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PUBLIC HEALTH ADMINISTRATION IN WASHINGTON.

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The following report gives the results of studies of health organization and administration in the State of Washington similar to that previously conducted in Maryland and Minnesota. The studies were begun September 11, 1914, and continued until January 13, 1915. Within this period studies have been made of the operations of the State board of health at its central office in Seattle, and inspection trips have been made to practically all the large centers throughout the State.

Although provision was made for a central health organization in 1881, or earlier, a definite State organization was provided for only in 1891. This last-mentioned provision has subsequently been added to from time to time, notably in 1909, when provision was made for a commissioner of health.

There is evidence of progress in public-health matters since the last-mentioned date, but this progress has not been systematic, and it is found that authority for health activities is scattered among branches of the State government other than the State board of health. It is found also that adequate provision for carrying on public-health work has not kept pace with existing knowledge of these matters or the material growth of the State, nor have sufficient appropriations been made with which to enforce existing provisions of law. All these matters will be subsequently referred to. It is only necessary therefore, to state here that present activities are large in proportion to the facilities provided, and that those charged with the State health administration are desirous of increasing them. It is necessary also to make due acknowledgment for information received from health authorities and others throughout the State.

STATE BOARD OF HEALTH.

The system of administration in the State board of health of Washington is one which closely approaches the ideal. Under the State constitution the board of health has such powers as may be

delegated to it by the legislature. It may thus issue and assume responsibility for reasonable and necessary regulations when authorized by the legislature. The responsibility of enforcing these regulations, as well as other administrative details, rests directly with the commissioner of health. For obvious reasons it is advisable to have quasi-legislative powers vested in a board rather than in a single executive officer. Outside of these powers, however, the board should be advisory rather than controlling, and this is the case in Washington.

Membership of the board.—The State board of health is composed of six members, five being appointed by the governor, with the advice and consent of the senate, and one, the State commissioner of agriculture, who is ex officio a member.

Term of office.—The appointive members hold office for five years, their terms expiring on the 30th day of December of each year consecutively.

Meetings.—The meetings of the board are held in January and June of each year, and at such other times as may be deemed necessary. The January meeting is required by law to be held at the capital. A majority constitutes a quorum. The president is chosen from among the members, the board making and adopting the necessary rules or by-laws for its government.

Salaries and expenses.—The members of the board receive no compensation, but are entitled to reimbursement for necessary traveling expenses.

Powers and duties.—The powers and duties of the State board of health are specified as follows:

To have supervision over all matters relating to the preservation of the life and health of the people of the State.

To have supreme authority in matters of quarantine; i. e., to declare and enforce it; to modify, relax, or abolish it.

To promulgate special or standing orders or regulations for the prevention of the spread of communicable diseases and for other sanitary matters that may best be controlled by general rule.

To make and enforce orders in local matters in emergencies when the local board of health neglects or refuses to act with promptness or efficiency, or in the absence of a local board. Under these circumstances the locality is required to defray the expenses.

To make careful inquiry as to the cause of disease and take prompt action to control and suppress it.

To respond promptly when called upon by the State or local authorities for investigation and report upon water supplies, sewerage systems, disposal of excreta; plumbing, heating, or ventilation of any place or public building.

To make an annual report to the governor of the State.

It is the duty of local officials, including peace officers, to enforce the rules and regulations made by the State board of health, and for failure or refusal to do so they are liable to a fine of not less than \$50 for the first offense and not less than \$100 for the second offense.

Regulations made by the State board of health are particularly strong in this State, as the constitution specifically says that "There shall be established by law a State board of health and a bureau of vital statistics in connection therewith, with such powers as the legislature may direct," thus authorizing the legislature to delegate legislative powers to the State board of health.

As the term of office of the appointive members of the board is five years, one new member being appointed each year, it is impracticable to change the composition of the board so that a majority of its members could favor any particular political policy.

State Commissioner of Health.

The State commissioner of health, who acts as executive officer and secretary of the board, is appointed by the board of health and may or may not be one of its members.

He is required to be a physician of at least five years' experience in the practice of medicine, must be versed in sanitary science, and must have had experience in public-health administration.

His term of office is five years and until his successor is elected and qualified.

He may be removed by the State board of health for incompetency, malfeasance, or corruption, the evidence to be given under oath before the board. For this purpose the board has authority to administer oaths and take testimony.

The salary of the State commissioner of health is \$3,600 a year, and he is entitled to necessary traveling expenses.

Powers and duties.—The duties of the State commissioner of health under the law are as follows:

To be State registrar of vital statistics.

To be the custodian of all property and records of the State board of health and to have charge of the office and all laboratories.

To have the power to enforce all the laws enacted for the protection of the public health and the improvement of sanitary conditions.

To enforce all rules, regulations, or orders of the State board of health.

To investigate epidemics of disease and advise the local authorities as to the best methods for the prevention and control of such diseases.

To supervise such measures as may be taken by the health officers for the control of disease.

To have the same authority in quarantining and disinfecting any person, article, building, or vessel that is now conferred by law upon the local county or city health officer or commissioner. However, he is not authorized to exercise this authority unless the local health officer refuses or neglects to do so.

To authorize the release of any quarantine, whether ordered by himself or by a local health officer.

To investigate and advise when called upon by the county commissioners of any county or the mayor of any city relative to improving sanitary conditions, or disposing of garbage or sewage, or obtaining a pure water supply.

To appoint all employees, including deputy commissioners, scientific, clerical, and other assistants.

The present commissioner of health is a full-time health officer, with the ambition and ability to administer an organization capable of carrying on all the functions required of a department of public health. The carrying out of such activities is a duty which the State owes to its people, but money is necessary to perform them, and any neglect in this respect can not be excused on the plea of economy. In view of the larger aspects of the question, the saving of a few dollars in public health administration is not necessarily a proof of economy. It more likely means that certain important duties have either been entirely neglected or performed only superficially. Every true citizen should be glad to see his government expand so that it will include all duties which are true governmental functions. All he may ask is that the results obtained be commensurate with the money expended. A railroad will expend many thousands of dollars on an installation because it realizes that eventually a profit will accrue therefrom. A government is more apt to base its expenditures within the narrow limits of last year's appropriations. Such views prevent growth and are not consistent with future benefits.

The headquarters of the State board of health are located in the city of Seattle, which is decidedly advantageous, as the State health commissioner, to carry on his work actively, should be situated in the largest business center and in the center of transportation. The quarters are inadequate, however, for even the present small organization. In the future it will be absolutely necessary to secure larger quarters, and it should be kept in mind that for purposes of ease of administration all of the different divisions of the State board of health should be located under the same roof.

Office Hours of the Department.

The office hours of the department are from 8.30 a. m. to 5 p. m., with half an hour for lunch. The lunch hour is so arranged that there is always a clerk present in the office. On Saturdays the hours are from 8.30 a. m. until 12 noon, each clerk in turn remaining Saturday afternoon until 5 p. m. The regular holidays are observed.

In the laboratory the hours are somewhat indefinite, the bacteriologist remaining on duty a sufficient time to finish the day's work. The bacteriologist also visits the laboratory on Sundays and holidays to attend to any routine work that may be necessary. There is no one on duty in the laboratory at night.

Each officer and employee is entitled to and receives an annual vacation of two weeks.

Attorneys for the Board.

There are no attorneys employed by the State board of health. The officials of the attorney general's office are required to perform all of the legal work of the board. In the office of the attorney general are drawn up proposed laws, matters requiring prosecution are attended to, and legal interpretations rendered.

Prosecutions have not been carried on to any great extent, except against violators of the vital statistics act. These have been generally successful.

Officers and Employees of the State Board of Health.

The officers and employees of the State board of health and their salaries at present are as follows:

Dr. Wilson Johnston, president of board.

Dr. Elmer E. Heg, member of board.

Dr. Fred R. Hedges, member of board.

Mrs. R. C. McCredie, member of board.

Dr. H. T. Graves, acting commissioner of agriculture, member of board.

One vacancy.

Dr. Eugene R. Kelley, commissioner of health.....	\$3, 600
Assistant commissioner. (Vacant.)	
One assistant deputy commissioner and State health inspector	1, 800
One assistant State registrar.....	1, 200
One vital statistics clerk	600
One vital statistics clerk	540
One contagious disease clerk	1, 020
One bacteriologist (part time).....	1, 000
One bacteriologist (part time).....	240
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	10, 060

EPIDEMIOLOGICAL ACTIVITIES.

The epidemiological activities of the State board of health will be taken up under the following headings: The notification of diseases, the suppression and prevention of disease, and the diagnostic laboratory.

The Notification of Diseases.

Requirements of laws.—The laws bearing on the notification of diseases are summarized as follows:

The State board of health may make special or standing orders or regulations for the prevention of the spread of contagious or infectious diseases.

In addition to the above, which applies to the State board of health, the law also specifies that it is the duty of the local board of health, health authorities, or physicians where no health authorities exist, to report promptly the existence of Asiatic cholera, yellow fever, smallpox, scarlet fever, diphtheria, typhus, typhoid fever, bubonic plague, or leprosy, and such other diseases as the State board of health may from time to time specify as contagious or infectious.

It is the duty of all health officers, upon the appearance of any contagious or infectious disease, to make a full report to the State board of health.

It is also the duty of all city health officers, except those in cities of the first class, to report immediately to the State board of health every outbreak of any contagious or infectious disease, and to make a weekly report to the county health officer of all contagious or infectious diseases occurring within their jurisdiction.

The following provisions of law apply to the reporting of diseases by physicians. The subject is mentioned four times—twice in the older laws and twice in a more recent law. In each instance the requirements are different.

Physicians are required to report within 48 hours to the local board of health any case of smallpox, scarlet fever, diphtheria, Asiatic cholera, or other dangerous contagious disease. A penalty is provided for failure to so report.

Physicians in cities of the first class are required to report to the local board of health within five days every case of tuberculosis coming under their observation.

Physicians are required to report to the local health officer, within 24 hours, any case of dangerous contagious or infectious disease or other disease declared notifiable by the State board of health.

Again, in the same law, under the provision making a penalty for violation, it is specified that—

Any physician who refuses or neglects to report to the proper health officer within 12 hours after first attending any case of contagious or infectious disease, or any disease required by the State board of health to be reported, or any suspicious case of such disease, is guilty of a misdemeanor and liable to a fine of not less than \$10 nor more than \$200 for each case not reported.

It is probable that the last provision, namely, 12 hours, is the one on which legal action should be based. For the purposes of notification, however, the 24-hour requirement is satisfactory and is used by regulation of the State board of health.

Requirements of regulations.—Acting under the authority imposed upon it by law, the State board of health has promulgated regulations requiring the notification of diseases, which are summarized as follows:

The diseases declared to be notifiable are:

Actinomycosis.	Pellagra.
Amebic dysentery.	Plague.
Anterior poliomyelitis.	Pulmonary tuberculosis.
Anthrax.	Laryngeal tuberculosis.
Asiatic cholera.	Rabies.
Chicken-pox.	Relapsing fever.
Diphtheria.	Rocky Mountain fever.
Membranous croup.	Scarlet fever.
Echinococcus disease.	Scarlatina.
Epidemic cerebrospinal meningitis.	Smallpox.
Favus.	Trachoma.
German measles.	Trichinosis.
Glanders.	Typhoid fever.
Japanese lung fluke disease.	Paratyphoid fever.
Leprosy.	Typhus fever.
Malaria.	Hookworm disease.
Measles.	Whoopingcough.
Ophthalmia neonatorum.	Yellow fever.

All cases of, or cases suspicious of the above diseases are required to be reported by physicians to the local health officer within 24 hours. The report must specify the name of the patient, age, sex, residence, occupation, diagnosis, place where probably contracted, date of exposure, and date of onset.

Physicians are also required to report any obscure eruptive disease which may be of a contagious nature.

Teachers and principals of schools are required to report the appearance of a rash in a school child, exclude such child from school, and refer it to the health officer or family physician.

Householders are required to report to the local health officer or family physician the appearance of any acute disease of an eruptive nature occurring in the household.

The State commissioner of health has authority to modify the regulations relative to the reporting of diseases. He may also require that any or all diseases be reported temporarily or permanently, direct to the State board of health, in addition to being reported to the local health officer.

City health officers, except those in cities of the first class, are required to report their contagious diseases to the county health officer weekly.

In addition they are required to report to the county health officer and to the State commissioner of health when any cases of contagious disease not previously present occur in two or more families.

If there are no notifiable diseases present, they are required to report that fact to the county health officer each month.

Local health officers, except those in cities of the first class, are required to keep a record of diseases reported to them, and not later than the 5th of the month following, must submit all original report cards received during the previous month, to the county health officer, together with a summary of the diseases reported to them. These original morbidity reports must contain in addition to the information furnished by physicians, the following data: Date of quarantine and placarding, date of release, number of persons exposed immediately or remotely, place of business or school attended.

Not later than the 10th day of the month following, the county health officer is required to report to the State commissioner of health all contagious and infectious diseases occurring in the previous month, and if no such diseases have occurred, a report must be made stating this fact.

The State commissioner of health may require, if the need arises, that either the original morbidity report or a duplicate, be furnished to the State board of health with the monthly report.

Upon learning of the existence of any case of Asiatic cholera, leprosy, plague, typhus fever or yellow fever, county health officers are required to investigate and immediately report to the State commissioner of health.

Upon learning of the existence of anterior poliomyelitis, chicken-pox in adults, diphtheria, epidemic cerebrospinal meningitis, smallpox, scarlet fever, typhoid or paratyphoid fever, after these diseases have been absent from a community for a period exceeding one month, county health officers, after investigation, are required to report to the State commissioner of health, giving certain epidemiological information, and must at intervals make further reports of the progress of the outbreak.

Methods of procedure.—The same form of card is used in reporting all diseases. These original morbidity reports for the month are forwarded by local health officers, on or before the 5th of the following month, to the county health officers, and are then filed.

The monthly reports made by the county health officers to the State commissioner of health are written on a special form devised for the purpose by the State board of health.

There is no special form used for local health officers to make their weekly reports to the county health officer.

Upon the receipt of the monthly report of the county health officer, the information contained thereon is tabulated by counties, to show the number of cases of notifiable diseases reported during the month. To this is added the number of deaths, which information is obtained from those in charge of the registration of births and deaths. This tabulation is then transferred to a large blackboard, which is exhibited in the office of the State board of health.

The reports from county health officers are always received, although there may be some delay in their transmission. They are, however, not always complete, because some of the local health officers not infrequently fail to transmit their original morbidity reports, as required by the regulations.

Reports of outbreaks of disease within a county, especially small-pox, typhoid fever, scarlet fever, and diphtheria, are sent in with more or less completeness and promptness. Where necessary, such outbreaks are investigated either by the State commissioner of health or his deputy.

Reciprocal notification with other States is practiced in cases where persons suffering from notifiable diseases enter or leave the State.

Reports are sent in monthly to the Surgeon General of the United States Public Health Service, giving information of the reported prevalence of the diseases designated by the conference of State and Territorial health officers with the Public Health Service.

Completeness of reports.—During the period of 12 months ended September 1, 1914, there were reported to the State board of health 854 cases of scarlet fever, with 25 deaths. This gives a case mortality rate of 2.9 per hundred. Assuming that the normal case mortality rate is 3 per cent, it would seem that approximately all cases of scarlet fever occurring within the State are being reported.

During the same period there were reported 4,729 cases of measles, with 56 deaths—a case mortality rate of 1.2 per cent. In a previous report it was assumed that the normal case mortality rate for measles was 1 per cent. Basing the calculation on this figure, it would appear that approximately all cases of measles are being reported. This is not the case, however, for numerous instances have been noted where measles has been prevalent in a community within the State and not a single case reported. Therefore, it is very probable that the case fatality rate of measles is not greater than one-half of 1 per cent, and, using this figure as the basis of calculation, would show that there should have been reported during this 12 months' period approximately 11,200 cases of measles.

There were 880 cases of typhoid fever reported, with 167 deaths, or a case mortality rate of 19 per 100 cases. It is obvious that this

case fatality rate is entirely too high and should be about 4 per cent, or not more than 5 per cent. Using 4 per cent as the proper figure, 4,175 cases of typhoid fever should have been reported, or, using the latter figure, 5 per cent, there should have been reported 3,340 cases. There are, unquestionably, many cases of typhoid fever occurring within the State that either are not reported or are unrecognized by physicians.

Again, there were 422 cases of diphtheria reported, with 56 deaths, or a case mortality rate of 13.2 per 100 cases. This fatality rate is high and may be accounted for in two ways: First, either that all the cases are not reported; second, that the mortality is actually greater than it should be, on account of the failure to use antitoxin. In order that the poor may be able to use this valuable remedy, the State should appropriate sufficient money to furnish antitoxin free to worthy cases in the interest of public health.

There were reported during the same period 1,425 cases of tuberculosis, with 894 deaths. Obviously, many cases of tuberculosis are unreported.

There were 1,163 cases of smallpox reported, with 3 deaths, giving a case mortality rate of 1 death in 388 cases. It is possible that some cases of chicken-pox may have been reported as smallpox, as the regulations require that chicken-pox in adults be treated in the same manner as smallpox. It is probable, however, that a great many more cases of smallpox are classed as chicken-pox than chicken-pox as smallpox.

Suppression and Prevention of Disease.

There is no organized force under the State board of health having charge of the control of communicable diseases. Most of the work thus devolves upon the local authorities. Where it is necessary to take special action the commissioner of health (a physician expert in public-health procedures), or his deputy (an experienced sanitarian) visits the locality, carries on the necessary investigation, and gives the necessary advice.

On account of the very inadequate appropriation to defray expenses and to employ trained assistants, much of this very necessary field work can not be undertaken except in emergencies. Nevertheless, there have been carried on and published some very interesting epidemiological studies on typhoid fever, infantile paralysis, and tuberculosis.

Requirements of law.—The following is a summary of the provisions of law relating to the control of communicable diseases:

The State board of health is given supervision over all matters relating to the preservation of the life and health of the people of the State.

It is given supreme authority in matters of quarantine.

It is given authority to promulgate regulations for the prevention of the spread of contagious or infectious diseases, and for the control of all sanitary matters that may best be controlled by universal rule.

By the term "dangerous, contagious, or infectious disease" is meant any disease that the State board of health may designate as such.

It is also given the power to make and enforce orders in local matters in emergencies when the local board of health has neglected or refused to do its duty, or when no local board exists. Expenses incurred under such circumstances must be borne by the community.

It is the duty of local boards, health officers, constables, police officers, etc., to enforce the regulations of the State board of health, and upon refusing to do so they are liable to a fine of not less than \$50 for the first offense and not less than \$100 for the second offense.

When disease threatens to become epidemic and the local boards of health refuse to take proper action, the State board of health may, on the authority of its president, appoint a medical or sanitary health officer and the necessary assistants to carry out the regulations of the board, all the expense to be paid out of the county funds.

When any dispute arises relative to the correct diagnosis of any communicable disease, the opinion of the local health officer prevails until the State commissioner of health or the person appointed by him can see the case. His decision must be final.

All health officers are required to make immediate investigation of any communicable disease occurring within their jurisdiction and to take necessary measures to suppress it, in accordance with the regulations of the State board of health.

Health officers are given the power to remove and restrain in a pesthouse or isolation hospital, or to quarantine or isolate, any person ill of a communicable disease. However, no person can be so restrained until examined by the health officer. The health officer is then given power to quarantine, isolate, restrain, or disinfect any person or persons either sick of or exposed to a communicable disease, as well as to disinfect any room, house, or contents, clothing, bedding, etc., that may be infected.

The method of procedure to be instituted by the State board of health for the violation of any of its orders or regulations is provided for by law.

Any fines collected are paid into the State treasury.

Penalties are also provided where any member of a city or county board of health refuses to enforce the provisions of the law or regulations of the State board of health. Under such circumstances he is liable to a fine of not less than \$10 nor more than \$200.

Any person who refuses to obey the provisions of the law or regulations of the State board of health, or who breaks quarantine, or conceals a case of communicable disease, is liable to a fine of not less than \$25 nor more than \$100, or to imprisonment in the county jail not to exceed 90 days, or both.

Tuberculosis.—In 1899 the legislature passed a law aimed to prevent the spread of tuberculosis. This law applies only to cities of the first class. When enacted it was certainly ahead of the times, but at present it is somewhat out of date. A summary of this law is as follows:

Physicians are required to report in writing cases of tuberculosis within five days after such cases have come under their observation.

Local boards of health are required to keep a record of these reports. Such records are not open to public inspection and must not be published, but other local and State boards of health may make use of them.

The local board of health, unless requested by the attending physician to the contrary, is authorized to furnish the patient or head of the family with printed instruc-

tions for the prevention of the spread of the disease, and to see that the premises occupied by the patient are kept in good sanitary condition and disinfected thoroughly within five days after the death or removal of the patient. The expense incurred is a charge against the owner of the premises.

If the owner refuses to disinfect, the local board may do so at the expense of the city, the cost thereof being a lien against the premises. It is also the duty of the local board to see that tuberculosis is being reported according to law.

For any failure on the part of a physician to report a case of tuberculosis a penalty is provided of a fine not exceeding \$5 for the first offense and not exceeding \$100 for any subsequent offense.

It is made the duty of anyone having tuberculosis or anyone attending a case of tuberculosis, or of the authorities of private or public institutions, hospitals, or dispensaries, to observe any sanitary rules and regulations prescribed by the State and local boards of health.

During the 1913 session of the legislature there was enacted a law authorizing counties to care for patients suffering from tuberculosis and providing State aid therefor.

This law is a good one, although it is deficient in that it does not authorize State or local authorities to compel those suffering from tuberculosis to go to a sanatorium when they are unable or refuse to take the necessary precautions at home.

It authorizes the board of county commissioners to establish and maintain hospitals and employ visiting nurses for the care and treatment of patients suffering from tuberculosis. The county commissioners may appoint a board of managers for such an institution or may themselves serve as the board.

It separates such institutions from almshouses, a very excellent provision, and also requires that all plans for their erection or alteration must first be approved by the State board of health.

The law also specifies that advanced cases shall always be provided for first.

Patients may reimburse the hospital for their maintenance, but no discrimination may be shown because of the fact that such reimbursement is made.

Any person is eligible for treatment who has resided one year within the county. If there are vacancies and no applicants, patients from other counties may be accepted, in which case either they or the locality from which they come must reimburse the institution, in an amount to be designated by the board of managers.

All tuberculosis sanatoria established under the act are subject to inspection by representatives of the State board of health, the State board of control, the State board of supervision and control of public offices, and the board of county commissioners.

It is provided that there shall be paid quarterly by the State to the counties maintaining tuberculosis hospitals \$3 per week for each patient in these institutions except those paying full maintenance.

Similar hospitals operated by cities of the first class may also receive this State aid. These institutions, however, are not required to operate under county control.

The law goes into details as to the general management of the institutions, the methods of securing land, etc.

In order to successfully cope with any communicable disease it is necessary to remove the centers of infection, which in the case of human beings is done by adequately isolating the patient. The disease is bound to spread as long as the patient discharging the causative microorganisms remains in contact with healthy or sus-

ceptible people. This applies to tuberculosis as well as to the more acute communicable diseases. To prevent this is or should be the purpose of the county sanatorium. Such an institution is essentially a public-health institution; that is, its primary purpose is to protect the community, and, secondarily, to care for the individual.

It is to be hoped that every county will see the wisdom of erecting and maintaining a county tuberculosis sanatorium, or, in the case of smaller counties, joining with other counties in the maintenance of such an institution, and that there may be passed a law which will give the power to county commissioners upon the recommendations of health officers, to compel patients to go to such institutions when it is deemed advisable.

The city of Seattle has practically completed a tuberculosis sanatorium which is a credit to the city. This institution will also receive patients from King County, and will receive State aid under the law. There are completed an administration building, containing officers' quarters, kitchens, and dining rooms of such size that they will serve adequately for possible future requirements; one pavilion, two stories in height, which will accommodate 100 patients; and a power plant which will allow for future expansion.

So far the cost of the institution, not including the site, has been \$225,000, making the cost per bed \$2,225. When the other contemplated pavilions are built the initial cost per bed will be materially reduced.

There is almost completed in Pierce County a sanatorium which will accommodate 50 patients, and which will cost approximately \$500 per bed, without equipment, and not including site. This institution is all under one roof.

The plans for a sanatorium for Spokane County have been prepared and \$50,000 appropriated. Allowance is made for future development. The first cost will be about \$1,200 per bed; when all the pavilions are completed this cost will be reduced to about \$500 a bed. This figure does not include site or equipment. Judging from the plans, the Spokane sanatorium when completed should be a credit to the county. It is interesting to note that four other counties have entered into an agreement with Spokane County to use the institution jointly.

Snohomish and Skagit Counties are also contemplating the erection of a sanatorium.

Requirements of regulations.—For the purpose of control, reportable diseases have been placed in three groups.

In the first group are:

Diphtheria.
Scarlet fever.
Asiatic cholera.

Plague.
Typhus fever.
Yellow fever.

These diseases must be quarantined immediately by the health officer and special precautions taken.

By quarantine is meant that the patient, attendants, and all persons who come in contact with patient and attendants are required to remain in the house for a specified period, and that none except the attending physician may enter or leave the house.

Houses under quarantine must be placarded, the placard to contain the name of the disease and the fact that the house is quarantined.

The same rules apply to the sick as to the well in houses which are quarantined.

The health officer is the only one having authority to establish or release quarantine.

In the second group of cases are placed—

Anterior poliomyelitis,
Anthrax,
Chicken-pox,
Epidemic cerebrospinal meningitis,
Glanders,
Malaria,
Measles,

Ophthalmia neonatorum,
Relapsing fever,
Rocky Mountain fever,
Smallpox,
Typhoid fever,
Paratyphoid fever,
Whooping cough,

and all cases of so-called Cuban, Dhubie, Egyptian, Japanese, Kangaroo, Manila, or Philippine itch.

Patients suffering from these diseases must be isolated. By isolation is meant that the patient is removed from contact with other inmates of the house and that the house is placarded, the placard to contain the name of the disease and the warning as to its contagious nature. The placard may be removed by the health officer only. Well persons may leave a house under these conditions provided their business does not bring them into contact with children and provided they do not visit places of public gathering.

Patients may be discharged from quarantine after recovery. Contacts may be discharged at the termination of the period of incubation of the disease after they have been personally seen by the health officer and have taken an antiseptic bath and put on clean clothes.

Before quarantine or isolation may be discontinued the room, house, furniture, bedding, etc., must be fumigated.

Attending physicians are required to take all necessary precautions to prevent the spread of the disease.

It is prohibited for any county or city to quarantine against another county or city without the consent of the State board of health.

In the third group of cases have been placed:

Actinomycosis.
Amebic dysentery.
Echinococcus disease.
Favus.
Uncinariasis.
Japanese lung fluke disease.

Leprosy.
Pellagra.
Rabies.
Trachoma.
Trichinosis.
Tuberculosis (pulmonary and laryngeal).

The State commissioner of health has the authority to transfer any disease from one class to another, which transfer remains in effect until passed upon by the State board of health at its next meeting.

Health officers are authorized to temporarily quarantine or isolate any suspicious cases pending a conclusive diagnosis.

Domestic animals must be excluded from the house in the case of quarantinable disease, and from the sick room in cases of disease requiring isolation; upon the termination of the disease they must be given a disinfectant bath.

In case of death the health officer is required to continue quarantine or isolation measures until the end of the period of incubation in contacts.

In the case of smallpox, where there are no unvaccinated contacts this further quarantine is unnecessary.

In cases of the exanthematous diseases of childhood, in diphtheria, infantile paralysis, or cerebrospinal meningitis, where there are no other nonimmune children surviving, quarantine may terminate immediately after disinfection.

Adults may be released from quarantine after disinfection, but may not again enter the premises until quarantine is discontinued.

After death from a quarantinable disease no one except a licensed embalmer or a clergyman is permitted to enter the premises until after disinfection.

No milk or food products may be taken into a house under quarantine or isolation unless the container or wrappings can be destroyed. All containers for milk which have been used or handled by persons suffering from a communicable disease requiring quarantine or isolation must be sterilized before they may be again used.

The sale of milk or other dairy or food products from premises where diseased persons are undergoing quarantine or isolation is forbidden, unless the articles are prepared and handled by persons entirely separated from the sick, and then only upon written permission of the local health officer.

No person suffering from open pulmonary tuberculosis nor any chronic typhoid or diphtheria carrier is allowed to do any work involving the handling of dairy, market, or food products in an unwrapped state.

The use of the common drinking cup is forbidden on common carriers, in public buildings, parks, hospitals, schools, hotel lobbies, etc.

In addition to the above regulations, special regulations have been promulgated applying specifically to certain diseases.

Cholera, plague, and typhus fever.—These diseases must be reported by wire to the State commissioner of health and must be strictly quarantined with day and night guard.

Scarlet fever.—This disease must be quarantined until desquamation has ceased and all inflammation of the throat, nose, and ears has disappeared.

No case of scarlet fever may be released from quarantine until six weeks have elapsed from the first appearance of symptoms.

All children who have not previously had the disease must be quarantined for 10 days after last exposure.

All bedding, clothing, dishes, etc., used in the sick room must be disinfected. Formalin or boiling water may be used for this purpose.

Before quarantine is raised the quarantined premises must be disinfected.

Before discharge from quarantine, patients must be bathed in a solution of bichloride of mercury 1-2,000, or its equivalent.

Teachers living in the same house must not return to school until 10 days have elapsed from date of last exposure.

Diphtheria.—In the case of diphtheria, quarantine may be raised when two successive negative cultures are obtained from the throat and nose. The last culture must be taken by a representative of the health office. At the same time a negative culture must be obtained from other individuals under quarantine. In the absence of cultures, quarantine must be maintained for six weeks from the beginning of the disease, and longer if sore throat, false membrane, or discharge from eyes, ears, and nose persists.

Nonimmunes exposed to diphtheria must be quarantined for 10 days after last exposure. However, such contacts may be released from quarantine upon the finding of a negative culture from the throat and nose.

Bedding, clothing, dishes, etc., used in the sick room must be disinfected. Formalin or boiling water may be used.

Patients must receive a bath in a solution of bichloride of mercury 1-2,000 before discharge from quarantine.

Teachers living in the same house with a case of diphtheria are not permitted to return to school until 10 days have elapsed from the date of last exposure.

Smallpox.—Health officers are required to investigate smallpox infection or exposure when cases are not attended by a qualified physician. Physicians must not only report cases, but contacts as well, to the health officer.

Patients must be isolated, preferably in an isolation hospital, until desquamation has ceased.

The house must be placarded with the statement that smallpox exists on the premises.

Contacts must either be vaccinated or isolated for 18 days, unless protected by a previous attack of smallpox or by successful vaccination within 7 years.

Upon the appearance of smallpox, all health officers are required to warn the public of its presence and to instruct the community in the methods for its prevention. Such instructions are furnished by the State commissioner of health.

When smallpox actually exists, it is the duty of the health officers to vaccinate free of charge any person who may make application to them. This expense must be borne by the city or county.

Where smallpox exists in a community, no child is permitted to attend school unless showing evidence of having had smallpox or of having been successfully vaccinated within seven years.

The quarantined premises and contents must be disinfected before quarantine may be raised.

The regulations provide that any municipality may enforce strict quarantine on its own responsibility if it so desires.

Cuban itch, Japanese itch, etc., which are regarded as being mild forms of smallpox, must be treated as such.

Measles.—Cases of measles must be isolated. Nonimmune children coming in contact with measles are prohibited from attending any school until two weeks have elapsed after the beginning of the last case in the family.

Municipalities are authorized to enforce a stricter form of quarantine if they deem it advisable or necessary.

Health officers are required to notify the public upon the appearance of an epidemic of measles and to warn the community not to deliberately expose their children to infection.

Health officers are also required to inform teachers that measles is especially communicable in its early stages, and that they must, therefore, exclude all children showing catarrhal symptoms of the nose, throat, or ears, and to report the names and addresses of such children to the health officer.

The question of closure of schools during an epidemic of measles is left to the local health officer.

German measles.—German measles must be handled in the same manner as measles, except that isolation may terminate in one week from the beginning of the disease.

Chicken-pox.—Cases of chicken-pox must be excluded from school and isolated. Contacts are not required to be excluded from school.

Chicken-pox occurring among adults must be reported and treated as smallpox.

Whooping cough.—Cases of whooping cough must be isolated. Such isolation must continue not less than five weeks from the beginning of the disease, or longer if the "whoop" persists.

Contacts who have had the disease are allowed to attend school.

Authority is given to health officers to withhold this privilege if deemed advisable, as, for instance, when dealing with the first case in the community, or where the history of immunity is obscure.

Rocky Mountain tick fever.—All cases or suspected cases of Rocky Mountain tick fever must be isolated and reported to the State commissioner of health, who will determine what measures may be necessary in such cases.

Anterior poliomyelitis.—Cases of this disease must be isolated for at least 21 days from the beginning of the illness.

Individual reports of these cases must be made to the commissioner of health.

Contacts are prohibited from attending school until isolation measures have terminated and the premises have been disinfected.

All discharges from the throat and nose must be immediately disinfected.

Epidemic cerebrospinal meningitis.—Isolation measures must be continued until the termination of acute symptoms, but no period of isolation must be less than 14 days from the onset, whether terminating by recovery or death.

Contacts in the house can not attend school until 10 days have elapsed after all restrictions have been removed and premises disinfected.

Individual reports of cases must be made by the physician to the State commissioner of health.

Doubtful cases of this disease must be temporarily isolated until it is determined that they are not of the epidemic type.

Ophthalmia neonatorum.—Physicians and midwives are urged to use as a prophylactic a 1 per cent solution of silver nitrate in the eyes of all newborn infants.

Midwives, nurses, and others in care of the new born are required to report to the health officer or to a qualified physician when any pus or secretion forms in the eyes or eyelids, or if one or both eyes should become red and swollen within two weeks after birth.

Typhoid and paratyphoid fever.—All cases of these diseases must be isolated. All but those in immediate contact with the case may come and go without restriction.

The house must be placarded, and printed directions left relative to disinfection.

Excreta from the patient must be disinfected with quicklime or by boiling.

Dishes, bedding, etc. in use must be disinfected with a solution of formalin or by boiling.

The source of infection must be sought for and necessary measures taken to prevent the spread of the disease.

In doubtful cases a specimen of blood should be submitted for examination. Wright's capsules and necessary directions are furnished by the State board of health. It is suggested that where the first examination is negative a second sample be submitted. Where a person is suspected of being a carrier, the fact must be reported, and the necessary instructions will be furnished by the State board of health.

Where a case is suspected of being paratyphoid fever, the fact must be stated in transmitting specimens of blood.

Upon request, antityphoid vaccine is furnished free of charge by the State board of health.

Where a case has developed in a lodging house, hotel, or camp, the person who cares for the patient is prohibited from working at anything having to do with the preparation of foods. As far as possible, this prohibition also applies to private families.

During the summer months rooms in which typhoid patients are treated must be screened, either at the expense of the family or at public expense.

All cases of "typho-malaria" or malaria, unconfirmed by microscopical examination, must be treated as typhoid fever.

Malaria.—Cases of this disease must be isolated as long as the disease remains in the acute form.

As malaria is a rare disease in this State, health officers are directed to send specimens of blood, both for Widal reaction and in smears, to the laboratory of the State board of health for examination.

Anthrax and glanders.—Health officers are required to report to the State commissioner of health individual cases of anthrax and glanders in human beings.

All cases of these diseases must be isolated until the termination of the disease.

Tuberculosis.—Upon request, the State commissioner of health is required to furnish health officers with circulars of information relating to tuberculosis.

Upon the death or removal of any patient suffering from tuberculosis, the premises must be disinfected. No premises may be rented until disinfection has been performed.

In addition to these regulations others have been promulgated relating especially to tuberculosis among school children or those employed in schools, and will be mentioned later.

Leprosy.—Upon the report of a case, the State commissioner of health is required to decide upon its disposition.

Patients who are discharging the bacilli of leprosy from ulcerated surfaces must be segregated and quarantined.

Local authorities are prohibited from imposing quarantine in case of leprosy unless permission is obtained from the State commissioner of health.

Favus.—If upon examination a reported case proves to be favus, a child is prohibited from attending any school until cured, and such other measures must be taken to prevent the transmission of the disease as are required by the State commissioner of health.

Trachoma.—No child suffering from trachoma is permitted to attend any school, except when a competent physician certifies in writing that the case is not in a communicable stage.

Uncinariasis.—Examinations for hookworm will be made by the laboratory of the State board of health.

Persons suffering from uncinariasis must be given proper treatment and isolated until the stools are free from eggs.

Physicians and others are urged to cooperate with the State board of health in securing information as to the existence of the disease in the State.

Rabies.—All cases or suspected cases of rabies in persons must be reported by wire to the State commissioner of health.

Animals suspected of having rabies should not be killed, but should be confined and the circumstances reported to the State veterinarian.

Actinomycosis.—Suspicious cases of this disease should be reported early and a specimen sent to the State laboratory for verification.

Isolation of the case is not required.

Pellagra, amebic dysentery, trichinosis, echinococcus infection, and Japanese lung fluke.—Physicians are urged to report in detail the occurrence of any of these diseases within the State.

Disinfection.—Disinfection or fumigation is carried out according to the recommendations for the different diseases.

It is required for all cases of quarantinable disease before the patient or the contacts are released from quarantine.

The disinfectants recognized under these regulations are those already mentioned and formaldehyde gas, using of the latter at least 16 ounces of a 40 per cent solution of formalin in a generator, or by oxidation, for each 1,000 cubic feet of room space. All openings must be closed and cracks sealed with strips of paper. The time of exposure must be at least six hours.

Where a schoolroom has been occupied by a person suffering from any of the quarantinable diseases—smallpox, anterior poliomyelitis, epidemic cerebrospinal meningitis, or measles—it must be thoroughly disinfected before being used again. The same applies to private schools and to parochial and Sunday schools.

Where a communicable disease has occurred on a vessel or in a railroad coach, such common carrier may not be used again until disinfected by the health officer.

Where a communicable disease has been present in a place where food is sold or which is used for dairy purposes, and the sale of food or dairy products has been discontinued, the premises must be thoroughly disinfected before being used again.

Methods of procedure.—The epidemiological work for the State board of health is performed by the commissioner of health and his deputy. Where only two persons are attempting to perform the functions that should devolve on an organization necessary in a State like Washington, with its large area and population and its varied public-health problems, it is evident that the entire field can not be covered. In fact, constant application to duty with a very limited traveling fund will only permit these officers to respond to the most urgent calls. Where disease is reported and it appears for any reason that energetic steps are not being taken to eradicate it, field investigation is made and advice given. This investigation is sometimes made on the initiative of the commissioner of health and sometimes at the request of the local authorities.

In connection with the field investigation of typhoid fever there is a special form in use, giving the necessary epidemiological data. This form is filled in by the investigating officer.

No follow-up system is in use except a requirement that supplemental reports containing information of value from an epidemiological standpoint be transmitted by the physician for each case of typhoid fever. These are submitted with more or less regularity.

Diagnostic Laboratory.

In the bacteriological laboratory there are employed two part-time bacteriologists.

The laboratory is small, though fairly well equipped for most of the ordinary routine work. In it are made Widal tests for typhoid fever, sputum examinations, examinations of diphtheria cultures, bacteriological examinations of water and occasionally milk, examinations for rabies, and occasionally the examination of slides for pyogenic or other organisms. All of the media used, with the exception of blood serum, are made in the laboratory. This latter, however, is furnished from the laboratory of the health department of Seattle.

The diphtheria outfit consists of a tube of Loeffler's blood serum, closed with a cork stopper and paraffined. This is inclosed in an approved mailing outfit, with a blank for the physician to fill in with the necessary data.

For submitting specimens of blood for the Widal reaction, Wright's tubes, or capsules, are issued to physicians by the laboratory and are accompanied by directions for their use and a blank card for data. The capsules are frequently returned improperly filled, making the examination unsatisfactory, and the bacteriologist believes that as good or even better results would be secured from a drop of blood dried on a glass slide or aluminum foil.

Sputum containers consist of wide-mouth bottles packed in suitable mailing outfits. No data report blank accompanies the sputum outfit.

The Pasteur treatment is administered by the bacteriologist, the virus being secured from the Hygienic Laboratory in Washington.

Antityphoid vaccine is manufactured and distributed free of charge.

The container for the shipment of water samples is the 3-H outfit, manufactured at Lawrence, Kans.

Samples for chemical analysis are sent in demijohns to the chemical laboratory of the State university. When one of these containers is sent out it is accompanied by printed directions for the collection of water samples and a blank data card which is to be filled in by the person submitting the sample.

All samples for diagnosis arriving in the laboratory of the State board of health are entered in a book by a clerk and then turned over to the bacteriologist. When the examination has been made the results in the case of diphtheria and typhoid are noted by the bacteriologist on the data card received with the sample and then turned over to the clerk, who reports the results to the physician by letter or, upon request, by telegraph.

In the case of tuberculosis, no data card being required with the sample, the results are noted on a filing card and are reported by letter.

Data cards and filing cards are filed away for future reference.

In the case of water analyses, a filing card is made out by the bacteriologist containing the results of his findings, which are then copied on special report forms by the clerk and sent to the person requesting the analysis.

Copies of the results of chemical analyses of water are sent by the university to the State board of health to be filed, and copies of bacteriological examinations are sent by the diagnostic laboratory to the university.

The diagnostic laboratory of the State Board of Health of Washington does not perform Wasserman reactions.

It would seem, however, to be an important function of a State health department to determine the presence of syphilis among those who become or who are liable to become public charges and in per-

sons having criminal instincts, especially those found in State penitentiaries and State asylums of all kinds. Certainly, in some instances, the determination of lues and prompt treatment would do away with the necessity of certain individuals finally ending in State institutions, and it is not impossible that by treating those with criminal instincts a marked improvement might be made in their morality. This subject is at least worthy of an extensive investigation, and there is no organization in better position to do this than is a State health department.

Branch laboratories.—In connection with the health departments of the cities of Seattle, Spokane, Tacoma, and North Yakima diagnostic laboratories are maintained. The expenses of the latter are borne one-half by the city and one-half by the county. These laboratories receive no financial aid from the State, but are, nevertheless, of great value to the State board of health, in that they perform much work that would otherwise have to be done by the State laboratory or not be done at all.

Discussion.

In order to properly control communicable diseases, the State board of health is in urgent need of sufficient funds to organize a bureau of communicable diseases, which will have as its duties the collection and disposition of morbidity reports, the maintenance of a larger diagnostic laboratory, and the performance of the necessary field activities.

To properly perform these functions would require additional clerks, a full-time bacteriologist with assistants in the laboratory, and adequate field force, including a sufficient number of epidemiologists at headquarters, and an efficient district or county health organization.

In addition, methods would have to be instituted which would enable the bureau of communicable diseases to keep close track of all diseases occurring in the State. This would mean a more complete system of reporting, a follow-up system, county spot maps, a school health census, and intensive field studies, with special reference to tuberculosis, typhoid fever, etc. It would also seem advisable to revise some of the special regulations now in force.

The morbidity reports received by the State board of health under the present regulations are of little utility from an epidemiological standpoint and are not as full nor as accurate as they should be for statistical purposes. It is obvious that reports of this kind which are a month old are of no value except as a matter of history.

In order that the State board of health may keep in close touch with diseases occurring within the State, the original morbidity reports should be sent direct to the State commissioner of health by the local health officers. These local health officers should be

required to keep either a transcript or such other record as would give them the necessary information to carry out adequate preventive measures. They should also send immediately to the county or district health officer a daily report giving a summary of the diseases reported, so that he may be able to exercise the necessary supervisory control acting for the State board of health.

In addition to morbidity reports, local health officers should be required to submit a report stating the date of release of quarantine. Cards of information submitted, with material for laboratory examination, should be devised, so that they could be filed away in lieu of the original morbidity report.

As the collection and disposition of morbidity reports is one of the most important functions of a modern health organization and is part of the scheme for eradicating the preventable diseases, it would seem advisable to pass a law following more or less closely the model State law for morbidity reports.

In case such a law failed of passage, the State board of health has already sufficient power to make regulations requiring that morbidity reports be submitted direct to the State board of health and that quarantine release cards be required from local health officers. A law is preferable, not only because it is stronger than a regulation, but because it is desirable that uniform legislation be enacted in all the States.

With the inauguration of a more complete system of procuring morbidity reports and quarantine release cards, the work of the laboratory would unquestionably greatly increase, and with a better organization it would enable the State to do a great deal more work in assisting the practicing physician or health officer to make prompt diagnosis by scientific methods.

Branch laboratories are not only of assistance to physicians practicing in the locality, but are even of more help to the health officer, and the State board of health should be so situated that it could establish and maintain them either independently of, or with the financial assistance of, the locality.

PUBLIC HEALTH ENGINEERING ACTIVITIES.

Control of Water Supplies.

The commissioner is authorized upon the request of local authorities to investigate and advise in respect to obtaining a pure water supply or disposing of sewage or garbage.

There is, however, no division of the State board of health which has charge of this matter, and there is little or no law on the subject of control.

Surveys are made from time to time by the commissioner of health or his deputy, neither of whom is a sanitary engineer, and expert

advice is obtained from the officials of the engineering department of the University of Washington, who are also called upon for some field work.

Bacteriological analyses of water are made in the laboratory of the State board of health and chemical analyses for the board in the chemical laboratory of the university from samples furnished by local health officers or others, or from samples collected by the officials of the State board of health.

Requirements of law.—The law bearing on the subject of the control of water supplies gives no power to the State board of health, but does give certain powers to local authorities to protect their watersheds. It is summarized as follows:

The State law passed in 1907 gives the power to cities and towns within the State to police the watershed from which their water supply is secured. The city or town is given jurisdiction over such territory and may pass ordinances for the purpose of maintaining the purity of the water.

This law further defines what may be considered a nuisance on any such watershed, specifically mentioning the maintenance of any slaughter pen, stock-feeding yards, hogpens, or the deposit or maintenance of any uncleanly or unwholesome substance, or the conduct of any business or occupation, and provides a fine of not to exceed \$500 for creating or maintaining a nuisance.

The law specifies the procedure to be used in abating a nuisance and places the responsibility upon certain of the city officials.

It also gives authority to a city furnishing its people with water, or to private companies furnishing water to the citizens of any city, to obtain an injunction by civil action.

In addition to the above there are two other provisions of law to be found in the statutes.

It is prohibited to deposit any matter or thing dangerous or deleterious to health, or that could cause pollution, in any spring, well, stream, river, or lake, the water of which is or may be used for drinking purposes, or to deposit such on any property controlled by a municipality or corporation or person as a watershed for a public or private water system.

Another provision makes it a gross misdemeanor for an owner, agent, manager, or other person having charge of any waterworks furnishing water for public or private use to knowingly permit or commit any act by which the purity or healthfulness of the water supply is impaired.

Requirements of regulations.—The regulations which have been promulgated by the State board of health to guarantee the purity of water supplies are as follows:

It is prohibited for any city or town to discharge its sewage into any body of water used for drinking purposes by another municipality until such sewage has been rendered harmless by a treatment approved by the State board of health.

The use, except by diversion, of the waters of any natural or artificial storage or distributing reservoir of any public water supply for commercial or industrial purposes is prohibited.

Camping, picnicking, or hunting upon the watershed, or boating, fishing, or bathing upon the watershed is prohibited.

It is prohibited to store or sell any natural ice within an incorporated city unless obtained from a source approved by the health officer.

Frequent observations made in the average small city emphasize the great value of a wise advisory and supervisory control of water supplies by the State. Too often a water system is installed without an adequate preliminary study by an expert, resulting in a supply that is disappointing, to say the least, or even a menace to the health of the community.

To secure the services of a competent engineer to study the situation preparatory to installing a water system is an expense which the small community is frequently not able to bear. It is essentially the duty of the State to provide such expert advice, so that the citizens, who pay the cost of installation, may feel assured that their funds have been wisely spent and that they have been provided with a safe and adequate water supply.

On account of the proximity of the Cascade and Olympic Mountain Ranges, the cities of the Pacific coast are in an enviable position as regards pure sources of water supply. Even so, examples may be found where inadequate preliminary study, lack of foresight, or incompetency has resulted in a supply which has not proven as satisfactory as had been anticipated.

In fact, no State can be considered abreast of the times until its State health department has a division or bureau of public health engineering, charged with the duties of advising and supervising in matters relating to water supplies, sewerage systems, the disposal of garbage and trade wastes, the control of industrial hygiene, and the sanitary control of public buildings. In this the State of Washington is lacking.

Of the larger cities, Seattle obtains its water from the Cedar River and owns most of the watershed. The sanitation of its camps, necessitated by construction work, is well looked after. Employees on the watershed, before employment, are tested for positive Widal reaction and are given prophylactic treatments against typhoid fever. The watershed is patrolled as well as can be expected. With very few exceptions colon bacilli are uniformly absent in samples of water examined.

The Cedar River is also used as a source of power for the city. There has just been completed, a few miles above the power house and 12 miles above the intake of the city water supply, a dam which will impound 8,000,000,000 gallons of water. It would seem advisable to move the intake up to the location of the power house, thereby reducing the size of the watershed and, therefore, the danger of pollution, for it is this portion that is in most danger of contamination by domiciles, the railroad, and by trespassers on the railroad right of way, which for 11 miles passes through the watershed.

Such a change of intake, however, could not be made until it is certain that an adequate amount of water could be obtained from the smaller watershed during dry weather and allowing for future growth of the city.

The right of way itself is completely prevented from becoming a source of pollution by extensive and carefully maintained engineering work, which has been described in detail in engineering and public-health literature, but this protection of the track does not prevent a considerable risk from deliberate pollution by trespassers using the right of way as a highway.

Tacoma secures its water supply from the Green River. It does not own its watershed, which covers more territory than is necessary, thus making it more difficult to patrol and more liable to pollution. In fact, the colon bacillus was frequently present even after the installation of a temporary hypochlorite plant, so a permanent chlorine plant has just been installed and is now in operation. On the watershed are a lumber camp and three sawmills, a freight division village, and, in general, entirely too many people to be consistent with safety. At the industrial camp a septic tank and filter bed have been installed by the city. Septic tanks are, however, rather uncertain in their action.

Like Seattle, the watershed of Tacoma is traversed in part by a railroad. The danger from railroads, however, is negligible if controlled by proper regulations.

The city of Spokane has an unusual water supply in that it is secured from three large dug wells close to the river and tapping an underground supply flowing toward the river. The water is excellent in quality and abundant in amount and the danger from contamination is remote.

Disposal of Garbage and Refuse.

While the officials of the State board of health take an active interest in the methods pursued by the different cities in the disposal of refuse, they are, for reasons already pointed out, unable to carry on any active studies and to exercise the necessary supervisory and advisory control, leaving it more or less to each city to work out its own problems. With one or two exceptions, methods of disposal are not satisfactory from the standpoint of public health nor from the standpoint of the taxpayer.

Disposal of Sewage.

The State board of health has little or no control over the disposal of sewage and the State is greatly in need of a law giving the board advisory and supervisory powers in this respect, and providing for an organization (a bureau of public health engineering) to study the

various sewage problems already presented and certain to develop in the future. Throughout the State sewage is with few exceptions disposed of in the raw condition. Both Seattle and Tacoma discharge it into salt water, as do all the cities of Washington on the Pacific coast—a safe method of disposal except where there is danger of polluting shellfish. The oyster industry in Washington is important and it will sooner or later be necessary to enforce regulations designed to prevent the contamination of oyster beds.

Most of the inland cities dispose of their sewage directly into fresh-water streams.

As a result of the contamination of sources of water supplies, several outbreaks of typhoid fever have occurred. For this reason a few cities have been compelled to install temporary hypochlorite plants. The contamination of fresh-water streams is especially serious in irrigated regions where water for irrigation is obtained from rivers into which cities empty their sewage. In these localities ranchers usually secure drinking water from shallow wells which receive the seepage from irrigation ditches or the water is pumped directly from the ditch and stored. The problem of furnishing a safe water under such conditions is difficult to solve. Few of the ranchers can be made to see the necessity of boiling or otherwise treating the water before using it for drinking purposes, and even though they take this precaution, a large number of ranch hands employed at certain times of the year will drink directly from the irrigation ditches. Many of these transient employees contract typhoid fever and are the means of disseminating the disease in different parts of the country. After a careful study of the situation it may be found justifiable to require cities to treat their sewage adequately before emptying it into streams.

Two of the smaller cities have installations for treating sewage before discharge. Both use the septic tank system. In one instance the effluent is passed through a filter bed before emptying into a creek; in the other the effluent is used for irrigating a small tract of land.

The city engineer of Spokane has been carrying on some investigations to determine the degree of pollution of the Spokane River resulting from the discharge into it of the sewage of that city and the amount of self-purification which takes place by the time it has reached the Columbia River. The results of one year's investigation have been published, but further investigation is necessary and will be continued.

Industrial Hygiene.

There is little law on this subject, and what there is left for its enforcement in the hands of the bureau of labor. The labor commissioner has carried on some studies on the subject especially

among shingle-mill workers, as a result of which shingle mills are required to install proper methods for carrying off the dust which is detrimental to the health of the employees.

There has also been published by the commissioner of labor a handbook containing safety regulations applicable in factories, mills, and workshops.

There is no law which requires the reporting of occupational diseases.

Requirements of regulations.—The State board of health has issued regulations covering the sanitation of industrial camps, including logging and railroad camps. These regulations are summarized as follows:

Contractors must report to the State board of health the location of any industrial camp, and must keep such camp in a sanitary condition.

County health officers are required to report to the State commissioner of health, in January and June, the location of industrial camps within their jurisdiction, and immediately upon the establishment of a new camp.

It is the duty of contractors or other responsible persons to take all necessary precautions to prevent the introduction and spread of disease among their employees. Below are the instructions and recommendations relative to the proper sanitation of camps.

Camps should be established upon dry, well-drained ground.

Sink holes or small collections of water should be drained and filled.

The kitchen and stable should be at opposite ends of the camp, as far away from each other as practicable.

Eating houses should be next to the kitchen, then should come the bunk houses, and between the bunk houses and the stable the toilets.

The use of toilets by the men should be made obligatory and soil pollution absolutely prohibited.

A temporary incinerator should be constructed.

A man should be appointed whose special duty should be the collection of garbage and refuse.

Manure should be gathered and burned each day.

Fecal matter should be treated in the same way or in other approved manner.

Kitchens and eating houses should be effectively screened; it is also desirable to have bunk houses screened.

Garbage should be collected in tight cans and incinerated with the manure and other rubbish.

Noninflammable refuse should be buried.

Urinals should consist of open trenches limed with quicklime, fresh lime being added daily in the proportion of one-half barrel for 100 men.

Foodstuffs should be carefully screened against flies.

Systematic scrubbing of kitchens, eating houses, and bunk houses should be carried out.

Water should be secured from an uncontaminated source.

The sick should be isolated from the well.

Those handling food should be examined, particularly as to whether they have had typhoid fever within recent years.

The commissioner of labor in the State of Washington recognizes that the maintenance of sanitation in industrial camps is essentially

the duty of the State board of health, and he would be glad to see the scope of the work of that board so enlarged by legislation that it would include this subject. This does not go far enough, however. Industrial hygiene includes the maintenance of sanitation in places of employment and the prevention of disease among industrial workers. The latter is dependent not only on conditions in the factory but, in large degree, also on sanitary environments outside the factory.

The maintenance of sanitary conditions in both places should be looked after by the health department, which should be given the necessary authority and facilities to do so. Unless these functions and others of a public-health nature are properly correlated and placed under one department, there will be duplication of work, unnecessary expense, knowledge gained by one lost to the others, and the lack of opportunity for a public-health worker to perform several public-health duties at the same time. There are many functions of the State government that should be gathered together and placed in the State health organization. The precedent which has been established in forming a department of agriculture could be very well followed in forming a department of health.

Hotel Inspection.

Hotel inspection under the State law is carried on by the State hotel inspector and his deputies, who are not a part of the State board of health, but form an independent division of State government.

Requirements of regulations.—The regulations providing for the maintenance of sanitation in hotels are promulgated by the State board of health and enforced by the hotel inspectors; they are summarized as follows:

Plumbing of hotels must conform to the ordinances of the city wherein the hotel is located. If the city has no plumbing ordinances, the plumbing must conform to the ordinances of the nearest city having ordinances governing plumbing.

There must be one public toilet to every 30 rooms or fraction thereof, and at least one public urinal for every three toilets.

All toilets must be properly plumbed, and, where there is a public sewer, must be connected.

Where there is no sewerage system, open earth toilets are allowed but must be disinfected with dry lime daily, emptied at least twice each week, and thoroughly screened from flies.

Open toilets must be located at least 40 feet from any kitchen, dining room, or pantry openings.

No privy vaults are allowed except those of a sanitary type approved by the State commissioner of health.

In towns having no sewerage system, hotels with plumbing must provide for the disposal of their sewage in a manner satisfactory to the health officer.

Cesspools are allowed only upon the recommendation of the health officer with approval of the State commissioner of health.

Garbage must be kept in tight metal cans with metal covers and must be removed once daily.

Dining rooms, kitchens, and pantries must be efficiently screened against flies.

Outside sleeping rooms must have at least 500 cubic feet of air space for each occupant, and sufficient openings to provide for a minimum of 3,000 cubic feet of air per hour.

For inside sleeping rooms the minimum air space allotted is 1,000 cubic feet for each individual, with openings into rooms or halls so that a minimum of 3,000 cubic feet of air per hour may be obtained.

Whenever any hotel room has been occupied by a person suffering from a communicable disease it must not be used again until thoroughly disinfected.

The common drinking cup is prohibited in all hotel lobbies or public toilets.

Hereafter no building may be constructed or remodeled for hotel purposes that contains sleeping rooms not opening directly into the open air.

Hotel inspection should be placed under the jurisdiction of the State board of health. Such an arrangement would be highly desirable as it would mean economy, and it would place at the disposal of the State board of health the services of inspectors who would have sufficient time to perform other public-health duties in addition to hotel inspection.

SCHOOL HYGIENE AND CHILD WELFARE.

The State board of health has practically nothing to do with medical inspection of schools and school children, except in the promulgation of certain regulations which aim to prevent the spread of communicable diseases among the pupils and teachers.

Requirements of the law.—A provision of law taken from the school code is summarized as follows:

No teacher, pupil, or janitor may attend school from any house in which there is smallpox, varioloid, scarlet fever, diphtheria, or any other communicable disease. Nor can he return to school from any such house until three weeks have elapsed from the beginning of convalescence of the patient, or upon the certificate of a reputable physician.

In the case of whooping cough, chicken-pox, and measles not of a malignant type, teachers, pupils, or janitors who have had the disease and entirely recovered may attend school.

No teacher, pupil, or janitor suffering from pulmonary tuberculosis is permitted to attend school.

Requirements of regulations.—The regulations which have been promulgated by the State board of health to prevent the spread of disease among school children are, briefly, as follows:

Children suffering from any disease requiring quarantine or isolation must be excluded from school. All children in the same family must be excluded as long as the disease exists in the family, unless specifically provided for by regulation.

No child, teacher, or janitor suffering with tuberculosis is allowed to attend or work in any school.

Health officers, upon the request of the county superintendent of schools, are required to inspect schools where tuberculosis is suspected.

If any pupil be tuberculous, he shall be excluded from school and can not return until proof is brought that such pupil is not suffering from tuberculosis. The same provision applies to teachers or janitors.

If they refuse examination, the board of directors must suspend the individuals until they bring satisfactory evidence that they are not suffering from tuberculosis, either pulmonary or laryngeal.

In addition to the diseases above mentioned as requiring exclusion, children may be excluded from any school who are suffering with the following:

Contagious conjunctivitis (including trachoma not in active stage), impetigo contagiosa, mumps, pediculosis, ringworm, scabies, or any suppurative disease of a foul or offensive nature. In the case of ringworm, scabies, or pediculosis the child may continue school at the discretion of the health officer if proper treatment is instituted.

All children in a community where smallpox actually exists must be excluded from school attendance until vaccinated, unless they can present a certificate from a legally qualified physician that they have been vaccinated successfully within seven years, or can give evidence that they have had smallpox.

Whenever any pupil, janitor, or teacher in any school is afflicted with any disease calling for disinfection, the building, room, or rooms must be disinfected before they may again be occupied.

Whenever any principal or teacher believes that a pupil is suffering from or has been exposed to any communicable disease requiring exclusion from school, the child may be sent home and a report made immediately to the local health officer. Such child can not again attend school until a certificate is presented from a qualified physician that the child is not suffering from any disease.

Whenever any State or local health authority deems it advisable to close a school on account of the prevalence of any communicable disease, a written notice must be served on the school board or responsible official, directing that the school or schools be closed immediately, and no such school may be reopened until authorized by the health officer.

There is, in fact, little or no attention paid to the medical inspection of school children in rural communities. A recent law has given the school boards of cities of the first class power to establish and conduct an organization for such work, which provision has been taken advantage of by some of the cities, including Seattle, Spokane, and Everett.

The medical inspection of schools and school children should be performed by the health department. The determination of the physical and mental status of school children and the measures taken for the improvement of the health of the individual during school age is merely a continuation of infant hygiene work, and is preliminary to those public-health activities that should be exercised throughout his productive and reproductive period, at which time he is of the greatest value to society.

From the point of view of the doctor of public health, there are six ages in the life of man requiring close study and supervision. First, the age of preconception comprised in the study of eugenics; then the age of intrauterine existence, recognized in the prenatal care of

mothers; then the tender age of infancy, followed consecutively by the school age, the vocational age, and old age. Through all these ages diseases are endeavoring to destroy man's usefulness through the agency of pathogenic organisms, faulty environment, dangerous occupations, unwholesome diet, and a tainted inheritance. Such diseases are preventable.

It is obvious that work in these different fields of public health activities would soon overlap, and if carried on independently by workers not in sympathetic cooperation with each other there would result duplication of effort and lack of utilization of knowledge gained by each separately. Keeping in mind that in each field of activity the problem is the control of the preventable diseases, the logical body to assume such control and direct this work would be the health department.

Specifically, the reasons why the medical inspection of schools and school children should be placed in the health department are as follows:

1. The subject is not alone a school problem, but one of much greater scope, viz, that of suppressing the preventable diseases, and is, therefore, a public health problem.

2. There will be prevented a duplication of work and an unnecessary expense.

3. There will be made available to the health department useful information obtained by the school nurses and physicians.

4. The nurse will be enabled to perform other necessary public health duties while visiting the home in her capacity of school nurse.

5. Schools play such an important part in the dissemination of infection that the health department becomes vitally interested through its efforts to suppress and prevent the communicable diseases.

Proper sanitary conditions must be created and maintained. This problem does not differ materially from the same problem elsewhere.

In connection with the study of school hygiene, the State board of health should carry on work in infant morbidity and mortality and child welfare, and this work can readily be taken up by those engaged in school work.

There is at present a movement to secure legislation providing for the regulation of boarding houses for children. This is in line with child welfare work and should be placed for its enforcement in the State board of health.

CONTROL OF MILK SUPPLY.

The control of the milk supply is under the jurisdiction of the dairy and live stock commission, which was one of the offices that was recently combined with others to form a department of agriculture.

The laws and regulations which are in force to maintain the purity of the milk supply are similar to those in other States upon which reports have already been made, and it is not thought necessary to summarize them here.

Four inspectors are engaged in enforcing these regulations. It is impossible, however, for only four men to cover the territory and secure satisfactory results.

It has been pointed out in previous reports that milk is the one food in which a health department is most vitally interested, because it has a highly important bearing on the transmission of disease and on the causation of infant morbidity and mortality. The control of the milk supply, therefore, should be placed in the hands of the health department. If a dairy and food commission had a sufficient number of employees and would look at the question more from a public health than from an economic standpoint, such a commission might be able to handle the problem satisfactorily from the point of view of the health department. Under the present régime it is likely that more attention will be paid to the improvement of creamery products than to the safety of the milk supply used as an article of food.

A few cities within the State maintain a division of milk inspection as a part of their health department. The work of such division includes an inspection of the producing farms as probably its most important function.

When cities are located within easy reach of each other—for instance, Seattle, Tacoma, and Everett—a single producing farm may supply milk to two or more cities, which means that if an inspector from each city is attempting a supervision over that farm, there may be a duplication of work and a conflict of ideas and authority. For this reason a comprehensive State law for the control of the milk supply is advisable. This law should be enforced by State officers, preferably officials of the health department. If the State health organization is furnished with the necessary number of district health officers, as will be recommended further on in this report, the supervision of the producing farms and the enforcement of the State law should be made one of their most important duties. They should cooperate fully with local inspectors and with the inspector of the State dairy and live stock commission. They should keep in mind that the improvement of the milk supply does not depend so much upon the use of arbitrary police powers as upon the carrying on of a wide educational campaign among the farmers.

The creamery and condensed-milk industries are important in the State, and the standards for milk used for the manufacture of creamery products and for evaporation should be the same as those for milk to be used as an article of food; otherwise it is difficult to enforce sanitary requirements.

DISSEMINATION OF INFORMATION.

Bulletins.—The State board of health issues a quarterly bulletin for the benefit of the health officers throughout the State. This bulletin contains information of interest to them relative to their official work, including vital statistics, the prevalence and control of communicable diseases, and new laws and regulations relating to public health.

Formerly this bulletin was issued as a monthly publication and then contained information of more popular interest, and an effort was made to have it reach teachers and others in addition to health officers.

This monthly bulletin had to be discontinued on account of a lack of funds. The amount of money which is allowed to the public printer—namely, \$1,500 per annum—for publishing literature of the State board of health is inadequate, and is consumed in printing the biennial report, the quarterly bulletins, the necessary forms, stationery, etc. A large part of it goes to printing blanks needed by the bureau of vital statistics. At present it would, therefore, be impossible to publish more than is being published, and a popular bulletin, such as has been suggested, for distribution in public schools is out of the question. In time, with an increased appropriation, the issuing of such a publication is advised.

Circulars of information.—Circulars of information have been issued for distribution to health officers and local registrars within the State, relative to the enforcement of the vital statistics act, etc., and from time to time there have been published circulars of information on popular subjects, which are used principally for distribution while exhibits are being made. These circulars cover the subjects of tuberculosis, diphtheria, scarlet fever, general sanitation, and others of interest.

Exhibit.—The exhibit of the State board of health was first shown at the Alaska-Yukon-Pacific Exposition, and during the years 1909, 1910, and 1911, was placed on the road and exhibited in all the larger towns of the State. From its inception an effort was made to make it of general public-health interest and not entirely an antituberculosis exhibit. It was shown usually in a church, a schoolhouse, or public building furnished by the local authorities. Stereopticon lectures were given by local people of prominence and by the commissioner and assistant commissioner of health, and to add to the interest a musical program was provided. The exhibit was transported by the railroad companies free of charge, the only expense to the State being that of the employee in charge and the officials of the State board of health who were to deliver lectures. Since 1911 the exhibit has been greatly reduced in size and has been shown only occasionally, as at State fairs and similar public functions.

The officials of the State board of health who accompanied the exhibit utilized the time spent in the town to make sanitary surveys.

Conferences.—There is held every year, at a place designated by the commissioner of health; a conference of State, county, and local health officers, to discuss public-health matters of interest in different parts of the State. This conference is not required by law, nor is there any law requiring that the health officers be reimbursed for their expenses. That rests entirely with the county commissioners or city councils. Many of these bodies refuse to reimburse their health officers for expenses incurred in attending these meetings, so that they must either pay their own way or remain at home. Even under these circumstances the conferences are fairly well attended, and are productive of a great deal of good.

Meetings of this kind are of such great importance in providing for an interchange of ideas and in keeping the health officers abreast of the times, that provision should be made by law for convening them. In this law there should also be incorporated a provision whereby a health officer could, as in other States, be paid his expenses from the State, county, or city. In fact, the attendance at these meetings should be made compulsory and their duration extended so that a greater number of subjects could be taken up and studied.

VITAL STATISTICS.

The State constitution, creating a local board of health, also provided for a bureau of vital statistics. The work involved in the collection and tabulation of vital statistics is, therefore, the only activity of the State board of health which is performed in an organized manner. On account of the lack of funds, and therefore the very small force of clerks employed by the board of health for all purposes, the vital statistics clerks must necessarily perform other duties.

Registration of Births and Deaths.

Requirements of law.—The law relative to vital statistics is similar to the United States Census Bureau's model law and is summarized as follows:

It is the duty of the State board of health to have charge of the system of registration of births and deaths and to prepare the necessary rules, forms, and blanks for obtaining such records, and to insure the faithful registration of same.

The secretary of the State board of health is ex-officio State registrar of vital statistics.

The State board of health is authorized to appoint, when necessary, an assistant State registrar and to employ as many clerical assistants as he may deem necessary to record, index, and classify the returns of vital statistics.

Any city or incorporated town is a primary registration district and every county, exclusive of the portion included within such incorporated cities or towns, is subdivided into registration districts by the State registrar.

The health officer of any city or incorporated town is the local registrar.

The State registrar appoints some suitable person to act as registrar for the district not included in cities and towns, a position which is held during the pleasure of the State registrar.

Each local registrar must immediately appoint, in writing, a deputy who shall be authorized to act in his stead in case of absence, death, illness, or disability.

The remains of any person whose death has occurred in this State may not be interred or otherwise disposed of until a properly filled-out death certificate has been filed with the local registrar. When a body has been shipped in from some other State and is accompanied by the proper papers these are accepted in lieu of a death certificate. When a body is to be taken from the registration district in which the death occurs, and interred in some other registration district, the removal permit which accompanies the body is authority for burial.

A birth and a death certificate must be filed with the local registrar for all stillborn children. The word "stillborn" is written on the birth certificate in place of the name and on the medical certificate of death the cause of death is given as "still-born," with the cause of the stillbirth, if known, whether a premature birth, and if born prematurely, the period of uterogestation, in months, if known. Both the birth and the death certificate must contain all the information required by law.

When a death occurs and no physician has been in attendance, it is the duty of the undertaker or the person acting as such, to notify the local registrar, who, if he be a legally qualified physician, must investigate the circumstances of the case and issue a certificate of death, noting upon the certificate the absence of medical attendance. If the local registrar is not a legally qualified physician, and the circumstances indicate that death may have occurred from other than natural causes, the local registrar must notify the coroner, who is authorized to sign the death certificate.

The undertaker or person acting as such is made responsible for obtaining the death certificate and filing it with the local registrar and for securing the burial permit. This permit must be delivered to the sexton or other person in charge of the place of interment. If a body has been shipped by a transportation company, the transit permit containing the local registrar's removal permit must be attached to the box containing the coffin, and upon reaching its destination is taken up by the local registrar, a burial permit being issued thereon.

No sexton or person in charge of the premises where interments are made may dispose of a body without the proper burial, removal, or transit permit. The sexton must note the date of interment, over his signature, on the burial permit and return the same to the local registrar within 10 days from the date of interment, or within the time fixed by the local board.

Sextons are also required to keep a record of all interments made in the premises under their charge, stating the name of the deceased, the place of death, date of burial, and name and address of the undertaker. These records are open to public inspection.

The law specifies the information required on birth certificates, death certificates, and burial permits.

It is the duty of the physician or midwife to file a properly and completely filled-out birth certificate with the local registrar of the district in which the birth occurs within 10 days after the date of birth. In the absence of a physician or midwife, a birth certificate must be filed by the father, or mother, or the householder or owner of the premises, the manager or superintendent of the public or private institution where the birth occurs.

If a birth certificate is presented without the given name a supplementary report blank is issued, which is filled in by the parents and filed with the local registrar when the child is named.

Physicians, midwives, and undertakers are required to register name, address, and occupation with the local registrar of the district in which they reside, and they are thereupon issued a copy of the vital statistics act, together with any rules or regulations that may be promulgated. Within 30 days after October 1 of each year local registrars are required to report to the State registrar the names and addresses of all physicians, midwives, and undertakers who have registered with them. No fee is charged for registration.

All superintendents, managers, or other persons in charge of hospitals, almshouses, lying-in or other similar institutions, public or private, are required to keep a record of the information required in a death certificate. If a patient be admitted for a contagious disease, the nature of the disease and place where contracted, if possible, must be noted.

The State registrar must prepare and issue the necessary blank forms for the registration of births and deaths.

All certificates of births and deaths received from local registrars must be carefully examined by the State registrar, and if incomplete or unsatisfactory must be corrected.

Physicians, midwives, undertakers, etc., are required to give such facts as they possess relative to a birth or death.

The State registrar is required to arrange, bind, and permanently preserve all certificates in a systematic manner, to keep a card index of all births and deaths registered, and to inform local registrars what diseases are considered infectious or communicable, in order that when death occurs from such diseases, proper precautions may be taken to prevent their spread.

It is the duty of the local registrar to supply the blank forms of certificates furnished by the State registrar to such persons as require them, and to see that they are properly executed. He is authorized to withhold burial permits if death certificates are not satisfactory.

The local registrar is prohibited from issuing a permit for a body dead of a communicable disease except under conditions prescribed by the State and local boards of health. He is required to number consecutively the certificates of births and deaths in separate series, a new series beginning with each calendar year; to make an exact copy of each certificate presented to him in a register of births and deaths provided for this purpose; and on or before the fifth day of each succeeding month must send to the State registrar the originals of all certificates filed with him during the preceding month. If no births or deaths have been registered, he must report this fact on a card provided for the purpose. Cities of the first class are permitted to keep their original certificates and forward copies to the State registrar.

Health officers receiving a salary and who are acting as local registrars are not permitted to receive fees.

Registrars appointed by the State registrar are entitled to a fee of 25 cents each for certificates of birth and death properly and completely made out, registered, and forwarded by them to the State registrar on or before the fifth day of the following month. They are also entitled to a fee of 25 cents for each "no birth" and "no death" card filed. These fees are paid quarterly by the county auditor upon certification by the State registrar.

The State registrar is authorized to furnish certified copies of births and deaths and must charge a fee of 50 cents for each copy furnished. When a search of the records is made but no certified copy issued, a fee of 50 cents per hour or fractional part thereof may be charged. A correct account must be kept of all fees so received, and moneys so collected must be remitted to the State treasurer quarterly.

Cities of the first class are also authorized to furnish certified copies of births and deaths, but the fees so collected are turned into the city treasury.

Penalties are provided for refusal or neglect to make out and deliver a medical certificate, for neglect or refusal to file a proper birth certificate, for disposing of a body

without having a burial or removal permit, for neglect or refusal on the part of any registrar to perform the duties imposed upon him, for altering any certificate of birth or death or any copy of the same, for any violation of the vital-statistics act, for giving false information, and for transporting a body without the necessary papers.

The law gives full authority to the State and local registrars to investigate violations of the vital-statistics act, and, when necessary, to bring the matter before the prosecuting attorney. Prosecuting attorneys are authorized to institute proceedings in court against persons violating the act.

Methods of procedure.—Monthly transmittals of birth and death certificates by the different registrars are accompanied by monthly statement cards, showing the total number of births and deaths registered and forwarded to the State registrar during the previous month. This summary is made on a special card, which also contains a place for requisition for supplies. The reverse side of the card is used for certifying to the fact that no births or deaths have been registered with them during the month. A space is provided on the monthly report card wherein the local registrar may note the fact that a birth has occurred in his district which has not been filed with him. A similar space is provided on the "statement of death" card wherein he may note that a death has occurred which has not been reported to him by the attending undertaker. The card used by cities and towns differs slightly from that used in rural districts.

The registrar of a town or city is called the "local" registrar, while registrars in the county are known as "rural" registrars.

The number of certificates forwarded each month to the State registrar by both local and rural registrars are counted and entered in a book with the date on which they were received. From this book is made up the certification to the county auditor of the number of births and deaths and "no birth" and "no death" cards filed by each rural registrar, and for which he is entitled to receive pay.

After certificates have been counted and entered they are placed in a temporary working file, and classified by counties and cities of the first class. Separate files are kept for births and deaths. They arrive with the serial number of the local registrar. Beginning on January 1 of each year, the birth and death certificates filed by each county and city of the first class are given a serial record number, beginning with No. 1, and running consecutively to December 31 of that year. This record number indicates the number of births and deaths filed by each county and city of the first class for each month. These birth and death certificates are also given a serial file number, beginning with No. 1 on January 1 of each year, and running consecutively to December 31 of that year. This file number indicates the number of births and deaths filed with the State registrar for the State up to any period.

Each certificate of death is given a classification number, and the needed statistical information is entered on a classification sheet,

containing 33 causes of death, according to the "International List of Causes of Death." Missing information is obtained from the local registrar, if possible, and is entered on the certificate in red ink. When the certificates have been numbered and classified they are placed in a permanent file, by counties and cities of the first class, preparatory to binding in volumes of 200 certificates each. Separate index cards are used to record births and deaths. The birth-index card contains the record number, file number, name, registration district, sex, and date of birth. The birth index card and the birth certificate are both printed on blue stock.

The death index card contains the record number, file number, name of deceased, registration district, sex, age, and date of death. The death index card and death certificate are both printed on white stock.

Registrars are furnished two forms of permits; one is a combination burial and removal permit, which is used in case of burial or removal from one registration district to another, when the services of a common carrier are not needed. The other is a disinterment permit; each permit has two stubs, one of which is retained by the local registrar, and the other by company owning the cemetery.

The transportation permit is made up of two parts, one being the certificate of the local registrar and the other the certificate of the licensed embalmer. These transportation permits are not numbered and are furnished licensed embalmers only; there being no duplicate, transportation companies are not required to return any part of the transportation permit to the State board of health.

A special card is used for registrars to report to the State registrar the appointment of their deputies, as required by law.

For the convenience of undertakers who are unable to secure a burial permit from the local registrar, because of inability to secure a death certificate, an emergency affidavit is furnished them, upon which they may obtain a burial removal permit, by setting forth in this affidavit the reasons why they have not been able to obtain the death certificate. This affidavit must be sworn to before a notary public, and is filed with the local registrar, and later sent to the State department of health.

Information.—For the information of those concerned, there has been printed a bulletin containing the vital statistics law, and another bulletin containing instructions and regulations for physicians, midwives, undertakers, and registrars.

For the information of the bureau, so that it may keep check on births and deaths that may not be reported, newspapers are taken from different parts of the State, and much of the field work includes an investigation into the efficiency of registration in the locality.

Registration of Marriages.

Requirements of law.—The following is a summary of the law relative to the registration of marriages:

The county auditor is required to keep a record of marriage statistics and he must render to the secretary of the State board of health, quarterly, or at such other times as the secretary may direct, a full and complete record of all marriages.

There is also in the State of Washington a law prohibiting certain people from marrying, which is summarized as follows:

Marriage between a woman under the age of 45 years or a man of any age (except he marry a woman over the age of 45 years) is prohibited when one of the contracting parties is a common drunkard, habitual criminal, epileptic, imbecile, feeble-minded person, idiot or insane person, or person who has been afflicted with hereditary insanity, with pulmonary tuberculosis in its advanced stages, or any contagious venereal disease.

No clergyman or other person authorized to solemnize marriages is permitted to perform a marriage ceremony between persons afflicted as above.

Before a marriage can take place the contracting parties must file with the county auditor an affidavit to the effect that they are not feeble-minded, imbeciles, epileptics, insane, drunkards, or afflicted with tuberculosis in its advanced stages, and in addition the affidavit of the male applicant must show that he is not suffering from venereal disease.

Marriage statistics are kept by county auditors, as required by law, but auditors do not all send in a summary of these statistics to the State board of health. In any event, the statistics are not full enough to be of much value.

Practice of Embalming.

Requirements of law.—The law regulating the practice of embalming is summarized as follows:

No person may follow the occupation of embalming without first having obtained a certificate of registration.

There is provided a board of examiners to consist of three persons. Two members of this board are appointed by the governor from among the licensed embalmers of the State, the third member of the board being the secretary of the State board of health.

Each member of the board receives a per diem of \$5 for actual services rendered, and is entitled to reimbursement for traveling expenses incurred in attending the meetings of the board.

The board must hold a public examination at least once in each year.

To obtain the right to take the examination the applicant must pay a fee of \$5. He must be 21 years of age, and should have had not less than two years' experience under a licensed embalmer in the State of Washington, or one year under a licensed embalmer and a course of instruction in a school recognized by the embalmers' examining board. He must also be of good moral character.

The examination is conducted in the following subjects: Anatomy, sanitary science, care, disinfection, preservation, transportation, and burial or other final disposition of the remains of deceased persons, and the rules and regulations of the State board of health relating to quarantine and communicable diseases. The applicant is also required to demonstrate his proficiency as an embalmer by operations on a cadaver. If the applicant passes the examination, he pays a further fee of \$5, which entitles him

to a certificate of registration. These certificates must be renewed each year, the renewal fee being \$1.

The board has authority to revoke, after a hearing, any certificate of registration, for drunkenness, conviction of a crime, obtaining license by fraud, immoral, unprofessional or dishonorable conduct, or for violations of the rules and regulations of the State embalmers' examining board.

The board is also empowered to recognize licenses issued to embalmers under authority of other States having similar requirements, provided that the other States reciprocate with the State of Washington.

The embalmers' examining board is authorized to prescribe rules and regulations for the preparation of bodies for burial or for transportation.

The secretary of the State board of health, being a member of the embalmers' examining board, is enabled to keep in close touch with the licensed embalmers and to secure their cooperation—a very necessary thing from the point of view of the registration of births and deaths. At the same time the determination of the qualifications of applicants is left, to a large extent, to the embalmers themselves, who form a majority of the board.

In the above law there are certain details of procedure mentioned which it is not thought necessary to summarize.

Discussion.

It is probable that practically all of the deaths occurring in the State of Washington are registered. As in other States, however, the registration of births is incomplete and will remain so until the State can carry on the needed educational campaign to show the value of birth registration.

The United States Census Bureau gives a crude death rate of 8.4 in the State of Washington for the year 1913. If this rate were standardized for age and sex it would become somewhat higher, and still higher if it were based on a closer estimate of population. It is believed that the estimate made by the Bureau of the Census gives the State more people than actually exist. The true death rate should therefore be about 10. Compared with other States, this figure seems very low; nevertheless, it must be accepted as approximately correct.

Because of this low death rate there are many who are self-satisfied and see little need for expenditures for public-health work. This is the wrong attitude to take. In reality the low rate furnishes an excellent argument for every effort being continued to keep it low and to reduce it still further. While nature may be kind in furnishing a healthful climate, man is prone to spread infection broadcast. The health department therefore must be continually on the alert and prepared to meet emergencies.

It has been found in Washington, as in other States, that practicing physicians do not make good local registrars, except, perhaps, in instances where the physician employs a clerk who can perform the duties of local registrar for him. The Washington laws permit a

village to become an incorporated municipality when it has a population of 500 or over, so there are within the State a large number of small incorporated cities, each one with a health officer, who is a practicing physician, and who receives a very small salary. According to the law the health officer must act also as local registrar. The friction arising from competition which so frequently exists between practicing physicians in a small community makes it undesirable to have any one of them act either as health officer or local registrar. Not only does he incur the enmity of the community if he is strict in the performance of his duty, thus injuring his practice, but if he is disliked by one or more of the other practicing physicians they will not report to him. There should be another amendment to the vital statistics act authorizing the State registrar of vital statistics to appoint local registrars in municipalities under 5,000, instead of being required to utilize the services of the health officer for that purpose, as at present.

Table of information relating to birth and death registration for the nine months ended Oct. 31, 1914.

Counties.	Municipal registration districts.	Districts numbered from—	Rural registration districts.	Districts numbered from—	Municipal.			Total births, deaths, and cards for municipal district.
					Birth certificates.	Death certificates.	Cards reporting no births or no deaths.	
Adams.....	6	1 to 6	4	1 to 4	48	24	22	94
Asotin.....	2	1 to 4	4	1 to 4	25	13	5	43
Benton.....	3	1 to 3	5	1 to 5	49	17	14	80
Chehalis.....	7	1 to 7	6	1 to 6	460	215	30	705
Chelan.....	5	1 to 5	5	1 to 5	165	85	17	267
Clallam.....	2	1 to 2	6	1 to 6	4	.....	.....	5
Clarke.....	6	1 to 6	6	1 to 6	168	119	44	331
Columbia.....	2	1 to 2	4	1 to 4	61	34	8	103
Cowlitz.....	4	1 to 4	6	1 to 6	62	31	31	124
Douglas.....	3	1 to 3	8	1 to 8	48	10	32	90
Ferry.....	1	1	10	1 to 10	13	5	10	28
Franklin.....	3	1 to 3	4	1 to 4	56	22	11	89
Garfield.....	2	1 to 2	2	1 to 2	31	16	2	49
Grant.....	7	1 to 7	8	1 to 8	25	13	80	118
Island.....	2	1 to 2	6	1 to 6	4	3	14	21
Jefferson.....	1	1	9	1 to 9	38	36	2	76
King.....	15	1 to 15	27	1 to 27	4,076	1,981	121	6,188
Kitsap.....	4	1 to 4	8	1 to 8	94	57	23	174
Kittitas.....	4	1 to 4	4	1 to 4	100	54	14	168
Klickitat.....	2	1 to 2	5	1 to 5	20	13	15	48
Lewis.....	6	1 to 6	13	1 to 13	183	135	28	346
Lincoln.....	8	1 to 8	6	1 to 6	101	50	53	204
Mason.....	1	1	3	1 to 3	21	7	3	31
Okanogan.....	9	1 to 9	20	1 to 20	19	4	25	48
Pacific.....	3	1 to 3	5	1 to 5	158	67	12	237
Pend Oreille.....	4	1 to 4	3	1 to 3	19	10	38	67
Pierce.....	13	1 to 13	17	1 to 17	1,397	932	57	2,386
San Juan.....	1	1	3	1 to 3	9	3	11	23
Skagit.....	9	1 to 9	6	1 to 6	263	112	53	428
Skamania.....	1	1	4	1 to 4	.....	.....	.....	.....
Snohom sh.....	11	1 to 11	11	1 to 11	544	297	46	887
Spokane.....	10	1 to 10	20	1 to 20	1,701	977	67	2,745
Stevens.....	6	1 to 6	9	1 to 9	58	33	35	126
Thurston.....	4	1 to 4	5	1 to 5	143	82	33	258
Wahkiakum.....	1	1	3	1 to 3	5	1	15	21
Walla Walla.....	3	1 to 3	6	1 to 6	233	158	24	415
Whatcom.....	7	1 to 7	6	1 to 6	460	237	24	721
Whitman.....	16	1 to 16	16	1 to 16	251	120	133	504
Yakima.....	9	1 to 9	9	1 to 9	334	159	76	569
	203	.....	302	.....	11,446	6,143	1,228	18,817

Table of information relating to birth and death registration for the nine months ended Oct. 31, 1914—Continued.

Counties.	Rural.				Grand total births, deaths, and cards.	Amount expended in birth and death certificates in rural districts.
	Birth certificates.	Death certificates.	Cards reporting no births and no deaths.	Totalbirths, deaths, and cards for rural district.		
Adams.....	90	22	21	133	227	\$33.00
Asotin.....	77	32	23	132	175	32.25
Benton.....	95	39	34	168	248	38.00
Chehalis.....	117	52	59	228	933	51.75
Chelan.....	159	67	20	246	513	54.75
Challam.....	154	75	53	282	287	60.50
Clarke.....	251	84	21	356	687	83.25
Columbia.....	61	18	36	115	218	25.00
Cowlitz.....	88	25	33	146	270	42.25
Douglas.....	111	33	78	222	312	47.00
Ferry.....	26	9	46	81	109	41.00
Franklin.....	28	10	42	80	169	17.25
Garfield.....	40	21	17	78	127	17.00
Grant.....	75	34	70	179	297	38.75
Island.....	66	21	47	134	155	28.25
Jefferson.....	44	14	103	161	237	37.50
King.....	610	261	175	1,046	7,234	230.75
Kitsap.....	185	111	37	333	507	69.00
Kittitas.....	143	80	9	232	400	53.25
Klickitat.....	105	51	29	185	233	39.00
Lewis.....	328	114	61	503	849	117.00
Lincoln.....	145	63	33	241	445	50.00
Mason.....	27	25	27	79	110	17.50
Okanogan.....	121	58	83	262	310	52.25
Pacific.....	96	47	24	167	404	37.75
Pend Oreille.....	40	16	14	70	137	17.25
Pierce.....	264	248	114	626	3,012	136.25
San Juan.....	64	21	21	106	129	23.00
Skagit.....	195	104	29	328	756	70.00
Skamania.....	26	20	47	93	93	21.00
Snohomish.....	264	138	49	451	1,338	97.75
Spokane.....	282	236	131	649	3,394	140.00
Stevens.....	189	93	54	336	462	75.50
Thurston.....	115	71	28	214	472	48.50
Wahkiakum.....	21	10	18	49	70	12.00
Walla Walla.....	111	53	23	187	602	41.25
Whatcom.....	255	120	14	389	1,110	82.75
Whitman.....	305	97	86	488	992	108.00
Yakima.....	408	169	37	614	1,183	139.50
	5,781	2,762	1,846	10,389	29,206	2,336.75

No record is kept of fees that may be received by municipal registrars. The vital statistics act was not put into effect until Feb. 1, 1914.

COOPERATION BETWEEN FEDERAL, STATE, AND LOCAL HEALTH OFFICERS.

Maritime quarantine.—In addition to the laws already summarized, there exist a number pertaining to maritime quarantine which, since the United States Public Health Service has taken over the inspection of incoming shipping, are obsolete.

There is one, however, which is still valuable and which authorizes local health officers to inspect, quarantine, and disinfect vessels, with their cargoes and passengers, when such vessels are engaged in intrastate traffic, and are infected or suspected of being infected with communicable disease.

The quarantine laws of the United States, on the other hand, relate to interstate commerce. The above provision of law, therefore,

proved valuable upon the finding of rat plague in the city of Seattle, in cases where vessels refused local fumigation. The service representative in charge of the antiplague measures in Seattle has been made a deputy State health officer, in order that he may utilize the provisions of this law in enforcing the requirements relative to the fumigation of outgoing vessels engaged in intrastate traffic.

Bubonic plague.—This disease has been present in Seattle since the fall of 1907, at which time there were several human cases. The State and city health authorities, in cooperation with the Public Health Service, carried on at that time extensive operations for a period of several months, but when plague became confined to rodents the work was carried on by the city health authorities alone. A great deal of good work has been done in the past by the city authorities in the condemnation and removal of old buildings that were rat harbors, the concreting of basements, the regulation of stables, and the carrying out of other measures incident to a plague campaign. On two occasions it was thought that plague had been eradicated, as a period of 18 months, and two years, respectively, elapsed between the finding of infected rats. It is doubtful if plague has ever been even temporarily eradicated from Seattle since its first introduction.

No other locality in the State of Washington, however, has ever been infected so far as known. Since the beginning of plague operations in 1907 the city of Seattle has always maintained a force of men to trap and poison rats and collect dead rats, partly as an eradivative measure and partly as a check on the presence of plague. This force has varied from 4 to 30 men, and at present consists of 8 men engaged in the work.

In December, 1913, the supervision of the trapping and poisoning of rats, and the picking up of dead rats was placed by the city authorities in the hands of the United States Public Health Service. A force of 25 men, supervised by 5 trained rat catchers of the service, spent three months covering the entire city for the purpose of determining just how far the infection extended. This delineation of the infected zone indicated that the infection is practically confined to a small area, perhaps less than one-tenth of the total area of the city, principally along a certain portion of the water front.

This probably means that the class of buildings, construction, etc., in nine-tenths of the city is such as to harbor comparatively few rats, and plague, even though introduced by rats from the central part of the city, dies out in these districts. Trapping operations indicate very few rats in residence sections.

With the change in administration, both in the mayor's office and the Commission of Health of Seattle, last April (1914), the supervision and direction of all plague-suppressive measures was by agreement taken over by the Public Health Service, the city of Seattle

agreeing to furnish necessary labor for the successful prosecution of the work. On account of heavy expenditures in other directions the present plague force is perhaps too small for safety. Certainly eradivative measures in the infected zone ought to be prosecuted much more vigorously than at present.

Shortly after the present city administration came into office an effective rat-proofing ordinance applying to new buildings was passed by the city council and this ordinance is being scrupulously enforced. With regard to old buildings, however, proceedings are much less satisfactory, though the health department in cooperation with the Public Health Service is continually condemning old buildings or parts of buildings and having them renovated, reconstructed, or razed. This work should proceed much more rapidly than at present.

No adequate regulation for the keeping of chickens has ever been authorized by the city council. Such a measure is important for the prevention of plague. A reasonable ordinance was recently submitted by the mayor to the city council, applying to a small area of the city, but was rejected by the council on the protest of a handful of commission men who deal in chickens. As a matter of fact, the present city council, as a body, is said to be generally opposed to plague-suppressive measures, and is disposed to minimize, and even sometimes doubt, the existence of plague infection in Seattle. In the fall of 1913 the appropriation to provide for enough rat catchers to delineate the infected zone was voted by the council under protest.

Practically no effort has ever been made to inform the citizens of Seattle of the status of plague in their city and to educate them as to the best methods of dealing with a situation such as confronts the people of the State of Washington to-day. A campaign of education has several times been proposed, but has always been prevented on the ground that it might hurt business. Here it may be remarked that such a campaign need not be carried on in newspapers. Public lectures and printed information sent to the individual are perhaps the best means of disseminating information on this subject, especially if civic bodies and organizations, such as clubs, unions, retail associations, chambers of commerce, commercial clubs, etc., can be induced to distribute it. There are probably fewer than 50 citizens in the State of Washington who know just what the plague situation in their State is to-day and what may be its possibilities. The people and many officials do not realize that the present policy of just meeting the situation from day to day is penny wise and pound foolish; that 10 or 15 years from now they may be spending hundreds or even thousands of dollars for every dollar that is being spent to-day, and that if activities were sufficiently increased and the proper work done in the old buildings in the infected district in Seattle, plague

might in time be completely eradicated from the city, perhaps never to reappear if proper building laws are rigidly enforced.

The present city health officer and the service representative in charge in Seattle are doing everything possible under the circumstances. The mayor also is supporting plague-eradication measures earnestly. Were the other elements of the community as faithful in their support of these measures, speedy eradication of the infection would follow.

With regard to the attitude of the State board of health to plague in Washington, it may be described as an almost helpless willingness to do anything that should be done. The State of Washington, rich as it is, has not one dollar available to combat plague. The State commissioner of health is cognizant of the needs of the situation and has asked for an appropriation to meet emergencies, such as an outbreak of plague, but none has been made. When the sharp recrudescence occurred in Seattle in the fall of 1913, the State commissioner of health was in the unenviable position of being obliged to take measures to prevent plague from being carried from wharves in Seattle to wharves in places like Tacoma, Bellingham, and Everett, with no funds for the work. He accordingly requested the Surgeon General of the Public Health Service to allow his local representative to be appointed a deputy health commissioner (without pay), thus clothing him with authority to take the same precautions with local shipping as were being taken with interstate vessels. By drawing on the limited funds at the command of the State board of health, funds which should have been used for other work, the services of one inspector were placed at the disposal of the Public Health Service until such time as this small fund was completely exhausted. No blame may be imputed to the State board of health or the State commissioner of health for this lack of funds. The responsibility rests, of course, with the State legislature, which failed to provide them.

The question arises, Is plague in the State of Washington confined to the city of Seattle, or are other ports infected? During the winter of 1913 the cities of Tacoma, Everett, Hoquiam, and Aberdeen each employed from one to two rat catchers, and the search for plague in these cities was continued for from 60 to 90 days. The bacteriological work of examining the rats caught in these places was done by an officer of the United States Public Health Service. No plague was found.

This Service now has one inspector who spends a part of his time in Tacoma, a part in Everett, and a part in Bellingham. It is his duty to trap rats and pick up dead rats, in order that they may be examined for plague. To date, no infection has been found in any of these cities.

It would appear that measures should be taken in places other than Seattle, on Puget Sound, and the Pacific coast of Washington. These are summarized as follows:

(a) All such cities should have a model law requiring the ratproofing of all new buildings and buildings undergoing extensive repairs. A trained man should be employed to see that this law is properly enforced; otherwise it would do no good.

(b) At least two good rat catchers should be employed to trap rats and pick up dead rats the year round as a check on the presence of plague. Seattle being infected, it is not just to cities in other States to take it for granted that the other coast cities in Washington are free from plague unless some means of determining its presence or absence are taken.

FIELD FORCES, ACTIVE AND POTENTIAL.

There is but one inspector employed by the State board of health. In consequence it is necessary for the board to depend almost entirely upon the local health authorities to enforce the State laws and regulations.

Local Health Authorities.

Requirements of law.—The law relating to local health authorities is summarized as follows:

The board of county commissioners constitute the county board of health.

The county board of health has jurisdiction within the county exclusive of cities of the first class.

The county board of health appoints a legally qualified physician as county health officer, whose term of office is two years and whose compensation is fixed by the board.

The county health officer is ex-officio a member of the board and is its executive officer. He may or may not be required to act as county physician.

The county board of health is also authorized to appoint the necessary assistants to serve during the pleasure of the board.

If a county board of health neglects or refuses to appoint a health officer, the State board of health may make the appointment for that particular term and fix the compensation.

The county board of health is subject to the supervision of the State board of health and is required to make such reports as the State board may direct.

In incorporated cities not of the first class, the mayor is required to appoint a legally qualified physician as health officer, the compensation to be fixed by the city council; his term of office is one year.

In cities of the second class having a board of health, such board must appoint the health officer.

County boards of health may make rules and regulations relative to the suppression and control of disease, which regulations take effect after approval of the State board of health.

They have authority to maintain an isolation or quarantine hospital, and to restrain, quarantine, vaccinate, or disinfect any person sick of or exposed to a communicable disease. Any action taken must be in accordance with the rules and regulations promulgated by them or by the State board of health.

The county health officer has supervision over matters pertaining to the preservation of the life and health of the people in his jurisdiction, subject to supervision by the State board of health.

He has authority to abate nuisances, and it is his duty, upon the appearance of any communicable disease within his jurisdiction, to investigate, make a full report, and take the necessary suppressive measures.

He has the power to remove to and restrain in an isolation hospital, or to quarantine or isolate, any person ill of a communicable disease. He is required to examine personally or by deputy every case before taking it to an isolation hospital.

He also has the power to vaccinate, and to disinfect any person or persons, room, house, building, article, etc., that may be considered infected.

Any health officer who refuses or neglects to obey or enforce the provisions of law, or the rules and regulations of the State board of health, or who refuses to make prompt and accurate reports to the county health officer or the State board of health, may be removed by the State board of health and may not again be reappointed, except with the consent of that body.

A regulation of the State board of health places health officers of cities of the first class in the same category as county health officers, and they are, therefore, required to make the same reports and to be governed by the same rules.

During the course of this study the following places were visited: Seattle, Tacoma, Aberdeen, Olympia, Hoquiam, Montesano, Port Townsend, Friday Harbor, Bellingham, North Yakima, Walla Walla, and Spokane.

The county health officers, with one exception, are practicing physicians and are, therefore, part-time men. While most of them, no doubt, earn the small salary which they are allowed, it is by no means large enough to warrant their giving more than a very small portion of their time to public-health work.

It is now generally agreed that for various reasons the duties of a practicing physician and those of a health officer are incompatible. This statement is applicable also to city and county physicians whose duty it is to treat the indigent sick, and health officers whose duties are the prevention of disease.

Instances are not infrequently seen where the county health officer is required to treat the county poor. This is not a health officer's work. He should, of course, have control of the isolation hospital but should be furnished a physician to administer treatment to patients isolated therein.

County health officers, being appointed by the county commissioners, are subordinate to them. The commissioners, who are laymen, control the policies and expenditures of their county health organization. Almost without exception such men are not sufficiently well informed on modern public-health procedures to pass upon such matters, and too often, with the idea of economy, will so limit the actions of the health officer that he becomes a mere figure-head. In fact, the health department is a favorite place for those in authority to practice economy.

The average city of any size should be able to take care of itself. It is in the rural communities and small towns that the activities of the county health officer should be mainly carried on, and his efforts will be productive of the best results if he is made a deputy State

health officer, and, therefore, responsible to the State commissioner of health. Until full-time men are employed under these conditions, the county health officer can be of little utility either to the county or to the State.

The county of Yakima and the city of North Yakima have combined on a 50 per cent basis to secure a full-time health officer, who receives \$3,000 per year. He has an assistant, who devotes his time principally to the county work. In a city the size of North Yakima this works out very satisfactorily because the population is probably not sufficiently large to warrant a full-time health officer for the city alone. In a city of 50,000 people or more there is, however, enough for one health officer to do without having the additional duties involved in county work. The results obtained since this system was inaugurated certainly warrant its continuance; nevertheless, the health officer feels that his position is very uncertain. The county commissioners are inclined to believe that here is a place where they might economize by appointing a health officer who will serve for less money; and, unfortunately, there are practicing physicians who, regardless of their lack of qualifications, will underbid their more conscientious colleagues.

The salary which an expert on public-health matters is entitled to should not be less than that received by a county judge. A doctor of public health is a physician who has devoted a great deal of his life to the study of medicine and public-health matters, and on his ability rests the health of communities and the life of individuals. Just as there is a judge for each county or district so there should be a health officer for each county or district. The remuneration should be commensurate, each devoting his entire time to official business.

Health department of Seattle.—Of the cities of the State, Seattle is the largest and has a very well organized health department under the control of a full-time health officer, who in the administration of his office is unhampered by restrictive orders from higher authority or by political considerations. This is due to the attitude of the present mayor in supporting the policies of the health officer.

Space does not permit of an extensive review of this department. Briefly, it is divided into seven parts—a division of sanitation, a division of communicable diseases, a division of tuberculosis control, a division of child welfare, a division of vital statistics and finances, a garbage division, and a city hospital division.

The division of sanitation is under the charge of a full-time man, at present an engineer, and comprises the following activities: Milk inspection, veterinary inspection, including the inspection of animals before and after slaughter, plumbing inspection, watershed inspection, chemical laboratory, and general sanitation, which latter in-

cludes the supervision of lodging houses and the inspection of foods, restaurants, bakeries, etc.

The division of communicable diseases comprises an isolation hospital, a division of district medical inspection, a quarantine division and a bacteriological laboratory.

The division of tuberculosis control includes the maintenance of a tuberculosis sanatorium, a dispensary, and a corps of nurses. Upon this division also falls the duty of issuing certificates of health to those employed in the preparation and serving of foodstuffs. In the case of waitresses or other females employed, these examinations are made by a woman physician. The object of these examinations is to exclude such persons as are suffering from communicable diseases, especially phthisis and venereal diseases, or who may be carriers of pathogenic organisms.

The division of child welfare is one recently formed and is at present engaged in the inspection and licensing of boarding houses for children and the examination of the teeth of children under school age.

The city hospital is essentially an emergency hospital though other than emergency cases are treated.

In the division of vital statistics is the office of local registrar for the city of Seattle. In addition to acting as local registrar the head of this division keeps the accounts of the department, buys supplies, etc.

The activities of the garbage division have already been mentioned. All the officials of the health department, except the district medical officers, are full-time men. It would seem advisable and consistent to appoint full-time men to these positions. By so doing the number could be reduced and their efficiency greatly increased.

The fund of the health department of Seattle for 1914 amounted to \$444,640, and there has been provided for the year 1915, \$498,750. Out of this amount there must be defrayed the expenses of the entire department, including the collection and disposal of garbage, which will cost about \$258,180; the maintenance of an isolation hospital, which will cost about \$10,000; the maintenance of an emergency hospital, which will cost about \$26,000; and the maintenance of a tuberculosis sanatorium, which will cost at least \$105,000. It is very unusual to charge the cost of maintenance of emergency hospitals and tuberculosis sanatoria against the health department fund. Certainly the work involved in an emergency hospital is not that of a health department, and where a tuberculosis sanatorium is maintained the expenses should be paid out of a special fund, thus leaving the amount appropriated to the health department—which should not be less than 10 per cent of the total appropriations for the maintenance of city government—to be used for legitimate public health work. The health department collects for hospital treatment of pa-

tients, license fees, etc., approximately \$50,000 a year, but this money reverts to the general treasury.

The activities of the health department of the city of Seattle seem to be carried on with energy and efficiency.

The mortality among infants under 2 years of age in the city during the 12 months' period ended June 30, 1914, was 67.8 deaths from all causes for each 1,000 births, and 6.63 deaths from diarrhea and enteritis for each 1,000 births. The total deaths under 2 years of age from all causes was 327, while the total deaths under 2 years of age from diarrhea and enteritis was 32, with a total of 4,821 births registered, exclusive of stillbirths.

To some these figures may appear unreliable. However, it must be remembered that Seattle's climate is without the intense heat of summer or the intense cold of winter, such as is experienced in eastern cities; that congestion of population, and therefore the housing problem, is not a serious matter in this city; and that the officials are actively engaged in improving the milk supply, in which they are aided by the uniformly cool climate and the short hauls necessary in the transportation of the milk. A low infant mortality should be an indication of the character of the milk supply of a city, always, of course, making due allowance for other causes. The natural environment of the cities in western Washington is particularly conducive to a low infant death rate.

Health department of Spokane.—The city of Spokane also maintains a health department with a full-time health officer, receiving a salary of \$3,600 a year. The city is under the administration of a commission form of government. Observations in cities under this form of government have failed to demonstrate to the author of this report that the interests of the public health have been advanced under such system. In Spokane, for instance, the commissioner of health is one of the commissioners of the city and is a layman. The full-time health officer is subordinate to this commissioner, and a layman is more anxious to make a showing of economy in his department which will meet the approval of and strengthen him with the voters than he is to strengthen his health department, and thus advance the interests of public health. It requires a person who has made a study of the subject to realize that this is false economy.

The health department of Spokane employs a small force, including a quarantine officer, who is a physician, a quarantine nurse, a clerk; and six inspectors to supervise restaurants, stores, etc., milk supplies of the city, and matters involving sanitation. Six other persons are employed at the isolation hospital, which is maintained and controlled by the department of health. The laboratory in which the diagnostic work and water analyses are performed is under a differ-

ent commissioner, but the work of the bacteriologist is supervised by the health officer.

The health officer is an active man familiar with modern public health methods and should be given more support by the administration, both financial and moral.

During the visit to Spokane there was an epidemic of scarlet fever in which most of the cases were traceable to one school. This epidemic had been in progress for several months, and although the health department had been carrying on an active campaign against it, they were not securing the results that should be expected. The medical inspection of school children is under the control of the board of education, which employs five part-time physicians and one full-time nurse. Careful consideration of the situation pointed to the probability that the school physicians had not been devoting sufficient time to the examination of school children for the purpose of excluding those in the preliminary stages of the disease, or those who might be possible carriers as evidenced by sore throat. The health officer, of course, had no authority to take any action in the schools and had to confine his attention to the isolation of cases after they developed. This seems to be a good illustration of the desirability of having no subdivision of authority in matters concerning the physical condition of school children, and shows that the control should be placed in the health department.

Health Department of Tacoma.—The city of Tacoma is under a commission form of government. The health officer is a part-time man and is subordinate to the commissioner of health, who in this case is mayor of the city. The mayor is commissioner of health to such an extent that his salary and even that of his secretary are paid out of the funds appropriated to the health department. Out of this fund are paid also the salaries of persons whose duties are connected only in the most remote way with the health department. Thus, the amount appropriated for the health department is made to seem much larger than it really is. There are employed for legitimate public-health work, in addition to the health officer, a sanitary inspector, a quarantine officer, a bacteriologist and chemist, a pure-food inspector, a district nurse, and a clerk. The city also maintains a communicable-disease hospital. Compared with the other large cities in the State, it must be admitted that Tacoma is far behind in matters relating to health administration, nor does it appear, for the present at least, that there is any hope of increasing the efficiency of its health department. The health officer is not permitted to take the active part he desires, as such activity might be considered pernicious and would involve the expenditure of city money.

The following tabulation shows the amount of money that has been made available to the health departments of some of the cities

in the State, as well as giving other information of interest. Calculating the amount that a city health department should receive on a 10 per cent basis, which is very conservative, it is evident that the appropriations at present are inadequate.

City.	Population estimated as of July 1, 1914.	Health officer.	Diagnostic laboratory.	Isolation hospital.	Emergency hospital, or medical relief to indigent sick.	Tuberculosis sanatorium.
Seattle.....	313,029	¹ \$5,000	Yes.	\$10,000	² \$26,000	³ \$105,000
Spokane.....	135,657	¹ 3,600	Yes.	\$9,930	No.	No.
North Yakima.....	18,737	¹ 3,000	⁴ Yes.	No.	No.	No.
Tacoma.....	103,418	⁴ 1,200	Yes.	\$5,530	No.	No.
Hoquiam.....	10,540	⁴ 1,200	No.	No.	No.	No.
Bellingham.....	29,937	⁴ 900	No.	No.	\$500	No.
Everett.....	32,048	⁴ 1,200	No.	No.	No.	No.
Aberdeen.....	18,220	⁴ 600	No.	\$650	No.	No.

City.	Garbage collection and disposal in charge of health department.	Funds available to health department.	Funds available for maintenance of entire city government.	Per cent of funds available to health department.	Amount available on a 10 per cent basis.
Seattle.....	\$258,180	{ \$498,750 (367,750)	\$4,962,024	{ 10 (7.4)	\$496,262
Spokane.....	No.	34,670	1,864,241	1.8	186,424
North Yakima.....	\$9,578	20,832	334,260	6.0	33,425
Tacoma.....	No.	⁵ 20,265	1,113,628	1.8	111,362
Hoquiam.....	No.	1,978	110,043	1.7	11,004
Bellingham.....	No.	1,681	102,180	1.6	10,218
Everett.....	No.	4,560	200,735	2.2	20,073
Aberdeen.....	No.	2,000	160,000	1.2	16,000

¹ Full time.

² Deducting the cost of maintenance of the emergency hospital and the tuberculosis sanatorium from the total amount, there would remain \$367,750, or 7.4 per cent of the total budget for the entire city.

³ The county pays one-half of the health officer's salary and one-half the expenses of laboratory.

⁴ Part time.

⁵ The salary of the mayor and other expenses not chargeable to a health department have been deducted.

APPROPRIATIONS.

There were appropriated for the State board of health for the biennial period 1913 and 1914, \$30,000, or \$15,000 per year, as follows:

Commissioner's salary.....	\$3,600
Maintenance of board of health and bureau of vital statistics.....	4,500
General fund.....	7,100

15,200

The revenues of the State for the year ended October 1, 1914, were approximately \$12,319,959. If to this amount there be added the balance from the previous year of \$2,371,769, there would be available to cover the expenses of State government, \$14,691,729. If from this amount there is deducted \$6,691,729 to cover extraordinary expenses, interest on bonds, revolving funds, and the like, there would remain \$8,000,000 for the general maintenance of the State government. The funds allowed the health department for the year

1914, namely, \$15,000, represent but 0.0018 per cent of this amount, being entirely inadequate, and compared to the appropriations in other States of equal size, exceedingly small.

The amount required to maintain an efficient health department, large enough to care for the public health of a State of the size and importance of Washington, should be not less than 2 per cent of the State's available revenues, which in this instance, basing the calculation on \$8,000,000, is \$160,000. This sum is considered necessary and reasonable to maintain the health department required, after the department shall have been fully organized.

In recommending appropriations in amount more nearly approaching these figures, it is not desired to cause any increase in taxation or to place an increased burden upon the people, but to bring about a more equitable distribution of the State's funds, so that those who are now receiving much may, by getting a little less, add to the fund of the State board of health.

It has been suggested that the revenue derived from taxing life insurance companies be utilized to pay the expenses of the health department. This idea would appear to be logical, inasmuch as life insurance companies are vitally interested in the prevention of disease and the prolongation of life, and render great aid to health departments through their visiting nurses and the dissemination of literature on the preventable diseases.

The State of Washington might follow the precedent established by Florida, where the State health department is supported by a tax levy of one-half mill. In Washington, however, a larger and richer State, this tax levy would not have to be nearly as great. The report of the tax commission for 1912 gives the assessed valuation of taxable property as \$1,005,086,000. In order to secure the amount required by the health department, as recommended above (\$160,000), there would have to be levied a tax of 0.00015 cents, or $\frac{1}{6667}$ of 1 mill, which would be equivalent to 1.6 cents for every \$100 of the assessed valuation.

EXPENDITURES.

The accompanying table shows the expenditures of the State board of health for the 12 months' period ended July 31, 1914.

The apportionment of these expenditures according to the activities is not absolutely accurate, as the system of bookkeeping charges the expenses against appropriations rather than against specific activities. It was, therefore, in some cases necessary to approximate the division of the amounts expended for different purposes. For this particular 12 months' period a deficit of \$240 is shown. This is only apparent, however, as it will be made up from moneys coming due during the next 12 months and not yet utilized, it being borne in mind that in

Washington appropriations are made for two years, and the relative rate of expenditure of all appropriations over the two-year period is left entirely to the discretion of each department head.

Statement of expenditures of the State board of health for the 12 months' period ended July 31, 1914.

	Execu- tive office and board of health.	Educa- tional.	Vital statistics.	Epidemi- ology and sanita- tion.	Diag- nostic labora- tory.	Total.
Addressing machine and supplies.....			\$117.01			\$117.01
Blue prints.....			21.50	\$20.00		41.50
Books and subscriptions.....	\$86.35					86.35
Camera supplies, printing, and developing.....				38.03		38.03
Conference dues.....	10.00					10.00
Cuts for bulletins.....		\$66.06				66.06
Public-health exhibit.....		85.28				85.28
Express, cartage, freight, and storage.....		156.28	10.00			166.28
Furniture.....	23.38		4.75			28.13
Laboratory maintenance.....					\$94.45	94.45
Laboratory supplies.....					387.64	387.64
Laundry.....	9.40					9.40
Mailing cases.....					45.00	45.00
Maps.....			10.35			10.35
Miscellaneous.....	22.17					22.17
Office supplies.....	113.87		112.00			225.87
Per diem, special investigators.....				80.00		80.00
Postage.....	148.22		148.22		100.00	396.44
Press clippings.....			80.00			80.00
Rent.....	600.00				600.00	1,200.00
Repair to laboratory apparatus.....					13.50	13.50
Repair to typewriter.....				3.00		3.00
Reprints.....				19.10		19.10
Salaries.....	3,600.00		2,400.00	2,820.00	1,240.00	10,060.00
Telephone.....			2.40	307.61		310.01
Telegrams.....				94.50		94.50
Traveling expenses.....	548.92		386.50	291.74		1,227.16
Traveling expenses, members of board.....	283.76					283.76
Typewriter.....					30.00	30.00
Total.....	5,456.07	307.62	3,292.73	3,673.98	2,510.59	15,240.99

RECOMMENDATIONS.

As a result of a careful study of public health administration in Washington, continued over several months, a number of definite conclusions have been reached and previously stated. In effect, these conclusions are that the adoption and enforcement of measures for the protection of public health in the State have not kept pace with the growth of the State. Such health measures as have been enacted are more or less scattered among different branches of the government, whereas all these measures should be coordinated and their enforcement imposed on a single State health organization. Further provision should be made adequately to protect the public health, and necessary appropriations and facilities should be provided with which to carry out the necessary measures.

Based on the above summarized conclusions, certain recommendations are submitted, the adoption of which, it is believed, will meet the present public health needs of the State:

1. All public health activities now being performed by the State board of health and the activities relating to child hygiene, industrial

hygiene, school hygiene, sanitation of milk supplies, and hotel inspections performed by other governmental agencies should be brought together in a department of health.

2. The department of health should be subdivided into the office of the commissioner of health as the administrative head, the State board of health as the advisory and quasi-legislative body, both of which are now provided for by law, and the following bureaus:

- Bureau of communicable diseases.
- Bureau of public health engineering.
- Bureau of industrial hygiene.
- Bureau of child welfare and school hygiene.
- Bureau of publications and instruction.
- Bureau of vital statistics.
- Bureau of property, records, and accounts.

3. The bureau of communicable diseases should include a division of epidemiology, a diagnostic laboratory, and a Pasteur institute. The division of epidemiology should have charge of the collection and disposition of morbidity reports, the prevention and suppression of communicable diseases, and the supervision of the medical officers at the headquarters of the department and district health officers in the field. In the diagnostic laboratory should be performed the duties usual to such laboratories, and the Pasteur institute should prepare and administer antirabic treatments.

4. The bureau of public health engineering should include a division of engineering, a division of sanitary inspections, and a water and sewage laboratory.

The division of engineering should have supervisory control over water supplies, sewerage systems, and disposal of garbage and trades wastes. The water and sewage laboratory should be for the performance of the duties usual to such laboratories. The division of sanitary inspections should have charge of the inspections of hotels and public buildings, plumbing inspection, and the abatement of nuisances.

5. The bureau of industrial hygiene should have charge of the sanitation of places where industrial workers are employed and the prevention of occupational diseases.

6. The bureau of child welfare and school hygiene should have charge of the health inspection of schools and school children and the studies in prevention of diseases of infancy.

7. The bureau of publications and instruction should have charge of all systematic measures for the dissemination of information, including the installation and management of public health exhibits, the delivery of public health lectures, and the preparation and distribution of educational literature.

8. The bureau of vital statistics should have charge of the registration of births, deaths, marriages, and divorces.

9. The bureau of property, records, and accounts should have charge of the property, records, and accounts of the department.

10. The State should be divided into not less than 15 health districts, each district to be composed of one or more counties at the discretion of the State department of health.

11. A physician trained in the science of public health should be placed in each district as district health officer and given an office and adequate number of assistants, including inspectors, nurses, and clerks. No one should be appointed until he has passed a thorough examination before the State department of health, and has otherwise proved himself capable of filling the position. He should first receive a probationary appointment, and he should be prohibited from engaging in any private business which would interfere with his official duties. He should hold office during efficiency and good behavior and receive an adequate salary, which, as he proves himself capable, should be increased at definite intervals until it has reached a maximum which in the judgment of the department of health is sufficient. He should be allowed actual and necessary expenses when traveling on official business.

12. The district health officer should be made responsible to the State department of health for the enforcement of State health laws and regulations, and, under the State department of health, have authority over county, city, and town health officials.

13. The powers and duties of the district health officer should be defined by law and include the enforcement of the law regarding the notification of cases of disease; the inspection of dairies, canneries, industrial camps, and all places of business or manufacture within his jurisdiction; the inspection of county schools and school children; the investigation of cases of illness and the institution of measures for the control of disease; the investigation of nuisances and the abatement of same; the keeping of complete records of transactions, and the forwarding of all necessary reports to the State department of health; the dissemination of information in his district; the enforcement of the laws relating to the registration of births and deaths; and the performance of all other duties that may be required of him by the State department of health.

14. The State should be divided into three districts, in each of which should be placed an officer who has received training in public health engineering, this field force to be under the supervision of the division of engineering. The sanitary engineer at the University of Washington should be appointed consulting engineer to the State department of health.

15. The field organization should be mobile, so that the district health officers and the district engineers, or their assistants, could be concentrated in any part of the State or in any city within the State

in case of emergency, or their transfer from one district to another effected in the interest of the public service.

16. Branch laboratories should be established at advantageous points throughout the State and placed under the control of the diagnostic laboratory in the bureau of communicable diseases.

17. The personnel of the department of health should be increased so as to adequately perform all the duties imposed upon it, including the appointment of a full-time chief for each of the bureaus and other necessary assistants.

18. All permanent officers and employees of the department of health, except the advisory board, should be "full-time" employees.

19. A comprehensive law should be enacted making it compulsory on the part of all persons interested to have plans for proposed installations of water supplies, sewerage, and refuse-disposal systems, approved by the State department of health. The State department of health should be empowered to require any changes or extensions in already existing installations that may be necessary to insure safe water supplies or proper sewage or refuse-disposal systems; or to order the installation of water-supply and sewerage or refuse-disposal systems in the absence of same. The State department of health should have the power to close or to prevent the use of water from any well, spring, or other source, that, in its opinion, is dangerous to health, or to require the filling or draining of places where there is any accumulation of water, breeding of mosquitoes, or other conditions dangerous to health.

20. The model law for morbidity reports with necessary modifications should be enacted in Washington, and should include a provision whereby the State shall submit to the United States Public Health Service the reports agreed upon between that service and the conference of State and Territorial health authorities.

21. A law should be enacted giving power to the State department of health to organize a system of health inspection of schools and school children in rural schools, and to supervise such work performed by cities.

22. The prevention of occupational diseases and the maintenance of sanitation in places employing labor should be placed under the control of the State department of health, and legislation should be enacted to give it all necessary power to act.

23. Health officers in cities of the third and fourth class should be appointed by the State department of health and should act also as deputy district health officers of the State. Such health officers should be residents of their respective localities.

24. Provision should be made by law for calling a conference of district and other health officers annually, or oftener, by the State

commissioner of health, the expenses so incurred to be paid by the State, county, or local authorities.

25. All plans of public buildings should be submitted to the State department of health for approval as to sanitary arrangements.

26. Tabulating machines should be installed in the interest of economy and efficiency.

27. Quarters large enough to accommodate the different divisions, as contemplated in this report should be furnished for the State department of health at Seattle.

28. Provision should be made for the free distribution of diphtheria antitoxin throughout the State.

29. A popular bulletin to be used especially for instructing children in the public schools should be issued monthly.

30. The methods of keeping accounts should be changed so as to allow an accurate determination of the exact cost of any bureau or division or any special work at any time.

31. Not less than \$160,000 per annum should be appropriated for the use of the State department of health. This should be allotted at the discretion of the department to its different bureaus, approximately, as follows:

To the bureau of communicable diseases.....	\$25,000
To the bureau of public-health engineering.....	20,000
To the bureau of industrial hygiene.....	5,000
To the bureau of vital statistics.....	10,000
To the bureau of school hygiene and child welfare.....	10,000
To the educational bureau.....	5,000
To the district health organization.....	75,000
To the general fund.....	10,000
	160,000

32. In order to meet any emergency that may arise requiring the expenditure of money to combat an epidemic or to control a dangerous communicable disease, the legislature should set aside a fund of at least \$15,000, which may be spent upon the recommendation of the State commissioner of health, with the approval of the governor.

PLAGUE-ERADICATIVE WORK.

CALIFORNIA.

The following report of plague-eradivative work in California for the week ended January 16, 1915, has been received from Passed Asst. Surg. Hurley, of the United States Public Health Service, in temporary charge of the work.

San Francisco, Cal.

RAT PROOFING.

New buildings:	
Inspection of work under construction ..	220
Basements concreted, 40,881 square feet.	61
Floors concreted, 8,935 square feet.....	14
Yards, passageways, etc., 20,548 square feet.....	112
Total area of concrete laid, square feet..	70,364
Class A, B and C (fireproof) buildings:	
Inspections made.....	252
Roof and basement ventilators, etc., screened.....	1,207
Wire screening used, square feet.....	8,358
Openings around pipes, etc., closed with cement.....	6,241
Sidewalk lens lights replaced.....	2,600
Old buildings:	
Inspections made.....	450
Wooden floors removed.....	52
Yards and passageways, planking removed.....	11

RAT PROOFING—continued.

Old buildings—Continued.	
Cubic feet new foundation walls installed	7,001
Concrete floors installed, 36,222 square feet.....	44
Basements concreted, 14,891 square feet.	21
Yards and passageways, etc., concreted, 29,400 square feet.....	43
Total area concrete laid, square feet.....	80,813
Floors rat-proofed with wire cloth, 7,346 square feet.....	8
Buildings razed.....	22
New garbage cans stamped approved.....	206
Nuisances abated.....	388

OPERATIONS ON THE WATER FRONT.

Vessels inspected for rat guards.....	25
Reinspections made on vessels.....	16
New rat guards procured.....	6
Defective rat guards repaired.....	3
Vessels on which cargo was inspected.....	2

	Condition.	Rat evidence.
Steamers Admiral Dewey and President, from Seattle:		
12 bales rags.....	O. K.....	None.
270 cases household goods, milk, lard, apples, etc.....	O. K.....	None.
50 rolls paper.....	O. K.....	None.
1,000 sacks flour and bran.....	O. K.....	None.
50 tubs lard.....	O. K.....	None.

Rats trapped on wharves and water front....	30
Rats trapped on vessels.....	11
Traps set on wharves and water front.....	153
Traps set on vessels.....	44
Vessels trapped on.....	12
Poisons placed on water front (pieces).....	3,600
Bait used on water front and vessels, bacon (pounds).....	6
Amount of bread used in poisoning, water front (loaves).....	12
Pounds of poison used on water front.....	6

RATS COLLECTED AND EXAMINED FOR PLAGUE.

Collected.....	220
Examined.....	184
Found infected.....	6

RATS IDENTIFIED.

Mus norvegicus.....	77
Mus rattus.....	59
Mus alexandrinus.....	49
Mus musculus.....	35

Squirrels collected and examined for plague.

Contra Costa County.....	70
San Benito County.....	12
Total.....	82

Ranches inspected and hunted over.

Contra Costa County.....	13
San Benito County.....	6
Total.....	19

Record of plague infection.

Places in California.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number rodents found infected since May, 1907.
Cities:				
San Francisco.....	Jan. 30, 1908	Oct. 23, 1908	(¹)	398 rats.
Oakland.....	Aug. 9, 1911	Dec. 1, 1908	(¹)	126 rats.
Berkeley.....	Aug. 28, 1907	(¹)	(¹)	None.
Los Angeles.....	Aug. 11, 1908	(¹)	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).	Sept. 24, 1909	Oct. 17, 1909 ²	Aug. 7, 1914	286 squirrels.
Contra Costa.....	May 17, 1914	(¹)	Oct. 23, 1914	1 wood rat.
Fresno.....	(¹)	(¹)	Oct. 27, 1911	1,565 squirrels.
Merced.....	(¹)	(¹)	July 12, 1911	1 squirrel.
Monterey.....	(¹)	(¹)	Apr. 10, 1914	5 squirrels.
San Benito.....	June 4, 1913	(¹)	Sept. 26, 1914	6 squirrels.
San Joaquin.....	Sept. 18, 1911	(¹)	Aug. 26, 1911	36 squirrels.
San Luis Obispo.....	(¹)	(¹)	Jan. 29, 1910	18 squirrels.
Santa Clara.....	Aug. 31, 1910	(¹)	July 23, 1913	1 squirrel.
Santa Cruz.....	(¹)	(¹)	May 17, 1910	25 squirrels.
Stanislaus.....	(¹)	(¹)	June 2, 1911	3 squirrels.
				13 squirrels.

¹ None.² Wood rat.

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Merced, San Joaquin, Santa Cruz, Stanislaus, San Benito, Santa Clara, and San Mateo.

LOUISIANA—NEW ORLEANS.

The following report of plague-eradication work at New Orleans for the week ended January 23, 1915, has been received from Surg. Corput, of the United States Public Health Service, in temporary charge of the work:

OUTGOING QUARANTINE.		DESTINATION AND NUMBER OF RAILROAD CARS INSPECTED FOR WEEK ENDED JAN. 23—contd.	
Vessels fumigated with sulphur.....	36		
Vessels fumigated with carbon monoxide..	14	Carolina, South.....	3
Vessels fumigated with hydrocyanic gas...	1	Colorado.....	24
Pounds of sulphur used.....	5,764	Delaware.....	1
Coke consumed in carbon-monoxide fumigation (pounds).....	28,400	Florida.....	58
Pounds of potassium cyanide used in hydrocyanic-gas fumigation.....	102½	Georgia.....	40
Pounds of sodium carbonate used in hydrocyanic-gas fumigation.....	120	Illinois.....	288
Pounds of sulphuric acid used in hydrocyanic-gas fumigation.....	104	Indiana.....	14
Clean bills of health issued.....	26	Iowa.....	7
Foul bills of health issued.....	6	Kansas.....	2
		Kentucky.....	18
		Louisiana.....	1,023
		Maryland.....	4
		Massachusetts.....	8
		Michigan.....	17
		Minnesota.....	21
		Mississippi.....	301
		Missouri.....	69
		Nebraska.....	5
		New Jersey.....	1
		New Mexico.....	1
		New York.....	14
		Ohio.....	61
		Oklahoma.....	19
		Oregon.....	12
		Pennsylvania.....	8
		Tennessee.....	60
OVERLAND FREIGHT INSPECTION.			
Cars inspected; found in good order; permitted to load.....	1,700		
Cars ordered repaired before loading.....	1,045		
Total cars inspected.....	2,745		
DESTINATION AND NUMBER OF RAILROAD CARS INSPECTED FOR WEEK ENDED JAN. 23.			
Alabama.....	80		
Arizona.....	3		
Arkansas.....	15		
California.....	21		
Carolina, North.....	1		

DESTINATION AND NUMBER OF RAILROAD CARS
INSPECTED FOR WEEK ENDED JAN. 23—contd.

Texas.....	204
Virginia.....	4
West Virginia.....	1
Canada.....	3

FIELD OPERATIONS.

Rats trapped.....	8,344
Premises inspected.....	8,867
Notices served.....	1,872

BUILDINGS RAT PROOFED.

By elevation.....	93
By marginal concrete wall.....	120
By concrete floor and walls.....	219
By minor repairs.....	158
Square yards of concrete laid.....	15,379
Total buildings rat proofed.....	590
Total buildings rat proofed to date.....	8,744
Number of abatements.....	234
Number of abatements to date.....	18,322

LABORATORY OPERATIONS.

Rodents examined.....	4,436
Mus norvegicus.....	2,028
Mus rattus.....	103
Mus alexandrinus.....	254
Mus musculus.....	4,642
Unclassified and putrid.....	2,389
Total rodents received at laboratory.....	8,761
Number of suspicious rats.....	29
Plague rats confirmed.....	0
Total number of rodents captured to Jan. 23.....	241,298
Total number of rodents examined to Jan. 23.....	196,856
Rodent cases to Jan. 23, by species:	
Mus rattus.....	15
Mus musculus.....	4
Mus alexandrinus.....	8
Mus norvegicus.....	199
Total rodent cases to Jan. 23.....	226

WASHINGTON—SEATTLE.

The following report of plague-eradivative work at Seattle for the week ended January 9, 1915, has been received from Surg. Lloyd, of the United States Public Health Service, in charge of the work:

RAT PROOFING.

New buildings inspected.....	36
Basements concreted, new buildings (12).....square feet..	32,413
Floors concreted, new buildings (7).....do....	22,352
Yards, etc., concreted, new structures (5).....square feet..	1,327
Sidewalks concreted.....do....	21,520
Total concrete laid, new structures, square feet.....	77,612
New buildings elevated.....	4
New premises rat proofed, concrete.....	29
Old buildings inspected.....concrete.....	3
Old buildings rat proofed.....	1
Premises otherwise rat proofed, old buildings.....	2
Openings screened, old buildings.....	83
Wooden floors removed.....	1
Wire screening used.....square feet..	1,850
Buildings razed.....	4
WATER FRONT.	
Vessels inspected and histories recorded....	37
Vessels fumigated.....	3
Sulphur used.....pounds..	650

WATER FRONT—continued.

New rat guards installed.....	18
Defective rat guards repaired.....	12
Canal Zone certificates issued.....	1
Port sanitary statements issued.....	41

LABORATORY AND RODENT OPERATIONS.

Dead rodents received.....	28
Rodents trapped and killed.....	355
	383
Rodents examined for plague infection.....	331
Rodents proven plague infected.....	0
Blocks poisoned.....	10
Poison distributed.....pounds..	28
Human bodies examined for plague infection..	1

CLASSIFICATION OF RODENTS.

Mus rattus.....	4
Mus alexandrinus.....	68
Mus norvegicus.....	278
Mus musculus.....	33

The usual day and night patrol was maintained to enforce rat guarding and fending.

Rodents examined in Bellingham.

Mus norvegicus trapped.....	27
Mus norvegicus found dead.....	3
Total.....	30
Rodents examined for plague infection.....	30
Rodents proven plague infected.....	0

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

IN CERTAIN STATES AND CITIES.

CEREBROSPINAL MENINGITIS.

Virginia—Wise County.

Passed Asst. Surg. Leake reported by telegraph, January 30, 1915, that from November 1, 1914, to January 30, 1915, eight cases of epidemic cerebrospinal meningitis were notified in Wise County, Va. Of the 8 cases 2 resulted fatally in November, 2 in December, and 1 in January, leaving 3 cases under treatment on the date of the report.

City Reports for Week Ended Jan. 16, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass.....	2	2	Los Angeles, Cal.....	1	.....
Chicago, Ill.....	2	2	New York, N. Y.....	3	2
Cincinnati, Ohio.....	1	1	Passaic, N. J.....	.....	2
Detroit, Mich.....	1	.....	Richmond, Va.....	.....	1

DIPHThERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 433.

ERYSIPELAS.

City Reports for Week Ended Jan. 16, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Alameda, Cal.....	1	.....	Nashville, Tenn.....	.....	1
Binghamton, N. Y.....	1	.....	New York, N. Y.....	.....	6
Boston, Mass.....	.....	2	Passaic, N. J.....	1	1
Chicago, Ill.....	24	2	Philadelphia, Pa.....	27	.....
Cincinnati, Ohio.....	4	.....	Pittsburgh, Pa.....	10	1
Clinton, Mass.....	1	.....	Reading, Pa.....	1	.....
Detroit, Mich.....	2	.....	Rochester, N. Y.....	4	1
Harrisburg, Pa.....	3	.....	Rutland, Vt.....	1	.....
Kalamazoo, Mich.....	7	2	San Francisco, Cal.....	7	1
Lancaster, Pa.....	2	.....	Schenectady, N. Y.....	.....	2
Los Angeles, Cal.....	4	.....	Wilmington, N. C.....	.....	1
Milwaukee, Wis.....	1	.....		

LEPROSY.

Louisiana—New Orleans.

During the week ended January 16, 1915, a case of leprosy was notified at New Orleans.

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 433.

PNEUMONIA.

City Reports for Week Ended Jan. 16, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Auburn, N. Y.	1		New Castle, Pa.	1	
Binghamton, N. Y.	8	3	Newport, Ky.	3	3
Chicago, Ill.	167	74	Newport News, Va.	1	1
Cleveland, Ohio.	32	15	Philadelphia, Pa.	62	20
Coffeyville, Kans.	4		Pittsburgh, Pa.	23	20
Duluth, Minn.	1	1	Reading, Pa.	2	
Grand Rapids, Mich.	2	2	Rochester, N. Y.	4	16
Harrisburg, Pa.	1	1	Rock Island, Ill.	2	2
Kalamazoo, Mich.	1	3	San Francisco, Cal.	17	12
Kansas City, Kans.	4	10	Schenectady, N. Y.	3	2
Los Angeles, Cal.	15	11	South Omaha, Nebr.	3	
Mobile, Ala.	2		York, Pa.	2	

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 433.

SMALLPOX.

California—Imperial County.

Acting Asst. Surg. Richter reported by telegraph January 30, 1915, that during the week ended January 30, seven cases of smallpox were notified in Imperial County, Cal.

Maryland—Centerville.

Collaborating Epidemiologist Fulton reported by telegraph January 28, 1915, that a new focus of smallpox infection had been reported in Maryland, one case of the disease having been notified at Centerville, Queen Annes County.

City Reports for Week Ended Jan. 16, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		Nashville, Tenn.	1	
Charleston, S. C.	1		New Orleans, La.	2	
Cincinnati, Ohio.	3		Norfolk, Va.	1	
Cleveland, Ohio.	1		Portland, Oreg.	1	
Covington, Ky.	4		Racine, Wis.	5	
Detroit, Mich.	4		Rochester, N. Y.	1	
Duluth, Minn.	8		Rock Island, Ill.	2	
Grand Rapids, Mich.	4		St. Louis, Mo.	5	
Kansas City, Mo.	4		Salt Lake City, Utah.	2	
La Crosse, Wis.	1		San Diego, Cal.	4	
Milwaukee, Wis.	14		Springfield, Ill.	1	
Moline, Ill.	1		Superior, Wis.	1	
Muncie, Ind.	5		Toledo, Ohio.	7	

TETANUS.

City Reports for Week Ended Jan. 16, 1915.

During the week ended January 16, 1915, tetanus was notified by cities as follows: Boston, Mass., 1 case; Harrisburg, Pa., 1 death; Philadelphia, Pa., 1 case; Richmond, Va., 1 death.

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 433.

TYPHOID FEVER.

City Reports for Week Ended Jan. 16, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.	1		New Orleans, La.	16	
Altoona, Pa.	1		Newton, Mass.	1	
Atlantic City, N. J.	1		New York, N. Y.	25	5
Auburn, N. Y.	3		Norristown, Pa.	2	
Austin, Tex.	1		North Adams, Mass.	1	
Baltimore, Md.	6	2	Oakland, Cal.	2	
Boston, Mass.	2		Pasadena, Cal.	1	1
Buffalo, N. Y.	6	3	Pawtucket, R. I.	1	1
Chicago, Ill.	30	5	Philadelphia, Pa.	12	3
Charleston, S. C.	1		Pittsburgh, Pa.	4	
Cincinnati, Ohio.	4	1	Portland, Ore.	1	
Cleveland, Ohio.	4		Pottstown, Pa.	1	
Columbus, Ohio.	2		Providence, R. I.	2	
Dayton, Ohio.	1	1	Reading, Pa.	4	
Detroit, Mich.	4	1	Richmond, Va.	1	
East Orange, N. J.	1		Rochester, N. Y.	1	
Elgin, Ill.	1		Rutland, Vt.	1	1
Fall River, Mass.	1		Sacramento, Cal.	1	
Galveston, Tex.	1	1	Saginaw, Mich.		1
Grand Rapids, Mich.	2		St. Louis, Mo.	6	1
Johnstown, Pa.	1		San Francisco, Cal.	6	
Kansas City, Mo.	1	1	San Juan, P. R.	1	
Little Rock, Ark.	1		Springfield, Mass.	1	1
Los Angeles, Cal.	8	1	Springfield, Ohio.	2	1
Lowell, Mass.	1		Toledo, Ohio.	1	1
Lynn, Mass.	1		Trenton, N. J.	2	1
Milwaukee, Wis.	5		Washington, D. C.	2	1
Mobile, Ala.	1	1	Wheeling, W. Va.	2	2
Moline, Ill.	1		Wilkes-Barre, Pa.	2	
Nashville, Tenn.	1		Wilkesburg, Pa.	2	
Newark, N. J.	1		Worcester, Mass.	1	1
New Bedford, Mass.	6		York, Pa.	1	
New Castle, Pa.	1		Zanesville, Ohio.	15	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended Jan. 16, 1915.

Cities.	Population as of July 1, 1914. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	579,590	193	36	4	4		49	1	28	16
Boston, Mass.	733,802	235	65	4	74		61	2	42	21
Chicago, Ill.	2,393,325	641	130	18	97	1	99	2	296	72
Cleveland, Ohio.	639,431	153	62	6	7		19		26	16
Detroit, Mich.	537,650	157	64	6	1		1	37	24	12
New York, N. Y.	5,333,537	1,612	333	25	255	3	259	6	454	174
Philadelphia, Pa.	1,657,810	561	80	6	99	3	37	1	102	63
Pittsburgh, Pa.	564,878	151	36	2	74	2	62	2	35	17
St. Louis, Mo.	734,667	288	129		5		43	2	44	24
Cincinnati, Ohio.	402,175	138	25	1	2		7		19	14
Los Angeles, Cal.	438,914	128	18		30		27		40	17
Milwaukee, Wis.	417,064	93	23		5		8	4	16	9
Newark, N. J.	389,106	119	23	3	1		5		36	15
Buffalo, N. Y.	454,112	145	30	1	11		19	1	27	17
New Orleans, La.	361,221	88	28	2	3		2		32	17
San Francisco, Cal.	448,502	153	53	5	155		7		61	18
Washington, D. C.	353,378	126	6		14		20		25	11

DIPHtheria, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Jan. 16, 1915—Continued.

Cities.	Population as of July 1, 1914. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio.....	204,567		7		1		4		10	4
Jersey City, N. J.....	293,921	81	20	1	6		16		28	11
Kansas City, Mo.....	281,911	93	24		7		2		2	8
Portland, Oreg.....	260,601		4				3		4	4
Providence, R. I.....	245,090	61	17	1	4		21		21	8
Rochester, N. Y.....	241,518	58	7		11		10		9	4
From 100,000 to 200,000 inhabitants:										
Cambridge, Mass.....	110,357	31	6		9		9		9	6
Camden, N. J.....	102,465		8		34				3	
Dayton, Ohio.....	123,794	27	12	2	6		8		5	3
Fall River, Mass.....	125,443	22			18	2	6	1	8	
Grand Rapids, Mich.....	123,227		6	1	5		6		7	1
Hartford, Conn.....	107,038	35	4	1	2		2		5	1
Lowell, Mass.....	111,004	36	5		1			5	5	2
Nashville, Tenn.....	114,890	36	5				9		3	2
New Bedford, Mass.....	111,230	31	2	1	4		6		3	1
Oakland, Cal.....	183,002	17	6	3	2		2		3	3
Reading, Pa.....	103,361	24	6				8		2	2
Richmond, Va.....	134,917	63	2				7		3	4
Salt Lake City, Utah.....	109,530	31	4		1		4		2	
Springfield, Mass.....	100,375	35	4		1		3		1	
Toledo, Ohio.....	184,126	56	5		4	1	7			7
Trenton, N. J.....	106,831	32	10		4				2	3
Worcester, Mass.....	157,732	40	5		1		3	1	5	2
From 50,000 to 100,000 inhabitants:										
Altoona, Pa.....	56,553	16	1							3
Atlantic City, N. J.....	53,952	8	3				2		2	
Bayonne, N. J.....	65,271	6	3						3	
Berkeley, Cal.....	52,105	9	5		25		2		1	1
Binghamton, N. Y.....	52,191	24	3		2		6		5	1
Brockton, Mass.....	64,043	9	9		2				4	
Charleston, S. C.....	60,121	24	3		2				4	2
Covington, Ky.....	55,896						2		2	1
Duluth, Minn.....	89,331		1				13		11	
Evansville, Ind.....	71,284		7		18		2		1	2
Harrisburg, Pa.....	69,493	21	2		2				2	
Johnstown, Pa.....	64,642	20	6		4				2	
Kansas City, Kans.....	94,271		4		4		3			2
Little Rock, Ark.....	53,811	17					1		1	
Lynn, Mass.....	98,207	21	1	1			7		5	1
Mobile, Ala.....	55,573	24							2	2
New Britain, Conn.....	50,612	11					1			2
Norfolk, Va.....	86,540		2				1		2	2
Passaic, N. J.....	66,276	31	5				3		1	1
Pawtucket, R. I.....	56,901	22								1
Saginaw, Mich.....	53,988	14	5		1		1			
Schenectady, N. Y.....	90,503	23	1		83		6		1	1
South Bend, Ind.....	65,114	9	1	1			1			
Springfield, Ill.....	57,972	26	4	1	49		6			3
Springfield, Ohio.....	50,058	17	4		1		1		1	2
Wilkes-Barre, Pa.....	73,660	28	7		2		4	1	3	2
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.....	26,330	5			4					1
Auburn, N. Y.....	36,509	14					1		4	
Aurora, Ill.....	33,022	10	3	1						3
Austin, Tex.....	33,218	18	2	1						2
Brookline, Mass.....	31,138	4			2		3		1	
Chelsea, Mass.....	32,452	13	2		2		2		4	2
Chicopee, Mass.....	28,057	6	2	2			1		1	2
Danville, Ill.....	30,847	7					1			1
East Orange, N. J.....	39,852		2				5		2	
Elgin, Ill.....	27,485	9	1							2
Everett, Mass.....	37,381	8	1		7		8		1	
Everett, Wash.....	32,048	8			3		1			
Fitchburg, Mass.....	40,507	6								1
Galveston, Tex.....	40,289	14	2				4			
Haverhill, Mass.....	47,071	15	1		1		5			2
Kalamazoo, Mich.....	45,842	14			1				1	2
La Crosse, Wis.....	31,367		1					1	4	
Lancaster, Pa.....	49,685				1		4		1	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Jan. 16, 1915—Continued.

Cities.	Population as of July 1, 1914. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—Continued.										
Lexington, Ky.....	38,819	18	1				3			4
Lynchburg, Va.....	31,830	9						2		
Medford, Mass.....	25,240	9	2		6		2			
Moline, Ill.....	26,402	13			2					1
Newcastle, Pa.....	39,569		5				4		6	
Newport, Ky.....	31,517	5	1				4			
Newport News, Va.....	30,446	9	1						3	3
Newport, R. I.....	29,154	3	1				1			2
Newton, Mass.....	42,455	7					1		1	
Niagara Falls, N. Y.....	35,127	19	1	1						
Norristown, Pa.....	30,265	9								
Orange, N. J.....	31,968	10			1		4		3	
Pasadena, Cal.....	40,880	16					1		1	1
Perth Amboy, N. J.....	38,265	5	8	1			1		1	
Pittsfield, Mass.....	36,531	17			14		2			4
Portsmouth, Va.....	37,569	8	1							
Racine, Wis.....	44,523	15	1				1		1	1
Roanoke, Va.....	40,574	13	5	1	1				4	4
Rock Island, Ill.....	26,945	7					3			
Sacramento, Cal.....	62,717	18			9					
San Diego, Cal.....	48,900	4	3	1			1		3	3
South Omaha, Nebr.....	26,368	8								
Superior, Wis.....	44,344	7	2			3				
Taunton, Mass.....	35,631	19							2	1
Waltham, Mass.....	29,688	7	1							
West Hoboken, N. J.....	40,647		9				1		5	
Wheeling, W. Va.....	42,817	13	3				4		1	
Wilmington, N. C.....	27,781	12								2
York, Pa.....	49,430		2				1		2	
Zanesville, Ohio.....	29,949		1				1			
Less than 25,000 inhabitants:										
Ann Arbor, Mich.....	14,948	3	1				2		6	
Beaver Falls, Pa.....	13,100		1		1				1	
Cairo, Ill.....	15,394	8		1			1			2
Clinton, Mass.....	13,075	6							1	
Coffeyville, Kans.....	15,982		2							1
Concord, N. H.....	22,291	11								1
Cumberland, Md.....	23,846	5	1		1				2	
Florence, S. C.....					1					
Galesburg, Ill.....	22,570	4	1				1			
Grand Haven, Mich.....		2	1							
Harrison, N. J.....	16,160		1		1				1	
Kearny, N. J.....	21,967	8	3		4		5			
Key West, Fla.....	21,150	3	1							
Kokomo, Ind.....	19,694	3	2							1
Marinette, Wis.....	14,610						5			
Marrose, Mass.....	16,887	6	5		6		1		1	1
Montclair, N. J.....	24,782	12	1						1	2
Morristown, N. J.....	13,033	5					2			
Muncie, Ind.....	24,969	5					2			
Muscatine, Iowa.....	17,074	8								
Nanticoke, Pa.....	21,756	3					1			
Newburyport, Mass.....	16,147	5	1						1	
New London, Conn.....	20,557	6	1		1				3	
North Adams, Mass.....	22,019	8			1					
Northampton, Mass.....	19,766	3			1		3		2	
Palmer, Mass.....	8,955	6								
Palo Alto, Cal.....					6					
Pascagoula, Miss.....		1								
Phoenix, Ariz.....	16,870	14	1				1			10
Plainfield, N. J.....	22,755	7			20					
Pottstown, Pa.....	16,408	6	2							
Rockland, Me.....	8,182	1							1	1
Rome, Ga.....	14,146	3								
Rutland, Vt.....	14,417	8	4							
Saratoga Springs, N. Y.....	12,813	3					2			
Steelton, Pa.....	15,126	1	1				1		3	
Vineyard Haven, Mass.....				4						
Wilkinsburg, Pa.....	21,701				2				1	
Woburn, Mass.....	15,755	8								

FOREIGN REPORTS.

CHINA.

Examination of Rats—Hongkong.

During the two weeks ended December 12, 1914, 3,817 rats were examined at Hongkong. No plague-infected rat was found.

Typhoid Fever—Mukden.

On December 28, 1914, typhoid fever was reported prevalent at Mukden.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified in Habana as follows:

Diseases.	Dec. 21-31, 1914.			Jan. 1-10, 1915.		
	Cases.	Deaths.	Remain- ing under treatment.	Cases.	Deaths.	Remain- ing under treatment.
Diphtheria.....	5	.....	2	8	.....	8
Leprosy.....	.....	.....	259	.....	.....	259
Malaria.....	2	1	2	.....	.....	2
Measles.....	1	.....	2	.....	.....	2
Paratyphoid fever.....	3	.....	21	.....	1	6
Scarlet fever.....	9	1	8	1	.....	.....
Smallpox.....	.....	.....	3	.....	.....	2
Tetanus in the newborn.....	1	1	.....	.....	.....	.....
Typhoid fever.....	27	6	88	13	5	55
Varicella.....	15	.....	11	16	.....	3

EGYPT.

Plague, Year 1914.

During the year ended December 31, 1914, 219 cases of plague with 111 deaths were notified in Egypt. The cases occurring in cities were distributed as follows: Alexandria, 43 cases with 23 deaths, date of last case November 28, 1914; Port Said, 50 cases with 20 deaths, date of last case December 16, 1914; Ismailia 1 case with 1 death in June, and Damietta 1 case in July. The remainder of the cases were distributed in nine Provinces, the largest number of cases, 40 with 20 deaths, being notified in the Province of Minieh. The last case in the Provinces occurred October 14, 1914, in the Province of Keneh.—From the Bulletin Quarantenaire, Alexandria, December 31, 1914.

GREAT BRITAIN.**Examination of Rats—Liverpool.**

During the two weeks ended January 2, 1915, 234 rats were examined at Liverpool for plague infection. No plague-infected rat was found. The total number of rats examined from July 25, 1914, to January 2, 1915, was 4,732. No plague infection was found.

Precautions Against Passage of Rats to Vessels—Liverpool.

When certain precautions have been consistently carried out by vessels from the moment of arrival until that of departure, a certificate as to the precautions taken to guard against the introduction of rats on the vessel during its stay in Liverpool is issued.

The first step taken is to secure a notification of the arrival of a vessel which is, so to speak, a candidate for such a certificate, prior to its reaching the dock. If such a warning is not given which will allow an inspection immediately on the arrival of the vessel no certificate can be obtained, as notifications after the arrival of a ship are not acted upon. All of the regular steamship lines understand this, and no difficulty is experienced in receiving notification in due time to admit of the inspector ascertaining by his own visit to the dock what precautions are instituted. The requirements are:—That a vessel be kept at least 6 feet away from the quay at all times; that rat guards be placed on all lines connected with the ship, and that the said guards shall be of an adequate character; that all lighters alongside the vessel shall be a sufficient distance from the upper parts of the ship's first deck to render it impossible for a rat to traverse the intervening space, and that all ropes connecting said lighters shall be properly guarded, or shall be light lines so small as to make their use by a rat impossible.

The inspector visits each ship in port which is held under observation on an average once each day, and at irregular hours, and a record of each visit, with a note as to his findings, is made in a permanent record book.

Just prior to the proposed sailing of a vessel the owners or responsible agents submit a statement in writing as to the steps that have been taken to guard against the entry of rats to the ship. If this statement agrees with the daily record of the inspector it is indorsed by the consular officer issuing the bill of health showing that it is correct, and the same is attached to the bill of health. Indorsement is also made on the bill of health.

GREECE.**Typhus Fever—Saloniki.**

During the week ended December 26, 1914, 5 fatal cases of typhus fever were notified at Saloniki.

JAPAN.

Plague—Plague-Infected Rats—Tokyo.

A fatal case of plague was notified at Tokyo December 29, 1914. During the week ended January 4, 1915, 4 plague-infected rats were found.

RUSSIA.

Typhus Fever.

Typhus fever has been notified in Russia as follows: Moscow, week ended December 12, 1914, 11 cases; Odessa, during the same period, 1 case; Riga, during the period from June 1 to September 30, 1914, 11 cases, and during the week ended October 17, 4 cases; Petrograd, week ended December 12, 1914, 7 cases with one death.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Feb. 5, 1915.¹

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Hungary—				
Budapest.....	Dec. 25-31.....	1		
India:				
Madras.....	Dec. 13-19.....	8	5	
Rangoon.....	Nov. 1-30.....	4	1	
Indo-China:				
Cochin China—				
Saigon.....	Nov. 30-Dec. 6....	18	5	
Do.....	Dec. 14-20.....	49	20	
Siam:				
Bangkok.....	Nov. 1-28.....		3	

PLAGUE.

Brazil:				
Bahia.....	Dec. 20-Jan. 2....	4	4	
China:				
Shanghai.....	Dec. 6-12.....		1	
India:				
Rangoon.....	Nov. 1-30.....	25	23	
Japan:				
Tokyo.....	Dec. 29-Jan. 4....	1	1	
Peru:				
Salaverry.....	.....do.....	1	1	
Russia:				
Moscow.....	Dec. 6-12.....	2		

SMALLPOX.

Arabia:				
Aden.....	Dec. 17-23.....	5	5	
Austria-Hungary:				
Hungary—				
Fiume.....	Dec. 23-Jan. 3....		1	
Canada:				
Ontario—				
Windsor.....	Jan. 17-23.....	1		
Canary Islands:				
Teneriffe—				
Santa Cruz.....	Dec. 20-26.....		1	

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received During Week Ended Feb. 5, 1915—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
China:				
Shanghai.....	Dec. 21-27.....		3	Among natives.
France:				
Paris.....	Dec. 20-26.....	2		
Greece:				
Patras.....	Dec. 28-Jan. 3.....		2	
Saloniki.....	Dec. 20-26.....	17	5	
India:				
Madras.....	Dec. 13-19.....	1		
Italy:				
Turin.....	Dec. 21-Jan. 3.....	2		
Russia:				
Moscow.....	Dec. 6-12.....	5		
Odessa.....	Nov. 12-18.....	5		
Do.....	Dec. 6-12.....	10	1	
Petrograd.....	do.....	37	18	
Riga.....	Oct. 11-Dec. 12.....	69		
Turkey in Asia:				
Beirut.....	Dec. 13-26.....	12	5	

Reports Received from Dec. 26, 1914, to Jan. 29, 1915.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria.....				Total Sept. 15-Dec. 5 Cases, 3,467; deaths, 937.
Bohemia.....				Total Sept. 23-Dec. 5: Cases, 176; deaths, 56.
Coast land—				
Trieste.....	Nov. 15-21.....	5		
Galicia.....				Total Sept. 23-Dec. 5: Cases, 2,047; deaths, 793.
Krakow.....	Oct. 4-Dec. 5.....	109	4	
Lisko.....	Sept. 23-Nov. 7.....	355	186	
Przemysl.....	Nov. 1-14.....	132	3	
Lower Austria.....				Total Sept. 1-Dec. 5: Cases, 473; deaths, 67.
Vienna.....	Sept. 1-Dec. 5.....	386	42	
Moravia.....				Total Sept. 15-Dec. 5: Cases, 362; deaths, 93.
Brunn.....	Sept. 15-Nov. 21.....	18	3	
Silesia.....				Total Sept. 23-Dec. 5: Cases, 288; deaths, 39.
Styria.....				Sept. 23-28: Cases, 55; deaths, 18.
Graz.....	Oct. 3-Nov. 14.....	10		
Upper Austria.....	Oct. 4-Nov. 7.....	3		
Bosnia-Herzegovina.....				Total Oct. 4-10: Case, 1.
Croatia-Slavonia.....				Total Oct. 4-10: Case, 1; death, 1.
Hungary.....				Total Sept. 15-Nov. 30: Cases, 3,024. Deaths not yet reported.
Ceylon:				
Colombo.....	Sept. 5.....	1	1	
China:				
Nanking.....	Nov. 15-21.....			Present.
Wuchow.....	Nov. 27.....			Do.
Dutch East Indies:				
Celebes—				
Menado.....	Oct. 18-Nov. 21.....	324	310	
Java—				
Batavia.....	Oct. 25-Nov. 28.....	335	321	
Sumatra—				
Lampong.....	Nov. 8-14.....	27	7	
Mengals.....	Oct. 18-Nov. 7.....	65	69	
Palembang.....	Oct. 18-Nov. 21.....	94	74	
Telok Betong.....	Nov. 14-21.....	25	24	
Germany:				
Brandenburg.....	Dec. 6-23.....	4		Total Nov. 8-Dec. 26: Cases, 51. Vicinity of Frankfort on the Oder.
Posen.....	Dec. 20-26.....	2		At Birnbaum.
Silesia.....	Nov. 8-Dec. 24.....	40		In 23 localities.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 26, 1914, to Jan. 29, 1915—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay.....	Nov. 1-Dec. 12....	7	1	
Calcutta.....	Nov. 1-28.....		42	
Madras.....	Nov. 8-Dec. 12....	141	101	Oct. 25-31; deaths, 17. Not previously reported.
Rangoon.....	Sept. 1-30.....	1	1	
Indo-China.....				Jan. 1-Aug. 31: Cases, 259; deaths, 148. Aug. 1-31: Cases, 18; deaths, 15.
Cambodia—				
Pnum Penh.....	Aug. 1-31.....	1		
Cochin China—				
Baria.....	do.....	6	6	And vicinity, Nov. 3-23; Cases, 20; deaths, 10.
Cholon.....	do.....	9	7	
Saigon.....	do.....	1	1	Total, Jan. 1-Nov. 30: Cases, 44; deaths, 33.
Laos—				
Pakse.....	do.....	1	1	
Japan:				
Kyoto fu.....	Oct. 1-31.....	1	1	
Philippine Islands:				
Manila.....	Oct. 25-Dec. 12....	44	22	
Russia:				
Moscow.....	Nov. 8-14.....		1	
Siam:				
Bangkok.....	Sept. 27-Oct. 31....		5	
Straits Settlements:				
Singapore.....	Oct. 4-10.....	1	1	

YELLOW FEVER.

Brazil:				
Rio de Janeiro.....	Dec. 13-19.....	1	1	In a person arriving on the s. s. Vestris, having stopped 3 days in Bahia, en route from Portugal.
Ecuador:				
Guayaquil.....	Nov. 1-30.....	1		
Venezuela:				
Caracas.....	Dec. 31.....	2		

PLAGUE.

Brazil:				
Bahia.....	Nov. 16-Dec. 5....	8	6	
Pernambuco.....	Oct. 11-Nov. 30....		5	
Rio de Janeiro.....				Jan. 5: Case, 1.
Ceylon:				
Colombo.....	Oct. 25-Dec. 5....	17	16	
China:				
Canton.....				June 12-July 12: Cases, 325.
Dutch East Indies:				
Provinces				Total, Oct. 1-31: Cases, 1,661; deaths, 1,474.
Kediri.....	Oct. 1-31.....	492	455	
Madloen.....	do.....	110	96	
Paseroean.....	do.....	878	756	
Surabaya.....	do.....	181	167	
Ecuador:				
Duran.....	Nov. 1-30.....	6	3	
Guayaquil.....	do.....	101	42	
Sanborondon.....	do.....	4	2	
Egypt:				
Alexandria.....	Nov. 5-28.....	1	1	Total, Jan. 1-Nov. 28: Cases, 218; deaths, 110.
Port Said.....	Oct. 22-Dec. 16....	7	7	
Greece.....				Sept. 12, present in Drama and Kavala.
India:				
Bassein.....	Jan. 4-Dec. 5....	13	10	Not previously reported.
Bombay.....	Nov. 1-Dec. 12....	7	6	
Karachi.....	Nov. 8-Dec. 12....	7	6	
Madras.....	Nov. 22-Dec. 12....	6	6	
Rangoon.....	Sept. 1-Oct. 31....	74	68	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from Dec. 26, 1914, to Jan. 29, 1915—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Indo-China.....				Jan. 1-Aug. 31: Cases, 1,780; deaths, 1,413. Aug. 1-31: Cases, 155; deaths, 121.
Anam—				
Phanrang.....	Aug. 1-31.....	8	7	
Phanitet.....	do.....	4	1	
Cambodia—				
Pnum Penh.....	do.....	41	39	
Cochin China—				
Cholon.....	do.....	26	11	
Saigon.....	do.....	23	15	And vicinity Nov. 3-30: Cases, 5.
Kouang-Tcheou-Wan.....	do.....	45	45	
Libya (Tripoli).....				Present in Derna and Marsa-Susa among native laborers.
Mauritius.....	Nov. 6-12.....	14		
Persia:				
Belessavar.....	Oct. 30-Nov. 9.....	80	80	On the Caspian coast.
Kasri Shireen.....	Dec. 12.....	1		
Peru:				
Salaverry.....				Nov. 17-23: Cases, 2; deaths, 1. Dec. 14: Cases, 10 in hospital at Trujillo.
Senegal:				
Dakar.....	Dec. 5.....			Present.
Straits Settlements:				
Singapore.....	Nov. 1-28.....	3	3	
Turkey in Asia:				
Bagdad.....	Nov. 1-Dec. 3.....	11	9	
Zanzibar.....	Oct. 25-31.....	2	3	

SMALLPOX.

Arabia:				
Aden.....	Nov. 5-25.....	3	5	
Argentina:				
Rosario.....	Oct. 1-31.....		1	
Australia:				
New South Wales—				
Sydney.....				Total Nov. 13-19: Cases, 7 in the metropolitan area and 2 in the country districts.
Queensland—				
Brisbane.....				Nov. 19, in Colmslie quarantine station, 1 case from s. s. Kano Na from Melbourne, via Sydney.
Austria-Hungary:				
Hungary—				
Fiume.....	Dec. 6-30.....	2		
Brazil:				
Pernambuco.....	Oct. 1-Nov. 30.....		40	
Rio de Janeiro.....	Nov. 1-Dec. 19.....	582	174	
Sao Paulo.....	Nov. 9-15.....	2		
Bulgaria:				
Sophia.....	June 30-Nov. 28.....	121	2	
Canada:				
Ontario—				
Sarnia.....	Dec. 13-Jan. 9.....	2		
Toronto.....	Dec. 6-Jan. 16.....	11		
Quebec—				
Montreal.....	Dec. 28-Jan. 9.....	4		
Quebec.....	Dec. 13-Jan. 16.....	3		
Windsor.....				Jan. 13: Cases, 4 from Grand Trunk Ferry, Lambsdown.
Canary Islands:				
Teneriffe—				
Santa Cruz.....	Dec. 6-12.....		1	
Ceylon:				
Colombo.....	Oct. 25-Dec. 5.....	66	13	
China:				
Hongkong.....	Nov. 22-28.....	1	1	
Newchwang.....				Nov. 22, present.
Shanghai.....	Nov. 9-Dec. 20.....	10	34	Deaths among natives.
Dutch East Indies:				
Borneo.....	Nov. 8-14.....	50	30	Oct. 18-24: Cases, 112; deaths, 44, mainly in Pontianak.
Java.....				In the western part, including Batavia, Oct. 18-Nov. 21: Cases, 2,607; deaths, 421.
Batavia.....	Oct. 18-Nov. 21.....	166	44	
Surabaya.....	Nov. 1-7.....	1		

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.

Reports Received from Dec. 26, 1914, to Jan. 29, 1915—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Nov. 19-Dec. 23...	43	11	
France:				
Havre.....	Dec. 20-26.....	1		
Paris.....	Nov. 15-21.....	2	2	
Germany.....				Nov. 15-Dec. 19: Cases, 14.
Great Britain:				
Cardiff.....	Nov. 30-Dec. 5....	5		
Liverpool.....	Dec. 19.....	1		
Greece:				
Kavala.....	Nov. 22-28.....	5		
Patras.....	Nov. 23-Dec. 20...		9	Dec. 6: Epidemic.
Saloniki.....	Nov. 15-Dec. 19...	44	34	
India:				
Bombay.....	Nov. 1-Dec. 12....	45	11	
Calcutta.....	Oct. 25-Nov. 28...		37	
Madras.....	Nov. 1-Dec. 12....	8	7	
Rangoon.....	Oct. 1-31.....	2	2	
Japan.....				Jan. 1-Oct. 31: Cases, 450; deaths, 102, exclusive of Taiwan.
Nagasaki ken.....	Oct. 1-31.....	25	4	
Taiwan.....	Oct. 25-Dec. 5....	8		
Mexico:				
Aguascalientes.....	Dec. 7-Jan. 10....		7	
Chihuahua.....	Nov. 30-Dec. 26...	19	10	Prevalent.
Juarez.....	Dec. 4.....			
Mazatlan.....	Dec. 9-Jan. 5.....	16	6	
Monterey.....	Dec. 14-20.....		2	
Salina Cruz.....	Nov. 1-7.....	1		
Tampico.....	Dec. 1-31.....		6	Prevalent among the military.
Vera Cruz.....	Dec. 1-Jan. 10....		10	Jan. 5: Epidemic.
Norway:				
Christiansand.....	Nov. 1-30.....	7	2	Including report, vol. 29.
Stavanger.....	Nov. 30-Dec. 5....	1		
Portugal:				
Lisbon.....	Nov. 22-Dec. 19...	10		
Russia:				
Moscow.....	Nov. 8-Dec. 5....	18	2	
Odessa.....	Oct. 25-Nov. 7....	5	1	
Do.....	Nov. 30-Dec. 5....	37	5	
Petrograd.....	Oct. 25-Nov. 18...	132	25	
Spain:				
Barcelona.....	Nov. 22-Dec. 18...		24	
Madrid.....	Nov. 1-Dec. 31....	5	4	
Valencia.....	Nov. 15-Jan. 2....	261	12	
Straits Settlements:				
Singapore.....	Oct. 10-Nov. 28...	5	2	
Sweden:				
Stockholm.....	Dec. 13-19.....		1	
Switzerland:				
Basel.....	Nov. 7-Dec. 5....	7		
Turkey in Asia:				
Beirut.....	Nov. 1-Dec. 12....	34	11	
Haifa.....	Nov. 2-Dec. 6....	14	6	
Zanzibar.....	Nov. 14-21.....		7	

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

NEW YORK.

Labor Camps—Sanitary Regulation. (Chap. 5, Reg. Public Health Council, Oct. 20, 1914.)

REGULATION 1. *Pollution of waters prohibited.*—All persons living in the open or in camps, tents, or other temporary shelters shall exercise every proper and reasonable precaution to dispose of their wastes, so that springs, lakes, reservoirs, streams, and other watercourses shall not be polluted.

REG. 2. *Notice of labor or construction camp to be occupied by five or more persons to be given health officer.*—Every railroad or other corporation, contractor, lumberman, or other person who shall establish, construct, or maintain any labor or construction camp to be occupied by five or more persons, and the person in charge of any temporary living quarters on wheels or otherwise that shall be provided for five or more workmen, shall at once notify the health officer of the town or village in which the camp or quarters are to be located, by telephone, telegraph, or letter, of the presence and location of such quarters or camp.

REG. 3. *Health officer to inspect and pass on location and sanitary conditions of camps.*—It shall be the duty of each health officer when notified of the establishment of any camp with temporary buildings, on wheels or otherwise, in his jurisdiction promptly to inspect and determine the propriety of the location of the camp and of its sanitary conditions. If the location or manner of operation of the camp be found by him to be detrimental to the public health, he shall cause the camp to be removed or the manner of its operation to be corrected.

REG. 4. *Permit required for labor or construction camp to be occupied by more than 10 persons for more than six days.*—No railroad or other corporation, contractor, lumberman, or other person shall establish, construct, or maintain any labor or construction camp to be occupied by 10 or more persons for a period of more than six days without a permit from the local health officer.

Whenever any such camp shall be vacated, the person in charge thereof shall forthwith notify the local health officer and surrender to him the permit therefor.

REG. 5. *Application required for permit.*—Application for such permit shall be made in writing to the local health officer.

The application shall state the exact situation of the proposed camp, the type of camp to be established, the approximate number of persons to be maintained, the probable duration of stay, the proposed source of water supply for the camp, and the proposed method of sewage and garbage disposal.

REG. 6. *Conditions of issuance of permit; may be revoked.*—If the local health officer is satisfied after inspection that the proposed camp will not be a source of danger to the health of others or to its inmates, he shall issue the necessary permit in writing, in a form to be prescribed by the State commissioner of health.

In case the local health officer declines to issue the permit, an appeal may be taken to the State commissioner of health, who may grant a permit.

Any such permit may be revoked for cause by the local health officer or by the State commissioner of health after a hearing.

REG. 7. *Health officer to be notified of the name of the person responsible for sanitary condition of camp.*—It shall be the duty of the owner, manager, or foreman of a labor or construction camp occupied by 20 or more persons to detail one person, who shall be responsible for the sanitary condition of the camp, and to notify the local health officer of the name of such person.

REG. 8. *Copy of this chapter to be posted.*—There shall be furnished by the health officer and conspicuously posted in every camp a copy of this present chapter of the sanitary code or of such parts thereof as may be considered necessary by the State commissioner of health.

REG. 9. *No building, tent, or car in any camp to be nearer than 50 feet of water's edge of public water supply.*—In every camp or temporary quarters the nearest part of any building, tent, car, or shed shall be at least 50 feet in a horizontal direction from the water's edge of any stream, lake, or reservoir, except in the case of the Hudson River below the city of Albany, the waters of which are used for a public water supply.

REG. 10. *Suitable privy or other toilet facilities to be provided and used.*—For every camp there shall be provided convenient and suitable privy or other toilet facilities approved by the local health officer, which the occupants of the camp shall be required to use instead of polluting the ground.

REG. 11. *Construction of privies more than 200 feet from the water's edge.*—If such privy be more than 200 feet from the water's edge of any spring, stream, lake, or reservoir forming part of a public or private water supply, it shall consist of a pit at least 2 feet deep, with suitable shelter over the same. No such pit shall be filled with excreta to nearer than 1 foot from the surface of the ground, and the excreta in the pit shall always be covered with earth or ashes. If the camp is to be occupied for more than six days between May 1 and November 1, the shelter and pit shall be inclosed in fly netting.

REG. 12. *Construction and care of privies located between 50 and 200 feet from the water's edge.*—If such privy be between 50 and 200 feet from the waters of a spring, stream, lake, or reservoir forming part of a public or private water supply, there shall be no pit, but the excreta shall be received in a water-tight tub or bucket and periodically, as often as may be found necessary, shall be taken away and disposed of. Such privy shall be properly screened against flies and kept in a clean and sanitary condition; the pails or buckets shall not be allowed to fill so that they overflow or spill in carrying, and the construction of the privy shall be such that the convenient removal and replacement of the tubs or buckets is facilitated.

REG. 13. *Disposal of wastes from privies.*—The pails or buckets used in privies located between 50 and 200 feet from the water's edge, as referred to in regulation 12, shall when not more than three-quarters filled be removed from the privy and carried at least 200 feet from the water's edge and the contents there either burned or buried in a trench at least 2 feet deep, so that when buried there shall be at least 1 foot of earth cover. The tubs or buckets immediately after being emptied shall be rinsed out with a suitable disinfectant as particularly prescribed for such purposes by the special rules and regulations of the State department of health, and the rinsing fluid shall also be emptied into the trench.

REG. 14. *Garbage to be disposed of in suitable manner.*—All garbage, kitchen wastes, and other rubbish in camps shall be deposited in suitable covered receptacles which shall be emptied daily or oftener if necessary, and the contents burned, buried, or otherwise disposed of in such a way as not to be or become offensive or insanitary.

REG. 15. *Water rules to be observed.*—Whenever a camp is established on the banks of a spring, lake, reservoir, stream, or other watercourse which is a source of water

supply protected by water rules formulated by the State commissioner of health, no bathing or washing by the occupants of said camp shall be allowed in said springs, lakes, reservoirs, streams, or other watercourses, and all said water rules shall be strictly observed. There shall be furnished by the local health officer and conspicuously posted in such camp a copy of said rules or parts thereof as may be considered necessary by the State commissioner of health.

REG. 16. *Location and drainage of stables regulated.*—No stable or other shelter for animals shall be maintained within 100 feet of any living quarters in a camp, nor within 150 feet of any kitchen or messroom therein. No drainage from such stable or shelter shall be permitted to empty directly into any spring, lake, reservoir, stream, or other watercourse forming part of a public or private water supply.

REG. 17. *Camps to be kept and left in clean and sanitary condition.*—All tents, cars, and buildings in, and the grounds surrounding, camps shall at all times be kept and when definitely vacated be left in a clean and sanitary condition.

REG. 18. *Person in charge of camp to report cases of disease presumably communicable.*—It shall be the duty of the person in charge of any labor or other camp to enforce regulation 6 of Chapter II of the Sanitary Code, reading as follows:

It shall be the duty of every visiting nurse and public-health nurse and of the person in charge of any labor or other camp, having knowledge of any person affected with any disease presumably communicable, who by reason of the danger to others seems to require the attention of the public-health authorities, to report at once to the local health officer, within whose jurisdiction such case occurs, all facts relating to the illness and physical condition of such affected person.

REG. 19. *Isolation of cases of communicable disease; cases not to be removed without permission of health officer.*—Whenever a case of disease presumably communicable shall occur in any labor or construction camp it shall be the duty of the person in charge of the camp immediately to isolate the case. Such isolation shall be maintained in a manner approved by the local health officer. The person in charge of the camp shall not allow the case to leave or be removed from such camp without the permission of the local health officer.

REG. 20. *Duty to enforce regulations on person in charge.*—It shall be the duty of the superintendent, foreman, or other person in charge of a camp to see that all regulations of this chapter are faithfully observed.

REG. 21. *Supplementary rules and regulations.*—Labor and construction camps shall be subject to such special and supplementary rules and regulations, not inconsistent herewith, as may from time to time be made by the State commissioner of health.

REG. 22. *Date of taking effect and territory where effective designated.*—Every regulation in this chapter shall take effect throughout the State of New York except in cities on the 1st day of January, 1915.

Nuisances—Complaint, Investigation, and Abatement. (Chap. 6, Reg. Public Health Council, Dec. 18, 1914.)

REGULATION 1. *Duty of health officer to abate nuisances likely to affect health; procedure; when and where to take effect.*—SECTION 1. The local health officer, upon receiving a complaint of the existence within his jurisdiction of a nuisance which may affect health, or when the probable existence of any such nuisance comes to his attention, shall make an immediate and thorough investigation, and if such nuisance exists he shall take all measures within his power and authority to secure its abatement.

SEC. 2. The health officer shall within five days of the receipt of the complaint file with the local board of health:

(a) The complaint, if made in writing, or, if not made in writing, a summary thereof; or, if no complaint has been made, a statement of the facts; and

(b) A report showing (i) his findings; (ii) his opinion as to whether or not the conditions amount to a nuisance likely to affect health; (iii) the action, if any, taken by him; and (iv) whether such nuisance has been abated.

SEC. 3. If said report of the health officer states that there is a nuisance likely to affect health which has not been abated, the local board of health shall convene promptly, investigate the alleged nuisance, and take the necessary steps provided by law for its abatement, or within a reasonable time from the filing of the health officer's report enter on its minutes its decision giving its reason for not taking action.

SEC. 4. Within 48 hours after the entry of such decision, the health officer shall forward a copy thereof to the State commissioner of health, together with the original or copies of the papers filed by him with the local board, as required in subdivision 2 hereof.

SEC. 5. If, in the opinion of the State commissioner of health, the conditions complained of constitute a nuisance likely to affect health and the abatement or removal thereof is necessary for the public good and for the protection of life and health, the said commissioner may by notice to the presiding officer of the local board of health direct him, pursuant to section 26 of the public-health law, to convene such local board to take certain definite proceedings concerning which the said commissioner is satisfied that the action recommended by him is necessary for the public good and is within the jurisdiction of such local board of health.

SEC. 6. Upon the receipt of such notice from the State commissioner of health, the presiding officer of the local board of health shall promptly convene such local board, which shall take the action directed by the said commissioner.

SEC. 7. This regulation shall take effect throughout the State of New York, except in cities, on the 1st day of March, 1915.

MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

MONTCLAIR, N. J.

Milk and Cream—License for Sale of Cows—Tuberculin Test. (Ord. Feb. 24, 1914.)

An ordinance entitled "An ordinance establishing a sanitary code for the town of Montclair," passed April 9, 1907, is hereby amended as follows:

Article 8, section 1, by prefixing thereto a new clause, as follows:

No person shall sell or offer for sale in the town of Montclair any milk or cream unless such person has obtained a license from the board of health authorizing him to make such sale. Such license shall continue for a term of one year from the date of granting the same: *Provided*, That if any person licensed as aforesaid shall violate any ordinance of the said board in selling milk or cream, such license may, in the discretion of the board, be revoked by the said board. All persons having a license as required by this section shall at all times display such license in a conspicuous manner in the place where the milk and cream is kept for sale or distribution: *Provided*, That when such sale or distribution is made from a wagon or other vehicle, such vehicle shall have displayed on both sides thereof either a metal license tag that will be furnished by the board of health upon application by the proper parties or a painted sign similar in lettering to the license tags furnished by the board and with the proper license number."

Article 8, section 5 (a) by adding thereto the following:

"Every cow that is tested as required by the provisions of this section and found to be free from disease shall, immediately after such test is completed, be tagged in the following manner by the veterinarian who made the test: *Provided*, That if a cow is already tagged in compliance with this section no retagging will be required if the tag contains a proper serial number. The tag shall be attached to one ear of the cow so that it will be plainly visible and so that it can not be removed unless the ear be torn. The tags shall be serially numbered in a manner approved by the board and shall be of such construction that when once removed they can not be reused.

"Each certificate that is filed as required by the provisions of this section shall state clearly how each cow is tagged so that any such cow may be identified.

"The owner of every cow that reacts to the tuberculin test shall notify this board in writing within 72 hours after the test is completed of the disposition that has been made of such reacting cow. The said notification shall also contain the name and address of the person to whom the reacting cow was sold or the name and address of the person by whom said cow was slaughtered.

"Every herd in which more than one reactor is found to every 15 cows shall be retested at the end of six months in the manner hereinbefore provided for making tuberculin tests, and the records of such tests shall be filed with the board of health as required in the case of annual tests.

"Any person who at any time, whether temporarily or otherwise, has in his herd or on his premises a cow or cows that have not been tagged as outlined above shall be considered as having willfully violated this ordinance and shall be liable to a penalty of \$25 for each cow not so tagged, and any person who violates any of the other regulations above set forth shall, upon conviction thereof, forfeit and pay a penalty of \$25 for each offense."

MORRISTOWN, N. J.**Milk—Care of. (Reg. Bd. of H., Mar. 9, 1914.)**

That section 11 of article 12 of the sanitary code of the board of health of Morristown, N. J., be amended to read as follows:

"The said milk shall be delivered in bottles; and no market, bakery, or other store shall keep milk for sale except when facilities are provided for keeping it at a temperature of not above 50°, and in such clean, sanitary surroundings as shall be satisfactory to this board. Such milk must be delivered by the producer to retailers and by the retailer to the consumer in sealed bottles, unless permission for delivery in another manner shall be granted by said board, and no milk shall be delivered to any of the inhabitants of the town of Morristown at a temperature exceeding 55° F.: *Provided, however,* That milk when delivered to customers within three hours after the time it is drawn from the cows need not be so cooled. All bottles must invariably be sterilized before being refilled. The filling of bottles on the wagon is prohibited. Tickets or coupons shall not be used more than once in connection with the delivery of milk."

MOUNT VERNON, N. Y.**Foodstuffs—Protection of. (Ord. May 11, 1914.)**

Section 76 of article 10 of the sanitary code of the city of Mount Vernon, entitled "Food," is hereby amended to read as follows:

SEC. 76. No breadstuffs, cake, pastry, sliced fresh fruits, dried or preserved fruits, candies, confectionery, or other perishable food products, except those that are peeped, pared, or cooked before consumption, shall be kept, sold, or offered for sale, or displayed outside or inside of any premises in the city of Mount Vernon, or in any street or public place, unless they be kept so covered that they shall be protected from dust, dirt, flies, and other contamination, and the same shall be placed at least 20 inches above the floor or pavement.

NATCHEZ, MISS.**Manure—Care and Disposal. (Ord. Apr. 15, 1914.)**

SECTION 1. That every person, firm, or corporation, owning, controlling, operating, or having in charge, whether as owner, lessee, employee, or agent, any stable, barn, or other place where horses, mules, cows, or other live stock is kept in the city of Natchez, shall maintain at all times upon the premises in or adjacent to said stable, barn, or place a fly-tight receptacle of sufficient dimensions and for the purpose of holding and containing droppings of manure from said stock, and the same shall have a top or lid so arranged as to be fly-tight and to exclude therefrom all flies, and therein to promptly deposit all manure, and to keep the lid thereon closed in such a manner as to prevent the ingress of flies thereto; said manure so deposited shall be removed from the premises at least once each week.

SEC. 2. That no manure shall be used as a fertilizer on gardens or other open area in the city of Natchez, between the 15th day of May and the 15th day of October in each year, unless and until thoroughly mixed with soil and so covered with soil that flies will not be attracted thereto.

SEC. 3. That any person violating or failing to comply with any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$5, nor more than \$100, or be imprisoned for a term not exceeding 30 days, or by both such fine and imprisonment; and each separate day upon which the offense is committed or allowed to exist shall be deemed a separate offense, and the person so offending shall be liable to the penalty as set forth in this ordinance.

SEC. 4. That it shall be the duty of the city health officer of the city of Natchez, or any of his deputies, and of all police officers vested with police powers, to see that this ordinance is enforced and to cause to be prosecuted all violators thereof.

NEW BRITAIN, CONN.

Definition of Terms. (Ord. Sept. 1, 1914.)

SECTION 1. *Name of chapter.*—The provisions of this chapter shall constitute and be known as "The Sanitary Code and Health Ordinances of the City of New Britain."

SEC. 2. *Definition of words.*—Words used in these ordinances shall have the following meanings:

City.—The city of New Britain.

Owner.—Any person, firm, or corporation or agent having the title to possession of or controlling property.

Persons.—Any person, persons, or corporation.

Contagious diseases.—Any disease of an infectious, contagious, or pestilential nature, more especially referring to cholera, smallpox, yellow fever, diphtheria; typhoid, epidemic cerebrospinal, spotted, relapsing, or scarlet fevers; infantile paralysis, pulmonary tuberculosis, measles, German measles, whooping cough, mumps, chicken-pox, erysipelas, and other diseases that shall be declared by the board of health dangerous to the public health, except venereal diseases.

Garbage.—Any accumulation of either animal or vegetable matter, liquid or otherwise, which accumulates in the preparation of food, or any offal or refuse of meats, fish, fowls, or vegetables or other refuse or waste liable to decay.

Street.—Any street, public highway, sidewalk, gutter, or any unaccepted street or private way or sidewalk used by the public.

Public places.—Any park, cemetery, school yard or open space adjacent thereto, any lake or stream.

Gender, number, tense.—Words of the masculine gender include the feminine and neuter. Words in the singular number include the plural and in the plural number include the singular. Words in the present tense include the future.

Board of Health—Officers and Employees—Duties and Salaries. (Ord. Sept. 1, 1914.)

SEC. 3. *President's duties.*—Said board of health shall appoint one of their members as president, who shall preside at the meetings of the board and serve at their discretion with such powers and duties as they shall prescribe. He shall serve without pay.

SEC. 4. *Plumbing inspector's duties.*—It shall be the duty of the plumbing inspector to enforce all laws, rules, regulations, and ordinances relative to the plumbing of the city, and to inspect all plumbing as required by the rules, orders, and regulations of the board of health and by the ordinances.

SEC. 5. *Assistant sanitary inspector and office clerk.*—The board of health is hereby authorized to appoint an assistant sanitary inspector and an office clerk at salaries as fixed by ordinance, whose duties shall be prescribed by said board.

SEC. 7—292. Amended. *Pay rolls.*—The compensation of laborers or other employees of said board shall in the absence of special orders by the common council be the ordinary ruling wage for such class of employees, and whenever such help is employed by said board it shall be the duty of the clerk of said board to make out an itemized pay roll therefor, and when such pay roll shall have been approved by the chairman of said board and mayor the comptroller shall draw his order on the treasurer for the same and the same shall be paid, proper receipts being taken.

SEC. 8—291. Amended. *To report violations of ordinances.*—It shall be the duty of the superintendent of health, plumbing inspector, and milk, food, and meat inspector

to report any violation of laws, ordinances, and the rules and regulations relating to health to the prosecuting attorney, who shall prosecute the same before the police court.

* * * * * * *

SEC. 39—370. Amended. *To be inspector of illuminating oils, etc.*—The milk, food, and meat inspector shall also be the inspector of illuminating oils and burning fluids, without other or additional compensation than such as he may receive as such milk, food, and meat inspector.

He shall frequently inspect and test the quality of oil sold by dealers in the city to see that it is up to the standard required by the State law, reporting any violation of said law to the proper authorities for prosecution.

Section 371 is hereby repealed.

SEC. 40—372. Amended. *Reports required.*—Said milk, food, and meat inspector shall make a monthly report or as often as required in writing, and an annual report in writing before the second Monday in each April to the board of health; said annual report shall be submitted to the common council, stating the number of seizures made by him, the places from which, and the persons from whom the seizures were made, the character of the seizures, the number of samples taken for the purpose of analysis, the result of such analysis made, and the number and result of all prosecutions.

Sections 373, 374, are hereby repealed.

Communicable Diseases—Notification of Cases—Quarantine—Placarding—Disinfection—School Attendance. (Ord. Sept. 1, 1914.)

SEC. 9—293. Amended. *Contagious disease.*—Every person living in any family or tenement wherein any person is afflicted with any contagious disease shall remain isolated from all persons except in such family or tenement unless he secures permission to go at large from the board of health or superintendent of health. It shall be the duty of parents, or persons in charge of any minor, to enforce this section as to such minor.

SEC. 10—294. Amended. No superintendent, principal, or teacher of any school shall knowingly permit a child sick with any infectious or contagious disease, or any child residing in a house in which such infectious or contagious disease shall exist, to attend any school without a permit from the superintendent of health.

SEC. 11—295. Amended. *Physicians to report.*—Every physician or person who shall attend or prescribe for any person having, or suspected of having, any infectious or contagious disease shall forthwith report the same to the superintendent of health, giving street and number of house where such sick person resides; and every physician or person who shall attend any person suffering from any malignant or contagious disease where any child of the family of such sick person shall be attending any public school shall immediately report to the teacher of such school of the existence of said disease in said family, and if no physician or person shall be in attendance on such person the parents or guardian of said child shall immediately give such notice to said teacher, who shall cause all children residing in said building to be excluded from attending school until the superintendent of health shall certify that all danger from contagion is passed.

SEC. 12. Warning of the existence of contagious disease in any building shall be given to the public by placing in a place conspicuous to the public, on the outside near each common entrance to said building, a placard giving the name of said disease, or such places shall be quarantined in such manner as the superintendent of health may direct.

SEC. 14. *Animals not allowed in quarantined places.*—The person in charge of any place or apartment set apart or quarantined for the care of any contagious or infectious disease shall exclude cats, dogs, and other animals therefrom.

SEC. 15—297. Amended. *Health board not to be hindered from isolating.*—Every person who shall hinder or prevent the board of health from securing the isolation of any person sick with a contagious disease, the disinfection of any premises or articles which have been exposed to infection, or the using of any methods or means it may deem proper to control the spread of contagious disease, and every person who shall tear down or remove or deface any health notice or flag, shall be fined not more than \$100.

SEC. 20. No building shall be occupied after contagious disease until disinfected to the satisfaction of the superintendent of health.

Sections 302, 303, 304 are hereby repealed.

Garbage, Refuse, and Ashes—Care and Disposal. (Ord. Sept. 1, 1914.)

Section 307 is hereby repealed.

SEC. 22—308. Amended. The owner of every dwelling house shall provide for such building suitable receptacles for, or conveniences for, the disposal of garbage, ashes and rubbish.

Every person having garbage shall deposit the same in garbage cans as provided in section 305 of the ordinances promptly as the same accumulates. Every person shall place such garbage can in some convenient place for the garbage collector to remove the same. Such can shall not be placed within a building except in freezing weather, and such cans shall not be placed above the first floor of any building.

Nuisances. (Ord. Sept. 1, 1914.)

SEC. 24. *Complaint of nuisances, etc.*—Any complaint made to the superintendent of health may be required by him to be in writing, and bear the signature of the complainant.

SEC. 25. *Regulations of sweeping and dusting public places.*—It shall be unlawful for any person within the limits of the city to sweep or to cause or permit the sweeping of any public conveyance, the floor of any public building, hotel, hospital, store, shop, school, church, or theater without having sprinkled the place to be swept with water, moist sawdust or some such substance in sufficient quantity to prevent the raising of dust while sweeping.

It shall be unlawful for any person to sweep or to cause or permit the sweepings of sidewalks on week days between the hours of 6.30 a. m. and 6.30 p. m. on the following streets: [The streets are named in the ordinance.] And such other streets as the board of health shall name from time to time.

SEC. 26. No person shall burn papers or rubbish except in such manner as not to cause a nuisance.

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SEC. 29—311. Amended. *Accumulation of filth forbidden.*—No person shall cause or permit the accumulation, or place upon any street or sidewalk, in any building, out-house, yard, or inclosure and dung filth, stable bedding, offal, decaying vegetables, meat or fish, animal matter, dead animal, loose or waste paper, wash, dirty water, brine, or rubbish of any kind which shall become unwholesome or offensive to any person.

Sections 312, 313, 314 are hereby repealed.

SEC. 32. The violation of any provision of this ordinance shall be subject to the penalties prescribed in section 321.

Domestic Animals—Keeping of. (Ord. Sept. 1, 1914.)

SEC. 27—309. Amended. *Keeping of swine and other animals.*—No person shall keep swine, make or maintain any pig pens within the limits of the city, except by permission of the board of health, nor shall any such permit be granted unless said swine of

pig pens are over 100 feet away from any dwelling house or well; and no person shall keep or maintain any animal in such way as to become or create a nuisance or be detrimental to health.

SEC. 28—310. Amended. *Maintenance of hennery.*—No person shall build or maintain a hennery or keep hens or fowls of any kind in a coop or building or inclosure within 20 feet of any street line, dwelling house, or public building, and no person shall keep or maintain any fowls in such a manner as to become a nuisance or be detrimental to health.

Sewers—Connections With. (Ord. Sept. 1, 1914.)

SEC. 36—320. Amended. *Drains must be connected.*—All persons who own or occupy any land having access to a sanitary sewer shall connect all their sink drains, water-closets, and all fixtures used for domestic use and carrying sewage on said land with the sanitary sewer, and no privy or cesspool shall be maintained on said land.

Section 369 is hereby repealed.

Milk and Cream—Production, Care, and Sale. (Ord. Sept. 1, 1914.)

SEC. 41—375. Amended. *Rules and regulations of the board of health concerning the milk supply and defining the terms "adulterated, etc."*

(1) No person shall sell milk or cream in the city of New Britain without first, annually during the month of April, making application to the milk, food, and meat inspector, giving his or their name or names, address, name of owner of and location of the dairy from which they obtain said milk, and obtaining from said inspector a permit to carry on such business, said permit to be furnished gratuitously.

(2) All milk wagons or vehicles, while in use for the sale or distribution of milk, shall display on both sides a license number plate, to be furnished by the milk, food, and meat inspector of said city at the expense of the city. All stores from which milk or cream is sold must have his or their permit posted in a conspicuous place.

(3) Not amended.

(4) To prevent the contamination of milk, bottles must not be filled except at the dairy.

It shall be unlawful to sell milk drawn from cows within 15 days before or within 5 days after parturition, or milk drawn from cows fed on unhealthy or unwholesome food, or milk drawn from cows kept in an unhealthy or unsanitary condition, or from cows attended with any form of disease, or from cows which are supplied with water which is impure or unwholesome, or milk drawn from cows, or by milkers that are themselves in a condition of filth or uncleanness.

SEC. 42—376. Strike out first and last paragraphs.

Penalty. (Ord. Sept. 1, 1914.)

SEC. 43—321. Amended. *Penalty.*—Any person who shall violate any order of the board of health or any order or ordinance of said city relating to health for which no other penalty is provided shall be fined not more than \$500 or imprisoned not more than six months, or both, except where otherwise provided by statute.

Manure—Care and Disposal. (Ord. June 25, 1914.)

Add to section 311, chapter 9 of the city ordinance:

Every person owning, leasing, or in possession of any stall, shed, barn, or other place within the second taxing district of said city, wherein any horse or neat cattle or other animals shall be kept, shall place all manure and refuse from such horse, cattle, or animals in covered, closed, and tight receptacles satisfactory to the superintendent of health.

No collection of manure shall be allowed to remain within said second taxing district for a longer period than seven days from May 1 to November 1, except in such manner

as to prevent the escape of flies and other insects therefrom by such methods and upon such conditions as the superintendent of health shall prescribe.

The violation of any provision of this ordinance shall be subject to the penalties prescribed in section 321.

NORTH BRADDOCK, PA.

Board of Health—Organization, Powers, and Duties—Secretary and Health Officers—Duties, Salaries, and Official Bonds. (Ord. 451, Apr. 8, 1914.)

ARTICLE 1. SECTION 1. A board of health shall be established and maintained in the borough of North Braddock in conformity with the act of Assembly of the Commonwealth of Pennsylvania approved the 12th day of June, 1913, P. L. 471.

ART. 2. SECTION 1. *Duties of the president of council and the borough council.*—The president of the borough council shall appoint a board of health in accordance with the provisions of section 2 of the act of assembly of June 12, 1913, P. L. 471, and it shall be the further duty of the president and members of the borough council to maintain the board of health from time to time by the appointment of new members to fill vacancies caused by the expiration of terms, death, removal from the borough resignation, or other cause.

SEC. 2. Upon receiving from the board of health at the beginning of any fiscal year an estimate of the necessary expenses of the board of health for the ensuing year, it shall be the duty of the borough council to thereupon make an appropriation to the work of the board of health, which shall be sufficient to provide for the proper performance of their duties. If by reason of epidemic or other unforeseen causes such appropriation should in any year prove insufficient, it shall be the duty of the borough council, upon application of the board of health, to make such further additional appropriations for the expense of the board of health as may be necessary for the full and proper protection of the health of the people of the borough.

SEC. 3. All additional rules and regulations which may from time to time be adopted by the board of health shall, upon their request, be carefully considered and enacted as ordinances of the borough unless good and sufficient reasons, which shall be entered on the records of the actions of the borough council, shall warrant their disapproval.

ART. 3. SECTION 1. *Powers and duties of the board of health.*—It shall be the duty of each of the members of the board of health immediately after their appointment to take and subscribe to the oath provided for borough officers.

SEC. 2. Immediately after the members of the board have been appointed and qualified they shall meet for organization in accordance with section 3 of the act of assembly of June 12, 1913, P. L. 471, and shall elect a secretary and a health officer, neither of whom shall be members of the board, who shall serve for a period of one year, and shall from time to time elect their successors, and shall fix their compensation.

SEC. 3. The board of health shall meet regularly at a stated time and place, at least once each month, and shall hold such other special meetings as the health conditions of the borough may require, and shall meet annually for the purpose of reorganization and election of officers.

SEC. 4. The board of health from time to time may adopt such rules and regulations, not in any way abridging the laws of the Commonwealth or the rules and regulations of the State department of health, which may be needful for the protection of the health of the people of the borough, which rules and regulations suggesting penalties, for violation thereof, shall be presented to the borough council with the request that they be enacted into ordinances of the borough, and the said board of health shall have power, and it shall be their duty, to comply with the further provisions of section 4 of the act of June 12, 1913, P. L., 471.

SEC. 5. The board of health shall have general supervision of the sanitary conditions of the borough, and it shall be their duty to abate nuisances in accordance with the provisions of sections 7 and 8 of the act of June 12, 1913, P. L., 471, and the further provisions of this ordinance and such other ordinances as may be hereafter enacted for the protection of the public health.

SEC. 6. It shall be the duty of the board of health to submit annually to the council, before the commencement of the fiscal year, an estimate of the probable expenditures of the board during the ensuing year; and council shall then proceed to make such appropriation thereto as may be necessary; and the said board shall, in the month of January of each year, submit a report, in writing, to council of its operations and expenditures for the preceding year, together with such other information on subjects relative to the sanitary conditions or requirements of the borough as may be necessary, and council shall publish the same in its official journal. (Sec. 9 of the act of June 12, 1913, P. L., 471.)

SEC. 7. It shall be the duty of the board of health to report annually to the State department of health the names and addresses of the members of the board of health, together with the names and addresses of the secretary and health officer, the number of cases of communicable disease which have existed within the borough during the year, the number of houses that have been quarantined and disinfected, the method of disinfection, and such other information as may be required by the commissioner of health.

SEC. 8. It shall be the duty of the board of health to provide the necessary minute books and books of records for the proper performance of the duties of the secretary of the board, and also to provide placards, notices, circulars of instruction, utensils and ingredients for disinfection for the use of the health officer in the performance of his duties, and also to provide cards for the reporting of communicable diseases to the board of health and cards for report of recovery or death and request for disinfection, which cards shall be furnished to the physicians practicing within the borough.

ART. 4. SECTION 1. *Duties of secretary.*—It shall be the duty of the secretary of the board of health to keep careful and accurate minutes of all proceedings of the board, to keep accurate accounts of the expenditures of the board, to draw and certify under the seal of the board of health all orders upon the treasurer of the borough for the payment of moneys on account of the board of health and present same to the president of the board for his approval, to render statements of expenditures to the board at each stated meeting or as frequently as they may require, to prepare under the direction of the board the annual report to the borough council, together with the estimate of appropriations needed for the ensuing year, and to perform such other and further duties as the board may require.

SEC. 2. It shall be the duty of the secretary of the board of health to report to the State department of health at the end of each week, and for the fraction of each week occurring at the end of each month, upon blanks supplied by the department of health for that purpose, a list of the cases of communicable diseases mentioned in section 1 of the act of May 14, 1909, they being the diseases which physicians are required by law to report to the health authorities, which have been reported to the board of health during said period, which report shall contain the names of each person suffering therefrom, respectively, and his or her age, sex, color, and nativity, together with the name of the disease and the date of the onset thereof; and in the event of no reports of any of said diseases having been received by the board of health during the said period, that fact shall be reported to the State department of health. (Sec. 23, act of May 14, 1909, P. L., 855.)

ART. 5. SECTION 1. *Duties of health officers.*—It shall be the duty of the health officer to act as the executive officer of the board of health. He shall attend all

stated and special meetings of the board and shall at all times be ready and available for the prompt performance of his official duties.

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SEC. 3. It shall be the duty of the health officer upon the receipt of information from any source that a case or cases of quarantinable disease exists on any premises to go to such premises and make an investigation concerning such report. If it is admitted by the householder that there is a case or cases of quarantinable disease on the premises, he shall immediately placard and quarantine the premises in the manner provided in section 2 of this article. If it is admitted that the disease exists and the house is quarantined, or if it is not admitted and the health officer has reason to believe that the case of quarantinable disease may exist on the premises, it shall be his duty to take with him on the premises the physician of the board of health, or some other physician deputized by the board of health, who shall make an investigation and diagnosis, and if a case of quarantinable or reportable disease is found upon the premises said physician shall thereupon regularly report the case to the board of health in the manner required by law, and if quarantinable and not already placed under quarantine the health officer shall thereupon immediately quarantine the premises in accordance with the provisions of section 2 of this article.

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SEC. 5. It shall be the duty of the health officer to thoroughly acquaint himself with the provisions of the act of May 14, 1909, P. L. 855, the rules and regulations of the State department of health, the ordinances of the borough for the protection of the public health, and the rules and regulations of the local board of health, and to perform such other and further duties regarding the quarantining and disinfecting of premises and persons and the isolation of children from the public and other schools as may be required by the aforesaid laws, regulations, and ordinances. He shall promptly notify the principals, superintendents, teachers, and other persons in charge of the public, private, parochial, Sunday, or other schools of the borough of all cases of communicable diseases occurring within the borough for which isolation from school is required by law, giving the names of all pupils or other persons suffering from such disease or having been in contact therewith, and further giving notification that such pupils or other persons shall be excluded from school and shall only be readmitted upon certificate signed by the health officer or a physician authorized so to do by the board of health.

SEC. 6. It shall be the duty of the health officer to make stated sanitary inspections of the streets and alleys and premises in the borough at such time as the board of health may direct and to report to the board of health all nuisances detrimental to public health. He shall also, at the direction of the board of health, upon complaint of citizens or property owners or otherwise, make special investigations of alleged nuisances and report concerning the same to the board of health. He shall serve all notices of abatement issued by the board of health and perform such other duties regarding the abatement of nuisances as the board may direct.

SEC. 7. Under direction of the board of health the health officer, in his official capacity, shall act as prosecutor in all cases of violation of health laws, ordinances, or rules and regulations, or any prosecutions for the abatement of nuisances detrimental to public health.

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ART. 14. SECTION 1. *Salaries and official bonds.*—The secretary of the board of health and the health officer shall receive such salaries as may be fixed by the board and ratified by the borough council and shall serve for a period of one year, or until such time thereafter as their successors may be elected to qualify, and they shall severally give bond in the sum of \$1,000 to the Commonwealth of Pennsylvania for the use of the borough for the faithful discharge of the duties of their offices.

ART. 15. SECTION. 1. That immediately upon the passage, approval, and publication of this ordinance, according to law, the president of council shall appoint a board of health in pursuance to this ordinance and the provisions of section 2 of the act of assembly of June 12, 1913, P. L., 471.

ART. 16. SECTION 1. *Penalties.*—Any member of the board of health who shall without sufficient cause or without having been excused from attendance by the board of health fail to attend the stated meetings of the board of health, or otherwise neglect his duties as a member of the board of health for a period of six months, shall be considered to have withdrawn from membership in the said board, and the president of council of the said borough shall proceed to fill the vacancy thus created in accordance with article 2 of this ordinance.

SEC. 2. Any secretary of the board of health or health officer who shall refuse or neglect to perform his duty in accordance with articles 4 and 5 of this ordinance shall, after hearing upon charges preferred, be dismissed from office at the discretion of the burgess.

Communicable Diseases—Notification of Cases—Quarantine—School Attendance—Burial. (Ord. 451, Apr. 8, 1914.)

ART. 5. SEC. 2. Upon the receipt of a report from a physician of a case of communicable disease, which under the laws of the Commonwealth, the rules and regulations of the State department of health, or the rules and regulations of the local board of health is required to be under quarantine, he [the health officer] shall forthwith place the premises upon which such contagious disease exists under quarantine, together with any person or persons who has or have been exposed thereto, in the manner provided by the laws of the Commonwealth, the rules and regulations of the State department of health, and the rules and regulations of the local board of health, and shall post upon the premises in which said disease may be located a placard, upon which shall be printed in conspicuous letters the name of the disease from which the person or persons is or are suffering, with the warning that the said premises are quarantined, and shall so remain until the quarantine is removed by the health authorities; that no person shall be permitted to enter or leave or take any article from the house under quarantine without written permission from the health authorities, excepting physicians, nurses, or clergymen, and that no person or persons shall deface, cover up, or destroy the placard, and citing the penalty provided by law and by ordinance for violation of the quarantine restrictions.

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SEC. 4. Quarantine restrictions shall be maintained for scarlet fever and smallpox for a period of at least 30 days from the date of onset of the last case on the premises; for chickenpox, diphtheria, measles, German measles, and mumps for a period of at least 21 days from the date of onset of the last case on the premises, and for whooping cough, erysipelas, and all other quarantinable diseases until complete recovery of the last patient afflicted.

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ART. 6. SECTION 1. *Duties of physicians.*—Every physician practicing within the limits of this borough who shall treat or examine any person suffering from or afflicted with any communicable disease, which under the provisions of section 1 of the act of May 14, 1909, P. L. 855, the rules and regulations of the State department of health, or the rules and regulations of the board of health of this borough, is required to be reported to the health authorities, shall forthwith report each and every such case to the board of health of this borough on report cards furnished to them for such purpose, and for any failure to so report shall, upon conviction thereof before the burgess, be liable to the penalty provided by section 24 of the act of May 14, 1909, P. L. 855.

Sec. 2. Every physician practicing within this borough who shall have in his charge any case of communicable disease which has been placed under quarantine shall notify the board of health in writing of the recovery or death of the person afflicted and request that disinfection be performed, provided that such disinfection and request shall conform to the time specified by this ordinance and by the laws of the Commonwealth, the rules and regulations of the State department of health or the local board of health for the duration of the quarantine period of such disease.

Sec. 3. No physician practicing within the limits of this borough shall conceal or in any way aid, abet, or encourage the concealment of any case of quarantinable disease, or in any way hinder or interfere with the health officer or health authorities in the proper performance of their duties.

ART. 7. SECTION 1. Duties of undertakers.—It shall be the duty of all undertakers who shall receive and prepare for burial the bodies of any persons who have died within the limits of this borough, of any of the diseases set forth in section 17 of the act of May 14, 1909, P. L. 855, to strictly observe the provisions set forth in sections 17, 18, 19, 20, 21, and 22 of the said act, as well as any further rules and regulations of the State department of health or of the local board of health. The undertaker, or any person acting in such capacity, shall be responsible for any violation of such provisions and shall be subject to the penalties provided in section 24 of said act.

ART. 8. SECTION 1. Duties of school authorities.—It shall be the duty of the principal, superintendent, teachers, or other person in charge of the public, private, parochial, Sunday, or other schools of this borough, to refuse admission to the schools of any pupil or other person, who, by reason of the provisions of sections 3, 4, 5, 6, or 7 of the act of May 14, 1909, P. L. 855, are excluded from attendance at said schools, and to readmit such pupils or other person only upon presentation of a certificate such as is provided in section 8 of said act, signed by the health officer of the borough or other physician or person duly authorized by the local board of health to sign such certificate.

Sec. 2. It shall be the duty of every principal, superintendent, teacher, or other person having charge of any public, private, parochial, Sunday, or other school, who may have reason to suspect that any pupil or other person in attendance at such school may be suffering from a communicable disease for which school exclusion is required to forthwith report each and every such case to the board of health of the borough, and to exclude such pupil or other person from the school pending an examination and report from the health authorities.

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ART. 13. SECTION 1. Duties of citizens.—No head of a family, boarding house or hotel keeper, or other person shall secrete or otherwise keep on their premises unknown to the board of health any person suffering from a communicable disease which is required to be quarantined under the laws of this Commonwealth, the rules and regulations of the State department of health, or the regulations of the local board of health.

Sec. 2. No head of a household or other person shall refuse to admit the health officer or a physician deputized by the board of health to their premises at any time, or shall in any way interfere with or hinder any representative of the board of health in the performance of their duties in making investigation of a suspected case of contagious disease or of a nuisance, or any other matter which might be a menace to the public health.

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ART. 16. SEC. 3. Any physician who shall violate the provisions of section 2 or section 3 of article 6 of this ordinance shall, upon conviction thereof before the burgess or any justice of the peace of the borough, be sentenced to pay a fine of not more than \$20 and costs, and in default thereof be imprisoned in the county jail for a period of

not less than 5 or more than 20 days, or either or both, at the discretion of the court. Said fine to be paid to the treasurer of the borough.

SEC. 4. Any principal, superintendent, or other person in charge of any school who shall violate the provisions of section 1 of article 8 of this ordinance shall, upon conviction thereof before the burgess or any justice of the peace, be subject to the penalty provided by section 24 of the act of May 14, 1909, P. L. 855, and any principal, superintendent, teacher, or other person in charge of a school who shall violate section 2 of article 7 of this ordinance shall, upon conviction thereof before the burgess or any justice of the peace of the borough, be subject to a fine of not more than \$20, payable to the treasurer of the borough, and in default thereof shall be sentenced to the county jail for a period of not less than 5 or more than 20 days, or both, at the discretion of the court.

Milk and Cream—Sale of. (Ord. 451, Apr. 8, 1914.)

ART. 9. SECTION 1. *Milk.*—No person, firm, or corporation shall sell milk or cream, either wholesale or retail, either by vending or from a fixed place of business, without a license from the board of health first having been obtained, the number of which shall be conspicuously displayed on his wagon or at his place of business, as required by law.

SEC. 2. All licenses shall be valid for the term of one year, subject, however, to revocation by the board of health for any violation of the laws of the Commonwealth or the ordinances of the borough or the regulations of the health authorities regulating the sale of milk.

SEC. 3. All licenses for the sale of milk shall be granted without fee or charge, but no applicant shall be entitled to receive such license until he shall have conformed to the requirements of the board of health and shall have furnished full information concerning the source of his milk supply and the method by which it shall be handled.

Foodstuffs—Protection of. (Ord. 451, Apr. 8, 1914.)

ART. 10. SECTION 1. *Sale of food and food products.*—No person, firm, or corporation who shall conduct any store, shop, stand, or delivery wagon within the limits of this borough, for the sale of meat, fish, butter, eggs, fruit, vegetables, bread, or any other article of food which is subject to decay, mold, or decomposition, shall have or keep in or about such store, shop, stand, or wagon any meat, fish, butter, eggs, fruit, vegetables, bread, or other articles of food, which is decayed, decomposed, or spoiled as to render it unwholesome, offensive, or otherwise unfit for human consumption.

SEC. 2. All stores, shops, stands, and wagons from which articles of food are vended or sold must at all times be kept clean and in a sanitary condition, free from offensive odors or any accumulation or decomposed animal or vegetable matter and shall at all times be open to the inspection of the health officer of the borough or other authorized agent of the board of health.

SEC. 3. No person, firm, or corporation selling meat, fish, fruit, or vegetables shall expose them on sidewalks or on or outside counters at stores, shops, or on stands, or in wagons unless they shall be at least 2½ feet from the ground, pavement, or floor, and shall be thoroughly screened and protected from flies.

Domestic Animals—Keeping of—Disposal of Dead Bodies. (Ord. 451, Apr. 8, 1914.)

ART. 11. SECTION 1. *Dead animals.*—The carcass of any animal which shall have died within the limits of the borough shall be removed within 24 hours and properly disposed of by the owner of the animal if the owner be known, or by the owner of the property on which the dead animal is found, or in case the ownership is unknown and the carcass is found on a street, alley, or other public place, it shall be removed by the board of health at the expense of the borough. The disposal of all dead animals

shall be under the direction of the board of health and in accordance with the laws of the Commonwealth.

ART. 12. SECTION 1. Hog pens.—No hog pens shall be constructed or maintained within the limits of this borough, and no hogs shall be kept within the limits of the borough.

Nuisances. (Ord. 451, Apr. 8, 1914.)

ART. 13. SEC. 3. No person shall maintain or permit to be maintained on any property owned or occupied by him or her within this borough any condition productive of a nuisance detrimental to the public health or which may be so declared by the board of health, and upon receipt of a notice from the board of health that such a condition exists on the property owned or occupied by him or her, it shall be his or her duty to abate the nuisance created thereby to the satisfaction of the board of health within the time limit specified in said notice.

* * * * *

SEC. 5. No person shall place upon any public street or alley of this borough any tin cans, broken glass, or other objectionable refuse or organic matter subject to decomposition, either vegetable or animal, or shall allow kitchen waste from any property owned or occupied by him or her to run into any alley or street, or any open gutter along any street or alley, or to accumulate upon the surface of the ground at any place in such manner as to be offensive, or to constitute a menace to health.

Sewer Connections—Privies and Cesspools. (Ord. 451, Apr. 8, 1914.)

ART. 13. SEC. 4. No person shall install or use any system of disposal of sewage, either by privy vaults, cesspools, or by connection with a municipal sewer system, except such method be in accordance with a regularly adopted system which has been planned by a competent sanitary engineer and approved by the commissioner of health. All cesspools, privy vaults, and sewer connections must be constructed and maintained in accordance with the system so approved and adopted.

Spitting—Prohibited in Public Places. (Ord. 451, Apr. 8, 1914.)

ART. 13. SEC. 6. No person shall spit on any sidewalk, in any street car, public conveyance, or on the floor of any public hall or building.

Penalties. (Ord. 451, Apr. 8, 1914.)

ART. 16. SEC. 5. Any person, firm, or corporation violating the provisions of articles 9, 10, and 11 of this ordinance, shall upon conviction thereof before the burgess or any justice of the peace of the borough, be sentenced to pay a fine of not more than \$100 and the costs, and in default of the payment thereof, to be imprisoned in the county jail for a period of not more than 30 days, or both, at the discretion of the court.

SEC. 6. Any person who shall violate any of the provisions of articles 12, 13, and 14 of this ordinance, shall upon conviction thereof before the burgess or any justice of the peace of the borough, be sentenced to pay a fine of not more than \$25 and costs, and in default of the payment thereof, to be imprisoned for a period not exceeding 10 days in the county jail, or both, at the discretion of the court.

SEC. 7. In case any violation of this ordinance also constitutes a violation of an act of assembly of Pennsylvania for which a penalty is provided by law, which is inconsistent with the penalty provided by this ordinance, the penalty provided by the act of assembly shall take precedence to the penalty provided by this ordinance and shall be the penalty imposed for such violation.

NORTH HEMPSTEAD, N. Y.

Nuisances. (Reg. Bd. of H., May 19, 1914.)

SECTION 1. Whatsoever is dangerous or injurious to human life or health; whatever building or part, or cellar thereof, is overcrowded or not provided with adequate means of ingress or egress, or is not sufficiently supported, ventilated, drained, lighted, or cleaned; and whatsoever renders soil, air, water, or food impure or unwholesome, are declared to be nuisances and to be illegal; and every person having aided in creating or contributing to the same or who may support, continue, or retain any of them, shall be deemed guilty of a violation of this ordinance, and shall also be liable for the expenses of the abatement or remedy required.

Privies and Cesspools—Location, Care, and Removal of Contents. (Reg. Bd. of H., May 19, 1914.)

SEC. 2. No privy pit, cesspool or reservoir into which any privy, water-closet, stable, sink or other receptacle of refuse or sewerage is drained shall be constructed or maintained in any situation or in any manner whereby, through leakage or overflow of its contents, it may cause pollution of the soil near or about habitations, or any well, spring or other source of water used for drinking or culinary purposes; nor shall the overflow from any such reservoir or receptacle be permitted to discharge into any public place or in any wise whereby danger to health may be caused. And every such pit, reservoir, or receptacle shall be cleaned and the contents thereof removed at such times and under such precautions as the board of health may prescribe. Violations of any of the provisions of this ordinance shall subject the offending party to a penalty of \$1 for each day's continuance of the nuisance after due notice to abate it from an authorized officer.

Stables and Disposal of Manure. (Reg. Bd. of H., May 19, 1914.)

SEC. 3. *Stables, barns, etc.*—All stables, barns, and other places wherein horses or cattle are kept shall be kept in a clean and sanitary condition. All accumulations of manure shall be stored in such places, and be removed with such frequency and in such manner as to prevent offensive and noxious odors. No piles of manure shall be allowed to accumulate in any position or manner whereby they shall become breeding places of flies or whereby any leachings therefrom may pass into any stream or watercourse. Any violation of this ordinance shall subject the offending party to a penalty of \$1 for each offense and for each day's continuance or repetition of the offense, after due notice to abate it, from an authorized officer.

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SEC. 27. *Bringing in or landing manure.*—No manure shall be brought into this town or unloaded or placed upon or removed from any dock landing or other place within the town between the 15th day of June and the 15th day of September, unless a special permit to be granted upon application to the board of health of the town shall be issued permitting such landing, unloading, or removal, which permit shall contain such restrictions as the board shall deem necessary and proper.

Subdivision 2. All vehicles transporting manure upon the public highways of the town during any and all months of the year shall be so covered with canvas or burlap as to prevent any part of the load dropping into the streets.

Any violation of the provisions of this ordinance shall subject the offending party to a penalty of \$5 for each offense, or imprisonment for not more than 5 days, or both.

Domestic Animals—Keeping of—Disposal of Dead Bodies. (Reg. Bd. of H., May 19, 1914.)

SEC. 4. *Pigpens, chicken yards, etc.*—No pigpen and no chicken, duck, or other fowl yard or pen, shall be maintained in the town without the approval of the board of health. All such pens or yards shall be kept in a clean and sanitary condition and

all filth accumulating in or about the same shall be removed with such frequency and in such manner as the board may direct. The board of health may declare the keeping or maintaining of swine or of chickens, ducks, or other fowl, within certain prescribed limits within the town a nuisance and order the discontinuance and removal of the same. Any violation of this ordinance shall subject the offending party to a penalty of \$1 for each offense and for each day's continuance or repetition of the offense.

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SEC. 13. *Disposal of dead animals.*—Upon the death of any animal within the town of North Hempstead, except when the same is killed for food, the owner or person having control thereof shall immediately notify the board of health or health officer, and remove the carcass to such place as the said board or officer may direct, and there properly dispose of the same in a manner approved by the board of health. Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense and for each day's continuance or repetition of the offense, or imprisonment for not more than 10 days, or both.

Sewers and Drains—Construction—Connections with Sewers. (Reg. Bd. of H., May 19, 1914.)

SEC. 5. All house sewers or drains for the conveyance of deleterious or offensive matters shall be water-tight, and the plans and methods of their construction shall be subject to the approval of the board of health. In streets or avenues where public sewers are or shall be constructed, the board of health may order house connections to be made therewith.

Garbage and Refuse—Disposal of. (Reg. Bd. of H., May 19, 1914.)

SEC. 6. *House refuse, garbage, etc.*—No house refuse, offal, garbage, dead animals, decaying vegetable matter, or organic waste or substance of any kind shall be thrown upon any street, road, or public place, and no putrid or decaying animal or vegetable matter shall be kept in any house, cellar, or adjoining outbuilding for more than 24 hours. Violations of any of the provisions of this ordinance shall subject the offending party to a penalty of \$10, or imprisonment for not more than 10 days, or both.

SEC. 7. *Filled-in or made land.*—No sunken places shall be filled, nor made land constructed with any materials containing an admixture of putrescible animal or vegetable matter, under a penalty of \$2 each cartload or part thereof of such material deposited.

Offensive Trades—Regulation of. (Reg. Bd. of H., May 19, 1914.)

SEC. 8. *Noxious trades.*—No person or company shall erect or maintain any manufactory or place of business dangerous to life or detrimental to health, or where unwholesome, offensive, or deleterious odors, gas, smoke, deposit, or exhalations are general without the permit of the board of health, and all such establishments shall be kept clean and wholesome so as not to be offensive or prejudicial to public health; nor shall any offensive or deleterious waste substance, gas tar, sludge, refuse, or injurious matter be allowed to accumulate upon the premises or be thrown or allowed to run into any public waters, stream, watercourse, street, or public place. And every person or company conducting such manufacture or business shall use the best approved and all reasonable means to prevent the escape of smoke, gases, and odors, and to protect the health and safety of all operators employed therein. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not more than 10 days, or both.

SEC. 9. Rendering establishments.—No garbage, bone or animal boiling or rendering occupations shall be carried on without the consent of the board of health, nor in any establishment unless provided with tight walls, impervious floors, and such provisions for adequate water supply and drainage and other facilities as will enable all operations to be carried on with cleanliness and freedom from all offense or nuisance. No such occupation shall be carried on, nor shall any establishment be constructed or maintained, in or near a thickly inhabited neighborhood, nor shall the drainage from any establishment, unless subjected to purification, be permitted to flow into any stream or watercourse. Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense, and for each day's continuance or repetition of the offense, or imprisonment for not more than 10 days, or both.

Foodstuffs—Care and Sale. (Reg. Bd. of H., May 19, 1914.)

SEC. 10. Unwholesome food.—No meat, fish, bird, fruit, vegetables, milk, or anything for human food or drink, not being then fresh or properly preserved, sound, wholesome, and safe for such use; nor any flesh of any animal which died by disease or which was at the time of its death in a sickly or unwholesome condition; nor the carcass or meat of any calf which was at the date of its death less than 4 weeks old, or of any lamb which was at the date of its death less than 8 weeks old, or of any pig which was at the date of its death less than 5 weeks old shall be brought within the limits of this municipality, nor offered or held for sale as food therein. Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense and for each day's continuance or repetition of the offense, or imprisonment for not more than 10 days, or both.

SEC. 11. Exposure of food.—All dealers in such food supplies as are liable to contamination from dirt or flies, insects, etc., such as milk, meats, fish, vegetables, fruits, candies, and cake, must provide a covering of some suitable material to protect any such food exposed for sale from dust, flies, insects, etc. Any violation of this ordinance shall subject the offending party to a penalty of \$5 for each offense and for each day's continuance or repetition of the offense, or imprisonment for not more than five days, or both.

Ice—Sale of. (Reg. Bd. of H., May 19, 1914.)

SEC. 12. No ice, naturally or artificially frozen from water, taken from any pond, stream, spring, well, or other source of supply which has been contaminated, or is otherwise impure or unwholesome, shall be harvested, manufactured, sold, or exposed or offered for sale, where such ice may be used in contact with foods or beverages. Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense and for each day's continuance or repetition of the offense, or imprisonment for not more than 10 days, or both.

Slaughterhouses, Markets, Etc.—Sanitary Regulation. (Reg. Bd. of H., May 19, 1914.)

SEC. 14. No person or persons, without the consent of the board of health, shall build or use any slaughterhouse within the limits of this municipality and the keeping and slaughtering of all cattle, sheep, and swine, and the preparation and keeping of all meat, fish, birds, or other animal food, shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing, or occupying any place, room, or building wherein any cattle, sheep, or swine have been or are killed or dressed, and every person being the owner, lessee, or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room, building, stable, or market, and their yards and appurtenances, to be thoroughly cleansed and purified, and all offal, blood, fat, garbage,

refuse, and unwholesome and offensive matter to be removed therefrom at least once in every 24 hours after the use thereof for any of the purposes herein referred to, and shall also at all times keep all woodwork, save floors and counters, in any building, place, or premises aforesaid thoroughly painted or whitewashed; and the floors of such building, place, or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath. Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense and for each day's continuance or repetition of the offense.

Communicable Diseases—Notification of Cases—Quarantine—Placarding—School Attendance—Disinfection—Burial. (Reg. Bd. of H., May 19, 1914.)

SEC. 15. *Communicable diseases.*—The following diseases are declared to be communicable: Anthrax, chicken-pox, cholera, Asiatic; diphtheria, dysentery, amebic and bacillary; epidemic cerebrospinal meningitis; epidemic of septic sore throat; German measles, glanders, measles, mumps, ophthalmia neonatorum, paratyphoid fever, plague, poliomyelitis, acute anterior; puerperal septicemia, rabies, scarlet fever, smallpox, trachoma, tuberculosis, typhoid fever, typhus fever, whooping cough.

It shall be the duty of every physician to report to the health officer the full name, age, and address of every person affected with a communicable disease, together with the name of the disease, within 24 hours from the time when the case is first seen by him. Such report shall be by telephone or telegram, when practicable, and shall also be made in writing.

Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense and for each day's continuance or repetition of the offense, or imprisonment for not more than 10 days, or both.

SEC. 16. *Physicians shall report all cases within 12 hours.*—Every householder or head of family in a house wherein any cases of communicable disease may occur, unless a physician is in attendance, shall report the same to the health officer within 24 hours from the time of his or her first knowledge of the nature of such disease. Until such report has been received by the health officer no clothing or article which has been exposed to infection shall be removed from the house, nor shall any occupant change his or her residence elsewhere without the written consent of the health officer.

Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not more than 10 days, or both.

SEC. 17. *Quarantine notice.*—Having been notified of the existence of a case of communicable disease, or being cognizant of such, it shall be the duty of the health officer, as hereinafter defined, to at once place on a conspicuous part of the house in which such patient resides, or lodges, an official quarantine card, announcing the name of the disease within, and forbidding ingress or egress to or from such house except as permitted by the rules and regulations of the board of health, or upon the written consent of the health officer of such board.

No person shall, after the establishment of such quarantine, enter or leave such house, except as permitted by the regulations of the board of health, or the health officer, nor shall any person remove from such house any article of clothing or other possibly infected objects, nor may nor remove the quarantine card or notice, without the consent of either the board of health or the health officer of said board.

During the maintenance of such quarantine no child or teacher residing in such quarantined house shall be permitted to attend school or other public gatherings, unless the same shall be permitted by the board of health.

Degrees of quarantine defined and diseases included in each; absolute quarantine.—An absolute quarantine is one in which the admission to or exit from the building of all persons is enforced, except of the attending physician, the health officer, or other

representative of the board of health, and the passing out of any object or material from the quarantined house is absolutely prohibited. The municipality shall be responsible for the supply to the people so quarantined of such provisions as may be needed for their proper care and maintenance, together with a nurse or nurses when the quarantined people are unable to provide the same.

Diseases for absolute quarantine.—When any one of the following diseases shall exist in this municipality an absolute quarantine, as above defined, shall be at once established and maintained until the same has been officially removed by the board of health or its executive officer, the health officer: Cholera, diphtheria, scarlet fever, smallpox, and typhus fever.

Modified quarantine.—A modified quarantine is one in which members of the household may be permitted to pass in and out of the house under prescribed regulations imposed by the board of health or its health officer, in which both patient and attendants are isolated. The carrying from the house of any article or material is prohibited, unless the same has been thoroughly disinfected according to the rules of the board of health.

Diseases for modified quarantine.—When any one of the following diseases shall exist in this municipality a modified quarantine, as above defined, shall be at once established and maintained until the same has been officially removed by the board of health or its executive, the health officer: Anterior poliomyelitis, cerebrospinal meningitis, measles, typhoid fever, whooping cough, and German measles.

SEC. 18. *Importation of infected persons or things.*—No person or article liable to propagate a communicable disease shall be brought within the limits of this town unless by the special permit and direction of the board of health; and anyone having knowledge that such person or article has been brought within such limits shall immediately notify the said board thereof. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$20 for each offense, or imprisonment for not more than 20 days, or both.

SEC. 19. *Exposure of infected persons or things.*—No person shall within the limits of this town, unless by permit of the board of health, carry or remove from one building to another any patient affected with any communicable disease. Nor shall any person by any exposure of any individual so affected, or of the body of such individual, or of any article capable of conveying contagion or infection, or by any negligent act connected with the care or custody thereof, or by a needless exposure of himself or herself cause or contribute to the spread of disease from any such individual or dead body. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$10 for each offense or imprisonment for not more than 10 days, or both.

SEC. 20. *Funerals after infectious disease.*—There shall not be a public or church funeral of any person who has died of Asiatic cholera, smallpox, typhus fever, diphtheria, membranous croup, scarlet fever, or measles without the permit of the board of health therefor; and the family of the deceased shall in all such cases limit the attendance to as few as possible and take all precautions possible to prevent the exposure of other persons to contagion or infection. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$10 for each offense or imprisonment for not more than 10 days, or both.

Domestic Animals—Communicable Diseases—Notification of Cases—Quarantine—Disinfection—Disposal of Dead Bodies. (Reg. Bd. of H., May 19, 1914.)

SEC. 21. Any person owning or having the care of any animal which he shall know or suspect is affected with glanders, anthrax, or any other contagious or infectious disease dangerous to the public health shall immediately isolate such animal from other animals and shall at once give notice thereof to the health officer or board of health of the location of such animal and the disease from which it is suffering.

And no person having the care of or owning any animal affected with any such disease shall lead, drive, or permit such animal to go on or over any public grounds, uninclosed land, or on any street, public highway, lane, or alley, nor permit it to drink at any public watering trough, pail, or spring, nor to keep such diseased animal in any inclosure in or from which such diseased animal may come in contact with or close proximity to any animal not affected with such disease. And an animal will be deemed as suspected when it has stood in the stable with or been in contact with an animal known to have any of said communicable diseases, or if placed in a stable, yard, or other inclosure where such diseased animals have recently been kept.

Whenever an animal infected with any of the diseases herein named shall die, or shall be killed, the body of such animal shall be immediately burned. No post-mortem examination of the carcass should be made, except under the immediate supervision of a health officer or sanitary inspector.

All bedding, litter, excrement, etc., that have accumulated about such animal, together with all blood or other fluid elements that have escaped from it shall be burned. Dirt floors of stables wherein such animal has been kept shall be removed to the depth of 4 inches and burned.

Everything about the stable, combs, brushes, or any post or fence where it has stood, and every part of harness or wagon used with such animal, and the stable where it has been kept, shall be thoroughly disinfected, under the direction of a duly qualified veterinary surgeon, or the health officer.

Whenever the owner or person having charge of an animal declared by the State veterinary surgeon or other authorized person to have glanders shall refuse to allow the destruction of such animal, the premises whereon such animal is kept shall be quarantined until such animal is destroyed and the premises thoroughly disinfected.

Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not less than 10 days, or both.

The quarantine shall be construed to mean the perfect isolation of all diseased or suspected animals from contact with healthy animals, as well as the exclusion of such healthy animals from the yards, stables, inclosures or grounds wherever said suspected or diseased animals are or have been kept.

Births and Deaths—Registration of. (Reg. Bd. of H., May 19, 1914.)

Sec. 22. Births.—Every physician or midwife attending at the birth of a child, and no physician or midwife being in attendance, the parent or custodian of a child shall cause a certificate of such birth to be returned within 5 days thereafter to the local registrar, which shall be attested by the physician or midwife, if any in attendance, and no physician or midwife being in attendance, by the parent or custodian of a child born.

Any violation of this ordinance shall subject the offending party to a penalty of \$5 for each offense, or imprisonment for not more than 5 days or both.

Sec. 23. Deaths.—It shall be the duty of the physician last in attendance upon any person who may die to fill out a certificate of the death and the probable cause, and duly certify the same and deliver the certificate to the local registrar of vital statistics within 24 hours after the death occurs. In case an inquest is required by law, the coroner or the coroner's physician shall fill out the said certificate; and if no inquest is required and no physician was in attendance at the time of death or immediately prior thereto, the health officer of the municipality or his medical assistant shall fill out and file said certificate.

Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not more than 10 days, or both.

Burial—Permit Required. (Reg. Bd. of H., May 19, 1914.)

SEC. 24. *Burial and burial permits.*—Every undertaker, sexton, or other person having charge of any corpse shall procure a burial permit from the local registrar with whom the certificate of death has been filed, or the subregistrar of the town or municipality, and there shall be no burial or removal of a corpse until a certificate of death has been filed as required by law and a burial or transit permit issued.

Any violation of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not more than 10 days, or both.

SEC. 25. *Sextons, cemetery keepers, etc.*—Every person who acts as a sexton or undertaker or cemetery keeper within the limits of this town, or has the charge or care of any tomb, vault, burying ground, or other place for the reception of the dead, or where the bodies of any human beings are deposited, shall so conduct his business and so care for such place above named as to avoid detriment or danger to public health; and any person undertaking preparations for the burial of a body dead from contagious or infectious disease as hereinbefore enumerated shall adopt such precautions as the board of health may prescribe to prevent the spread of such disease. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$10 for each offense, or imprisonment for not more than 10 days, or both.

Health Officer—Powers and Duties. (Reg. Bd. of H., May 19, 1914.)

SEC. 26. The health officer is directed and empowered to execute and enforce all sanitary regulations of general obligation now or hereafter to be published by this board; also to enter upon or within any premises where conditions dangerous to the public health are known or believed to exist, and to examine into the nature of complaints made by any of the inhabitants concerning sources of danger or injury to health; and he shall preserve accurate records of his official actions and report the same to the board of health at its next meeting. And whenever in his judgment danger to public health shall arise requiring special regulation not of general application, he shall forthwith notify the president of the board of health, who shall thereupon convene the board to make such action as may be necessary and proper.

Spitting—Prohibited in Public Conveyances. (Reg. Bd. of H., May 19, 1914.)

SEC. 28. Spitting in any railroad car, trolley car, or any other public conveyance, or upon any part thereof, being operated in the town of North Hempstead, is hereby prohibited; and any person violating this ordinance shall be deemed guilty of a misdemeanor, and may be subject to a fine of \$50, or by six months' imprisonment, or by both such fine and imprisonment.

Penalty. (Reg. Bd. of H., May 19, 1914.)

SEC. 29. Any willful violation of the foregoing rules and regulations, or any refusal to comply therewith or with any lawful order of the board of health will be deemed a misdemeanor, and any person or persons so violating the same or refusing to obey any lawful order of said board of health will be liable to arrest, action, and penalty, as provided by the public health law of the State of New York and the penal code of said State of which due notice must be taken.