Township,	32	2	16	3
Upper Deerfield Township,	3	1	5	2
Vineland Borough,	203	84	181	15
Total,	1830	481	875	120

ESSEX COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Belleville Town,	457	168	187	43
Bloomfield Town,	437	175	230	29
Caldwell Borough,	89	29	32	7
Caldwell Township,	11	6	2	2
Cedar Grove Township,	22	3	21	1
East Orange City,	595	284	511	20
Essex Falls Borough,	9	..	8	..
Glen Ridge Borough,	7	..	33	5
Irrington Town,	552	162	276	31
Livingston Township,	16	6	25	1
Maplewood Township,	115	42	56	2
Milburn Township,	87	32	52	5
Montclair Town,	348	232	330	47
Newark City,	1933	4363	5293	896
North Caldwell Borough,	11	1	6	..
Nutley Town,	257	70	116	12
Orange City,	797	321	420	56
Roseland Borough,	10	2	10	1
South Orange Village,	139	51	70	5
Verona Borough,	73	22	33	6
West Caldwell Borough,	14	..	13	..
West Orange Town,	317	81	193	14
Total,	15280	6002	7967	1105

GLOUCESTER COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Clayton Borough,	36	16	29	3
Deptford Township,	42	11	22	2
East Greenwich Township,	34	4	20	..
Elk Township,	22	3	9	..
Franklin Township,	88	16	41	4
Glassboro Township,	89	28	39	4
Greenwich Township,	35	2	18	4
Harrison Township,	39	5	25	4
Logan Township,	20	2	25	4
Mantua Township,	40	10	35	3
Monroe Township,	39	20	38	1
National Park Borough,	69	6	11	3
Paulsboro Borough,	148	6	15	12
Pitman Borough,	49	31	53	3
South Harrison Township,	13	1	4	..
Swedesboro Borough,	56	26	40	3
Washington Township,	41	4	15	4
Wenonah Borough,	17	3	28	5
West Deptford Township,	61	3	28	5
Westville Borough,	50	12	25	6
Woodbury City,	104	52	100	9
Woodbury Heights Borough,	6	1	2	..
Woolwich Township,	15	..	5	..
Total,	1133	292	666	72

HUDSON COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Bayonne City,	2188	608	812	178
East Newark Borough,	53	16	41	6
Guttenberg Town,	144	17	60	9
Harrison Town,	498	128	195	40
Hoboken City,	1642	1238	944	142
Jersey City,	7183	2644	3856	618
Kearny Town,	372	170	289	44
North Bergen Township,	588	139	301	52
Secaucus Borough,	117	82	70	15
Town of Union,	383	309	275	29
Weehawken Township,	230	116	161	15
West Hoboken Town,	750	411	412	58
West New York Town,	756	340	282	46
Total,	15003	6168	7698	1252

HUNTERDON COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Alexandria Township,	22	6	10	1
Belchem Township,	13	..	13	..
Bloomsbury Borough,	8	7	13	..
Califon Borough,	10	6	13	3
Clifton Town,	8	3	9	..
Clinton Township,	48	11	35	4
Delaware Township,	28	7	24	1
East Amwell Township,	14	4	25	..
Flemington Borough,	38	16	51	5
Franklin Township,	17	8	19	1
Frenchtown Borough,	18	2	25	..
Glen Gardner Borough,	7	2	4	..
Hampton Borough,	18	10	9	..
High Bridge Borough,	26	9	27	..
Holland Township,	8	1	11	..
Kingwood Township,	19	4	15	1
Lambertville City,	59	44	79	7
Lebanon Township,	28	3	19	1
Milford Borough,	15	2	13	2
Raritan Township,	49	1	15	1
Readington Township,	48	15	42	2
Stockton Borough,	15	..	18	..
Tewksbury Township,	24	8	15	1
Union Township,	19	6	21	10
West Amwell Township,	15	1	12	2
Total,	611	178	523	43

MERCER COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
East Windsor Township,	17	3	..	..
Fwing Township,	108	9	63	11
Hamilton Township,	395	58	202	31
Highstown Borough,	28	24	32	..
Hopewell Borough,	16	22	16	..
Hopewell Township,	19	9	39	11
Lawrence Township,	67	6	43	11
Lewington Borough,	24	8	15	2
Princeton Borough,	82	46	10	7
Princeton Township,	78	1	15	4
Trenton City,	2878	1065	1652	340
Washington Township,	24	4	15	1
West Windsor Township,	25	3	10	1
Total,	3,811	1,288	2,226	390

MIDDLESEX COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Cranbury Township,	29	0	18	..
Dunellen Borough,	98	22	48	6
East Brunswick Township,	49	2	30	7
Helmetta Borough,	27	13	22	8
Highland Park Borough,	114	23	45	9
Jamestown Borough,	47	19	28	1
Madison Township,	45	2	13	3
Metuchen Borough,	65	31	32	5
Middlesex Borough,	29	3	43	6
Milltown Borough,	71	16	45	6
Monroe Township,	38	1	23	8
New Brunswick City,	801	296	402	61
North Brunswick Township,	22	2	13	3
Perth Amboy City,	1198	327	460	97
Piscataway Township,	134	21	58	13
Plainsboro Township,	114	2	58	2
Raritan Township,	123	11	64	11
Roosevelt Borough,	328	73	100	30
Sayreville Borough,	215	37	69	13
South Amboy City,	170	34	78	10
South Brunswick Township,	3	59	34	3
South River Borough,	237	49	80	26
Spotswood Borough,	22	7	7	1
Woodbridge Borough,	449	62	157	48
Total,	4869	1116	1856	377

MONMOUTH COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths under	
			Deaths.	one year.
Allenhurst Borough.....	8	14	23	1
Allentown Borough.....	8	14	23	1
Ashbury Park City.....	273	220	181	12
Atlantic Township.....	12	2	6	6
Atlantic Highlands Borough.....	51	16	25	1
Avo Borough.....	16	16	11	16
Belmar Borough.....	39	29	33	4
Bradley Beach Borough.....	67	24	43	5
Brielle Borough.....	3	7	4	4
Deal Borough.....	9	7	4	4
Easton Township.....	46	18	24	2
Englishtown Borough.....	18	4	10	4
Fair Haven Borough.....	27	2	17	1
Farmingdale Borough.....	12	1	16	7
Freehold Borough.....	112	46	60	4
Freehold Township.....	23	2	24	7
Highlands Borough.....	31	21	30	2
Holmdel Township.....	15	4	19	2
Howell Township.....	37	10	40	4
Interlaken Borough.....	1	1	1	1
Keansburg Borough.....	29	15	24	5
Keyport Borough.....	66	62	9	6
Long Branch City.....	332	168	183	23
Manalapan Township.....	23	2	20	2
Manasquan Borough.....	26	19	35	2
Marlboro Township.....	27	9	21	2
Matawan Borough.....	48	16	28	4
Matawan Township.....	83	2	2	2
Middletown Township.....	104	46	99	15
Millstone Township.....	29	3	17	3
Monmouth Beach Borough.....	3	3	9	3
Neptune Township.....	178	55	113	6
Neptune City Borough.....	17	1	2	2
Ocean Township.....	34	12	30	1
Oceanport Borough.....	13	5	17	2
Raritan Township.....	34	6	17	3
Red Bank Borough.....	210	97	146	9
Rumson Borough.....	32	12	28	3
Sea Bright Borough.....	16	5	14	3
Sea Girt Borough.....	3	2	7	2
Shrewsbury Township.....	32	11	31	2
Spring Lake Borough.....	32	19	28	1
Upper Freehold Township.....	90	3	26	4
Wall Township.....	73	2	46	5
West Long Branch Borough.....	19	4	19	2
Total.....	2310	1025	1682	146

MORRIS COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths under	
			Deaths.	one year.
Boonton Town.....	134	53	75	10
Boonton Township.....	9	9	9	2
Butler Borough.....	63	38	35	4
Chatham Borough.....	51	17	28	3
Chatham Township.....	13	1	5	1
Chester Township.....	20	5	15	1
Denville Township.....	15	3	15	2
Dover Town.....	223	93	103	17
Florham Park Borough.....	11	2	9	1
Hanover Township.....	124	36	82	7
Harding Township.....	5	3	2	2
Jefferson Township.....	5	7	13	2
Kinnelon Borough.....	6	2	6	2
Lincoln Park Borough.....	9	1	9	1
Madison Borough.....	142	42	69	8
Mendham Borough.....	18	14	1	1
Mendham Township.....	13	3	7	1
Montville Township.....	4	5	23	1
Morristown Town.....	238	128	172	14
Morris Township.....	35	11	31	2
Mount Arlington Borough.....	8	2	1	2
Mount Olive Township.....	29	8	22	2
Netcong Borough.....	61	6	22	8
Passaic Township.....	49	13	29	1
Pequanock Township.....	38	16	31	2
Randolph Township.....	49	6	44	6
Rockaway Borough.....	57	44	37	6

MORRIS COUNTY—Continued.

NAME OF PLACE.	Births.	Marriages.	Deaths under	
			Deaths.	one year.
Rockaway Township.....	37	5	42	8
Roxbury Township.....	96	23	67	12
Washington Township.....	25	3	30	1
Wharton Borough.....	68	27	38	9
Total.....	1780	624	1084	131

OCEAN COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths under	
			Deaths.	one year.
Barnegat City Borough.....	4	..	..	..
Bay Head Borough.....	7	4	3	2
Beach Haven Borough.....	15	6	6	2
Beachwood Borough.....	2	2	2	1
Berkeley Township.....	19	2	15	1
Brick Township.....	10	3	15	..
Dover Township.....	53	26	36	4
Eagleswood Township.....	5	7	4	..
Harvey Cedars Borough.....	2	2	1	..
Island Heights Borough.....	7	3	8	..
Jackson Township.....	29	8	17	2
Lacey Township.....	17	6	13	2
Lakehurst Borough.....	13	6	5	..
Lakewood Township.....	120	77	98	8
Lavallette Borough.....	2	..	2	..
Little Egg Harbor Township.....	6	1	4	..
Long Beach Township.....	4	..	3	..
Manchester Township.....	10	2	5	1
Manoloking Borough.....	1	1	1	..
Ocean Township.....	8	2	4	..
Ocean Gate Borough.....	..	..	..	..
Plumstead Township.....	27	7	22	1
Point Pleasant Borough.....	14	11	21	1
Point Pleasant Beach Borough.....	15	15	19	1
Sea Side Heights Borough.....	2	1	2	1
Seaside Park Borough.....	4	1	6	1
Stafford Township.....	12	1	6	1
Surf City Borough.....	..	..	..	..
Tuckerton Borough.....	25	6	20	..
Union Township.....	10	10	21	4
Total.....	445	206	360	30

PASSAIC COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths under	
			Deaths.	one year.
Bloomington Borough.....	78	24	25	4
Clifton City.....	687	151	227	45
Haledon Borough.....	54	26	32	3
Hawthorne Borough.....	116	36	52	6
Little Falls Township.....	79	18	43	5
North Haledon Borough.....	30	1	11	..
Passaic City.....	1628	698	592	115
Paterson City.....	2920	1363	1691	226
Pompton Lakes Borough.....	48	13	22	4
Prospect Park Borough.....	102	25	33	4
Ringwood Borough.....	29	2	7	..
Totowa Borough.....	46	7	27	4
Wanaque Borough.....	67	18	26	3
Wayne Township.....	44	10	23	7
West Milford Township.....	44	12	29	5
West Paterson Borough.....	36	17	27	7
Total.....	6030	2444	2872	440

SALEM COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Alloway Township,	29	3	17	2
Elmer Borough,	8	1	13	1
Elmhore Township,	1	..	2	..
Lower Alloways Creek Township,	15	6	13	1
Lower Penns Neck Township,	44	9	18	2
Mannington Township,	28	3	20	2
Oldmans Township,	24	4	13	4
Pilesgrove Township,	167	30	53	13
Pittsgrove Township,	40	5	20	4
Pittsgrove Township,	28	2	17	4
Quinton Township,	24	5	12	3
Salem City,	163	38	113	13
Upper Penns Neck Township,	67	13	22	8
Upper Pittsgrove Township,	48	9	28	7
Woodstown Borough,	26	8	38	1
Total,	704	181	405	64

SOMERSET COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Bedminster Township,	16	7	14	..
Bernards Township,	84	25	60	8
Bound Brook Borough,	191	66	62	13
Branchburg Township,	24	4	14	..
Bridgewater Township,	41	3	31	6
Far Hills Borough,	5	8	3	..
Franklin Township,	70	12	43	4
Hillsborough Township,	126	23	62	14
Millstone Borough,	3	5	7	1
Montgomery Township,	23	5	14	4
North Plainfield Borough,	138	35	101	14
North Plainfield Township,	16	5	5	..
Peapack-Gladstone Borough,	3	3	16	..
Raritan Borough,	116	33	42	10
Rocky Hill Borough,	11	4	3	1
Somerville Borough,	157	72	99	9
South Bound Brook Borough,	37	8	8	..
Warren Township,	11	2	9	1
Total,	1090	342	602	89

SUSSEX COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Andover Borough,	7	10	11	..
Andover Township,	8	8	8	1
Branchville Borough,	11	7	6	..
Bryan Township,	18	..	3	..
Frankford Township,	20	..	20	..
Franklin Borough,	104	19	72	16
Fredon Township,	6	1	4	1
Green Township,	9	2	6	2
Hamourg Borough,	40	12	17	1
Hampton Township,	10	5	6	1
Hardyston Township,	16	9	2	..
Hopatcong Borough,	3	2	2	..
Lafayette Township,	13	4	1	..
Montague Township,	15	6	6	..
Newton Township,	91	38	71	5
Ogdensburg Borough,	24	1	10	2
Sandyston Township,	14	2	14	4
Sparta Township,	29	6	24	3
Stanhope Borough,	15	10	18	3
Stillwater Township,	14	4	7	..
Sussex Borough,	44	12	27	..
Vernon Township,	41	7	25	5
Walpack Township,	5	..	3	1
Wantage Township,	45	6	30	4
Total,	594	148	428	53

UNION COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Clark Township,	19	2	12	2
Cranford Township,	152	57	73	10
Elizabeth City,	2351	803	1108	157
Fanwood Borough,	18	1	10	..
Garwood Borough,	33	9	18	..
Hillside Township,	134	34	72	11
Kenilworth Borough,	42	3	9	3
Linden Borough,	82	21	44	9
Linden Township,	224	18	78	15
Mountainside Borough,	19	3	3	1
New Providence Borough,	28	5	13	4
New Providence Township,	21	6	7	1
Plainfield City,	731	248	367	60
Rahway City,	112	112	130	14
Roselle Borough,	118	46	69	10
Roselle Park Borough,	52	11	64	3
Scotch Plains Township,	159	11	26	7
Springfield Township,	46	10	28	3
Summit City,	224	81	110	14
Union Township,	103	10	44	6
Westfield Town,	191	79	114	17
Total,	5011	1660	2390	351

WARREN COUNTY.

NAME OF PLACE.	Births.	Marriages.	Deaths.	Deaths under one year.
Alpha Borough,	78	5	19	4
Allamuchy Township,	14	..	11	1
Belvidere Town,	18	21	32	3
Blairstown Township,	31	4	17	1
Franklin Township,	35	5	20	3
Frelinghuysen Township,	24	4	23	1
Greenwich Township,	12	11	21	3
Hackettstown Town,	45	32	40	4
Hardwick Township,	7	4	14	1
Harmony Township,	31	3	27	4
Hope Township,	20	6	14	3
Independence Township,	19	10	19	..
Knowlton Township,	20	10	19	..
Loyateong Township,	28	3	11	3
Mansfield Township,	24	3	15	..
Oxford Township,	46	16	12	2
Pahsiquarry Township,	2	..	1	..
Phillipsburg Town,	353	123	177	39
Pohatcong Township,	23	4	23	2
Washington Borough,	48	35	58	4
Washington Township,	13	2	8	1
White Township,	32	3	15	3
Total,	926	291	578	82
State Total,	74479	27114	40086	5864

TABLE 20—DEATHS IN COUNTIES AND CERTAIN SELECTED MUNICIPALITIES, FROM EACH WHICH FOLLOW:

	State Total.	Atlantic County.	Atlantic City.	Hammoncton.	Bergen County.	Englewood.	Garfield.	Hickcnack.	Itidgewood.	Rutherford.	Burlington County.	Burlington City.	Camden County.
Ankylostomiasis,	106												
Intestinal parasites,	8												
Appendicitis and typhlitis,	107	14	11	23		1		1	3	15	2	22	
Hernias, intestinal obstructions,	109	270	11	5	1	12		1		13	2	16	
Other diseases of the intestines,	110	113	6	3	6	1				2		7	
Acute yellow atrophy of the liver,	111												
Hydatid tumor of the liver,	112												
Cirrhosis of the liver,	113	261	7	4	1	16		2	4	1	4	18	
Biliary calculi,	114	124	3	1	7			1		1	4	2	
Other diseases of the liver,	115	107	3	2	2	3		1		7	1	5	
Diseases of the spleen,	116	3		1									
Simple peritonitis (nonpuerperal),	117	16		1						1			
Other diseases of the digestive system (cancer and tuberculosis excepted),	118	20								1			
Acute nephritis,	119	303	22	18	1	12	3	1	2		8	20	
Bright's disease,	120	3085	146	100	6	254	12	12	20	11	5	104	16
Chloria,	121												
Other diseases of the kidneys and an- nexa,	122	61	3	3		9		1		2	1	2	
Calculi of the urinary passages,	123	31				3						3	
Diseases of the bladder,	124	33	1			3		1		1		3	
Other diseases of the urethra, urinary abscess, etc.,	125	16				2	1					1	
Diseases of the prostate,	126	111	6	6		5		1		5		11	
Nonvenereal diseases of the male genital organs,	127	6				2							
Uterine hemorrhage (nonpuerperal),	128												
Uterine tumor (noncancerous),	129	58	3	2		4	1		1	1		4	
Other diseases of the uterus,	130	31	3	2		1							
Cysts and other tumors of the ovary,	131	33				2	1			2		1	
Salpingitis and other diseases of the fe- male genital organs,	132	44	2	1		2				1	1	2	
Nonpuerperal diseases of the breast (can- cer excepted),	133	1											
Accidents of pregnancy,	134	43	1			4	2					1	
Puerperal hemorrhage,	135	38	1	1		6	1			1		4	
Other accidents of labor,	136	72	3	1		7	3			1		8	
Puerperal septicemia,	137	175	13	10		2	2			6		12	
Puerperal albuminuria and convulsions,	138	102	2			5	1			1		8	
Puerperal phlegmasia alba dolens, embo- lus, sudden death,	139	31				1							
Following childbirth (not otherwise de- fined),	140	3											
Puerperal diseases of the breast,	141												
Gangrene,	142	46	2	2						1	1	3	
Furuncle,	143	21	1	1									
Acute abscess,	144	43	1	1		2	1					4	
Other diseases of the skin and annexa,	145	30				2				1	2	1	
Diseases of the bones (tuberculosis ex- cepted),	146	113	1			6	2			3		8	
Diseases of the bones (tuberculosis and rheumatism excepted),	147	22				2	1						
Amputations,	148												
Other diseases of the organs of loco- tion,	149	4										1	
Congenital malformations (stillbirths not included),	150	326	22	12	1	50		2	1	2	19	4	59
Congenital debility, icterus and sclerema,	151	1603	42	28		108	5	12	7	2	1	34	97
Other diseases peculiar to early infancy,	152	533	10	8	1	39	4	6	5	1	2	16	17
Lack of care,	153	4											
Senility,	154	198	8	5	1	11				1	2	8	1

CAUSE OF DEATH, DETAILED INTERNATIONAL LIST. (COUNTY FIGURES INCLUDE DISTRICTS 1922—Continued.)

	Camden City.	Gloucester City.	Cape May County.	Cumberland County.	Bridgeton.	Millsville.	Vineland.	Essex County.	Baltimore.	Bloomfield.	East Orange.	Irvington.	Montclair.	Newark.	Nutley.	Orange.	South Orange.	West Orange.	Gloucester County.	Hudson County.	Bayonne.	Guttenberg.	Harrison.	Hoboken.	Jersey City.	
13	1	1	8	3	1	2	106	1	3	3	7	5	78	1	5	3	1	101	4	1	10	10	58	1		
12	1	1	1	1	1	1	48	1	2	2	1	2	30	1	3	1	1	61	4	1	1	1	10	5		
5			2	2	2	2	28	2	2	2	1	1	18	1	1	1	1	23	2	1	1	1	5	30		
1							1						1	1				1	1	1	1	1	1	1	1	
13	2	1	9	3	3	3	32	1	2	3	2	1	34	2	2	2	3	4	50	3	3	2	3	23	1	
1			5	4	2	1	33	1	1	1	1	1	2	2	4	1	1	20	2	1	1	1	6	12	2	
1							23	1	1	1			15	1	2	1	1	15	2	2	1	1	6	1	5	
							3	3					3	3				2	1	4	1	1	6	6	2	
							5	2	1				8	2				2	2	1	1	1	1	1	1	
16			4	10	4	3	1	46	3	3	3	2	31	1	1	1	5	64	8	5	1	1	3	3	8	
153	28	40	60	17	15	11	582	12	17	47	26	34	333	8	29	5	12	77	562	41	9	13	51	296	1	
1			1	1	1	1	14	1	1	2	1	1	10	1			1	15	1				2	11	3	
2							5	1	1	1	1	1	3	3				5	1						3	
1			1	1	1	1	1	1					1	1				5							1	
8	1	1	6	2	1	1	17	1				1	12	1	1	2	3	8							4	
1							1						1													
3			3	2	1		9		2				7					12	1						6	
1			3	2			6					1	4	1	1			7							5	
1			3	2			6					1	3	1	1			1	4	1					2	
1			2	1			6						5					12							8	
1			1	1			12						12					11							7	
4			1	1			6						4					1							1	
2			1	1			10	1					8					1	20	6					8	
9	1	1	3				3	13	1	1	3		26	1				4	36	3					20	
7			3	2	2		24					1	20					1	2	16	2				12	
							7						5					7								5
3			1	2			5						3					1								
1			2				1						1					9	1							5
2			1	1			1						1					1								2
3			1	1			9	1	1				5					14								2
2							2						2					6	3							2
7			1				39	3	1	1	1	1	25	1	3			1	22	5	1				9	
							6						3					6								3
1							1						1													1
33	3	4	15	5	2	2	73	1	7	4	1	3	44	2	6	1	1	10	103	17			2	12	43	
61	7	8	39	8	9	5	37	15	8	10	11	15	293	6	15	1	2	15	816	53	3	10	34	142	1	
9	2	2	7	1	3	1	123	7	4	7	6	8	79	1	6	2	2	7	83	15	1	3	12	40	1	
9			2	1	4	2	28		1			2	17		5		2	8	23	2	1				13	

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS

Age Group	Occupations											
	Building and hand trades.	Chemical industries.	Clay, glass and stone industries.	Iron, steel and other metal industries.	Lumber and furniture industries.	Textile industries.	Other industries.	Mechanics, millwrights and toolmakers.	Managers, superintendents and foremen (manufacturing).	Manufacturers and officials.	Mechanics (gunsmiths, locksmiths, wheelwrights, etc.).	Millers (grain, flour, feed, etc.).
10 to 19,						1	2	2				
20 to 29,						1	1	1				
30 to 39,						1	1	1	1			
40 to 49,						1	1	1	1			
50 to 59,						1	1	1	1			
60 to 69,						1	1	1	1			
70 to 79,						1	1	1	1			
80 to 89,						1	1	1	1			
90 and over,						1	1	1	1			
Totals,	6	1	17	2	8	28	61	17	13	5		
10 to 19,												
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	2	1	2	5	2	10	28	23	23	6	1	
10 to 19,												
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	3	4	10	1	1	11	34	26	30	4	4	
10 to 19,												
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	3	6	6	23	1	5	15	78	47	27	12	4

AND CERTAIN SELECTED CAUSES, NEW JERSEY, 1922—Continued.

Age Group	Causes																				
	Milliners and millinery dealers.	Molders, founders and casters.	Painters, glaziers, varnishers, enamellers, etc.	Paperhangers.	Pattern and model makers.	Plasterers.	Plumbers and gas and steam fitters.	Pressmen (printing)	Roofers and slaters.	Semi-skilled operatives (industry not stated).	Chemical industries.	Cigar and tobacco factories.	Clay, glass and stone industries (except pottery).	Clothing industries.	Food industries.	Iron, steel and other metal industries.	Liquor and beverage industries.	Lumber and furniture industries.	Porteries.		
10 to 19,																					
20 to 29,																					
30 to 39,																					
40 to 49,																					
50 to 59,																					
60 to 69,																					
70 to 79,																					
80 to 89,																					
90 and over,																					
Totals,	4	7	30	2	2	2	18	8	3	32	3	11	12	16	2	41	2	7	16		
10 to 19,																					
20 to 29,																					
30 to 39,																					
40 to 49,																					
50 to 59,																					
60 to 69,																					
70 to 79,																					
80 to 89,																					
90 and over,																					
Totals,	2	2	28	2	2	1	7	2	2	12	3	4	2	14	1	23		4	3		
10 to 19,																					
20 to 29,																					
30 to 39,																					
40 to 49,																					
50 to 59,																					
60 to 69,																					
70 to 79,																					
80 to 89,																					
90 and over,																					
Totals,	2	9	34	2	3	4	11	11	3	3	5	3	13	17	3	20	1	7	3		
10 to 19,																					
20 to 29,																					
30 to 39,																					
40 to 49,																					
50 to 59,																					
60 to 69,																					
70 to 79,																					
80 to 89,																					
90 and over,																					
Totals,	2	15	62				9	18	16	2	10	7	13	14	21	1	36	1	5	11	

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS

	Motormen.	Officials and superintendents.	Switchmen, flagmen and yardmen.	Ticket and station agents.	Other pursuits.	Express, post, telegraph and telephone.	Express messengers and railway mail clerks.	Linemen.	Mail carriers.	Telegraph operators.	Telephone operators.	Other pursuits.
Tuberculosis of lungs.												
10 to 19,	1									1		1
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	5	5		4				1	4	4		3
Cancer and other malignant tumors.												
10 to 19,												
20 to 29,	1											
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	2	2	3	9		2	1	3	1			
Diseases of the nervous system and of the sense organs.												
10 to 19,												
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,	1											
70 to 79,	1											
80 to 89,	1											
90 and over,												
Totals,	3	2	6	3	6	1	1	4	3	1		1
Diseases of the circulatory system.												
10 to 19,												
20 to 29,												
30 to 39,												
40 to 49,												
50 to 59,												
60 to 69,												
70 to 79,												
80 to 89,												
90 and over,												
Totals,	2	3	13	2	19		1	3	5	3	1	6

AND CERTAIN SELECTED CAUSES. NEW JERSEY, 1922—Continued.

TRADE.	Bankers, brokers and moneylenders.	Clerks in stores.	Commercial travelers.	Deliverymen.	Laborers.	Real estate and insurance agents and officials.	Shimen and saleswomen.	Underwriters.	Wholesale and retail dealers.	Other pursuits.	PUBLIC SERVICE (NOT ELSEWHERE CLASSIFIED).	Firemen (fire department).	Laborers (public service).	Marshals, sheriffs, detectives, etc.	Officials and inspectors (city, county, state).	Policemen.	Soldiers, sailors and marines.	Other pursuits.	
10 to 19,	1	2																	
20 to 29,	1	1																	
30 to 39,	1	1																	
40 to 49,	1	1																	
50 to 59,	1	1																	
60 to 69,	1	1																	
70 to 79,	1	1																	
80 to 89,	1	1																	
90 and over,	1	1																	
Totals,	5	15	1	1	21	26	1	32	7			2	4	1	5	9	12	23	
10 to 19,	1	1																	
20 to 29,	1	1																	
30 to 39,	1	1																	
40 to 49,	1	1																	
50 to 59,	1	1																	
60 to 69,	1	1																	
70 to 79,	1	1																	
80 to 89,	1	1																	
90 and over,	1	1																	
Totals,	12	1	1	2	11	20	1	78	6			2	1	1	6	8	1	14	
10 to 19,	1	1																	
20 to 29,	1	1																	
30 to 39,	1	1																	
40 to 49,	1	1																	
50 to 59,	1	1																	
60 to 69,	1	1																	
70 to 79,	1	1																	
80 to 89,	1	1																	
90 and over,	1	1																	
Totals,	11	8	1	3	3	23	35	4	108	7		3	3	2	15	12		35	
10 to 19,	1	1																	
20 to 29,	1	1																	
30 to 39,	1	1																	
40 to 49,	1	1																	
50 to 59,	1	1																	
60 to 69,	1	1																	
70 to 79,	1	1																	
80 to 89,	1	1																	
90 and over,	1	1																	
Totals,	20	3	1	3	3	38	56	9	217	6		7	7	5	16	14	6	60	

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS

		PROFESSIONAL SERVICE.										
		Architects.	Chemists, assayers, etc.	Civil and mining engineers and surveyors.	Clergymen.	Dentists.	Designers, draftsmen and inventors.	Lawyers, judges and justices.	Musicians and teachers of music.	Photographers.	Physicians and surgeons.	Teachers.
Tuberculosis of lungs.	10 to 19.										1	
	20 to 29.										4	
	30 to 39.	1									4	
	40 to 49.	1									4	
	50 to 59.										1	
	60 to 69.										1	
	70 to 79.										1	
	80 to 89.										1	
	90 and over.										1	
	Totals.		2	2	4	4	1	4	1	4	2	5
Cancer and other malignant tumors.	10 to 19.											
	20 to 29.											
	30 to 39.	2									6	
	40 to 49.	1									3	
	50 to 59.										3	
	60 to 69.			1	4		2	4			3	
	70 to 79.			1	2		1				3	
	80 to 89.			1	1						1	
	90 and over.										1	
	Totals.		2	2	2	11		2	5	3	6	14
Diseases of the nervous system and of the organs of sense.	10 to 19.										1	
	20 to 29.										1	
	30 to 39.	1									2	
	40 to 49.	1									3	
	50 to 59.	1									3	
	60 to 69.	1									5	
	70 to 79.	1									5	
	80 to 89.	1									2	
	90 and over.										2	
	Totals.		1	5	6	9	3	5	7	6	12	16
Diseases of the circulatory system.	10 to 19.											
	20 to 29.	1									2	
	30 to 39.	1									2	
	40 to 49.	1									3	
	50 to 59.										7	
	60 to 69.	1									6	
	70 to 79.	1									6	
	80 to 89.	3									4	
	90 and over.	1									1	
	Totals.		5	2	6	19	5	6	29	8	18	29

AND CERTAIN SELECTED CAUSES, NEW JERSEY, 1922—Continued.

		Other professional and semi-professional pursuits.										
		DOMESTIC AND PERSONAL SERVICE.										
		Barbers, hairdressers and manicurists.	Bartenders.	Hotel keepers and managers.	Housekeepers and stewards.	Janitors and sextons.	Laundresses and laundresses.	Porters (except in stores).	Restaurant, cafe and lunch room keepers.	Shooneepers.	Servants.	Waiters.
Tuberculosis of lungs.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.											
	70 to 79.											
	80 to 89.											
	90 and over.											
	Totals.		2	2	4	4	1	4	1	4	2	5
Cancer and other malignant tumors.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.											
	70 to 79.											
	80 to 89.											
	90 and over.											
	Totals.		2	2	2	11		2	5	3	6	14
Diseases of the nervous system and of the organs of sense.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.	1										
	60 to 69.	1										
	70 to 79.	1										
	80 to 89.	1										
	90 and over.											
	Totals.		1	5	6	9	3	5	7	6	12	16
Diseases of the circulatory system.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.	1										
	70 to 79.	1										
	80 to 89.	3										
	90 and over.	1										
	Totals.		5	2	6	19	5	6	29	8	18	29

		Other professional and semi-professional pursuits.										
		DOMESTIC AND PERSONAL SERVICE.										
		Barbers, hairdressers and manicurists.	Bartenders.	Hotel keepers and managers.	Housekeepers and stewards.	Janitors and sextons.	Laundresses and laundresses.	Porters (except in stores).	Restaurant, cafe and lunch room keepers.	Shooneepers.	Servants.	Waiters.
Tuberculosis of lungs.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.											
	70 to 79.											
	80 to 89.											
	90 and over.											
	Totals.		2	2	2	11		2	5	3	6	14
Cancer and other malignant tumors.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.											
	70 to 79.											
	80 to 89.											
	90 and over.											
	Totals.		2	2	2	11		2	5	3	6	14
Diseases of the nervous system and of the organs of sense.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.	1										
	70 to 79.	1										
	80 to 89.	1										
	90 and over.											
	Totals.		1	5	6	9	3	5	7	6	12	16
Diseases of the circulatory system.	10 to 19.											
	20 to 29.											
	30 to 39.	1										
	40 to 49.	1										
	50 to 59.											
	60 to 69.	1										
	70 to 79.	1										
	80 to 89.	3										
	90 and over.	1										
	Totals.		5	2	6	19	5	6	29	8	18	29

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS AND

	Building and hand trades.	Chemical industries.	Clay, glass and stone industries.	Iron, steel and other metal industries.	Lumber and furniture industries.	Textile industries.	Other industries.	Mechanics, millwrights and toolmakers.	Managers, superintendents and foremen (manufacturing).	Manufacturers and officials.	Mechanics (gunsmiths, locksmiths, wheelwrights, etc.).	Milkers (grain, flour, feed, etc.).
Pneumonia.												
10 to 19,							4	1		1		
20 to 29,	2	1		1			2	5				
30 to 39,	1	1					4	5				
40 to 49,		1	1				4	4				
50 to 59,			1	1			4	6				
60 to 69,	1	1	1	1			6	6				
70 to 79,			1	1			6	3		1		
80 to 89,				1			1	1		2		
90 and over,							1					1
Totals,	1	3	4	9	1	17	38	14	5	3	1	
Diseases of the respiratory system (pneumonia and tuberculosis of lungs excepted).												
10 to 19,							3					
20 to 29,							1	1				
30 to 39,							2	1				
40 to 49,	2		1	1			2	1	1			
50 to 59,				1			1	3	1	1		
60 to 69,				1			1	1	1			
70 to 79,				1			1	1	1			
80 to 89,							1	1	1			
90 and over,							1		1			
Totals,	2	1	6	3	10	6	8	8	3	1		
Diseases of the digestive system.												
10 to 19,							1					
20 to 29,	1						6					
30 to 39,	1	1					3					
40 to 49,			2				4					
50 to 59,			1				3					
60 to 69,			1				3					
70 to 79,			1				1					
80 to 89,							1					
90 and over,							1					
Totals,	4	2	2	1	1	5	20	12	11	6		
Nonvenereal diseases of the genito-urinary system and anal-canal.												
10 to 19,							4					
20 to 29,	1						2					
30 to 39,							4					
40 to 49,							4					
50 to 59,		1					5					
60 to 69,		1					4					
70 to 79,		1					5					
80 to 89,							5					
90 and over,							1					
Totals,	1	3	9	2	4	11	35	19	30	6	2	

CERTAIN SELECTED CAUSES, NEW JERSEY, 1922—Continued.

Milliners and millinery dealers.	Molders, founders and casters.	Painters, glaziers, varnishers, enamellers, etc.	Paperhangers.	Pattern and model makers.	Plasterers.	Plumbers and gas and steam fitters.	Pressmen (printing).	Roofers and slaters.	Semi-skilled operatives (industry not stated).	Chemical industries.	Cigar and tobacco factories.	Clay, glass and stone industries (except potteries).	Clothing industries.	Food industries.	Iron, steel and other metal industries.	Liquor and beverage industries.	Lumber and furniture industries.	Potters.	
10 to 19,		1				2							1		1				
20 to 29,		3				5	1						1		2				
30 to 39,		3				2	2						1		1				
40 to 49,		4				2	1						2		1				
50 to 59,		2				2	1						3		5				
60 to 69,	1	2				2	1						1		1				
70 to 79,		1				1	1						1		1				
80 to 89,															1				
90 and over,															1				
Totals,	1	11	14	1	1	14	5	3	3	1	3	5	9	3	15	2	1	1	
10 to 19,															1				
20 to 29,															2				
30 to 39,															1				
40 to 49,															2				
50 to 59,															1				
60 to 69,															1				
70 to 79,															1				
80 to 89,															1				
90 and over,															1				
Totals,	2	3	6	6	2	6	2	2	1	2	4	2	6	6	14	2	3	3	
10 to 19,															1				
20 to 29,															2				
30 to 39,															5				
40 to 49,															3				
50 to 59,															1				
60 to 69,															2				
70 to 79,															1				
80 to 89,															1				
90 and over,															1				
Totals,	3	4	24	2	11	4	4	9	1	3	6	5	1	14	2	3	3	3	
10 to 19,															1				
20 to 29,															2				
30 to 39,															1				
40 to 49,															5				
50 to 59,															3				
60 to 69,															1				
70 to 79,															1				
80 to 89,															1				
90 and over,															1				
Totals,	1	5	58	1	1	1	21	8	3	6	3	4	10	2	24	9	8	8	

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS AND

	Summary of deaths									
	all causes					diseases and accidents				
	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 and over	Totals
Rubber industries.	1	7	6	3	2	1	1	1	1	5
Shoe factories.	1	1	1	1	1	1	1	1	1	1
Tanners and other leather industries.	5	5	5	5	5	5	5	5	5	13
Textile industries.	1	5	6	4	4	4	4	4	4	7
Other industries.	1	11	11	11	11	11	11	11	11	4
Shoemakers and cobblers (not in factory).	1	1	1	1	1	1	1	1	1	1
Stonecutters.	1	1	1	1	1	1	1	1	1	1
Tailors and tailoresses.	1	1	1	1	1	1	1	1	1	1
Thamitis and coppersmiths.	1	1	1	1	1	1	1	1	1	1
Upholsterers.	1	1	1	1	1	1	1	1	1	1
Other manufacturing and mechanical industries.	1	4	4	4	4	4	4	4	4	15
TRANSPORTATION.										
10 to 19	1	1	1	1	1	1	1	1	1	1
20 to 29	1	1	1	1	1	1	1	1	1	1
30 to 39	1	1	1	1	1	1	1	1	1	1
40 to 49	1	1	1	1	1	1	1	1	1	1
50 to 59	1	1	1	1	1	1	1	1	1	1
60 to 69	1	1	1	1	1	1	1	1	1	1
70 to 79	1	1	1	1	1	1	1	1	1	1
80 to 89	1	1	1	1	1	1	1	1	1	1
90 and over	1	1	1	1	1	1	1	1	1	1
Totals	8	1	2	88	17	4	4	5	1	1
10 to 19	1	1	1	1	1	1	1	1	1	1
20 to 29	1	1	1	1	1	1	1	1	1	1
30 to 39	1	1	1	1	1	1	1	1	1	1
40 to 49	1	1	1	1	1	1	1	1	1	1
50 to 59	1	1	1	1	1	1	1	1	1	1
60 to 69	1	1	1	1	1	1	1	1	1	1
70 to 79	1	1	1	1	1	1	1	1	1	1
80 to 89	1	1	1	1	1	1	1	1	1	1
90 and over	1	1	1	1	1	1	1	1	1	1
Totals	8	1	2	88	17	4	4	5	1	1

CERTAIN SELECTED CAUSES, NEW JERSEY, 1922—Continued.

	Summary of deaths									
	all causes					diseases and accidents				
	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 and over	Totals
Water.	1	1	1	1	1	1	1	1	1	1
Boatmen, canal men, sailors and deck hands.	1	1	1	1	1	1	1	1	1	1
Longshoremen and stevedores.	1	1	1	1	1	1	1	1	1	1
Other mariners.	1	1	1	1	1	1	1	1	1	1
Road and street.	1	1	1	1	1	1	1	1	1	1
Carrriage and hack drivers, draymen, teamsters and expressmen.	1	1	1	1	1	1	1	1	1	1
Chauffeurs.	1	1	1	1	1	1	1	1	1	1
Contractors and foremen (road building).	1	1	1	1	1	1	1	1	1	1
Laborers (road building) and street cleaners.	1	1	1	1	1	1	1	1	1	1
Livery stable keepers and managers, hostlers and stable hands.	1	1	1	1	1	1	1	1	1	1
Other purulists.	1	1	1	1	1	1	1	1	1	1
Railroad.	1	1	1	1	1	1	1	1	1	1
Engagemen and freight agents.	1	1	1	1	1	1	1	1	1	1
Brakemen.	1	1	1	1	1	1	1	1	1	1
Conductors.	1	1	1	1	1	1	1	1	1	1
Foremen, overseers and inspectors.	1	1	1	1	1	1	1	1	1	1
Laborers.	1	1	1	1	1	1	1	1	1	1
Locomotive engineers.	1	1	1	1	1	1	1	1	1	1
Locomotive firemen.	1	1	1	1	1	1	1	1	1	1
10 to 19	1	1	1	1	1	1	1	1	1	1
20 to 29	1	1	1	1	1	1	1	1	1	1
30 to 39	1	1	1	1	1	1	1	1	1	1
40 to 49	1	1	1	1	1	1	1	1	1	1
50 to 59	1	1	1	1	1	1	1	1	1	1
60 to 69	1	1	1	1	1	1	1	1	1	1
70 to 79	1	1	1	1	1	1	1	1	1	1
80 to 89	1	1	1	1	1	1	1	1	1	1
90 and over	1	1	1	1	1	1	1	1	1	1
Totals	17	9	13	31	27	6	1	16	2	12
10 to 19	1	1	1	1	1	1	1	1	1	1
20 to 29	1	1	1	1	1	1	1	1	1	1
30 to 39	1	1	1	1	1	1	1	1	1	1
40 to 49	1	1	1	1	1	1	1	1	1	1
50 to 59	1	1	1	1	1	1	1	1	1	1
60 to 69	1	1	1	1	1	1	1	1	1	1
70 to 79	1	1	1	1	1	1	1	1	1	1
80 to 89	1	1	1	1	1	1	1	1	1	1
90 and over	1	1	1	1	1	1	1	1	1	1
Totals	17	9	13	31	27	6	1	16	2	12

TABLE 21.—DEATHS BY OCCUPATIONS, AGE GROUPS AND

	PROFESSIONAL SERVICE.										
	Architects.	Chemists, assayers, etc.	Civil and mining engineers and surveyors.	Clergymen.	Dentists.	Designers, draftsmen and inventors.	Lawyers, Judges and Justices.	Musicians and teachers of music.	Photographers.	Physicians and surgeons.	Teachers.
10 to 19.....											
20 to 29.....											
30 to 39.....											
40 to 49.....											
50 to 59.....											
60 to 69.....											
70 to 79.....											
80 to 89.....											
90 and over.....											
Totals.....	1				1			1		3	
10 to 19.....											
20 to 29.....											
30 to 39.....											
40 to 49.....											
50 to 59.....											
60 to 69.....											
70 to 79.....											
80 to 89.....											
90 and over.....											
Totals.....											
10 to 19.....											
20 to 29.....											
30 to 39.....											
40 to 49.....											
50 to 59.....											
60 to 69.....											
70 to 79.....											
80 to 89.....											
90 and over.....											
Totals.....	1	4	2	5		1	2	3	2	1	4
10 to 19.....											
20 to 29.....											
30 to 39.....											
40 to 49.....											
50 to 59.....											
60 to 69.....											
70 to 79.....											
80 to 89.....											
90 and over.....											
Totals.....											
10 to 19.....											
20 to 29.....											
30 to 39.....											
40 to 49.....											
50 to 59.....											
60 to 69.....											
70 to 79.....											
80 to 89.....											
90 and over.....											
Totals.....	13	25	23	67	15	29	67	51	9	67	131

CERTAIN SELECTED CAUSES. NEW JERSEY, 1922—Continued.

	Other professional and semi-professional pursuits.											
	DOMESTIC AND PERSONAL SERVICE.	Barbers, hairdressers and manicurists.	Bar tenders.	Hotel keepers and managers.	Housekeepers and stewards.	Janitors and sextons.	Lanterners and lamplighters.	Porters (except in stores).	Restaurant, cafe and lunch room keepers.	Saloonkeepers.	Servants.	Waiters.
10 to 19.....												
20 to 29.....												
30 to 39.....												
40 to 49.....												
50 to 59.....												
60 to 69.....												
70 to 79.....												
80 to 89.....												
90 and over.....												
Totals.....	1											
10 to 19.....												
20 to 29.....												
30 to 39.....												
40 to 49.....												
50 to 59.....												
60 to 69.....												
70 to 79.....												
80 to 89.....												
90 and over.....												
Totals.....												
10 to 19.....												
20 to 29.....												
30 to 39.....												
40 to 49.....												
50 to 59.....												
60 to 69.....												
70 to 79.....												
80 to 89.....												
90 and over.....												
Totals.....	3	13	6	3	4	226	7	7	1	5	4	17
10 to 19.....												
20 to 29.....												
30 to 39.....												
40 to 49.....												
50 to 59.....												
60 to 69.....												
70 to 79.....												
80 to 89.....												
90 and over.....												
Totals.....	21	12	2	11	1285	7	5	2	3	3	45	5
10 to 19.....												
20 to 29.....												
30 to 39.....												
40 to 49.....												
50 to 59.....												
60 to 69.....												
70 to 79.....												
80 to 89.....												
90 and over.....												
Totals.....	204	94	27	71	9171	102	71	62	43	41	362	83

TABULATION OF DEATHS IN ESSEX COUNTY FOR 1922, ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH.

Abridged Interna- tional List No.	CAUSE OF DEATH		AGE PERIODS											Total					
	Male	Female	Under 1 year	1 year	2 years	3 years	4 years	Under 5 years	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49		50 to 59	60 to 69	70 to 79	80 to 89	90 and over
1	1	7	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	10	4	14	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Estimated population, 957,033.

Total resident deaths, 7,767.

Rate per 1,000 population, 11.58.

TABULATION OF DEATHS IN BELLEVILLE TOWN FOR 1922, ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH.

Abridged Interna- tional List No.	CAUSE OF DEATH		AGE PERIODS											Total					
	Male	Female	Under 1 year	1 year	2 years	3 years	4 years	Under 5 years	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49		50 to 59	60 to 69	70 to 79	80 to 89	90 and over
1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	18	11																	

TABULATION OF DEATHS IN SOUTH AMBOY CITY FOR 1922, ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH.

Abridged Interna- tional List No.	CAUSE OF DEATH.		AGE PERIODS.										Rate per 1,000 population, 1922.									
	Total.	Male.	Female.	Color, if other than white.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9.	10 to 19.		20 to 29.	30 to 39.	40 to 49.	50 to 59.	60 to 69.	70 to 79.	80 to 89.	90 and over.	Unknown.
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38																						
Total.	74	51	27		10	1	12	4	4	0	7	10	12	4	5	7	10	12	4	5		

Estimated population, 8,128.

Total resident deaths, 78.

Rate per 1,000 population, 9.63.

TABULATION OF DEATHS IN MONMOUTH COUNTY FOR 1922, ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH.

Abridged Interna- tional List No.	CAUSE OF DEATH.		AGE PERIODS.										Rate per 1,000 population, 1922.									
	Total.	Male.	Female.	Color, if other than white.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9.	10 to 19.		20 to 29.	30 to 39.	40 to 49.	50 to 59.	60 to 69.	70 to 79.	80 to 89.	90 and over.	Unknown.
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Total.	1622	845	817		178	146	40	14	7	9	216	27	50	94	107	138	212	272	320	170	17	

Estimated population, 107,540.

Total resident deaths, 1,622.

Rate per 1,000 population, 15.17.

TABULATION OF DEATHS IN PHILIPBURG TOWN FOR 1922, ACCORDING TO THE ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH.

CAUSE OF DEATH.	AGE PERIODS.											Total.	Male.	Female.	Color, If other than white.		
	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9.	10 to 19.	20 to 29.	30 to 39.	40 to 49.					50 to 59.	60 to 69.	70 to 79.	80 to 89.	90 and over.	Unknown.
1 Typhoid fever.																	
2 Typhus fever.																	
3 Malaria.																	
4 Cholera.																	
5 Smallpox.																	
6 Scarlet fever.																	
7 Whooping cough.																	
8 Diphtheria and croup.																	
9 Influenza.																	
10 Measles.																	
11 Chicken pox.																	
12 Other epidemic diseases.																	
13 Tuberculosis of the lungs.																	
14 Tuberculous meningitis.																	
15 Tuberculous peritonitis.																	
16 Cancer and other malignant tumors.																	
17 Simple meningitis.																	
18 Cerebral hemorrhage and softening.																	
19 Organic diseases of the heart.																	
20 Chronic bronchitis.																	
21 Pneumonia.																	
22 Other diseases of the respiratory system (tuberculosis excepted).																	
23 Diseases of the stomach (cancer excepted).																	
24 Appendicitis and typhlitis.																	
25 Hernia, intestinal obstruction.																	
26 Cirrhosis of the liver.																	
27 Acute nephritis and Bright's disease.																	
28 Chronic nephritis and Bright's disease.																	
29 Female genital organs, not other diseases of the (ovaries).																	
30 Puerperal septicemia (puerperal fever, puerperal).																	
31 (contd).																	
32 Complications of pregnancy and labor.																	
33 Congenital debility.																	
34 Senility.																	
35 Suicide.																	
36 Unsuicidal (suicide excepted).																	
37 Unknown or ill-defined diseases.																	
38																	
Total.	177	102	75	1	84	2	2	1	1	1	1	1	1	1	1	1	1

Estimated population, 17,700. Total resident deaths, 177. Rate per 1,000 population, 10.00.

List of Sanitary Districts.

CITIES.

ABSECON, Atlantic county. E. H. Madden, President; Samuel Johnson, Secretary, Reporting Officer and Registrar; Dr. C. C. Allen, Inspector.

ASBURY PARK, Monmouth county. C. E. F. Hetrick, Commissioner (Mayor); B. H. Obert, Health Officer, Reporting Officer and Registrar.

ATLANTIC CITY, Atlantic county. Hon. Edw. L. Bader, Mayor; Samuel L. Salasin, Secretary, Reporting Officer and Health Officer.

BAYONNE, Hudson county. Robert J. Talbot, President; Morris Brodman, Secretary and Reporting Officer; W. W. Brooke, M. D., Health Officer.

BEVERLY CITY, Burlington county. Frank Austin, President; H. D. Ditwiler, Secretary and Reporting Officer.

BOWENTOWN CITY, Burlington county. J. C. Frederick, Commissioner; Joseph R. Malone, Secretary and Reporting Officer.

BRIDGETON, Cumberland county. Enos Paullin, President; Sidney O. Williams, Secretary; Charles E. Bellows, Reporting Officer and Inspector.

BURLINGTON, Burlington county. Elmer E. Anderson, President; J. LeClere Shedaker, Secretary, Registrar, Reporting Officer and Health Officer.

CAMDEN, Camden county. A. L. Stone, M. D., Director and Reporting Officer.

CAPE MAY CITY, Cape May county. John T. Hewitt, President; A. C. Lyle, Secretary and Reporting Officer; Dr. V. M. D. Marcy, Health Officer.

CLIFTON CITY, Passaic county. Timothy B. Lyons, President; Wm. A. Miller, Secretary; J. P. Quinlan, Reporting Officer and Health Officer.

CORBIN CITY, Atlantic county. N. Bailey, Secretary and Reporting Officer.

EAST ORANGE, Essex county. Dr. George A. McLellan, President; F. J. Osborne, Health Officer and Registrar.

EGG HARBOR CITY, Atlantic county. Myrtle Frank, M. D., President; William Morganweck, Secretary and Reporting Officer.

ELIZABETH, Union county. Henry C. Hooley, President; Louis J. Richards, Reporting Officer and Health Officer.

ENGLEWOOD CITY, Bergen county. Hugh Hazelton, President; Benjamin Woodruff, Secretary; John A. Mason, Inspector.

GLOUCESTER CITY, Camden county. Harlan S. Miner, President; H. Mayers Black, Secretary; Dr. J. A. Beek, Reporting Officer, Health Officer and Inspector.

HOBOKEN CITY, Hudson county. Patrick R. Griffin, President; J. F. Stack, Commissioner; John Berocchio, Clerk, Reporting Officer and Registrar.

JERSEY CITY, Hudson county. E. Salmon, M. D., Secretary and Reporting Officer.

LAMBERTVILLE CITY, Hunterdon county. Charles Mathews, President; I. L. Smith, Clerk, Reporting Officer and Registrar; William Sweazy, Inspector.

LONG BRANCH, Monmouth county. Charles Rosencrans, President; R. C. Erickson, Secretary, Reporting Officer and Health Officer.

MARGATE CITY, Atlantic county. Dr. T. Senseman, President; Joseph S. Farrington, Registrar and Reporting Officer; Dr. S. L. Salasin, Health Officer.

MILLVILLE CITY, Cumberland county. Gertrude Souder, President; H. L. Thomas, Secretary; Frank Bullock, Reporting Officer and Health Officer.

NEWARK, Essex county. Robert F. Morgan, Clerk; Charles V. Craster, Reporting Officer and Health Officer.

NEW BRUNSWICK, Middlesex county. John J. Morrison, Mayor; E. I. Cronk, Reporting Officer and Health Officer.

NORTHFIELD CITY, Atlantic county. William Oxley, President; A. R. Vickers, Secretary, Reporting Officer and Registrar.

NORTH WILDWOOD, Cape May county. William C. Epler, Secretary, Reporting Officer and Registrar.

ORANGE CITY, Essex county. Lenore Young, Reporting Officer, Registrar and Health Officer.

PASSAIC, Passaic county. John H. McGuire, President; Virginia Hand, Secretary; John N. Ryan, M. D., Reporting Officer and Health Officer.

PATERSON, Passaic county. John C. McCoy, M. D., President; Charles J. Clarke, Secretary and Reporting Officer; F. P. Lee, Health Officer.

PERTH AMBOY, Middlesex county. L. J. Buckley, President; Charles S. Thompson, Secretary, Reporting Officer and Health Officer.

PLAINFIELD, Union county. Stephen H. Voorhees, President; Dr. Edward S. Krans, Secretary; Harriet M. Mershon, Reporting Officer and Registrar; N. J. Randolph Chandler, Health Officer.

PLEASANTVILLE, Atlantic county. Dr. L. Spaulding, President; Jesse Bowen, Secretary; Neil S. Campbell, Reporting Officer and Registrar; Dr. Robert Grier, Inspector.

FORT REPUBLIC CITY, Atlantic county. Joseph C. Brown, President; C. A. Johnson, Secretary, Reporting Officer and Registrar; J. H. Champion, Inspector.

RAHWAY CITY, Union county. Dr. George L. Orton, President; Maron B. Little, Secretary.

SALEM CITY, Salem county. Charles E. Markley, President; Sylvanus S. Carll, Reporting Officer and Inspector.

SEA ISLE CITY, Cape May county. C. W. Way, M. D., President; Claude J. Town, Secretary and Reporting Officer.

SOMERS POINT CITY, Atlantic county. R. S. Van Keuren, President; Walter A. Smith, Secretary, Reporting Officer and Registrar; Dr. W. A. Rulon, Health Officer.

SOUTH AMBOY, Middlesex county. James A. Harkins, President; John S. Tomaszewski, Secretary and Reporting Officer; William J. Nagle, Registrar; Nicholas J. Howley, Health Officer; Arthur A. Hulse, Inspector.

SUMMIT, Union county. Abram Kolyer, President; William S. Bird, Secretary, Reporting Officer and Registrar; Dr. H. A. Dengler, Health Officer.

TRENTON, Mercer county. Howard H. Ely, Reporting Officer and Registrar; A. S. Fell, Health Officer; William C. Allen, Inspector.

VENTNOR CITY, Atlantic county. Dr. Thomas Youngman, President; James G. Scull, Secretary, Reporting Officer and Registrar; Walter A. Rulon, Health Officer.

WILDWOOD CITY, Cape May county. Alfred Taylor, Commissioner; B. C. Ingersoll, Reporting Officer and Registrar.

WOODBURY CITY, Gloucester county. Frank Braun, President; William E. Keat, Secretary and Reporting Officer; Frank Ackley, Inspector.

BOROUGHES.

ALLENDALE, Bergen county. A. K. Merrill, President; Charles Johnson, Clerk, Reporting Officer and Registrar.

ALLENHURST, Monmouth county. Charles R. Zacharias, Commissioner; Margaret D. Pyle, Secretary and Reporting Officer; James E. Hennessey, Inspector.

ALLENTOWN, Monmouth county. Charles A. Spaulding, President; William R. McLaughlin, Secretary, Reporting Officer and Registrar; George Wilber, Inspector.

ALPHA, Warren county. Cleveland M. Rhen, Secretary, Reporting Officer and Registrar; Frank Pfeiffer, Inspector.

ALPHEA, Bergen county. Joseph M. Garvey, President; Robert H. Monroe, Secretary, Reporting Officer, Registrar and Health Officer.

ANDOVER, Sussex county. S. S. Wills, President; William E. Wilson, Secretary and Reporting Officer.

ATLANTIC HIGHLANDS, Monmouth county. Augustus Woelfle, President; Earnest Weber, Secretary, Reporting Officer and Registrar; George Stryker, Acting Health Officer.

AUDUBON, Camden county. William H. Haines, M. D., President; Horace H. Brown, Secretary, Reporting Officer and Registrar.

AVALON, Cape May county. Gilbert S. Smith, President; R. B. Beith, Secretary, Reporting Officer and Registrar.

AVON, Monmouth county. John Thompson, Mayor; G. Cleveland Stanton, Clerk and Reporting Officer.

BARNEGAT CITY, Ocean county. Minnie J. Crane (Mrs.), Chairman; Sarah C. Grant, Secretary.

BARRINGTON, Camden county. Frederick Schorch, President; John J. Franke, Secretary, Registrar and Reporting Officer.

BAY HEAD, Ocean county. Julius Foster, Jr., Secretary, Registrar and Reporting Officer.

BEACH HAVEN, Ocean county. Walter C. Sharp, President; Harry T. Willetts, Secretary and Health Officer; A. P. King, Reporting Officer and Registrar.

BEACHWOOD, Ocean county. Dr. M. T. Young, President; Bessie T. Siffert, Secretary; John H. Payne, Reporting Officer and Registrar.

BELMAR, Monmouth county. Jacob Rosenfeld, President; Fred V. Thompson, M. D., Clerk, Registrar and Reporting Officer.

BERGENFIELD, Bergen county. W. G. Tralald, President; Charles Lippert, Secretary; W. H. Regan, Reporting Officer and Registrar; Dr. G. P. Pitkin, Health Officer.

BERNARDSVILLE, Somerset county. (No report.)

BLOOMINGDALE, Passaic county. William Tice, President; James L. Close, Secretary and Reporting Officer.

BLOOMSBURY, Hunterdon county. J. C. Pickel, Clerk, Reporting Officer and Registrar. **BOGOTA**, Bergen county. John I. Black, President; Harlan P. Ross, Secretary, Reporting Officer and Registrar; Dr. G. L. Edwards, Health Officer.

BOUND BROOK, Somerset county. H. S. Smalley, Jr., President; John W. Reed, Secretary; Charles McNabb, Reporting Officer, Registrar and Health Officer.

BRADLEY BEACH, Monmouth county. Frank C. Borden, Jr., Mayor; Fred Reichy, Clerk, Reporting Officer and Registrar; George C. Bostick, Inspector.

BRANCHVILLE, Sussex county. A. A. Ramson, President; Tracy Wood, Registrar and Reporting Officer.

BAITELL, Monmouth county. Melville K. Packer, President; H. A. Folk, Secretary and Reporting Officer.

BROOKLAWN, Camden county. Frank Gallimore, President; F. L. Kelly (Mrs.), Secretary and Reporting Officer; George Keilman, Registrar.

BUTLER, Morris county. Edward Bidmere, President; Dr. R. J. McDonald, Secretary; Allen Looker, Reporting Officer and Registrar.

CALDWELL, Essex county. Richard J. Waugh, President; A. E. Broadbent, Secretary; Wilson Husk, Health Officer and Inspector.

CALIFON, Hunterdon county. Lester M. Apgar, President; George W. Young, Clerk, Reporting Officer and Registrar.

CAPE MAY POINT, Cape May county. John T. Hurff, President; Frank W. Hughes, Secretary and Reporting Officer.

CARLSTADT, Bergen county. Joseph Brientenbach, President; William Dermody, Secretary, Reporting Officer and Registrar; Anthony Sachs, Inspector.

CARTERS, Middlesex county. Thomas Devereux, President; R. J. Murohy, Secretary; Frank Born, Reporting Officer and Inspector; C. C. Sheridan, Registrar.

CHATHAM, Morris county. Henry M. Reed, President; J. Thomas Scott, Secretary and Registrar; Cora L. Kinney, Reporting Officer.

CHESILHURST, Camden county. James Brearey, Mayor; Charles A. Jedlicka, Clerk and Reporting Officer.

CLAYTON, Gloucester county. Dr. G. C. Brown, President; C. F. Fisler, M. D., Secretary, Reporting Officer and Registrar.

CLIFFSIDE PARK, Bergen county. E. L. Farrer, President; O. R. McElwain, Secretary, Reporting Officer and Registrar.

CLOSTER, Bergen county. J. M. Haring, President; Alfred Anderson, Secretary, Reporting Officer and Registrar.

COLLINGSWOOD, Camden county. George B. Whidder, President; C. C. Powell, Secretary, Reporting Officer and Registrar.

CRESKILL, Bergen county. John F. Meyer, President; H. R. Le Manquais, Secretary, Reporting Officer and Registrar.

DEAL, Monmouth county. Azron J. Bach, Mayor; Clem Conover, Secretary and Reporting Officer.

DEMAREST, Bergen county. Watson J. Mosier, President; George V. Morton, Secretary, Reporting Officer and Registrar.

DUMONT, Bergen county. D. E. A. Hunt, President; H. J. Bersch, Secretary, Reporting Officer and Registrar; George F. Shafer, Inspector.

DUNELLEN, Middlesex county. Albert J. Meyers, President; Alfred W. Day, Secretary and Reporting Officer.

EAST ATLANTIC CITY, Atlantic county. E. R. Smith, Registrar.

EAST NEWARK, Hudson county. William Rowley, President; Joseph A. McDonald, Clerk; John Keenan, Reporting Officer; William Breen, Registrar.

EAST PATERSON, Bergen county. John Cooper, Chairman; William S. Childs, Secretary and Registrar; Dr. Morris L. Simon, Health Officer.

EAST RUTHERFORD, Bergen county. M. S. Brickner, President; Henry Herr, Secretary, Registrar and Reporting Officer; Dr. Charles D. Brooks, Health Officer; Fred Taylor, Inspector.

EDGEWATER, Bergen county. Joseph Kammerer, President; Charles R. Tuite, Secretary, Reporting Officer and Registrar; George W. Allison, Health Officer.

ELMER, Salem county. L. Jones Comstock, President; I. R. Wentzell, Secretary and Reporting Officer.

EMERSON, Bergen county. Arthur J. Sharpe, Secretary and Reporting Officer.

ENGLEWOOD CLIFFS, Bergen county. E. L. Wood, President; Halone S. Enger, Secretary, Reporting Officer and Registrar.

ENGLISHTOWN, Monmouth county. J. A. Lambert, President; Walter H. Emmons, Secretary and Registrar; Dr. W. E. Anderson, Health Officer; William E. Tracy, Inspector.

ESSEX FIELDS, Essex county. Horace L. McBrair, President; J. F. Pepard, Secretary and Registrar.

- FAIR HAVEN**, Monmouth county. Harvey M. Little, President; Arthur B. Sickles, Secretary; William Curchin, Reporting Officer and Registrar.
- FAIR LAWN**, Bergen county. (No report.)
- FAIRVIEW**, Bergen county. Julius Simon, President; E. R. Greenhaigh, Secretary, Reporting Officer and Registrar.
- FANWOOD**, Union county. W. J. Bellerjean, Chairman; H. P. Opydycke, Secretary; Samuel McAneny, Reporting Officer.
- FAR HILLS**, Somerset county. D. C. Rinehart, President; W. I. Frost, Clerk, Reporting Officer and Registrar; Dr. J. L. Field, Health Officer.
- FARMINGDALE**, Monmouth county. John Cook, President; William H. Thompson, Secretary and Reporting Officer; Henry C. Wade, Inspector.
- FIELDSBORO**, Burlington county. H. T. Laird, President; W. H. Erickson, Secretary, Reporting Officer and Registrar.
- FLEMINGTON**, Hunterdon county. George Webster, President; Barclay S. Fuhrmann, Secretary and Reporting Officer.
- FLOHAM PARK**, Morris county. R. H. Allen, President; Ida E. Sherrer, Secretary, Reporting Officer and Registrar; Dr. E. C. Dusenbury, Inspector.
- FOLSOM**, Atlantic county. Louis Schulze, Secretary, Reporting Officer and Registrar; Dr. Charles Cunningham, Health Officer.
- FORT LEE**, Bergen county. Ruby T. Scott, President; Joseph Cook, Secretary and Reporting Officer; Fred J. Dyer, Health Officer.
- FRANKLIN**, Sussex county. Dr. C. M. Denning, President; James R. Stephens, Secretary, Reporting Officer and Registrar.
- FRANKLIN LAKES**, Bergen county. C. H. Bush, Reporting Officer and Registrar, Crystal Lake.
- FREEHOLD**, Monmouth county. Mrs. Lillian Snyder, President; Harvey S. Brown, Secretary, Reporting Officer and Health Officer.
- FRENCHTOWNS**, Hunterdon county. Charles Williamson, President; E. J. Stryker, Secretary, Reporting Officer and Registrar; Hugh M. Sinclair, Health Officer.
- GARFIELD**, Bergen county. Dr. E. Casini, President; Louis Heinzmann, Secretary; Dr. Charles B. Bleasby, Reporting Officer and Health Officer.
- GARWOOD**, Union county. Otto Schweb, President; George R. Good, Secretary and Reporting Officer.
- GIBBSBORO**, Camden county. George E. Moore, Registrar and Reporting Officer.
- GLASSBORO**, Gloucester county. Fred I. Winterberg, President; Samuel D. Beckett, Secretary, Reporting Officer and Registrar; Albert S. Turner, Inspector.
- GLEN GARDNER**, Hunterdon county. David Crampton, President and Reporting Officer; Milton Hunt, Secretary.
- GLEN RIDGE**, Essex county. Herbert H. Ferris, President; William H. Dewar, Secretary and Reporting Officer; Ethel A. Maley, Registrar and Inspector.
- GLEN ROCK**, Bergen county. E. B. Wolfrom, President; George H. Snyder, Secretary and Reporting Officer.
- HADDONFIELD**, Camden county. Dr. William B. Jennings, President; Harry Griffith, Secretary, Registrar, Reporting Officer and Health Officer.
- HADDON HEIGHTS**, Camden county. E. R. Jenks, Secretary; E. N. C. Davis, Reporting Officer.
- HALEDON**, Passaic county. Max Neffert, President; Theodore B. Kegelman, Clerk, Reporting Officer and Registrar; A. A. Lydecker, Health Officer and Inspector.
- HAMBURG**, Sussex county. Edward L. Stanbach, President; Frank E. Smith, Secretary and Reporting Officer.
- HAMPTON**, Hunterdon county. L. R. Bowly, President; H. J. Dalrymple, Secretary and Reporting Officer.
- HARRINGTON PARK**, Bergen county. Richard Douglas, President; S. M. Sunden, Secretary and Reporting Officer; Dr. C. C. Richardson, Inspector, Closter.
- HARVEY CEDARS**, Ocean county. Joseph F. Yearly, Clerk, Reporting Officer and Registrar.
- HASBROUCK HEIGHTS**, Bergen county. William J. Schweickert, Secretary, Reporting Officer and Registrar; Dr. Roy G. Perham, Health Officer.
- HAWORTH**, Bergen county. Joseph F. Stapleton, President; I. M. Clark, Secretary, Reporting Officer and Registrar; J. R. Grimes, M. D., Acting Health Officer.
- HAWTHORNE**, Passaic county. J. A. Lackey, President; Edward F. Keefe, Secretary and Registrar; Joseph Jewett, Reporting Officer and Inspector; Dr. Albert Van Erde, Health Officer.
- HELMETTA**, Middlesex county. John Lindstedt, President; William D. Kienzle, Secretary and Reporting Officer; Dr. J. C. Shinn, Health Officer.
- HIGH BRIDGE**, Hunterdon county. Robert Somerville, President; Clarence Appar, Secretary and Reporting Officer; Charles Longley, Registrar.
- HIGHLAND PARK**, Middlesex county. A. P. Daire, President, New Brunswick; D. H. McCann, Secretary and Reporting Officer; Dr. H. W. Haight, Inspector.
- HIGHLANDS**, Monmouth county. William H. Belge, President; W. M. Hennessey, Secretary, Reporting Officer and Registrar; J. S. Hoffman, Inspector.
- HIGHTSTOWN**, Mercer county. D. B. Dey, President; C. Allen Ely, Secretary and Reporting Officer.
- HILLSDALE**, Bergen county. Ralph H. Stever, President; Edward P. Davis, Secretary; John W. Kinnmonth, Registrar.
- HOBOKUS**, Bergen county. C. Wood, President; Irving Hazzard, Secretary and Reporting Officer.
- HOPATCONG**, Bergen county. William F. Beck, President; Edw. E. Bustard, Secretary and Registrar.
- HOPEWELL**, Mercer county. Dr. Robert P. Miller, President; Alfred H. Smith, Secretary, Reporting Officer and Registrar.
- INTERLAKEN**, Monmouth county. William Bratten, President; John H. Mawson, Secretary.
- ISLAND HEIGHTS**, Ocean county. A. B. Ayers, President; R. W. Pettibone, Secretary and Reporting Officer.
- JAMESBURG**, Middlesex county. Carl B. Johnson, Secretary, Reporting Officer and Health Officer.
- KEANSBURG**, Monmouth county. Peter Lacari, President; William P. Dodd, Secretary and Registrar; Edw. T. Compton, Reporting Officer and Inspector.
- KENILWORTH**, Union county. George R. Reindell, President; Paul H. VanDerZee, Secretary and Reporting Officer.
- KEYPORT**, Monmouth county. S. H. Cassidy, M. D., President and Reporting Officer; C. F. Tuthill, Secretary and Registrar.
- KINNELON**, Morris county. Warren Kinney (Mrs.), President; Harry W. Gormley, Secretary, Reporting Officer and Registrar.
- LAKEHURST**, Ocean county. William H. D. Wilbur, Mayor; Dr. Harold Pittis, Secretary; W. A. Carr, Registrar.
- LAUREL SPRINGS**, Camden county. Dr. Chester Bardsley, President; Milton A. Wetherill, Secretary; Theodore J. Cotton, Reporting Officer and Registrar.
- LAWLLETTE**, Ocean county. William H. Nugent, President; Georgia Strickland (Mrs.), Secretary; Peter Bloom, Inspector.
- LEONIA**, Bergen county. George W. Findley, President; C. J. Kirkland, Secretary and Registrar; Dr. Frances Bartlett Tyson, Health Officer.
- LINCOLN PARK**, Morris county. Arthur L. Herrick, President; Harry Comly, Secretary and Reporting Officer; William M. Hutchinson, Health Officer.
- LINDEN**, Union county. C. H. Smith, President; T. H. Sullivan, Secretary, Reporting Officer and Registrar.
- LINWOOD**, Atlantic county. J. W. Bird, President; Daniel L. Sutton, Secretary and Reporting Officer.
- LITTLE FERRY**, Bergen county. William Zabransky, Sr., President; Joseph Zabransky, Secretary; Lawrence Kroh, Inspector.
- LITTLE SILVER**, Monmouth county. John Kennedy, President; Maude Lovett (Mrs.), Secretary and Reporting Officer.
- LODI**, Bergen county. John W. Lane, President; W. J. Patterson, Secretary, Reporting Officer and Registrar; Dr. H. H. Brevoort, Health Officer.
- LONGPORT**, Atlantic county. Edwin W. Goldsmith, President; William S. Gilmore, Clerk, Reporting Officer and Registrar.
- MADISON**, Morris county. A. C. Puddington, President; Catherine M. Felch, Secretary; S. Fred Burnet, Reporting Officer, Registrar and Inspector.
- MAGNOLIA**, Camden county. Dr. L. C. Lyon, President; Alex Montgomery, Secretary, Reporting Officer and Registrar.
- MANASQUAN**, Monmouth county. Thomas P. Frazee, President; Robert M. Marks, Secretary and Reporting Officer; D. A. Norris, Health Officer.
- MANTOLOKING**, Ocean county. Theodore Peters, Chairman; Herbert Polhemus, Secretary and Reporting Officer.
- MATAPAN**, Monmouth county. A. B. Smith, President; August Kattner, Sr., Secretary and Reporting Officer; W. H. Stillwell, Acting Health Officer.
- MAYWOOD**, Bergen county. Henry Beck, President; G. M. Fetzer, Secretary, Reporting Officer and Registrar; R. H. L. Osthoff, Inspector.
- MENDHAM**, Morris county. G. S. DeGroot, M. D., President; G. S. Thompson, Secretary, Reporting Officer and Registrar; Joseph C. DeGroot, Inspector.
- MERCHANTVILLE**, Camden county. William W. Haig, President; Arthur E. Craig, Secretary and Reporting Officer; Fred C. Metzger, Health Officer.
- METUCHEN**, Middlesex county. H. F. Smith, President; Charles P. Hull, Secretary and Registrar.
- MIDDLESEX**, Middlesex county. Charles P. Hoagland, President; Arthur S. Moore, Secretary and Reporting Officer.

MIDLAND PARK, Bergen county. Barney Vandersnow, President; Jacob H. Olthins, Secretary and Registrar; Dr. J. Payne, Reporting Officer, Health Officer and Inspector.

MILFORD, Hunterdon county. A. D. Spoor, President; Frank P. Vanderbilt, Secretary, Reporting Officer and Registrar; A. Arling Heil, Inspector.

MILLSTONE, Somerset county. John W. Hutchinson, President; E. M. Davis, Clerk and Reporting Officer.

MILLTOWN, Middlesex county. John H. Jenker, President; Henry A. Christ, Secretary; John W. Dorn, Reporting Officer.

MONMOUTH BEACH, Monmouth county. Jacob S. Manahan, President; Richard Heitzman, Secretary, Reporting Officer and Registrar.

MONTVALE, Bergen county. George H. Parrish, Secretary, Reporting Officer and Registrar.

MOONACHIE, Bergen county. Louis De Santis, President; Louis Rettino, Secretary.

MOUNTAIN LAKES, Morris county. (No report.)

MOUNTAINSIDE, Union county. Henry Weber, President; Julius Cordts, Secretary and Reporting Officer; Robert Laing, Registrar.

MOUNT ARLINGTON, Morris county. Clarence Lee, President; T. L. Schafer, Secretary; F. H. Tappen, Inspector.

MOUNT TABOR, Morris county. A. O. Fitzgerald, President; R. A. Lawless, Secretary; George W. Earl, Reporting Officer and Inspector; John H. Ward, Registrar.

NATIONAL PARK, Gloucester county. Alice Duer (Mrs.), President; William E. Beers, Secretary and Reporting Officer.

NEPTUNE CITY, Monmouth county. Charles Palmer, President; Sharon F. Smith, Secretary and Reporting Officer; Daniel Gouty, Inspector.

NETCONG, Morris county. A. A. King, President; J. P. Meade, Secretary and Reporting Officer; Dr. F. L. Bird, Inspector.

NEWFIELD, Gloucester county. W. J. Burns, President; Ella Harris, Secretary and Registrar, both of Newfield.

NEW MILFORD, Bergen county. George Gennagenel, Clerk and Registrar.

NEW PROVIDENCE, Union county. Samuel C. Cutler, President; W. Woodruff, Clerk, Reporting Officer and Registrar.

NORTH ARLINGTON, Bergen county. John W. Softly, President; Herman E. Marass, Clerk; William F. Miller, Reporting Officer.

NORTH CALDWELL, Essex county. W. B. McCall, President; Frank Francisco, Secretary and Reporting Officer.

NORTH HALEDON, Passaic county. William H. Ballentine, President; Joseph Graham, Secretary; Dr. A. A. Lydecker, Reporting Officer.

NORTH PLAINFIELD, Somerset county. James L. Love, President; Dr. A. H. Dundon, Secretary and Reporting Officer; James L. Ollif, Health Officer.

NORTHVALE, Bergen county. Henry A. Campara, President; Albert T. Grigger, Clerk, Reporting Officer and Registrar.

NORWOOD, Bergen county. Walter Quackenbush, President; Clifton Demarest, Secretary, Reporting Officer and Registrar.

OAKLAND, Bergen county. Charles H. Sheffield, President; John H. Eve, Registrar; Sigfried Johnson, Reporting Officer.

OAKLYN, Camden county. Louis Wenzell, Secretary.

OCEAN CITY, Cape May county. T. Lee Adams, Reporting Officer and Health Officer.

OCEAN GATE, Ocean county. William H. Newlin, Mayor.

OCEAN GROVE, Monmouth county. M. E. Blanchard, Chairman; Frank B. Smith, Secretary; B. H. Obert, Reporting Officer.

OCEANPORT, Monmouth county. R. Cook, President; K. P. Plhisterer, Acting Secretary.

ODENSBURG, Sussex county. Francis J. Kanally, President; Frank L. Gregory, Secretary, Reporting Officer and Registrar.

OLD TAPPEN, Bergen county. J. Z. Bogart, President; Charles De Wolf, Clerk, Reporting Officer and Registrar, both of Westwood.

ORADELL, Bergen county. J. D. Hoffmire, President; G. R. Spalding, Secretary and Reporting Officer; Dr. C. A. King, Health Officer.

PALISADE PARK, Bergen county. Louis Quad, President; W. G. Stevens, Secretary, Reporting Officer and Registrar.

PALMYRA, Burlington county. H. W. Bauer, M. D., President; Mary F. King (Mrs.), Secretary; W. H. Davison, Registrar; Edw. B. Hoff, Reporting Officer and Inspector.

PARANUS, Bergen county. F. N. Greenlaw, President; John Nutry, Secretary; Irving Yearance, Registrar.

PARK RIDGE, Bergen county. Dr. S. Alexander, President; T. G. Forbes, Clerk, Reporting Officer and Registrar.

PAULSBORO, Gloucester county. Elizabeth J. Stines (Mrs.), President; S. Walter Loucks, Secretary, Reporting Officer, Registrar and Health Officer.

PEAPACK, Somerset county. Halsey Hoffman, President; F. H. Ludlow, Clerk and Reporting Officer.

PENNINGTON, Burlington county. A. I. Davis, President, Reporting Officer and Registrar; J. P. Ssaman, Secretary.

PENNINGTON, Mercer county. Dr. William R. Little, President; Charles M. Titus, Clerk and Reporting Officer; Frank A. Blackwell, Inspector.

PEUNSGROVE, Salem county. W. A. Summerill, President; William F. Yeager, Secretary and Registrar; J. E. Summers, Inspector.

PITMAN, Gloucester county. David H. Schock, President; Albert V. Peterson, Secretary, Reporting Officer and Registrar.

POINT PLEASANT, Ocean county. Abram W. Johnson, President; Peter R. Erickson, Secretary, Reporting Officer and Registrar.

POINT PLEASANT BEACH, Ocean county. L. Wardell, President; May Stanford (Mrs.), Secretary and Reporting Officer; Elizabeth Hathway, Health Officer.

POMPTON LAKES, Passaic county. Wallace P. Romaine, President; Harvey C. Newman, Secretary; Thomas Wood, Reporting Officer.

PRINCETON, Mercer county. Dr. Norman Tooker, President; W. B. Howe, Secretary; William C. Blake, Reporting Officer, Registrar and Health Officer.

PROSPECT PARK, Passaic county. William D. Hempstead, President; Roy E. Brooks, Secretary, Reporting Officer and Registrar; Dr. John F. Cremens, Health Officer.

RAMSEY, Passaic county. W. H. Ross, President; R. M. Ahalt, Clerk; B. A. Parvin (Mrs.), Reporting Officer.

RED BANK, Monmouth county. Eden S. Ewing, President; Willis Clayton, Secretary and Reporting Officer; Dr. William H. Laves, Inspector.

RIDGEFIELD, Bergen county. H. A. Relph, President; Victor Ansel, Secretary, Reporting Officer and Registrar.

RINGWOOD, Passaic county. Joseph D. Finn, President; Oliver H. Roone, Secretary and Registrar.

RIVERDALE, Morris county. George Richards, President; Norman M. Houghton, Secretary, Reporting Officer and Registrar; Dr. William M. Hutchinson, Health Officer.

RIVERSIDE, Bergen county. Homer Hasbrouck, President; John E. Sowter, Secretary and Reporting Officer; G. F. Shafer, Health Officer and Inspector.

RIVERTON, Burlington county. Charles W. Wanger, President; Harry L. Rogers, Secretary; Dr. Harry Mark, Reporting Officer and Health Officer.

ROCKAWAY, Morris county. Harry W. Mutchler, President; Llewellyn Decker, Clerk and Reporting Officer; Warren Pevy, Inspector.

ROCKLEIGH, Bergen county. William Corey, President; Catherine E. Sneden, Secretary, Reporting Officer and Registrar.

ROCKY HILL, Somerset county. C. R. Baldwin, President; Randall Wilson, Secretary, Reporting Officer and Registrar.

ROSELAND, Essex county. H. C. Rinkie, President; E. A. Williams, Secretary, Reporting Officer, Registrar and Health Officer.

ROSELLE, Union county. C. T. Willard, President; William Mahnklin (Mrs.), Secretary; William Morris, Reporting Officer and Health Officer.

ROSSELLE PARK, Union county. C. B. Crewin, President; A. Finigio, Secretary and Reporting Officer; Dr. J. W. Dennin, Health Officer.

RUMSON, Monmouth county. Harden L. Crawford, President; H. F. Benson, Secretary; Dewitt Scott, Reporting Officer and Inspector.

RUTHERFORD, Bergen county. John De Groat, President; Emma Peters, Secretary; Marine Dunn, Reporting Officer.

SADDLE RIVER, Bergen county. G. M. Eckert, President; Russel G. Ackerman, Secretary and Reporting Officer.

SAYREVILLE, Middlesex county. M. J. Calahan, President; P. F. McCutcheon, Clerk, Reporting Officer and Registrar; Hugh Singleton, Inspector.

SEABRIGHT, Monmouth county. T. B. Heiser, President; M. J. Devereaux, Secretary, Reporting Officer and Registrar; H. R. White, Inspector.

SEASIDE HEIGHTS, Ocean county. Dr. H. Dager, President; Samuel Tollins, Jr., Clerk and Reporting Officer.

SEASIDE PARK, Ocean county. Dr. L. L. Lighter, President; Aaron Wilbert, Clerk and Reporting Officer; Joseph Penrose, Secretary, William Bates, Inspector.

SECAUCUS, Hudson county. Charles Kunschaff, President; Gerson Lowenstein, Clerk and Reporting Officer.

SEA GIRT, Monmouth county. Eleanor Spencer (Mrs.), President; Ezilphia Crammer, Secretary, Reporting Officer and Registrar; Charles H. Roberts, Inspector.

SOMERVILLE, Somerset county. William M. Beckman, President; William R. Sutphin, Secretary and Reporting Officer.

SOUTH BELMAR, Monmouth county. (No report.)

SOUTH BOUND BROOK, Somerset county. Dr. J. T. Robinson, President; T. L. Walters, Secretary and Reporting Officer.

SOUTH CAPE MAY, Cape May county. John Cunningham, Sr., Chairman; E. B. Martin, Secretary and Reporting Officer.

SOUTH RIVER, Middlesex county. David Armstrong, President; William R. Peterson, Secretary; Dr. S. E. Selover, Reporting Officer and Inspector; Edw. Price, Registrar.

SPOTSWOOD, Middlesex county. William Borough, President; Lillian Boquet, Secretary; Phineas Bowe, Registrar and Reporting Officer.

SPRING LAKE, Monmouth county. Dr. S. R. Knight, President; D. H. Hills, Secretary and Reporting Officer.

STANHOPE, Sussex county. Peter J. Kelly, President; J. J. Shaw, Secretary and Reporting Officer.

STOCKTON, Hunterdon county. Col. H. M. Reading, President; William P. Mason, Secretary and Reporting Officer.

STONE HARBOR, Cape May county. Harry M. Simpson, Clerk and Registrar.

SURF CITY, Ocean county. H. L. Lukens, Borough Clerk (no board).

SUSSEX, Sussex county. Dr. H. D. Gaasbeck, President; F. B. Ewald, Secretary and Reporting Officer; L. J. Fuller, Inspector.

SWEDESBORO, Gloucester county. W. W. Mole, President; Clifford L. Pither, Secretary, Reporting Officer and Registrar; E. T. Rogers, Inspector.

TAVISSTOCK, Camden county. E. C. Ridgeway, Secretary; M. D. Faunce, Reporting Officer.

TENAFEL, Bergen county. Dr. J. M. MacKellar, President; Alexander Fell, Secretary and Reporting Officer; Dr. W. W. Lansing, Registrar.

TETERBORO, Bergen county. Frederick Bohlander, Chairman; E. H. Schaeffer, Registrar and Reporting Officer.

TOTOWA, Passaic county. Ralph I. Wilson, President; Ernest Morrell, Secretary, Reporting Officer and Registrar; William Veenstra, M. D., Health Officer.

TUCKERTON, Ocean county. James E. Otis, President; John H. Kohler, Secretary, Reporting Officer, Registrar and Inspector.

UPPER SADDLE RIVER, Bergen county. August Weiss, Secretary, Reporting Officer and Inspector.

VERONA, Essex county. William Snyder, President; Louis C. Miller, Secretary; Dr. E. M. Reilly, Reporting Officer and Health Officer.

VINELAND, Cumberland county. Annie F. E. Myers, President; Louis Basso, Secretary, Reporting Officer and Registrar; Dr. J. H. Winstow, Health Officer; W. H. Blake, Inspector.

WALDWICK, Bergen county. Dr. S. E. Robinson, President; Winfield S. Lewis, Clerk, Reporting Officer and Registrar.

WALLINGTON, Bergen county. Edward Taylor, President; James J. Brennan, Secretary and Reporting Officer.

WANAUKE, Passaic county. F. R. Parry, President; Joseph C. Beam, Secretary and Reporting Officer.

WASHINGTON, Warren county. Wesley Fleming, President; R. B. Groat, Secretary and Registrar; George C. Losey, Reporting Officer and Inspector.

WENONAH, Gloucester county. Joseph E. Troncker, President; H. Hendrickson, Secretary and Reporting Officer; H. W. Schiesser, Health Officer.

WEST CALDWELL, Essex county. Herbert Francisco, President; Josephine Mahon, Secretary and Reporting Officer.

WEST CAPE MAY, Cape May county. W. H. Smith, President; F. R. Hughes, Secretary and Reporting Officer.

WEST LONG BRANCH, Monmouth county. Frank L. Price, President; J. Russell Woolley, Clerk and Reporting Officer.

WEST PATERSON, Passaic county. Floyd Hughes, Secretary, Reporting Officer and Registrar, Little Falls.

WESTVILLE, Gloucester county. W. F. McKinney, President; W. B. Atkinson, Secretary, Registrar and Reporting Officer.

WEST WILDWOOD, Cape May county. Samuel Donaldson, President and Reporting Officer; Edw. Perkins, Secretary.

WESTWOOD, Bergen county. Warren H. Stagg, President; James C. Ackerman, Secretary, Reporting Officer and Registrar.

WHARTON, Morris county. James Williams, President; W. C. Myers, Secretary, Reporting Officer and Registrar.

WILDWOOD CREST, Cape May county. R. Scampton, President; E. B. Fagan, Clerk, Reporting Officer and Registrar.

WOODBINE, Cape May county. J. Joffe (Mrs.), President; Frances Greenstein, Secretary and Reporting Officer; R. Zellermyer, Inspector.

WOODBURY HEIGHTS, Gloucester county. George H. Stevens, President; Paul L. Gerard, Secretary, Reporting Officer and Registrar.

WOODCLIFF LAKE, Bergen county. Edwin Gibbs, President; N. B. Ackerman, Secretary and Reporting Officer.

WOOLYNEE, Camden county. Arthur Newman, President; Christian Dupont, Secretary; Frank Moore, Reporting Officer and Registrar.

WOOD RIDGE, Bergen county. Walter E. Lehmann, President; John Heathwood, Secretary, Registrar and Reporting Officer.

WOODSTOWN, Salem county. H. V. Foster, President; F. P. Vanlier, Secretary, Registrar and Inspector.

WRIGHTSTOWN, Burlington county. J. William Croshaw, President; John Nash, Reporting Officer.

TOWNS.

BELLEVILLE, Essex county. W. Brand Smith, Secretary, Reporting Officer and Health Officer.

BELVIDERE, Warren county. Dr. Frank R. Lefferts, President; Ira Sarson, Secretary; George Laterman, Inspector.

BLOOMFIELD, Essex county. Dr. Jacob S. Wolfe, President; Joseph C. Saile, Secretary, Reporting Officer, Registrar and Health Officer.

BOXTON, Morris county. Byron E. Colman, President; F. N. Banta, Secretary and Reporting Officer; Fred P. Worman, Health Officer.

CLINTON, Hunterdon county. A. B. Coleman, President; George S. Hall, Secretary and Reporting Officer.

DOVER, Morris county. William C. Hummel, President; William H. Tonking, Secretary and Registrar; John G. Taylor, Reporting Officer and Health Officer.

GUTTENBERG, Hudson county. Edward Darry, President; Jacob Saredy, Clerk; Dr. J. Lawrence Evans, Inspector.

HACKENSACK, Bergen county. Benjamin Brumaghiem, President; Samuel Kraft, Secretary; L. Van D. Chandler, Acting Health Officer; Madeline Goodhart, Registrar and Reporting Officer.

HACKYTTSTOWN, Warren county. R. K. Teel, President; A. G. Boettiger, Secretary and Reporting Officer; Dr. R. H. Woodruff, Inspector.

HAMMONTON, Atlantic county. J. L. Megargle, President; Wayland DePuy, Secretary, Reporting Officer and Registrar.

HARRISON, Hudson county. John T. Malone, President; Eugene A. Riordan, Secretary; John T. McClure, Reporting Officer and Health Officer.

IRVINGTON, Essex county. Joseph K. Clickenger, Secretary; Earnest Mieran, Reporting Officer and Health Officer.

KEARNY, Hudson county. Dr. A. A. Mutter, President; Belle Howe, Secretary; H. V. Ammerman, Reporting Officer and Health Officer.

MONTCLAIR, Essex county. Dr. William W. Cox, President; Elizabeth Mercelis, M. D., Secretary; Carl T. Pomeroy, Reporting Officer and Health Officer.

MORRISTOWN, Morris county. Charles C. Oliver, President; Robert C. Gaskey, Secretary and Reporting Officer; John F. Kilkenny, Inspector.

NEWTON, Sussex county. Dr. Frederick H. Morrison, President; Charles Fredenburgh, Secretary; William Fisher, Reporting Officer and Inspector.

NUTLEY, Essex county. Ernest P. Cook, Commissioner; Eugene H. Sullivan, Reporting Officer and Health Officer.

PHILLIPSBURG, Warren county. William Potts, President; Evan James, Secretary; Dr. Alma L. Williston, Reporting Officer and Health Officer.

TOWN OF UNION, Hudson county. Dr. William J. Sweeney, President; George H. Grebe, Secretary, Reporting Officer and Registrar; Dr. Grant P. Curtis, Health Officer.

WESTFIELD, Union county. Dr. R. G. Savoye, President; C. W. Harden, Clerk and Registrar; A. Carney, Jr., Reporting Officer.

WEST HOBOKEN, Hudson county. Eppie Burggraf, President; Frank A. Frederick, Secretary, Reporting Officer and Health Officer.

WEST NEW YORK, Hudson county. Fred Schneider, President; Edw. D. Dilworth, Secretary; Rudolph Kunze, Reporting Officer, Health Officer and Inspector.

WEST ORANGE, Essex county. Alfred N. Pierson, President; D. E. Buckley, Secretary, Registrar and Health Officer.

VILLAGES.

RIDGEFIELD PARK, Bergen county. Frank A. Lloyd, President; W. F. Reynolds, D. V. M., Secretary and Inspector; Henry J. Shipman, Registrar.

RIDGEWOOD, Bergen county. R. W. Muns, President; E. L. Zabriskie, Secretary.

SOUTH ORANGE, Essex county. Dr. R. D. Freeman, President; Arthur Dillon, Secretary; A. C. Benedict, Registrar and Inspector.

TOWNSHIPS.

ALEXANDRIA, Hunterdon county. Joseph Spangenberg, President; Raymond Williamson, Secretary and Reporting Officer, both of Milford, R. F. D. No. 2.

ALLAMUCHY, Warren county. John Wilson, Jr., President, Hackettstown; William Kirby, Secretary and Reporting Officer, Allamuchy.

ALLOWAY, Salem county. John E. Crowley, President; F. A. Shivaler, Secretary and Reporting Officer, both of Alloway.

ANDOVER, Sussex county. Thomas J. Cuff, Newton, R. F. D. No. 3; W. H. Fritts, Secretary and Reporting Officer, Newton, R. F. D. No. 1.

ATLANTIC, Monmouth county. Patrick McCue, President, Eaton, R. F. D.; Jonathan H. Jones, Secretary, Holmdel; James P. Desmond, Reporting Officer, Colts Neck.

BASS RIVER, Burlington county. William T. Cramer, President; C. S. Cramer, Secretary, Reporting Officer and Registrar, New Gretna.

BEADMISTER, Somerset county. H. McMurty, Secretary and Reporting Officer, Somerville, R. F. D. No. 3.

BERKELEY, Ocean county. Hiram P. Cotrell, President; Newell R. Parker, Clerk and Reporting Officer; Frank Brouwer, Inspector, all of Toms River.

BERLIN, Camden county. G. Eckstein, President, Berlin; Robert H. Jager, Secretary and Reporting Officer; Dr. F. O. Stern, Inspector, both of West Berlin.

BERNARDS, Somerset county. William E. Pope, President; Joseph B. Kronenberg, Secretary and Reporting Officer; Dr. R. E. Mosedale, Health Officer, all of Bernardsville.

BETHLEHEM, Hunterdon county. Wilbert Hornbaker, President, Ashbury R. F. D.; William A. Diller, Secretary and Reporting Officer, Bloomsbury, R. F. D.

BEVERLY, Burlington county. Edgar B. Jordan, President, Beverly; Joseph B. Carter, Secretary; William S. Holt, Reporting Officer, both of Delanco.

BLAIRSTOWN, Warren county. Joseph A. Dugan, Clerk, Vail; Dr. H. O. Carhart, Inspector, Blairstown.

BOONTON, Morris county. F. J. Morgan, President; Edmund H. Stickle, Clerk, Reporting Officer, Registrar and Health Officer, both of Boonton, R. F. D. No. 2.

BORDENTOWN, Burlington county. Dr. C. D. Mendenhall, President; Samuel Johnson, Secretary and Reporting Officer; J. H. Colkitt, Registrar; Dr. Hugh Le Jambre, Inspector, all of Bordentown.

BRANCHBURG, Somerset county. David H. Conover, Chairman, Neshanic Station; William H. Higgins, Secretary and Reporting Officer; H. V. Davis, Inspector, both of North Branch Depot.

BRICK, Ocean county. C. C. Pearce, Committeeman, Laurelton; J. H. Le Compt, Secretary and Reporting Officer, Herbertville.

BRIDGEWATER, Somerset county. William T. Way, President; Martinsville; John Slatery, Secretary and Reporting Officer, Raritan.

BUENA VISTA, Atlantic county. Orville E. Sealrs, President; Douglas Reed, Secretary and Reporting Officer, both of Vineland, R. F. D.

BURLINGTON, Burlington county. Thomas P. Birkett, President; Thomas B. Gandy, Secretary and Reporting Officer, both of Burlington.

BYRAM, Sussex county. Herman Bozpple, President; Charles B. Carter, Secretary and Reporting Officer, both of Andover.

CALDWELL, Essex county. F. E. Kent, President; C. Dey, Secretary and Reporting Officer, both of Fairfield.

CEDAR GROVE, Essex county. Lewis G. Bowden, President; G. B. Warne, Registrar, both of Cedar Grove; H. B. Whitehorne, Secretary, Verona; Dr. Edw. M. Reilly, Reporting Officer and Health Officer, Montclair.

CENTER, Camden county. John H. Bowers, Chairman, Collingswood, R. F. D. No. 2; William E. Miller, Secretary, Reporting Officer and Registrar; Ephraim Sharp, Jr., Inspector, both of Mt. Ephraim.

CHATHAM, Morris county. Edward Littlejohn, President; Frank S. Conger, Secretary and Reporting Officer, Chatham, R. F. D. No. 2.

CHESTER, Burlington county. H. H. Walker, President, Maple Shade; Dr. F. G. Stroud, Secretary, Reporting Officer and Inspector, Moorestown.

CHESTER, Morris county. C. A. Williamson, President; Austin Nichols, Clerk, both of Chester.

CHESTERFIELD, Burlington county. C. M. Bunting, President; William Wallace, Clerk, Reporting Officer and Registrar, both of Crosswicks.

CINNAMINSON, Burlington county. Howard H. Taylor, President; George C. Frank, Secretary and Reporting Officer; Charles B. Jessup, Registrar, all of Riverton.

CLARK, Union county. C. H. Brewer, Secretary; Samuel Flamm, Reporting Officer and Inspector, both of Rahway, R. F. D. No. 2.

CLEMENTON, Camden county. Edw. B. Jaggard, President, Clementon; George W. Evans, Secretary, Lindenwold; Dr. William C. Raughley, Inspector, Berlin.

CLINTON, Hunterdon county. Frank G. Sharp, President; Howard Biggs, Secretary, Reporting Officer and Registrar; Dr. C. C. Boyer, Inspector, all of Annandale.

COMMERCIAL, Cumberland county. Walter Sharp, Secretary and Reporting Officer; J. N. Fowler, Inspector, both of Port Norris.

CRANBURY, Middlesex county. William M. Cox, President; Charles C. Groves, Secretary, Reporting Officer and Registrar, both of Cranbury.

CRANFORD, Union county. John G. Rouch, President; Alfred H. Miller, Secretary, Reporting Officer and Inspector, both of Cranford.

DEERFIELD, Cumberland county. Joseph Brock, Secretary and Registrar, Rosenhayn.

DELAWARE, Camden county. P. W. Biedman, President; Dr. W. B. Jennings, Secretary, Reporting Officer, Registrar and Health Officer, Haddonfield.

DELAWARE, Hunterdon county. Charles Opycke, President, Rosemont; Amos Wilson, Secretary and Reporting Officer, Sergeantville; George N. Best, Health Officer, Rosemont.

DELRAN, Burlington county. William F. Krauderar, Chairman; George Friday, Secretary, Reporting Officer and Registrar, both of Bridgeboro.

DEMWIS, Cape May county. Albert E. Carson, President; Dennisville; Thomas J. Durell, Secretary, Registrar and Reporting Officer, Belle Plain.

DENVILLE, Morris county. Joseph Elsworth, Secretary and Reporting Officer, Denville.

DEPTFORD, Gloucester county. E. K. Turner, Secretary and Reporting Officer, Sewell.

DOVER, Ocean county. Atwood L. Wardell, President; Theodore Fischer, Clerk and Reporting Officer; Dr. Frank Brouwer, Inspector, all of Toms River.

DOWNE, Cumberland county. Charles E. Caskill, Secretary and Reporting Officer, Newport.

EAGLESWOOD, Ocean county. Howard G. Shinn, President; Robert F. Rutter, Secretary, Reporting Officer and Registrar, West Creek.

EAST ANSWELL, Hunterdon county. Irving Kline, President; William Fiess, Secretary, Reporting Officer and Registrar; Dr. P. C. Young, Inspector, all of Ringoes.

EAST BRUNSWICK, Middlesex county. R. B. Herbert, Secretary and Reporting Officer, New Brunswick, R. F. D. No. 3.

EASTHAMPTON, Burlington county. J. P. Crowshaw, Secretary and Reporting Officer, Mt. Holly.

EAST GREENWICH, Gloucester county. Amos G. Haines, President; Clarksboro, J. C. Dauson, Clerk, Reporting Officer and Registrar, Mickleton.

EAST WINDSOR, Mercer county. Charles S. Lee, Chairman; Elmer F. Eilers, Secretary; John T. Hutchinson, Reporting Officer and Health Officer, Hightstown, R. F. D. No. 1.

EATONTOWN, Monmouth county. J. C. Rush, President; W. E. Morris, Secretary and Reporting Officer, Eatontown.

EDGEWATER PARK, Burlington county. Franklin P. Jones, President, Beverly; E. Howard Frazier, Secretary, Edgewater Park; Dr. Edward P. Hunter, Inspector, Delanco.

EGG HARBOR, Atlantic county. William P. Thompson, President; Charles L. Smith, Clerk, Mays Landing, R. F. D.; W. J. Hudson, Reporting Officer; William Hauenstein, Registrar, Pleasantville.

ELM, Gloucester county. Louis Kerns, President; Monroeville; H. E. Mayhew, Secretary and Reporting Officer, Aura.

ELLSBORO, Salem county. J. Lin Smith, Chairman and Reporting Officer; David B. Fox, Clerk, Salem, R. F. D. No. 3.

EVESHAM, Burlington county. Joseph S. Evans, President; Dr. E. K. Brick, Secretary and Reporting Officer, Marlton.

EWING, Mercer county. William S. Morris, President; William G. V. Hass, Clerk, Trenton, R. F. D., No. 1; Dr. F. S. Watson, Reporting Officer and Health Officer, 811 Stuyvesant Avenue, Trenton.

FAIRFIELD, Cumberland county. James B. Mulford, President, Reporting Officer and Registrar, Fairton; W. Mulford Johnson, Secretary, Bridgeton, R. F. D. No. 7.

FLORENCE, Burlington county. Goodwin Donnelly, President; Byron Carty, Secretary and Reporting Officer, both of Florence.

FRANKFORD, Sussex county. Dr. A. A. Ransom, President, Branchville; George W. Smith, Secretary, Reporting Officer and Registrar, Augusta, R. F. D.

FRANKLIN, Bergen county. A. S. Z. Demarest, President, Wortendyke; H. Klomberg, Secretary and Reporting Officer, Wyckoff.

FRANKLIN, Gloucester county. H. E. Davis, President, Newfield; Charles H. Lincoln, Clerk and Reporting Officer, Vineland, R. F. D.

FRANKLIN, Hunterdon county. B. Tunison, Chairman; A. E. Robeson, Secretary, Reporting Officer and Registrar, both of Pittstown, R. F. D. No. 1.

FRANKLIN, Somerset county. Harvey Boice, President, Princeton, R. F. D. No. 2; John L. Totten, Secretary, Registrar and Reporting Officer, New Brunswick, R. F. D. No. 5.

FRANKLIN, Warren county. John A. Hulsizer, President; C. H. Hoagland, Secretary and Reporting Officer, both of Asbury.

FREDON, Sussex county. W. N. Westbrook, Secretary and Reporting Officer, Newton.

FREEHOLD, Monmouth county. William F. Barkalow, President and Inspector, Freehold, R. F. D. No. 3.

FRELINGHUYSEN, Warren county. James Toomatti, President, Newton, R. F. D.; W. C. Cook, Secretary and Reporting Officer, Johnsonburg.

GALLOWAY, Atlantic county. J. L. Purzner, Chairman; Charles F. Stuckel, Secretary and Reporting Officer, Egg Harbor, R. F. D. No. 1.

GLOUCESTER, Camden county. George A. Avery, Chairman; J. Summerill Chew, Secretary and Reporting Officer, Greenloch.

GREEN, Sussex county. D. H. Longcor, President, Newton, R. F. D. 1; L. La Bar, Secretary, Reporting Officer and Registrar, Tranquility.

GREENWICH, Cumberland county. Joseph Cook, Chairman, Bridgeton, R. F. D. No. 2; Norman Wright, Secretary and Reporting Officer, Greenwich.

GREENWICH, Gloucester county. James Devault, President, Paulsboro; Jacob Allen, Secretary, Reporting Officer and Registrar; Dr. E. French, Inspector, both of Gibbstown.

GREENWICH, Warren county. William Sherrer, Registrar and Reporting Officer, Bloomsbury.

HADDON, Camden county. Alfred M. Mathews, Chairman; J. M. Ackley, Clerk, Reporting Officer and Registrar, both of Westmont.

HAINESPORT, Burlington county. William Elsingler, Jr., Clerk; Percy B. Hampton, Reporting Officer, Mt. Holly, R. F. D. No. 2.

HAMILTON, Atlantic county. Charles Mengin, President; Thomas G. Hoover, Secretary and Reporting Officer; N. C. James, Health Officer, all of Mays Landing.

HAMILTON, Mercer county. Edwin A. Newbold, Chairman, Crosswicks; John M. Anderson, Secretary, Mercerville; James N. Reed, Reporting Officer, 148 E. Washington Street, Trenton.

HAMPTON, Sussex county. William C. Haines, President; J. W. Thompson, Clerk and Reporting Officer; Dr. E. E. Beaty, Inspector, all of Newton.

HANOVER, Morris county. Stanley H. Lyon, Secretary and Reporting Officer, Morris Plains.

HARDING, Morris county. Paul Weichart, Chairman, Green Village; N. D. Goble, Secretary, Registrar and Reporting Officer, Morristown, R. F. D. No. 2; E. M. James, Health Officer.

HARDWICK, Warren county. A. R. Mott, Secretary; Dr. H. O. Carhart, Reporting Officer, both of Marksboro.

HARDYSTON, Sussex county. Jacob J. Henderson, Chairman, Stockholm; Lewis R. Wickham, Secretary and Reporting Officer, Augusta.

HARMONY, Warren county. Dr. H. B. Bossard, President; Freeman Schuler, Secretary and Reporting Officer, Phillipsburg, R. F. D. No. 2.

HARRISON, Gloucester county. W. A. Jones, Secretary and Reporting Officer, Mullica Hill.

HILLSBORO, Somerset county. J. E. Anderson, Secretary, Neshanic; Walter French, Reporting Officer and Inspector, Belle Mead.

HILLSIDE, Union county. J. L. Conover, Chairman; Dr. C. A. Mentzer, Secretary and Reporting Officer; John Laysor, Registrar; A. J. Thomas, Health Officer, all of Hillside.

HOHOKUS, Bergen county. C. D. Vanderbeck, President; Ramsey, Albert Winter, Secretary and Reporting Officer, Mahwah.

HOLLAND, Hunterdon county. Russel Crouse, Secretary; Frank S. Huff, Reporting Officer, both of Milford.

HOLMDEL, Monmouth county. William McFarland, Chairman; Keyport, R. F. D.; Alex L. McClees, Secretary and Reporting Officer; Sidney V. Bray, Inspector, both of Holmdel.

HOPE, Warren county. C. R. Westbrooke, Secretary, Hope.

HOPEWELL, Cumberland county. George F. Lykens, Secretary and Reporting Officer, Bridgeton.

HOPEWELL, Mercer county. Peter Voorhees, President, Skillman, R. F. D. No. 1; Joseph R. Burroughs, Secretary and Reporting Officer, Glen Moore; Dr. I. W. Richards, Inspector, Pennington.

HOWELL, Monmouth county. Charles W. Butcher, Registrar, Freehold, R. F. D.; G. W. MacMillan, Inspector, Adelpia.

HUDSON COUNTY, James L. Lynch, Secretary, Jersey City.

INDEPENDENCE, Warren county. A. B. Leigh, Chairman; Dr. F. W. Haggerty, Secretary and Reporting Officer, both of Vienna.

JACKSON, Ocean county. C. H. Thompson, President; W. S. Hendrickson, Secretary, both of Lakewood, R. F. D. No. 3; Furman Thompson, Reporting Officer and Registrar, Van Hiseville; Dr. T. F. Thompson, Inspector, Lakewood.

JEFFERSON, Morris county. George Hulmes, Chairman, Wharton; Frank R. Crater, Clerk and Reporting Officer, Lake Hopatcong.

KINGWOOD, Hunterdon county. George H. Leonard, President, Baptistown; William H. Kugler, Secretary, Registrar and Reporting Officer, Raven Rock; Dr. F. S. Grim, Inspector, Frenchtown.

KNOWLTON, Warren county. Woodley Brugler, Secretary; William DeCue, Inspector, both of Columbia.

LACEY, Ocean county. Joseph E. Evans, Chairman; David A. Parker, Secretary, both of Forked River.

LAFAYETTE, Sussex county. Peter Simons, President; William S. Vought, Secretary and Reporting Officer, both of Lafayette.

LAKEWOOD, Ocean county. Arthur R. Smock, President; George Garon, Secretary; I. Scudder Fisher, Reporting Officer and Registrar; Dr. A. Towbin, Health Officer; William T. Mason, Inspector, all of Lakewood.

LANDIS, Cumberland county. Leon Bozarth, President; Ernest E. Howe, Secretary; Dr. Arthur Goldhaft, Reporting Officer and Inspector, all of Vineland.

LAWRENCE, Cumberland county. A. Addison Sever, Clerk and Reporting Officer, Cedarville.

LAWRENCE, Mercer county. R. Stanley Terhune, President, Princeton, R. F. D. No. 2; Frank Pierson, Secretary and Reporting Officer, Lawrenceville.

LEBANON, Hunterdon county. John H. Anderson, President; A. B. Castner, Reporting Officer and Registrar, Glen Gardner, R. F. D.

LINDEN, Union county. George McGilvary, Chairman; Lawrence Keegan, Secretary and Reporting Officer, both of Linden.

LITTLE EGG HARBOR, Ocean county. Robert Pharo, President, Tuckerton; Millard F. Parker, Secretary and Reporting Officer, Parkertown.

LITTLE FALLS, Passaic county. E. F. Lawlor, Chairman; B. S. Briggs, Clerk and Reporting Officer, both of Little Falls.

LIVINGSTON, Essex county. A. P. Squire, President, Chatham; Charles G. Zahn, Secretary; William Rathbun, Reporting Officer and Registrar; John Ashley, Inspector, all of Livingston.

LODI, Bergen county. John Lurick, President; Charles E. Wolf, Secretary, Reporting Officer and Registrar, both of Hackensack, R. F. D.

LOGAN, Gloucester county. Charles M. Lamson, President; S. B. Platt, Clerk, Reporting Officer and Registrar, both of Bridgeport.

LONG BEACH, Ocean county. George P. Eckert, President, Brant Beach; Charles H. Eckman, Secretary and Reporting Officer, Beach Haven.

LOPATCONG, Warren county. Stanley Drake, Secretary, Phillipsburg.

LOWER, Cape May county. Ephraim Chamberlain, Chairman, Cold Springs; D. Morrell Woolson, Clerk and Reporting Officer, Cape May.

LOWER ALLOWAYS CREEK, Salem county. J. P. Ridgeway, Secretary and Reporting Officer, Hancock's Bridge.

LOWER PENNS NECK, Salem county. Charles Humphreys, President; Charles Caperson, Secretary and Registrar, both of Pennsville.

LUMBERTON, Burlington county. Howard B. Haines, President, Mt. Holly, R. F. D.; Frank M. Cotton, Registrar and Reporting Officer, Lumberton; Dr. George W. Van Deever, Health Officer and Inspector, Mt. Holly.

LYNDHURST, Bergen county. James W. Lehti, President; Arthur V. Turner, Secretary and Reporting Officer, both of Lyndhurst.

MADISON, Middlesex county. William Ortell, Secretary and Reporting Officer, Old Bridge.

MANALAPAN, Monmouth county. Lewis Craig, Chairman; G. B. Conover, Clerk and Reporting Officer, Englishtown.

MANCHESTER, Ocean county. L. P. Christofferson, President; George Cameron, Registrar, both of Whiting; Dr. Harold Pitts, Clerk and Reporting Officer, Lakhurst.

MANNINGTON, Salem county. Charles F. Hackett, President; Walter B. Crispin, Clerk, Reporting Officer and Registrar, both of Woodstown.

MANSFIELD, Burlington county. I. G. Haines, Chairman; Joseph H. Armstrong, Clerk, Reporting Officer and Registrar, both of Columbus.

MANSFIELD, Warren county. John C. Beaty, Clerk and Reporting Officer, Port Murray.

MANTUA, Gloucester county. Joseph I. Parks, President; Richard Kincaid, Secretary, Reporting Officer and Registrar; Dr. E. Z. Hillegass, Inspector, all of Mantua.

MAPLEWOOD, Essex county. William F. Law, President; Dr. John C. Cox, Reporting Officer, Health Officer and Registrar, both of Maplewood.

MARLBORO, Monmouth county. J. D. Ely, President and Reporting Officer, Marlboro.

MATAWAN, Monmouth county. Ruth Sullivan Mills, Secretary and Reporting Officer, Matawan.

MAURICE RIVER, Cumberland county. Henry Reeves, Secretary, Reporting Officer and Inspector, Leesburg.

MEDFORD, Burlington county. A. Engle Haines, President; William D. Cowperthwait, Secretary and Reporting Officer, both of Medford.

MENHAM, Morris county. Owen Winston, President, Gladstone; George W. Savage, Secretary and Reporting Officer, Brookside.

MIDDLE, Cape May county. E. S. Hewitt, President; William B. Powell, Secretary; Dr. Julius Way, Inspector, all of Cape May Court House.

MIDDLETOWN, Monmouth county. Isaac Morris, President, Middletown; Howard W. Roberts, Secretary and Reporting Officer, New Monmouth; Dr. O. W. Budlong, Inspector, Belford.

MIDLAND, Bergen county. E. W. Smith, Chairman; Charles A. Dunlap, Clerk, Registrar and Reporting Officer, both of Rochelle Park; George Shaffer, Inspector, Hackensack.

MILLBURN, Essex county. G. H. Wilson, President, Short Hills; M. R. Silance, Secretary; Carroll E. Krichbaum, Reporting Officer and Health Officer, both of Millburn.

MILSTONE, Monmouth county. Edward C. Fountain, President, Clarksburg; E. L. G. Ely, Secretary and Reporting Officer, Robbinsville; George M. Davison, Health Officer, Imlaystown.

MINE HILL, Morris county. (No. report.)

MONROE, Gloucester county. Oscar Davis, Chairman; James M. Tweed, Secretary and Reporting Officer, both of Williamstown.

MONROE, Middlesex county. John D. Butcher, President, Cranbury; Edward Johnson, Secretary, Registrar and Reporting Officer, Jamesburg.

MONTAGUE, Sussex county. John Middleton, President; Arthur L. Cooper, Secretary and Reporting Officer, both of Port Jervis, R. F. D. No. 1.

MONTGOMERY, Somerset county. William I. Robinson, Chairman, Skillman; John E. De Hart, Secretary, Reporting Officer and Registrar, Belle Mead.

MONTVILLE, Morris county. Harry S. Barclay, Chairman, Montville; Fred Van Duyne, Clerk, Reporting Officer and Registrar, Towaco.

MOORESTOWN, Burlington county. Rush D. Rogers, President; Dr. F. C. Stroud, Secretary, Reporting Officer, Health Officer and Inspector, both of Moorestown.

MORRIS, Morris county. Thomas T. Sands, Secretary and Reporting Officer, Morris-town.

MOUNT LAUREL, Burlington county. James Lareny, President; W. Clifford Godfrey, Clerk and Reporting Officer, Moorestown.

MOUNT OLIVE, Morris county. S. D. Chamberlain, Chairman, Budd Lake; Hez Smith, Secretary and Reporting Officer, Flanders; F. L. Bird, Inspector, Netcong.

MULLICA, Atlantic county. Charles L. Kuen, Jr., President, Elwood; Henry Tapken, Clerk and Reporting Officer, Egg Harbor; Charles L. Cunningham, Hammonton.

NEPTUNE, Monmouth county. Morton Norris, President, Ocean Grove; Gilbert C. Leigh, Secretary and Health Officer, Asbury Park.

NEW HANOVER, Burlington county. J. H. Atkinson, President, Pointville; John S. Nash, Secretary and Registrar, Wrightstown, R. F. D. No. 1.

NEW PROVIDENCE, Union county. H. W. Kent, President, New Providence; Frank Jeckel, Secretary, Reporting Officer and Registrar, Chatham, R. F. D. No. 2.

NORTHAMPTON, Burlington county. C. M. Watson, President; John D. Mason, Secretary and Reporting Officer; Dr. George W. Van Derveer, Health Officer and Inspector, all of Mount Holly.

NORTH BERGEN, Hudson county. Louis Perraud, President; J. F. Wurdemann, Secretary and Reporting Officer, both of North Bergen.

NORTH BRUNSWICK, Middlesex county. J. Van Derwater, Chairman; G. M. Smith, Secretary and Reporting Officer; H. E. Riva, Inspector, all of New Brunswick.

NORTH HANOVER, Burlington county. C. F. Warren, President, Cream Ridge; Harry Borden, Secretary and Reporting Officer, Jacobstown.

NORTH PLAINFIELD, Somerset county. H. B. MacDonald, Chairman; Francis E. Bodin, Secretary and Reporting Officer, Watchung; Joseph Tetlow, Inspector Dunellen.

OCEAN, Monmouth county. Le Roy Martin, President; J. Ashley Woolley, Secretary and Reporting Officer, both of Asbury Park.

OCEAN, Ocean county. W. B. Wilkins, Clerk and Reporting Officer, Waretown.

OLDMANS, Salem county. Harvey Gaventa, President; David G. Henderson, Secretary and Reporting Officer, both of Pedricktown.

OXFORD, Warren county. Dr. L. B. Hoagland, President; George Docker, Jr., Clerk, Reporting Officer and Registrar, both of Oxford.

PARAKUARRY, Warren county. Irwin B. Smith, Reporting Officer and Registrar, Dunnfield.

PASSAIC, Morris county. Andrew Hay, Secretary, Millington; Dr. T. W. Bebout, Reporting Officer, Stirling.

PEMBERTON, Burlington county. Thomas G. Shreve, President; Barclay Seeds, Secretary, both of Pemberton; Frank Ross, Reporting Officer and Registrar; Dr. E. Hollings-Pensauken, Camden county. Aden Pidgeon, Chairman; Robert V. Peabody, Clerk, Registrar; Fred C. Metzger, Inspector, all of Pensauken.

PEQUANNOCK, Morris county. George C. Pellet, President, Pompton Plains; George R. French, Clerk, Pequannock; William M. Hutchinson, Inspector, Pompton Plains.

PITTSBORO, Salem county. Warren C. Richman, President; M. W. Buzby, Clerk, Reporting Officer and Registrar, both of Woodstown.

PISCATAWAY, Middlesex county. Harry J. Manning, President; C. J. McCarthy, Reporting Officer and Inspector, both of South Plainfield; George Dickerson, Secretary, New Market.

PITTSBORO, Salem county. Frank G. Ward, President, Palatine; Arthur Schalick, Secretary and Reporting Officer; R. M. Sipman, Inspector, both of Centreton.

PLAINSBORO, Middlesex county. J. V. B. Wicoff, Chairman, Cranbury, R. F. D.; Raymond D. Britton, Clerk and Reporting Officer, Plainsboro.

PLUMSTED, Ocean county. George R. A. Brown, Chairman; George Hartshorn, Secretary and Reporting Officer, both of New Egypt.

POHATCONG, Warren county. Arthur J. Frey, Chairman, Carpentersville; Walter I. Jacoby, Clerk and Reporting Officer, Finesville.

PRINCETON, Mercer county. Edw. L. Howe, Chairman; William C. Fishburn, Clerk; Lionel V. Silvester, Reporting Officer and Health Officer, all of Princeton.

QUINTON, Salem county. William R. Lawrence, President, Bridgeton; C. A. Miller, Secretary and Reporting Officer, Quinton; Dr. W. T. Good, Inspector, Alloway.

RANDOLPH, Morris county. N. J. Drury, President; George R. Coslett, Secretary, Reporting Officer and Health Officer, all of Dover.

RARITAN, Hunterdon county. Theodore H. Dilts, Secretary and Reporting Officer, Three Bridges.

RARITAN, Middlesex county. Otto Wittenbert, President; J. H. Johnson, Clerk and Reporting Officer, both of Perth Amboy, R. F. D. No. 1.

RARITAN, Monmouth county. Ira Carhart, President; William T. Walling, Reporting Officer and Inspector, both of Keyport.

READINGTON, Hunterdon county. D. L. Lare, President; Jud La Terre, Inspector, both of White House; George W. Anderson, Clerk and Reporting Officer, Stanton.

RIVERSIDE, Burlington county. Thomas W. Fairbrother, President; Charles Heiss, Secretary; Dr. R. I. Downs, Reporting Officer and Inspector, all of Riverside.

RIVERVALE, Bergen county. Arvine Thayer, President; Charles A. Brunet, Secretary and Reporting Officer, both of Westwood, R. F. D. No. 1.

ROCKAWAY, Morris county. Dr. F. W. Flogge, President, Rockaway; R. C. Struble, Clerk, Reporting Officer and Registrar; John S. Carr, Inspector, both of Dover.

ROXBURY, Morris county. Robert V. Davenport, President; F. A. De Camp, Secretary, Reporting Officer and Registrar, both of Succasunna.

SADDLE RIVER, Bergen county. John Christie, President; Isaac A. Hopper, Clerk, both of Fair Lawn.

SANDYSTON, Sussex county. William Clark, President and Reporting Officer; Martin Cole, Secretary, both of Hainesville.

SCOTCH PLAINS, Union county. Alexander Muir, President; George H. Johnston, Secretary and Reporting Officer; Dr. F. W. Wescott, Inspector, all of Scotch Plains.

SHAMONG, Burlington county. Mahlon Prickett, Clerk, Indian Mills.

SHREWSBURY, Monmouth county. Albert C. Grover, Clerk and Reporting Officer; Dr. Benjamin F. King, Inspector, both of Shrewsbury.

SOUTHAMPTON, Burlington county. Elwood Haines, Clerk and Reporting Officer; Dr. J. C. Brown, Inspector, both of Vincentown.

SOUTH BRUNSWICK, Middlesex county. T. W. Applegate, Chairman, Dayton; George Walter, Secretary, Reporting Officer and Registrar, Deans.

SOUTH HARRISON, Gloucester county. Clayton G. Kirby, President, Mullica Hill, R. F. D. No. 6; D. C. Lippincott, Secretary and Reporting Officer, Harrisonville.

SPARTA, Sussex county. W. D. Ryan, Chairman; Floyd Kays, Secretary, Reporting Officer and Inspector, both of Sparta.

SPRINGFIELD, Burlington county. Howard Cobb, Chairman, Burlington, R. F. D. No. 2; Aaron H. Burtis, Secretary, Registrar and Reporting Officer; Dr. Elmer D. Prickett, Health Officer, both of Mt. Holly.

SPRINGFIELD, Union county. Charles Cannon, Chairman; Lewis T. Terry, Secretary and Reporting Officer; Dr. H. P. Dengler, Inspector, all of Springfield.

STAFFORD, Ocean county. C. H. Cramer, President; George F. Pharo, Clerk, Reporting Officer and Registrar, both of Manahawkin.

STILLWATER, Sussex county. Martin Savercool, Chairman; R. J. Van Etten, Secretary, Registrar and Reporting Officer, both of Stillwater; Schooley J. Huff, Inspector, Middleville.

STOW CREEK, Cumberland county. Eric Carlson, President, Bridgeton, R. F. D. No. 3; C. W. Fisher, Secretary and Reporting Officer, Shiloh.

TABERNACLE, Burlington county. Harvey S. Cotton, Secretary, Vincentown, R. F. D. No. 2.

TEANECK, Bergen county. Frederick Andreas, Chairman, Teaneck; W. F. Reynolds, Secretary and Reporting Officer, Ridgely Park; Thomas H. Oliver, Registrar, West Englewood.

TEWKSBURY, Hunterdon county. J. B. Lindabury, Chairman; Charles P. Farley, Secretary and Reporting Officer, both of Lebanon, R. F. D.

UNION, Hunterdon county. Orvil Merrell, Chairman; Morris Stockton, Clerk and Reporting Officer, both of Pattenburg.

UNION, Ocean county. Walter Brower, Chairman; Stokes Collins, Secretary and Reporting Officer, both of Barnegat.

UNION, Union county. Charles Mink, Chairman, Union; Frank A. Sweezy, Clerk, Reporting Officer and Health Officer, Vauxhall.

UPPER, Cape May county. Washington Van Gilder, Secretary and Reporting Officer, Petersburg.

UPPER DEERFIELD, Cumberland county. Albert T. Hannan, Secretary; E. R. Parvin, Reporting Officer, both of Deerfield.

UPPER FREEHOLD, Monmouth county. G. Henry Kirby, President, Allentown; John Y. Sinton, Secretary, Reporting Officer, Registrar, Health Officer and Inspector, Imlaystown.

UPPER PENNS NECK, Salem county. Robert Hurlley, Secretary; Alfred M. Light, Reporting Officer and Health Officer, Carney's Point.

UPPER PITTSBORO, Salem county. R. A. Robinson, Clerk and Reporting Officer, Monroeville.

VERNON, Sussex county. N. P. Ryerson, Secretary and Reporting Officer, Glenwood.

VOORHEES, Camden county. Raymond S. Stafford, President, Laurel Springs; R. B. Stafford, Secretary and Reporting Officer, Marlton.

WALL, Monmouth county. George E. Rogers, Clerk, Reporting Officer and Registrar, Belmar.

WALPACK, Sussex county. L. J. Fuller, Chairman; Joseph L. Robbins, Clerk, both of Walpack Center.

WANTAGE, Sussex county. S. M. Parcell, Clerk and Reporting Officer; Dr. B. W. Roy, Inspector, both of Sussex.

WARREN, Somerset county. Harry Gaddis, President, Bound Brook; E. G. Bowers, Secretary, Reporting Officer and Registrar, Plainfield, R. F. D. No. 3.

WASHINGTON, Bergen county. J. Henry Thomas, Clerk, Reporting Officer and Registrar, Westwood.

WASHINGTON, Burlington county. C. Roy Cramer, Secretary and Reporting Officer, Lower Bank.

WASHINGTON, Gloucester county. J. K. Powell, Chairman, Sewell; G. R. Hurff, Clerk and Reporting Officer, Greenloch.

WASHINGTON, Mercer county. Charles Lindall, President; C. N. Hutchinson, Secretary and Reporting Officer, both of Robbinsville; William A. Girton, Health Officer, Windsor.

WASHINGTON, Morris county. Albert Philhouer, Chairman, Long Valley; G. H. Siker, Secretary and Registrar, Port Murray; L. F. Castle, Inspector, Long Valley.

WASHINGTON, Warren county. Clyde Shannon, President; E. C. Snyder, Clerk, Reporting Officer and Registrar, both of Washington.

WATERFORD, Camden county. William L. Duble, Clerk, Reporting Officer and Registrar, Atco.

WAYNE, Passaic county. George W. Van Ness, President; Isaac A. Hopper, Secretary, both of Paterson, R. F. D. No. 1; Dr. Warren H. Young, Health Officer, Little Falls.

WEHAWKEN, Hudson county. Charles D. Leech, Chairman; John G. Meister, Secretary; D. J. Walsh, Reporting Officer and Inspector, all of Weehawken.

WESTHAMPTON, Burlington county. M. S. Haines, President; Charles F. Gaskill, Secretary, Reporting Officer and Registrar, both of Mt. Holly, R. F. D. No. 2.

WEST AMWELL, Hunterdon county. James Wilson, President; George H. Carr, Secretary, Reporting Officer and Registrar, Lambertville, R. F. D. No. 1.

WEST DEPTFORD, Gloucester county. Alvin Black, President; Charles H. Budd, Clerk and Reporting Officer, both of Thorofare.

WEST MILFORD, Passaic county. Walter Vreeland, Chairman, Upper Macopin; John C. Ryerson, Clerk, Reporting Officer and Registrar; Dr. D. E. Drake, Inspector, both of Hewitt.

WEST WINDSOR, Mercer county. Hiram Mount, Chairman, Trenton, R. F. D.; Hiram A. Cook, Clerk and Reporting Officer, Dutch Neck.

WEYMOUTH, Atlantic county. Frank O. Groeber, Secretary and Reporting Officer, Risley.

WHITE, Warren county. D. S. Spangenberg, Clerk and Reporting Officer, Belvidere.

WILLINGBORO, Burlington county. T. Harvey Buzby, Secretary, Reporting Officer and Registrar, Beverly.

WINSLOW, Camden county. Elmer R. Heggan, Secretary and Reporting Officer, Blue Anchor.

WOODBIDGE, Middlesex county. R. A. Hirner, Chairman, Woodbridge; C. A. Larson, Clerk; Lewis E. Potter, Reporting Officer and Inspector, both of Fords.

WOODLAND, Burlington county. Walter Sloan, President; George Bozarth, Clerk, Reporting Officer and Registrar, both of Chatsworth.

WOOLWICH, Gloucester county. William A. Kirby, President; T. W. Hendrickson, Secretary and Reporting Officer, both of Swedesboro.

List of Licensed Health Officers and Sanitary Inspectors.

Following is a list of persons who have successfully passed the examination provided for in the act approved April 18th, 1903:

Health Officers.

Henry D. Abbott, M. D.	Bayonne	Jay C. Foose	Montclair
John K. Adams, M. D.	Orange	Morris Frank, M. D.	Bayonne
T. Lee Adams	Ocean City	Frank A. Frederick, Jr.	West Hoboken
Jos. Adler, M. D.	Bayonne	Frank A. Frederick, Sr.	West Hoboken
Martin E. Alpers	Dover	Richard Frederick	Jersey City
Henry V. Amerman	Kearny	John Gaub	Montclair
Fritz M. Arnolt	Hackensack	Russell W. Gies	Elizabeth
T. Dudley Ballinger	Princeton	A. J. Goehrig	Trenton
Wm. M. Barnes, M. D.	Millburn	Eugene H. Goldberg, M. D.	Kearny
Howard L. Baumgartner	Asbury Park	Hyman L. Goldstein, M. D.	Camden
J. Alonzo Beek, M. D.	Gloucester City	Leopold Goldstein, M. D.	Abington, Pa.
John K. Bennett, M. D.	Gloucester City	Wm. S. Green, M. D.	Paterson
Joseph V. Bergen, M. D.	Paterson	Chas. A. Griffin, D. V. M.	Orange
Richard Bev. M. D.	Atlantic City	I. N. Griscom, M. D.	Ocean City
Duncan W. Blake, Jr., M.D.	Gloucester City	Franklin R. Hughes, M. D.	Cape May
Wm. C. Blake	Princeton	Edward Guion, M. D.	Atlantic City
Cecil K. Blanchard	Pennington	Selskar M. Gunn	Jersey City
Chas. B. Bleasby, M. D.	Garfield	James J. Hagan	Jersey City
Perkin Boynton	Little Falls	Orville R. Hagen	Paterson
Henry H. Brinkerhoff, M. D.	Jersey City	H. W. Haight, M. D.	Highland Park
Chas. S. Brady, M. D.	Town of Union	John J. Haley, M. D.	Gloucester City
John J. Broderick, M. D.	Jersey City	John Hall	Long Branch
Wm. H. Brooke, M. D.	Bayonne	Lester Hamblet	Asbury Park
James E. Brooks	Glen Ridge	Carl Hegstrom	Perth Amboy
Alex. Browne, M. D.	Paterson	Alex. M. Heron, M. D.	Lakewood
David E. Buckley	West Orange	Richard E. Hiller	Plainfield
Dundas R. Campbell, M. D.	Newark	F. M. Hoffman, M. D.	New Brunswick
Collis H. Case	Plainfield	Wm. L. Holt, M. D.	Maplewood
John J. Casey	Plainfield	J. I. Hoverder, M. D.	Atco
N. J. Randolph Chandler	Plainfield	Robert N. Hoyt	Summit
T. A. Clay, M. D.	Paterson	Franklin R. Hughes, M. D.	Cape May
Ralph O. Clock, M. D.	Burlington	Edward R. Hunter, M. D.	Delanco
Morris W. Clouse, M. D.	Keary	Morton W. Huttenloch	Montclair
Nathan A. Cohen, M. D.	Wildwood	Ralph L. Huttenloch	Montclair
Max J. Colton	New Brunswick	H. W. Ingling, M. D.	Freehold
John T. Connelly, M. D.	Bayonne	Wm. H. Izard, M. D.	Camden
John J. Coughlin	Elizabeth	Maximilian Jakob, M. D.	Chrome
John C. Cox	Maplewood	Henry C. James, M. D.	Mays Landing
Wm. C. Craig, M. D.	Ridgewood	Charles E. Jamison, M. D.	Asbury Park
Chas. V. Craster, M. D.	Rosebank, N. Y.	Ralph R. Jones, M. D.	Toms River
Jos. J. Craven, M. D.	Jersey City	John D. Jungmann, M. D.	Camden
E. Irving Cronk, M. D.	New Brunswick	Chas. A. Keating, M. D.	Paterson
Grant P. Curtis, M. D.	Town of Union	Jay E. Kilpatrick	Montclair
Henry P. Dengler, M. D.	Springfield	Chester H. King, M. D.	Oradell
Samuel S. DeCou	Trenton	I. Warner Knight, M. D.	Penn's Grove
Jeremiah J. Donovan, M. D.	Rosindale, Mass.	Wm. C. Kraemer	Linden
W. D. Dotterer	Princeton	Hugo Krause	Ventnor City
Thos. J. Duffield	Asbury Park	Carroll E. Krichbaum, M. D.	Millburn
Wallace T. Eakins	New Brunswick	W. U. Kurtz, M. D.	Asbury Park
Chas. P. Eaton	Jersey City	Chas. J. Larkey, M. D.	Bayonne
Frank H. Edsall, M. D.	Jersey City	Herbert B. Larner	Montclair
Nelson Elliott, M. D.	Passaic	Geo. W. Lawrence, M. D.	Lakewood
R. Clifford Errickson	Long Branch	Fred P. Lee	New Britain, Conn.
Edward P. Essertier, M. D.	Hackensack	Harry F. Leeds	Asbury Park
James A. Exton, M. D.	Arlington	Gilbert C. Leigh	Asbury Park
Wm. T. Fales	Glen Ridge	Jesse B. Leslie	Hackensack
Morris Farkas, M. D.	West Orange	Malcolm Lewis	Montclair
A. S. Fell, M. D.	Trenton	J. William Long	Trenton
Nicholas F. Feury, M. D.	Jersey City	J. C. Loper, M. D.	Bridgeton
Geo. W. Finke, M. D.	Hackensack	John L. Lund, M. D.	Perth Amboy
Geo. W. Fithian, M. D.	Perth Amboy	Henry MacDonald	Newark
		Wm. H. MacDonald	Trenton

J. Scott MacNutt.....	Orange	Fred W. Sell, M. D.....	Rahway	S. Alton Burk.....	Atlantic City	Edmund B. Greene.....	Newark
L. F. Maloney, M. D.....	Clifton	Maurice Shapiro, M. D.....	Bayonne	Matthew A. Butler.....	Jersey City	John A. Green, Jr.....	Newark
Fred J. Mann, M. D.....	New Britain, Conn.	Lewis L. Sharp, M. D.....	Palmyra	Stephen Campbell, M. D.....	Woodbury	Louis H. Greenwald.....	New Brunswick
Alex. Marcy, M. D.....	Riverton	J. LeClere Shedaker.....	Burlington	Andrew Carney, Jr.....	North Plainfield	A. M. Grier.....	Penns Grove
V. M. D. Marcy, M. D.....	Cape May	Alton S. Sherman, M. D.....	West Orange	Sylvanus S. Carril.....	Salem	Lydia B. Grimm.....	Newark
T. W. Margerum.....	Princeton	Wm. H. Shoops, M. D.....	Bordentown	Thomas J. Carter.....	Plainfield	Ambros J. Guiton.....	Jersey City
Elias J. Marsh, M. D.....	Paterson	Lionel V. Silvester.....	Princeton	Collis H. Case.....	Plainfield	Herbert C. Haines.....	Pleasanton
Emery Marvel, M. D.....	Atlantic City	Ellen B. Smith, M. D.....	Salem	John J. Casey.....	Plainfield	Robt. M. Haines.....	Trenton
Harriet O. Mattison.....	Plainfield	Richard C. Smith.....	Newark	Mathew P. Casey.....	Jersey City	Earl J. Halligan, M. D.....	Jersey City
Samuel D. Mayhew, M. D.....	Bridgeton	Wm. R. Smith, M. D.....	Belleville	N. J. R. Chandler.....	Plainfield	Robert H. Hall.....	Jersey City
John T. McClure.....	Harrison	Milton L. Somers, M. D.....	Atlantic City	Lester J. Hamble.....	Jersey City	Herbert J. Hamble.....	Asbury Park
Charles Mc Nabn.....	Bound Brook	Henry J. Spalding, M. D.....	Union Hill	Mabel M. Clarke.....	Franklin	H. L. Harler, Jr., D.....	Pleasanton
John J. McDonald.....	Jersey City	Gobin Stair.....	Jersey City	Edward A. Cleary.....	Newark	John C. Harnett.....	Jersey City
Frank B. Meeker, M. D.....	Newark	Fred Stetter.....	Asbury Park	Albert N. Cleaver.....	Perth Amboy	Charles W. Harrays, M. D.....	Ridgewood
Josiah Meigh, M. D.....	Bernardsville	Arthur L. Stone, M. D.....	Camden	Edw. A. Clinton.....	Jersey City	Frank S. Harris.....	Salem
Chas. J. Merrell.....	Bound Brook	Fred H. Stover.....	Boston, Mass.	Max J. Colton.....	New Brunswick	Wm. H. Harris.....	Jersey City
Chas. S. Mills, M. D.....	Riverton	Frank H. Streightoff.....	Montclair	Obadiah S. Cole.....	Newark	H. W. Hartman, M. D.....	Keyport
Philip Morris, C. E.....	Passaic	Eugene E. Sullivan.....	Montclair	John H. Concannon.....	Woodbridge	Jas. G. Hayes.....	Jersey City
William Morris.....	Roselle Park	George H. Taylor, M. D.....	Maplewood	Charles F. Conrad.....	Newark	Eugene G. Heberner, M. D.....	Lakewood
Alfred A. Mutter, M. D.....	Arlington	John G. Taylor.....	Dover	Wm. F. Conroy.....	Jersey City	William W. Heberton, M. D.....	South Orange
Nels A. Nelson.....	Long Branch	Walter Taylor, M. D.....	Jersey City	Earl W. Cook.....	Trenton	Carl Hegstrom.....	Perth Amboy
Marcus W. Newcomb, M. D.....	Burlington	Chas. S. Thompson, D. V. S., Perth Amboy	Perth Amboy	John D. Corrigan.....	Newark	David D. Heim, Jr., V. M. D.....	Camden
Stanley H. Nichols, M. D.....	Jersey City	Leon R. Thurlow.....	Plainfield	Forrest R. Cox.....	Woodbury	Wm. J. Helm, Jr.....	Belmar
Budd H. Obert.....	Asbury Park	James A. Tobey.....	Summit	Leroy F. Cyster, Sr.....	East Orange	Patrick J. Hennessy.....	Jersey City
John O'Brien, Jr.....	Montclair	George T. Tracey, M. D.....	Beverly	Irwin C. Dakin.....	Newark	Fred W. Hering.....	Newark
James L. O'Neil.....	Plainfield	John A. C. Tall, M. D.....	Paterson	Wm. J. Davis.....	Newark	Alex. M. Heron, M. D.....	Lakewood
Frank J. Osborne.....	Montclair	Wm. Veenstra, M. D.....	Paterson	Harris Day, M. D.....	Chester	A. Gertrude Hines.....	Franklin
George T. Palmer.....	Orange	Maria M. Vinton, M. D.....	East Orange	Newton DeBaum.....	Hackensack	Harry M. Hitchner.....	Salem
Wm. B. Palmer.....	Orange	Gordon G. Walton, M. D.....	Paterson	Adolph DeCady.....	Newark	Adolph E. Hoernig.....	Newark
R. H. Parson, M. D.....	Mt. Holly	Jos. Wantoch, M. D.....	Carteret	Walter B. Delaney.....	Jersey City	James A. Hirsch.....	Newark
H. T. Partridge, M. D.....	Eastontown	Gertrude Ward, M. D.....	Biohock	Rocco J. Del Tufo.....	Newark	Howard H. Huffert.....	Newark
Raymond S. Patterson.....	Brinswick	Alex. Weir, Jr.....	West Hoboken	Frank Dencklaun.....	Plainfield	Martha I. Hunt.....	Newark
Joseph Payne, M. D.....	Midland Park	Chester H. Wells.....	Montclair	Henry P. Dengler, M. D.....	Springfield	J. H. C. Hunter.....	Dover
Roy G. Perham, M. D.....	Hasbrouck Heights	Wm. A. Wescott, M. D.....	Berlin	Samuel Denton.....	Bayonne	Kaliph Hutcheson, Jr.....	Asbury Park
Harry H. Perit, M. D.....	Ridgewood	Wm. Whalen, M. D.....	Paterson	Joseph W. Dennin, M. D.....	Roselle	Harry R. Ingalls.....	Asbury Park
Carl T. Pomeroy.....	Plainfield	John H. Whiticar, M. D.....	Ocean City	M. J. Devereaux.....	Sea Bright	H. Wesley Jack.....	Collingswood
David N. Rappoport, M. D., Philadelphia, Pa.	Atlantic City	Arthur G. Wizeley.....	New Brunswick	Edward Devitt.....	Jersey City	Richard Jackson.....	Newark
Talbot Reed, M. D.....	Atlantic City	Thos. W. Wilhelm.....	Perth Amboy	Wm. H. Dewar.....	Belleville	David J. Jones, Jr.....	Newark
Wm. F. Reynolds, D. V. S.....	Hackensack	Hiram Williams.....	Passaic	C. P. Deyoe, M. D.....	Ramsey	Wm. A. Keane.....	Newark
Louis J. Richards.....	Elizabeth	John S. Wilson.....	Bridgeton	Charles E. Divine.....	Newark	William F. Kearney.....	Paterson
W. R. Reick, M. D.....	Collinsville	Clarence W. Winchell.....	Jersey City	Andrew J. Dolan, M. D.....	Jersey City	Harry Kearny.....	Paterson
Edward B. Rogers, M. D.....	Passaic	John H. Winslow, M. D.....	Vineland	John A. Donovan.....	Newark	Charles A. Keating, M. D.....	Paterson
John N. Ryan, M. D.....	Bloomfield	Fred C. Witte, M. D.....	Riverton	Daniel J. Donohue, M. D.....	Jersey City	Gerald J. Keating.....	Jersey City
Jos. C. Saile.....	Atlantic City	Wm. C. Woodward, M. D., Washington, D. C.	Washington, D. C.	Christopher J. Doran, Jr.....	Jersey City	Leavett F. Kelley.....	Newark
Samuel L. Salasin, M. D.....	Atlantic City	Shirley W. Wynn, M. D.....	New York City	Roscius I. Downs, M. D.....	Riverside	Harry E. Kelly.....	Jersey City
Ferdinand N. Sauer.....	Jersey City	Lenore Young, R. N.....	Orange	Eugenia V. Dubs.....	Pemberton	John A. Kelly.....	Newark
Wm. D. Sayre, M. D.....	Red Bank	Warren H. Young, M. D.....	Little Falls	John J. Duffy.....	Jersey City	Robert J. Kelly.....	Jersey City
Wm. G. Schaeffler, M. D.....	Lakewood			Leo G. Duffy.....	Newark	Stewart Kidd.....	Paterson
Wm. Schleur.....	Orange			Marine Dunn.....	Rutherford	John F. Kilkenny.....	Morristown
Wm. H. Schmidt, M. D.....	Atlantic City			Fred J. Dyer.....	Grantwood	Jay E. Kilpatrick.....	Montclair
Paul C. Schott, Ph. D.....	Irvington			H. C. Eakin.....	Union Hill	Julia E. Kirk.....	Newark
				Edw. E. Ekins.....	New Brunswick	Tunis Kiyett.....	Paterson
				J. I. Ebbels.....	Montclair	H. J. Klein.....	Wood Ridge
				Adolph O. Elasser.....	Newark	Henry F. Kneller.....	Newark
				Leonard B. Fanquar, M. D.....	Jersey City	John H. Kohler.....	Tuckerton
				Charles W. Fenney.....	Paterson	William C. Kraemer.....	Linden
				Edward F. Finn.....	Montclair	Henry A. Kumann.....	Newark
				Jay G. Foose.....	Montclair	Clarence A. Lambert.....	Asbury Park
				Helen E. Forbes, R. N.....	Morristown	Bertram S. Lambertson.....	Newark
				Frank A. Frederick.....	West Hoboken	Patrick J. Lang.....	Jersey City
				Gustavus E. Friedman.....	Jersey City	George W. Langdon.....	Jersey City
				Fred J. Freitag.....	Jersey City	John A. Larkin.....	Jersey City
				Edward M. French, M. D.....	Gibbstown	W. H. Laver, Jr.....	Red Bank
				Charles S. Gall.....	Paterson	Sadie H. Layton.....	Asbury Park
				John W. Garry.....	Atlantic City	Harry F. Leeds.....	Asbury Park
				Bayard T. Garbrabant.....	Newark	John S. Lees.....	Paterson
				Jos. A. Garrigan.....	Newark	Gilbert C. Leight.....	Asbury Park
				Dennis E. Gavin.....	North Plainfield	John Levine.....	Newark
				Edward F. Gaynor.....	Newark	Jos. F. Linhart.....	South Orange
				Albert E. Geisler.....	Kearny	Hilliard L. Lockwood, M. D.....	Jersey City
				Wallace M. Gill.....	Perth Amboy	George C. Lowe, D. V. S.....	Washington
				George W. Gilmore.....	Newark	William H. Lowe, D. V. S.....	Perth Amboy
				William Gleuck, Jr.....	Newark	John L. Lund, M. D.....	S. Perth Amboy
				I. Goehrig.....	Trenton	Abram A. Lydecker, M. D.....	Haledon
				Hyman Goldstein, M. D.....	Jersey City	Alex. D. MacDonald.....	Montclair
				John Graves.....	Jersey City	John J. Magner, M. D.....	Jersey City
						Estel A. Maley.....	Glen Ridge

Sanitary Inspectors of the First Class.

Frank Ackley.....	Woodbury	Casper Benz.....	Newark
William H. Addis.....	Plainfield	Harry K. Berry.....	Paterson
Thomas Ainge.....	Lansing, Mich.	Chas. A. Bettighofer.....	Jersey City
Wm. C. Allen.....	Trenton	Wm. S. Bird.....	Summit
Laurence Altomano.....	Jersey City	Joseph C. Bitler, M. D.....	Hammondtown
Henry V. Amerman.....	Jersey City	Thomas F. Botes.....	Newark
Fred J. Anderson.....	Hoboken	Henry A. Bonyne, M. D.....	Ridgewood
W. S. Applegate.....	Asbury Park	Fred S. Bootay, M. D.....	Belleville
Fritz M. Arnold.....	Albany, N. Y.	Lewis E. Boutillier.....	Newark
Nathan Aronson.....	Newark	John E. Boylan.....	Bayonne
Samuel Bachman.....	Newark	Peter Brancato, M. D.....	Wyckoff
Fred S. Ball, M. D.....	Lakewood	Thomas M. Brennock, M. D.....	Jersey City
Joseph B. Bartlett.....	Atlantic City	Thomas R. Bromley.....	Palmyra
Raphael Basse.....	Jersey City	Patrick J. Brogan.....	Newark
Milton E. Baxter.....	Jersey City	John A. Browne.....	Jersey City
John H. Becker, M. D.....	Fair Haven	Harvey S. Brown, M. D.....	Glen Ridge
J. Alonso Beek, M. D.....	Gloucester City	Alonzo Brower.....	Frechold
Wm. J. Bell.....	Jersey City	Frank Brouwer, M. D.....	Toms River
Charles F. Bellows.....	Morristown	John J. Brozowski, M. D.....	Jersey City
Alfred C. Benedict, M. D.....	South Orange	David E. Buckley.....	West Orange
Chester L. Bennett.....	Newark	Robert A. Buhler.....	Belmar
John K. Bennett, M. D.....	Gloucester City	Chauncey V. Bunnell.....	Jersey City

Frank W. Mallatieu, M. D. Jersey City
 John A. Manson Dover
 Timothy U. Margerum Princeton
 Irwin Markowitz, M. D. Jersey City
 Charles F. Martin Newark
 Cullen B. Maxson, M. D. Jersey City
 Henry S. McAuley Atlantic City
 James T. McCarron Newark
 John F. McClure Harrison
 John T. McClure, Jr. Harrison
 John F. McConnell Newark
 Jas. L. McEneaney Jersey City
 Thora J. McGairy, M. D. Jersey City
 Felix McGee Mountbarn
 Edward McGivern, M. D. Jersey City
 Richard J. McGrath Jersey City
 Thomas M. McGrath Newark
 William McKeon Paterson
 Edward F. McLarney Jersey City
 Frank J. McLaughlin, M. D. Jersey City
 Chas. H. McLaughlin Newark
 Jeremiah J. McMahon, Jr. Jersey City
 Charles McNabb Bound Brook
 James P. McNair Bound Brook
 Claudis E. McNeeney, M. D. Jersey City
 Robert W. Meeker Plainfield
 Chas. E. Messerschmidt Newark
 Fred C. Metzger Mercantileville
 H. Garrett Miller, M. D. Millville
 Harry P. Moffet Newark
 John Morlot Paterson
 Philip Morris, C. E. Passaic
 William Morris Roselle Park
 R. E. Mosedale Bernardsville
 Elmer M. Mount, Jr., M. D. Jersey City
 Edward Mulvaney, M. D. Jersey City
 Lewis P. Munton Camden
 Daniel J. Murphy Newark
 Chas. B. Nevius New Providence
 Abraham J. Newman, M. D. Jersey City
 Frederick W. Nichols Newark
 George C. Nicol Newark
 James D. Nolan Jersey City
 Christopher G. Nugent Newark
 Wm. P. Nuwent Paterson
 A. C. Obergfell Atlantic City
 M. William O'Gorman, M. D. Jersey City
 Bernard F. O'Hara Jersey City
 James L. Ollif Plainfield
 John H. O'Neill, M. D. Jersey City
 John O'Neill Trenton
 Russell Burton Opitz, Ph.D. Trenton

Eric Ordell New York City
 Cedric H. Ostrom Plainfield
 Jos. G. O'Sullivan Newark
 Richard H. L. Osthoff Bogota
 Clarence I. Palmer Newark
 William B. Palmer Orange
 William D. Pelan Trenton
 Christian Petry Jersey City
 Peter Pirola Trenton
 James J. Pray Jersey City
 Elmer D. Prickett, M. D. Mt. Holly
 Jeremiah P. Quinlan Clifton
 Thos. P. Quinn Jersey City
 J. J. Reason, M. D. Carteret
 Edward M. Reilly Montclair
 Thomas F. Reynolds Atlantic City
 James E. Rich Trenton
 Fred C. Robertson, M. D. Jersey City
 Edward S. Rogers Trenton
 Albert H. Rose Trenton
 Mary A. Ross Summit
 John E. Rowe, D. V. S. Summit
 John H. Rowland New Brunswick
 Walter A. Rulon Ventnor City
 Emilie Rundless, M. D. Jersey City
 Edward A. Ryan Newark

Joseph C. Saile Bloomfield
 Garrett E. St. John Newark
 Edward H. Salmon, M. D. Jersey City
 Richard Savage Orange
 George Seales Rahway
 Wm. C. Schirmer Jersey City
 Elvia Scott South Orange
 Paul Scott Penns Grove
 Timothy J. Scott Summit
 Geo. F. Seaman, M. D. Raritan
 W. J. E. Seder Jersey City
 Myron J. Seely Montclair
 George R. Sees Atlantic City
 Leon A. Seymour Beverly
 Henry J. Seys Roselle Park
 George F. Shafer Hackensack
 J. LeClere Shedaker Burlington
 Wm. S. Sheppard Camden
 Geo. W. Sickler Burlington
 Ruth S. Sicker Burlington
 Percy W. Sipp Newark
 C. C. Slesman Bayonne
 Edward A. Smith Newark
 George N. Smith, M. D. Roselle Park
 Wm. R. Smith Long Branch
 Frank Spliedt, Jr. Jersey City
 F. Wm. Stahuber Trenton
 Thomas J. Steele Jersey City
 Louis D. Stern Hoboken
 Frederick A. Stetter Asbury Park
 Herbert A. Stine Plainfield
 Andrew F. Stoveken Jersey City
 John P. Stout, M. D. Jersey City
 Daniel B. Street, M. D. Jersey City
 Lester H. Stryker, D. V. S. Red Bank
 Dennis J. Sullivan, Jr. Jersey City
 J. Frank Summers Salem
 Eugene M. Syrett Montclair
 Edwin E. Taber Long Branch
 Raphael Taub Jersey City
 John G. Taylor Dover
 Joseph Ten Broeck Asbury Park
 David R. Thompson Delaware City, Del.
 Ella Tilton Newark
 Edward L. Titus Trenton
 Adolph Towbin, M. D. Lakewood
 Wm. Tompkins, M. D. Ridgewood
 Thomas A. Tonge Paterson
 J. F. Travers West Brunswick
 Emil J. Tschupp West Hoboken
 Lynford E. Tuttle, M. D. V. Bernardsville
 Sylvester Utter, M. D. Paterson
 Albert Van Eerde, M. D. Hawthorne
 Alfred J. Van Horn Paterson
 William Van Loo Paterson
 Lloyd M. Van Ness New Brunswick
 C. H. W. Van Seiver Burlington
 John Vogler Trenton
 Charles S. Voorhis Palmyra
 Burt F. Walsh Jersey City
 Thomas J. Walsh Newark
 Thomas Walton Camden
 Michael Warshawsky Bayonne
 James J. Waters Newark
 Harry E. Watt New Brunswick
 James Weldon Jersey City
 William A. Webber Orange
 George A. West Raritan
 Joseph Whalley Passaic
 Thomas D. Wilhem Perth Amboy
 Frank V. Wilkinson Camden
 Fred M. Williams Newark
 Stanley S. Williams Newark
 Lewis M. Willis Plainfield
 Lawrence B. Winchell Jersey City
 John F. Winslow Denville
 Frederick E. Wilson Bayonne
 H. S. Winterhalter Bayonne
 John Wodder Perth Amboy

Arthur W. Wolfshmidt Palmyra
 Thomas Wood Pompton
 James A. Woods Atlantic City
 Sara D. Yard Trenton
 Katherine E. Yellon Newark
 James A. Young, Jr. Paterson
 John S. Young, M. D. Rahway

Sanitary Inspectors of Second Class.

Robert Ballagh Hackensack
 John M. Bessel Pleasantville
 Frank Born Carteret
 John C. Clayton, M. D. Freehold
 Joseph J. Chickenger Irvington
 Charles Cunningham, M. D. Hammononton
 Frederick J. Dyer Grantwood
 George S. Everett Linden
 J. C. Shing, M. D. Jamesburg
 Franklin P. Vanlier Woodstown
 George Wildman Belmar

Sanitary Inspectors of Third Class.

John J. Bennett Belleville
 Charles Butcher, M. D. Heislerville
 Joseph C. Coleman, M. D. Hamburg
 Charles Covert Leesburg
 Ellis W. Crater, M. D. Oceanport
 William B. Davis Morris Plains
 Robert Dickson Fair Haven
 George W. Earl Mt. Plabor
 Wm. Everhart South Plainfield
 J. N. Fowler Port Norris
 Robert A. Hirner Woodbridge
 Adrian Hommel Asbury Park
 Emerson Hornstra Clifton
 Fred D. Hurley Asbury Park
 David Jamieson Gloucester City
 T. Nelson Lillagore Ocean Grove
 Stanley H. Lyon Morris Plains
 Cornelius J. McCarthy South Plainfield
 Henry Moser North Bergen
 Lewis E. Potter Woodbridge
 William B. Smith Belleville

Meat Inspectors.

Samuel Bruce, D. V. S. Philadelphia, Pa.
 Harry A. Brydon Newark
 Willet H. Cooper, D. V. S. Trenton
 Chas. Edelhoiser Newark
 G. F. Harker, D. V. S. Trenton
 Richard W. Hewitt, D. V. S. Camden
 John T. McGrann, V. M. S. Trenton
 Albert T. Sellers, D. V. S. Camden

Milk and Dairy Inspectors.

Herman C. Alberts Jersey City
 Matthew P. Casey Jersey City
 Wm. Fahy Newark
 Emmet E. Ferguson Sussex
 Richard Jackson Newark
 Herbert H. Haines Trenton
 W. Wesley Kibbard Jersey City
 Wm. F. Kearny Paterson
 Henry F. Kneller Newark
 J. Wesley Maple Trenton
 Arthur McRoberts Jersey City
 David E. Morgan Newark
 Herman H. North Jersey City
 Andrew J. O'Donnell Bayonne
 Ansel D. Parker Delaware, N. J.
 Clarence H. Rider Jersey City
 Edward S. Rogers Trenton
 Samuel J. Shultise, Jr. New Brunswick
 Farrol E. Stearns, D. V. S. Kearny
 Thomas J. Steele Jersey City
 Thos. A. Tonge Paterson
 Wm. Van Loo Paterson
 George D. White, Jr. Newark
 James A. Young Paterson

Milk and Food Inspectors.

Harry P. Cassidy Philadelphia, Pa.
 Louis J. Levy Hoboken
 Harold Mellen Hoboken
 Abe L. Teiffel Hoboken

Food and Drug Inspectors.

Louis G. Abell Elizabeth
 Chester L. Bennett Newark
 Lillian C. Blumentau Newark
 Martin L. Conley Passaic
 James E. Connolly Newark
 John J. Coughlin Elizabeth
 James W. Culbert Newark
 Adolp. O. Elasser Newark
 Abe Halperin Newark
 Henry C. Handelman Caldwell
 William G. Heilmann Newark
 Adolph Hoerling Newark
 Richard P. Jackson Newark
 Jerome Kahn New Brunswick
 Edwin J. Kaiser Newark
 Wm. F. Kearney Paterson
 Henry P. Keenan Newark
 Frank C. Kreitzer Newark
 Henry Kuhmann Newark
 Andrew J. O. Donnell Bayonne

John C. Prosch, Ph.D. Newark
 Paul C. Schotte Newark
 Max H. Siegel Newark

Albert Spies Newark
 Thomas A. Tonge Paterson

Plumbing Inspectors.

James W. Ackerman Glen Rock
 R. C. Adamson, Jr. Long Branch
 Eriehpen E. Arnold Keyport
 Vincent Ahlemeyer Jersey City
 Gustave A. Albiez Newark
 Archie Aspinwall South River
 Harry Atkins Bayonne
 Henry J. Babcock Caldwell
 Richard T. Bagg Jersey City
 Wm. F. Bailey Jersey City
 Fred Baker Guttenberg
 G. E. Bangs West Hoboken
 Wm. C. Banta Ridgewood
 James Barnard Trenton
 Lewis Barnett Millville
 Hugo P. Becker Irvington
 Wm. C. Beuler Bergenfield
 Edward Beck North Bergen
 Hugo W. Roberts Elizabeth
 P. W. Borrows Ridgefield Park
 Thos. W. Bradley Edgewater
 Porteus Brandriff Millville
 Conrad Brocking West New York
 William F. Brode Atlantic City
 Walter F. Bronhiller Haledon
 E. Hopkins Burr Audubon
 Herbert A. Buzzard Lake Como
 Matthew J. Callahan Nutley
 John Campbell Paterson
 John L. Campbell Hammonont
 Geo. B. Carhart Dover
 Cornelius V. Carty East Rutherford
 John J. Cassidy Hackensack
 J. Wm. Chase East Orange
 Anthony P. Chiardi Nutley
 Thomas D. Clark Woodbury
 Joseph P. Cochran Ventnor
 Benjamin M. Cohen Newark
 Wm. H. Courtright Hawthorne
 George M. Crawley, Jr. Newark
 Sidney S. Craythorn Beverly
 Alexander Creamer Coytesville
 Francis Cumiskey Guttenberg
 Newton DeBau Hackensack
 Peter A. Degnan Newark
 Irving J. Demarest Westwood
 Herbert L. de Nourie East Orange
 J. Elmer Deppe Newark
 Geo. Dettling Newark
 Conrad Deuchler Long Branch
 Luke J. Devine Newark
 Charles J. Dignum Elizabeth
 Valdburg C. Dobbins West Orange
 Edward E. Doran Belmar
 John Doran Jersey City
 Jos. M. Doran Jersey City
 William J. Dorney Newark
 Thomas J. Dowling Orange
 Martin V. Driscoll Jersey City
 Edward A. Dugan Gloucester City
 Marine Dunn Rutherford
 Frederick J. Dyer Grantwood
 Marcus L. Eisele Newark
 David M. Elin Newark
 Charles R. Ellis Rutherford
 Alfred T. Eneland Haddonfield
 David Entwistle Jersey City
 Robert Evans Guttenberg
 Jerry A. Faber Hawthorne
 Robert J. Fair Gloucester City
 Charles W. Fenny Paterson
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 Joseph Fleming West Orange
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 Howard Frey Hackensack
 Chas. R. Frus Red Bank
 James J. Garland, Jr. Perth Amboy
 Bayard T. Garrabrant Montclair
 Napoleon Comm Vineland
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 Warren Mack Newark
 Joseph M. Loeffler East Orange
 Matthew P. Malone Jersey City
 William Maloney Jersey City
 Louis Marengli Roselle Park
 James A. Marnell Hoboken
 Edward H. Martindell Trenton
 Herbert J. Mason Vineland
 Fred C. Metz Newark
 Henry F. Metzger Wildwood
 Andrew McCookin, Jr. Jersey City
 Chas. McGoekin Newark
 Robert A. McGuire Perth Amboy

LIST OF HEALTH OFFICERS.

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 Harry L. McIntyre Hammonont
 James McFague Jersey City
 Salvatore Mecchelli Newark
 Frank Miller Newark
 P. J. Monaghan South Amboy
 Patrick J. Monaghan Newark
 William Mooney Jersey City
 Robert F. Morgan, Jr. Newark
 George M. Mortenson South Amboy
 James F. Mulhall East Orange
 Gustave Muller North Wildwood
 Charles Munzing Jersey City
 Arthur J. Murphy Rahway
 Edward F. Murphy North Bergen
 Robert B. Murphy Ridgewood
 John A. Myers Lakewood
 Frederick W. Nichols Newark
 John Nolan Newark
 George H. Northam Long Branch
 Joseph J. Norton East Orange
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 Gus Olson, Jr. Rahway
 John O'Shea West New York
 Richard W. L. Osthoff Bogota
 Hugh F. Parle Jersey City
 Raymond W. Pettibone Island Heights
 Samuel Powell Roselle Park
 Charles Reeve Long Branch
 Arthur C. Reeves Cape May City
 John B. Reich Haddonfield
 Bernards B. Reiley New Brunswick
 Rudolph Riemenschneider. Town of Union
 Chas. Reynolds Beverly
 Edward E. Rogers Trenton
 Alfred B. Rooney Jersey City
 Anthony S. Ruddy East Orange
 Patrick J. Ryan Wallington
 Anthony H. Sachs Carlsstadt
 Leslie H. Sack Newark
 Edgar A. Scurman Perth Amboy
 George J. Scheurle Weehawken
 Roy J. Schleich Clifton
 Fred A. Schmidt Hackensack
 Henry G. Schmidt Elizabeth
 Wm. A. Sehner Palisades Park
 George F. Shafer Hackensack

Michael A. Shanahan Jersey City
 Charles F. Shaw Collingswood
 John H. Simmerman Pitman
 Harry R. Sisk Hightstown
 R. LeRoy Skillman Newark
 Clarence B. Slack Trenton
 Henry A. W. Smith Ocean City
 Harold Snyders Camden
 Joseph Sonnenberg Camden
 John Specht Newark
 Geo. R. Spalding New Milford
 William F. Specht, Jr. Atlantic City
 R. H. Sooty Atlantic City
 Charles Steller Town of Union
 G. H. Soult Ridgewood
 Andrew F. Stoveken Jersey City
 Edward A. Sullivan Newark
 Fred. Taylor East Rutherford
 Charles Turkowsky West New York
 Thomas Vail South Amboy
 Casimiro H. Valdis Roselle Park
 Wm. P. Vankirk Beverly
 Geo. W. VanVarick Clifton
 Oscar J. Verhoek Irvington
 Frank Vermilye Bound Brook
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 Thomas Walton Camden
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 George S. Webb Wildwood
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 Alex. Weir, Jr. West Hoboken
 C. H. Weller Hightstown
 Christian Werner Secaucus
 Charles F. West Gloucester City
 Joseph Whalley Trenton
 Charles M. Whelan Trenton
 Jason H. Wildrick Washington
 Geo. Wilhelm South Amboy
 Leslie H. Williams East Orange
 Charles S. Wilmot Haddon Heights
 Anton Wodder Perth Amboy
 John Wodder Perth Amboy
 Harry A. Wilkins Newark
 Louis V. Ziegler Ridgefield Park
 William G. Ziegler West Hoboken
 Ernest L. Zimmerman Hackensack

Sewage Plant Operators.

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 Howard Baird Woodlynn
 Elijah E. Batts Jersey City
 Theodore Bellis Flemington
 E. W. Birch Pleasantville
 Vernon W. Blanchard Dover
 C. J. Bright Trenton
 Raymond G. Case Oaklyn
 James P. Casserly Kingston
 Anthony Chiodo Lodi
 C. W. Clayton Ft. Pleasant
 C. W. Collins Westfield
 Reinhold W. Daust Highlands
 George H. Davis Wildwood Crest
 John J. Deats Washington
 Edward Debatov Cedar Grove
 F. D. Dreyer Palisades Park
 Fred J. Dyer Cliffside Park
 W. W. Edelblut West Englewood
 William Elkenrauch East Rutherford
 C. H. Egan Hightstown
 Charles D. Flynn New Brunswick
 William Foley Ridgewood
 H. P. Frost Haddon Heights
 John Garris Stone Hill
 F. Hackenberg Rutherford
 W. R. Hale Metuchen
 John Handlos N. Arlington

Chris. H. Hesselhubn Carlsstadt
 James E. Hennessey Allenhurst
 John J. Hoerg Philadelphia
 Edward Hoeverman Ridgefield Park
 Chas. B. Irmer Phillipsburg
 Clarence E. Jack Wayne
 Allan W. James Kenilworth
 J. W. Jungkurth Stone Harbor
 Wm. Kanneiger Hackensack
 William Kerr North Arlington
 Wallace M. Kinsey Haskell
 T. W. Lam Palmyra
 David Landon Neaham
 Leon Lemieux Avonsting
 Robert W. Lindsay Lyndhurst
 Edward W. Martin Westmont
 Celestine J. Maskel Egg Harbor
 Daniel K. Masker Little Falls
 W. H. McCombs, Jr. West Wildwood
 R. H. McLeod Morristown
 Mathew McManus Ridgewood
 F. H. Meinecke, Jr. Egg Lake
 H. W. Mixsell Phillipsburg
 James Moynue Bordentown
 Richard Murray Toms River
 J. G. Newman Stone Lake
 Oswald Nitschke Kenilworth
 John W. Norton Maywood

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Richard H. L. Osthoff	Bogota	Wm. Singley	Ventnor City
Levi Porter	Three Bridges	Ernest W. Smilie	Princeton
Ernest H. Priest	Mtuchen	Chester S. Smith	Awosting
Walter W. Pumyea	Trenton	G. Cleveland Stanton	Avon
John T. Reichard	Stone Harbor	Harry Stark	Leonia
Chas. Remine	Wrightstown	David A. J. Talbot	Westfield
Frank Rispler	Neshanic	James C. Thomson	Woodbury Heights
Harlan P. Ross	Bogota	Edward J. Turner	Westmont
August Ryden	Kenilworth	Jos. Wells	Haddonfield
Michael J. Sallmann	North Arlington	R. S. Wendell	Essex Fells
Fred J. Schwere	Maywood	Walter Wittemann	Hasbrouck Heights
Harry C. Scott	Beach Haven	Henry Young	River Edge
W. H. Showalter	Paulsboro		

Water Plant Operators.

Theo. R. Allen	Gloucester	M. B. Litch	Steelton, Pa.
Tolson Bedwell	Milville	A. T. McMichael	South Amboy
Fred C. Brush	Bound Brook	Leo A. Mulligan	Wharton
Clarence Brushwood	Vincentown	John W. Purslove	Gloucester
Russell Drabold	Penns Grove	John L. Radcliffe	Elizabeth
Howard E. Eick	Flemington	Jos. Y. L. Reid	Trenton
C. Allen Ely	Hightstown	B. Ney Ridgway	Pemberton
Arthur G. Faulk	Keansburg	George J. Ruckert	High Bridge
George B. Greenwald	Lumberton	Wesley Sheppard	Salem
W. M. Hedden	Dover	Harry Taylor	Frenchtown
Harold P. Hinchman	Medford	C. E. Tilton	Phillipsburg
John J. Kapp, Jr.	Haledon	Cornelius Westerfield	Highlands
William A. Kelly	Long Branch	John D. Williams	Highlands
Edwin F. Langford	Paterson	James Wylie	Keansburg

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