

MAINE STATE LEGISLATURE

The following document is provided by the
LAW AND LEGISLATIVE DIGITAL LIBRARY
at the Maine State Law and Legislative Reference Library
<http://legislature.maine.gov/lawlib>



Reproduced from scanned originals with text recognition applied
(searchable text may contain some errors and/or omissions)

#

116 PUBLIC DOCUMENTS

OF THE

STATE OF MAINE

BEING THE

REPORTS

OF THE VARIOUS

PUBLIC OFFICERS AND
DEPARTMENTS

FOR THE YEAR 1917

NINETEENTH REPORT

OF THE

State Board of Health

OF THE

STATE OF MAINE

FOR THE EIGHTEEN MONTHS ENDING JULY 6,

1917

AND THE

FIRST ANNUAL REPORT

OF THE

State Department of Health

OF

MAINE

(Covering first six months of the Department's existence)

JULY 7-DECEMBER 31, 1917

AND THE

Twenty-Sixth Annual Report

UPON THE

Births, Marriages, Divorces and Deaths

FOR YEAR ENDING DECEMBER 31, 1917

WATERVILLE

SENTINEL PUBLISHING COMPANY

1919

LETTERS OF TRANSMITTAL

STATE BOARD OF HEALTH OF MAINE.

OFFICE OF THE SECRETARY,

AUGUSTA, MAINE, July 7, 1917.

To His Excellency, Carl E. Milliken, Governor, and the Honorable Executive Council:

GENTLEMEN:—I have the honor of submitting to you the Nineteenth Report of the former State Board of Health of Maine for the eighteen months from January 1, 1916 to July 7, 1917, when the State Department of Health began its official work in place of the State Board of Health.

Respectfully,

A. G. YOUNG, M. D.,
Secretary.

STATE DEPARTMENT OF HEALTH OF MAINE.

OFFICE OF THE COMMISSIONER OF HEALTH,

AUGUSTA, MAINE, July 1, 1918.

To His Excellency, Carl E. Milliken, Governor, and the Honorable Executive Council:

GENTLEMEN:—The Public Health Council of the State of Maine has the honor of submitting to you the First Annual Report of the State Department of Health for the first six months of the Department's existence from July 7 to December 31, 1917, inclusive, together with the twenty-sixth annual report upon the Births, Marriages, Divorces and Deaths for the year ending December 31, 1917.

Respectfully,

L. D. BRISTOL, M. D., DR. P. H.,
*Commissioner of Health and Chairman Public Health Council;
State Registrar of Vital Statistics.*

SECRETARY'S REPORT.

This report covers the period from January 1, 1916 to July 7, 1917, when the provisions of chapter 197 of the Public Laws of 1917, creating a State Department of Health, went into effect. At the close of this period the names and addresses of the members of the board were as follows:

G. M. Woodcock, M. D., Bangor, *President*;
Professor Marshall P. Cram, Brunswick;
W. L. Haskell, M. D., Lewiston;
Eugene W. Goss, Auburn;
Charles A. Creighton, Thomaston;
Paul S. Hill, M. D., Biddeford;
A. G. Young, M. D., Augusta, *Secretary and Executive Officer*.

At a meeting of the Board held at the State House January 21, 1916, the principal business before the meeting was the final consideration and adoption of a code of rules and regulations relating to the infectious diseases which had been drawn up by the secretary, and which had been submitted to the standing committee of the board on infectious diseases and methods for their control.

The rules and regulations were read and acted upon section by section. Finally, after due discussion and consideration, it was moved, seconded and voted that said rules and regulations be made and adopted.

The secretary was instructed to submit these rules and regulations to the Governor and Council, and after their approval to have them published in the State paper, as the law provides they shall be. He was further instructed to have the notes on the notifiable diseases, which are to accompany the rules and regulations, printed in such form as may be deemed best by the

committee on infectious diseases. These rules and regulations were approved by the Governor and Council January 26, 1916.

It was voted to authorize the secretary to expend from the appropriation for the use of the board for the year 1916, \$1000 in carrying on the educative work which the board is doing by means of lectures, exhibits, and demonstrations, at state and county fairs, before granges, parent-teacher associations, normal schools, academies and elsewhere.

At the first quarterly meeting of the Board for 1916, Dr. G. M. Woodcock was elected president for the ensuing year, and the standing committees of the board were appointed by the president.

At the second quarterly meeting, held June 27, some time was spent in the consideration of the need of an improvement in both the morbidity and mortality reports to the State board of health and to the department of vital statistics.

It was voted that the secretary be instructed to send a letter to all of the physicians in the State, calling their attention to the provisions of the law relating to the reporting to the local authorities of births and deaths and of the notifiable diseases, and also their duty of reporting to the State board of health cases of tuberculosis and of the industrial diseases. The secretary was instructed to insist upon prompt reports in accordance with the provisions of the law and the rules and regulations of the State board of health.

The secretary was also instructed to send a similar letter to the secretaries of all the local boards of health, requiring prompt reports to the office of the secretary of the State board of all cases of diseases which are made notifiable under Rule 2 of the State board of health.

The secretary reported that there has been but a very slight prevalence of the epidemic diseases, but that he had been called to Jonesport for advice in connection with the continued appearance of cases of diphtheria on Beal's Island, and to Bath to make a diagnosis of a case which he found to be one of chick-enpox instead of smallpox.

The secretary reported on the educative work which he had been carrying on by means of illustrated lectures, and of the plans which he had made for further work of the same kind.

The board was of the opinion that it is desirable to begin as soon as possible educative work in our principal industrial centers by means of wall exhibits, illustrated lectures, and personal advice to families which need such advice, and the secretary was authorized to begin such work and to carry it on in such ways as he may deem best.

The matter of rules for the shipment of bodies to the Anatomical Board was considered, and this matter was referred to the standing committee of the board on infectious diseases, with power to make or approve such rules and regulations for the shipment of such bodies as may be agreed upon by the Anatomical Board and this committee.

It was voted that the secretary be a delegate to represent the board at the Ninth Congress of the American School Hygiene Association which will be held in New York City July 3-8, and the secretary was instructed to attend said meeting. It was also voted that, en route to the meeting of the American School Hygiene Association, or in returning, the secretary be authorized to visit the offices of any state or municipal health departments which he deems best for the purpose of investigating their office methods.

It was voted, also, that the secretary represent the board this year at the meeting of the American Public Health Association which will be held in Cincinnati, Ohio, October 24-27.

The consideration of the inspection of the many summer camps which are in existence and are being established for boys and girls in this state was resumed. It was the opinion of the board that it is very desirable that these camps be inspected by representatives of the state board of health, their conditions recorded and kept on file, and such advice be given to the owners or managers of the camps as may in any case be found to be needed. It was also voted that the secretary be authorized to employ a man who is fitted for such work to do or to help in the work of inspecting these camps so far as it may be found to be practicable to do this work.

It was voted that the committee on legislation be instructed to prepare a bill relating to the inspection of hotels, somewhat similar to the bill which was presented to the last legislature and to report to the next meeting of the board.

Mr. A. J. Torsleff, secretary of the State Anti-Tuberculosis Association, appeared before the board for the purpose of conferring about some legislation which his association thinks desirable. The several matters which were brought up were referred to the standing committee of the board on legislation.

The secretary read a letter which he had received from a representative of the office of the United States Public Health Service at Washington, relating to the work which that service is carrying on in the investigation of the pollution of streams in the several states of our country, and asking the co-operation of the board in this work. The secretary was instructed, when at any time representatives of the office of the Surgeon-General of the Public Health Service should visit this state for making such investigations, to co-operate with and help such representative in all ways which are practicable.

The fourth quarterly meeting of the Board for the year 1916, was held at the State House December 28.

The secretary made a brief verbal report on the outbreaks of infantile paralysis which had occurred in the State. There had thus far, in the present calendar year, been reported to him one hundred and thirty-two cases of infantile paralysis, and of these, twenty-three of the cases ended fatally. The case mortality-rate was, therefore, 17.42. Fortunately there had been only a moderate or even slight prevalence of the other infectious diseases.

The secretary also made a statement of the expenditures which had been made from the several appropriations which were available to the State Board of Health, the State Laboratory of Hygiene and the Department of Vital Statistics.

The larger part of the time at this meeting of the State Board of Health was devoted to the consideration of the legislation which is needed to enable the State Board of Health to extend its work and to carry on more intensive health campaigns than it has hitherto been able to do. In view of the fact that the work which is continually before the State Board of Health is more than it is possible for any one man to do satisfactorily, a bill was considered which should provide that the State Board of Health shall be authorized to employ a competent and well trained medical man to act for the Board as Health Inspector

and also to take a part in the prevention and control of outbreaks of the infectious diseases and in health campaigns and health surveys in the different parts of the State for the purpose of improving the health conditions and lowering the mortality rates.

A bill was also considered providing for the formation of combined health districts, and it was also voted that a bill shall again be presented to the legislature providing for the inspection of hotels and rooming houses.

The desirability of more efficient control of our water supplies was touched upon in the deliberations at this meeting, but the absolute impossibility of furnishing a place in the two crowded rooms now at the disposal of the Board for a Division of Sanitary Engineering or room for the engineer to do his work and to store his blue-prints and other plans made the Board hesitate in undertaking any such work until more ample quarters for the State Department are provided.

It was the sentiment of the Board that the next important step in the way of providing additional room in institutions for the treatment of cases of tuberculosis should be in the direction of making a beginning in the erection of places for the care of advanced cases.

It was the opinion of the Board that it is desirable that the Board shall receive a special appropriation for the purpose of enabling it, either to prepare or to purchase typhoid vaccine, for the immunization of persons who have been exposed to the infection of typhoid fever or are in danger of being exposed. It was thought that the larger use of the vaccine would be a very great help in lowering the special death-rate of the State from typhoid fever.

The desirability of legislation providing for the diagnosis and treatment of the venereal diseases was recognized by the Board, but in view of the increased appropriations which will be asked for to enable the Board to do work or to increase its work in other directions, it was thought inadvisable to bring this matter before the legislature.

The secretary presented to the Board the proposition which had been made by Dr. Tyson of the Augusta State Hospital that the hospital and the State Board of Health should co-oper-

ate in maintaining at the hospital a laboratory for pathological work and a pathologist to have charge of the laboratory. In view of the fact that additional help and an increase in our appropriations are so greatly needed for other lines of work, the arrangement which Dr. Tyson had proposed was thought by the Board, to be impracticable.

The secretary was instructed to confer with the appropriate standing committees of the Board in regard to the final shaping of the legislative bills and those committees were authorized to act for the Board.

At the annual meeting of the State Board of Health for 1917, held March 27, Dr. G. M. Woodcock was re-elected president.

The secretary made a verbal report of two reported cases of smallpox in Millinocket and of his visit to Howland and West Enfield for the purpose of investigating some suspicious cases there. He also reported that he had been notified that two men from Rockland had slept in a bed in a hotel in the city of Washington a few days after a Mexican from his own country had occupied the same bed. This Mexican had, a few days subsequently, come down with typhus fever in the city of New York. The secretary reported that he had promptly notified and instructed the secretary of the local board of health of Rockland from which place these two men had come.

It was voted that Professor Evans, the Director of the State Laboratory of Hygiene be authorized to employ at his discretion an additional helper in the laboratory for the months of July, August and September.

Turning to the consideration of the question of making more satisfactory arrangements for stations at which diphtheria antitoxin and other biological products might constantly be kept for the use of local boards of health or physicians, the Board received proposals from two agents of the Abbott Laboratories of Chicago, who were present at this meeting. The committee on supplies of antitoxin to local boards of health was authorized by the Board to make a contract with the Abbott Laboratories for the establishment of such stations and the furnishing of such supplies.

The secretary was authorized to continue his educative work by means of lectures illustrated with lantern slides and other forms of educative work such as he had already been carrying on.

The secretary made a verbal report on the present status of the question on the so-called meat inspectors for the inspection of meats which are to be shipped to the Boston markets under the requirements of the Massachusetts law relating to that subject. He also presented the financial statement to the Board of the expenditures of the office for the year 1916.

It was voted that the secretary be authorized and instructed to attend the conference of state and provincial boards of health which, for this year, is to be held in the city of Washington, June 1 and 2, and also to attend a conference of representatives of state boards of health called by the surgeon general of the United States Public Health Service to meet in his office May 30 and 31.

EPIDEMIC WORK IN 1916.

The following is a brief statement of the work of the State Board of Health done in the prevention and control of the infectious diseases in 1916 and up to July 7, 1917.

Infantile Paralysis.

So far as the field work of the State Board of Health for 1916 is concerned, it was almost exclusively in the direction of the control of infantile paralysis (poliomyelitis). Personal visits of the secretary were a few times required on account of the presence of typhoid fever or diphtheria, but no cases of smallpox appeared within the State this year.

Early in July the secretary, being in New York on other business for the Board, had two conferences with the municipal department of health in regard to any possible co-operative work which might enable the State Board of Health of Maine the more effectually to guard its State against the danger of the importation of the infection of infantile paralysis which was already prevalent in New York City and some other places west of us. On the way home, the secretary stopped in Boston and conferred with both the municipal and the state department of health on the same matter.

After these first precautionary moves against infantile paralysis, nearly a month passed before the first case of that disease was found in Maine.

As the epidemic area of infantile paralysis in New York and other places was growing and the more seriously threatening other states, the secretary attended a special conference in the city of Washington which had been called for August 17 by the surgeon general of the United States Public Health Service, the object of which was an understanding between the various states and the surgeon general's office in regard to how work might be done the more effectually to limit the extension of this disease.

Subsequently, a conference of the executive officers of the health organizations of the New England States was gotten together hurriedly at the State House in Boston after a preliminary consultation and understanding over the telephone as to the urgent need of the closest possible co-operation of these states in the work of protecting themselves against the increasing imminence of the danger from the states west of New England. The serious question had also presented itself of how arrangements could be made for the certification of the summer visitors who were returning to their homes in other states, in some of which the requirements in this direction were exceedingly rigorous. This conference was held August 23. Among the acts of this conference were the adoption of several articles of agreement, two of which are shown in the following:

1. On account of the many thousands of children returning from vacation points, there will be no restrictions whatever and no certificates required for children coming from any of these states to a point of destination in any of the other states, unless coming from infected premises.

2. For the protection of the public and to save inconvenience to travelers going from these states to other points where certificates will be required, the local boards of health of these states are authorized by the state board to issue uniform certificates of travel to persons coming from non-infected premises.

While in preceding years there have almost invariably been some scattered cases of infantile paralysis earlier in the season,

there was not a case reported in the first seven months of 1916—not until August 4.

The source of infection of the primary cases which started the trouble in Maine was plainly outside our State. The first case, August 4, was at one of the summer hotels in Kennebunkport where guests from New York and other places where the disease existed had been coming and going. The sick one was a 7-year-old child from Montreal. She died after a very brief illness.

The second case was at Kineo Station, that of a young man from the East Side, New York City, where poliomyelitis had there, for some time, been rife. His illness began two days after his arrival at the home of his parents at Moosehead Lake, and he died of paralysis of the respiratory muscles a few hours after the arrival there of the secretary of the State Board of Health, in the evening of August 5.

August 8. At Kennebunkport aiding the local board of health.

August 12. A call to Rockland was the beginning of a hard campaign in and around that city to guard against the danger of infantile paralysis and to limit the spread of the disease. Undoubtedly, the infection was imported by carriers who came among many summer visitors to the resorts of which Rockland is the center.

An investigation made under this date, and later, indicated that several cases had already occurred and had not been recognized as poliomyelitis. August 13 was spent investigating the situation, in examining cases or suspected cases, and in a conference with the local board of health.

August 15. Emergency work in the office. A hurried call to Belgrade. Then the night train on the way to the conference in Washington.

September 2. In answer to an urgent telephone message from Rockport a rapid automobile visit was made to see a boy at the estate of one of our summer visitors. The boy was found to have poliomyelitis. A conference was held with the local board of health of Rockport and later with the Rockland board about the work which they were carrying on to safeguard their city and the surrounding towns.

September 4. Up along the shores of Newport pond to investigate a report of poliomyelitis in a family recently arrived from New Jersey. No evidence of the presence of the disease or of its infection was found.

September 8-9. Investigating cases of infantile paralysis in Rockland, Thomaston, St. George, and in conferring with the health officers of those places and with other persons about their work for the interest of public health and safety.

September 11-12. To Bangor in consultation with Dr. Woodcock, president of the State Board of Health. The next morning to Bar Harbor conferring with the local board about protective measures against infantile paralysis, though no cases of that disease had thus far appeared in that immediate district; and in making a personal inspection of Eagle Lake and of the intake of Bar Harbor's water supply from that body of water. There had been a complaint that occasionally the water had been having a slightly unpleasant taste, thought by some persons to be due to the large number of sea-gulls frequently present in the lake. The report of the secretary to the president of the Bar Harbor Water Company was that, in his opinion, the presence of the gulls had nothing to do with the undesirable tastes and odors of the water, and that a more frequent cleansing of the screens at the intake would undoubtedly suffice to prevent trouble in the future. A more efficient remedy would be to put into operation the filter beds at certain times when their help may be needed for this water which is exceptionally pure, clear and satisfactory, most of the time.

In the afternoon in Rockland investigating cases and suspected cases of infantile paralysis.

September 13. Called to the town of Winthrop. A case of poliomyelitis with serious paralysis was found in a young man on a dairy farm. The secretary of the State Board and the local board and the attending physician, acting conjointly, forbade the continuance of the making of butter for sale; but, in strict compliance with the rigid precautionary measures of Rule 20 ("Danger of infecting foods") the owner of the place was permitted to deliver his milk to a creamery company that effectually pasteurized all of their milk before it is used.

September 14. In North Jay, one case of infantile paralysis in one family and two in another were found. The source of infection was Rockland to which the family in which the first case of infantile paralysis occurred had been visiting. Both houses were strictly quarantined, but five men employed in the granite quarries nearby were permitted to resume their work, the precautionary requirements being: sterilized clothing, removal to a vacant house which was found available and boarding themselves therein, and keeping away from their infected homes and other places save the quarry under penalty of close quarantine if found in forbidden places. They were given to understand that a watchman would visit their temporary abiding place at unexpected moments night and day. No further cases occurred.

September 16. In York village. Had a consultation with the local health officer about a child from that town reported as having had poliomyelitis after returning to its home from the town of York.

September 18. Visit to Union, helping the local board of health in handling the situation due to the presence of infantile paralysis; then to Warren, Rockland and So. Thomaston on the same kind of work.

September 19. Again to South Thomaston and, getting a motor boat went out to Bar Island to investigate two cases in one family. A boy of 17 was found to be badly paralyzed and a small boy who had been sick was apparently a non-paralytic case.

September 23. In Skowhegan the secretary of the State Board found, in a double tenement house, and in a family with small children, a young man with his legs badly paralyzed, who had been brought down from Bingham and put there by an irregular practitioner, although he had called the disease poliomyelitis. He was directed to report forthwith to the local board of health. Obligated to catch the down train, the secretary of the State Board, from Waterville where he had to stop, telephoned back advice to the local board of health of Skowhegan about this young man. The clue to this case came to the office from Bingham.

September 24. A Sunday 3 A. M. train made possible the investigation of a case of infantile paralysis in North Berwick. There, hearing a rumor of some kind of illness in a family in the town of Wells, a visit resulted in the finding of a boy with a slight degree of paralysis of the lower limbs and three or four other children who had recovered from what appeared to be non-paralytic attacks of poliomyelitis.

September 27. Saw a case in the town of Canton with a slight degree of difficulty in walking. Although the diagnosis was questionable it was probably poliomyelitis. Reached Livermore Falls late in the evening by the help of an automobile driver.

September 28. By train to Leeds. Two cases of poliomyelitis in the same house, seen with Dr. Russell, both of the victims being young women. From here a rapid automobile run to Winthrop made it possible to catch the train to Oakland. There with Dr. Totman, the local health officer, a woman was seen with serious paralysis of the lower limbs. In this case there was much more intense inflammation of the throat than in any other case seen in this season's prevalence of poliomyelitis. One hour after arrival in Augusta started for Thomaston.

September 29. From Thomaston to Rockland and then by automobile down to Owl's Head to the Bancroft Training School to examine the pupils and give them certificates which would enable them to return to their homes in other states.

Saturday, September 30. The answer to a telephonic message from Southwest Harbor had been that it would not be possible to be there before Monday; but the arrival was at 10 P. M. that same evening. Sunday morning the destination was Outer Long Island, the water was so rough that the motor boats which were usually employed in the eight-mile run over there would not venture out, but a larger boat was found on which Captain Keene, the secretary for South West Harbor, and two attending physicians accompanied the secretary of the State Board. The disease in a malignant form had already entered four homes and two children had died, one of whom was still lying in her casket unburied. Doing what could be done that day, arrangements were made with Capt. Keene to

give what time he could to helping the local board of health on the island and strengthening their hands for their work. Later it was found necessary to place a man there to give his whole time to the helping of these people and in safeguarding other places to which these islanders had to go to do their trading. By means of a night automobile trip Ellsworth was reached.

October 4. Studying law reports and trying to get a legal opinion on some questions brought up by the situation in Rockland. Urgent trip to Skowhegan and out in the country to see a case. By automobile caught train at Waterville so arrived at Rockland at 8.30 P. M. To the mayor's room in the city building where, with the local board and citizens, we had an interesting discussion of the problems brought up by the epidemic of infantile paralysis in that city.

October 8-9. As far as Bangor on the way to Jonesport. In the latter town one case of paralysis in each of two families. Arrived in Augusta at 10.40 P. M.

October 10. By first train to Rockland, thence by automobile to Appleton and return after investigating cases and conferring with the local board. In Rockland had but one hour before taking the Bar Harbor boat for a consultation with Dr. Robinson of New York City, representing the United States Public Health Service at Washington. He approved of the work that was being done by the local board of health in that city and the State Board.

October 11. With Captain Keene, secretary of the local board of Southwest Harbor a second visit was made to Outer Long Island. Cases had occurred in another family and there was need of personal instruction of the agent of the State Board who had been sent there to give aid to the people of the Island. In the afternoon at Manset, caught the return boat to Rockland.

October 12. Boat from Rockland to Matinicus and Criehaven, where, on the latter island, there were cases of infantile paralysis.

This was the third island, well out from the mainland, on which cases of infantile paralysis had been found—Criehaven, 20 miles out, Outer Long Island, 8 miles, and Bar Island, about

four miles. In all these places the only explanation, after a careful inquiry was that the disease had been transported by "carriers."

October 13. From Rockland to Appleton and Union investigating cases with the attending physicians and the local board of health. To Brunswick in the evening.

October 15-16. On the former day to Portland and on the 16th to Bridgton and then by automobile to Naples where there had been a call for advice in work for the prevention of the spread of infantile paralysis from the one house in which it had occurred.

October 19 and 20. To Belfast and on the next day to Lincolnville by auto-stage. The history obtained indicated that the fatal illness of a young woman in this town was undoubtedly poliomyelitis and that the other cases, three in number, among children who were in and around her home received their infection directly or indirectly from her. Returned to Belfast, thence to Augusta in the evening.

October 21. On the 1.10 A. M. train to Bangor and Bar Harbor, thence to Seal Harbor by auto. A conference with Drs. Grindle and Ober and the local board on one case of infantile paralysis which had occurred there. Arrived in Augusta 10.40 P. M.

Sunday, October 22. To Old Orchard to see the only case of infantile paralysis occurring there during the season. The mother of a Boston family with her children had remained there late at their summer cottage for the reason that it was thought that it would be safer for the children there than in Boston. The father had returned to his business in the city. Nevertheless, with no traceable source of infection, this child had come down with poliomyelitis.

October 27-28. In Thomaston, saw with the attending physician a young woman badly crippled with paralysis, and one in another family, and her mother, apparently in the pre-paralytic stage who later had a minor degree of paralysis.

November 4. One case seen in Skowhegan. November 18. A case in Waterville in which it was impossible to make a positive diagnosis.

November 25. A visit to Thomaston and Rockland, again in aid of the local boards in the management of a very few remaining cases.

December 13. In the town of Solon the last case of infantile paralysis was seen to which the secretary was called this year, save to a questionable case in Lewiston, December 26.

EPIDEMIC WORK IN 1917.

Infantile Paralysis.

Although the situation presented in the preceding year by the widespread epidemic of infantile paralysis was a serious one, the fear that so many persons felt of a repeated calamity of the same kind proved to be groundless. The very small number of cases of poliomyelitis in 1917 was in line with what has in the past been observed many times; that infantile paralysis is not likely to recur, other than possibly as sporadic cases, for some years to come in a town or district where there has been an epidemic prevalence of the disease.

As has already been stated, the number of towns in the State in which there were cases of infantile paralysis in 1916 was 52. In 1917 this disease was found in only eleven towns.

Once before, the history of infantile paralysis in Maine seemed to indicate that communities that are scourged with this malady in any given year will remain comparatively immune in the next few years which immediately follow the epidemic year. In 1910 infantile paralysis appeared in 84 towns, but in the following year, 1911, the spot-map kept by the secretary of the State Board of Health shows that only twelve towns were touched by infantile paralysis in 1911.

The first cases in 1917 were in a family of two children. The secretary was called to Newport January 20 to see a child. He was found to be suffering with infantile paralysis with but slight prospect of recovery. He died soon afterward. The mother, with the two children, had been to another town on a visit. While there her younger child had sickened. The mother had returned to her home but the child died a few days after her return. The history of this earlier case of illness indicated that this younger child had died of infantile paralysis. No clue as to the source of infection of the first case in this

family could be found. The total number of persons affected with this disease in 1917 was 12, with only one exception but a single case in each of the 11 towns where infantile paralysis appeared.

Smallpox.

Until the spring of 1917 there had, for eighteen months or more, been no cases of smallpox in the State. The first case in which a definite diagnosis of this disease was made was that of a person who had just come from Florida. That was early in April. Late in the spring and in June when the men were coming from the lumber camps and the river drives, and soon after, cases of smallpox were found in many places. The source of the infection appeared to be, in almost every instance, outbreaks of smallpox in a mild form in the camps which had remained unrecognized and unreported. The result of this transportation of infection from the lumber regions was that, before the close of the first week in July when the State Board of Health closed its work, the disease had appeared in 31 cities, towns and plantations, and before the close of the year, in 77. In nearly all of the places the outbreaks were stamped out very promptly; but in a few of the places to which lumbermen and river-drivers came in large numbers there were repeated importations of infection.

Aside from the large volume of work done by telephone and by mail in helping local boards to control smallpox, the following is a brief statement of the out-of-the-office work of the secretary of the Board in looking after smallpox or in making diagnoses in which that disease was suspected.

March 17. A visit to West Enfield and Howland. There had been some cases of an eruptive disease, and at this time the local board had a suspicion that smallpox might be present. Two children plainly had chickenpox, one man past the stage in which a positive diagnosis could be made was quarantined until there could be an assurance that he would not endanger the public.

April 2. A man and his wife in the town of Plymouth was seen. Their disease, smallpox, was contracted from a brother who had recently come from a lumber camp with an eruptive disease, and whom this couple had visited.

May 15. Called in consultation to Waterville to see a case of smallpox. May 25. A case in Lewiston was investigated, and found to be chickenpox.

May 31-June 1. On a trip to Jackman, Moose River, Greenville and Bangor. To Jackman a man with smallpox had come from a lumber camp in the Spencer Pond region about thirty miles away. Fourteen other men remained in the camp. The lumber operation would be done and the men were to break camp within a week. Heavy expense would be incurred by the State if the men were quarantined in the camp, and a man was sent in to control them, and if medical aid should be needed. With the co-operative agreement of the lumber operator that the men would not be paid in camp but must all come to Jackman for settlement, arrangements were made for the temporary quarantine of the men in Jackman. That plan was successfully carried out with satisfactory results.

At Greenville Junction a conference was held with Dr. Pritham about outbreaks of smallpox in some lumber camps, some of which were near Moosehead Lake while others were forty or fifty miles from the point of departure from Lily Bay on the eastern side of the lake. Dr. Pritham had been doing work in these camps for the State Board of Health.

June 5-6. A visit to Millinocket and Bangor. The secretary was accompanied as far as Newport Junction by Dr. Stinson of Augusta, who had been engaged by the State Board to give Dr. Pritham temporary help in his work in the Moosehead Lake region. A conference was held with the local board of health in Millinocket about the management of the cases of smallpox which had come to that town. In Bangor I had a talk with the general manager of the Great Northern Paper Company and found that company very cordial in its expression of willingness, as it always is, to co-operate with the State Board of Health in the work of preventing infectious diseases in the lumber regions controlled by this company.

June 14-15. To Greenville Junction, thence to Jackman by night train. In consultation with the health officials of that town and Moose River about the management of the smallpox situation there. In Bangor, evening of the 15th, received a

telephone message about smallpox in Howland and North Anson.

June 16. Late in the forenoon saw a case of smallpox with Dr. Marston, secretary of the local board of health of the town of Anson. By means of a rapid automobile drive over roads which were almost impassable a part of the way from No. Anson to Skowhegan, the last train to Augusta was caught.

June 18-19. Called to Bangor Sunday, the 17th. Heavy rains and bad washouts delayed arrival there until Monday evening. Consultation with Dr. Woodcock, president of the State Board of Health, and with Mr. Goldthwaite, secretary of the local board. With the latter saw a case of smallpox in the isolation hospital very early in the morning and visited other cases at their homes. Confirmed the diagnosis of a case of smallpox in Orono. To Millinocket and return to Bangor by midnight train.

June 20. By the 6 A. M. train to Milbridge. Saw three cases of smallpox. One of the cases was a barber who had been plying his trade while his face was decorated with smallpox pustules. Apparently due to the vaccination of his patrons in the past, but very few new cases developed.

The source of infection appeared to have come from a lumber-camp on Indian River in the town of Addison. An automobile to Addison village thence with Dr. Chandler by auto and tramping through the woods to the camp. A careful investigation and rounding up and examination of all the men exposed disclosed nothing indicating the presence of infection in this camp. By night train reached Augusta 4 A. M. the 21st.

June 25-28. Arrived in Houlton in the evening of the 25th. Arranged for an early drive by automobile next morning to Linneus and also arranged over the telephone for Dr. Ebbett of Hodgdon to meet me there.

June 26. From Linneus to Letter A township with Dr. Ebbett. Found two houses there with smallpox. As this is an unorganized township, arrangements were made for the control of the cases at the expense of the State. Visited also five families in Linneus and one in Hodgdon where the same disease was found. Arrived in Bangor late in the evening.

June 27. On 5 A. M. train from Bangor. Saw a case of smallpox in the town of Hancock with Dr. Holt of Sullivan. There a telephone message was received to go to the town of Lee. To Lincoln by train, thence by automobile accompanying the attending physician, we found a young man in Lee with smallpox who stayed in the hotel at Mattawamkeag on his way home. Made a late evening drive by auto to that town thence to Winn to see Dr. Sherrard, then stayed in Lincoln from midnight to morning.

July 1. To Bangor. In evening, consultation over the telephone with Dr. Knox of Orono about additional cases of smallpox in that town.

July 2. On the way to Vanceboro at the request of Major Farris at Camp Keyes in Augusta, I was accompanied from Danforth to Forest Station by Dr. Weatherbee who was on his way to the latter place to clean up and disinfect a smallpox family for the State Board of Health. In Vanceboro a case of smallpox in the person of one of our soldiers was seen in consultation with Dr. J. E. Brooks of Eastport. Returning, cases of suspected smallpox were visited in Orono. They were found to be chickenpox. At the request of the attending physician in Orono a visit was made to the Eastern Maine General Hospital to see a questionable case. A telephone message received while at the hospital requested a visit to Pittsfield. In the afternoon one case of smallpox was found in that town, one in Palmyra, and two in Hartland, and arrangements were made for the investigation of lumber camps from which the cases had come.

July 6. The State Board of Health ceased to exist at midnight on this day. Further records of work against the epidemic diseases may be found in the report of the State Department of Health. Meanwhile, from this day until the organization of the department, the secretary of the Board was requested by the Governor to continue to have charge of the health work of the State.

MISCELLANEOUS WORK.

Just as in its preceding years the State Board of Health carried on, in 1916 and the first half of 1917, that very important work of a department of health, whether state or municipal, the supplying of the people within its jurisdiction with trustworthy information about healthful living, and the evasion of the communicable diseases and other dangers which may very largely be avoided by persons who have had a training in health matters even not more impressive than that which may be received under the influence of intelligent home and school circles, aided by those devoted local workers who are found in many places. This educative work of the Board was done by a large number of health talks illustrated with lantern slides before granges, parent-teacher associations, women's clubs and other organizations, and covering a still wider field was the work done by means of bulletins, circulars, and leaflets the last of which were called for in editions of many thousands. The laboratory work, covering too restricted a field, was carried on with no less degree of activity than in the past. Always aiming to make the office correspondence as helpful as possible to seekers for information, that part of the office work had necessarily to wait sometimes when the secretary of the board was obliged to be on the road much of the time, week after week, engaged in epidemic work. More and more for a constantly increasing number of purposes has the work of the registration of Vital Statistics been valued by the public.

Finally, to his clerical helpers a word of appreciation with sincere thanks from the secretary of the board for their devoted and careful service for the good of our commonwealth.

STATE LABORATORY OF HYGIENE.

By H. D. EVANS, *Director*.

Jan. 1st, 1916 to July 7th, 1917.

GENERAL REMARKS.

During the past 18 months, covered by this report, the work of the laboratory has been along the lines outlined in the last report to the former State Board of Health. No change has been made in the character of the work, or in the lines of work followed.

The bacteriological work has included the examination of throat swabs for the diphtheria bacillus, blood specimens for the Widal reaction, sputum for the tubercle bacillus, pus smears for the gonococcus, and miscellaneous swabs for the organism causing a particular condition.

The chemical work has been mainly along the line of water analysis, with miscellaneous examinations of a chemical nature where the demand came legitimately along public health lines.

During the early summer of 1917 a very considerable amount of work came to us from the State Encampment at Camp Keyes. In addition to the routine bacteriological examinations there was a call from that source for urinalyses, which were outside the province of the Laboratory. As the camp was without facilities for doing this work the director of the Laboratory introduced his own private equipment and did such work as the medical department at the camp requested, the credit for the work going to the laboratory.

During the period, covered by this report, there has been one change in the personnel of the Laboratory force. In March, 1917, Mr. V. P. Woodbury, who had been employed in the water laboratory for the previous two and a half years, resigned to accept a better position with Swift & Co., Chicago, and Mr. M. C. James was engaged in his place the following month.

WATER SUPPLIES.

In the past the State Board of Health has had no control over the public water supplies of the State, but the laboratory has made quarterly examinations of all the supplies, from which it could obtain samples. Some of the samples were furnished by the water companies themselves, and the remainder were obtained through the aid of the local boards of health, the laboratory paying the transportation charges on the samples.

During the month of May, 1916, the Public Utilities Commission furnished a list of all known public water supply companies; and letters were addressed to all such companies as were not then furnishing samples, either directly or indirectly, asking for samples from their supplies. It was found that there were 40 public water supplies from which we were not obtaining samples. As a result of these letters 16 new supplies were added to our list but no reply could be obtained from the remaining 32 companies.

The new companies thus added to our list are as follows: Acadia Aqueduct Co., Castine; Belgrade Power Co., Belgrade; Fort Kent Water Co., Fort Kent; Hillside Water Co., So. Paris; Hillside Water Co., Winthrop; Jackman Water, Light & Power Co., Jackman; North Bridgton Water Co., No. Bridgton; Northern Water Co., East Millinocket; North Haven Water System, North Haven; Paris Hill Water Co., Paris; Smith & Greene, Rumford; South Paris Village Corporation Water Works, So. Paris; Wills Water Co., Mexico; Winthrop Water Co., Winthrop; Lamoine Beach Water Co., Lamoine; and Scarboro Water Co., Scarboro.

The legislature of 1917 put the control of the public water supplies of the State into the hands of the Public Utilities Commission. This commission has made arrangements with the laboratory, whereby the work of analysis of their samples will be done at the laboratory. They will require at least quarterly analyses from all of the public water supplies after October 1st, 1917; and, in this way, we shall finally get hold of all of the water supplies.

During the past 18 months changes and improvements have been made in the following public water supplies:

Belfast. This company installed a mechanical filter in 1914, under the direction of Mr. R. S. Weston. During the cold

weather of the years 1914 and 1915 coagulation was not satisfactory. During the past 18 months the operation of the plant has been better, and our analyses have shown coagulation imperfect only during January, 1917. Chlorination of this supply has been adopted during the past year. In general the water has been in better condition than in the past.

Biddeford Pool. This summer community, which has been supplied by a driven well system in the past, is now supplied by the York County Water Company from Kennebunk, and the old well system has been given up.

Brewer. Complaint was made to the Public Utilities Commission in 1916 relative to the purity of this supply, which has long been recognized as one of the worst in the State. The owners of the property, the Bangor Railway & Electric Company, admitted the charge, and presented plans for obtaining a safe source of supply from Chemo Lake, and filtering this water, for the sake of color removal, by either a slow sand or a rapid sand filter. Owing to their contract with the city it was necessary to obtain the consent of the city to the change in source of supply. This has not yet been obtained, and the increased cost of construction work at the present time may make the plans impossible. As an emergency measure the company installed a plan for the treatment of the water with liquid chlorine, and, after some experimenting on account of the unusual character of the river water, has been treating the water with a dose of chlorine which has usually resulted in the destruction of all intestinal organisms.

Owing to the variation in the character of this water it is not a safe thing to chlorinate it by rule of thumb, but its chemical character requires careful watching,—a thing that is not done in this case. As a result sudden changes in the character of the water have resulted in unsatisfactory results from the chlorination of this supply.

The chemical and physical condition of this water is such that it needs correction, even after sterilization of the water, if the supply is to be fit for domestic use. I have therefore advised the company that they should consider chlorination of this water simply as an emergency measure, and take into

consideration plans to either obtain a new source of supply, or filter this supply.

Caribou. This town still takes its supply from the Aroostook river, about 17 miles below the point where the sewage of Presque Isle enters the river. This supply is badly polluted. In 1916 complaint was made to the Public Utilities Commission, relative to the purity of this supply. The past record of the water, as well as analysis of samples at the time of the hearing, showed the water unsafe to use for drinking. The commission ordered the company to present plans for correction of the supply, the last report of the commission carrying the order and findings in full.

The company has attempted to correct the trouble by a filter crib in the river, and by an infiltration basin near the river, but without success in either case. On March 28, 1917, chlorination of the supply was started, and, after proper dosage was obtained, has proceeded satisfactorily.

This water needs purification to give it better physical and chemical condition, as well as sterilization to make it safe. Rapid sand filtration of this supply is financially impossible, and no new and safe source of supply is near enough at hand to be within the financial reach of the company.

Gardiner. The Gardiner Water District started the operation of its new slow sand filtration plant in March, 1916. The operation of the filter units was controlled by bacteriological examination at the laboratory, and water from the plant was not admitted to the system until the entire new filter plant was giving satisfactory results from a bacteriological point of view.

Of the four filter units one failed to clear up as it should, *B. coli* appearing in the water after the filter had been in operation nearly a month. On draining the filter a large crack was found in its bottom, which was admitting a large stream of polluted ground water. The filter quickly reached a satisfactory degree of efficiency on repairs being made.

The use of these filters has effected a great improvement in the physical and bacteriological condition of the water. From a long experience with this supply I am convinced that the filters were installed just in time.

Hallowell. This supply had been in poor physical condition for the two years previous to this report. In the fall of 1916 connection was made with the Augusta Water District system, and, since that time, the major portion of the supply of this city has been from Carleton pond, and the water has been in satisfactory condition.

Kennebunk. This town is supplied by the York County Water Company, the source of supply being Branch Brook. This water has always been highly colored, and has been somewhat turbid after heavy rainfall. To correct these conditions a pressure filter, using a coagulant, and followed by chlorination was installed in May, 1916. The operation of this filter has been in every way satisfactory, chemically, bacteriologically and physically.

The people of Kennebunk complained, however, of an increase in the hardness of the water. This was not borne out by analysis of the water; but they requested that the use of alum be given up, except during the summer months, during which period the summer colony demand the colorless water. The company has acceded to this request, although the application of liquid chlorine is continued at all seasons. As a result this water varies greatly in physical appearance during the different seasons, but is, at all times, in safe condition to use for drinking.

Madison. Construction work on the new pipe line from Hancock Pond has been nearly finished at the time of this writing, and it is expected to turn the new supply into the system by October. In the meanwhile the old supply from the Kennebec river filled the system, although the water district is distributing spring water from carts for drinking purposes.

Old Town. This city still takes its supply from the Penobscot river, and at a point near where the sewage of the city enters the river. As for a long time past, this water is badly polluted.

Complaint of this water was made to the Public Utilities Commission, and the owners of the system admitted the truth of the complaint. It was brought out in the hearing that a new contract with the city had just been made, and that the contract specified, with the knowledge and consent of the city

government, that the water should be taken from just this source. The company planned to unite this supply with their Brewer system, and use water from Chemo Pond for the use of both cities. Objection to this was made by the city on the ground that it would increase the valuation of the property if the city ever wanted to take it over, and they have not admitted of change of the contract by which the company could provide them with pure water. As a result the company has put in a chlorination plant.

This chlorination plant has labored under the same troubles as has the Brewer plant, and it should be considered but a makeshift until either a new source of supply is obtained or the water from the present source properly filtered.

Presque Isle. The general condition of this supply was fully noted in my last report. The answer to the order of the Public Utilities Commission to correct conditions was the installation by the water company of a chlorination plant in March, 1917.

Owing to the very turbid condition of this water after periods of heavy rainfall, and of the large aggregates of earthy material, of which this turbidity was composed, I had grave doubts as to the efficiency of chlorination of this supply during periods of high turbidity, which were also the periods of pollution. Analyses during the turbid period of 1917 showed chlorination unsatisfactory, and a further order will be issued by the commission.

This company, like the Caribou company, labors under difficulties. The expense of properly filtering the water is out of the question without an increase in rates, which the town opposes; while a good surface supply is not within financial reach. The only way out now seems to be through the use of a highly colored surface water during periods of high turbidity in the brook supply, the surface water being chlorinated at all times when in use.

Richmond. The supply of this town still comes from the Kennebec river, but steps are now being taken to chlorinate the water.

South Berwick. The supply of this town still comes from a brook. Tests of the wells, mentioned in my last report, were

continued, but the iron content continued high. In the spring and summer of 1916 polluted surface wash entered this supply in considerable amount, and a hypochlorite plant was installed to treat the water. This has been done with success from a bacteriological point of view, although the water has continued in poor physical condition.

North Berwick. In the fall of 1916 and the winter and spring of 1917 polluted surface wash was found entering the supply of this town. Through the action of the Public Utilities Commission the Company was induced to install a chlorination plant in the summer of 1917, which will be in operation this fall.

During the period covered by this report there have been examined at the laboratory 2472 water samples. These samples have been given full sanitary analysis in every case, the analyses being both chemical and bacteriological. Out of this number of samples 964 have been from public water supplies, and 1508 have come from other and private sources of supply.

MISCELLANEOUS CHEMICAL EXAMINATIONS.

During the past 18 months the following miscellaneous chemical work has been done by the laboratory:

Six samples of mother's milk and six samples of cow's milk have been given complete chemical analysis to determine their fitness for infant's food.

Forty samples of water have been examined for lead alone, without full sanitary analysis.

One sample of water was examined for strychnine.

Three samples of water received special examination for determination of the character of their sediment.

One sample of spinal fluid was examined for globulin.

Three samples of wall paper were examined for arsenic.

One sample of cream was examined for fat alone.

One sample of milk was examined for proteid content only.

Twenty-one urine analyses were made for the military authorities at Camp Keyes.

In all there have been 83 miscellaneous chemical analyses made during the past 18 months, and 2472 water analyses, making the total chemical examinations 2555. Figured on a two year basis this represents about a 10% increase in the chemical work over that of the previous two years.

BACTERIOLOGICAL DIAGNOSTIC WORK.

The bacteriological work of the laboratory has been along the same lines as during the past years. The routine work has included the examination of sputum specimens for the tubercle bacillus; of throat swabs for the diphtheria bacillus; of blood for the Widal reaction; of pus smears for Neisser's gonococcus, and any miscellaneous examinations of bacteriological nature that could be done with the material the physicians furnished.

Owing to the necessity for abbreviating this report the bacteriological results are summarized in the appended table in very brief form.

BACTERIOLOGICAL EXAMINATIONS.

	No.		Result.		Pos.		Neg.		No Slip.		Total.
	Male.	Female.	Positive.	Negative.	Male.	Female.	Male.	Female.	Positive.	Negative.	
Typhoid.....	363	293	117	539	61	56	302	237	1	33	690
Tuberculosis....	1485	1401	587	2304	320	287	1165	1139	10	56	2957
Diphtheria.....	758	963	283	1443	124	159	634	809	12	72	1810
Gonorrhoea.....			37	122							159
											5616

Twenty-three miscellaneous samples were examined bacteriologically. These examinations included the following:

- 1 Sample of blood for malaria.
- 2 Samples of feces for the typhoid bacillus.
- 2 Samples of water for B. coli.
- 1 Sample of water from the Moxie Fish Hatchery.
- 1 Sample of milk for B. typhosus.
- 3 Samples of milk for B. tuberculosis.
- 2 Gauze pads for B. tuberculosis.
- 1 Sample of urine for B. tuberculosis.
- 1 Sample of urine for B. typhosus.
- 8 Samples of pus for the causative organism.
- 1 Swab from eye for causative organism.

This makes a total number of analyses for the past 18 months of 10,666 as noted in the following table:

Routine bacteriological examinations.....	5,616
Miscellaneous bacteriological examinations.....	23
Chemical examinations of water.....	2,472
Bacteriological examinations of water.....	2,472
Miscellaneous chemical examinations	83
Total	10,666

STATE BOARD OF HEALTH.

FINANCIAL STATEMENTS.

The following statements show the amount of money which was spent from the appropriations for running expenses of the State Board of Health for each of the years included in the period January 1, 1916, to July 6, 1917.

1916.

Advertising	\$ 34 87
Exhibits and other educative work.....	1,184 12
Stationery	30 76
Books and sanitary journals.....	133 99
Postage	285 86
Express, telegraph and telephone.....	285 01
Secretary's salary	2,500 00
Expenses of secretary	372 54
Expenses of members	74 42
Expenses of clerks and other employees.....	6 65
Clerical help	1,544 21
Engraving, drawing and photography.....	15 85
Help other than clerical.....	346 52
Vaccine, antitoxin, disinfectants, etc.....	1 05
Miscellaneous	22 00
	<hr/>
	\$6,837 85

1917—January 1 to July 6.

Exhibits and other educative work.....	\$272 66
Epidemic work in unorganized townships.....	692 05
Stationery	32 58
Books and sanitary journals.....	17 00
Postage	115 61
Express, telegraph and telephone.....	134 85
Secretary's salary	1,297 98
Expenses of secretary	279 45
Expenses of members.....	8 17
Clerical help	881 83
Engraving, drawing and photography.....	6 00
Help other than clerical.....	2 60
Vaccine, antitoxin, disinfectants, etc.....	5 51
Miscellaneous	4 00
	<hr/>
	\$3,750 29

STATE LABORATORY OF HYGIENE.

1916.

Stationery	\$49 40
Books and sanitary journals.....	26 50
Postage	274 66
Express, telegraph and telephone.....	261 19
Salaries	4,250 01
Chemical and bacteriological supplies.....	207 27
Instruments and apparatus.....	178 56
Insurance	17 52
Heating and lighting.....	189 88
Rent	500 00
Water	32 71
Ice	18 00
Furnishings and repairs.....	154 73
	<hr/>
	\$6,160 43

STATE BOARD OF HEALTH.

35

1917—January 1 to July 6.

Stationery	\$10 13
Books and sanitary journals.....	63 64
Postage	12 81
Express, telegraph and telephone.....	132 88
Salaries	2,163 77
Chemical and bacteriological supplies.....	153 77
Instruments and apparatus.....	188 01
Insurance	12 80
Heating and lighting.....	89 14
Rent	250 00
Ice	10 80
Furnishings and repairs	60
	<hr/>
	\$3,088 35

DEPARTMENT OF VITAL STATISTICS.

1916.

1916	\$3,534 92
1917, January 1 to July 6.....	1,695 05

In addition to the appropriation of \$3,000 for the registration of vital statistics, there was received from the Bureau of the Census and from other sources for the year 1916, \$1,146.87.

From January 1 to July 6, 1917, the fees received from the Bureau of the Census and from other sources amounted to \$474.80.

EPIDEMIC OR EMERGENCY FUND.

1916	\$291 05
1917, January 1 to July 6.....	670 89

PRINTING AND BINDING.

1916	\$2,317 87
1917, January 1 to July 6.....	883 86

REPORT OF THE STATE BOARD OF EMBALMING
EXAMINERS.

Complying with the requirements of chapter 181, section 7, the following report for the years 1916-1917 is made to the State Board of Health and State Department of Health:

From January 1, 1916 to July 6, 1917, inclusive, A. G. Young, secretary of the State Board of Health was, ex-officio, a member of the Board. The other members for the years 1916 and 1917 were: J. Clark Flagg, Chairman, Richmond; Herbert W. Rich, Portland; Charles A. Creighton, Thomaston.

From July 7 to December 31, 1917, inclusive, Dr. L. D. Bristol, State Commissioner of Health, was ex-officio a member and secretary-treasurer of the Board.

Meetings were held on the following dates for the purpose of examining candidates:

May 9, 1916; November 14, 1916; May 8, 1917; and November 13, 1917.

The following is a list of the persons who passed a successful examination at the meetings of the board during the period 1916-1917, and have received the certificates which is given to licensed embalmers. The dates indicate the meetings at which the several persons received their examinations, and the last column of the table gives the number of the license certificate of each:

NAME.	RESIDENCE.	Date of examination.	License No.
Karl R. Toner	Auburn	May 9, 1916	330
Myra E. Drew	Guilford	May 9, 1916	331
Ralph E. Gould	Harmony	May 9, 1916	332
Earl Raymond Dowe	Palermo	May 9, 1916	333
Loring W. Pillsbury	Milton Mills, N. H.	May 9, 1916	334
Frank A. Hill	Fryeburg	May 9, 1916	335
W. R. Tibbetts	Athens	May 9, 1916	336
Henry B. Smith	Stonington	May 9, 1916	367
Carroll T. Bragdon	Monmouth	May 9, 1916	338
Harlan M. Andrews	West Paris	May 9, 1916	339
Marshall F. Cocombs	Vinalhaven	May 9, 1916	340
Harold Earl Laws	Brunswick	May 9, 1916	341
Alfred Edgar Stevens	Brooks	May 9, 1916	342
Napoleon J. Emond	Biddeford	May 9, 1916	343
Clarence B. Waltz	Waldoboro	May 9, 1916	344
Alfred J. Martel	Sanford	Nov. 14, 1916	345
Albert Daniel Norton	Waltham, Mass.	Nov. 14, 1916	346
Charles S. Neal	Winthrop	Nov. 14, 1916	347
Henry Tilton Rogers	So. Hamilton, Mass.	Nov. 14, 1916	348
Ross I. Greene	Belfast	Nov. 14, 1916	349
Wm. Chester Rogers	Revere, Mass.	Nov. 14, 1916	350
Adelaide L. Gates	Haverhill, Mass.	Nov. 14, 1916	351
H. Truman Adams	No. Bridgton	Nov. 14, 1916	352
Wm. W. Bucknam	Machias	Nov. 14, 1916	353
Minnie A. Crozier	Rockland	Nov. 14, 1916	354
Harley Glenwood Rollins	Augusta	Nov. 14, 1916	355
W. S. Moore	Jackman	Nov. 14, 1916	356
Wm. Russell Harlow	Portland	May 8, 1917	357
J. Verne Wood	Portsmouth, N. H.	May 8, 1917	358
Austen B. Misener	Portland	May 8, 1917	359
Ben F. Hosmer	Norway	May 8, 1917	360
Noah B. Hooper	Castine	May 8, 1917	361
Sewall C. Spratt	Island Falls	May 8, 1917	362
Tristram Frank Goodwin	Portland	May 8, 1917	363
George H. Crozier	Rockland	May 8, 1917	364
Lewis W. Fogg	Norway	Nov. 13, 1917	365
Malcolm Staples Hayes	Boston, Mass.	Nov. 13, 1917	366
Nathaniel Lowe Raymond	Patten	Nov. 13, 1917	367

STATE BOARD OF EMBALMING EXAMINERS.

RECEIPTS AND DISBURSEMENTS.

RECEIPTS—1916.

Balance on hand.....	\$697 34
Examination fees	55 00
License and renewal fees.....	386 00
	<hr/>
	\$1,138 34

DISBURSEMENTS.

Printing	\$33 48
Postage	20 00
Expenses of secretary	70 75
Expenses of members	102 65
Conference dues	25 00
Clerical help	4 82
Miscellaneous	14 60
Balance in State Treasury.....	867 04
	<hr/>
	\$1,138 34

RECEIPTS—1917.

Balance on hand.....	\$867 04
Examination fees	65 00
License and renewal fees.....	276 00
	<hr/>
	\$1,208 04

DISBURSEMENTS.

Printing	\$13 76
Postage	20 00
Expenses of secretary	41 91
Expenses of members	51 51
Conference dues	15 00
Miscellaneous	3 08
Balance in State Treasury.....	1,062 78
	<hr/>
	\$1,208 04

FIRST ANNUAL REPORT
OF THE
State Department of Health
OF
MAINE

*(Covering the first six months of the Department's existence,
July 7-December 31, 1917)*

AND THE
Twenty-Sixth Annual Report
UPON THE
**Births, Marriages, Divorces
and Deaths**

FOR THE YEAR ENDING DECEMBER 31, 1917.



LEVERETT D. BRISTOL, M. D., DR. P. H.,
COMMISSIONER,
AUGUSTA

ORGANIZATION OF THE MAINE STATE DEPARTMENT OF HEALTH.

Commissioner, Leverett Dale Bristol, M. D., Dr. P. H.

PUBLIC HEALTH COUNCIL.

S. J. BEACH, M. D. Augusta
R. J. ALEY, Ph. D. Orono
HIRAM W. RICKER. South Poland
J. B. DRUMMOND, M. D. Portland
L. D. BRISTOL, M. D., Chairman. Augusta

DIVISION DIRECTORS AND STAFF.

DIVISION OF ADMINISTRATION.

L. D. BRISTOL, M. D., Dr. P. H. Commissioner
BEATRICE E. YOUNG. Chief Clerk
OLIVE E. BAILEY. Stenographer

DIVISION OF COMMUNICABLE DISEASES.

A. G. YOUNG, M. D. Director and Epidemiologist

DIVISION OF DIAGNOSTIC LABORATORIES.

H. E. THOMPSON, M. D. Director and Pathologist
C. S. KINGSLEY, B. A. Bacteriologist

DIVISION OF SANITARY ENGINEERING.

H. D. EVANS, M. A. Director and Chemist
M. C. JAMES. Assistant

DIVISION OF PUBLIC HEALTH EDUCATION.

W. H. GREENLEAF, B. A. Director
GERTRUDE M. CARVER. Assistant

DIVISION OF VITAL STATISTICS.

L. D. BRISTOL, M. D., Dr. P. H. State Registrar
INEZ V. CREIGHTON. Division Director
MARY A. CREIGHTON. Assistant
FLORENCE S. CHOATE. Assistant
GRACE M. STILKEY. Assistant

STATE DISTRICT HEALTH OFFICERS.

THE NORTHERN DISTRICT.

H. E. HITCHCOCK, M. D. Houlton

THE SOUTHEASTERN DISTRICT.

H. D. WORTH, M. D. Bangor

THE SOUTHWESTERN DISTRICT.

A. P. PRATT, C. P. H. Portland

First Annual Report

OF THE

State Department of Health

OF MAINE

CREATION OF DEPARTMENT.

The State Department of Health of Maine was created in 1917 by an act passed by the Seventy-eighth Legislature of the State of Maine, and approved April 6, 1917. Three months after the latter date the former State Board of Health went out of existence and the new Department of Health began its official duties on July 7, 1917. Following is a copy of the act creating the Department:

STATE DEPARTMENT OF HEALTH.

Chapter 197, Laws of 1917. Sec. 1. There is hereby created a state department of health which shall exercise all the powers and perform the duties now conferred and imposed by law upon the state board of health. The state department of health shall consist of a commissioner of health and a public health council. There shall also be directors of divisions, district health officers, and other employees as hereinafter provided.

SEC. 2. The headquarters of the department shall be at Augusta and suitable rooms for offices and laboratories shall be provided by the State for the use of the department. The department shall furnish its own supplies and equipment out of the fund hereinafter provided for its use.

SEC. 3. The commissioner of health shall be appointed by the governor with the advice and consent of the council and he shall be a physician skilled in sanitary science and experienced in public health administration. The term of office of the commissioner of health shall be six years and he shall devote his entire time to his official duties. The commissioner of health shall be the administrative head of the state department of health and his powers and duties shall be to administer the laws relative to health and sanitation and the regulations of the department; to prepare rules and regulations for the consideration of the public health council; and with the advice of the public health council to appoint and remove directors of divisions, district health officers, inspectors and other necessary employees and to fix their compensation within the limitations of the appropriation therefor. The commissioner of health shall submit annually to the public health council a report containing recommendations in regard to health legislation; and he shall perform all executive duties now required by law of the state board of health and such other duties as are incident to his position as chief executive officer. He may direct any executive officer or employee of the state department of health to assist in the study, suppression or prevention of disease in any part of the State. The commissioner of health may be removed by the governor with the advice and consent of the council for cause shown at a hearing.

SEC. 4. The public health council shall consist of the commissioner of health and four other members hereinafter called the appointive members, at least two of whom shall be physicians and who shall be appointed by the governor with the advice and consent of the council. Of the members first appointed one shall hold office until the first day of May in the year nineteen hundred eighteen, one until the first day of May in the year nineteen hundred nineteen, one until the first day of May in the year nineteen hundred twenty, and one until the first day of May in the year nineteen hundred twenty-one, and the terms of office of the said members thereafter appointed except to fill vacancies shall be four years. Vacancies shall be filled by appointment of the governor with the advice and consent of the council for the unexpired term. The public

health council shall meet at least once in each month and at such other times as they shall determine by their rules, or upon the request of any three members, or upon request of the commissioner of health. It shall be the duty of the public health council to make and promulgate rules and regulations in furtherance of the public health law; to consider plans and appointments required by law; to submit annually to the legislature through the governor a report, including recommendations as to needed health legislation; and to discharge other duties required by law, but it shall have no administrative or executive functions.

SEC. 5. There shall be in the state department of health such divisions as the commissioner of health may, with the approval of the public health council, from time to time determine. The commissioner of health shall appoint and may remove, with the advice of the public health council a director to take charge of each division and shall prescribe the duties of such directors of divisions.

SEC. 6. The commissioner of health, with the advice of the public health council, shall from time to time, divide the State into three or more health districts and shall appoint and may remove district health officers for each district. The district health officers shall not be engaged in any other occupation and shall give their entire time to the performance of their duties. The commissioner of health may order two or more of said district health officers to work in one district in order to study, suppress or prevent disease. Each district health officer shall, under the direction of the commissioner of health, perform such duties as may be prescribed by the commissioner of health and shall act as the representative of the commissioner of health and under his direction shall secure the enforcement within his district of the public health laws and regulations. Said district health officers shall be graduates of an incorporated medical school and admitted to practice medicine in this State, or shall have been certified in public health by a reputable institution of collegiate grade.

SEC. 7. The commissioner of health shall receive an annual salary of four thousand dollars. The appointive members of the public health council shall receive five dollars per day while

in conference and their necessary travelling expenses while in the performance of their official duties. The compensation of directors of divisions and of the district health officers shall be fixed by the commissioner of health, and shall not exceed twenty-five hundred dollars per year.

SEC. 8. The sum of thirty thousand dollars shall be annually appropriated for the purposes of the state department of health.

SEC. 9. Nothing in this act shall be construed to empower or authorize the state department of health or its representative to interfere in any manner with the individual's right to select the physician or mode of treatment of his choice, providing that sanitary laws, rules and regulations are complied with.

SEC. 10. All acts and parts of acts inconsistent herewith are hereby repealed, but it is expressly provided that all penalties now provided by law for the violation of the public health laws and regulations shall continue in force.—(Approved April 6, 1917.)

REPORT OF THE PUBLIC HEALTH COUNCIL.

As called for in chapter 197, section 4, Laws of 1917, the following is a report of the Public Health Council for the period July 7-December 31, 1917, inclusive.

In accordance with the provisions of chapter 197, section 4, Laws of 1917, Governor Carl E. Milliken appointed the following members of the Public Health Council, which includes the Commissioner of Health and four appointive members:

COMMISSIONER AND CHAIRMAN.

Leverett D. Bristol, M. D., Dr. P. H., was appointed by Governor Milliken on July 16, 1917, Commissioner of Health for the State of Maine, for a term of six years. At its first meeting on August 15, 1917, the Public Health Council elected Commissioner Bristol chairman of the council.

APPOINTIVE MEMBERS.

The following were appointed on July 25, 1917:

<i>Member</i>	<i>Term to Expire</i>	<i>Address</i>
Sylvester J. Beach, M. D.	May 1, 1921	Augusta
Robert J. Aley, Ph.D., President, University of Maine	May 1, 1920	Orono
Hiram W. Ricker, Pres., H. Ricker & Sons	May 1, 1919	So. Poland
Joseph B. Drummond, M. D.	May 1, 1918	Portland

In accordance with section 4, chapter 197, Laws of 1917, regular monthly meetings of the Public Health Council were held on the following dates: August 15, September 19, October 31, November 21, December 17.

In accordance with section 3, chapter 197, Laws of 1917, the Commissioner of Health submitted to the Public Health Council on October 30, 1918, his report of the State Department of Health for the period July 7-December 31, 1917, inclusive. With this report were included recommendations in regard to health legislation.

It was voted at the regular meeting of the Public Health Council held on Oct. 30, 1918, that the report of the Commissioner be approved and adopted as the first report of the State Department of Health for the period July 7-December 31, 1917, inclusive. It was further voted that this report should include the twenty-sixth annual report upon the Births, Marriages, Divorces and Deaths for the year ending December 31, 1917, and that it should be published under the same cover as the Biennial Report of the former State Board of Health for the period January 1, 1916-July 6, 1917, inclusive.

REPORT OF THE COMMISSIONER OF HEALTH.

ORGANIZATION OF DEPARTMENT.

After the creation of the State Department of Health the first work of the newly appointed Commissioner and Public Health Council was the organization of the Department along modern lines.

The former Board of Health at the time of its discontinuance consisted of an unpaid Board of seven members, a full-time secretary and a director of the hygienic laboratory appointed by the Board. The former had seven office assistants and the latter had two laboratory assistants. The regular work of the Board was thus carried on by eleven full-time workers.

For the last year of its existence the State Board of Health had the use of the following appropriation which was divided into separate funds:

STATE BOARD OF HEALTH.

Contingent expenses	\$7,000
Laboratory of Hygiene.....	6,500
Vital Statistics	3,000
Epidemic fund	2,000
Printing and binding	2,000
	<hr/>
Total	\$20,500

Upon the recommendation of the Commissioner, the Public Health Council voted to establish six divisions of the Department of Health and to divide the State into three health districts to be under the direction of full-time workers.

On November 1, 1917, when the Department had been fully organized, there were seventeen full-time members compared with the eleven of the former Board.

Compared with the appropriation of the former Board of Health the annual appropriation for the Department of Health is as follows:

STATE DEPARTMENT OF HEALTH.

Contingent expenses	\$7,000
Laboratory of Hygiene.....	6,500
Vital Statistics	3,000
Epidemic fund	2,000
Printing and binding	2,000
General fund	9,500
	<hr/>
Total	\$30,000

It will be seen that the new Department started with only \$9,500 more than the appropriation of the former Board, a sum inadequate to allow much more than the creation of a modern health organization, and not sufficient to permit of much branching out with new activities. In fact, the additional \$9,500 was just about enough to cover the salaries and expenses of the three district health officers provided for in the new law.

The last legislature appropriated \$4,000 for the year 1917 to be used by the former State Board of Health in venereal disease control. However, because this amount was not included by the legislature in the general appropriation bill it was not available for the Board. Through an order passed by the Governor and Council, the new Department was allowed \$2,000 for the last six months of 1917 to start this important work.

Following is a table showing the divisions created by the Public Health Council, names of directors and salaries of same:

<i>Division</i>	<i>Director</i>	<i>Salary</i>
Administration	Commissioner	\$4,000
Communicable Diseases	A. G. Young, M. D.	2,000
Diagnostic Laboratory	H. E. Thompson, M. D.	2,100
Sanitary Engineering	H. D. Evans, M. A.	2,100
Vital Statistics	Inez V. Creighton	728
Education and Publicity	W. H. Greenleaf, B. A.	2,500

The three State Health Districts, names of District Health Officers, their residences and salaries are given below:

<i>District</i>	<i>Residence</i>	<i>Officer</i>	<i>Salary</i>
Northern	Houlton	H. E. Hitchcock, M. D.	\$2,100
Southwestern	Portland	A. P. Pratt, C. P. H.	2,000
Southeastern	Bangor	H. D. Worth, M. D.	2,100

DIVISION OF ADMINISTRATION.

The chief work of the Division of Administration is to administer the Public Health Laws of the State and the rules and regulations of the Department; to prepare rules and regulations for the consideration of the Public Health Council; to organize and have a supervisory interest over the work of the other divisions of the Department of Health. In addition to this a large amount of routine office work and correspondence, including the keeping of financial accounts and the ordering of supplies and equipment, is necessary.

An important function of this division is the distribution of biological products, through the H. K. Mulford Company with which the Department has a contract, and the direct sale at cost of Arsphenamine and Gonococcus vaccine.

The Commissioner is in direct charge of this division. Miss Beatrice E. Young, for some years a clerk in the office of the former State Board of Health, was appointed chief clerk of this division in the new Department, and Mrs. Olive E. Bailey was continued as clerk and stenographer.

DIVISION OF COMMUNICABLE DISEASES.

The Division of Communicable Diseases has, as its first duty, at present, the study of epidemics and individual cases of the so-called infectious and contagious diseases; it also co-operates with local boards of health in the diagnosis and control of such diseases.

In addition to the above, probably the most important function of this division in the future will be the recording of notifiable diseases, and the stimulation of physicians and local boards of health to the prompt, full, and accurate reporting of such communicable diseases.

In reviewing the past health work in Maine, it would seem that one of the chief points of weakness has been the inadequacy of morbidity reports and statistics. Some methods must be devised and consistently followed up in order to obtain such reports.

Dr. A. G. Young, for many years secretary of the former State Board of Health, was chosen as director of this important Division of Communicable Diseases.

For details of the work of this division see supplement.

DIVISION OF DIAGNOSTIC LABORATORIES.

The Division of Diagnostic Laboratories takes over and enlarges upon the work formerly done in the so-called Hygienic Laboratory. Free examinations are made for Tuberculosis, Diphtheria, Typhoid Fever, Syphilis, Gonorrhoea, Meningitis, Infantile Paralysis, Rabies, Cancer, etc. Special examinations of milk, urine, feces, stomach contents, etc., are made for special fees.

Typhoid prophylactic or "vaccine" is made and distributed free of charge, and the Pasteur "treatment" or prophylactic is administered free of charge to citizens of the State. So-called autogenous "vaccines" are made on special request for small fees.

Such biologic products as Diphtheria Antitoxin, Tetanus Antitoxin, Smallpox vaccine virus, gonococcus vaccine, etc., are distributed under the direction of the State Department of Health at cost. Arsphenamine (Salvarsan or 606) for the treatment of Syphilis is also furnished at a very low price.

Dr. H. E. Thompson, formerly pathologist to the Bangor State Hospital, and the Worcester State Hospital (Mass.) was chosen director by the Public Health Council.

For details of the work of this division see supplement.

DIVISION OF SANITARY ENGINEERING.

The Division of Sanitary Engineering, at the present time, has, as its chief duties, the chemical and bacteriological examination of water and sewage from public and private sources. In addition to this the division co-operates with cities, towns

or individuals in the field investigation of problems relating to water supplies and sewage disposal.

Mr. H. D. Evans, formerly director of the Laboratory of Hygiene, under the old State Board of Health, was chosen as director of this division.

For details of the work of this division see supplement.

TOTAL LABORATORY WORK.

Taking into consideration the work of the Sanitary Engineering Division and the work of the Diagnostic Laboratories, the grand total of examinations made during the first six months of the State Department of Health's existence is as follows:

<i>Division</i>	<i>Number of Examinations</i>
Diagnostic Laboratory	2,273
Sanitary Engineering:	
(Water and Sewage Laboratory)	1,674
Total	3,947

COMPARATIVE NUMBER OF EXAMINATIONS BY YEARS.

Following is a table which covers the comparative number of examinations according to years from the opening of the former Laboratory of Hygiene to the present organization which includes two separate laboratories—one for general diagnostic work, the other for water chemistry and bacteriology in particular:

Years.	Time Covered.	ORGANIZATION.	No. of examinations (old count).	No. of exams. (new count).
1903-4	13 mos.	State Board of Health		
		Laboratory of Hygiene	4,008	-
1904-5	24 "	" " "	7,006	-
1906-9	40 "	" " "	11,418	-
1910-11	24 "	" " "	12,385	-
1912-13	24 "	" " "	20,728	-
1914-15	24 "	" " "	25,190	-
1916-17	18 "	" " "	20,554	-
1916-17	6 "	State Dept. of Health		
		(a) Diagnostic Laboratory	7,195	3,947†
		(b) Water and Sewage "	(Rate of 28,780 for 2 yr. period)	(Rate of 15,788 for 2 yr. period)

†Method of estimation changed so that a bacteriological examination of water counts for 1 instead of 3 to 5.

Details of the above examinations will be found in the reports of the directors of the Divisions of Diagnostic Laboratories and Sanitary Engineering in the supplement.

DIVISION OF PUBLIC HEALTH EDUCATION.

One of the most important divisions of the department is that of Public Health Education. Through the agency of the press, special bulletins, lectures, lantern demonstrations, exhibits, personal correspondence, etc., the people of the State are told how disease may be prevented and health conserved.

Mr. Wm. H. Greenleaf, a man well trained in educational and university extension work was chosen as director of this division.

For details of the work of this division see supplement.

DIVISION OF VITAL STATISTICS.

The Division of Vital Statistics, or Human Bookkeeping, has to do with the recording of Births, Deaths, Diseases, Marriages and Divorces. The State of Maine is at present in the United States Registration Areas for Births and Deaths, which indicates that the United States Census Bureau has found that over 90% of births and deaths in Maine are being properly reported.

Miss Inez V. Creighton, for several years a clerk in the former Board of Health and Department of Vital Statistics, was chosen as director of this division. The Commissioner of Health is ex-officio State Registrar of Vital Statistics.

For details of the work of this division, as well as the twenty-sixth annual report on Vital Statistics, see supplement.

STATE DISTRICT HEALTH OFFICERS.

To accomplish its end as a practical and effective service, the State Commissioner of Health, acting with the approval of the Public Health Council and in accordance with the new health law, divided the State into three health districts, each under the supervision of a full-time health officer who represents the Health Commissioner in one particular section of the State. Through the contact between the district health officer and the public it is hoped to bring the headquarters of the State Department into a more intimate relationship with the actual health problems of Maine. The three health districts, with the officers in charge, are as follows:

Northern district, comprising the country north of the Canadian Pacific Railroad, under the supervision of Dr. H. E. Hitchcock with headquarters at Houlton; the southeastern district, including territory south of the Canadian Pacific and east of the Kennebec, in charge of Dr. H. D. Worth, whose home is in Bangor; the southwestern district, comprising the country south of the Canadian Pacific and west of the Kennebec, under the supervision of Mr. A. P. Pratt, C. P. H., whose office is at Portland.

Details of the work covered by the District Health Officers are given in the supplement.

WORK ACCOMPLISHED.

A study of the reports of the directors of the various divisions to be found in the supplement, reveals the routine work done by the Department as a whole.

Probably the most important piece of special work accomplished during the summer of 1917 was a sanitary reconnaissance of hotels, passenger trains and lumber camps in the State, by Mr. C. E. Turner, special field agent of the department. An account of this work will be published later. Rules and regulations governing hotel inspection were passed and approved by the Governor and Council on Dec. 31, 1917.

During the first six months of the Department's existence, the period covered by this report, the Commissioner's time has been occupied chiefly in organizing the new Department and in finding persons qualified to fill the positions created.

As soon as the staff of the new Department had been organized, the next undertaking was the establishment of new offices and laboratories for the Department. The quarters used by the former State Board of Health and Hygienic Laboratory were entirely inadequate for the work of the new Department of Health. To find better and larger quarters in the State House was impossible on account of the present crowded condition of that building. A careful search for a suitable building to house

the Department revealed nothing available in the vicinity of the State House.

NEW QUARTERS.

It was finally decided to accept the generous offer of the Board of Hospital Trustees for the Department to occupy the old seargent's house on the Arsenal grounds associated with the Augusta State Hospital. An appropriation from the State Contingent Fund was voted by the Governor and Council for the purpose of remodelling this building for the offices and laboratories of the State Department of Health, and the work was started immediately.

RULES AND REGULATIONS.

The Public Health Council voted to adopt the rules and regulations of the former State Board of Health until further changed or amended. In addition to this, new rules and regulations were adopted for the sanitary inspection of hotels, and for the control of communicable diseases in unorganized townships.

PUBLIC HEALTH LAWS.

During the period covered by this report a careful study of the present Public Health Laws was started, with the object of suggesting necessary changes and additions to the next legislature, and the final creation of a sanitary code for the State of Maine.

STATE DEPARTMENT OF HEALTH.

FINANCIAL STATEMENTS.

July 7 to December 31, 1917.

The following statements show the amount of money which was spent from the appropriations for running expenses of the State Department of Health for the period July 7, to December 31, 1917, inclusive.

	<i>Contingent Expenses</i>	<i>General Fund</i>	<i>Total</i>
Advertising		\$8 78	\$8 78
Stationery	\$27 83		27 83
Books and sanitary journals	16 08	24 70	40 78
Postage	186 94	349 86	536 80
Express, telegraph and tele- phone	29 64	92 12	121 76
Commissioner's salary	923 04	923 16	1,846 20
Expenses of commissioner.	66 84	104 36	171 20
Expenses of Public Health Council	12 70	35 14	47 84
Expenses of other employees	221 82	261 41	483 23
Clerical and other help....	1,475 75	2,635 78	4,111 53
Office furnishings	265 50		265 50
Miscellaneous	23 57	61 60	85 17
	\$3,249 71	\$4,496 91	\$7,746 62

FUND FOR "LABORATORY OF HYGIENE."

July 7 to December 31, 1917.

Stationery	\$205 82
Books and sanitary journals.....	55 00
Postage	5 50
Express, telegraph and telephone.....	94 49
Salaries	2,253 42
Traveling expenses	19 04
Chemical and bacteriological supplies.....	33 40
Instruments and apparatus	75 87
Heating and lighting	102 79
Rent	250 00
Water	17 50
Ice	10 80
Furnishings and repairs	54 18
	<hr/>
	\$3,177 81

FUND FOR VITAL STATISTICS.

1917, July 7 to December 31..... \$1,304 95

The fees received during this period from the bureau of the census and from other sources amounted to \$342.50.

EPIDEMIC OR EMERGENCY FUND.

1917, July 7 to December 31..... \$1,149 44

PRINTING AND BINDING.

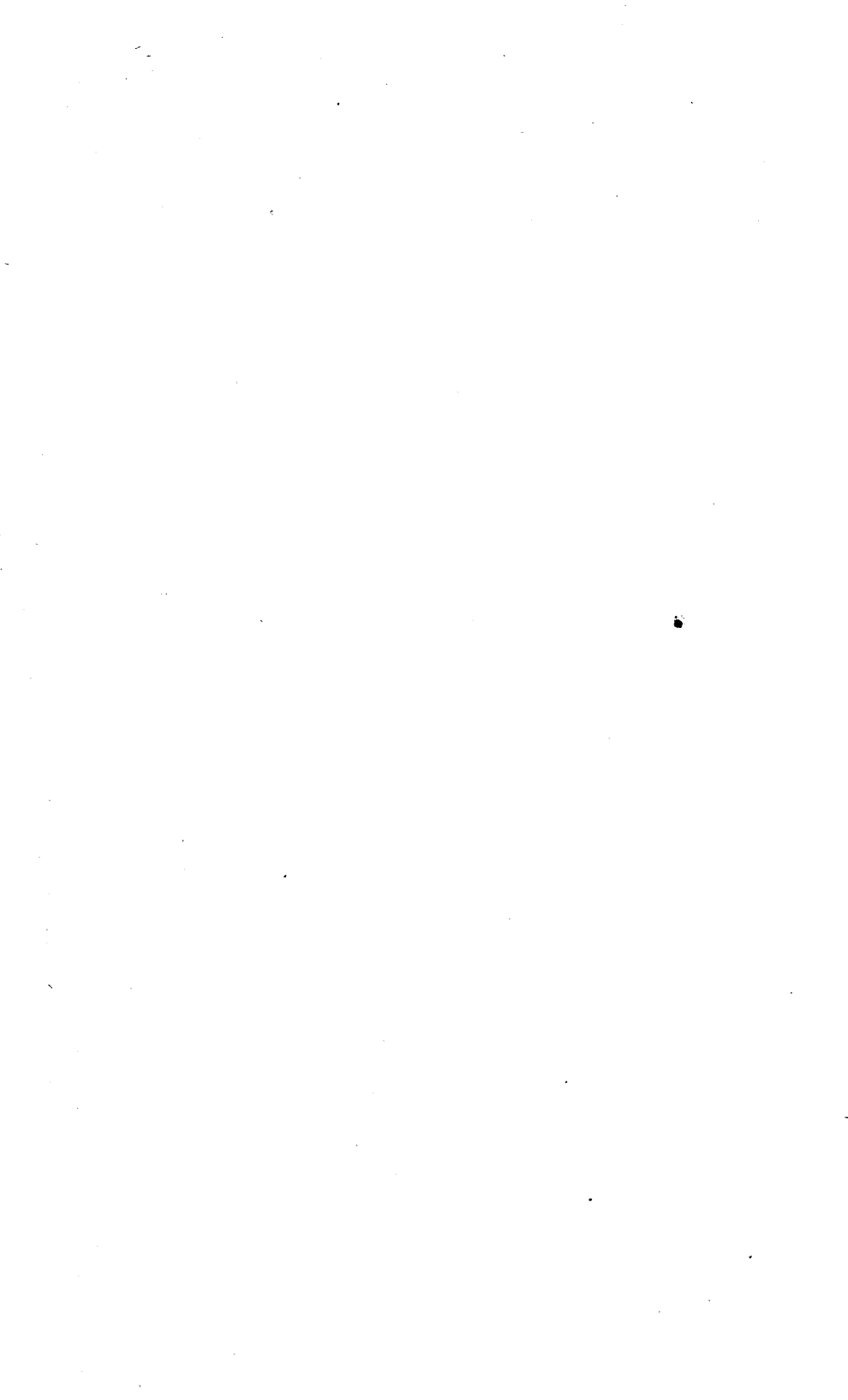
1917, July 7 to December 31..... \$941 25

VENEREAL DISEASES.

1917, July 7 to December 31..... \$1,618 24

SUMMARY.

Appropriation available (July 7-December 31, 1917)	\$16,911 56
Total expenses	15,938 31
Balance January 1, 1918.....	973 25



SUPPLEMENT
ACTIVITIES
OF
DISTRICT HEALTH OFFICERS
AND
DIVISION DIRECTORS
AND
STAFFS.

THE WORK OF THE DISTRICT HEALTH OFFICERS.

The work of the District Health Officer is of vital importance to a modern health organization. He serves as a field worker and an intermediary between the State Department and local physicians and boards of health. Through his influence on physicians, local boards, and town clerks a more accurate and prompt reporting of morbidity, mortality, and other vital statistics should result. His services are in constant demand for differential diagnoses of communicable diseases, for the investigation of nuisances, and for general advice and help along Public Health lines in individual communities.

A detailed account of all the work of the District Health Officers including accounts of surveys, inspections, and recommendations, is impossible in a brief report. Under district headings a brief tabulation of the activities of the officers is given below.

SOUTHWESTERN DISTRICT.

A. P. PRATT, C. P. H., District Health Officer, Portland.

The following table gives an outline of the activities of Mr. A. P. Pratt, District Health Officer of the Southwestern District, from the time of his appointment and for the period covered by this report.

<i>Place</i>	<i>Subject of Investigation</i>	<i>Date</i>
Kittery	Sanitary inspection	Sept. 17
Portland	Sanitary inspection	Sept. 18-19
Bath	Sanitary inspection	Sept. 20-21
Rockland	Sanitary inspection	Sept. 22
Bar Harbor	Sanitary inspection	Sept. 23-24
Machias	Sanitary inspection	Sept. 25-26
Milo	Typhoid	Sept. 31
So. Windham	Typhoid	Oct. 10
Durham	Typhoid	Oct. 11
Saco	Nuisance	Oct. 13
Scarboro	Schools	Oct. 25
Biddeford	Vital Statistics	Oct. 30

<i>Place</i>	<i>Subject of Investigation</i>	<i>Date</i>
Richmond	Smallpox	Nov. 1
Portland	Vital Statistics	Nov. 1-5
Eliot	Sanitary Inspection	Nov. 6
So. Berwick	Sanitary Inspection	Nov. 6
Berwick	Sanitary Inspection	Nov. 6
No. Berwick	Sanitary Inspection	Nov. 6
Lebanon	Sanitary Inspection	Nov. 7
Acton	Sanitary Inspection	Nov. 7
Shapleigh	Sanitary Inspection	Nov. 7
Waterboro	Sanitary Inspection	Nov. 8
Lyman	Sanitary Inspection	Nov. 9
Alfred	Sanitary Inspection	Nov. 10
Sanford	Sanitary Inspection	Nov. 11
Wells	Sanitary Inspection	Nov. 12
Kennebunk	Sanitary Inspection	Nov. 13
Kennebunkport	Sanitary Inspection	Nov. 14
No. Kennebunkport	Sanitary Inspection	Nov. 15
Saco	Diphtheria	Nov. 24
Kittery	Scarlet Fever	Nov. 30
Portland	Typhoid and Measles	Dec. 1
Bath	Nuisance	Dec. 6
Westbrook	Typhoid	Dec. 15
York	Suspected Poliomyelitis	Dec. 22

In addition to the above activities Mr. Pratt made a survey of Public Health Administration in Portland. This work covered the months of October, November and December, 1917, and continued into the year 1918, and will be published in the monthly bulletin of the Department.

SOUTHEASTERN DISTRICT.

H. D. WORTH, M. D., District Health Officer, Bangor.

The following table gives an outline of the activities of Dr. H. D. Worth, District Health Officer of the Southeastern Dis-

trict, from the time of his appointment and for the period covered by this report:

<i>Place</i>	<i>Subject of Investigation</i>	<i>Date</i>
Milo	Typhoid	Sept. 31
Eastport	Nuisance	Oct. 4
West Enfield	Smallpox	Oct. 12
Whitneyville	Smallpox	Oct. 14
Machias	Smallpox	Oct. 15
Patten	Smallpox	Oct. 30
Matagammon	Smallpox	Oct. 31
Moosehead Lake	Smallpox	Nov. 3
Howland	Smallpox	Nov. 5
Bar Harbor	Typhoid	Nov. 6
Greenville	Smallpox	Nov. 7
Jackman	Smallpox	Nov. 8
Rockland	Maternity Hospital	Nov. 9
Sullivan	Chickenpox	Nov. 11
Lamoine	Vital Statistics	Nov. 12
Ellsworth	Vital Statistics	Nov. 13
Bangor	Maternity Hospital	Nov. 20
Columbia Falls	Smallpox	Nov. 21
Jackman	Smallpox	Nov. 22
Newport	Smallpox	Nov. 23
Dexter	Nuisance	Nov. 25
East Corinth	Typhoid	Nov. 30
Hampden	Smallpox	Dec. 3
Brewer	Vital Statistics	Dec. 4
Orrington	Vital Statistics	Dec. 4
Columbia Falls	Smallpox	Dec. 5
Machias	Smallpox	Dec. 6
West Enfield	Smallpox	Dec. 7
Enfield	Smallpox	Dec. 8
Eastport	Smallpox	Dec. 10
Calais	Chickenpox	Dec. 17
Bangor	Conference	Dec. 18
Bar Harbor	Conference	Dec. 19
Eastport	Smallpox and Typhoid	Dec. 20-24
Jonesport	Smallpox	Dec. 25
Kenduskeag	Conference	Dec. 27
Bradford	Typhoid	Dec. 28

NORTHERN DISTRICT.

H. E. HITCHCOCK, M. D., District Health Officer, Houlton.

The following table gives an outline of the activities of Dr. H. E. Hitchcock, District Health Officer of the Northern District from the time of his appointment and for the period covered by this report:

<i>Place</i>	<i>Subject of Investigation</i>	<i>Date</i>
Presque Isle	Smallpox	Nov. 14
Bridgewater	Smallpox	Nov. 14
Fort Kent	Smallpox	Nov. 15
Caribou	Smallpox	Nov. 16
Limestone	Smallpox	Nov. 18
Fort Fairfield	Smallpox	Nov. 20
Houlton	Diphtheria	Nov. 26
Oakfield	Smallpox	Nov. 28
Davidson	Smallpox	Dec. 2
Brownville	Smallpox	Dec. 3
Millinocket	Smallpox	Dec. 4
Sherman	Smallpox	Dec. 5
Ashland	Smallpox	Dec. 6
Houlton	Smallpox	Dec. 6
Patten	Smallpox	Dec. 7
Island Falls	Sanitary Inspection	Dec. 8
Smyrna Mills	Sanitary Inspection	Dec. 8
Linneus	Sanitary Inspection	Dec. 8
Mars Hill	Smallpox	Dec. 9
Limestone	Smallpox	Dec. 10
Caribou	Smallpox	Dec. 10
Van Buren	Smallpox	Dec. 10
Jackman	Smallpox	Dec. 13
Hawkin's Siding	Smallpox	Dec. 15-20
Jackman	Smallpox	Dec. 21
Van Buren	Smallpox	Dec. 27
Fort Fairfield	Smallpox	Dec. 29
Caribou	Smallpox	Dec. 30

DIVISION OF COMMUNICABLE DISEASES.

Director and Epidemiologist, A. G. YOUNG, M. D.

Dr. Leverett D. Bristol, Commissioner of Health:

SIR:—I have the honor of submitting to you the report of the Division of Communicable Diseases for the half year in which the State Department of Health was in operation in 1917, my report being for the field work which has been done by me personally or under my supervision.

Respectfully,

A. G. YOUNG,
Director and Epidemiologist.

REPORT OF THE DIVISION OF COMMUNICABLE
DISEASES.

This is a report of the field work done by the director for the second half of the year 1917.

July 9. Consultation with authorities at Camp Keyes concerning a soldier with smallpox, modified by a recent vaccination which apparently had been done too late after exposure to confer immunity.

July 21 and 22. A notification from the town of Amherst suggested the probability of smallpox on a dairy farm in that town. It was found that smallpox did not exist there. The local board was advised to remove its interdiction against the distribution of milk from this farm.

July 25. Investigated cases of smallpox at Houlton and advised the local board of health. At Millinocket a conference was held with the local health officer about smallpox in that town.

July 30. Two cases of smallpox in Warren investigated with Dr. Campbell; found one recent and one recovered case.

August 2 and 3. Investigation of suspected case of smallpox in Lewiston. The patient was a young woman who had come there from another city July 20, and four days later showed the first symptoms. The trouble was found to be smallpox.

Another young lady was seen in the same city. She had recently returned from Boston. There had been no association with the other patient.

August 4. Investigation of three cases of suspected smallpox in town of Strong. All were members of the same family; the father, mother, and daughter had smallpox. The source of the infection was apparently a son, who, working in Bath, became sick with what appeared to the physician whom he consulted in that city, to be grip. Returning home for a few days' rest and convalescence from that disease an eruption came out which did not come under medical observation.

August 6. The above cases were traced to Bath and the young man above mentioned was found and the characteristic marks on the skin, their distribution, and the history of his prodromal symptoms made it easy to determine that he had passed through an attack of smallpox. The local board of

health was notified and arrangements were made for work required to save the public from further danger from this case.

August 8-9. Conference with the city clerk of Biddeford about persons who had been lax in complying with the provisions of the vital statistics law. Investigation of suspected smallpox at Kineo. Dr. Hanson, the resident physician had two cases of smallpox safely cared for in a tent, but out of consideration for the exaggerated fear of aerial transmission which some persons might have, the two men affected with the disease were removed to a greater distance from the neighborhood.

August 18-19. Examination of a child in Wiscasset. Found a case of smallpox with some atypical features. No source of infection could be discovered, though the parents with this child had been to Lewiston on a visit.

August 20. Investigated a case in the town of Topsham, found it to be an impetiginous eruption due to ivy poisoning.

August 26. With the attending physician children were seen in South Lewiston. Smallpox could safely be excluded in the diagnosis.

September 1-3. Answering a call from the local board of health of Linneus, the condition of things in Letter A township, south of Linneus, was investigated. Two cases of smallpox were found there. Arrangements were made for the safe isolation of the cases. A drive with the attending physician to Hodgdon showed one case of smallpox and one of German measles.

Consultation with Dr. Woodbury of Patten concerning conditions in a lumber camp to which he had been called by the operators a short time before.

Oct. 2. A meeting was held with the local board of health and the selectmen of Millinocket to straighten out some difficulties due to an outbreak of scarlet fever.

October 3. Consultation in Machias with the physicians who had been attending a case of smallpox and suspected cases in Whitneyville.

October 4. Investigated the smallpox outbreak in Whitneyville. Twelve cases were found in six families. A conference with the local board of health and the selectmen was held and

the local officials were helped to plan for the speedy control of the outbreak. In Machias one case was visited which had come from Whitneyville.

October 7-10. Accompanied by Dr. Worth, State District Health Officer of the southeastern division, a second visit was made to Whitneyville. Some additional cases of smallpox had been found or were suspected. Further work was done with the local board, and the representatives of the State Department of Health insisted upon prompt and efficient work in stamping out the trouble.

This interesting history of the beginning of the outbreak was brought out as the result of repeated investigations made in Whitneyville and inquiries of the physicians in Machias:

In a family just out of the village a child had an eruptive disease late in June. Careful inquiry made of the mother at both visits to Whitneyville left scant chance for doubt that the child had smallpox in a mild and unrecognized form. This child and her mother, while the little girl had the eruption, called frequently at a neighboring home. Here in due time after the exposure a young married woman became sick with an abrupt onset, rapid rise of temperature and other symptoms characteristic of smallpox of malignant type. The result was premature delivery at the eighth month, then hemorrhagic purpura and death a few days later, death before the typical eruption of smallpox showed itself, as sometimes happens in this malignant form of the disease.

Investigation with Dr. White of Columbia Falls showed that smallpox in a mild form had been in a group of families in one school district some miles out. In a family but a little way out of the village the same trouble was found, a child from this family was abruptly dismissed from the village school and sent home.

October 10. Conference with one of the lumber companies at Bangor about smallpox in one of their camps.

October 22. In consultation with the health officer of Winslow about a case in his town which was found to be smallpox.

October 27. In the morning a notification came from Dr. Woodcock of Bangor of a man with smallpox in that city from whose house four teachers had come to Augusta from the meet-

ing of the Maine Teacher's Association in that city. The teachers were found. They had roomed in the home of the man who had smallpox. The local superintendent of schools and the health officer of Augusta were notified.

October 28 and 29. Conference with Drs. Kalloch and Chamberlain of the local board of health at Fort Fairfield and an investigation of smallpox in the surrounding country and village. In one of the hotels several cases were found and it was necessary to quarantine about 40 persons temporarily. In the afternoon another conference was held between the representative of the State Department of Health and the local board of health and the school board. Arrangements were made for co-operative work including the vaccination of all pupils in the schools.

At the hotel the proprietor's wife was confined to her bed and showed smallpox in the pustular stage; her daughter and one of the boarders, who was in the office most of the time, were in the desquamative stage. An examination of the hotel register showed that the smallpox victim in Bangor, a commercial traveler, had stayed at this hotel at a date which would indicate that this was the source of his infection.

October 29. Conference with the local health officer of Houlton about his work for the control of diphtheria, the most of the cases of which had been among the pupils in one of the schools. One woman, refusing to take antitoxin, had died. There were 140 pupils in the school building. The work of immunizing all of the children in this school was well under way. The State Department of Health had, through its laboratory division, been co-operating with the local board in discovering carriers of infection.

October 30-Nov. 1. At Presque Isle smallpox was found in two families and chickenpox in two others. A conference with the local board of health, the superintendent of schools, the principal of the state normal school and one of the selectmen was held. The outline for local work was:

(a) The village schools now closed to remain closed until the vaccination of the pupils, now going on rapidly, has been completed.

(b) The schoolrooms under suspicion to be disinfected by scrubbing with a disinfecting solution.

(c) Schools then to reopen. Every case of absenteeism to be investigated for the purpose of discovering cases of smallpox that might not otherwise be found.

(d) The normal school to remain open and every effort to be made to keep the girls from going home.

Meeting with members of the local board of health of Fort Fairfield.

October 31. Representative of the State Department of Health assumed personal charge of the work in the old hotel under quarantine at Fort Fairfield so that the members of the local board could give their time to some of the other epidemic work which should be done promptly. In the forenoon the inmates were vaccinated. There had been a regrettable delay in getting smallpox vaccine. In the afternoon, after fitting up a small room for the disinfection of clothing, the wearing apparel of six men was disinfected, the men meanwhile taking a disinfecting bath, applied with particular care to the head and hands. Another six men and their clothing were run through the same processes between eight and twelve, midnight, and between twelve and one A. M. their clothing was aired out and returned to the men. Many of the men temporarily quarantined were mechanics whose services on contract and other jobs were very much needed. They were released "on parole" to be kept under strict observation so as to be assured that they remain perfectly well.

November 2. Investigation of the case of the commercial traveler, who received his infection in Fort Fairfield and came down with smallpox while on the road; notification of the local boards of health in the towns in which he had been doing business. Investigation of a serious epidemic of smallpox which was suddenly found to exist in Gardiner. It was learned that the disease, particularly at first, had been in a very mild form, and that until the infection was widely distributed it had passed as chickenpox. The chief source of infection had been the workers in the shoe-factory of the R. P. Hazzard Company. Plans were made for effective work to begin promptly and to be done rapidly.

November 3-14. On all of these days save one work was done for and with the local board of health of Gardiner, for

it was found that, at this time, there were about 75 infected houses and more than one hundred cases of smallpox. The local health officers had more than they could do with the general work for the control of the epidemic and the wholesale vaccination of the schools and the other portions of the city's population.

The special work done by the representative of the State Department of Health was the making, confirming or correcting of the diagnoses of cases, visiting of homes to determine whether the period of desquamation of the patients was completed so that the work of disinfection, cleaning up and release from quarantine could be begun, and the supervision of the work of disinfection.

Two intelligent young men were trained to do this work by working with them in the disinfection of several houses until they could be trusted to do the work as it should be done, and to instruct and direct the members of the household in their part of the work,—boiling and scrubbing up with soap and water and disinfecting solutions.

Aside from that which was done in Gardiner, similar work was carried on in some of the nearby towns, particularly in Randolph and Farmingdale.

November 16. Investigation in the town of Knox where a case of smallpox was seen with Dr. Small of Freedom.

November 17, 19 and 20. Co-operation with the Gardiner board of health. On the latter day 21 houses were investigated.

November 21. Investigation of suspected cases of smallpox in Lewiston and Hallowell. One case found in latter city. Examination of a student of Colby College, who was found to have chickenpox.

November 28-December 1. A part of the time on these days was given to work in Gardiner and in investigating a case of smallpox and suspected cases in that city, Hallowell and Augusta. Some time was given on the 28th and 30th to the investigation of the case of a car conductor and his wife who had shown but little regard for the safety of their neighbors and the public while the latter had smallpox. After this case had been investigated it was reported to the board of health of Augusta.

December 4. Confirmation of diagnosis of one case of smallpox in Fairfield. A suspected case of smallpox seen in Hallowell was found to be chickenpox.

December 5-6. Investigation of smallpox cases in Oakland. Two new cases were seen with Dr. Totman, the local health officer. Additional work with local boards of health of Gardiner and Randolph in reference to smallpox cases.

December 7. With the local board of health three suspects in Oakland were seen, one of which was found to be smallpox.

December 10. Two cases of smallpox were found in the town of Norway.

December 14. Investigation in Bath of a local press report that cases of smallpox in that city had been present and had not been reported by the physicians attending them. It was found that there was no truth whatever in the report—that there had been no cases there later than the one which was traced out August 4 and 6.

December 20. Investigation in Hartland of a report from the state department of health in Massachusetts, that smallpox was in that town but had not been recognized as such. One case there was found safely quarantined. The man who had the disease had been to Boston. Returning, he was accompanied on the railway journey by a friend. His friend was also quarantined in Massachusetts with smallpox, there having been, in the onset of the illness in the two cases, only two day's difference. The source of infection could not be traced with any certainty.

December 21--22. Investigations in Bingham and Moscow of the cases of two young men from Gardiner, on a hunting trip of a month or more, who had returned, one fully convalescent from an attack of smallpox, and the other with the same disease in the pustular stage. The young men boarded at a house close to the Kennebec river in Moscow, which place was visited. In spite of the fact that many persons had apparently been exposed, no other cases could be found and the local board of health was unable to learn of any subsequent cases. Assistance was obtained from Dr. Totman, health officer of Oakland, in tracing two boys who had been exposed in Moscow and who were thought to be in his town.

December 21. Investigation with Dr. Price, the attending physician, of a case of smallpox and one of scarlet fever in Richmond.

December 31. Consultation with health officer of Oakland regarding another case of smallpox in that town.

DIVISION OF DIAGNOSTIC LABORATORIES.

Director, H. E. THOMPSON, M. D.

Dr. Leverett D. Bristol, Commissioner of Health:

SIR:—I have the honor to submit the following report of the work of the Division of Diagnostic Laboratories between the dates of July 7, and December 31, 1917.

Respectfully,

H. E. THOMPSON,

Director.

REPORT OF DIAGNOSTIC LABORATORY, JULY 7 TO DECEMBER 31, 1917.

GENERAL REMARKS.

The Diagnostic Laboratory was established under the new State Department of Health. This Laboratory took over the bacteriological work formerly done by the old State Laboratory of Hygiene, and the scope of the work was much enlarged. Among the important additional work and tests now done in the laboratory are the Wassermann test for syphilis, free distribution of typhoid vaccine for immunization, and examinations of tissue for malignancy. The Laboratory is also prepared to do differential counts, examination of blood smears for anemia and malaria; examinations for glanders and hydrophobia and other miscellaneous bacteriological work. Auto-genous vaccines will also be made for a small fee.

From July until October the routine work was carried on by the bacteriologist, Mr. C. S. Kingsley. During October the equipment of a new laboratory was started, as the old one was inadequate for the new work. While this laboratory equipment was being procured, Wassermann tests and the tissue work were done at the laboratory of the Augusta State Hospital through the courtesy of the superintendent and trustees.

SPECIAL INSTRUCTIONS CONCERNING THE USE OF THE DIAGNOSTIC LABORATORIES.

TUBERCULOSIS (BACTERIOLOGIC SPUTUM TEST.)

Outfit and Collection of Specimen: Sputum must be sent to the Laboratory in the outfit provided by the State Health Department, as these containers comply with the requirements of the Postal Laws and Regulations. These outfits may be obtained at the regular outfit stations or will be sent on request. The 5% carbolic solution must not be removed from the bottle.

The specimen sent should be taken from material that is first coughed up in the morning. It is well to wash the mouth with a mild antiseptic before the specimen is taken. See that the bottle is securely corked and the name of patient and physician placed on the label. The information blank must be completely filled out and placed between the inner and outer container.

Interpretation of Report: If the report of an examination of sputum shows that no tubercle bacilli were found, the failure to find them may have been due to one, or more, of the following causes: 1. They were too few in number. 2. The sputum coughed up did not come from a tuberculous area. 3. Tuberculosis is not present.

A positive report establishes the diagnosis, but a negative one should not be sufficient reason for relinquishing a tentative diagnosis of tuberculosis until several examinations have been attended with the same result. As many examinations as may be thought necessary, will be made by the laboratory.

The number of tubercle bacilli found in sputum is no index to the condition of the patient and will not be reported.

The finding of pneumococci in the sputum does not necessarily indicate pneumonia, bronchitis, or sore throat.

Sputum examinations are made free of charge.

DIPHTHERIA (BACTERIOLOGIC TEST OF THROAT AND NOSE CULTURES.)

Outfit and Collection of Specimen: Material to be examined for diphtheria bacilli must be sent to the laboratory in the special containers sent out by the State Health Department.

The outfit consists of a sterile swab in a sterile test tube. This tube is in a double container which fulfills the requirements of the Postal Laws and Regulations. These containers may be obtained at any of the regular outfit stations or will be sent upon request.

Eventually all outfits will contain a tube of blood serum in addition to the swab. In this case, after the swab has been taken, it should be rubbed freely over the surface of the blood serum, care being taken not to break the surface of the medium. Send both blood serum tube and swab to the laboratory.

No antiseptic should be used in the mouth for at least two hours previous to taking the specimen. Place the patient in a good light and use a tongue depressor so that an unobstructed view of the tonsils and pharynx may be obtained. Remove the swab from the tube and rub the cotton tip freely over any exudate present. If the membrane is thick be sure to get the swab under the edge as the virulent bacilli are often not present on the surface. Care must be taken not to let the swab touch anything except the lesion from which the culture is desired. Replace the swab in the tube before it has time to dry, fill out the information blank in full and mail outfit to the laboratory as soon as possible.

Interpretation of Report: The first culture from a case of diphtheria will be positive in only about 85% of cases so that a negative result should not bear too much weight. If the case is suspicious several swabs should be sent. Treatment should not be delayed for a Laboratory Diagnosis.

Release from Quarantine: At least two negative cultures from the nose and throat should be reported before quarantine is raised.

Carriers: Care should be taken to guard against diphtheria carriers. Virulent diphtheria bacilli may be present in the throats or noses of physicians and nurses who show no clinical evidence of diphtheria. Swabs should be taken from the throats and noses of all who come in contact with the disease.

Wound and Skin Diphtheria: This condition should be kept constantly in mind. All suspicious, slowly healing wounds or skin lesions should be examined bacteriologically.

Examinations for diphtheria are made free of charge. In case it is requested that the report be sent by telephone or telegraph such message will be sent collect.

TYPHOID FEVER (WIDAL AGGLUTINATION REACTION.)

Outfit and Collection of Specimen: Wash the lobe of the ear, or the tip of the finger with soap and water, alcohol and ether. Avoid the use of bichloride of mercury, carbolic acid or other strong antiseptic. Prick deeply with a sterile needle to insure a free escape of blood, manipulating with the fingers, if necessary, to secure a sufficient amount. Avoid the first two or three drops. Allow at least three large drops to be deposited upon the glass slide which accompanies the laboratory outfit and allow them to dry *without the use of heat*. Do not smear the blood over the slide. Place the slide in the wooden covers, fill out the information blank and send to the laboratory in the typhoid outfit envelope.

Interpretation of Report: The reaction characteristic of typhoid fever is not likely to occur earlier than the fifth day of the disease, and may persist for a long time after recovery from the disease, thus a previous attack must be eliminated as a possible cause of the reaction. A positive reaction may not appear until the second month. When positive it is confirmatory of the clinical signs and symptoms. A negative report is only presumptive evidence against typhoid fever, and the test should be repeated once or twice a week, until the diagnosis is settled.

With suspicious symptoms, and continuously negative reactions, other specimens of blood should be sent with the request for a paratyphoid agglutination test.

It must be remembered that positive Widal reactions may be obtained as long as three years after the administration of anti-typhoid "vaccine."

Examinations are made free of charge.

RABIES (MICROSCOPIC BRAIN EXAMINATION.)

Collection and Sending of Specimens: Dogs or other animals suspected of having rabies, or hydrophobia, should be kept chained or confined. If they really have rabies, the

symptoms will develop rapidly and they will usually die within six days. Dogs should be kept chained for a period of two weeks. If the animals continue to remain healthy, rabies can be excluded. If the animal is running at large and must be killed, shoot through the heart and not through the head, for the brain is the important part to be examined. After the dog is dead, cut off the head, wrap in paper and send to the Diagnostic Laboratory packed in sawdust and ice, in a water-tight container.

A complete history should be sent with the specimen, and should include a description of the actions of the animal before death, duration of illness, number of persons or animals bitten and should also state whether the animal was killed or allowed to die and whether it was known in the community or not.

Interpretation of Report: A positive finding indicates the necessity for treatment. A negative laboratory finding does not necessarily mean that rabies was not present in the animal, and treatment should be taken as a precautionary measure especially if the wound is extensive or on the head. As mentioned before, if the animal is allowed to remain alive after biting a person and symptoms of hydrophobia do not develop in the animal, rabies may be excluded.

Examinations made free of charge.

SYPHILIS (WASSERMANN TEST.)

Collection of Specimen: At least five cubic centimeters of blood should be sent to the laboratory. This is best taken from a vein in the forearm with a sterile antitoxin needle. A tourniquet should be placed around the arm just above the elbow. This brings the large veins well into view unless the arm is very large and the veins lie deep. In case the veins do not come into view when the tourniquet is applied they can usually be palpated. Take plenty of time in locating the vein. The blood may be sent to the laboratory in an ordinary sterile vial or test tube plugged with a cork. Do not use a cotton plug. The tube may be mailed in one of the diphtheria outfits.

For those who desire it, a Keidel Blood Collector will be sent upon request. This apparatus consists of a 5 c. c. ampule with

arm drawn out to a capillary tip and sealed after a vacuum has been created by heating. A short piece of rubber tubing connects a needle and the capillary portion of the ampule. A slender glass tube closed at one end and flaring at the other serves as a protection for the needle which it covers when the apparatus is sterilized. To use this tube remove the glass cap and pull the wire from the needle. Insert the needle into the vein in the usual manner and then crush the capillary tube by grasping the rubber tube at about its middle portion with a haemostat. The capillary tube may be broken by sharply bending it with the fingers. After the blood has been drawn replace the wire in the needle and also replace the glass cap. Send the entire outfit to the laboratory.

A complete history of the case must accompany specimen.

Interpretation of Report: The positive Wassermann reaction depends upon the presence of syphilitic reaction products in the blood, consequently the reaction cannot be expected to appear until some time has elapsed after the initial infection. The time at which this does appear varies, but cannot be expected much before the fourth week or just a short time before the appearance of the secondary symptoms. In primary syphilis the reaction will be positive in about 80% of cases.

In untreated cases of secondary syphilis the reaction is positive in practically 100% of cases. In cases which have received treatment the percentage of positives will be lower.

In cases of untreated and active tertiary syphilis the reaction will be positive in about 96% of cases. Cases which are undergoing treatment are less likely to give a positive result.

In cases of neuro-syphilis the blood gives a positive reaction in a very high percentage of cases, being most constantly present in cases of general paralysis. The cerebro-spinal fluid also gives a positive reaction in a high percentage of neuro-syphilitic cases and the Wassermann reaction will be applied to specimens of spinal fluid when sent to the laboratory. When sending cerebro-spinal fluid be sure to state whether a Wassermann is desired or a bacteriological examination.

Positive reactions are usually reported as one plus; two plus; three plus; four plus. In other words this might be given as 25% positive, 50% positive, 75% positive or 100% positive.

These figures may differ at times even for a specimen from the same source. A "one plus" may later show "four plus," and after a certain amount of treatment a "four plus" may show a "one plus" positive, or a negative reaction.

A "one plus" result should be considered in the border line of doubtful reactions and the clinical history, symptoms and signs should be given great weight in arriving at a diagnosis.

The Wassermann test should be made, not only in arriving at an original diagnosis, but should be used to determine the efficiency of anti-syphilitic treatment.

Examinations made free of charge.

GONORRHOEA (BACTERIOLOGIC TEST OF PUS SMEARS.)

Outfit and Collection of Specimen: Pus to be examined for gonococcus may be sent to the laboratory on the glass slides in the typhoid outfits. In cases of urethritis in the male a thin smear of the pus should be placed on the glass slide and allowed to dry in the air. The prostate should be "milked" when the secretion is scanty. The pus should be obtained from the urethra in the female, care being taken that the specimen does not include a large number of contaminating organisms from the vagina. In cases of vaginitis it is often difficult to eliminate these bacteria in obtaining the specimen, which may "mask" the diagnosis.

Examinations made free of charge.

MENINGITIS (BACTERIOLOGIC SPINAL FLUID TEST.)

Outfit and Collection of Specimen: Specimens of cerebro-spinal fluid should be removed in an aseptic manner and sent to the laboratory in a sterile bottle or test tube, properly corked and accompanied by a complete history. It will be examined for the presence of the meningococcus, the cause of epidemic cerebro-spinal meningitis, and for other bacteria such as the tubercle bacillus and pneumococcus.

Examinations made free of charge.

INFANTILE PARALYSIS (SPINAL FLUID TEST.)

A laboratory specialist will be available, especially during any epidemic outbreak, to assist in the diagnosis of this disease by

a cell count and other tests of the freshly removed spinal fluid; and where possible he will assist in the administration of immune serum.

CANCER (MICROSCOPIC TISSUE EXAMINATION.)

Examination of tissue for malignancy will be done at the Diagnostic Laboratory free of charge.

The tuberculosis outfits may be used for sending small specimens. In this case *pour out the carbolic solution* and fill the bottle with a 10% *solution of formaldehyde*. If formaldehyde cannot be obtained 95% alcohol may be used. Large specimens may be sent in Mason jars, care being taken to pack them so they will not be broken in transit.

Sections of tissue should be cut cleanly (not torn) and should include a piece of the margin and capsule of any growth or tissue as well as a portion of the interior.

The examination takes several days for completion, some cases requiring more time than others on account of their character, the necessity of trying different staining methods, etc. A preliminary diagnosis on frozen sections will be made on request.

A full history must be sent with each specimen or a diagnosis will not be attempted. Special blanks for such histories may be obtained from the Director of the Diagnostic Laboratory.

COMPLAINTS, ETC.

All complaints concerning diagnosis, delay of reports, etc., should be sent to the Commissioner of Health. The Health Department through its various divisions desires to be as efficient and prompt in its work as possible, but this can only be accomplished by the hearty co-operation and support of the physicians of the State. Delays are often unavoidable and are usually due to accidents to, or delays of, specimens or reports in transit.

SPECIAL SERVICE.

PASTEUR TREATMENT FOR PREVENTION OF RABIES.

The Pasteur treatment will be administered at the laboratory free of charge to residents of Maine. Material for the treatment is received from the U. S. Public Health Service in three or four days after the request is sent in. Persons desiring treatment should notify the Director, either through their physician or health officer. Such persons will be informed by telegraph (collect) when to arrive at the laboratory. Plans must be made to give at least three weeks to the treatment, which can be administered only in Augusta.

BIOLOGIC PRODUCTS.

Under the direction of the State Department of Health, the H. K. Mulford Co. of Philadelphia is the official distributor in Maine of biologic products (antitoxin and vaccines) which will be furnished under *Special State Labels* at comparatively low prices.

All druggists in the State are solicited and invited to obtain stocks of these products, and there will be at least one druggist in each city and town who will always have a supply. The druggist may return to H. K. Mulford Co., for free exchange, all out-dated packages.

The prices to physicians on these products are as follows:—
Diphtheria antitoxin (purified and concentrated) each dose in an individual syringe provided with a needle.

Diphtheria antitoxin:

1,000 units, per pkg.	\$ 75
3,000 " " "	2 00
5,000 " " "	3 00
10,000 " " "	5 00

Less 25% discount to druggist.

Vaccine virus, points or tubes, in packages of ten vaccinations I 20

Less 25% discount to druggist.

When sold to a local board of health the price on vaccine virus will be 65 cents per package of 10 vaccinations, less 10% to the druggist.

Tentanus antitoxin, each dose in a syringe provided with a needle:

1,500 units, per pkg.....	\$2 00
5,000 " " "	4 80

Less 25% to the druggist.

On practically all other Mulford biologic products a discount of 40% will be allowed to State, city or county, or local boards of health.

Physicians or local boards of health should order from the druggist carrying these products, and should always specify *State Label Antitoxin or Vaccine*.

TYPHOID "VACCINE."

The State Department of Health furnishes to physicians or hospitals free of charge typhoid prophylactic, or "vaccine," prepared in the Diagnostic Laboratory. Applications should be made to the Director of the Laboratory for material and instructions for use.

ARSPHENAMINE (SALVARSAN OR 606.)

Arsphenamine may be obtained by physicians or hospitals at cost. The price of this drug varies somewhat from time to time the present price being \$1.25 per ampule of 0.6 gm. dose.

Applications for this drug, and instructions for use, should be made to the Commissioner of Health. A check to cover the amount desired must be sent with the order, otherwise the material will be sent C. O. D.

GONOCOCCUS VACCINE.

Gonococcus vaccine may be obtained from the State Department of Health at cost price.

LABORATORY OUTFIT STATIONS.

For the convenience of physicians and hospitals the following list of places where Laboratory outfits may be obtained is appended:

OUTFIT STATIONS.

CITY OR TOWN	AGENT	CITY OR TOWN	AGENT
Acton	C. W. Grosse (P. O. Milton Mills, N. H.	Bucksport Bryants Pond	R. B. Stover Dr. R. F. Willard
Alfred	Dr. S. B. Marshall	Calais	P. L. Lord
Andover	Dr. F. E. Leslie	Camden	L. M. Chandler
Anson	Dr. R. G. Stanwood	Canaan	Dr. F. E. Earle
Appleton	Dr. B. F. Keller	Canton	N. Reynolds
Ashland	Dr. A. B. Hagerthy	Caribou	Caribou Drug Co.
Athens	Dr. L. C. Williams	Carmel	Dr. R. L. Mitchell
Atlantic	Dr. I. B. Gage	Castine	W. A. Walker
Auburn	H. W. Getchell	Charleston	Dr. F. B. Weymouth
Augusta	H. E. Goodrich	Cherryfield Clinton	Dr. W. A. Van Wart P. A. Cotton
Bangor	East Side Phar.	Corinna	H. J. Goulding
Bangor	Essex Pharmacy	Cornish	G. H. Parker
Bar Harbor	Fred Gonya		
Bath	Webber Drug Store	Damariscotta	Dr. W. H. Parsons
Belfast	W. O. Poor & Son	Danforth	Danforth Drug Co.
Belgrade	Dr. L. E. Reynolds	Deer Isle	Dr. C. E. Wasgatt
Berwick	Dr. W. T. Elliott	Dennysville	Dr. J. W. Crane
Bethel	W. E. Bosserman	Dexter	E. A. Brewster Co.
Biddeford	H. Boynton	Dixfield	G. O. Gardner
Biddeford	J. W. Mahoney	Dixmont	Dr. O. A. Menges
Bingham	E. W. Moore	Dover	E. E. Cole & Co.
Blaine	Dr. A. J. Fulton		
Bluehill	Dr. Otis Littlefield	Eagle Lake	Dr. H. E. Wilkinson
Boothbay Har.	Harris Drug Co.	E. Lebanon	Dr. D. L. Murray
Bowdoinham	Dr. I. C. Irish	E. Machias	F. W. Kingsley
Bradford	Dr. F. A. Bickford	E. Millinocket	W. A. Johnston
Brewer	Merrill Drug Co.	Eastport	Havey & Wilson
Bridgewater	Dr. E. H. Jackson	Eliot	Dr. H. I. Durgin
Bridgton	F. P. Bennett	Ellsworth	Alexanders Phar.
Bristol	Dr. J. W. P. Goudy	Enfield	Dr. W. J. Hammond
Brooks	A. R. Pilley		
Brownfield	Dr. H. F. Fitch	Fairfield	Wilson Phar.
Brunswick	Wilson Phar.	Farmington	Hardys Phar.
Buckfield	J. A. Ranson	Ft. Fairfield	Ft. Fairfield Drug

OUTFIT STATIONS—Continued.

CITY OR TOWN	AGENT	CITY OR TOWN	AGENT.
Ft. Kent	Stanley Burrill	Limerick	Dr. I. W. Carpenter
Foxcroft	W. Buck & Co.	Limestone	Gammon Bros.
Franklin	Dr. C. S. Underhill	Lincoln	H. L. Bailey
Freeport	W. V. Cole	Litchfield Plain	G. Roberts, Jr.
Friendship	Dr. W. H. Hahn	Lisbon Falls	E. H. Webber
Fryeburg	C. T. Ladd	Livermore Falls	E. P. Smart
		Lovell	Dr. E. J. Noyes
Gardiner	Jackson Bros.	Lubec	D. A. Gillis & Co.
Georgetown	Dr. R. C. Jackson		
Goodwins Mills	F. W. Morse	Machias	D. A. Curtis Co.
Gray	R. G. Hall	Madison	H. H. Haines
Greene	Dr. O. E. Hanscom	Maplewood	Dr. A. S. Davis
Greenville	I. A. Harris	Mars Hill	Kincaid & Wilson
Guilford	Genthner Bros.	Mechanic Falls	Merrill & Denning
Gorham	E. F. Carswell	Mexico	Dr. H. J. Binford
		Milbridge	Dr. J. A. Walling
		Millinocket	W. H. St. John
Hallowell	W. D. Spaulding	Millinocket	Whalen's Drug Store
Harmony	Dr. J. S. Dyer		
Harrington	Dr. G. L. Burritt	Milo	W. S. Owen
Harrison	F. P. Freeman Co.	Monmouth	C. W. Prescott
Hartland	R. C. Hamilton	Monson	R. M. Hescocck
Hebron	Maine Sanatorium	Mt. Vernon	A. P. Cram & Son
Hiram			
Houlton	H. J. Hatheway Co.	Naples	Dr. J. P. Fickett
		New Gloucester	Dr. J. J. Sturgis
Island Falls	S. R. Crabtree	Newport	G. M. Barrows
Islesboro	Dr. B. E. Larrabee	New Sweden	N. E. Ringdahl
		Norridgewock	Dr. J. D. Ames
		N. Anson	F. H. Holley
Jefferson	Dr. A. W. Nash	N. Berwick	R. H. Hurd
Jonesport	H. A. Mansfield	N. Ea. Harbor	C. N. Small
		N. Fryeburg	Dr. H. L. Craft
Kennebunk	A. W. Meserve	N. Haven	Dr. J. L. Gammon
Kennebunkport	C. C. Miller	N. N. Portland	Dr. E. F. Pratt
Kezar Falls	M. H. Ridlon	N. Vassalboro	Dr. F. D. Walker
Kingfield	L. L. Mitchell	Norway	Frank Kimball
Kittery	Clarke & Rogers		
		Oakfield	Oakfield Drug Co.
Lewiston	Babcock Pharmacy	Oak Grove	G. L. Jones
Lewiston	Warren Riker	Oakland	S. J. Foster
Lewiston	Pharmacie National	Ogunquit	Dr. J. W. Gordon
Lewiston	Wakefield Bros.	Old Orchard	Dr. A. L. Jones

OUTFIT STATIONS—Continued.

CITY OR TOWN	AGENT	CITY OR TOWN	AGENT
Old Town	H. M. Burnham	Solon	L. W. McIntire
Orono	C. F. Nichols	S. Berwick	B. F. Davis
Orrs Island	Dr. E. P. Gregory	S. Brewer	F. D. Wyman
Oxford	G. H. Jones	S. Paris	C. H. Howard Co.
		S. Portland	T. F. Devine
Palermo	Dr. M. M. Small	S. Waterboro	Dr. W. J. Downs
Patten	Patten Drug Co.	S. Waterford	Eugene Nelson
Peaks Island	Ranslows	S. Windham	A. L. Hoyt
Pemaquid	Dr. F. W. Clarke	Springfield	Dr. B. G. Jewett
Phillips	F. E. Parker	Springvale	L. B. Trafton
Phippsburg	Dr. A. F. Williams	Steep Falls	F. L. Strout
Pittsfield	Berry's Pharmacy	Stonington	Noyes Pharmacal Co.
Portland	Chapman & Wyman		
Portland	G. C. Frye	Strong	C. E. Dyer
Portland	H. H. Hays Sons	Swans Island	Dr. A. J. Fuller
Portland	West End Drug Co.		
Presque Isle	W. R. Thompson & Co.	Thomaston	Whitney & Brackett
Prospect Har.	Dr. C. C. Larrabee	Topsham	Dr. H. O. Curtis
		Union	Dr. L. W. Hadley
Rangeley	Riddles Phar.		
Readfield	G. W. & M. W. Manter	Van Buren	T. N. Findlen
Richmond	W. J. Bibber	Vanceboro	Dr. S. Johnston
Robbinston	Dr. Chas. Armstrong	Vassalboro	S. B. Richardson
		Vinalhaven	Lyford & Ginn
Rockland	C. W. Hills		
Rockport	Dr. S. Y. Weidman		
Rumford	Bower's Phar.	Waldoboro	W. N. Gallagher
Rumford	Rumford Drug Co.	Warren	H. Newman
		Washburn	Scates & Co.
Sabattus	E. Woodside	Waterford	E. L. Stone
Saco	C. H. Sawyer	Waterville	J. H. DeOrsay Co.
Saint Francis	Dr. E. H. Field	Wayne	J. A. Ridley
Sanford	P. S. Demers	Weeks Mills	Dr. A. W. Sedgwick
Sangerville	A. F. Marsh	Westbrook	C. B. Woodmans Sons
Seal Harbor	Dr. W. H. Rockwell		
Searsport	Searsport Drug Co.	W. Buxton	Dr. E. M. Varney
Sedgwick	Dr. R. E. Hagerthy	W. Enfield	Dr. L. M. Preble
Skowhegan	Sampson & Avore	W. Paris	S. T. White
Smyrna Mills	Dr. F. W. Tarbell	W. Southport	J. N. Payson

OUTFIT STATIONS—Concluded.

CITY OR TOWN	AGENT	CITY OR TOWN	AGENT
W. Sullivan	Dr. H. A. Holt	Wiscasset	A. W. Kierstead
Wilton	E. P. Parlin	Woodland	Chas. McInch
Winn	Dr. S. D. Sherrard	Wytopitlock	Dr. H. W. Johnson
Winter Harbor	Dr. A. E. Small		
Winterport	F. C. Atwood	Yarmouthville	Dr. G. L. Sturdivant
Winthrop	C. P. Hannaford	York Village	J. F. Sanford

Following is a brief summary of the work done by the Diagnostic Laboratory from July 7 to December 31, 1917. This does not include the routine chemical and bacteriological examinations of water, or miscellaneous chemical tests which are done in the laboratory of the Sanitary Engineering Division:

<i>Character of Examination</i>	<i>Positive</i>	<i>Negative</i>	<i>Doubtful</i>	<i>Total</i>
Cultures for diphtheria bacilli	139	800		939
Sputum for tubercle bacilli...	168	570		738
Blood for typhoid (Widal)...	44	227		271
Blood for syphilis (Wassermann)	32	161	2	195
Spinal fluid for syphilis (Wassermann)	2	7		9
Smears for gonococci.....	20	62		83
Feces for typhoid bacilli.....	1	3		4
Milk for typhoid bacilli.....	0	2		2
Spinal fluid for infantile paralysis	0	2		2
Urine for tubercle bacilli.....	1	1		2
Blood counts				2
Serous fluid				1
Tissues for malignancy.....				5
Typhoid vaccine				14
Miscellaneous				5
Total				2,273

DIVISION OF SANITARY ENGINEERING.

Director and Chemist, HENRY D. EVANS, M. A.

Dr. Leverett D. Bristol, Commissioner of Health:

SIR:—In accord with your directions I am appending a brief summary of the work done in the Division of Sanitary Engineering between the dates July 7 and December 31, 1917, inclusive.

Respectfully,

H. D. EVANS,
Director and Chemist.

DIVISION OF SANITARY ENGINEERING REPORT.

July 7th, 1917-December 31, 1917.

On the reorganization of the State Department of Health, I was asked to take charge of the Division of Sanitary Engineering, and, until the appointment of a Director of the Division of Diagnostic Laboratories, to carry on the diagnostic work of the old laboratory of hygiene. This was done until the appointment of Dr. Thompson to the Directorship of the Diagnostic Laboratories. No attempt to summarize the diagnostic work between July 7th and October 1st is made here, as it will be included in the report of Dr. Thompson.

Of the old laboratory force Mr. Kingsley went into the Department of Diagnostic Laboratories, and Mr. James went into the Division of Sanitary Engineering, where he remained until the middle of October, when he joined the colors. An attempt was made to obtain a man to take his place, but a satisfactory man could not be obtained for what the Division was then able to offer. As a result, the work of the Division has been carried on by the director alone, with the assistance of a high school student, who has been engaged for afternoon work as a general clean-up man, and to take care of such routine

work as care of the stills. If it is physically possible this method of work will be continued until the summer, and an attempt then made to obtain female assistance in the person of a graduate from some woman's college, which offers a course in sanitary chemistry and biology.

During the six months covered by this report, the work of the Division has been entirely along the line of analytical work, with a few inspections for local health authorities. The work of the Division is being planned to take care of the water and sewage supplies of the State, when these are divorced from the Public Utilities Commission, but until this is done the Division can do simply analytical work for that Commission; analysis of water supplies and sewage samples for private individuals, and make such sanitary inspections as necessity may require. This latter work is necessarily limited, with but one man to do it all. An extension of the laboratory force is absolutely essential, even if the routine work of analysis is to be carried on. With but one man in the Division, and he carrying the work formerly done by two men, inspection work, which involves absence from the laboratory, is impossible.

Very briefly the following is a summary of the work of the Division for the past six months:

There have been examined 812 samples of water,—the samples receiving full sanitary chemical and bacteriological analysis. This latter work has involved plating each of these 812 samples in gelatine in two dilutions, and the running of presumptive tests for *B. Coli* in dilutions of 0. 1 cc, 1.0 cc., and 10 cc. by standard methods. One hundred and fifty-five of the 812 samples were examined for the transportation companies, which did an interstate business, to conform to the U. S. Public Health requirements for such drinking water supplies, and this involved additional plating of these samples on lactose litmus agar, and extended isolation work at times.

Out of the 812 samples examined 322 were from public water supplies, and 490 samples were from private wells, drilled wells and springs. In addition four samples of water were examined for lead alone.

The miscellaneous analyses made by the Division during the same time consisted of 43 urine analyses, made for the medical department at Camp Keyes, under the same conditions as those

reported in the final report of the Laboratory of Hygiene; the examination of two samples of mother's milk, and one sample of cow's milk for infant feeding; and the examination of one stained diaper for the cause of the discoloration.

During the summer of 1917 considerable complaint and alarm arose over the development of odor and taste in the public water supply of the Camden & Rockland Water Company. Examination of the water showed this to be due, not to any pollution of the water by sewage wastes, or by contact with polluted surface drainage, but to a growth of *Asterionella*. This condition was of but short duration, and vanished without the need of treatment of the water. A similar condition existed in this same supply in 1907.

On October 30 the Richmond Water Works put into operation an Electro Bleaching Company type of chlorinator for the purification of their supply. As reference to the past reports of this office will show, this water supply is one of the most seriously polluted in the State, and its immunity from trouble has been due entirely to the absence of typhoid fever on the watershed of the upper river, which receives the sewage of the entire Kennebec valley from Bingham to the intake of this company. Up to the time of the present writing this plant has not been operating in a satisfactory manner, but we have been gradually working the chlorine dose upward until it is thought that future operations will be satisfactory. The main trouble apparently came from the company operating the apparatus with the amounts of chlorine advised by the manufacturers, without letting the Division know of installation of the apparatus until November. Analyses of the water, which were then started at once, showed unsatisfactory bacteriological removal, and the amount has since been gradually worked up to what is now thought to be a satisfactory point. The unusually cold winter, together with the entrance of considerable amounts of sulphite wastes but a few miles above the intake, makes it out of the question to operate this plant by rule of thumb methods.

In the latter part of October the North Berwick Water Company also installed a chlorinating apparatus, similar to that at Richmond. This apparatus has been operating satisfactorily from the start, as it has not had the difficult water to treat that the Richmond plant has encountered.

The Skowhegan Water Company has reached a point where they have placed an order for a chlorinator, and the Dover & Foxcroft Water District is considering a similar proposition. With the installation of these two additional chlorinators the worst of our river supplies will be cleaned up. There are several supplies which will need attention in the very near future, and the Division and the Public Utilities Commission are urging immediate attention to the matter on these companies.

In November the director made a visit of inspection to Dexter, called there by complaint of sewage nuisance. The conditions were investigated and report made, with recommendations for the correction of the particular difficulty, together with recommendations for the correction of several other unsatisfactory conditions, which were found to exist in connection with sewage disposal at that town. Since then all of the conditions have been corrected. Owing to lack of space full details of the investigation are omitted; but a full report on the same is on public file at this office.

In December an inspection visit was made to East Wilton to investigate a complaint, made by the East Wilton Woolen Company on account of an alleged nuisance, which was causing spotting of their cloth. Investigation of the local conditions showed conditions that were objectionable, and which would bring about such a result. As the water was not used for drinking, and no objection to it was raised to it for any but industrial uses, nothing could be done by the local board of health on the specific complaint.

The investigation did show, however, that the conditions which were causing the industrial trouble were such that a serious nuisance would undoubtedly be caused during the warm months, and the local board of health was advised to correct the trouble as soon as temperature conditions would permit of outside work being done. Definite recommendations as to what should be done, and how it should be done, were given; and the local authorities promised to correct the conditions as soon as the ground thawed. The removal of the conditions, which will cause a warm weather nuisance, will also remove the cause of complaint of the East Wilton Woolen Company. Full report on this matter is on file in the office of the Division.

In October investigation of the two sources of supply of the Winthrop Water Company was made, on request of the Winthrop board of health. The request was made as a result of the finding of B. Coli in the water supply after every heavy rain, as well as on account of the turbid appearance of one of the sources of supply at such times. The investigation showed that the water in the impounding reservoir, of which complaint especially was made, was open to contact with much surface wash from manured land after rains, and that sewage pollution of the water would occur from the privy of a house which drained directly into a brook, leading into the impounding reservoir. The investigation also developed the fact that the soil conditions about the reservoir were such that excessive turbidity of the water was unavoidable after heavy rainfall. The lake source of supply was found to be in good condition. The company was advised to cut connection with the impounding reservoir, and use only water from their lake supply. This has been done, with satisfactory results to all parties.

At the same time a dump nuisance was investigated, and recommendations for its discontinuance made. The local board of health ordered it discontinued, but the local authorities have not yet abolished it.

The work of the Division of Sanitary Engineering of the State Department of Health for the six months ending December 31, 1917, may be summarized as follows:

ROUTINE WATER EXAMINATIONS.

Chemical tests	812	
Bacteriological tests	812	
Total	1,624	1,624

MISCELLANEOUS CHEMICAL EXAMINATIONS:

Urinalysis	43	
Mother's milk	2	
Cow's milk	1	
Feces	1	
Total	47	47

FIELD SANITARY INSPECTIONS.

Dexter	I	
E. Wilton	I	
Winthrop	I	
	<hr/>	
Total	3	3
		<hr/>
Grand Total		1,674

Division of Public Health Education and Publicity.

Director, WILLIAM H. GREENLEAF.

Dr. Leverett D. Bristol, Commissioner of Health:

SIR:—I am submitting a summary of the work of the Division of Public Health Education and Publicity covering the six months' period prior to and including December 31, 1917.

Respectfully,

W. H. GREENLEAF,

Director.

Inasmuch as the division was not organized until the latter part of November, 1917, it is needless to say that any report upon the division's activities must be largely an outline of plans which were formulated during the time covered by this report. Such undertakings as were actually begun under these plans are of course noted in the report.

It was determined at the outset to go slowly and to organize the work in a general way and as nearly as possible on lines which could and would be followed in practice during the coming year. Such immediate needs as the preparation of weekly news-letters to the press, already under way, were taken care of. The rest of the time was largely devoted to general organization work. As a preliminary step in this work, letters were sent to all other state departments and boards of health asking for a complete survey of educational work and methods in their respective localities. This was done to secure all available suggestions, to see what other departments were doing and were not doing. As a result of our inquiries and the very general response to them, we concluded that the same general lines of exhibits, lectures with and without lantern slides, newspaper publicity, etc., were in vogue. Some departments had no organized educational work. Many had no separate division to carry

on the work. Wisconsin's outlines of newspaper publicity were especially helpful. The general emphasis on the value of printer's ink in public health work was noticeable.

Realizing the value of the newspaper support and the value of newspaper publicity in our work, we took up the problem with local representatives of the Boston papers and Maine dailies and also with the editors of all the State papers. We met an interesting response in that all emphasized the tremendous output of patriotic and social service literature, most of which must necessarily go into the printer's waste-basket. All, or nearly all, emphasized, further, their interest in public health work, and while they declined to bind themselves in any way, agreed to use as much of the material as they could. A few of the papers followed our suggestion of placing the office on their mailing list.

In line with suggestions received in the personal letters from the editors, as well as in accordance with the obvious necessity, we endeavored to organize our news-letters so that they would be news rather than sermons, and so that they would be short and to the point. We divided the news-letter into three or even four paragraphs on as many topics, rather than to send one long story to the press, the idea being that more papers would use the letter, or parts of it, an idea which it would seem was working out well in practice. In addition to the news-letters we sent special news-stories on cancer, typhoid fever and similar subjects, as those subjects related to Maine experience, to Mr. J. C. Murphy, correspondent of the Maine dailies and also of one or two Boston papers. These stories, though crowded considerably by the more pressing war news, were used quite generally. The aim in preparing these stories was to present salient "health facts" or, if necessary, "disease facts" as news rather than as warnings or as obvious advice to the public. The health message was to be concealed in the facts. As for instance, the story showing the extent of cancer in the State of Maine with mention of the modern way of treating cancer was in itself health advice.

As a part of the health publicity work, a news-bulletin called the State Department of Health News-Bulletin was published in December, 1917, the first number in a monthly series. This news-bulletin, being sent to five thousand selected persons in

the State, was to supplement the regular monthly bulletin of the department, which was of a more scientific nature. It was also to supplement news-stories sent to the press. Its appeal was to be more directly personal. Its aim was to call to the attention of selected persons again and again the pressing needs along health lines together with the steps that are being taken and that must be taken to meet those needs. The mailing lists were chosen from representative groups of citizens as, for instance, grange officers, clergymen, physicians, officers of women's clubs, editors, school men, officers of commercial clubs, business men, librarians, local boards of health, etc. While in general the same people receive the bulletin each month, the plan was to send special issues to special groups of people as there might be an object in calling their attention to certain facts. While the news-bulletin was not designed primarily for editors, it was thought the newspapers might occasionally copy its news stories. This they have done.

One of the activities during December, 1917, was concerned with the preliminary arrangements for a meeting of representatives of local boards of health. The secretary of every local board of health in the State received a letter suggesting the plan of such a conference. A request was made for suggestions, on the part of the local boards, as to desirable dates for holding such meeting. The response from local board members was quite general. The replies were interesting and suggestive. Approximately one hundred boards agreed to have representatives at the conference. January and February were the two months most in favor as appropriate seasons for the meeting. The need of such a conference was widely recognized. The report on the actual event would not come within the limits of this summary. It may be said here, however, that the plan as formulated by the Commissioner and followed by the Division of Education in the making of arrangements was to bring the local officers into close contact with the State Department, to exchange views, to answer questions of general interest to local boards of health and to awaken more interest and create more enthusiasm in public health work on the part of the local boards of health. Further details of the arrangements for the meeting fall within a later report than this one.

As a means of interesting representative citizens of the State in the work of public health, circular letters to be addressed to these citizens personally were planned. These letters were to invite personal support of the individuals and to request the co-operation of the organization with which they might be connected. Some of these circulars were sent out in December and an interesting response resulted. The plan included the sending of circulars to officers of women's clubs, commercial club officials, ministers, school men, secretaries of granges, etc. It has been the idea in sending out these circulars that the personal interest and support of a few people in each community would be of inestimable value in the work. The letters were sent out as an effort, also, to get a hearing before clubs and other organizations, as for instance through the agency of lectures, literature, exhibits, etc.

As one of the important phases of public health work has to do with education through the schools, the division touched the problem through the office of the State Superintendent of Schools. That office was engaged in formulating plans for State-wide physical education of school children. These plans included the preparation of a course of physical exercise, the outline of a course of study in personal hygiene and first aid, etc. In these fields we were invited to co-operate. Some general plans were drawn up looking toward the early establishment of a system which might be applied wherever practicable and which might ultimately be universally adopted in the State. From the point of view of the department of health, the aim of the work would be the education of the school children to the demands of public health and, through the agency of the children, the education of the parents. It was hoped that after the establishment of physical education courses in high schools and elsewhere, the department might send exhibits, lectures, etc. to supplement and to create additional interest in the work. The sending of literature to schools in the State, an activity which had long been carried on by the State Board of Health, was continued under the new organization of the Department of Health as a part of the activity in public school health education.

Among the various plans formulated before the end of 1917 were those covering the health day idea as followed in some

other states, Indiana for instance, and the baby week idea, by which the baby saving work might be supported and developed. A possible correspondence study course for health officers was considered and roughly outlined. A study course for women's clubs such as used in New Jersey was discussed with representative club women and tentative plans for an outline were drawn up. Rough plans were made for exhibitions at fairs and for general public exhibits of cards, pictures, diagrams, etc. Plans were outlined for the purchase of more exhibits, those in use by the department having been taken over from the board of health and being somewhat out of date. The lantern slide material was reviewed and rearranged with a view to greater convenience in handling. Plans were made to purchase more slides and it was considered advisable to get as many slides dealing with actual Maine conditions as possible. Additional lectures were outlined for use by the division. Mailing lists were gone over and checked up in several instances.

In concluding this report, it might not be out of place to note the aims of the division in bringing home or in planning to bring home the needs of public health. The aim has been to emphasize as much as possible the advantage of good health rather than to be always dwelling upon disease. Furthermore the aim has been to meet the public on its own terms, to place the facts in a way to meet the public mind and furthermore to appeal not simply to the sense of duty or even to the fears of the public, but to appeal rather to the enthusiasm of the people, to call on the imagination that likes to have a hand in civic betterment because "things are doing," because something very practical and very tangible can be accomplished. This has been the idea in dealing with the press, in letters to business men, clubs, ministers, etc. It is the idea in planning exhibits and lectures. Percy MacKaye tells of the bandmaster as a leader of the army and a ruler of the people, and he points to the St. Louis Civic Pageant and to the health parades in other cities as holding the key to popular interest in public service work. It is not the purpose to sacrifice in the least degree the scientific attitude nor any of the results of scientific work. It is hoped however to put science before the people as a thing of vital everyday relationship to the people. War time is perhaps not the time to develop public health education in any

way that calls for much expenditure of local funds nor that calls for too much local activity that might interfere with Red Cross and other war activities. But, aside from the call to increased efficiency which is essential and which is a war call of pressing necessity, a beginning can be made in placing public health education on a firm footing; firm because it will be supported by the people who have seen its relationship to their everyday life.

DIVISION OF VITAL STATISTICS.

State Registrar, L. D. BRISTOL, M. D., Dr. P. H.

Division Director, INEZ V. CREIGHTON.

Dr. Leverett D. Bristol, Commissioner of Health and State Registrar of Vital Statistics.

SIR: Following is a report of the Division of Vital Statistics which I have to submit for the six months ending December 31, 1917. This includes also the twenty-sixth annual report upon the Births, Marriages, Divorces and Deaths for the year ending December 31, 1917.

Respectfully,

INEZ V. CREIGHTON,

Division Director.

REPORT OF DIVISION OF VITAL STATISTICS.

ROUTINE OFFICE WORK.

The new organization known as the State Department of Health, began its work in July 1917, but the activities of the Division of Vital Statistics have been carried on in much the same manner as under the old organization.

The shipments to the Census Bureau were as follows:

July	1352	Birth and	1103	Death transcripts.
Aug.	1278	“	“	825 “
Sept.	1356	“	“	805 “
Oct.	1299	“	“	932 “
Nov.	1323	“	“	792 “
Dec.	1441	“	“	873 “
Total	8049		5330	

No account was kept of letters or abstracts sent out during the months of July and August, but for the last four months 428 letters and 515 abstracts were sent.

Requests: For records of birth from the State School for Girls, Hallowell; Associated Charities, Waterville; New England Home for Little Wanderers, Waterville; County Agents for Protection of Children; and from individuals in Massachusetts, New Jersey, New York and New Hampshire for records of births, marriages and deaths; copies of records of death of Russian males between the ages of 18 and 80 requested by a St. Paul party; table giving census of counties and towns for entire state for 1915, by New England Division Headquarters, American Red Cross, Boston; state seal affixed to a record to be sent to Chili and one to be sent to Michigan; records of births by a representative of the New York, New Haven and Hartford Railroad; total number of births by months for the state for the years 1910-1916 inc. by George Batten Company, New York; birth and death rates for 1916 for use in a sanitary survey made by the Province of New Brunswick; inquiry as to the method employed for recording births after a lapse of months or years and whether parents can make such records, by the Registrar of Dallas, Texas.

The first copy of the report for 1916 was sent to the printer September 12. Last revised proof returned November 30.

Extreme cases of delinquent clerks under the new organization have been placed in the hands of the District Health Officers with very satisfactory results.

The work of copying the old records on the form now used, work on the marriage index and filing records has been carried on when time could be spared from the routine work.

SUMMARY FROM THE TWENTY-SIXTH ANNUAL REPORT UPON THE BIRTHS, MARRIAGES, DIVORCES AND DEATHS

This report presents the results of the registration and tabulation of the births, marriages, divorces and deaths which occurred in the State of Maine during the year 1917.

The number of births registered in that year is 352 more than in the preceding year. The number of births recorded in each of the registration years 1892-1917 is 14,028, 14,604, 14,607, 15,430, 15,429, 15,142, 15,121, 14,475, 14,709, 14,615, 15,166, 15,130, 15,405, 16,005, 16,585, 16,595, 16,914, 16,735, 16,469, 16,300, 16,583, 16,408, 16,731, 17,359, 16,633 and 16,985.

The number of marriages (number of couples married) in 1917 was 7,095, 519 more than in the preceding year. The number of marriages registered in the State in each of the years 1892-1917 is, respectively, 5,726, 5,795, 5,591, 5,729, 5,579, 5,331, 5,144, 5,329, 5,482, 5,735, 5,905, 6,200, 6,208, 6,264, 6,498, 6,380, 5,904, 6,011, 5,900, 5,878, 6,550, 6,622, 6,707, 6,672, 6,576 and 7,095.

The number of deaths recorded in the State for the same year was 11,407, a number 365 less than that of the deaths registered in the preceding year. The number of deaths in each year thus far recorded is: in 1892, 12,147; in 1893, 11,134; in 1894, 11,012; in 1895, 10,464; in 1896, 10,626; in 1897, 11,236; in 1898, 10,956; in 1899, 11,370; in 1900, 11,389; in 1901, 11,133; in 1902, 10,673; in 1903, 11,009; in 1904, 11,346; in 1905, 11,381; in 1906, 11,427; in 1907, 11,803; in 1908, 11,664; in 1909, 11,295; in 1910, 12,439; in 1911, 11,731; in 1912, 11,390; in 1913, 11,552; in 1914, 11,648; in 1915, 11,541; in 1916, 11, 772, and in 1917, 11,407.

Bertillon Classification.—Nomenclature of the causes of death in this report is the revised Bertillon classification adopted by the International Commission which met in Paris in July, 1909.

Population.—The population of the State of Maine in 1910 as given by the twelfth census was 742,371. In 1900, the population of the State was 694,466. There was therefore, a gain of 47,905 in the decade between the last two census enumerations.

The following table exhibits the population of the several counties in 1890, 1900, 1910, and the estimated population in 1917.

This report does not include the Twenty-Sixth Annual Report upon the Births, Marriages and Deaths in the State of Maine for the year ending December 31, 1917. That report will be published later.