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PUBLIC HEALTH ADMINISTRATION IN WEST VIRGINIA.

A STUDY OF THE HEALTH LAWS AND PUBLIC HEALTH ADMINISTRATION OF THE STATE OF WEST VIRGINIA.

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The State of West Virginia desires to preserve the health of its people, to protect them from unnecessary sickness and disease, to promote their well-being, and lengthen the duration of their lives.

The authorities of the State realize that at present they can not control the preventable diseases, inasmuch as they have no adequate means of knowing of the occurrence, distribution, or prevalence of these diseases, the present law providing for the reporting of the occurrence of cases being ineffectual.

The authorities of West Virginia realize that at present the duration of the lives of the people of the State is unknown, due to the existing inadequate provisions for the registration of births and deaths. They desire complete records of the lives of the people, of births and deaths, that the common welfare may be protected.

For these reasons the governor of West Virginia and the State health authorities have asked assistance of the Federal Government in making an investigation of the public health administration of the State, and an analysis of the laws under which it is conducted, to the end that steps may be taken to correct existing administrative faults and to devise new measures for the better protection of the public welfare.

THE STATE BOARD OF HEALTH.

The present health laws of the State are administered by a State board of health, originally organized under an act of the legislature of 1881. In its present form, the board is composed of 12 members appointed by the governor, two from each congressional district, and two at large, pending a redistricting of the State.

Eligibility.—To be eligible under the law for appointment to the State board of health, a candidate must be a graduate of a reputable medical school, must have practiced medicine continuously for not less than six years immediately preceding appointment, and must

not be a resident of the same county from which a member of the board has already been appointed.

Tenure of office.—Members of the board are appointed for four years and in such manner that the terms of office of one-half of the membership of the board shall expire every two years. Vacancies are filled by appointment for the unexpired term.

Salaries.—Members of the State board of health receive no annual salary, but are allowed \$4 per diem and expenses actually and necessarily incurred by them while in the actual discharge of the duties of their office.

Officers of the board.—The board has two officers, a president and a secretary. The president is elected by the board from its own membership every two years, and holds office for the term of two years and “until his successor has been elected and entered upon his duties.”

The secretary of the State board of health is named by the governor from one of their number, and he is also ex officio State health commissioner.

General powers and duties.—The original act of 1881, organizing a State board of health, has been amended and reenacted from time to time by the legislature, granting additional powers and imposing other duties, with the result that at the present time but few State health organizations have reposed in them greater authority in certain health matters than the State board of West Virginia. The legislature has, however, failed to provide an adequate force with which to execute health laws to the best advantage.

The general powers and duties of the board may be divided broadly into two classes: (a) Advisory, investigative, and supervisory, and (b) regulative and compulsory. These powers and duties are as follows:

(a) Advisory and other similar powers and duties:

(1) To advise the executive and legislative authorities and the people of the State in questions involving the protection of the public health within the State.

(2) To take cognizance of the interests of the life and health of the inhabitants of the State.

(3) To make or cause to be made sanitary investigations and inquiries respecting the cause of diseases, especially epidemics, endemics, and the means of prevention; the source of mortality and the effects of localities, employments, habits, and circumstances of life on the public health.

(4) To inspect and examine the food, drink, and drugs offered for sale or public consumption.

(5) To report all violations of the laws of the State relating to pure food, drink, and drugs to the prosecuting attorney.

(6) To investigate the causes of disease occurring among the stock or domestic animals in the State and the methods of remedying the same.

(7) To gather information in respect to the public health and kindred subjects for diffusion among the people.

(8) To examine into and advise as to the water supply, drainage, and sewerage of cities, towns, and villages.

(9) To examine into and advise as to the ventilation and warming of public halls, churches, schoolhouses, workshops, prisons, and all other public institutions.

(10) To examine into and advise as to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases.

(b) The specific powers and duties of the State board of health are numerous and as follows:

(1) To (may) make and adopt all necessary rules, regulations, and by-laws, not inconsistent with the laws or constitutions of the State or the United States, to enable it to perform its duties and transact its business in conformity to the provisions of the enabling act.

(2) To take action and to adopt and enforce such rules as may be deemed efficient to prevent the introduction and spread of (contagious) disease or diseases.

(3) To establish and strictly maintain quarantine at such places as it may deem proper.

(4) To adopt rules and regulations to obstruct and prevent the introduction or spread of contagious or infectious diseases into or within the State, with power to enforce these regulations by detention and arrest.

(5) To enter into any town, city, or corporation, factory, railroad train, steamboat, or any place whatsoever within the limits of the State for the purpose of investigating the sanitary and hygienic conditions.

(6) To take charge, at its discretion, of any epidemic or endemic conditions arising within the limits of the State and enforce such regulations as it may prescribe.

(7) To cause to be kept in the office of the secretary, vaccine lymph, diphtheria antitoxin, and other form of serum preventive of disease, to distribute the same to county and municipal health officers, free of charge, for use for the benefit of the poor and indigent and to check contagion.

(8) To appoint county health officers, upon the recommendation of the county court of any county, and to remove them for cause.

(9) To hold a school of instruction once each year to familiarize county and municipal health officers with their duties in the interests of the public health.

(10) To exercise jurisdiction over all city, town, and village boards of health or health officers.

(11) To hold examinations to determine the fitness of applicants to practice medicine and surgery within the State.

(12) To refuse certificates of license to practice medicine within the State to individuals guilty of malpractice or dishonorable conduct, and to remove certificates for like causes.

(13) To make rules and regulations, effective when approved by the attorney general and the governor, governing hotel inspections.

(14) To have supervision of the State system of registration of marriages, births, and deaths.

(15) To establish rules and regulations to make effective the prohibition of the use of the common drinking cup in all public places within the State.

Meetings.—The State board of health meets regularly three times each year. The secretary can call special meetings of the board at the direction of the president or upon the written request of any three of its members.

Comments on the board as now constituted.—The membership of the State board of health, as now organized under the act of 1881, is

unnecessarily large; in fact too large for effective work; it is unwieldy. Furthermore, under the present qualifications for membership, appointments can be more in the nature of political reward than because of any special fitness to serve on a board invested with large discretionary powers in devising and enforcing measures for the preservation of the public health.

With respect to powers and duties the State board of health is invested with large discretionary and broad regulative faculties. The law creating the board does not provide, however, for an effective sanitary organization for the execution of its mandates.

That provision of the act directing the State board of health to investigate the causes of disease occurring among the stock or domestic animals in the State and the methods of remedying the same would appear to impose a duty of the Federal and State Departments of Agriculture on the State board, which is not properly the function of a public-health organization.

The power of the State board of health to compel the abatement of nuisances is limited, and should be extended.

With respect to quarantine and the control of contagious and infectious diseases the law is quite clear; its provisions will be discussed under appropriate headings.

A number of the discretionary powers and duties are in need of amplification. Especially is this true in regard to domestic water supplies, stream pollution, sewerage, excreta disposal, and inspections of public buildings and public institutions. These measures also will be discussed under suitable headings.

The power of the State board of health to prescribe and enforce regulations is broad and general. For this reason, in order that regulations may have additional force and weight, this general power should be supplemented by definite authority under the law to prescribe rules and regulations in more specific instances than is now the case.

STATE HEALTH COMMISSIONER.

The secretary of the State board of health is ex officio State health commissioner, and is "named" by the governor from one of their number. His term of office is four years. He must be a physician in active practice at the time of appointment, and is required to devote his whole time to the duties of the office.

The salary is fixed by the State board of health, not to exceed the sum of \$3,000 per annum with, in addition, traveling, clerical, and other necessary expenses incurred in the performance of his official duties within the limits of the State.

Duties of the secretary and State health commissioner.—The following are the duties of the secretary:

- (1) To be the recording officer of the board.
- (2) To respond to all communications from members of the State board, reputable physicians, and officers of the State, and furnish advice as to measures, sanitation, or other matters connected with the public health and safety.
- (3) To be custodian of all books and papers, instruments, or appliances belonging to the State board of health.
- (4) To do and perform such other duties as the State board may lawfully direct.
- (5) To visit localities in time of undue prevalence of certain diseases, at the request of local health officers, and advise with such health officers as the State board may direct, and to aid in the adoption of regulations for the suppression of such diseases.
- (6) To administer oaths and take and certify affidavits in matters pertaining to the business of the board, or of any of the members thereof.
- (7) To issue certificates of license to practice medicine and surgery within the State, jointly with the president of the State board of health.
- (8) To be registrar of vital statistics.
- (9) To report annually to the governor each year's investigations, discoveries, and recommendations of the board.

The secretary has also other specific duties, such as filing reports of expenses of hotel inspections, certification to the State auditor of all moneys received by the board, issuing of blank forms, and recording of certain certificates, all of which duties are routine and administrative in character.

The executive office.—The executive office is located in Wheeling, W. Va., and consists of two small rented rooms. The personnel of the office with annual salaries is as follows:

Secretary of State board of health (State health commissioner).....	\$3,000
One stenographer, at \$75 per month.....	900
Total.....	3,900

Under the present law the duties of the secretary of the State board of health are circumscribed and largely confined to the routine of administrative matters and execution of the directions of the State board. He is allowed no latitude, is invested with no discretionary powers, and in time of stress and sudden emergency is helpless without the advice and direction of an unwieldy and widely scattered State board of health. Moreover, under the law the secretary is allowed necessary traveling expenses only within the limits of the State. By this restriction the secretary of the State board is debarred from traveling to other States to participate in public-health meetings and conferences in the interest of the State except at his own expense.

LEGAL ADVICE.

The State board of health has no special legal adviser; county courts and local prosecuting attorneys are directed by law to take action in prescribed cases. In all other legal matters advice is secured from the attorney general of the State.

LOCAL BOARDS OF HEALTH AND THEIR RELATION TO THE STATE BOARD.**County Boards of Health.**

How constituted.—The president of the county court, the prosecuting attorney, and the county health officer constitute the county board of health. The county health officer must be a legally qualified physician, and is appointed by the State board of health upon the recommendation of the county court.

Jurisdiction.—The jurisdiction of county boards of health does not extend to any town or city in the county having a board of health of its own, but they may be and are auxiliary to each other.

Relation to the State board of health.—All county boards of health or health officers are subordinate to and subject to all orders of the State board of health. The State board, at its discretion, may act through the county board.

Powers and duties of county boards of health.—

(1) To exercise all the rules and regulations of the State board of health so far as applicable to such county.

(2) To declare quarantine against the introduction of contagious or infectious diseases and of all persons and things likely to spread such contagion or infection.

(3) To inform the members of the State board of health residing in its congressional district, in writing, of the establishment of such quarantine as soon as established.

(4) To have power and authority to enforce such quarantine until raised by themselves or the State board of health. Failure to obey the directions of the board in enforcing such quarantine is a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each offense.

(5) To have the same powers of quarantine, inspection, detention, and disinfection of steamboats and railroads as the State board, its agents, and employees.

Salaries and duties of county health officers.—The salaries of county health officers are fixed by law at not less than \$100 per annum, "and such other amount as the county court may add for additional services" and actual necessary travel expenses.

The duties of the county health officer are:

(1) To be the executive officer of the county board of health.

(2) To make a full report every three months to the State board of health relative to the character of all epidemics, endemics, infectious or contagious diseases arising within the county during the quarter, the number of cases reported, character of the infection, and the action taken by the county board.

(3) To meet with the State board of health, or its representatives, once each year, and to attend a school of instruction for the purpose of familiarizing themselves with their duties in the interest of public health.

Boards of Health of Municipalities.

How constituted.—The composition of municipal boards of health varies in different cities, towns, and villages of the State, depending upon the provisions of their incorporating charters, which also provide for the appointment of the local health officers. Since the adop-

tion of amendments to the State public health laws by legislative acts of 1913, the jurisdiction of the State board of health over these appointees, is not clear. In the event of the adoption by the State of a uniform municipal incorporating law prior to its adoption there should be incorporated in it a provision which would insure uniformity of local health organization and administration and responsibility of all local boards to the State board of health. A committee of the State board of health should be appointed to advise and consult with the framers of this proposed law, in order to provide for the desired uniformity of organization, and the proper adjustment of the relations which should obtain between such municipal health organizations and the State board of health. This supervision, however, appears to be the intent of the present law, in view of the general jurisdiction of the State board over all local boards conferred by law.

Powers and duties.—The general powers and duties of municipal boards are:

- (1) To have certain powers and duties prescribed by the charter of incorporation and conferred by local ordinances.
- (2) To have the same powers and perform the same duties conferred by law and required of the county boards of health of their respective counties.
- (3) To (may) require and compel connection of buildings with sewers under certain conditions.
- (4) To exercise, in the absence of the State board, its agents, and employees, the same powers of quarantine, examinations, detentions, and disinfection of steamboats and railroad trains as the State board of health.

Jurisdiction of municipal boards of health.—The jurisdiction of municipal health officers is restricted to the corporate limits of their respective localities. All city, town, and village boards of health or health officers are secondary and subject to all orders of the State board of health, which may, if deemed expedient, act through such local boards.

Relations of All Local Boards of Health to the State Board.

Local boards of health are supplemental to the State board of health, and are intended, primarily, to adapt the general health laws and regulations of the State to local conditions, and to enforce them. Furthermore, local boards of health are empowered to carry out local health ordinances with respect to local conditions that are not in conflict with the general health laws of the State.

The results of this system on the health of the State are measured largely by the tact, skill, training, and personal inclinations of local health officers. It is therefore desirable that the general health authorities of the State have intimate supervision of local boards of health and local health officers, and means should be provided by law to attain this end.

REGULATIONS.

The right of State legislatures to invest State boards of health with power to adopt rules and regulations necessary to secure the object of their organization has been affirmed by judicial decision.

While it is true that the character or nature of such boards is administrative only, still the powers conferred upon them by the legislature, in view of the great public interests confided to them, have always received from the courts a liberal construction, and the rights of the legislature to confer upon them the power to make reasonable rules, by-laws, and regulations is generally recognized by authorities. (*Blue v. Beach*, 155 Ind., 121; also *Isenhour v. State*, 157 Ind., 517.)

The State Board of Health of West Virginia has been invested by the legislature with authority to adopt rules and regulations to enable it to perform its duties and transact its business; to adopt and enforce rules necessary to prevent the introduction and spread of disease; to obstruct and prevent the introduction or spread of contagious or infectious diseases into or within the State; to control epidemic or endemic conditions arising within the limits of the State; to make effective the prohibition of the use of the common drinking cup; and to govern hotel inspection.

Up to the present time the State board of health has issued but few regulations in accordance with these provisions, and those that have been adopted have never been published. Recently, however, steps have been taken by the State board to have a compilation made of all of its rules, regulations, and by-laws and to have this compilation printed in a form for distribution.

Health administration in some States shows a tendency, more and more, to become centralized and legislatures seem inclined to extend the powers of State health organizations through specific legislation. In the State of West Virginia, however, a great deal of such power is discretionary—that is, qualified by the word “may” instead of “shall”—and the wise exercise of such power is therefore largely dependent upon the technical training and executive ability of the personnel of this administrative body, the State board of health.

As a matter of fact, as now constituted and organized the State Board of Health of West Virginia is not in a position satisfactorily to enforce its regulations, however wise and desirable their provisions may be. The necessity for a complete reorganization of the State health administration is apparent, and the provision of more men and money is necessary to enforce the laws enacted for the protection of the public health.

A number of the advisory and discretionary powers of the State board of health would be strengthened with advantage to the public health of the State if the legislature would invest the board with specific regulative authority. Especially is this true with respect to the sanitary supervision of public buildings, institutions, coal mines, and sources of water supply and places of sewage disposal.

THE CONTROL OF COMMUNICABLE DISEASES.

The State board of health has no bureau of communicable or preventable diseases, the necessary authority and needful appropriations not having been provided. It employs no trained epidemiologist and has no forces for field inspections. The duties of the State board in this respect devolve upon the individual members of the board, usually the member residing nearest the field of operation. The discharge of such duties entails considerable personal sacrifice and, at times, financial loss upon members so engaged, who receive no annual salary, but are paid the small honorarium of \$4 per diem and necessary traveling expenses.

A system devised along such lines can not be productive of satisfactory results. Especially is this the case with respect to the supervisory obligations of the State board to local health officers, not only from the standpoint of aid and advice, but also of the moral support of a great central agency in its influence on community opinion and prejudice, an important consideration in remote districts.

The State board of health is, however, invested with ample authority to control contagious and infectious diseases. It has conferred on it the power to require notification of communicable diseases by local health officers, school medical inspectors (indirectly) and practicing physicians; to establish and maintain quarantine and to practice disinfection; to enter and inspect; to detain common carriers. The State board also has the use and control of a hygienic laboratory, but unfortunately is not charged with the administration of the existing vaccination law, which is a serious defect. The State board has authority, however, to purchase and distribute, free of charge, vaccine and antitoxins to check contagion. The county court may also enforce within the county such general regulations as are necessary or proper to secure the inhabitants from epidemic, contagious, or infectious diseases, or direct in any particular case the adoption of the proper measures for that purpose.

Notification of communicable diseases.—Notification to the State board of health of the presence of cases of contagious and infectious diseases is required by law—a requirement not generally observed. The value of reports of sickness is discussed further on in this report under "Vital statistics."

The requirements of the law are as follows:

- (1) All practicing physicians to report every case of contagious or infectious disease that may arise or come under their treatment to the county officer.
- (2) County health officers to make a full report to the State board of health, at least every three months, of all epidemic, endemic, infectious, or contagious disease.

The law provides inadequate penalty for neglect by physicians to discharge this duty. Under the present system the State board of

health is without accurate information of the prevalence of communicable diseases within the State. The desired information may best be obtained, with small additional cost, through the adoption of the model State law for morbidity reports, the advantages of which are discussed later on under "Vital statistics."

Quarantine.—The general quarantine provisions of the law are as follows:

(a) Powers and duties of the State board of health.

(1) To establish and maintain quarantine at such places as the board may find necessary.

(2) To employ quarantine guards at the expense of localities.

(3) To adopt rules and regulations governing quarantine.

(4) To receive written report as soon as quarantine has been established by local health authorities.

(5) To determine the necessity for quarantine when imposed by local boards of health.

(6) To raise quarantine imposed by local boards of health when found to be not necessary.

(7) To prevent the landing of any steamboat or other water craft navigating the Ohio River or its tributaries in the State, or other waters of the State, or bordering streams, when believed infected with contagious or infectious disease.

(8) To stop any railroad train, coach, or vehicle traveling the railroads of the State and disinfect them if infected. Responsible persons willfully refusing to stop such train, coach, or vehicle are guilty of a misdemeanor.

(9) To act through county and municipal health boards when expedient.

(b) Quarantine powers and duties of local boards of health:

(1) To have like power to that of State board to declare quarantine.

(2) To be subsidiary to the State board.

(3) To employ guards at the expense of localities.

(4) To make written report to State board of health as soon as they establish quarantine.

(5) To act in the place of the State board when necessary.

(6) To certify, in certain quarantine emergencies, to the county court or corporate authorities actual and necessary expenditures.

(7) It shall be a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each offense, in the case of persons who fail or refuse to comply with the quarantine orders of such board, and of every person summoned as guard who shall without lawful excuse fail or refuse to obey.

There is no specific act granting authority to the State board of health to exclude children suffering from communicable disease from schools as a quarantine measure. However, the State board has sufficient authority to make regulations with respect to contagious and infectious diseases, and suitable regulations should be promulgated forthwith.

There are, however, two provisions of the law making mandatory requirements for such exclusion, but the relation of the State board of health thereto is very indirect, if any exists. These provisions will be referred to later under the caption: "Vaccination" and "Medical inspection of schools."

The care and maintenance of poor and indigent persons and families in quarantine is a serious tax on county funds in time of widespread epidemic. As a rule, counties which can ill afford such expense are the ones, by the very nature of things, that have the greatest number of people to be cared for in this emergency. Furthermore, exorbitant bills for supplies and services furnished poor and indigent families and persons so quarantined have been rendered in this and other States, which in the aggregate, in widespread epidemics, reach an enormous total.

In other instances local boards of health may make necessary expenditures, in time of emergency, and are directed by the law to certify the same to the county court, "and the whole or as much thereof as the said court may deem right and proper shall be paid out of the county treasury." Such procedure certainly does not lend much encouragement to local boards of health to take the initiative in times of stress. This section of the law should be revised in such manner as to protect the person quarantined, the county, and the local health authorities. While it is not possible to create honesty by legislation, nevertheless much can be done to secure reasonable charges. In many counties of this State the overseer of the poor may be more than a day's journey from persons in quarantine in need of county assistance. The law should be amended so as to give the local health officer authority to provide necessary supplies until relieved of such duty by the overseer of the poor or other authority; and to require that all bills rendered for such services and supplies shall include a certificate, under oath, that the charges therein are reasonable and just and that all bills for the necessities mentioned shall be indorsed by the local health officer.

Disinfection.—The West Virginia statutes provide specifically for disinfection for the control of communicable diseases in three instances, to wit, infected railroad train, coach, or vehicle within the limits of the State; persons desiring to enter another county within three months of an attack of smallpox; and the room or bed in a hotel which has been occupied by any person known to have had an infectious, contagious, or communicable disease at the time of such occupancy, the disinfection to be carried out according to methods prescribed by the State board of health. The law does not specifically state under whose immediate supervision disinfection of persons for smallpox shall be done, but the inference is plain, owing to their general quarantine powers, that it is the duty of the local health authorities, acting for the State board of health.

No mention whatsoever is made in the health laws of the State of one of the most important of all practical measures for the safeguarding of the public health, at least in West Virginia, and that is, the thorough disinfection of the excreta, bedclothing, and wash

water of persons suffering with typhoid fever. Until the absolute importance of destroying the bacilli at their source, that is to say, as they are discharged from the human body, is universally recognized, or, what is more to the point, until this is universally practiced by carrying out a uniform, routine method of disinfection to be prescribed by the State board of health, the prevention of the spread of typhoid fever within this State and to adjoining States is impossible. The thorough disinfection of the stools, urine, sputum, vomit^{us}, wash water, and bedclothing of sporadic cases of typhoid fever can best be secured by the promulgation of regulations by the State board of health, for which there is already broad general authority, specifying uniform methods for the disinfection of such infected materials and fixing the responsibility for the routine practice. If necessary, a severe penalty clause should be enacted into law to enforce compliance with the provisions of the regulations. The responsibility for carrying out the disinfection in the manner prescribed by the regulation of the State board of health rests primarily with the attending physician, and it should be so fixed. The penalty for willful failure to carry out the provisions of the regulations should not be less than that provided for other criminal malpractice. In the time of epidemic, however, this disinfection and other methods of control should be under the direct supervision of the proper health agency.

Inspection.—The State board has conferred upon it the power to enter into any town, city, or corporation, factory, railroad train, steamboat, or any place whatsoever within the limits of the State to investigate sanitary and hygienic conditions. This section of the act would appear certainly to give authority for investigations of the presence of cases of contagious and infectious diseases, and entry on private property for this purpose.

The State board of health is directed by law to make rules and regulations not inconsistent with the law such as in their judgment are necessary to carry out the intent of the act, which is primarily devised for the prevention and correction of insanitary conditions which may injuriously affect the health of the traveling public, and incidentally the control of communicable diseases. This act will be discussed later under proper caption.

Vaccination.—The West Virginia statutes provide for restricted compulsory vaccination, make vaccination of school children a condition of school attendance, and provide for the gratuitous distribution of vaccine to local health officers for use among the poor and indigent.

The provisions of the law relating to vaccination are as follows:

(1) The overseer of any district may furnish antitoxin to, or cause to be vaccinated with proper vaccine matter, any person in such district who is unable to pay for the same.

(2) The county court of any county in the State, upon petition of 100 voters of the county, shall direct and have enforced upon any party or parties compulsory vaccination or quarantine, in case of smallpox epidemic, in any city, town, or village of the county.

(3) No child or person residing in a locality in which an epidemic is prevailing shall be admitted to or received into any of the public schools in any city, town, village, or county who can not produce a certificate or satisfactory proof showing a successful vaccination.

(4) The State board of health is directed to keep vaccine lymph and distribute, free of charge, the same to county and municipal health officers, to be used for the benefit of the poor and indigent, and in other cases where they may deem it urgently necessary to check contagion.

(5) The county court may appoint competent physicians in any city, town, village, or county, and fix their compensation not to exceed 25 cents for each successful vaccination, who shall provide themselves with good and reliable vaccine virus with which to vaccinate free of charge when directed by the county court, and issue certificate of successful vaccination.

The value of universal vaccination in preventing the spread of smallpox, and as a measure for its eradication, has been long recognized and well attested. Vaccination, when properly practiced, will do away with the necessity for enforced quarantine of persons exposed to smallpox. The right to enforce this valuable protective measure should rest with the State and local public-health authorities and not be left to the direction of the county court upon the petition of 100 more or less irresponsible persons of the county, in which there is a supposedly infected locality, as is the case under the present law. The right also to determine and declare the epidemicity of a disease and to provide and enforce measures against it for the protection of the public health should be reposed in State or local health organizations composed of men trained in public-health work.

The right of State legislatures to enact statutes making vaccination compulsory has been definitely settled by decision of the Supreme Court of the United States. It has also been maintained in numerous court decisions that State legislatures have power to authorize vaccination by local authorities. Nevertheless, the sole responsibility of the State board of health of West Virginia, with respect to vaccination under existing statutes, is to provide vaccine lymph—a responsibility equally shared by overseers of the poor.

West Virginia has experienced repeated outbreaks of smallpox, with accompanying disturbance of business and economic loss. At this writing the disease is extensively prevalent in certain counties of the State. It is evident that the provisions for and methods of vaccination now sanctioned by law have failed to secure the desired results. Specific authority with fixed responsibility must be granted the State board of health by the legislature, before vaccination can be satisfactorily and successfully employed in the State for the eradication of smallpox.

Abolition of the common drinking cup.—The provision of the common drinking cup is prohibited by law in all public places, upon all railroad trains and boats conveying passengers, in all public buildings of every description, and at all public drinking springs and fountains within the State.

The common drinking cup has long been considered a source of communication of certain transmissible diseases. Microscopic examinations of pieces of a drinking glass in common use have revealed the presence thereon of numerous bacteria and cells from the mouths and throats of persons who have used the same. The prohibition of the common use of such vessels is therefore well founded, and the provision of the law should be rigidly observed and enforced.

Regulation requirements of the State board of health—

Common carriers, hotels, boarding houses, restaurants, schools, public buildings, clubs, theaters, factories, stores, and all other places where people eat and drink or congregate shall not provide any drinking cup, glass, or other vessel for common use in drinking: *Provided*, That this regulation shall not be held to preclude the use of drinking cups, glasses, or vessels which are thoroughly cleaned, by washing in boiling water after use by each individual, nor shall it be held to preclude the use of any sanitary devices for common use such as the bubbling fountain for schools and cups made of paper or other material intended for individual use.

Penalty.—Failure to observe the provisions of the act or the rules and regulations of the State board of health relative to the use of the common drinking cup is a misdemeanor, punishable by a fine of not less than \$10 nor more than \$50 for each offense.

HYGIENIC LABORATORY.

The importance of a State laboratory as an adjunct to a State public-health administration in safeguarding the public health can not be overestimated. It is by laboratory methods only that the diagnosis is quickly and surely made in the case of persons suffering from many of the communicable diseases. The early diagnosis of such diseases enables the health authorities to determine their prevalence and adopt timely measures for their control or suppression. It is only by laboratory methods that unknown sources of infection are revealed through the examinations and discovery of the so-called healthy "carriers" of disease-producing organisms and of contaminated food and water supplies.

By the act of 1913, chapter 24, section 16, the State board of health is empowered to maintain a laboratory and to employ the necessary chemists, bacteriologist, and assistants. No specific appropriation, however, was made for the purpose of carrying out this provision of the law.

Shortly after the passage of this act, however, a conference was held by the governor with a committee of the State board of health, State board of control, and the authorities of the State university,

at which it was decided to establish the hygienic laboratory at Morgantown in connection with the State university. Under an agreement entered into with the State board of health the university places at the disposal of the State health authorities the university laboratory, its equipment, and the restricted services of its chemist and bacteriologist. The State board of health obligates itself to pay the salaries of an assistant bacteriologist and an assistant chemist.

The association of the hygienic laboratory of the State board of health with the State university would appear to be advantageous in West Virginia, since it provides laboratory facilities where there would otherwise be none. In order to be effective and accomplish desired results, however, the laboratory should have more space than is furnished by the present restricted quarters. Increasing demands are being made on the laboratory for the examination of pathologica secretions, excretions, and tissues. Furthermore, the examinations of suspected, existing water supplies now being made and those of proposed public water supplies call for larger facilities and more assistants than are at present available. Aside from its value as an adjunct to the public health administration, the hygienic laboratory should receive liberal support from the State, commensurate with its importance as a part of the State educational system.

There is absolute necessity also for the establishment of inexpensive branch laboratories at several convenient points in the State, to be under the control and supervision of the State hygienic laboratory. These branch laboratories would be charged with the distribution of serum and vaccines and with the routine examination of the clinical material submitted by attending physicians for the early diagnosis of diphtheria and similar communicable and infectious diseases. It is highly important that the State health administration be empowered by specific legislation to extend the field of usefulness of the hygienic laboratory along the lines indicated.

THE TUBERCULOSIS SANITARIUM.

The West Virginia Tuberculosis Sanitarium, located at Terra Alta, Preston County, was established by an act of the legislature in 1911 and placed under the management of the State board of control. The law directs that the immediate head of the institution shall be a physician, legally qualified, and with not less than six years' experience in the practice of medicine, who shall be appointed by the governor, with the advice and consent of the senate.

Requirements for admission.—Persons eligible for admission to this institution are of two classes, namely: Those unable to pay the expenses of their care and treatment and those who are able to pay and shall pay this charge. The law directs that the reasonable expenses of poor persons admitted at the request of the authorities of

any municipal corporation or county shall be paid by such corporation or county. It further directs that the schedule of rates shall be fixed by the State board of control.

The need of an institution of this character is unquestioned, but the advisability of placing it under the direction and management of the board of control may be doubted. The board of control usually is composed of men of highly specialized executive attainments essential to the successful management of eleemosynary institutions in general. The State tuberculosis sanitarium, however, is something more than a refuge for the poor and indigent suffering from tuberculosis. It could and should be made an effective instrument, under the control of the State public-health authorities, for the treatment and suppression of tuberculosis.

It is variously estimated that in the United States tuberculosis is the cause of one-tenth to one-seventh of the deaths in any one year from all causes. It is the prime duty of the State, therefore, to adopt the most effective measures for the control of this disease so universally prevalent and so frequently a cause of destitution and death. One of these measures would be the investment of the State board of health with the control of the State tuberculosis sanitarium and its utilization by the board, not only for the treatment of tuberculosis, but for the education of the public in self-protection against this disease.

It is quite generally accepted that of all measures for the suppression of tuberculosis the control of the active, expectorating cases of the disease gives greatest promise of success. The segregation of such cases in institutions especially devoted to their care and treatment not only removes to a safe place possible sources of individual and community infection, but exerts an educational influence on communities at large with respect to the nature of the disease and the necessary precautions to be observed to prevent the infection of others. Furthermore, patients returning home from such an institution can be made active exponents of the principles of prevention, and thus exercise an ever-widening influence for community betterment.

The legislature appropriated in 1913 the sum of \$9,900 for the use of the West Virginia Antituberculosis League for an educational propaganda against tuberculosis. Of this sum it was directed that \$2,500 should be spent for this purpose in 1913 and \$3,700 each during the years 1914 and 1915. The expenditures of future appropriations for this purpose, however, should devolve on the State health administration, so that the information which may be secured regarding the presence of tuberculosis in the State during the course of such propaganda should become first-hand property of the State health authorities, whose duty it is to control communicable diseases within

the State, and to gather information with respect to them for diffusion among the people.

Moreover, an appropriation made in this manner is an illustration of the necessity for the creation of a division of preventable diseases in the State health organization, to be under the charge of a director, a part of whose duties would be to collect information with respect to the nature and prevention of communicable diseases.

REGULATION OF THE PRACTICE OF MEDICINE.

Since its establishment in 1881, the State board of health has been largely concerned with the regulation of the practice of medicine and surgery within the State, almost to the exclusion of other duties more directly related to the protection of the public health. It is due to the present board, however, to say that this condition has been brought about gradually, and that it is not caused by lack of appreciation by the board of the importance of its duties as to sanitation, or to an unwillingness to discharge such obligations. The State board of health has not in past years been provided with sufficient funds or the necessary forces with which effectively to undertake the task of State sanitation. The State board has been compelled, therefore, to limit its activities, and, in its discretion, has utilized the small annual appropriations of \$1,000 to \$2,500 in an effort to raise the standard of medical and surgical efficiency within the State.

The provisions of the law with respect to the practice of medicine and surgery are as follows:

(a) Persons entitled to practice medicine and surgery within the State:

(1) All persons legally entitled to practice medicine in the State at the time of the passage of the act.

(2) All graduates of reputable medical colleges recognized as such by the State board, irrespective of any particular school or theory of medicine, who shall have passed an examination before said board and received a certificate therefrom.

(3) All persons whose certificate of license to practice medicine is accepted by a majority of the board when said certificate has been legally granted by the board of registration or examinations or licensing board of any other State, Territory, or any foreign country whose standard of qualifications is equivalent to that of the State, and provided such States, Territories, or foreign countries accord like privilege to medical licentiates of West Virginia.

(4) All physicians living in other States and duly qualified to practice medicine therein, who shall be called into consultation into the State by a physician legally entitled to practice medicine within the State.

(5) Commissioned officers of the United States Army, Navy, and Marine Hospital Service (Public Health Service) when in the actual discharge of their duties as commissioned officers.

(6) All females practicing midwifery.

(7) Osteopathic physicians, graduates of any recognized, reputable school of osteopathy, who were practicing in the State at the time of the passage of this act.

(b) Examinations by the State board of health:

(1) The number of examinations shall be not less than three during each year, and at such other times as a majority of the board may deem proper.

(2) The place of the examinations shall be most convenient to those presenting themselves for examinations, or to the State board. Due notice shall be given of the time and place of such examinations by publication in at least three newspapers of general circulation in the State.

(3) The professional examinations shall be written and oral.

(4) The questions submitted shall cover all the essential branches of the sciences of medicine and surgery, and shall be a thorough and decisive test of the knowledge and ability of the applicants.

(c) Certificates of license:

(1) Certificates of license shall be issued by the president and secretary of the State board of health to all who successfully pass the required examinations and to all those whose certificates the board of health, or a majority of them, shall accept in lieu of an examination through reciprocity, except that in all certificates issued to applicants who adhere to the osteopathic school it shall appear that it is for the practice of osteopathy.

(2) Said certificates, when duly recorded by the secretary of the State board of health and indorsed to that effect, shall be deemed licenses to practice medicine, surgery, and osteopathy in all their branches in the State.

(3) The State board of health may, after due notice and trial, subject to appeal to the circuit court of the county, refuse certificates to individuals guilty of malpractice and of dishonorable conduct, and may revoke certificates for like causes.

(d) Examination fees:

A fee of \$10 is required of every person presenting himself for examination. Such fee is not returned, whether a certificate be refused or not.

(e) Penalties:

(1) It shall be a misdemeanor, punishable by a fine for every offense of not less than \$50 nor more than \$500 or imprisonment in the county jail not less than 1 month nor more than 12 months, or by both such fine and imprisonment, at the discretion of the court, if any person shall practice or attempt to practice medicine, surgery, or obstetrics in the State without having complied with the provisions of the law.

(2) Any person who shall file or attempt to file as his own the diploma or certificate of another or a false or forged affidavit of his identity, or willfully swear falsely to questions propounded during his examination or to any affidavit required to be made or filed by him, shall, upon conviction, be confined in the penitentiary not less than 1 nor more than 3 years, or imprisoned in the county jail not less than 6 nor more than 12 months, and fined not less than \$100 nor more than \$500, at the discretion of the court.

(f) Itinerant physicians and itinerant vendors of drugs:

(1) *Definition.*—Any person who shall travel from place to place and by writing, printing, or otherwise publicly profess to cure or treat diseases, injuries, or deformities shall be held and deemed to be an itinerant physician.

(2) *Requirements.*—Any itinerant physician desiring to practice medicine in this State, or any itinerant vendor of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injuries, or who shall by writing or printing or in any other method publicly profess to cure or treat diseases, injuries, or deformities by any drug, nostrum, manipulation, or other expedient shall, before doing so,

pay to the sheriff of every county in which he desires to practice a special tax of \$50 for each month or fraction of a month he shall so practice in such county, and take his receipt in duplicate.

(3) *Filing and indorsement of tax receipts.*—Said special tax receipts shall be presented to the clerk of the county court, one of which shall be filed with him, and the duplicate, indorsed by the clerk to the effect that such receipt has been so filed, shall be retained by such itinerant physician or vendor.

(4) *Penalty.*—It shall be a misdemeanor, punishable by a fine not less than \$100 nor more than \$500, for any such physician or vendor of patent medicines to practice or attempt to practice without having paid such tax, filed the receipt, and obtained the indorsement as provided, or to practice or attempt to practice for a longer time than that for which he has paid such tax.

It is bad practice to burden the State board of health with the duty of the examination of applicants for license to practice medicine and surgery. As now constituted, the State board is too cumbersome for this duty. These examinations could be made more effectively and expeditiously by a board with smaller membership than at present, charged with no duty other than to conduct such examinations.

Under the present system the time of the State board, which could with profit be devoted to consideration of measures of sanitation, is now occupied largely with the enforcement of the medical-practice act. It seems desirable that these two duties should be kept separate. To this end separate boards, each composed of no more than six members, should be formed, the one to be concerned with the protection of the public health from the standpoint of sanitation and prevention and the other with the indirect protection afforded through the regulation of the practice of medicine. It does not necessarily follow that a good sanitarian will also be a good examiner of applicants for license to practice medicine, or vice versa. The formation of separate boards would tend to insure the appointment of men best qualified for such specialized duty.

Members of the examining board render highly specialized services to the State, and often at considerable financial loss to themselves. The sum of \$4 per diem and actual expenses while in the discharge of official duties is inadequate. The per diem allowance should be increased to not less than \$10.

With respect to itinerant physicians and itinerant vendors of medicine, the State law is anomalous. The law prescribes definite qualifications of those who shall regularly practice medicine within the State and devises means by which their fitness to do so shall be determined. In the case of itinerant physicians and vendors, however, no such qualifications are required, and no supervision of their fitness is demanded, the sole requirement being the payment of a special tax. It is hardly necessary to mention the serious harmful effects of such practice and the irreparable injury such irresponsible persons may do. The imposition of a high tax does

not prevent this practice, but on the other hand does incite such vendors and irregular practitioners to dispense the cheapest grades of nostrums and patent medicines to the further detriment of the ignorant sick.

VITAL STATISTICS.

Statistics relating to the life histories of communities, States, and nations, "which have to do with the origin, continuation, and termination of the lives of the inhabitants," form the foundation of public-health administration. The uses of the registration of sickness, marriages, births, and deaths have been set forth in a public-health service publication, and are herein briefly summarized as follows:

(a) Morbidity reports:

(1) In the case of communicable diseases they show points of infection from which disease may spread to others, and make it possible to take necessary precautions to protect the family and associates of the sick, and the community at large.

(2) In certain diseases they make it possible to see that the sick receive proper attention and treatment, as in diphtheria to save life, and in eye infections in the new born to save sight.

(3) In diseases due to occupation, such reports show the location of conditions which are causing illness or injury, and make possible the correction of faulty conditions for the protection of others from similar disease or injuries.

(4) In diseases of unknown origin, such reports show the geographic distribution, the varying prevalence and conditions favorable to the occurrence of such diseases—information of potential value in attempts to ascertain their causes and means of spread.

(5) They show the need of sanitary measures to control and check certain diseases, and the efficiency of such measures when put into operation.

(6) Morbidity reports when recorded over a period of time and properly compiled become a record of the past occurrence of disease. They show the relative prevalence of disease from year to year and under varying conditions. They show the effect of public-health measures and of sanitary works. They give a history of diseases not obtainable in their absence.

(b) Registration of marriages:

(1) To protect the home and family.

(2) To furnish evidence of the legitimacy of children and the dower rights of women.

(c) Registration of births:

(1) *Legal record.*—It establishes the date of birth and the child's parentage and legitimacy. It may be required to establish the child's age for attendance at public schools; for permission to work in certain States which regulate child labor; to enable marriages to take place without the parent's permission; to show whether a girl has reached the age of consent; to establish age in connection with pensions, military and jury duty, and voting, and in connection with the bequeathing and inheritance of property.

(2) *Public health administration.*—It gives the location of the babies of the State and makes possible their protection by public-health measures.

(d) Death registration:

(1) In preventing and detecting crime through the restrictions placed upon the disposal of dead bodies.

(2) As evidence in the inheritance of property and in the settlement of life insurance contracts and policies.

(3) To show the rate of change in population produced by deaths; the average duration of life; the relative frequency with which particular causes produce death; and, by comparison with birth statistics, giving useful information regarding population increase or decrease.

Practically all such important and useful information is lost to the people of West Virginia because it is not collected in that State. The provisions of the law with respect to the registration of marriages, births, and deaths occurring in the State are as follows:

(a) Powers and duties of the State board of health:

(1) To have supervision of the State system of registration of marriages, births, and deaths.

(2) To make up forms and recommend legislation deemed necessary for the thorough registration of vital and mortuary statistics throughout the State.

(b) Duties of the secretary of the State board of health:

(1) To be registrar of vital statistics.

(2) To publish a report of the vital statistics of the State, along with his report as secretary of the State board of health.

(3) To furnish the forms prepared by the State board of health to the clerks of the county courts.

(c) Duty of physicians and accoucheurs:

To register their names and post-office addresses with the clerk of the county court wherein they reside and, under a penalty of \$10, to report to the clerk of the county court, within 30 days from the occurrence, all births and deaths which may come under their supervision, with a certificate of the cause of death and such correlated facts as the board may require.

(d) Duty of parent, nearest of kin, or resident householder:

When any birth or death shall take place, in the absence of a physician or accoucheur, the same shall be reported by the parent or, if none, by the nearest of kin not a minor or, if none, by the resident householder where the birth or death occurred, in the manner and under the penalty and provisions applicable to physicians and accoucheurs.

(e) Duty of coroners and undertakers:

Coroners and undertakers are required to report all cases of death which may come under their supervision in the same manner and under like penalty and provisions as are applicable to physicians and accoucheurs.

(f) Duty of ministers of the gospel:

All ministers of the gospel are required to report to the clerk of their county courts, under a penalty of \$10, all marriages celebrated by them.

(g) Duty of the county court clerks:

(1) To keep separate books for the registration of the names and post-office addresses of physicians and accoucheurs, for marriages, births, and deaths.

(2) To enter upon record a full abstract of the contents of reports of births and deaths in the register of births and deaths, setting forth in convenient tabular form all the facts shown by said reports.

(3) To make and furnish, on or before the 1st day of February in every year, to the assessor of his county, a copy of the indexes made by him of the marriages, births, and deaths which took place during the year which ended with the 31st day of December previous.

(4) To enter upon his appropriate register for the preceding year a full abstract of the contents made by the assessor, and make the proper corrections in his tabular statements and alphabetical indexes.

(5) To render a full and complete report of all marriages, births, and deaths to the registrar of vital statistics, annually on the 1st day of July, and oftener if required.

(6) Any county court clerk failing to perform such required duty is subject to a fine of not less than \$100 for every such failure. The clerk of the county court receives 5 cents, paid by the county, for each birth, death, and marriage reported by him.

(h) Duty of assessors:

To make inquiry of all persons assessed by him, and to ascertain whether any marriages, births, and deaths took place within the county for that year which do not appear in the names furnished him by the clerk of the county court.

Notification of diseases.—The law of West Virginia makes but limited provision for the notification of diseases, without which successful public-health administration is impossible. There are no provisions of the law which require the reporting of occupational diseases and others classed as preventable. The law is concerned only with the so-called contagious and infectious diseases. Its provisions relating thereto are as follows:

(1) *Duty of county health officers.*—County health officers are required to make a full report to the State board of health every three months, giving the character of all epidemic, endemic, infectious, or contagious diseases, stating the number of cases reported, character of infection, action taken by the county board to arrest the infections, and the results.

(2) *Duty of practicing physicians.*—It is required of every practicing physician to report to the county health officer all cases of infectious or contagious disease that may arise or come under his treatment.

The act of 1913 amending and reenacting certain sections of the State health laws leaves in doubt the exact duties of municipal health officers with respect to the notification of diseases. Unless responsibility be definitely fixed and the requirements of the law be made clear there is room for evasion and excuse for the neglect of this duty which militates strongly against the success of a system devised for a specific purpose. The law in this respect should be made plain.

The State board of health, in an effort to secure reliable statistical information regarding the prevalence of certain diseases within the State, has issued the following notification card to county health officers for distribution to all practicing physicians within their respective jurisdictions:

The enactment by the legislature of a model law for morbidity reports, drafted in accordance with the model law adopted by the eleventh annual conference of State and Territorial health authorities with the United States Public Health Service, would do much toward securing uniform results. A like necessity is apparent in the case of marriage, birth, and death reports. Such a law should be as nearly uniform as possible in all the States, and drafted to secure all the information desired by the United States Census Bureau.

Furthermore, a division of vital statistics should be created in the State department of health, and local registrars, paid by fees, should be appointed throughout the State to aid and assist, under the supervision of the commissioner of health, in the collection and preservation of such records.

Moreover, a fine should be imposed on all physicians who refuse or neglect to make the required reports of cases of sickness to the State health authorities.

POLLUTION OF STREAMS AND OTHER SOURCES OF WATER SUPPLIES.

From a public health standpoint it is unfortunate that the people at large have such a poor conception of the rôle of bacterial life in the causation of disease. To this day even, stream pollution, to the the average mind, means some gross change in the color, taste, or odor of the water. The presence of dead fish in a stream, due to mine drainage or industrial waste products, excites gravest apprehension while the dilute sewage of a town a few miles upstream, teeming with countless bacteria, is swallowed without apprehension.

The State board of health has not been unmindful of the potential dangers of polluted water supplies. The first president of the State board of health, as far back as 1884, thus characterized the situation in West Virginia:

River pollution from sewage and other supplies of refuse and corruption in towns and cities has assumed such fearful proportions that the question presses itself upon wise men and sanitarians.

Existing laws bearing on stream pollution are not sufficiently comprehensive, and the responsibility for their enforcement rests in more than one department of the State administration. The following are the provisions of the law so far enacted:

(1) The governor is directed to take such action as he may deem necessary to prevent the pollution of the New and Great Kanawha Rivers by the actions of certain persons, companies, or corporations. The sum of \$1,500 was appropriated for this purpose.

(2) It is unlawful for any person, firm, or corporation to throw in or allow to empty into any stream or water course in the State, sawdust or any other matter deleterious to the propagation of fish. To do so is a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each and every offense.

(3) It is a misdemeanor knowingly and willfully to throw or cause to be thrown into any well, cistern, spring, brook, or branch of running water which is used for domestic purposes, any dead animal, carcass, or part thereof, or any putrid or nauseous or offensive substance, punishable by a fine of not less than \$5 nor more than \$100 and, at the discretion of the jury, by confinement in the county jail not exceeding 90 days. Such offenses are, moreover, liable to the party injured in a civil action for damages.

(4) It is unlawful to put the carcass of any dead animal or the offal from any slaughterhouse, butcher's establishment, or packing house, or slops or other refuse from any hotel or tavern, or any spoiled meats or spoiled fish, or any putrid animal substance or the contents of any privy vault upon or into any river, creek, or other stream within the State, or upon the surface of any road, street, alley, city lot, public ground, market space, or common, or on the surface within 100 feet of any public road.

A justice of the peace is given jurisdiction of any offense against the provisions of this act committed within his county.

(5) The public service commission may ascertain the quantity, healthfulness, and quality of the water supplied by all persons, firms, or corporations having authority under any charter or franchise of any city, town, or municipality, county court or tribunal in lieu thereof, and shall have power to order such improvements as will best promote the public interest and preserve the public health.

The provisions of the law thus enumerated, impose no duty on the State board of health, whose proper function is the conservation of the public health. The law obviously contemplates the prevention of gross pollution by industrial wastes for the protection of fish life, and only incidentally for that of man. The law forbids the placing of the contents of a privy vault upon or into any river, creek, or other stream within the State but apparently takes no cognizance of the numbers of privies and sewers which discharge the more dangerous recent excrement directly into such watercourses, potentially and infinitely more dangerous to the public health than the things specifically enumerated in the law. Pollution of streams and other sources of public water supplies is considered from the public-health standpoint largely a contamination by human excrement.

Special significance of stream pollution in West Virginia.—By reason of topography the streams of West Virginia are especially exposed to contamination by human excrement. Over two-thirds of the State is a part of the Appalachian Plateau, which has, in the course of time, been broken up into almost numberless mountains and valleys by the erosive action of many streams. The greater part of the population of the State is, therefore, crowded into settlements located in narrow valleys (many of them extremely narrow) along the banks of some swift-flowing river or other stream. It is the rule, rather than the exception, to find the privies of such settlements constructed to overhang such streams or tributaries, while in other cases the slope of the land is such as to favor the washing or draining of the contents of open privies directly into streams.

Furthermore, the extensive mining industry of the State has stimulated the organization and incorporation of numerous small towns which have installed, in many instances, ill-advised sewerage systems.

Likewise, mining camps have been established along the headwaters of nearly every stream within the State to such an extent that the majority of these streams undergo pollution by human excrement from source to mouth.

Dangers of stream pollution.—Typhoid fever may be largely a water-borne disease. The active exciting agent of this disease is a microscopic organism found in the bodily discharges of persons sick with, and in the excrement of a certain number of otherwise healthy individuals who have recovered from, an attack of typhoid fever. The organism does not develop outside the human body. When a person becomes sick with typhoid fever it is positive evidence that such individual has swallowed human excrement conveyed to his mouth in his food, water, or by other means. It is obvious, therefore, that families or municipalities using water from a polluted source for domestic purposes are in constant danger of infection, and that the greater the pollution the more widespread is the disease. Moreover, the element of time is a vital factor in the self-purification of the streams which may be the source of public water supplies. A city, therefore, situated a comparatively short distance below an infecting point on a slow-flowing stream, is less liable to infection, all other things being equal, than a city located at much greater distance in the case of a rapid stream. The topography of West Virginia offers ideal physical conditions for the infection of public water supplies. The wide dissemination of such infection is evidenced by the great typhoid prevalence in the State, spreading from town to country and from country to town.

Prevalence of typhoid fever.—While no accurate figures showing the prevalence of typhoid fever in the State are in existence, the president of the State board of health, from available data, has estimated the typhoid rate of the State as double that in the registration area of the United States. It is estimated that 7,000 cases of typhoid annually occur in West Virginia, which means an economic loss to the State of \$4,200,000.

The writer has visited most of the counties within the State, and has yet to find a community without cases of typhoid fever. So common is the disease in certain localities that it is spoken of as "the fever." It seems, therefore, that the above estimate may be under rather than above the true figure.

In the course of a sanitary survey of one county of the State by officers of the United States Public Health Service 249 cases of typhoid fever were ascertained to have occurred in the county from April 1 to November 1, 1913. Additional statistics from this county impressively illustrate the value of sanitary measures directed toward the proper disposal of human excrement. During the corresponding period for 1914 but 40 cases of typhoid fever have occurred. Not

only do such measures of sanitation reduce the prevalence of typhoid fever, but they exercise a marked effect in lowering community mortality from other diseases, a fact well noted in many instances following the introduction of an abundant and wholesome water supply.

The prevention of pollution of sources of public water supply is essentially a public health problem. The State health administration should be empowered to exercise general supervision and control of the sanitary condition of the streams and other waters of the State, and authorized to make and enforce rules and regulations to prevent their pollution. The State health organization should be given certain regulative powers over the installation, maintenance, and extension of all sewerage and water systems within the State, and granted the necessary facilities to enforce them. Furthermore, the State health authorities should be authorized to compel the construction of sanitary privies in all places where deemed necessary to protect the public health and to prevent the pollution of sources of public water supplies.

The supervision by the State health authorities over all sources of public water supplies within the State and the enforcement of regulations to prevent their pollution presupposes, however, the creation of a division of sanitary engineering within the State department of health, and the employment of skilled assistants, to be under the supervision of a director.

FOOD AND DRUGS.

The State of West Virginia has no distinct organization for the enforcement of the laws of the State respecting pure food and drugs. The powers and responsibilities of the State board of health in this respect are shared by other agents of the State.

The general provisions of the law are, in effect, as follows:

(1) To make it unlawful to fraudulently adulterate, for the purpose of sale, anything intended for food or drink, or to knowingly sell or barter anything intended for food or drink which is not what it is represented to be or what it is sold for. Penalty: On conviction, to be confined in jail not more than six months and fined not exceeding \$100.

(2) To make it unlawful knowingly to adulterate or cause to be adulterated any drugs, chemicals, or medicinal preparations, or knowingly to sell any adulterated drugs, chemicals, or medicinal preparations. Infraction of this law is a misdemeanor. Penalty: On conviction, to be fined not exceeding \$100, and in the case of a registered pharmacist or assistant pharmacist, his name to be stricken from the register.

(3) To make it unlawful within the State to manufacture for sale, offer for sale, or sell any drug or article of food which is adulterated within the meaning of the act.

Definition of "drug" and "food."—The term "drug," as used in this act, shall include all medicines for internal or external use, antiseptics, disinfectants, and cosmetics. The term "food," as used herein shall include all articles used for food, drink, confectionery, or condiment by man, whether simple, mixed, or compound (acts 1907, reg. sess., C. 68).

(a) Powers and duties of the State board of health with respect to unwholesome provisions or drugs offered for sale:

(1) To take or cause to be taken by its authorized agent a specimen of any food, drink, or drug, sold, or offered for sale, believed to be diseased, corrupted, unwholesome, or adulterated, and test and analyze the same.

(2) Positive results of such tests or analysis is *prima facie* evidence of such fact in prosecutions under the act.

(b) Power and duties of prosecuting attorney:

The prosecuting attorney of each county within the State is empowered and directed under the act to enter, during business hours, any creamery, factory, store, salesroom, drug store, or laboratory, or any place where he has reason to believe food, drink, or drugs are made, prepared, or sold, or offered for sale, and to open the containers of any articles of food, drink, or drugs, and examine or cause to be examined the contents thereof.

(c) Duty of hotel inspectors:

Hotel inspectors are directed to assist in the enforcement of the laws of the State respecting pure food, so far as they relate to hotels and restaurants.

(d) Duties of the chemist of the State agricultural college:

It is the duty of the chemist of the State agricultural college to analyze any article of food, drink, or drug sent him by the prosecuting attorney of any county, and certify the result of said analysis to said prosecuting attorney.

(e) Penalties for violation of the act making it unlawful to manufacture and sell adulterated food or drugs:

Whoever, by himself or his agent, violates any of the provisions of this act shall upon conviction be punished by a fine not less than \$50 nor more than \$100, or by imprisonment in the county jail not less than 20 nor more than 60 days, or both for each subsequent offense.

On the whole, the State has sufficient law to regulate and prevent the sale of adulterated food, drink, and drugs, and of diseased or unwholesome foodstuffs. The law does not provide, however, effective means of enforcement. It is a true saying that what is everybody's business is nobody's business. Powers and duties are so widely distributed under this act that little has been done by any one in the way of its enforcement. Certainly no great benefit is to be derived, and no marked results are likely to follow the present method of its administration. The necessity for a definite administrative authority with fixed responsibility is apparent. In order to make this law effective, there should be created under the charge of a director a division of food and drugs within the State health organization to administer the law under the supervision of the board of health.

(f) *Control of the milk supply.*—The universal use of milk and milk products, and the fact that it is the chief substitute for mother's milk in the earlier months of infancy, make it highly important to surround its production and sale with restrictions necessary to safe-

guard the public health. The present laws should be amended to grant the State board of health full authority to make and promulgate regulations to provide clean and safe milk and fresh milk products, which shall be the minimum requirements to be enforced by local health authorities throughout the State. Under present conditions each municipality or local board of health is a rule unto itself in the adoption of standards of milk impurity.

HOTEL INSPECTION.

The act of February 21, 1913, creating the office of hotel inspector and providing for the inspection of hotels and restaurants, directs the State board of health to make such rules and regulations not inconsistent with law as, in their judgment, are necessary to carry out the intent of the act. Such rules and regulations to be effective must receive the approval of the attorney general and the governor of the State.

General health provisions of the law—

(1) For every hotel and restaurant in the State to be properly lighted by day and by night, to be plumbed and ventilated and conducted in every department with strict regard for the health, comfort, and safety of the guests.

(2) For every hotel in municipalities or villages where a system of waterworks and sewerage is maintained for public use, to be equipped with suitable water-closets for the accommodation of guests within six months after the passage of the act. All lavatories, bathtubs, sinks, drains, closets, and urinals to have proper connections and flushing arrangements.

(3) For the proper construction and protection against filth and flies of hotel privies of hotels in cities, towns, and villages which have no system of waterworks.

(4) For all hotels within the State to provide a public wash room convenient and of easy access to guests, and to provide for each registered guest clean individual towels of stated length in each bedroom and public wash room: *Provided, however,* Roller towels may be placed in the main wash rooms for the use of persons other than registered guests of the hotel.

(5) For no person, firm, or corporation engaged in conducting a hotel or restaurant knowingly to have in their employ any person who has an infectious, contagious, or communicable disease.

(6) For the disinfection, by methods prescribed by the State board of health, of every room or bed which has been occupied by any person known to have had an infectious, contagious, or communicable disease at the time of such occupancy before said room shall be occupied by any other person. Penalty: Any person violating the provisions of this section is subject to a fine not exceeding \$300 and to confinement in jail not exceeding six months, or both, at the discretion of the court.

(7) For every hotel to furnish for the use of guests after July 1, 1914, pillow slips and sheets of prescribed size and material, to be washed and ironed after use before being used by another guest.

(8) For all bedding, including mattresses, quilts, blankets, pillows, and all carpets and floor covering used in any hotel in the State to be thoroughly aired, disinfected, and kept clean.

(9) For the fumigation, disinfection, and renovation in every hotel of any room infected with vermin or bedbugs until said vermin or bedbugs are exterminated.

Penalty for violation.—It is made a misdemeanor for any person, firm, or corporation to operate a hotel or restaurant in the State, or to let a building to be used for such purposes, without first having complied with the provisions of the act, subject to a fine of \$5 for each day such failure to comply shall continue.

Enforcement.—The prosecuting attorney of each county in the State is authorized and required, upon complaint on oath of the hotel inspector, or other person or persons, to prosecute to termination before any court of competent jurisdiction, in the name of the State, a proper action or proceeding against any person or persons violating the provisions of this act.

Exceptions.—The provisions of this act do not apply to any hotel or boarding house wherein there are fewer than 10 bed chambers, nor to any hotel or boarding house known as a "summer hotel" which is not open for guests from November 15 to May 15, nor to any hotel where the transient rate is \$1.50 per day or less.

Regulations of the State board of health governing hotel inspection.—

(1) All doors, windows, back porches, where same exist, air passages or openings in hotels and restaurants, lunch wagons or lunch counters in this State shall be properly screened from the 1st day of April to the 15th day of November in each year.

(2) All cooked or prepared food on display shall be kept covered at all times by glass or 16-mesh screen covers, or kept in glass or fine screened cases, to prevent contamination by handling or flies.

(3) All garbage or other matter discarded from kitchens shall be kept in metallic garbage cans which shall be kept clean and always effectively covered to prevent flies from getting in the cans.

(4) It shall be the duty of every person or persons conducting a hotel, restaurant, eating house, or lunch wagon, to keep the premises clean and sanitary, and all floors to be scrubbed sufficiently often to keep them in sanitary condition, and they shall exterminate all ants, roaches, and other insects, and keep premises free from same. They shall also keep all food where rats and mice can not get to it.

(5) All water-closets shall be disinfected each week or more frequently if necessary, to prevent obvious odors or effluvia arising therefrom.

(6) Serving tables and all other utensils and machinery used in handling, moving, cutting, chopping, mixing, or serving food are required to be sterilized through daily cleansing by boiling water or steam. It is also required that "the clothing and hands of cooks, stewards, and waiters must be clean and sanitary."

(7) No person, firm, or corporation engaged in conducting a hotel or restaurant shall knowingly have in their employ any person who has an infectious, contagious, or communicable disease.

The intent of this law is excellent, and most of its provisions are in accord with modern ideas of sanitation. It is unfortunate, however, that an exception has been made in the case of hotels having a per diem rate of \$1.50 or less. Persons whose financial condition necessitates the patronage of moderate-rate hotels and boarding houses are as susceptible to disease and equally capable of transmitting infection to others as are individuals in more affluent circumstances; besides there are more of them. The writer, in the

course of a trachoma survey of the State, found it a not infrequent custom for persons in poor circumstances afflicted with this disease to travel to the larger cities of the State for special treatment. No doubt the majority of such persons patronize moderate-rate hotels and boarding houses which by the law mentioned are exempted from State inspection, wherein no precautions are required to be taken to prevent the spread of communicable diseases. The danger of the further spread of trachoma in the State through such channels is great, and steps should be taken to extend the provisions of the hotel-inspection act to all hotels and boarding houses to safeguard the public health.

The law, moreover, permits the placing of roller towels in the main wash rooms of hotels for the use of persons other than registered guests. Health laws do not respect individuals. It is the duty of the State to protect the general public which may use the wash room of a hotel, as well as protect that of individual guests of such hotel. Much health work can be accomplished only by the education of the public. The educational effect of the abolition of the common towel should not be lost by permitting its use in public places for any purpose whatsoever. This provision of the law might well be repealed with advantage to the public.

Responsibility for the enforcement of this law is not definitely fixed. Prosecuting attorneys are required to prosecute upon the sworn complaint of a hotel inspector, or other person or persons, it is true; but it is optional with such persons to make complaint. Hotel inspectors could with advantage be made appointees under the State department of health to enforce the required rules and regulations of said department governing hotel inspectors. Furthermore, regulations issued in conformity with the act mentioned should have the force and effect of law.

SCHOOL HYGIENE.

The State board of health has issued no regulations concerning the subject of school hygiene. It is invested with no authority other than to examine into and advise as to the ventilation and warming of schoolhouses. In this respect it has less authority than school trustees of subdistricts who have the following duties under the law:

The trustees are directed to visit every school under their charge within two weeks after the opening, and again within two weeks before the close thereof. During such visits they are directed to inspect the school house and grounds, closets, and other outbuildings to see whether they are kept in good order, whether anything injurious to health is supposed to remain about the house or grounds, and whether the school-house is well ventilated and kept clean and comfortable, and when necessary to provide and promptly apply the proper remedy.

The great importance of well-regulated schoolhouse sanitation is receiving increasing recognition by those in position to judge its effects. The need of proper supervision of schoolhouse construction, equipment, and sanitation is a pressing one in most rural communities, and is indicated from social, educational, economic, and health standpoints. Rural school buildings are usually located and constructed without due regard to the requirements in such buildings with respect to the location of windows and provision for a proper amount of light; the best method of arranging and adjusting seats and desks; the necessary supply of fresh air and moisture; the most effective and economical heating arrangement, and the safe disposal of excreta. The child can not take the best advantage of educational opportunities in poorly lighted, badly ventilated schoolrooms. The educational effect of schoolhouse sanitation upon the minds of growing children will result, in the course of time, in improved community sanitation and the betterment of the general health. It is unfortunate that the responsibility for the regulation of matters so important to community health should rest with men not necessarily appreciative of their necessity and relative importance, and who are, in most instances, without the requisite training or experience. The State board of health should be invested with specific authority to make inspections of all school buildings and grounds within the State at stated periods, and to prescribe and enforce rules and regulations governing the ventilation, warming, natural lighting, and excreta disposal therein.

Medical inspection of school children.—The medical inspection of school children in West Virginia is not a duty of either the State or local health authorities. The law directs that the board of education of each independent school district in the State shall, and other boards of education may, appoint one or more practicing physicians in said district to be medical inspectors of schools, to fix their salaries and define their duties.

The duties of medical inspectors of schools are as follows:

(1) To test each pupil in his school once during each school year for any defect or disability that would prevent the pupil receiving the full benefit of the school work.

(2) At the request of the superintendent, to examine any pupil for evidence of infectious and contagious disease or any other condition which might prove harmful to other pupils.

(3) To carefully examine each pupil who has been absent from school for five consecutive days for contagious or infectious disease, except in the case when properly signed and indorsed certificates are presented showing the house from which the pupil comes is free from infectious or contagious disease.

(4) To notify boards of health and education, in writing, of the presence of cases of contagious and infectious diseases found among school children.

(5) When requested by the board of education, to conduct investigations, furnish information and advice, and assist to formulate rules of procedure on matters pertaining to the lighting, heating, ventilating, and sanitation of the school building;

the hours of study, recesses, exercises, and other matters pertaining to the health, vitality, and development of the pupils.

(6) To keep an accurate and complete record of each pupil tested and examined in the following form:

Date.....19..

Pupil.....
 Grade..... School.....
 Parent or guardian.....
 Heart.....
 Lungs.....
 Eyes.....
 Ears.....
 Throat.....
 Teeth.....
 Contagious or infectious disease.....
 Skin disease.....
 Special note.....
 Recommendation.....
 (Signed)..... M. D.,
 Medical Inspector of..... School.

And when any condition is found which, in his opinion, would prevent the pupil receiving the full benefit of the school work or would be a symptom of infectious or contagious disease, notify the parent or guardian and the superintendent of the school attended, using the following form:

....., 19..

The parent or guardian of.....
 attending..... School
 is hereby notified that examination of this pupil shows abnormal condition of.....
 Take the pupil to your family physician for treatment and advice and take this card with you.
, M. D.,
 Medical Inspector,..... School.

On the reverse side is printed:

I have this day examined.....
 of the..... grade,..... School
 and find the following condition.....
 and have advised as follows.....
 (Signed)..... M. D.,
 Physician.

Dated.....

The physician signing will return the card to the pupil, who will return it to the superintendent of the school attended.

When any pupil shall have been absent from school for five consecutive days, statement must be made to the superintendent of the school attended in the following form:

Dated....., 19..

I have this day examined.....
 of the..... School,
 and find this pupil and the house from which the pupil comes to be free from infectious or contagious disease.
 (Signed)..... M. D.,
 Approved.....
, M. D.,
 Medical Inspector..... School.

Other provisions of the law relating to school hygiene are:

(1) To exclude from school any pupil with smallpox, chicken-pox, measles, scarlet fever, tuberculosis, diphtheria, influenza, whooping cough, tonsillitis, mumps, scabies, syphilis, and other venereal diseases, trachoma, or any other contagious disease.

(2) For boards of education, at their discretion, to employ a teacher or nurse "to investigate the sanitary conditions of the pupil and home."

(3) To require applicants for teachers' certificates to pass a satisfactory examination in physiology and hygiene.

(4) To require physiology and hygiene to be taught in the free schools, and in connection therewith the nature of alcoholic drinks and narcotics, with special instruction as to their effect upon the human system.

(5) That when it shall be directed by the county court of any county in the State no child or person residing in the locality in which an epidemic is prevailing shall be admitted to or received into any of the public schools.

Boards of education generally have not taken action to comply with the law and establish medical inspections in schools. In many places where such inspections have been instituted, local physicians in active practice have been appointed medical inspectors of schools, who quite naturally regard this important duty simply as a side issue to the general practice of medicine. School medical inspection, to be effective, should be made by men of special qualifications and training, who should devote practically their whole time to such duty. Inasmuch as it is clearly beyond the means of many communities to employ a specially trained medical inspector solely for such duty in schools, these duties and attached salary could be combined with those of local health officer and thus offer sufficient inducement to secure the whole-time services of a trained sanitarian in such dual capacity.

Legislators have paid but scant attention to the important uses for the protection of the public health which can be made of medical school inspections, by State and local health officers, by the discovery of cases of communicable diseases and the detection of points of infection in communities through the employment of school nurses. Medical inspectors are required by law, it is true, to report to the local health officer cases of communicable disease, but more prompt action and better control of infection would result should such discovery be made by the health officer, in the first place, in the capacity of school examiner.

In the course of a survey for trachoma the writer found a marked prevalence of this disease in several of the counties of the State. In 17 schools of the State over 10 per cent of the children were afflicted with this disease. In 4 of these schools more than 20 per cent of the pupils had trachoma, in 2 schools over 30 per cent, over 40 per cent in 3 schools, and 45 per cent in 1 school. The control of trachoma, a communicable disease of the eyes potentially damaging to vision, in the counties represented by these schools is the duty of the State health administration. Such control can best be brought about by the inspection of school children and their education in the principles of sanitation. By like measures, tuberculosis may be controlled in rural communities, cases of unsuspected tuberculosis may

be discovered, sources of infection brought to light, and means adopted to prevent infection of others.

School medical inspections, therefore, can be made a valuable instrument in the hands of health authorities for the protection of the public health, without lessening the value of such measure from the standpoint of education. Under the present system such inspection is of no benefit to the health authorities and of but limited value by reason of failure to comply with the law, except in a small number of localities, to boards of education. The legislature could, with advantage, place the medical inspection of the school children of the State under the supervision of the State health administration and should invest it with full authority to prescribe and enforce regulations governing such inspections.

The law should be amended to provide for the mental examination of school children, and in connection therewith to secure the proper grouping of children into homogeneous classes according to mental rather than physiological ages.

It should be made the duty of medical inspectors of schools to examine teachers suspected of tuberculosis or other communicable diseases. The employment of persons having such diseases to teach in any of the public schools of the State should be prohibited by specific legislative enactment.

It should be made a specific requirement of the law that all applicants for teachers' certificates should be tested for visual acuity, and that no person found to have a degree of myopia (nearsightedness) of more than six diopters should be granted a certificate to teach in any of the public schools of the State.

CONTROL OF NUISANCES.

In public-health work it is advisable to make a distinction between public and private nuisances, a distinction recognized by modern law. In the case of private nuisances, affecting the individual only, certain remedies are always available, namely, abatement, a suit for damage, and an injunction.

Public nuisances, on the other hand, are of interest to the State health authorities by reason of their potential damage to the health of whole communities and through these, possibly the inhabitants of other localities. Nuisances, from a public-health viewpoint, are embraced in the general test of all nuisances which is in substance the tendency of the prohibited act, thing, or conduct to debase public morals, to endanger the public health, or to interfere unlawfully with the public convenience. Furthermore, in public-health work, it is not necessary under law for a nuisance to operate to the actual production of sickness before being regarded as such.

The laws of West Virginia make specific mention of certain nuisances which may be regarded as having either direct or indirect bearing on the public health. No specific provision is made by the law, however, by which the State board of health is given authority to investigate and take the necessary action to abate nuisances. The following things and acts which may directly or remotely affect the public health are declared nuisances by the laws of West Virginia: Buildings where liquors are sold contrary to law; deposit of dead animals, slops, refuse, spoiled meats or spoiled fish, or the contents of any privy vault in streams, on roads, and on public grounds; failure to provide certain factories, workshops, and tenement houses with fire escapes; obstruction of watercourses.

Municipal councils are given authority to abate, or cause to be abated, anything which in the opinion of a majority of the whole council shall be a nuisance. In the case of difference of opinion with respect to certain nuisances regarded by local boards of health a menace to the public health, or refusal by municipal councils to cause the abatement of nuisances reported by local health boards, the law provides no quick remedy. The State health administration should be invested with authority to take the necessary action in such cases.

County courts are also given authority to abate or remove nuisances prejudicial to the health of the inhabitants of any part of the county.

The State board of health should be invested by law with full authority to inquire into and investigate all nuisances affecting the public health in any county, city, town, or village in the State, and, in case of failure or neglect of local authorities to do so, to take the necessary steps to restrain, prevent, or abate such nuisances, no matter by whom committed.

Under the present law it is not always possible to secure prompt abatement of nuisances which, in some cases, may be necessary to prevent sickness. It should be provided by law, in the event of noncompliance with an order of State or local health officers to abate a nuisance, that applications for injunctions to restrain, prevent, or abate said nuisances should take precedence over all other cases on the docket.

Court decisions relating to nuisances.—

Power may be conferred on boards of health to abate nuisances. (*Waters v. Townsend*, 65 Ark., 613; *Gaines v. Waters*, 64 Ark., 609.)

Such board of health or municipality has abundant powers to declare to be a nuisance and to abate whatever is per se a nuisance at common law, and while such determination may not be final and conclusive, the court should declare it if the uncontradicted evidence establishes a nuisance per se; if not, the case is for jury. (*Commonwealth v. Toet*, 11 Pa. Sup. Ct., 323 (1899).)

Sections 2143-2146 of the Revised Laws of Minnesota, providing for abatement by the State board of health of premises and occupations menacing to public health, are

an exercise of the police power of the State, a sovereign power, for the protection of the public health, comfort, and safety. They are clearly constitutional unless it is an arbitrary and unnecessarily oppressive use of the powers. (*I. L. McMillan Co. v. Minnesota State Board of Health*, 110 Minn., 145.)

EXTENSION WORK.

The State Board of Health of West Virginia is directed, by law, to gather information in respect to the public health and kindred subjects for diffusion among the people. The legislature, however, failed to make a specific appropriation for this purpose. The limited funds available for general health expenditures in the State have greatly hampered the State board of health in taking advantage of the provision of the law for this purpose.

The State board of health, however, has taken advantage of this provision to publish a quarterly health bulletin. The object of this publication is educational and is well set forth in an introductory statement in its initial number, as follows:

For the purpose of informing the public as to what the board is doing in the interest of the public health, of publishing information concerning the prevailing diseases, and also from time to time hints as to the preservation of the health of the individual and the community.

Individuals and communities can not be made healthy by law. All laws devised for the protection of the public health to become effective require the intelligent cooperation of the public. Such intelligent cooperation can be secured only through educational means. It is necessary to instruct the public as to the nature of communicable diseases, the manner of their spread, and the rôle of insanitary customs and habits in causing infection before steps can be successfully taken to secure enforcement of measures of sanitation devised for their suppression. Certainly no successful control of typhoid fever and trachoma prevalence in the State can be maintained without such cooperation, to secure which would justify, from an economic standpoint, the expenditure of a sum much in excess of that now allowed by law for all health purposes in the State.

During the summer months of 1914 the State board of health, through a sanitary survey commission, made an intensive study of the miners employed by certain companies in one county of the State, with a view to determine the prevalence of intestinal parasites among them, the danger from such sources by the introduction of foreign labor, and the responsibility of local conditions for the continuance of diseases due to the presence of these parasites.

In the course of this survey a study of the living conditions of miners was made, personal instruction was given concerning habits that are a menace to the community, and lantern lectures were given illustrating the manner of typhoid transmission and that of the most common intestinal parasites.

Detailed mention is made of this survey because it illustrates the value of extension work, the manner in which it may be carried on, and the pressing need of the State board of health for an effective field force.

Mention has been made of appropriation for the use of the State antituberculosis league for the purpose of instructing the public in methods for the suppression of tuberculosis. It is believed future appropriations of the kind should be expended under the direct supervision of the State health authorities as a part of the educational extension work of the State health organization. Estimates for future appropriations for public-health work in the State should take into consideration the great value of this branch of the work and provide liberally for its continuance under the State department of health.

FINES, PENALTIES, AND FORFEITURES.

The provision of a penalty for noncompliance with the mandates of a given statute gives the enforcing authority an effective weapon with which to secure results. The effectiveness of a law is largely measured by the inclination of those whose duty it is to enforce such law, yet without the provision of a penalty the State board of health would not be in a position to enforce the law, no matter how desirous of so doing.

The statutes of West Virginia prescribe numerous penalties for non-compliance with the provisions of the law relating to the public health, namely:

(1) A penalty of \$10 for failure of accoucheurs and physicians to register their names and post-office addresses with the clerk of the county court wherein they reside.

(2) Making it a misdemeanor knowingly to adulterate or cause to be adulterated any drugs, chemicals, or medicinal preparations, or knowingly to sell such articles, punishable by a fine not exceeding \$100. In the case of a registered pharmacist or an assistant pharmacist, the law directs that his name shall be stricken from the register. Persons adjudged guilty of violating any of the provisions of the food and drugs act are required to pay all necessary costs and expenses incurred in inspecting and analyzing any such adulterated food, drink, and drugs.

(3) Confinement in jail not more than one year and a fine not exceeding \$500 to fraudulently adulterate, for purpose of sale, anything intended for food or drink, or knowingly to sell or barter anything for food or drink which is not what it is represented to be. The law directs that the adulterated or other articles shall be forfeited and destroyed.

(4) Making it a felony, punished by imprisonment, upon conviction, in the State penitentiary not less than 1 nor more than 10 years for each offense, to sell, give away, or otherwise dispense cocaine, alpha or beta eucaine, or any mixture of either, except on the prescription of a licensed physician in good standing, not of intemperate habits or addicted to the use of any drug.

Like penalty is prescribed for any person, except a licensed physician, dentist, or veterinary surgeon, manufacturing pharmacist or chemist, or wholesale or retail pharmacist or druggist, to have in his possession cocaine or alpha or beta eucaine or any mixture of either.

(5) A penalty of \$10 for failure of physicians, accoucheurs, parents, or if none next of kin not a minor, or if none, the resident householder, to report to the clerk of the county court, within 30 days from occurrence, all births and deaths which may come under their supervision.

(6) A penalty of \$10 for failure by coronors and undertakers to report all cases of death which may come under their supervision.

(7) A penalty of \$10 for failure of ministers of the gospel to report marriages celebrated by them.

(8) To fine the clerk of county courts \$100 for every failure to render the required reports of marriage, birth, and death registrations.

(9) To make it a misdemeanor, punishable by a fine of not less than \$10 nor more than \$50, in case of failure of persons, firms, or corporations to observe the provisions of the act prohibiting the use of the common drinking cup in public places or the rules and regulations of the board of health made in relation thereto.

(10) To make it a misdemeanor to deposit dead animals and other proscribed substances in waters used for domestic purposes, and prescribing fine of not less than \$5 nor more than \$100, and, at the discretion of the court, confinement in jail of the county not exceeding 90 days. The law directs that such offender shall be liable to the party injured in a civil action for damages.

(11) To impose a fine of not less than \$5 nor more than \$10 for depositing dead animals, slops, and other proscribed materials in waters, upon the surface of public roads, or public grounds.

(12) To make it a misdemeanor and prescribe a fine of not more than \$100 for failure of practicing physicians to report cases of infectious or contagious diseases that may arise or come under their treatment to county health officers; and of said county health officers to render the required reports of such diseases to the State board of health.

(13) To make any person violating the provisions of the hotel-inspection act requiring the disinfection of rooms occupied by persons with infectious disease subject to a fine not exceeding \$300 and to confinement in jail not exceeding six months, or both, at the discretion of the court.

(14) To make it a misdemeanor for an itinerant physician and vendor of drugs to practice or attempt to practice for a longer time than that for which he has paid a license tax, punishable by a fine of not less than \$100 nor more than \$500.

(15) To make it a misdemeanor for any person to practice or attempt to practice medicine, surgery, or obstetrics in the State without having complied with the provisions of the law, and subject to a fine of not less than \$50 nor more than \$500, or imprisonment in the county jail not less than 1 month nor more than 12 months, or both fine and imprisonment, at the discretion of the court.

(16) To make it punishable by confinement in the penitentiary not less than 1 nor more than 3 years, or imprisonment in the county jail not less than 6 nor more than 12 months, and a fine of not less than \$100 nor more than \$500, at the discretion of the court, for any person to file or attempt to file as his own the diploma or certificate of another, or to file or attempt to file a false or forged affidavit of his identity, or willfully to swear falsely to any question which may be propounded to him on examination, in an attempt to evade the provisions of the law regulating the practice of medicine.

(17) To make marriage within prohibited degrees punishable by confinement in jail not more than six months, or fine not exceeding \$500, or both, at the discretion of the court.

(18) To prescribe a fine of not less than \$50 nor more than \$500, or imprisonment in the county jail not less than 10 nor more than 90 days for violation of the provisions for the ventilation of mines by the operator, agent, or mine foreman.

(19) To make it a misdemeanor to violate the provisions of the law providing for the registration of nurses, punishable by a fine of not more than \$500.

(20) To make it punishable by a fine for each offense to practice optometry within the State without a certificate.

(21) To make the violation of certain provisions of the act to regulate the sale of narcotic drugs a misdemeanor, punished, upon conviction for the first offense, by a fine of not less than \$25 nor more than \$50; for the second offense, not less than \$50 nor more than \$100; and upon conviction for a subsequent offense, a fine of not less than \$100 nor more than \$200, and to be imprisoned in the county jail for not more than six months. The law directs, in the case of a licensed pharmacist, physician, dentist, or veterinary surgeon, his license shall be revoked.

(22) To make it a misdemeanor to refuse to obey the orders and direction of local boards of health in enforcing quarantine, punished by a fine of not less than \$25 nor more than \$100.

(23) To make it a misdemeanor for the person in charge willfully to fail or refuse to stop a railroad train, coach, or vehicle on the demand of boards of health, punished by a fine of not less than \$25 nor more than \$100.

(24) To make it punishable by confinement in jail not more than six months and fine not exceeding \$100, knowingly to sell or expose for sale any diseased, corrupted, or unwholesome drugs or provisions, whether food or drink, without making the same known to the buyer.

(25) To make it a misdemeanor to neglect to connect buildings with sewers when directed by municipal boards of health, punishable by a fine not less than \$5 nor more than \$25 for each day's failure to comply with such notice, after 10 days after such notice is given.

(26) To make it a misdemeanor for any physician to issue a false certificate of vaccination, punishable by a fine not less than \$20 nor more than \$100.

(27) To require a forfeit of \$10 by an assessor of taxes for every failure to procure and to record certain information required of him by law respecting a marriage, birth, or death.

(28) To require a forfeit not less than \$50 nor more than \$300 for every such offense by any person, upon whose information or statement any record or registration may lawfully be made under the law, to give false information as to vital statistics.

Although numerous fines, penalties, and forfeitures may be imposed under the law to secure compliance with its provisions for the protection of the public health, the effect has not been satisfactory in this respect. This is due, no doubt, to the fact that the law, in so many instances, is not sufficiently specific in the designation of the authority under which its provisions are to be enforced.

It should be the duty of the State health authorities to enforce all laws relating to the public health. The State commissioner of health should be required by law to take cognizance of all failures to comply with the provisions of such laws, and should be given full authority to take the steps necessary to secure the imposition of the penalties prescribed for such noncompliance.

INDUSTRIAL HYGIENE.

The law does not give the State Board of Health of West Virginia authority to maintain sanitary conditions in industrial plants or to suppress the occurrence of preventable occupational diseases. The

present law, in fact, does not provide for the notification of occupational diseases; therefore, the prevalence of disease due to State industries is a matter of conjecture, a condition which causes the necessity of such control to be less apparent.

The duties of the State board of health, regulating industrial sanitary conditions, are as follows:

(1) To make, or cause to be made, sanitary investigations and inquiries respecting the cause of diseases and the means of prevention, especially the effects of localities, employments, habits, and circumstances of life on the public health.

(2) To enter into any factory within the limits of the State for the purpose of investigating the sanitary and hygienic conditions.

(3) To examine into and advise as to the ventilation and warming of workshops.

(4) To examine into and advise as to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases.

Medical school inspectors, when requested by boards of education, are required by law to conduct investigations, furnish information, and advise and to formulate rules of procedure on matters pertaining to the lighting, heating, ventilation, and sanitation of school buildings.

It is the duty of the State commissioner of labor or his assistants, however, to enforce the provisions of the act to protect the health of the employees in the manufacturing establishments of the State.

The provisions of the law to safeguard the health of persons engaged in occupations are as follows:

(1) For every factory, workshop, or other establishment of the State where females are employed where unclean work of any kind has to be performed, to provide suitable places for such females to wash and to change clothing * * * and provide separate water-closets for the use of employees of either sex in all manufacturing, mechanical, mercantile, and other establishments in the State where persons of both sexes are employed.

(2) For all establishments to which the act applies to be kept in a clean condition; the sanitary and hygienic regulations to be such as will not endanger or be injurious to the lives or health of the employees employed therein.

(3) To make it a misdemeanor, under the law, for any person or persons, firm, or corporation of any manufacturing, mechanical, mercantile, or other establishment, business, or calling in the State in which the act applies to violate any of its provisions. Penalty: A fine of not less than \$20 nor more than \$100, and in default of payment of such fine imprisonment until such fine and costs are fully paid.

Remarks.—The wording of the statute (acts 1901, chs. 19, 85) should be changed to convey the intent of the law and should read: The sanitary and hygienic regulations shall control and correct conditions which may endanger or be injurious to the lives or health of the employees employed therein.

The State board of health is the proper State organization, because of the special training and experience of its members, to frame such regulations. It should be given, therefore, full authority, with fixed responsibility, to make and enforce sanitary and hygienic regulations governing health conditions in all such establishments.

The sole duty of the State board of health, with respect to the great mining industry of the State, is to act in an advisory capacity with respect to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases. The ventilation of coal mines is an operation requiring great technical skill and is devised, primarily, to prevent explosions. The law requires the operator, agent, or mine foreman of every coal mine, whether worked by shaft, slope, or drift, to provide and maintain for every such mine ample means of ventilation, the requirements for which are in excess of that demanded for purposes of sanitation.

The State health authorities could more properly and with greater hope of benefit to community health be required to regulate the disposal of human excrement in coal mines to safeguard the water supply of mining communities.

It is as much the duty of the State to protect the health of the men, women, and children of the State engaged in industrial occupations as it is to protect them from injury through preventable accidents. The State board of health should be empowered by law and provided with sufficient force not only to make or cause to be made investigations and inquiries respecting the cause of diseases due to employments within the State, but also to prescribe and enforce regulations to correct harmful conditions wherever found. Moreover, the State board of health should be given the sanitary supervision of all labor and construction camps within the State with authority, under strict responsibility, to make and enforce regulations not only to protect the health of individuals employed therein, but to safeguard that of the communities in which such camps may be located.

APPROPRIATIONS AND EXPENDITURES.

Appropriations to the State Board of Health of West Virginia have never been in sufficient amount to enable the board to properly exercise the powers and discharge the duties imposed by law. The State board of health has been hampered in its activities from the beginning of its organization by reason of insufficient appropriations. The exact language of the original organization act in this respect is interesting, namely:

The sum of \$1,000 is hereby appropriated to pay the salary of the secretary and to meet all the contingent expenses of the officers of the board of every kind and nature whatsoever.

Subsequent appropriations to the State board of health have not exceeded the sum of \$2,500 in any one year up to 1913, when the last regular session of the legislature appropriated to the use of the board \$15,000 per annum for the years 1913 and 1914. The State board must have adequate funds and needful assistance to do effective health work. It should be remembered that appropriations for this

work that are inadequate, which do not permit the employment of necessary field, laboratory, and administrative forces for effective work, is a waste of money. On the other hand, an appropriation commensurate with the importance of safeguarding the public health, of putting a stop to the ravages of typhoid fever and other preventable diseases within the State, is an investment which will return interest far greater than at the rates of usury.

West Virginia is not as liberal with appropriations for health work as her neighbors. For example, in 1914 West Virginia, with a land area of 24,022 square miles and an estimated population of 1,326,046, appropriated only \$15,000 for health work. Maryland, a neighboring State, with a land area of 9,941 square miles and an estimated population of 1,337,342, appropriated \$145,000 for this purpose during the same period. In this respect the following table, prepared by Fox, is of interest:

Table showing the total revenues of certain States and the amount expended by the State departments of health.

[The tables showing the "Total expenditures, appropriations, or revenues for one year" and "Expenses for State health department for one year" were obtained from the last available reports of State auditors, comptrollers, or treasurers, or from figures kindly furnished by the secretaries of State departments of health. Some inaccuracies may have occurred in gathering together these figures, but they should interfere but little with the purpose of the table.]

State.	Population estimated as of July 1, 1911.	Total expenditures, appropriations, or revenues for one year.		Expenses for State health department for one year.	Percentage of total expenditures for work of State health department.
		Amount.	Designation.		
Massachusetts.....	3,454,813	\$15,760,351.07	Expenses, 1912.....	\$167,600.00	0.0106
Washington.....	1,218,330	7,812,627.56	do.....	15,000.00	.0019
Michigan.....	2,867,794	7,445,519.60	Expenses, 1911.....	45,500.00	.0061
Minnesota.....	2,099,451	19,313,793.96	Receipts, 1912.....	61,886.91	.0032
Rhode Island.....	558,108	3,184,761.09	Expenses, 1912.....	17,000.00	.0053
Connecticut.....	1,140,003	6,423,287.91	Appropriation, 1913.....	22,509.00	.0035
Oregon.....	672,765	4,366,047.00	Estimated appropriation, 1912.....	36,000.00	.0082
Virginia.....	2,061,612	6,600,000.00	Appropriation, 1913.....	35,000.00	.0053
Vermont.....	357,463	2,000,000.00	Appropriation, 1912.....	25,100.00	.0125
Kansas.....	1,690,949	4,320,183.50	Appropriation, 1914.....	30,550.00	.007
Indiana.....	2,723,441	11,370,969.00	Expenses, 1912.....	83,000.00	.007
Maine.....	748,233	5,366,785.75	do.....	18,250.00	.0034
New Jersey.....	2,634,583	9,657,366.11	Receipts, 1912.....	115,425.00	.012
California.....	2,486,757	8,598,502.00	Estimated appropriation, 1912.....	119,600.00	.013
New York.....	9,372,954	50,337,233.00	Receipts, 1913.....	198,510.49	.0039
Pennsylvania.....	7,831,890	29,132,646.00	Expenses, 1913.....	525,084.50	.018

The following, in general terms, were the disbursements of the State board of health for the fiscal year ended June 30, 1914:

Salaries.....	\$6,799.35
Traveling expenses.....	1,504.02
Laboratory.....	2,814.64
Miscellaneous.....	968.14
Disbursed in error.....	623.84
Total	12,709.99

Of this amount, \$800 was expended in the investigation of hook-worm, \$100 for the prosecution of illegal practitioners, and \$50 for vaccine virus. The amount expended for salaries includes the salary of the secretary of the State board of health, his stenographer, and that of the two assistants in the hygienic laboratory.

It has been said that a State, to do effective public-health work, should appropriate 2 per cent of its total revenue to the health department. On this basis West Virginia should have available more than \$100,000 for this purpose, yet up to the present time \$15,000 has been the maximum appropriation to the State board of health in any one year.

HEALTH ACTIVITIES CARRIED ON BY OTHER AGENCIES.

A number of the provisions of the law for the protection of the public health are administered by other agencies than the State board of health. This is shown in the following table:

Activities.	Administration.
Control of insane asylums, miners' hospitals, schools for the deaf and blind, and State tuberculosis sanitarium.	State board of control.
Enforcement of food-and-drug law	Prosecuting attorneys. Hotel inspectors assist in.
Inspection of dairy herds	State board of agriculture.
Inspection of factories	State commissioner of labor.
Inspection of hotels	Hotel inspectors.
Inspection of school buildings	Board of school trustees.
Inspection of schools	Board of education.
Investigation of water supplies furnished by persons, firms, or corporations, under charter, to municipalities.	State public service commission.
Registration of embalmers	Board of examiners.
Registration of nurses	Do.
Registration of optometrists	Do.
Regulation practice of dentistry	Do.
Regulation practice of pharmacy	Do.
Vaccination, compulsory	County courts.
Ventilation of mines	Mine foremen.

OFFICERS AND MEMBERS OF THE STATE BOARD OF HEALTH.

Dr. W. W. Golden, president, Elkins.

Dr. S. L. Jepson, secretary, Wheeling.

Dr. J. L. Pyle, Chester.

Dr. J. H. Shipper, Gerrardstown.

Dr. J. E. Robins, Charleston.

Dr. J. A. Rusmisell, Buckhannon.

Dr. H. M. Rymer, Harrisville.

Dr. W. J. Davidson, Parkersburg.

Dr. H. A. Barbee, Point Pleasant.

Dr. H. A. Brandenburg, Huntington.

Dr. G. D. Lind, Ph. D., Greenwood.

Dr. George P. Daniel, Marshes.

Committee on bulletin.—Dr. S. L. Jepson, Dr. G. D. Lind, Dr. W. W. Golden.

HYGIENIC LABORATORY.

Dr. John N. Simpson, director.

Alexander R. Whitehill, A. M., Ph. D., chief chemist; Mr. Dietrich C. Oudshoorn, assistant chemist; Dr. Aaron Arkin, Ph. D., chief bacteriologist and pathologist; Emanuel Fink, B. Sc., assistant bacteriologist and pathologist; Wm. H. Schultz, Ph. D., consulting pharmacologist.

CONCLUSIONS.

The main conclusions reached in the foregoing study of the public health administration in West Virginia are as follows:

(1) The State public health administration is in need of reorganization.

(2) The State board of health has never been provided, since its establishment, with adequate funds to successfully administer its duties in controlling disease.

(3) The State board of health is not invested with the necessary authority or funds to employ and utilize trained assistants and adequate laboratory and field forces to make the investigations now required by the law or to effectively enforce its provisions for the protection of the public health.

(4) The State board, as now constituted, has too large a membership for effective work.

(5) The State board of health is hampered in the control of communicable disease by lack of an effective sanitary organization.

(6) The law requires reports of only the contagious and infectious diseases. This law has not been enforced and is inadequate.

(7) The present system of registration of marriages, births, and deaths is ineffective.

(8) The State board, meeting at infrequent intervals to examine applicants for license to practice medicine, can not at the same time be a successful sanitary organization.

(9) The present State health organization has but limited power to compel the abatement of nuisances.

(10) There is need of amplification of the discretionary powers of the State board relating to public water supplies, stream pollution, excreta disposal, and the sanitation of public buildings, public institutions, and labor camps.

(11) Many of the sanitary duties of the board, under the law, are circumscribed and are shared by other agencies.

(12) The general relationship of municipal health boards to the State board of health is not clear under the present law.

(13) Enforcement of the food and drug law is unsatisfactory.

(14) There is need of specific law to control and prevent the pollution of streams and other sources of public water supplies within the State. The laws intended to prevent stream pollution are not sufficiently comprehensive, and the responsibility for their enforcement rests in more than one department of the State administration.

(15) The exemption from inspection of hotels and boarding houses which have a per diem rate of \$1.50 or less, is not warranted from a hygienic standpoint.

(16) There is but a limited compliance with the act requiring medical inspection of school children.

(17) The need of the establishment by the State board of health of the minimum requirements for milk production within the State is apparent.

(18) The usefulness of the hygienic laboratory is hampered by lack of branch laboratories for the prompt diagnosis of disease in distant localities.

(19) The present quarters of the hygienic laboratory are too restricted for effective work.

(20) The State tuberculosis sanitarium could be made an educational factor in the suppression of tuberculosis under the control of the State board of health.

(21) The State board of health has been concerned with the regulation of the practice of medicine within the State, almost to the exclusion of other duties more closely related to the protection of the public health, by reason of the small appropriations for all public health purposes.

RECOMMENDATIONS.

The following recommendations are based on conclusions reached after a study of the public health administration of West Virginia and an analysis of the laws under which it is conducted.

(1) That a State department of health be created to exercise all the powers and duties now conferred and imposed by law on the State board of health.

(2) That a commissioner of health be appointed to be the administrative head of the State department of health.

(3) That a public health council or board be created, to consist of not more than six members, and that of this membership one be a lawyer, one a civil or sanitary engineer. Said council to be advisory to the State commissioner of health.

(4) That the commissioner of health be granted full authority to administer the health laws and regulations and to appoint and remove minor employees.

(5) That the public health council be empowered to promulgate rules and regulations and to discharge the duties now required by law of the State board of health other than administrative and executive.

(6) That the rules and regulations, not inconsistent with the law, promulgated by the public health council be given the force and effect of law and be made the minimum requirements in localities throughout the State.

(7) That there be created a division of preventable diseases, a division of sanitary engineering, a division of food and drugs, and a division of vital statistics in the State department of health, for the more effective administration of the laws relating to these respective branches of health work.

(8) That each division in the State department of health be administered by a director, under the supervision of the State commissioner of health.

(9) That the State be divided into not less than six sanitary districts, each sanitary district to be under the charge of a district health officer, who should engage in no other occupation.

(10) That district health officers in each sanitary district be given full authority, under the supervision of the State commissioner of health, to administer the health laws of the State and the rules and regulations that may be promulgated by the public health council.

(11) That the model State law for morbidity reports adopted by the eleventh annual conference of State and Territorial health officers with the United States Public Health Service be adapted to the requirements of West Virginia and enacted into law.

(12) That a law for the registration of marriages, births, and deaths occurring within the State be adopted which shall fulfill the requirements of the Director of the United States Census for such registrations; and that the administration of such law be in charge of the director of the division of vital statistics under the supervision of the State department of health.

(13) That the State department of health be given authority to inspect and examine food, drink, and drugs offered for sale or public consumption, and be made responsible for the enforcement of the food and drug laws of the State.

(14) That the State department of health be empowered to make rules and regulations, not inconsistent with law, regulating the character and location of drainage, water supply, sewers, and disposal of sewage, garbage, or other waste material of cities, towns and villages, offensive trades, and labor camps.

(15) That the State department of health be granted authority to make inspections and regulate sanitary conditions in all industrial establishments and other places employing labor within the State for the protection of employees and the prevention of occupational diseases.

(16) That the State commissioner of health be empowered to take the necessary steps to prevent or abate all nuisances affecting the public health in any county, city, town, or village within the State.

(17) That in the event of the adoption by the State of a uniform municipal incorporating law, prior to its adoption there be incorporated in it a provision to insure uniformity of local health organization and administration and responsibility of all local boards to the State health administration.

(18) That the State commissioner of health be authorized to enforce the rules and regulations of the State department of health, and to exercise all the powers given to local health authorities when

any local health authority shall fail or refuse to enforce necessary laws and regulations to prevent the spread of communicable diseases.

(19) That the State health department be authorized to promulgate regulations to provide clean and safe milk within the State.

(20) That the regulations promulgated by the State department of health to provide clean and safe milk be made the minimum requirements to be enforced by local health authorities within the State.

(21) That the State tuberculosis sanatorium be removed from the management of the State board of control, and transferred, with all its duties and functions, to the division of preventable diseases of the State department of health.

(22) That, in the event of the creation of a State department of health, the State board of health, as now constituted, be thereafter designated the State board of medical examiners, with the sole duty to examine all applicants for license to practice medicine within the State.

(23) That future appointments to the State board of medical examiners be made in such manner that, at the expiration of the term of office of all the present members of the State board of health who may have become members of the State board of medical examiners, said board shall consist of only six members.

(24) That more liberal appropriations be made to the hygienic laboratory and more adequate quarters be provided.

(25) That a branch of the hygienic laboratory be established in each sanitary district of the State when necessary for the prompt diagnosis of communicable diseases.

(26) That compulsory vaccination or quarantine be directed and enforced only by the State department of health and local health authorities; and that no other agency be authorized to provide vaccine for free distribution within the State.

(27) That the State department of health be empowered to take measures and prescribe rules and regulations to control typhoid fever and other water-borne diseases within the State.

(28) That the State health authorities be given general supervision and control of streams and other sources of public water supply in the State in so far as their sanitary and physical condition may affect the public health.

(29) That the design and construction of all proposed water and sewerage systems, sewer extensions, and refuse-disposal plants, within the State, be subject to the written approval of the State health authorities.

(30) That municipalities within the State having water and sewerage systems be required to file with the State health authorities complete sets of the plans and specifications of such water and sewerage systems.

(31) That municipalities be authorized to raise sums of money to secure safe and wholesome water supply and to secure the safe disposal of sewage in addition to the amount such municipalities are now authorized to raise by law for corporation purposes.

(32) That all sums of money authorized to be raised for purposes of municipal sanitation, in excess of that now authorized by law for corporation purposes, be expended on the approval and under the supervision of the State health authorities.

(33) That the State health authorities be empowered to establish bacteriologic and other standards of maximum permissible contamination of public water supplies and to compel the maintenance of such standards by approved and appropriate methods.

(34) That the State health authorities be given power to order and compel the construction and maintenance of sanitary privies at all schools, public buildings, and other public institutions where privies are in use.

(35) That at least 2 per cent of the total appropriations of every county within the State be set aside for the improvement and protection of the public health therein.

(36) That provision be made whereby two or more towns, or counties, or towns and counties may combine, for purposes of public health administration, and for the employment of trained health officers to devote their whole time to such duty.

(37) That provision be made whereby school hygiene, including inspections of school children, be placed under the control of the State health organization, and that wherever possible the duties and pay of local health officers and medical school inspectors be combined to secure the whole-time services of trained officers in such dual capacity.

(38) That the investigation of the prevalence of trachoma be extended; and that inexpensive hospitals for the treatment of this disease be established and maintained in the heavily infected localities in the State.

(39) That the law be amended to require inspections of all hotels and boarding houses within the State to correct insanitary and unhygienic conditions.

(40) That it be made unlawful to maintain towels for common use in any public place within the State.

(41) That all itinerant physicians and vendors of drugs within the State be required to furnish proof of their fitness to prescribe and dispense drugs, in addition to the imposition of a special tax now exacted by the law.

(42) That the salary of the State commissioner of health be not less than \$5,000 per annum.

(43) That the salaries of district health officers be not less than \$2,000 per annum.

(44) That the salaries of directors of divisions be not less than \$2,500 per annum each.

(45) That the State health organization be provided with suitable offices, necessary equipment, and adequate clerical, laboratory and field forces to effectively administer the public health laws of the State.

(46) That not less than \$65,000 be appropriated annually to defray the expenses of the reorganization of the State health organization and the carrying on of its work.

(47) That a special appropriation of \$3,000 be made to carry on extension work in connection with the education of the public in sanitation and in the control of preventable diseases.

(48) That members of the public health council and members of the State medical examining board be allowed \$10 per diem and other necessary expenses while in the discharge of their duties in lieu of the present allowance.

(49) That the State commissioner be allowed necessary traveling and other expenses when attending meetings and conferences, beyond the limits of the State, in the interest of the public health.

BIOLOGICAL PRODUCTS.

ESTABLISHMENTS LICENSED FOR THE PROPAGATION AND SALE OF VIRUSES, SERUMS TOXINS, AND ANALOGOUS PRODUCTS.

The following table contains a list of the establishments holding, on December 31, 1914, licenses issued by the Treasury Department in accordance with the act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes."

The number of the license of each firm is also given, together with the names of the several products for which licenses have been granted.

No. of license.	Establishments.	Products.
1	Parke, Davis & Co., Detroit, Mich.....	Antigonococic serum; antimeningococic serum; antirabic virus; antistreptococic serum; antitetanic serum; antitubercle serum; diphtheria antitoxin; erysipelas and prodigious toxin; normal horse serum; thyroidectomized horse serum; tuberculin; vaccine virus; bacterial vaccines made from acne bacillus, acne diplococcus, colon bacillus, Friedlander bacillus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudo-diphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus; and modified bacterial derivatives prepared from colon bacillus, diphtheria bacillus, gonococcus, pneumococcus, pyocyanus bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, and streptococcus pyogenes.

No. of license.	Establishments.	Products.
2	H. K. Mulford Co., Philadelphia, Pa...	Antianthrax serum; antidyenteric serum; antimeningococcal serum; antipneumonic serum; antirabic virus; antistreptococcal serum; antitetanic serum; diphtheria antitoxin; normal horse serum; tuberculin; vaccine virus; bacterial vaccines prepared from acne bacillus, cholera vibrio, colon bacillus, diphtheria bacillus, Friedlander bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, micrococcus neoformans, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, plague bacillus, pneumococcus, pseudodiphtheria bacillus, pyocyanus bacillus, staphylococcus albus, staphylococcus aureus, streptococcus pyogenes, and typhoid bacillus; and sensitized bacterial vaccines prepared from acne bacillus, colon bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus pyogenes, and typhoid bacillus.
3	Dr. H. M. Alexander & Co., Marietta, Pa.	Antirabic virus; antitetanic serum; antityphoid vaccine; diphtheria antitoxin; normal horse serum; tuberculin; and vaccine virus.
6	The Sloc Laboratories, Swiftwater, Pa.	Antistreptococcal serum; antitetanic serum; diphtheria antitoxin; normal horse serum; and vaccine virus.
8	The Cutter Laboratory, Berkeley, Cal..	Antimeningococcal serum; antipneumococcal serum; antirabic virus; antistreptococcal serum; antitetanic serum; diphtheria antitoxin; normal horse serum; tuberculin; vaccine virus; and bacterial vaccines prepared from acne bacillus, colon bacillus, Friedlander bacillus, gonococcus, meningococcus, micrococcus catarrhalis, pertussis bacillus, pneumococcus, staphylococcus, streptococci, and urethral diphtheroid bacillus.
9	Frederick Stearns & Co., Detroit, Mich.	Diphtheria antitoxin; pneumolytic serum; and streptolytic serum.
11	Institut Pasteur de Paris, Paris, France.	Antidyenteric serum; antimeningococcal serum; antiplague serum; antiplague vaccine; antistreptococcal serum; antitetanic serum; antivenomous serum; and diphtheria antitoxin.
12	Chemische Fabrik auf Actien, Berlin, Germany.	Antigonococcal vaccine; antistreptococcal serum; diphtheria antitoxin; and tuberculin.
14	Bureau of Laboratories, Health Department, New York City.	Antigonococcal serum; antimeningococcal serum; antipneumococcal serum; antirabic virus; antistreptococcal serum; antitetanic serum; diphtheria antitoxin; normal horse serum; old tuberculin; vaccine virus; and bacterial vaccines prepared from glanders bacillus, gonococcus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus pyogenes, and typhoid bacillus.
16	National Vaccine and Antitoxin Institute, Washington, D. C.	Diphtheria antitoxin; normal horse serum; vaccine virus; and bacterial vaccines prepared from colon bacillus, Friedlander bacillus, gonococcus, micrococcus catarrhalis, micrococcus tetragenus, paratyphoid bacillus A, paratyphoid bacillus F, pneumococcus, pseudo-diphtheria bacillus, pyocyanus bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus.
17	Lederle Antitoxin Laboratories, Pearl River, N. Y.	Antigonococcal serum; antimeningococcal serum; antipneumococcal serum; antirabic virus; antistreptococcal serum; antitetanic serum; diphtheria antitoxin; normal horse serum; vaccine virus; and bacterial vaccines prepared from acne bacillus, cholera vibrio, colon bacillus, Friedlander bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, plague bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus.
18	Burrhoughs, Wellcome & Co., London, England.	Anticolon bacillus serum; antidyenteric serum; antigonococcal serum; antimeningococcal serum; antistaphylococcal serum; antistreptococcal serum; antitetanic serum; antityphoid serum; diphtheria antitoxin; normal horse serum; tuberculin; and bacterial vaccines prepared from acne bacillus, cholera vibrio, colon bacillus, influenza bacillus, gonococcus, micrococcus catarrhalis, micrococcus melitensis, pneumococcus, septus bacillus, staphylococci, streptococci, and typhoid bacillus.
19	Serum Division, Memorial Institute for Infectious Diseases, 637 South Wood Street, Chicago, Ill.	Diphtheria antitoxin.

No. of license.	Establishments.	Products.
21	Swiss Serum and Vaccine Institute, Berne, Switzerland.	Antidysenteric serum, antimeningococci serum, anti-plague serum, antipneumonic serum, antistreptococci serum, antitetanic serum, diphtheria antitoxin, tuberculin, and bacterial vaccines prepared from cholera vibrio, colon bacillus, plague bacillus, pneumococcus, staphylococci, streptococci, and typhoid bacillus.
22	Institut Bactériologique de Lyon, Lyon, France.	Antidiphtheric serum and normal goat serum.
23	Bacterio - Therapeutic Laboratory, Asheville, N. C.	Tuberculin.
24	Farbwerke, vormals Meister Lucius und Brüning, Hoechst on Main, Germany.	Antidysenteric serum, antimeningococci serum, anti-pneumonic serum, antistreptococci serum, antitetanic serum, diphtheria antitoxin, tuberculin.
27	Institut Pasteur de Lille, Lille, France.	Antivenomous serum.
29	The Behringwerk, Marburg, Germany.	Antitetanic serum and tuberculin.
30	Dr. G. H. Sherman, Detroit, Mich.	Bacterial vaccines prepared from acne bacillus, colon bacillus, Friedlander bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, nonvirulent tubercle bacillus, and typhoid bacillus.
31	E. Merck, Darmstadt, Germany.	Antimeningococci serum, antipneumonic serum, antistreptococci serum, diphtheria antitoxin, jequiritolserum, leucofermantin (antitryptic sheep serum), normal horse serum (liquid and dried), tuberculin, and bacterial vaccines prepared from colon bacillus, dysentery bacillus, gonococcus, pneumococcus, staphylococci, streptococci, and typhoid bacillus.
32	Kalle & Co., Biebrich, Germany.	Tuberculin (Rosenbach.)
35	Dr. Carl Spengler, Davos-Platz, Switzerland.	I. K. immune blood.
38	Laboratorio di Terapia Sperimentale (Bruschetini), Genoa, Italy.	Tuberculosis serum vaccine; and tuberculosis vaccine.
39	Pharmaceutisches Institut Ludwig Wilhelm Ganz Oberursel bei Frankfurt a. M., Germany.	Antidysenteric serum.
40	Hygienic Laboratory, California State Board of Health, Berkeley, Cal.	Antirabic virus; and sensitized typhoid vaccine.
43	The Abbott Laboratories, Abbott Alkaloidal Co., Chicago, Ill.	Bacterial vaccines prepared from acne bacillus, colon bacillus, Friedlander bacillus, gonococcus, pneumococcus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus.
45	Beebe Biological Laboratories, Lowry Annex, St. Paul, Minn.	Bacterial vaccines prepared from staphylococci and streptococci.
46	New York Pasteur Institute, 361 West Twenty-third Street, New York City.	Antirabic virus.
48	Inoculation Department, St. Mary's Hospital, London, England.	Pollicine; and bacterial vaccines prepared from acne bacillus, gonococcus, influenza bacillus, pneumococcus, staphylococci, and streptococci.
49	Dr. W. T. McDougall, 707 Parallel Avenue, Kansas City, Kans.	Antirabic virus.
50	St. Louis Pasteur Institute, 803 North Garrison Avenue, St. Louis, Mo.	Do.
51	The Upjohn Co., Kalamazoo, Mich.	Bacterial vaccines prepared from colon bacillus, Friedlander bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, micrococcus tetragenus, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus.
52	E. R. Squibb & Sons' Research and Biological Laboratories, New Brunswick, N. J.	Antigonococci serum; antimeningococci serum; antirabic virus; antistreptococci serum; antitetanic serum; diphtheria antitoxin; leucocyte extract; normal horse serum; and bacterial vaccines prepared from acne bacillus, colon bacillus, gonococcus, meningococcus, pneumococcus, pertussis bacillus, pyocyaneus bacillus, staphylococci, streptococci, and typhoid bacillus.
53	Laboratory of Clinical Pathology, 1208 Wyandotte Street, Kansas City, Mo.	Antirabic virus.
54	Dr. James McI. Phillips, 2057 North High Street, Columbus, Ohio.	Do.
55	Chemische Fabrik Güstrow, Güstrow i. M., Germany.	Staphylococcus vaccine.
56	Eli Lilly & Co., Indianapolis, Ind.	Diphtheria antitoxin; normal horse serum; vaccine virus; and bacterial vaccines prepared from colon bacillus, gonococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pneumococcus, pyocyaneus bacillus, staphylococcus albus, staphylococcus aureus, streptococcus pyogenes, and typhoid bacillus.

PLAGUE-ERADICATIVE WORK.

CALIFORNIA.

The following report of plague-eradivative work in California for the week ended January 2, 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:	
Inspections of work under construction.	266
Basements concreted (square feet, 157,349).....	88
Floors concreted (square feet, 447,156) ..	37
Yards, passageways, etc. (square feet, 154,103).....	136
Total area of concrete laid, square feet..	759,108
Class A, B, and C (fireproof) buildings:	
Inspections made.....	208
Roof and basement ventilators, etc., screened.....	1,190
Wire screening used, square feet.....	5,872
Openings around pipes, etc., closed with cement.....	3,528
Sidewalk lens lights replaced.....	3,200
Old buildings:	
Inspections made.....	198
Wooden floors removed.....	35
Yards and passageways, planking removed.....	12
Cubic feet new foundation walls installed.....	8,750

RAT PROOFING—continued.

Old buildings—Continued.	
Concrete floors installed (square feet, 29,508).....	29
Basements concreted (square feet, 23,150).....	20
Yards and passageways, etc., concreted (square feet, 45,474).....	58
Total area concrete laid, square feet...	98,192
Floors rat proofed with wire cloth (square feet, 6,750).....	7
Buildings razed.....	17
New garbage cans stamped "Approved" ..	565
Nuisances abated.....	280

OPERATIONS ON THE WATERFRONT.

Vessels inspected for rat guards.....	23
Reinspections made on vessels.....	13
New rat guards procured.....	8
Defective rat guards repaired.....	14
Vessels on which cargo was inspected.....	2
Amount of cargo inspected and description of same:	

	Condi- tion.	Rat evidence.		Condi- tion.	Rat evidence.
Steamers President and Admiral Farragut from Seattle: 120 boxes milk and household goods. 205 cases milk and salmon.	O. K....	None.	Steamers President and Admiral Farragut from Seattle—Continued. 500 sacks flour..... 40 tubs cheese.....	O. K.... O. K....	None. None.

Rats trapped on wharves and water front...	26
Rats trapped on vessel.....	14
Traps set on wharves and water front.....	181
Traps set on vessel.....	88
Vessels trapped on.....	12
Poisons placed on water front (pieces).....	1,800
Poisons placed within Panama-Pacific International Exposition grounds.....	3,600
Bait used on water front and vessels, bacon (pounds).....	6
Amount of bread used in poisoning water front (loaves).....	6
Pounds of poison used on water front.....	3

RATS COLLECTED AND EXAMINED FOR PLAGUE.	
Collected.....	206
Examined.....	130
Found infected.....	0

RATS IDENTIFIED.

Mus norvegicus.....	78
Mus musculus.....	35
Mus alexandrinus.....	41
Mus rattus.....	52

Squirrels collected and examined for plague.

Contra Costa County.....	19
San Benito County.....	16
Total.....	35
Found infected.....	0

Ranches inspected and hunted over.

Contra Costa County.....	15
San Benito County.....	4
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	None.....	398 rats.
Oakland.....	Aug. 9, 1911	Dec. 1, 1908	do.....	126 rats.
Berkeley.....	Aug. 28, 1907	None.....	do.....	None.
Los Angeles.....	Aug. 11, 1908	do.....	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).....	Sept. 24, 1909	Oct. 17, 1909 ¹	Aug. 7, 1914	286 squirrels. 1 wood rat.
Contra Costa.....	May 17, 1914	None.....	Oct. 23, 1914	1,565 squirrels.
Fresno.....	None.....	do.....	Oct. 27, 1911	1 squirrel.
Merced.....	do.....	do.....	July 12, 1911	5 squirrels.
Monterey.....	do.....	do.....	Apr. 10, 1914	6 squirrels.
San Benito.....	June 4, 1913	do.....	Sept. 26, 1914	36 squirrels.
San Joaquin.....	Sept. 18, 1911	do.....	Aug. 26, 1911	18 squirrels.
San Luis Obispo.....	None.....	do.....	Jan. 29, 1910	1 squirrel.
Santa Clara.....	Aug. 31, 1910	do.....	July 23, 1913	25 squirrels.
Santa Cruz.....	None.....	do.....	May 17, 1910	3 squirrels.
Stanislaus.....	do.....	do.....	June 2, 1911	13 squirrels.

¹ 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 2, 1915, has been received from Surg. Corput, of the United States Public Health Service, in temporary charge of the work:

OUTGOING QUARANTINE.		OUTGOING QUARANTINE—continued.	
Vessels fumigated with sulphur.....	17	Pounds of sulphuric acid used in hydrocyanic gas fumigation.....	280
Vessels fumigated with carbon monoxide....	14	Clean bills of health issued.....	26
Vessels fumigated with hydrocyanic gas....	2	Foul bills of health issued.....	12
Pounds of sulphur used.....	5,658	OVERLAND FREIGHT INSPECTION.	
Coke consumed in carbon monoxide fumigation (pounds).....	21,300	Cars inspected; found in good order; permitted to load.....	939
Pounds of potassium cyanide used in hydrocyanic gas fumigation.....	170	Cars ordered repaired before loading.....	1,098
Pounds of sodium carbonate used in hydrocyanic gas fumigation.....	170	Total cars inspected.....	2,037

Destination and number of railroad cars inspected for week ended Jan. 2:			
Alabama.....	87	Utah.....	13
Arizona.....	1	Virginia.....	1
Arkansas.....	14	West Virginia.....	4
California.....	49	Wisconsin.....	3
South Carolina.....	3	Canada.....	2
Colorado.....	24	FIELD OPERATIONS.	
Connecticut.....	1	Rats trapped.....	9,359
North Dakota.....	3	Premises fumigated.....	0
South Dakota.....	2	Premises disinfected.....	1
Florida.....	50	Premises inspected.....	11,151
Georgia.....	44	Poisons placed.....	0
Illinois.....	207	Notices served.....	1,034
Indiana.....	17	BUILDINGS RAT PROOFED.	
Iowa.....	13	By elevation.....	29
Kansas.....	15	By marginal concrete wall.....	69
Kentucky.....	15	By concrete floor and walls.....	198
Louisiana.....	481	By minor repairs.....	124
Massachusetts.....	3	Square yards of concrete laid.....	7,234
Michigan.....	5	Total buildings rat proofed.....	420
Minnesota.....	14	Buildings rat proofed to date.....	7,008
Mississippi.....	198	Number of abatements.....	531
Missouri.....	38	Number of abatements to date.....	16,950
Montana.....	1	LABORATORY OPERATIONS.	
Nebraska.....	5	Rodents examined.....	5,092
New Jersey.....	1	Mus norvegicus.....	1,961
New York.....	21	Mus rattus.....	136
Ohio.....	25	Mus alexandrinus.....	253
Oklahoma.....	12	Mus musculus.....	4,708
Oregon.....	1	Unclassified and putrid.....	2,571
Pennsylvania.....	8	Total rodents received at laboratory.....	9,481
Tennessee.....	39	Suspicious rats.....	43
Texas.....	137	Plague rats confirmed.....	6

Rodent cases.

Case No.	Address.	Captured.	Diagnosis confirmed.	Treatment of premises.
214	Stuyvesant Docks, Wharf 5.....	Dec. 29 ¹	Dec. 29	Summary destruction of rat harborage on roof of wharf. Intensive trapping. Disinfection.
215	Stuyvesant Docks, Wharf 6.....	Dec. 29 ¹	Dec. 29	See case 214.
216				
217				
218	Stuyvesant Docks, Wharf 4.....	Jan. 2 ¹	Jan. 2	Do.
219				

¹ Rodent found dead.

Total number of rodents captured to Jan. 2.....	215,231
Total number of rodents examined to Jan. 2.....	183,513

Rodent cases to Jan. 2, by species:

Mus rattus.....	15
Mus musculus.....	1
Mus alexandrinus.....	7
Mus norvegicus.....	196

Total rodent cases to Jan. 2..... 219

The following report of plague-eradication work at New Orleans for the week ended January 9, 1915, has been received from Surg. Creel, of the United States Public Health Service, in temporary charge of the work:

OUTGOING QUARANTINE.

Vessels fumigated with sulphur.....	32
Vessels fumigated with carbon monoxide....	25
Vessels fumigated with hydrocyanic gas.....	1
Pounds of sulphur used.....	8,527
Coke consumed in carbon monoxide fumigation (pounds).....	33,900
Pounds of potassium cyanide used in hydrocyanic gas fumigation.....	120
Pounds of sodium carbonate used in hydrocyanic gas fumigation.....	120
Pounds of sulphuric acid used in hydrocyanic gas fumigation.....	200
Clean bills of health issued.....	40
Foul bills of health issued.....	15

OVERLAND FREIGHT INSPECTION.

Cars inspected; found in good order; permitted to load.....	1,296
Cars ordered repaired before loading.....	1,174
Total cars inspected.....	2,470

DESTINATION AND NUMBER OF RAILROAD CARS INSPECTED FOR WEEK ENDED JAN. 9.

Alabama.....	59
Arizona.....	2
Arkansas.....	11
California.....	26
Carolina, South.....	3
Colorado.....	1
Connecticut.....	1
Florida.....	9
Georgia.....	24
Illinois.....	280
Indiana.....	16
Iowa.....	10
Kansas.....	4
Kentucky.....	15
Louisiana.....	830
Maryland.....	2
Massachusetts.....	2
Michigan.....	4
Minnesota.....	10
Mississippi.....	20
Missouri.....	42
Nebraska.....	6

DESTINATION AND NUMBER OF RAILROAD CARS INSPECTED FOR WEEK ENDED JAN. 9—continued.

New York.....	30
Ohio.....	53
Oklahoma.....	4
Pennsylvania.....	13
Rhode Island.....	1
Tennessee.....	62
Texas.....	134
Utah.....	1
Virginia.....	1
West Virginia.....	2
Washington.....	1
Wisconsin.....	3
District of Columbia.....	1

FIELD OPERATIONS.

Rats trapped.....	8,785
Premises fumigated.....	0
Premises disinfected.....	0
Premises inspected.....	8,044
Poisons placed.....	0
Notices served.....	1,570

BUILDINGS RAT PROOFED.

By elevation.....	62
By marginal concrete wall.....	102
By concrete floor and walls.....	238
By minor repairs.....	94
Square yards of concrete laid.....	10,845
Total buildings rat proofed.....	496
Total buildings rat proofed to date.....	7,504
Abatements.....	526
Abatements to date.....	1,476

LABORATORY OPERATIONS.

Rodents examined.....	4,497
Mus norvegicus.....	1,800
Mus rattus.....	127
Mus alexandrinus.....	243
Mus musculus.....	4,900
Unclassified and putrid.....	1,799
Total rodents received at laboratory.....	9,004
Suspicious rats.....	42
Plague rats confirmed.....	3

Rodent cases.

Case No.	Address.	Captured.	Diagnosis confirmed.	Treatment of premises.
220	Stuyvesant Docks, Wharf 5.....	Jan. 4 ¹	Jan. 4	Intensive trapping.
221	Stuyvesant Docks, Wharf 6.....	Jan. 7 ¹	Jan. 7	Do.
222	.....do.....	Jan. 6 ¹	Jan. 9	Do.

¹ Rodent found dead.

Total number of rodents captured to Jan. 9.....	224,016
Total number of rodents examined to Jan. 9.....	188,010

Rodent cases to Jan. 9 by species:

Mus rattus.....	15
Mus musculus.....	2
Mus alexandrinus.....	8
Mus norvegicus.....	197

Total rodent cases to Jan. 9.....	222
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Week Ended Dec. 26, 1914.

RAT PROOFING.

New buildings inspected	48
Basements concreted, new buildings (square feet, 41,958).....	19
Floors concreted, new buildings (square feet, 15,264).....	8
Yards, etc., concreted, new structures (square feet, 1,860).....	4
Sidewalks concreted (square feet, 38,872).	
Total concrete, new structures (square feet, 97,954).	
New buildings elevated	6
New premises rat proofed, concrete.....	27
Old buildings inspected	4
Old buildings rat proofed.....	2
Basements concreted, old buildings.....	1
Floors concreted, old buildings.....	1
Premises otherwise rat proofed, old buildings	2
Openings screened, old buildings.....	16
Wooden floors removed	2
Wire screening used, square feet.....	4,250
Buildings razed	3

WATER FRONT.

Vessels inspected and histories recorded....	5
Vessels fumigated	0
New rat guards installed	10
Defective rat guards repaired.....	14
Canal Zone certificates issued.....	2
Port sanitary statements issued	35
LABORATORY AND RODENT OPERATIONS.	
Dead rodents received.....	23
Rodents trapped and killed	213
Total.....	236
Rodents examined for plague infection.....	194
Rodents proven plague infected.....	0
Blocks poisoned.....	14
Poison distributed, pounds.....	40
CLASSIFICATION OF RODENTS.	
Mus rattus	7
Mus alexandrinus.....	44
Mus norvegicus.....	152
Mus musculus.....	33

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

Rodents examined in Tacoma.

Mus norvegicus found dead.....	14
Rodents examined for plague infection.....	14
Rodents proven plague infected.....	0

HAWAII—HONOLULU.

The following report of plague-eradivative work at Honolulu for the week ended December 26, 1914, has been received from Surg. Trotter, of the United States Public Health Service:

Total rats and mongoose taken	434	Average number of traps set daily.....	1,085
Rats trapped.....	430	Cost per rat destroyed (cents).....	19 1/4
Mongoose trapped.....	4	Last case rat plague, Aiea, 9 miles from Honolulu, Apr. 12, 1910.	
Examined microscopically.....	366	Last case human plague, Honolulu, July 12, 1910.	
Showin g plague infection.....	0	Last case rat plague, Kalopa stable, Paauhau, Hawaii, Aug. 29, 1914.	
Classification of rats trapped:		Last case human plague, Paauhau Landing, Hawaii, Aug. 17, 1914.	
Mus alexandrinus.....	169		
Mus musculus.....	180		
Mus norvegicus.....	49		
Mus rattus.....	32		

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.

State Reports for December, 1914.

Places.	New cases reported.	Places.	New cases reported.
District of Columbia.....	1	Massachusetts—Continued.	
Maryland, exclusive of Baltimore City:		Berkshire County—	
Garrett County—		Pittsfield.....	1
Jennings.....	1	Total.....	12
Queen Annes County—		New York:	
Centerville, R. F. D.....	1	Albany County.....	1
Catlins Corner.....	1	Monroe County.....	1
Total.....	3	Oneida County.....	1
Massachusetts:		Orange County.....	1
Essex County—		Suffolk County.....	1
Lawrence.....	1	New York City.....	22
Salem.....	1	Total.....	27
Middlesex County—		Wisconsin:	
Everett.....	1	Milwaukee County.....	3
Lowell.....	1	Portage County.....	1
Newton.....	1	Rock County.....	3
Somerville.....	1	Total.....	7
Suffolk County—			
Boston.....	3		
Worcester County—			
Worcester.....	2		

City Reports for Week Ended Jan. 2, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Alameda, Cal.....		1	New York, N. Y.....	4	3
Boston, Mass.....		1	Providence, R. I.....	2	1
Chicago, Ill.....	3	3	St. Louis, Mo.....	1	
Cleveland, Ohio.....	1	1	San Francisco, Cal.....	1	1
Detroit, Mich.....	1	2	Washington, D. C.....	1	
Lowell, Mass.....	1	2	West Hoboken, N. J.....	1	
Milwaukee, Wis.....	3	3	Worcester, Mass.....	1	
New Orleans, La.....	2	1			

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 273.

ERYSIPELAS.**City Reports for Week Ended Jan. 2, 1915.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.		1	Los Angeles, Cal.	5	1
Boston, Mass.		3	Milwaukee, Wis.	2	
Braddock, Pa.	1		Newark, N. J.		1
Brockton, Mass.	1		New York, N. Y.	2	2
Buffalo, N. Y.	6	1	Passaic, N. J.	2	
Cairo, Ill.	1	1	Philadelphia, Pa.	10	3
Chicago, Ill.	1	4	Pittsburgh, Pa.	11	
Cincinnati, Ohio.	3	1	Portland, Oreg.	1	
Cleveland, Ohio.	4		Providence, R. I.		1
Dayton, Ohio.	1		Sacramento, Cal.	1	
Duluth, Minn.	1	1	St. Louis, Mo.	6	
Harrisburg, Pa.	2		San Francisco, Cal.	2	
Lancaster, Pa.	1				

LEPROSY.**District of Columbia.**

The health officer of the District of Columbia reported that on December 10, 1914, a case of leprosy was diagnosed clinically in Washington, D. C., in a white man, E. G., aged 47 years, native of Pennsylvania, who had lived at various places in the United States, and had spent about one year in Manila, P. I. The diagnosis was verified bacteriologically December 11, 1914, and the patient has been isolated under the supervision of the health department of the District.

MALARIA.**State Reports for December, 1914.**

During the month of December, 1914, malaria was reported as follows: Maryland, exclusive of Baltimore city, 3 cases; Massachusetts, 2 cases; New Jersey, 4 cases.

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 273.

PELLAGRA.**City Reports for Week Ended Jan. 2, 1915.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Brockton, Mass.	13		New York, N. Y.	1	
Concord, N. H.		1	Philadelphia, Pa.		1
New Orleans, La.		1	Wilmington, N. C.		2

PNEUMONIA.

City Reports for Week Ended Jan. 2, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Binghamton, N. Y.....	5	1	Pittsburgh, Pa.....	23	23
Chicago, Ill.....	159	87	Pottstown, Pa.....	1	2
Cleveland, Ohio.....	9	18	Rockland, Ill.....	2	2
Duluth, Minn.....	1	1	Sacramento, Cal.....	1	2
Galesburg, Ill.....	3	3	San Diego, Cal.....	1	1
Grand Rapids, Mich.....	6	2	San Francisco, Cal.....	8	5
Kalamazoo, Mich.....	5	2	Schenectady, N. Y.....	3	1
Los Angeles, Cal.....	16	9	South Bethlehem, Pa.....	2	2
New Castle, Pa.....	1	3	South Omaha, Nebr.....	1	1
Norfolk, Va.....	3	3	Springfield, Ill.....	2	2
Palo Alto, Cal.....	3	3	York, Pa.....	1	1
Pawtucket, R. I.....	7	7	Wilmington, N. C.....	1	1
Philadelphia, Pa.....	31	75			

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for December, 1914.

Places.	New cases reported.	Places.	New cases reported.
Maryland, exclusive of Baltimore city:		New York:	
Allegany County.....	1	Clinton County.....	2
Cumberland.....	1	Erie County.....	2
Harford County.....	1	Lewis County.....	1
Michaelsville.....	1	Suffolk County.....	1
Prince Georges County—	1	Ulster County.....	1
Laurel.....	1	Washington County.....	2
Total.....	3	Westchester County.....	1
		New York City.....	6
Massachusetts:		Total.....	16
Berkshire County—		Vermont:	
Pittsfield.....	1	Lamoille County.....	1
Essex County—		Orange County.....	2
Lawrence.....	2	Windham County.....	1
Hampden County—		Total.....	4
Wilbraham.....	1	Wisconsin:	
Middlesex County—		Barron County.....	1
Marlboro.....	1	Waupaca County.....	1
Somerville.....	1	Total.....	2
Total.....	6		
New Jersey:			
Essex County—			
Newark.....	1		
Mercer County—			
Trenton.....	1		
Total.....	2		

RABIES.

California—Oakland—Rabies in an Animal.

During the week ended January 2, 1915, a case of rabies in a dog was notified at Oakland, Cal.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 273.

SMALLPOX.

Tennessee—Chattanooga—Virulent Type.

Surgeon Creel reported by telegraph January 15, 1915, concerning the outbreak of smallpox of virulent type in Chattanooga, Tenn., as follows: Total cases smallpox to date 56, deaths 16. November, 3 cases, 1 death; December, 38 cases, 13 deaths; January, 15 cases, 2 deaths.

Texas—Railway Mail Service.

The acting superintendent, Railway Mail Service, at Fort Worth, Tex., reported January 19 that a railway postal clerk in the Wichita, Kans., and Altus, Okla., railway post office, and a railway postal clerk in the Altus, Okla., and San Angelo, Tex., railway post office (both railway post offices being operated over the line of the Kansas City, Mexico & Orient Railway), have smallpox, and that other railway postal clerks on these lines have been exposed.

State Reports for December, 1914.

Places.	New cases reported.	Deaths.	Vaccination history of case.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland, exclusive of Baltimore City: Somerset County— Crisfield.....	2				2	
Massachusetts: Middlesex County— Everett.....	1				1	
Norfolk County— Franklin.....	1			1		
Total.....	2			1	1	
New York: Cattaraugus County.....	1				1	
Essex County.....	6			1	5	
Fulton County.....	1				1	
Niagara County.....	12			1	11	
Saratoga County.....	6			5	1	
Total.....	26			7	19	
Wisconsin: Ashland County.....	2					2
Barron County.....	5					5
Brown County.....	1					1
Clark County.....	5			5		
Columbia County.....	8					8
Dodge County.....	2					2
Douglas County.....	2					2
Dunn County.....	1			1		
Fond du Lac County.....	2				2	
Forest County.....	21				3	18
Grant County.....	3				3	
Iron County.....	3				2	1
Jefferson County.....	24		11	6	3	4
Juneau County.....	1					1
Kenosha County.....	14			4	9	1

SMALLPOX—Continued.

State Reports for December, 1914—Continued.

Places.	New cases reported.	Deaths.	Vaccination history of case.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Wisconsin—Continued.						
La Crosse County.....	1			1		
Marinette County.....	7			6	1	
Milwaukee County.....	123					123
Oconto County.....	4				3	1
Ozaukee County.....	1				1	
Portage County.....	1		1			
Racine County.....	12		2	4	5	1
Richland County.....	11			5	4	2
Rock County.....	1			1		
Rusk County.....	6				3	3
St. Croix County.....	5			2	2	1
Sauk County.....	4					4
Sawyer County.....	2				2	
Sheboygan County.....	15			2	10	3
Walworth County.....	1				1	
Washington County.....	9			2	7	
Waukesha County.....	1				1	
Total.....	298		14	39	62	153

Miscellaneous State Reports.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Arizona (Dec. 1-31):			District of Columbia (Dec. 1-31).....	6	
Counties—			New Jersey (Dec. 1-31):		
Coconino.....	2		Counties—		
Gila.....	1		Cumberland.....	1	
Maricopa.....	2		Hudson.....	1	
Total.....	5		Total.....	2	
Colorado (Dec. 1-31):			Vermont (Dec. 1-31):		
Counties—			County—		
Denver.....	6		Franklin.....	5	
El Paso.....	10				
Pueblo.....	1				
Total.....	17				

City Reports for Week Ended Jan. 2, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.....	2		Milwaukee, Wis.....	3	
Butte, Mont.....	2		Moline, Ill.....	2	
Chicago, Ill.....	1		New Orleans, La.....	1	
Danville, Ill.....	1		Norfolk, Va.....	2	
Detroit, Mich.....	5		Portland, Oreg.....	6	
Duluth, Minn.....	1		Racine, Wis.....	6	
Evansville, Ind.....	6		San Diego, Cal.....	2	
Everett, Mass.....	1		Springfield, Ill.....	1	
Galveston, Tex.....	2		Superior, Wis.....	1	

TETANUS.

City Reports for Week Ended Jan. 2, 1915.

During the week ended January 2, 1915, tetanus was notified by cities as follows: Charleston, S. C., 1 death; Galveston, Tex., 1 death; Mobile, Ala., 1 death; New Bedford, Mass., 1 case with 1 death.

TRACHOMA.

Kentucky—Versailles, Woodford County.

Surg. McMullen reported January 12, 1915, that at the request of the health officer of Woodford County, Ky., he had examined the pupils in the graded schools of Versailles, and among 294 pupils found 9 cases of trachoma.

Kentucky—Greendale.

Surg. McMullen further reported that at the request of the State prison commission he had examined the inmates of the Kentucky Houses of Reform at Greendale, Ky., and found 21 cases of trachoma among the 423 inmates.

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 273.

TYPHOID FEVER.

State Reports for December, 1914.

Places.	New cases reported.	Places.	New cases reported.
District of Columbia.....	13	Maryland, exclusive of Baltimore City—Continued.	
Maryland, exclusive of Baltimore City:		Cecil County—	
Allegany County.....	1	Port Deposit.....	2
Cumberland.....	1	Elkton.....	1
Allegany Hospital.....	1	Elkton Hospital.....	1
Westernport.....	7	Charles County—	
Franklin.....	2	Waldorf.....	1
National.....	1	Berry.....	1
Anne Arundel County—		Dorchester County—	
Brooklyn.....	1	Thomas.....	1
Patuxent.....	1	Hurlock.....	1
Elvaton.....	2	Secretary.....	1
Jessup (Maryland House of Correction).....	1	Vienna.....	1
Baltimore County—		Hoopersville.....	1
Turners Station.....	1	Frederick County—	
Monkton.....	1	Walkersville.....	1
Chase.....	1	Brunswick.....	1
Mount Washington.....	2	Mount Pleasant.....	1
Halethorpe, R. F. D.....	1	State Sanatorium.....	1
Bengles.....	2	Garrett County—	
Govans.....	2	Sines.....	1
Colgate.....	1	Oakland.....	2
Highlandtown.....	7	Deer Park.....	1
Windsor Hills.....	1	Harford County—	
Hyde.....	1	Bel Air.....	1
Catonsville.....	1	Benson.....	1
Fowblesburg.....	1	Howard County—	
White Hall.....	1	Ellicott City.....	2
Phoenix.....	1	Ellicott City, R. F. D.....	1

TYPHOID FEVER—Continued.

State Reports for December, 1914—Continued.

Places.	New cases reported.	Places.	New cases reported.
Maryland, exclusive of Baltimore City—Continued.		Massachusetts—Continued.	
Kent County—		Middlesex County—	
Chestertown	2	Bedford	1
Golts	1	Cambridge	3
Kennedyville	1	Concord	1
Locust Grove, R. F. D.	2	Frammingham	1
Kennedyville, R. F. D.	5	Lowell	6
Blacks	1	Medford	1
Montgomery County—		Newton	4
Dickerson	1	Somerville	7
Prince Georges County—		Waltham	1
Laurel	3	Norfolk County—	
Piscataway	2	Medfield	1
College Park	1	Milton	1
Queen Annes County—		Needham	1
Templeville, R. F. D.	1	Norwood	1
Wilmington	1	Quincy	4
Centerville	1	Plymouth County—	
Fords Store	3	Brockton	4
Chester, R. F. D.	1	Suffolk County—	
Church Hill, R. F. D.	1	Boston	40
Somerset County—		Chelsea	2
Crisfield	4	Worcester County—	
Talbot County—		Ashburnham	2
Trappe	3	Fitchburg	1
St. Michaels	1	Northridge	1
Easton	2	Winchendon	1
Washington County—		Worcester	7
Hagerstown	2	Total	191
Wicomico County—			
Salisbury	2	New Jersey:	
Salisbury R. F. D.	1	Bergen County	2
Worcester County—		Burlington County	9
Zion R. F. D.	1	Camden County	4
Berlin	1	Cumberland County	6
Total	109	Essex County	15
		Gloucester County	2
Massachusetts:		Hudson County	7
Berkshire County—		Hunterdon County	2
Clarksburg	1	Mercer County	3
North Adams	2	Middlesex County	11
Pittsfield	2	Monmouth County	10
Williamstown	1	Ocean County	1
Bristol County—		Passaic County	3
Attleboro	1	Union County	3
Fall River	17	Warren County	2
New Bedford	22	Total	80
North Attleboro	2		
Somerset	1	New York:	
Essex County—		Albany County	13
Belchertown	4	Allegany County	3
Haverhill	1	Broome County	2
Lawrence	3	Cattaraugus County	5
Lynn	3	Cayuga County	3
Feaody	2	Chautauque County	5
Rowley	1	Chemung County	4
Saugus	5	Chenango County	3
Newburyport	2	Clinton County	1
Franklin County—		Columbia County	4
Buckland	1	Delaware County	4
Charlemont	1	Erie County	37
Deerfield	1	Essex County	4
Greenfield	3	Franklin County	3
Montague	2	Fulton County	1
Shelburne	1	Herkimer County	4
Hampden County—		Jefferson County	5
Chicopee	4	Madison County	2
Holyoke	3	Monroe County	21
Palmer	1	Montgomery County	2
Springfield	7	Niagara County	11
Hampshire County—		Oneida County	10
Belchertown	1	Onondago County	2

TYPHOID FEVER—Continued.

State Reports for December, 1914—Continued.

Places.	New cases reported.	Places.	New cases reported.
New York—Continued.		Vermont—Continued.	
Ontario County.....	1	Rutland County.....	7
Orange County.....	11	Washington County.....	1
Oswego County.....	7	Windham County.....	1
Otsego County.....	4	Total.....	16
Rensselaer County.....	3		
Rockland County.....	2	Wisconsin:	
St. Lawrence County.....	5	Barron County.....	2
Saratoga County.....	5	Buffalo County.....	1
Schenectady County.....	9	Crawford County.....	2
Schoharie County.....	5	Douglas County.....	2
Steuben County.....	3	Florence County.....	1
Sullivan County.....	1	Jefferson County.....	1
Tioga County.....	1	La Crosse County.....	1
Ulster County.....	5	Marinette County.....	3
Washington County.....	2	Milwaukee County.....	16
Wayne County.....	6	Oconto County.....	2
Westchester County.....	8	Outagamie County.....	1
New York City.....	170	Pierce County.....	2
Total.....	400	Racine County.....	1
		Sauk County.....	2
Vermont:		Sheboygan County.....	2
Addison County.....	5	Winneshago County.....	1
Franklin County.....	1	Total.....	40
Orleans County.....	1		

City Reports for Week Ended Jan. 2, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.....	11	2	Lynn, Mass.....	2	
Berkeley, Cal.....	1		Milwaukee, Wis.....	2	2
Binghamton, N. Y.....	1		Moline, Ill.....		1
Boston, Mass.....	6	2	Nashville, Tenn.....	1	1
Buffalo, N. Y.....	3		Newark, N. J.....	1	1
Butte, Mont.....	1		New Bedford, Mass.....	10	
Charleston, S. C.....	1		New Orleans, La.....	14	5
Chelsea, Mass.....	1		New York, N. Y.....	29	4
Chicago, Ill.....	17	2	Norfolk, Va.....	1	1
Chicopee, Mass.....	2		Oakland, Cal.....	3	
Cincinnati, Ohio.....	1		Pawtucket, R. I.....	2	
Cleveland, Ohio.....	6	3	Philadelphia, Pa.....	13	
Dayton, Ohio.....	2	2	Pittsburgh, Pa.....	4	3
Detroit, Mich.....	5	5	Providence, R. I.....	1	
Duluth, Minn.....	3		Reading, Pa.....		1
Elmira, N. Y.....	3		Richmond, Va.....	5	
Evansville, Ind.....	1		Roanoke, Va.....	2	
Fall River, Mass.....	5		Rutland, Vt.....	12	
Fitchburg, Mass.....	1		Sacramento, Cal.....	3	
Grand Haven, Mich.....	1		St. Louis, Mo.....	3	
Grand Rapids, Mich.....	2		San Francisco, Cal.....	1	
Hartford, Conn.....	1		Springfield, Ill.....	2	1
Jersey City, N. J.....		1	Trenton, N. J.....	1	
Kokomo, Ind.....	1		Washington, D. C.....	2	1
Lexington, Ky.....	2		Wilmington, N. C.....	4	
Los Angeles, Cal.....	5		Worcester, Mass.....	1	
Lowell, Mass.....	1		York, Pa.....	5	

¹ Brought to Rutland for hospital care.

TYPHUS FEVER.

New York—New York City.

During the week ended January 2, 1915, a case of typhus fever was notified at New York City.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for December, 1914.

States.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.
District of Columbia.....	49	25	43
Maryland (exclusive of Baltimore City).....	112	14	21.8
Massachusetts.....	833	899	678
New Jersey.....	956	.....	425
New York.....	2,262	1,039	1,225
Vermont.....	53	5	24
Wisconsin.....	342	152	222

City Reports for Week Ended Jan. 2, 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	218	22	2	.....	28	.....	14	20	.....
Boston, Mass.....	735,802	309	54	4	84	43	1	42	26	.....
Chicago, Ill.....	2,393,325	732	155	17	52	63	1	231	87	.....
Cleveland, Ohio.....	639,431	151	44	1	3	11	.....	17	15	.....
Detroit, Mich.....	537,650	179	43	4	.....	27	1	10	19	.....
New York, N. Y.....	5,533,537	1,592	277	37	200	8	185	5	309	199
Philadelphia, Pa.....	1,657,810	562	85	15	90	1	29	.....	53	70
Pittsburgh, Pa.....	564,878	146	30	3	65	1	57	1	13	9
St. Louis, Mo.....	734,667	255	106	7	2	.....	24	1	26	14
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y.....	454,112	70	20	3	3	.....	28	1	14	8
Cincinnati, Ohio.....	402,175	116	18	.....	1	.....	4	.....	13	15
Los Angeles, Cal.....	438,914	124	15	.....	23	.....	15	.....	49	26
Milwaukee, Wis.....	417,054	107	19	4	5	1	12	1	15	6
Newark, N. J.....	389,106	133	41	4	4	.....	13	.....	35	16
New Orleans, La.....	361,221	166	29	2	2	.....	.....	.....	28	25
San Francisco, Cal.....	448,502	162	48	6	73	1	13	.....	65	23
Washington, D. C.....	353,378	112	9	.....	12	.....	17	.....	20	10
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio.....	204,567	77	3	.....	.....	5	.....	4	13	.....
Jersey City, N. J.....	293,921	110	.....	2	.....	.....	.....	.....	5	.....
Portland, Oreg.....	260,001	16	6	2	.....	2	.....	1	4	.....
Providence, R. I.....	245,090	80	15	2	7	.....	21	1	3	5
From 100,000 to 200,000 inhabitants:										
Cambridge, Mass.....	110,357	33	10	.....	9	.....	9	.....	7	5
Camden, N. J.....	102,465	.....	7	.....	13	.....	1	.....	5	.....
Dartmouth, Ohio.....	123,794	47	8	.....	6	.....	18	2	3	3
Fall River, Mass.....	125,443	.....	4	.....	31	.....	2	.....	3	2
Grand Rapids, Mich.....	123,227	30	4	.....	2	.....	2	.....	1	1
Hartford, Conn.....	107,038	31	12	.....	2	.....	2	.....	4	.....
Lowell, Mass.....	111,004	36	5	2	.....	.....	.....	.....	4	1
Nashville, Tenn.....	114,899	54	4	1	.....	.....	3	.....	3	7
New Bedford, Mass.....	111,230	30	3	.....	2	.....	3	.....	9	2
Oakland, Cal.....	183,002	12	18	3	.....	.....	1	.....	1	3
Reading, Pa.....	103,361	23	1	.....	.....	.....	4	.....	2	2
Richmond, Va.....	134,917	40	5	2	.....	.....	7	.....	3	5
Springfield, Mass.....	100,375	31	5	.....	.....	.....	1	.....	6	4
Toledo, Ohio.....	184,126	53	6	1	5	.....	4	.....	.....	8
Trenton, N. J.....	106,831	44	8	.....	1	.....	3	.....	9	2
Worcester, Mass.....	157,732	52	2	.....	2	.....	3	.....	6	4
From 50,000 to 100,000 inhabitants:										
Altoona, Pa.....	56,553	17	1	.....	.....	.....	3	.....	.....	2
Bayonne, N. J.....	65,271	12	7	.....	.....	.....	2	.....	3	.....
Berkeley, Cal.....	52,105	13	2	.....	13	.....	2	.....	.....	1

* 4 carriers.

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

City Reports for Week Ended Jan. 2, 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 50,000 to 100,000 inhabitants—Continued.										
Binghamton, N. Y.	52,191	16	1	2					3	2
Brockton, Mass.	64,043	20	5		1				1	3
Charleston, S. C.	60,121	24					1		1	2
Duluth, Minn.	89,331						2			
Evansville, Ind.	71,284	16	5		14		1		2	1
Harrisburg, Pa.	69,493	16		2	2		1			1
Johnstown, Pa.	64,642	20	2		1		2			
Kansas City, Kans.	94,271		9		1		1		2	1
Little Rock, Ark.	53,811	33	1				1			
Lynn, Mass.	98,207	25	5				5		1	3
Mobile, Ala.	55,573	21	3				1		1	2
New Britain, Conn.	50,612	11	9				4		1	2
Norfolk, Va.	86,540	2	2						1	1
Passaic, N. J.	66,270	13	1				3		2	
Pawtucket, R. I.	56,901	27	5	1			1			2
Saginaw, Mich.	53,988	13			1		7			
Schenectady, N. Y.	90,503	19	2		98	1	2		3	1
South Bend, Ind.	65,114		1				1			
Springfield, Ill.	57,972	23	4	1	29		9		2	2
Springfield, Ohio.	50,658	13	2				4			2
Will es-Barre, Pa.	73,660	32	5	1	7		4		3	1
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	26,330	8			20		1		1	1
Aurora, Ill.	33,022	9	2							1
Brookline, Mass.	31,138	10	2				2		1	1
Butte, Mont.	41,781	20	1	1					2	3
Chelsea, Mass.	32,452	8	2		3		1		2	
Chicopee, Mass.	28,057	9	1		1				1	3
Danville, Ill.	30,847	5	2				2			1
East Orange, N. J.	39,852				1		2		1	
Elgin, Ill.	27,485	11								3
Elmira, N. Y.	37,816		6		1		1			
Everett, Mass.	37,381	15	1	1	10			1	2	3
Fitchburg, Mass.	40,507	15	2	1					1	2
Galveston, Tex.	40,289	14	6							
Haverhill, Mass.	47,071	6			3		4		3	
Kalamazoo, Mich.	45,842	18							1	1
La Crosse, Wis.	31,367	13	1				3			
Lancaster, Pa.	49,685		2				2			
Lexington, Ky.	38,819	11		1					1	
Lynchburg, Va.	31,830	7	2				1		4	
Malden, Mass.	48,979	13	3		4		2		5	2
Medford, Mass.	25,240	15	1		7		5		1	1
Moline, Ill.	26,402				3		1			
New Castle, Pa.	39,560		3				4		1	
Newport News, Va.	20,446	4	1							
Newton, Mass.	42,455	12	2				1			2
Niagara Falls, N. Y.	35,127	14							1	
Norristown, Pa.	30,265	22	4							
Pasadena, Cal.	40,880	14	1				1		3	1
Portsmouth, Va.	37,560	12	1							1
Racine, V is.	44,528	12					2			
Roanoke, Va.	40,574	7	2						2	
Rock Island, Ill.	28,045	6					1			
Sacramento, Cal.	62,717	17	1				2			1
San Diego, Cal.	48,900	3	2				1		2	2
South Omaha, Nebr.	26,368	12								
Superior, V is.	44,344	16	4	1						
Taunton, Mass.	35,621	22								3
Waltham, Mass.	29,688	6	2				1		3	
West Hoboken, N. J.	40,647		11		1		5		2	
Wheeling, W. Va.	42,817	10	3							2
Wilmington, N. C.	27,781	16								2
York, Pa.	49,490		5	2	2				3	1
Zanesville, Ohio.	29,949		2				1		1	1
Less than 25,000 inhabitants:										
Ann Arbor, Mich.	14,048	9	3				3		5	
Beaver Falls, Pa.	13,100		1				1			
Braddock, Pa.	20,935						1			

FOREIGN REPORTS.

BRAZIL.

Typhoid Fever—Sao Paulo.

During the four weeks ended November 22, 1914, an increase in the prevalence of typhoid fever was reported at Sao Paulo. During this period 83 deaths from the disease were notified. The increase is believed to be due to contaminated water supply.

Yellow Fever—Rio de Janeiro.

During the week ended December 19, 1914, a fatal case of yellow fever was notified at Rio de Janeiro in the person of a passenger arrived from Portugal on the steamship *Vestris*, who had stopped three days at Bahia, Brazil, en route.

The *Vestris* sailed October 24, 1914, from New York, for Bahia and other ports in Brazil, and for ports in Argentina.

CHINA.

Examination of Rats—Hongkong.

During the week ended November 28, 1914, 1,847 rats were examined at Hongkong. No plague-infected rat was found.

Wuchow Declared an Infected Port—Cholera.

On November 27, 1914, Wuchow was declared by the government of Hongkong to be an infected port on account of cholera.

Plague-Infected Rats—Shanghai.

During the week ended December 5, 1914, 235 rats were examined at Shanghai. Six plague-infected rats were found.

CUBA.

Quarantine Against Curacao—Yellow Fever.

On January 6, 1915, quarantine measures were ordered into effect at ports in Cuba against arrivals from the island of Curacao on account of yellow fever.

ECUADOR.**Communicable Diseases—Guayaquil.**

Communicable diseases were notified in Guayaquil and vicinity during the month of November, 1914, as follows:

Dysentery, bacillary and amebic type.—Prevalent.

Plague.—Guayaquil, 101 cases with 42 deaths; Duran, 6 cases with 3 deaths; San Borondon, 4 cases with 2 deaths.

Typhoid fever.—Prevalent and increasing.

Yellow fever.—Guayaquil, 1 case.

EGYPT.**Plague—Port Said.**

A case of plague was notified at Port Said December 16, 1914.

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

During the two weeks ended December 19, 1914, 508 rats were examined at Liverpool. No plague-infected rat was found. The total number of rats examined from July 25 to December 19, 1914, was 4,040. No plague infection was found.

JAVA.**Status of Plague.**

Plague was notified in east Java during the month of October, 1914, as follows:

Districts.	Cases.	Deaths.
Kediri.....	492	455
Madioen.....	110	98
Paseroean.....	878	756
Surabaya.....	181	167
Total.....	1,661	1,474

MAURITIUS.**Plague.**

During the week ended November 12, 1914, 14 cases of plague were notified in Mauritius.

SENEGAL.**Plague—Dakar.**

The port of Dakar, Senegal, was reported plague infected December 5, 1914.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.**Reports Received During Week Ended Jan. 22, 1915.¹****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
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, 239; deaths, 39.
Styria.....				Sept. 23-28: Cases, 55; deaths, 13.
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.
China:				
Wuchow.....	Nov. 27.....			Present.
India:				
Calcutta.....	Nov. 15-28.....		38	
Madras.....	Nov. 22-Dec. 5....	21	16	
Philippine Islands:				
Manila.....	Nov. 29-Dec. 12..	26	15	

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		

PLAGUE.

Brazil:				
Pernambuco.....	Oct. 1-Nov. 30....		5	
Ceylon:				
Colombo.....	Nov. 8-23.....	19	18	
Dutch East Indies:				
Provinces.....				Total, Oct. 1-31: Cases, 1,661; deaths, 1,474.
Kediri.....	Oct. 1-31.....	492	455	
Madjoen.....	.....do.....	110	96	
Pasrocraan.....	.....do.....	878	756	
Surabaya.....	.....do.....	181	167	
Ecuador:				
Duran.....	Nov. 1-30.....	6	3	
Guayaquil.....	.....do.....	101	42	
Sanborondon.....	.....do.....	4	2	
Egypt:				
Port Said.....	Dec. 16.....	1		
Greece.....				Sept. 12, present in Drama and Kavala.
India:				
Bombay.....	Nov. 22-Dec. 5....	2	3	
Karachi.....	Dec. 22-28.....	3	3	
Rangoon.....	Oct. 1-31.....	2	2	
Mauritius.....	Nov. 6-12.....	14		

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 Jan. 22, 1915—Continued.****PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Perzia:				
Belessavar.....	Oct. 30-Nov. 9....	80	80	On the Caspian coast.
Kasri Shireen.....	Dec. 12.....	1		
Senegal:				
Dakar.....	Dec. 5.....			Present.
Straits Settlements:				
Singapore.....	Nov. 1-7.....	1	1	
Turkey in Asia:				
Bagdad.....	Nov. 18-Dec. 1....	2	1	

SMALLPOX.

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Aden.....	Nov. 19-25.....	2	2	Nov. 27-Dec. 10: Cases, 10 in the metropolitan area and 2 in the country districts.
Australia:				
New South Wales— Sydney.....				
Austria-Hungary:				
Hungary— Fiume.....	Dec. 24-30.....	1		
Brazil:				
Pernambuco.....	Oct. 1-Nov. 30.....		40	
Rio de Janeiro.....	Dec. 6-19.....	97	28	
Sao Paulo.....	Nov. 9-15.....	2		
Bulgaria:				
Sophia.....	June 30-Nov. 28...	121	2	
Canada:				
Montreal.....	Jan. 3-9.....	3		Jan. 13: Cases, 4 from Grand Trunk Ferry, Lambdown.
Farnia.....	do.....	1		
Windsor.....				
France:				
Havre.....	Dec. 20-26.....	1		
Greece:				
Kavala.....	Nov. 22-28.....	5		Nov. 15-Dec. 19: Cases, 14.
Saloniki.....	Nov. 22-Dec. 5.....	18	11	
Germany:				
Mexico:				
Chihuahua.....	Dec. 20-26.....	7	3	
Portugal:				
Lisbon.....	Dec. 6-19.....	5		
Russia:				
Moscow.....	Nov. 2-21.....	10	1	
Odessa.....	Oct. 25-Nov. 7.....	5	1	
Do.....	Nov. 30-Dec. 5.....	37	5	
Petrograd.....	Nov. 11-18.....	39	9	
Switzerland:				
Basel.....	Nov. 15-Dec. 5.....	2		
Spain:				
Barcelona.....	Dec. 6-18.....		14	
Valencia.....	Nov. 30-Dec. 6....	156	7	

Reports Received from Dec. 26, 1914, to Jan. 15, 1915.**CHOLERA.**

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria.....				Total Oct. 18-Nov. 21: Cases, 2,705; deaths, 754.
Coast land— Trieste.....	Nov. 15-21.....	5		
Lower Austria— Vienna.....	Oct. 18-Nov. 21...	285	31	Total, Oct. 18-Nov. 14: Cases, 1,558.
Hungary.....				

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

Reports Received from Dec. 26, 1914, to Jan. 15, 1915—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
China:				
Nanking.....	Nov. 15-21.....	.....	.....	Present.
Dutch East Indies:				
Celebes—				
Menado.....	Oct. 18-Nov. 7....	251	240	
Java—				
Batavia.....	Oct. 25-Nov. 14...	268	268	
Sumatra—				
Mengala.....	Oct. 13-Nov. 7....	65	69	
Palembang.....	.....do.....	62	49	
India:				
Bombay.....	Nov. 1-7.....	5	1	
Calcutta.....	Oct. 25-31.....	.....	4	Not previously reported.
Do.....	Nov. 1-14.....	.....	17	
Madras.....	Nov. 8-21.....	114	79	
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-Oct. 4: Cases, 5; deaths, 4.
Laos—				
Pakse.....	.....do.....	1	1	
Japan.....				
Kyoto fu.....	Oct. 1-31.....	1	1	
Philippine Islands:				
Manila.....	Oct. 25-Nov. 28...	18	7	
Russia:				
Moscow.....	Nov. 8-14.....	.....	1	
Siam:				
Bangkok.....	Sept. 27-Oct. 31...	.....	5	
Straits Settlements:				
Singapore.....	Oct. 4-10.....	1	1	

YELLOW FEVER.

Venezuela:				
Caracas.....	Dec. 31.....	2	.....

PLAGUE.

Brazil:				
Bahia.....	Nov. 16-Dec. 5....	8	6	
Rio de Janeiro.....	.....	.....	.....	Jan. 5: Case, 1.
Ceylon:				
Colombo.....	Oct. 25-Nov. 22...	12	13	
China:				
Canton.....	.....	.....	.....	June 12-July 12: Cases, 325.
Egypt.....	.....	.....	.....	Total Jan. 1-Nov. 28: Cases, 218; deaths, 110.
Alexandria.....	Nov. 5-23.....	1	1	
Port Said.....	Oct. 22.....	6	2	
India:				
Bassein.....	Jan. 4-Oct. 17....	11	7	Not previously reported.
Bombay.....	Nov. 1-14.....	3	1	
Karachi.....	Nov. 8-21.....	3	2	
Rangoon.....	Sept. 1-30.....	72	66	
Indo-China.....				Jan. 1-Aug. 31: Cases, 1,785; 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	30	
Cochin China—				
Cholon.....	.....do.....	26	11	
Saigon.....	.....do.....	23	15	And vicinity Nov. 3-23: Cases, 3.
Kouang-Tcheou-Wan.....	.....do.....	45	45	

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

Reports Received from Dec. 26, 1914, to Jan. 15, 1915—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Libya (Tripoli).....				Present in Derna and Marsa-Susa, among native laborers.
Persia:				
Azerbaijan—				
Belessavar.....	Oct. 31.....			Present.
Peru:				
Salaverry.....				Nov. 17-23: Cases, 2; deaths, 1. Dec. 14: Cases, 10 in hospital at Trujillo.
Slam:				
Bangkok.....	Sept. 27-Oct. 31.....		1	
Turkey in Asia:				
Bagdad.....	Nov. 1-17.....	2	1	
Zanzibar.....	Oct. 25-31.....	2	3	

SMALLPOX.

Arabia:					
Aden.....	Nov. 5-18.....	1	3		
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. 6-12.....	1			
Brazil:					
Rio de Janeiro.....	Nov. 1-Dec. 5.....	485	146		
Canada:					
Ontario—					
Sarnia.....	Dec. 13-19.....	1			
Toronto.....	Dec. 6-19.....		3		
Quebec—					
Montreal.....	Dec. 28-Jan. 2.....	1			
Quebec.....	Dec. 13-19.....	2			
Ceylon:					
Colombo.....	Oct. 25-Nov. 7.....	21	3		
China:					
Hongkong.....	Nov. 22-28.....	1	1		Nov. 22, present.
Newchwang.....					Deaths among natives.
Shanghai.....	Nov. 9-Dec. 6.....	5	18		
Dutch East Indies:					
Borneo.....					Oct. 18-24: Cases, 112; deaths, 44, mainly in Pontianak.
Java.....					In the western part, including Batavia, Oct. 18-24: Cases, 807; deaths, 119.
Batavia.....	Oct. 18-24.....	30	10		
Egypt:					
Alexandria.....	Nov. 19-Dec. 2.....	17	2		
France:					
Paris.....	Nov. 15-21.....	2	2		
Great Britain:					
Cardiff.....	Nov. 30-Dec. 5.....	5			
Liverpool.....	Dec. 19.....	1			
Greece:					
Patras.....	Nov. 23-Dec. 6.....		8		Dec. 6: Epidemic.
Faloniki.....	Nov. 15-21.....	12	6		
India:					
Bombay.....	Nov. 1-21.....	9	4		
Calcutta.....	Oct. 25-Nov. 14.....		12		
Madras.....	Nov. 1-21.....	4	3		
Japan:					
Nagasaki ken.....	Oct. 1-31.....	25	4		Jan. 1-Oct. 31: Cases, 450, deaths, 102.
Taiwan.....	Oct. 25-Nov. 7.....	7			

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**Reports Received from Dec. 26, 1914, to Jan. 15, 1915—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Agascalientes.....	Dec. 7-27.....		6	
Chihuahua.....	Nov. 30-Dec. 21.....	12	6	
Juarez.....	Dec. 4.....			Prevalent.
Mazatlan.....	Dec. 9-22.....	7	2	
Monterey.....	Dec. 14-20.....		2	
Salina Cruz.....	Nov. 1-7.....	1		
Tampico.....	Dec. 30.....			Prevalent among the military.
Vera Cruz.....	Dec. 1-13.....		2	Jan. 5 Epidemic.
Norway:				
Christiansand.....	Nov. 1-30.....	7	2	Including report, vol. 20.
Stavanger.....	Nov. 30-Dec. 5.....	1		
Portugal:				
Lisbon.....	Nov. 22-Dec. 5.....	5		
Russia:				
Petrograd.....	Oct. 25-Nov. 21.....	93	26	
Spain:				
Barcelona.....	Nov. 22-Dec. 4.....		10	
Madrid.....	Nov. 1-30.....		4	
Valencia.....	Nov. 15-23.....	44	4	
Straits Settlements:				
Singapore.....	Oct. 10-17.....	2	1	
Switzerland:				
Basel.....	Nov. 7.....	5		
Turkey in Asia:				
Beirut.....	Nov. 1-21.....	14	6	
Hafia.....	Nov. 2-3.....	2	1	

SANITARY LEGISLATION.

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

NEW HANOVER COUNTY, N. C.

Officers and Employees of County Board of Health—Sanitary Districts. (Reg. Bd. of H., Sept. 8, 1914.)

SECTION 1. *Health officer, election, duties.*—The health officer of the county of New Hanover shall be the executive officer of the board of health, and shall be required to devote his entire time to the duties of this office. He shall perform for the county of New Hanover the duties prescribed for county health officers as set forth in an act of the General Assembly of North Carolina ratified the 7th day of March, 1911, and by such other laws of the State as are not inconsistent herewith. He shall further perform such duties and be invested with such authority as may be imposed by resolution of the county board of health from time to time. He shall be, and he is herewith, designated as the registrar of deaths for the city and township of Wilmington in accordance with chapter 722, Public Laws of North Carolina, 1909, as amended by the Public Laws of 1911. He shall collect and record such vital statistics as are required by the Public Laws of 1913. He shall duly notify the secretary of the State board of health of his election, and shall make reports and answer such inquiries concerning the sanitary condition of the county, diseases prevalent, vital statistics, etc., as may be required by the local board of health.

It shall be the duty of the county health officer to make such recommendations to the county board of health for the promotion and preservation of the health interests of the county as in his judgment may be necessary. He shall file and keep for reference all reports, complaints, or other data relating to the business of the said board of health or of his own office. He shall keep in his office in a properly indexed record a complete record of all vital statistics and a record of the occurrence and prevalence of all the communicable diseases occurring within the county of New Hanover in such a manner that the time of occurrence, the duration of the disease, the geographic distribution, and such other data as may be necessary for the study of epidemic conditions shall be fully and completely set forth. He shall make or cause to be made examination into all complaints affecting health or sanitary conditions. He shall keep a record of all violations of the health laws reported by health officers, sanitary police, health inspectors, or citizens, and cause prompt notice to be sent to the party offending, or to the owner, agent, or occupant of any premises reported where such notice is required or necessary.

SEC. 2. *Health officer, assistant, election, duties.*—The county board of health shall on the second Monday in January of the odd years as set forth in an act of the General Assembly of North Carolina ratified the 7th day of March, 1911, elect some licensed physician who shall be known and designated as the assistant health officer. He shall perform such duties as may be provided for such office under the regu-

lations of the county board of health, and such as may be required of him by the health officer of the county. He shall be designated as quarantine officer for the county of New Hanover and shall be clothed with all necessary authority therefor. He shall assist the county health officer in his administrative duties and in the inspection of the public institutions of the county and the schools of the county, at such times as he may be directed so to do by the county board of health or the county health officer. He shall be required to give his entire time to the duties of his office if deemed necessary, and shall be paid such salary as may be duly fixed by the county board of health. In the absence of the county health officer from the county, or during his disability the assistant health officer shall perform the duties of the county health officer and shall be clothed with the same authority.

SEC. 3. *Director of the laboratory, election, duties.*—At the biannual election of officers of the health department the county board of health shall elect a director of the laboratory. The person so elected shall be one trained and skilled in chemical and bacteriological technique and shall present satisfactory evidence that he or she is capable of making all tests and examinations necessary to establish the bacteriological and chemical purity of waters, beverages, and foodstuffs and to determine accurately the presence of recognizable and demonstrable pathogenetic organisms in any specimen by the use of approved methods of cultivation and examination. The said director of the laboratory shall have charge of the laboratory and of all work of investigation conducted therein. He shall have charge of the operation of the purification processes for the public water supplies in the county, and do such additional laboratory work and make such reports of such work as he may from time to time be directed to do either by the board of health or the county health officer. He shall be paid such salary as may be duly fixed by the board of health, and shall serve for a period of two years unless sooner removed by said board.

SEC. 4. *Sanitary engineer, election, duties.*—At the biannual election of officers of the health department there shall be elected by the board of health a sanitary engineer to the board of health. Such person so elected shall be skilled in the theory and practice of plumbing and house drainage, and in the construction and maintenance of sanitary sewers and the apparatus for the purification and disposal of sewerage, and the construction and maintenance of water purification, storage, and distribution plants. Said sanitary engineer shall also be competent to supervise the lighting, heating, and ventilation of public buildings, and he shall have supervision under the direction of the board of health of all public buildings and institutions with reference to lighting, heating, ventilation, and drainage, and shall have sanitary supervision over all sewage and water systems within the county of New Hanover. At the discretion of the board of health he shall perform the duties of the plumbing inspector, and he shall perform such further work consistent with his position and make such reports as may from time to time be required of him by the board of health or the county health officer. He shall serve for a term of two years unless sooner removed by the board of health, and shall be paid such salary as may be duly fixed by the said board of health.

SEC. 5. *Meat and milk inspector, election, duties.*—The board of health shall, at the time specified by statute for the election of the county health officer, elect a meat and milk inspector, who shall serve during the time of office of the county health officer unless sooner removed. He shall be a person skilled in the examination of meats, cattle, and milk; and such inspector shall be paid such salary and fees as may be provided by the board of health.

It shall be the duty of the meat and milk inspector to inspect the dairies within the county of New Hanover and its jurisdiction, to examine their herds, and to inspect the milk that is offered for sale in the county; to examine meat sold or offered for sale in the county, and all places in which meat or milk or meat and milk products are stored, handled, packed, sold, or prepared for sale, and all places where animals are

slaughtered for food within the county of New Hanover; and he shall perform such other duties as the board of health or the county health officer may require, in carrying out the provisions of any regulations relating to dairies, the sale of milk, or the examination of meats or animals and fowls slaughtered for human consumption.

SEC. 6. *Plumbing inspector, election, duties.*—There shall be elected by the board of health on the second Monday in January of the odd year as provided by statute for the election of the county health officer and other officers of the health department, an inspector of plumbing and drainage who shall hold office for the two succeeding years, unless sooner removed, and who shall receive such compensation as may be duly fixed by the board of health. He shall, before entering upon the duties of his office, take an oath before some magistrate or person qualified to administer such oath, for the faithful discharge of his duties. The said inspector shall be a person skilled in experience in the operation, construction, planning, and maintenance of plumbing and house drainage. He shall not engage in the occupation of plumbing and house drainage, while holding office, or be interested directly or indirectly with any person or with any firm, association, or partnership engaged in any such work, during his term of office. Acting in accordance with the provisions of these and such other regulations as may be duly provided, it shall be his duty to examine all applications for connection to all sewers, and the installation of all plumbing and house drainage within the county. He shall inspect all houses in course of construction, alteration, or repair, as often as may be necessary, and shall see that all plumbing, drainage, and sewerage work thereof is done in accordance with the provisions of the regulations in force.

The inspector of plumbing and drainage shall issue permits and inspect all plumbing in the county, keeping careful records of all transactions of his office, including all applications received and permits and certificates issued, as are required in these regulations, and he shall make monthly reports to the county health officer of the work of the previous month. He shall report monthly to the superintendent of waterworks and sewers of the city of Wilmington, or of any other municipality in the county of New Hanover as the case may be, all installations of plumbing therein made, and to the county health officer all violations of these regulations. He shall have fixed and published office hours at the health department of at least one hour daily, during which to receive applications for inspection tests and to issue permits for plumbing and drainage.

SEC. 7. *Sanitary police, chief and privates, election, duties.*—The county sanitary police hereinbefore referred to shall be organized as the county board of health may from time to time provide, and shall, or may, consist of a chief and such subordinates as the county board of health shall provide. Such sanitary police shall be under the immediate supervision of the county health officer and subject to such duties as he may assign them. They shall be vested with authority in enforcing regulations affecting unsanitary conditions within the county, and all regulations in reference to and affecting public health. They shall as often as shall be necessary or as directed by the county health officer, visit and inspect the conditions of the districts severally assigned them and shall severally make note and report in writing to the said county health officer the condition of their several districts and any and all violations of health and sanitary laws, orders, rules and regulations thereon made or ratified by the county board of health, or health laws of the State of North Carolina, and they shall serve such legal notices and perform such other duties as the board of health or the county health officer may direct or provide therefor or as may be required by law. The sanitary police shall be appointed by the board of health upon recommendation by the county health officer and their term of office shall be subject to the will of the board of health. They shall receive such compensation as the board of health may from time to time duly provide. For misconduct or failure to perform

duty, disobedience of orders, or where the good of the service requires it, they may severally be peremptorily suspended or discharged by the county health officer.

SEC. 8. *Sanitary districts.*—The county of New Hanover and the city of Wilmington shall be divided by the county health officer into such sanitary districts as may be deemed necessary, subject to the approval of the county board of health, and there shall be assigned to each district one of the county sanitary police appointed by the board of health: *Provided*, The said county health officer shall have the power and authority to transfer from one district to another any such sanitary police officer so appointed by the county board of health as in his judgment may seem best.

Nuisances. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 9. *Nuisances defined.*—Whatever is dangerous to human life or health; whatever renders the air, or food, or water, or other drink unwholesome; whatever building, erection, structure, or cellar or part thereof is overcrowded or not provided with adequate means of ingress or egress, or is not sufficiently supported, ventilated, drained, cleaned, or lighted; all ponds of stagnant water; all cellars and foundations of houses whose bottoms contain stagnant and putrid water; all dead and putrified animals lying about the roadways, lanes, streets, alleys, docks, vacant lots, or yards, or upon the surface of the ground within the county; all privies, except water-closets properly maintained and connected with a sanitary sewer, without proper receptacles thereunder (which shall be water proof and tight for collecting deposits), or which are unscreened against flies, or which are within 40 feet of any occupied house or dwelling or part thereof or which are maintained in violation of health measures; all installations of plumbing that are illegal or unsanitary; all choked sewers and house drains; all slaughter houses within the city of Wilmington, or where outside of said city which are not erected and maintained as hereinafter provided; all docks, the bottoms of which are alternately wet and dry by the ebbing and flowing of the tide; all accumulations of vegetable and animal substances undergoing putrefactive fermentation; all pig pens, horse stables, and cow stables within the city of Wilmington and the village of Wrightsville Beach, except as otherwise provided for in these regulations; all wells and cisterns from which water for drinking and other domestic purposes may be obtained which shall show on three successive examinations the evidence of pollution, are declared to be nuisances; and every person, firm, or corporation aiding in creating or contributing to the same or who support, continue, or retain any of the same, shall be deemed guilty of a violation of this regulation and shall also be liable for the expense of the abatement and remedy therefor.

Garbage, Refuse, and Offal—Disposal of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 10. *Excreta, carrion, waste, disposal of.*—It shall be unlawful to place, pour, throw, deposit, or convey by drain or gutter into or upon any street, alley, wharf, or other public place, or into or upon any yard or premises, or to bury beneath the surface of the soil within the limits of the county of New Hanover any dead animal, carcass, human body, or part thereof, carrion, offal, human excrement, filth, putrid or decaying animal matter, or other substance or matter offensive to the smell or injurious to health without first obtaining from the board of health written permission so to do, the location to be specified in such permission: *Provided*, That nothing herein shall be construed to prevent the proper burial of dead persons in any cemetery properly set apart for such purpose. Any violation of this section, and every person, firm, or corporation inducing, causing, suffering, or otherwise aiding or abetting any such violation shall be subject to a penalty of \$50 for each and every such offense.

SEC. 11. *Garbage, swill, receptacles, disposal of.*—No house refuse, swill, slops, decaying vegetable matter, or organic waste substance of any kind shall be thrown from any window or be otherwise deposited on or in any lot, street, ditch, gutter, or other public

place in the city of Wilmington or in the village of Wrightsville Beach, and no putrid or decaying vegetable or animal matter shall be kept in any house, cellar, or adjoining outbuildings or grounds in the said city or village for more than 24 hours. All slops or similar organic waste substances or organic kitchen refuse in said places shall be kept in proper metal receptacles, closed with tight-fitting lids, and so placed as to be accessible and easily handled for removal. All such slops or organic waste substances or kitchen refuse, when so placed in receptacles awaiting removal, shall be drained of all water or liquid, and such water or liquid shall be placed in or disposed of through the sewer or under such rules as may be provided therefor, in the interest of the public health, by the board of health or the county health officer.

Any person, firm, or corporation violating any provision of this section shall be subject to a penalty of \$10 for each and every such offense.

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SEC. 15. *Incinerator, disposal of waste.*—All garbage, swill, slops, carcasses of dead animals, carrion, condemned meats, vegetables, fish, or other foodstuffs, and all trash, rubbish, waste, and other combustible material that may be classed as refuse shall be carried to the public incinerator in the city of Wilmington and there burned and destroyed, save and except when special permit is issued by the board of health for the collection of swill or slops and its disposal as food for hogs, and except in such parts of the county of New Hanover as such waste or refuse may be disposed of otherwise without danger to the public health. Any person, firm, or corporation who shall dispose of any such waste as hereinbefore described in any other way except by express permission of the board of health shall be subject to a penalty of \$25, and any person in charge of any team or vehicle of any description whatsoever or who may be in employ of any person, firm, or corporation who shall violate the provisions of this section shall be subject to a penalty of \$25 for each and every such offense.

Domestic Animals—Keeping of—Disposal of Dead Bodies. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 12. *Dead animals, notification.*—The owner or person having control of every dead horse, mule, ox, cow, goat, hog, sheep, dog, or other animal found dead within New Hanover County and not slaughtered for food, and the owner or occupant of the lot or premises whereon such dead animal or carcass may be found, shall give notice of the death of such animal or of the presence of such carcass on said lot or premises, specifying as nearly as possible the exact location of said lot or premises to the health department or to the county health officer, immediately upon learning of the death of such animal or of its presence on said lot or premises. The owner or person having control of any such animal or the occupant of such lot or premises willfully failing to comply with the provisions of this section shall be subject to a penalty of \$10 for each and every such offense.

SEC. 13. *Dead animals, unlawful removal of.*—No person, firm, or corporation shall remove the carcass of any animal mentioned or embraced in section 12 from the place where found except in compliance with the rules and regulations prescribed for the removal thereof by the board of health, nor without the written permission of the county health officer or the board of health as required in section 14.

SEC. 14. *Dead animals, disposal of, permit.*—No person, firm, or corporation, except as hereafter provided, shall remove, flay, steam render, or in any other manner dispose of the carcass of any dead animal which has been abandoned by its owner within the county, or which has become a nuisance and is found lying upon any of the streets, alleys, public places, roads, or private premises therein without first obtaining from the county health officer or the board of health permission to dispose of said carcass, and any person, firm, or corporation violating any of the provisions of this section shall be subject to a penalty of \$10 for each and every such offense.

* * * * *

SEC. 33. Hogs, regulating keeping of.—It shall be unlawful for any person, firm, or corporation to keep any hog, pig, or swine within any building, pen, lot, or other place within the corporate limits of the city of Wilmington or the village of Wrightsville Beach; or within 50 feet of any occupied house, dwelling, or any building in the county of New Hanover in which food for the use of human beings is stored or kept for sale; or within 50 feet of any well or cistern within the county from which water may be drunk; or within 100 feet of any church or schoolhouse within the county of New Hanover. Any person, firm, or corporation violating any provision of this regulation shall be subject to a penalty of \$10 for each hog, pig, or swine so kept for each day the same shall be so kept.

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SEC. 35. Cows, keeping of, regulated.—It shall be unlawful to keep or maintain any cow or cows within the corporate limits of the city of Wilmington, from which milk is sold to any person, firm, or corporation for human consumption.

It shall be unlawful to keep or maintain any cow on any lot or within any pen or stable within the corporate limits of the city of Wilmington within a radius of 50 feet of any dwelling.

It shall be unlawful to keep more than one cow on any lot or premises within the corporate limits of the city of Wilmington.

It shall be unlawful to keep any cow on any lot or premises within the following-defined limits of the city of Wilmington, to wit: Within that portion bounded on the west by the Cape Fear River, on the south by the south side of Castle Street, on the east by the east side of Seventeenth Street, and on the north by the right of way of the Atlantic Coast Line Railroad, Campbell Street, and Miller Street.

Every person, firm, or corporation keeping a cow within the corporate limits of the city of Wilmington shall have and maintain a substantial roofed and inclosed stable wherein such cow shall be kept. Every such stable shall have a cement floor and a properly constructed cement gutter to receive droppings and shall be equipped with a water-tight brick pit, cement lined throughout, or a concrete pit tightly covered and fly proof, into which all droppings from the cow shall be placed daily.

Buildings and Premises—Sanitary Maintenance of.—(Reg. Bd. of H., Sept. 8, 1914.)

SEC. 16. Vegetation dangerous to health.—It shall be unlawful for any person, firm, or corporation to keep or maintain on his or their premises any growing vegetation of such a kind or nature as to be a menace to the public health.

SEC. 17. Stagnant water, drainage, screening, oiling.—It shall be unlawful for any owner, lessee, tenant, or occupant of any building or premises within the city of Wilmington to keep or permit thereon any standing water or matter or substance injurious to health or offensively odorous. All cellars, excavations, ditches, or open spaces therein in which water at any time stagnates or arises or which are damp and in which foul and unwholesome gases are generated, and all premises therein on which water shall pond shall, upon written notification by or through the county health officer, be provided with proper drainage by the owner thereof or be filled up with sand, gravel, or some other imperishable material, but not in such a manner as to obstruct proper drainage of water. Upon the establishment of grades by said city of Wilmington for a drainage system it shall be the duty of all property owners to conform thereto and to provide at their own expense a proper and adequate system of drainage over their respective premises so as to abate and prevent nuisances; that all property owners, when required so to do, shall provide underground drainage for water passing over their premises. Cisterns, tanks, vats, fire buckets, and other receptacles used to contain water shall be screened or oiled whenever in the opinion of the board of health such screening or oiling is necessary to prevent the breeding of mosquitoes. Every person, firm, or corporation violating this section or failing to

comply with any of its provisions, after written notification and requirement by or through the said county health officer, shall be subject to a penalty of \$25 for each and every such offense, and each day's continuance, after reasonable notice thereof, shall constitute a separate and distinct offense.

SEC. 18. *Offensive materials, storage of, permit required.*—No person, firm, or corporation shall keep or store in any building or cellar or other place within the city of Wilmington any hides, dried or green, or any filthy rags, bones, guano, or other material likely to occasion a nuisance or be a detriment to the public health unless such person, firm, or corporation shall first obtain from the board of health a written permit specifically designating the place and location in which such hides, bones, guano, or rags or other material may be stored. Any person, firm, or corporation violating any of the provisions of this section shall be subject to a penalty of \$25 for each and every such offense, and where such violation is continuous each day after notice from the county health officer to remove such hides, rags, bones, guano, or other material shall constitute a separate and distinct offense.

SEC. 19. *Buildings and premises, sanitation of.*—All occupants of houses, and if there be no occupants then the owner or agents thereof, shall cause all dirt, filth, and rubbish to be removed from such houses and the cellars thereof, and the same shall be thoroughly cleaned whenever and as often as the county health officer shall, in the interest of health, require and give notice thereof. All occupants, and if there be no occupants then the owner or agent, of all stores, shops, warehouses, and other places within the county of New Hanover shall remove therefrom all fish, meat, hides, or other matter, rubbish, or any material whatsoever which may be putrid or offensive to the smell or foul or unwholesome or injurious to health, and shall ventilate such buildings and thoroughly clean such premises whenever notified and required to do so by the county health officer. Any occupant, and if there be no occupant then any owner or agent, violating any provision of this section shall be subject to a penalty of \$10 for each and every such offense, and each day's continuance after notice shall constitute a separate and distinct offense.

SEC. 20. *Inspectors, obstruction of.*—It shall be unlawful for the owner or occupant of any lot, premises, house, building, cellar, inclosure, or place, or for any person therein, or any other person to willfully refuse or delay to open the same or prevent access thereto or to otherwise molest, obstruct, delay, or oppose any member of the sanitary police corps or any health officer or inspector acting under orders from the county health officer or legally authorized for such duty in the discharge of any of his duties. Any person, firm, or corporation so offending save as otherwise provided in any section of these regulations shall be subject to a penalty of \$50 for each and every such offense.

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SEC. 40. *Premises, vacant houses, buildings, sanitation and care of.*—Vacant houses and buildings of every kind within the county shall be kept in a sanitary condition, and when such houses and buildings shall be located within any city or town they shall be securely closed and barred against intruders by the owners or persons in control thereof.

It shall be the duty of every owner of a lot or premises within any city or town in the county of New Hanover who may reside thereon, and the duty of every owner of every vacant lot not having a known tenant or lessee residing thereon, and of every lessee or tenant or occupant of a lot or building in any town or city of the county of New Hanover to cause said lot and all buildings on said lot of every description whatsoever to be carefully cleaned whenever such cleaning is ordered by the health officer in the interest of health. All filth, dirt, and refuse of every kind and description and all sweepings from buildings shall be placed in barrels, boxes, or other suitable receptacles or shall be otherwise collected and disposed of as may be required or approved by the board of health. Any owner or person in control or any tenant or

lessee refusing, failing, or neglecting to comply with any provision of this section shall be subject to a penalty of \$25 for each and every such offense, and each day's continuance after due notice is given shall constitute a separate and distinct offense.

SEC. 41. *Dwellings, renting forbidden, when.*—No owner, agent, or lessee of any building or any part thereof shall lease, or let, or hire out the same, or allow the same to be occupied by any person as a place in which to dwell or lodge, except when said building or parts thereof are lighted, ventilated, provided and accommodated and are in all respects in that condition of cleanliness and wholesomeness for which these regulations or any laws of the State provide, or in which they or either of them require any such premises to be kept. No building shall be leased, let, or rented which is equipped with plumbing or drainage which has been condemned as dangerous to health, nor shall any owner or agent or lessee or person in control, rent, let, hire out, or allow any part of a building to be used as or for a place of residence, the floors of which are damp by reason of water from the ground, or which is impregnated or penetrated by any offensive gas, smell, or exhalation prejudicial to health. Any owner, or any person, firm, or corporation, acting as agent for or being in charge of any such place, who shall violate any of the provisions of this section shall be subject to a penalty of \$25 for each and every offense, and where notice is given to remedy conditions or to abate any act or condition herein declared unlawful, every day's continuance shall constitute a separate and distinct offense.

SEC. 42. *Dwellings, overcrowding, forbidden.*—No owner, agent, proprietor, manager, or person in charge shall let, lease, rent, or permit to be occupied any house or building or part thereof as a boarding house, lodging house, or tenement house which is not properly ventilated and in which there shall not be in each sleeping room thereof at least 64 square feet of floor space and 400 cubic feet of air space for each occupant thereof, and no such owner, agent, proprietor, manager, or person in charge shall at any time permit any sleeping room or other room used as a place in which to sleep under his or her control to be occupied as such in violation of this section. Any such owner or agent, proprietor, manager, or person in charge who shall violate this section shall be subject to a penalty of \$25 for each and every offense, and after due notice has been given, each day's continuance shall constitute a separate and distinct offense.

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SEC. 44. *Factories, shops, offices, etc., sanitation of, placarding.*—When, upon investigation and inspection, it shall be found that any building or part thereof, used as a dwelling or as a place where foodstuffs of any kind and description are stored, handled, kept or exposed for sale; or as a factory, office or offices, warehouse, shop, or other place in which persons engage in any occupation, or as a place of amusement, entertainment, or instruction, where persons assemble for such purpose, is kept or permitted to remain in an insanitary or filthy condition, or is not properly lighted or ventilated, or in which the drainage and plumbing are so insanitary as to constitute a menace to health, or where the construction or condition of such places is such as to endanger health, it shall be the duty of the county health officer to notify the owners or agents or persons in charge of such buildings and places, in writing, of the existence of such conditions, and to require them to remedy such conditions within a reasonable time. If within such time the specified dangerous conditions are not remedied, it shall be the duty of the county health officer to place or cause to be placed, in a conspicuous place on the front of such building, a placard proclaiming such place or building to be insanitary and a dangerous place to the public health. Said placard shall remain in said conspicuous place until the requirements for the protection of the public health have been fulfilled. Any person, without authority from the health department, defacing or obstructing such placard shall be subject to a penalty of \$25 for each and every such offense.

Privies and Cesspools—Construction and Maintenance—Disposal of Contents. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 21. *Privies and cesspools, construction and maintenance of.*—Cesspools and sinks are prohibited within the city of Wilmington and the village of Wrightsville Beach. Surface closets are declared unlawful anywhere within the limits of the county of New Hanover; privies or closets, as hereinafter provided for, may be maintained within the county where and while premises are not accessible to any approved system of sanitary sewers. It shall be the duty of all persons, firms, or corporations having, owning, or controlling privies or closets, when not so accessible to and unconnected with any approved sanitary sewer system, to have and use at all times in connection therewith portable, water-tight receptacles in which to receive and collect all excreta. Such privies or closets must be so constructed and equipped as to permit the proper and easy handling, placing, and removal of such receptacles and the contents thereof by scavengers. Such privies or closets shall be so equipped and maintained as to prevent all night soil and other closet matter from reaching the ground, and must at all times be so constructed and screened as to prevent the access of flies to all excreta therein. It shall be the duty of those owning or controlling premises on which such privies are located to cause the contents of such receptacles to be constantly deodorized. Privies or closets situated outside the city of Wilmington and not accessible to any approved sewer may be constructed under the plan known as the L. R. S. privy: *Provided*, That the receptacles shall be at all times impervious to water and the effluent so disposed of as the board of health may approve in the interest of health.

SEC. 22. *Privies, inspection of, permit for.*—Every person, firm, or corporation owning or maintaining, or who may hereafter erect or cause to be erected, maintain or cause to be maintained, any privy or closet in the city of Wilmington, not connected with the sewer system, or who within 1 mile in every direction in the county from the limits of the city of Wilmington shall erect or use any privy or closet not connected with a sanitary sewer, shall secure and hold therefor a permit from the board of health. It shall be the duty of the county health officer to cause all such privies or closets to be inspected at such intervals as he may designate or as may be found necessary in the interest of health. No permit hereunder shall be issued unless such privy or closet is located, constructed, kept, and maintained in accordance with the provisions of these regulations and is in a satisfactory sanitary condition. Any permit granted hereunder may be suspended or revoked by the said county health officer or by the board of health when upon inspection any such place is found to be located, constructed, equipped, or maintained in violation of these regulations after reasonable notice is given to remedy conditions.

SEC. 23. *Privies accessible to scavengers and inspectors, location.*—All privies provided for in these regulations shall not be located within 10 feet of any street or public highway and shall be in all cases easy of access to the sanitary police and scavengers.

SEC. 24. *Privies, cleaning of.*—Every privy shall be cleaned at least once in every two weeks: *Provided, however*, That where a privy is used by a number sufficient to create a nuisance, when cleaned according to the foregoing, then it shall be cleaned sufficiently often to prevent its being a nuisance: *Provided further*, That the cleaning of any privy may be required as frequently as conditions of sanitation and health, upon investigation, are found by the county health officer, or any health officer, to make such necessary.

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SEC. 26. *Privies and cesspools discontinued, removal.*—It shall be the duty of the county health officer to notify the owner of any such property as described in section 25, his agents or tenants, to remove and discontinue all such privies, closets, sinks, or cesspools and to give said owner definite time limit in which to remove the same and to comply with the regulations provided. If the owner shall refuse or neglect to

remove or remedy such privies, closets, sinks, or cesspools, it shall be the duty of the county health officer to remove or cause to be removed such nuisances, and the cost of removing the same shall be collected in such manner as may be provided therefor by law. Nothing herein shall be construed to exempt any such owner or person from the penalties imposed by law.

Scavengers—License—Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 27. *Scavenging, supervision of, reports, licensing, vehicles.*—It shall be the duty of the health department of the county of New Hanover to supervise the removal of excrement from privies and the removal of offensive slops, ofal, carrion, organic waste matter, and kitchen refuse, and said department may, when necessary for the preservation of health and upon approval by the county board of health, secure and maintain proper equipment therefor. No firm, person, corporation, or municipality (other than employees of the health department engaged in such public work) shall engage in the business of removing, carting, or carrying through any of the streets or public highways in the county of New Hanover the contents of privies or offensive organic waste matter or kitchen refuse in any cart, wagon, truck, handcart, or other vehicle unless such person, firm, corporation, or municipality, together with the equipment used, shall be duly licensed or authorized by the county board of health for that employment and purpose. Vehicles and vessels used in the removal of the contents of privies, garbage, carrion, or other offensive waste matter shall be water-tight and be so maintained as to prevent the escape of any of their contents. All such vehicles and vessels so used shall be provided with air-tight lids or covers which will (and shall be so used as to) prevent the escape of offensive odors and the contents therefrom. Inspections of vehicles and equipment so used shall be made from time to time by the health department and where any vehicle or equipment is found to be or to have become unsuitable for the purposes for which it was intended and authorized it shall be the duty of the board of health to condemn the same, and no vehicle or other equipment so condemned shall again be used in such work until the same shall have been satisfactorily repaired or replaced by equipment meeting the approval of the board of health for such purposes.

SEC. 28. *Scavenging, superintendent of, responsible.*—Every person, firm, corporation, or municipality licensed or authorized by the county board of health to collect and remove the contents of privies, slops, garbage, ofal, kitchen refuse, or other offensive organic waste in any city, town, or village, of New Hanover County shall designate some person who shall be superintendent of such collection and removal of waste as above described and who shall be primarily responsible to the county board of health for the proper performance of such scavenger service.

SEC. 29. *Scavenging, superintendent to furnish bond.*—A satisfactory bond or deposit in the sum of \$200 for the faithful performance of his duties and the strict observance of these and such other regulations that may be passed by the county board of health regulating and governing scavenging and other service provided for in the preceding sections shall be required of every superintendent thereunder designated before entering upon his duties.

SEC. 30. *Scavengers, license, subject to orders of board of health, reports.*—Persons, firms, municipalities, or corporations licensed or authorized by the county board of health to remove the contents of privies or closets, or licensed or authorized to remove offensive organic waste matter, as the case may be, shall be subject to the orders of the county board of health in matters relating to the disposal of the contents of privies, the time in which cleaning of privies shall be done, the manner of removing privy contents and receptacles containing such contents, the place or places to which night soil or decaying or putrid or dangerous matter may be removed, and the time and manner in which garbage, carrion, kitchen refuse, and other organic waste shall

be collected and removed. Every scavenger, slop, garbage, or carrion collector licensed, authorized, or employed by any person, firm, municipality, or corporation so licensed or authorized shall make or cause to be made a daily report to the county health officer, stating what premises, giving location and name of occupant, he or they have cleaned or have caused to be cleaned for the period reported, and from what places garbage, carrion, or other organic waste has been collected, giving in such report the name of each person served and the place to which such refuse was carried.

SEC. 31. *Scavenging, hours, vehicles on street.*—No cart or other vehicle used for the purpose of carrying the offensive or noxious substances heretofore enumerated shall be allowed to stand unnecessarily upon the streets or roads, nor shall any unreasonable length of time be consumed in passing through the streets or roads or in loading such carts or other vehicles, and all implements or equipment used in connection therewith shall be kept in an inoffensive and sanitary condition. All matter falling from such vehicles shall be immediately returned to the same. No night soil shall be removed from receptacles nor shall any privy be cleaned or its contents be carried or conveyed by cart or other vehicle except during such hours as shall from time to time be fixed therefor by the board of health.

SEC. 32. *Penalty.*—Any person, firm, or corporation willfully violating, refusing, or failing to comply with any of the provisions of this chapter, sections 21 to 31, inclusive, or either or any of them, shall be subject to a penalty of \$50 for each offense, and where any such violation is continuous each week thereof shall constitute a separate and distinct offense.

Milk and Cream—Production, Care, and Sale. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 34. *Cattle, tuberculin test required, when.*—It shall be unlawful to sell or offer for sale in the county of New Hanover for breeding or dairy purposes any cattle unless every such animal be given the tuberculin test, or unless accompanied by a certificate from a qualified veterinary surgeon showing that every such animal has been so tested within six months prior to the date such animal is sold or offered for sale. Cows kept, from which milk is sold within the county, shall be tuberculin tested at least once every two years. When such test is made by the meat and milk inspector the charge to be made therefor shall cover the cost for making such test. Any person, firm, or corporation violating any provision of this regulation shall be subject to a penalty of \$10 for each and every such offense.

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SEC. 99. *Dairies in New Hanover County, permits, application, suspension, revocation.*—No person, firm, or corporation shall, within the county of New Hanover, keep or maintain a dairy or dairy farm without a permit so to do from the board of health. Application for such a permit shall be made in writing upon a form prescribed by said board of health. It shall be the duty of the board of health, upon receipt of such application in due form, to cause to be made an examination of the premises and equipment which are intended to be used in the maintenance of such dairy or dairy farm; if, after such examination, the premises and equipment are found to conform to the regulations governing dairies and dairy farms which follow, the said board of health shall issue a permit therefor: *Provided*, That any permit issued hereunder may be suspended or revoked at any time by the said board of health, upon satisfactory evidence that the holder or party operating thereunder is violating, neglecting, or refusing to observe any health or sanitary law or regulation governing such business: *Provided further*, That any permit issued hereunder may be suspended or revoked at any time without notice, by the said board of health, or be suspended by its designated agents, whenever the milk supply from such dairy or dairy farm is exposed to infection by Asiatic cholera, anthrax, diphtheria, erysipelas,

membranous croup, scarlet fever, typhoid fever, smallpox, splenic fever, septic sore throat, tuberculosis, rabies, or any other contagious disease or any insanitary condition which may render the distribution of its products dangerous to the public health.

SEC. 100. *Dairies, other, permit, application, suspension, revocation.*—No person, firm, or corporation shall bring or send into the county of New Hanover for sale any milk or cream without a permit to do so from the board of health of New Hanover County; application for such permits shall be made in writing upon forms prescribed by said board of health and shall be accompanied by such detailed description of the dairy or dairy farm where such milk or cream is produced or is to be produced or stored as the said board of health, in the interest of the public health, may require; and a sworn statement as to the physical condition of the cattle supplying such milk, together with copies of certificates attesting that the cattle on such dairy farms have been tuberculin tested as required by these regulations must be attached. Upon the filing of such application, detailed information, and certificates it shall be the duty of said board of health to examine the same or cause such further examination to be made as may be deemed necessary. And if such board, after examination, is satisfied that such milk or cream may be distributed in the county for sale or use without danger to the public health, the said board of health shall issue a permit so to do. All permits issued under this section are issued upon the express condition, whether recited or not in the application for the permit, that the party or parties holding or operating under such permit or permits will bring into the county none but pure and unadulterated milk and cream; that in the management of said dairy or dairy farm, in the care of its herds, and in the handling, storing, and distribution of such milk supply, the holder or party operating under such permit, his employees and agents, will be governed by all the regulations of the board of health of New Hanover County and all police regulations of the city of Wilmington or any other incorporated municipality which are not in conflict with law; and that said dairy or dairy farm, the herds, and equipment shall be open to inspection at any time without notice by the agents of said board of health: *Provided*, That any permit issued under this section may be revoked at any time by the board of health upon satisfactory evidence that the holder or party operating thereunder, his employees or agents, or any of them, persistently violate or refuse to observe any health or sanitary law or ordinance made for the protection of health governing such business: *Provided further*, That any permit issued under this section may be suspended or revoked at any time by the said board of health, or be suspended by its designated agents, whenever the milk supply from any such dairy or dairy farm is exposed to infection by Asiatic cholera, anthrax, diphtheria, erysipelas, membranous croup, scarlet fever, typhoid fever, smallpox, splenic fever, septic sore throat, tuberculosis, rabies, or any other contagious disease or dangerous insanitary surroundings or conditions which may render the distribution of such milk or milk products dangerous to the public health.

SEC. 101. *Dairies, permits revoked or suspended, notice, sale of milk prohibited.*—Whenever any permit, issued under either of the two preceding sections, has been suspended by an agent of the board of health other than the county health officer, such suspension, with the reasons therefor, shall within 12 hours thereof be reported to the board of health, and, if approved, notice in writing shall be given such party or parties operating under such permit so suspended temporarily within 24 hours of the period, reasons, and conditions of such suspension. Any person, firm, or corporation selling or delivering for sale within the county of New Hanover milk or cream without a permit, or during the suspension of a permit, or after the revocation of a permit, as hereinbefore provided, shall for each and every such offense be subject to a penalty of \$50, and each day's continuance in any such violation shall constitute a separate and distinct offense.

SEC. 102. *Employees, infected or exposed to disease, prohibited.*—No person suffering from, or who has knowingly within a period to be specified by the board of health in any case, been exposed to any contagious or infectious disease, such as Asiatic cholera, anthrax, diphtheria, erysipelas, membranous croup, scarlet fever, typhoid fever, smallpox, splenic fever, septic sore throat, tuberculosis, rabies, or any other contagious, infectious, or any venereal disease, shall work in or assist about any dairy or dairy farm; and no proprietor, manager, or other person in charge of any dairy or dairy farm or place where milk is handled for sale, storage, or distribution, shall knowingly permit any person suffering or exposed as aforesaid to work or assist in or about said dairy, dairy farm, or place.

SEC. 103. *Employees, infection or exposure among, notification of.*—If at any time there shall occur among the persons engaged in the production or handling of milk or cream, intended for sale in the county of New Hanover, or in the house of any person so engaged, any of the contagious or infectious diseases heretofore specified or referred to, the owner, manager, or person in charge of such dairy or dairy farm where such milk is kept or handled, shall immediately notify the county health officer thereof.

SEC. 104. *Milk, adulterated or unwholesome, sale forbidden.*—No person, firm, or corporation shall sell or offer for sale, in the county of New Hanover, any unwholesome, watered, or adulterated milk, or milk in which there is a visible sediment, or milk known as swill milk, or milk from cows that are fed on swill, garbage, or like substances, nor any cream, butter, or cheese made from such milk.

SEC. 105. *Milk from unhealthy cows, sale forbidden.*—It shall be unlawful for any person, firm, or corporation to sell or offer for sale, within the county of New Hanover, milk taken from any cow less than 15 days before or 10 days after parturition, or from any cow which is known to be suffering from tuberculosis, splenic fever, anthrax, or any general or local disease which is liable to render the milk from said cow unwholesome.

SEC. 106. *Milk, standard of content.*—No person, firm, or corporation shall offer or have for sale, within the county of New Hanover, any milk containing more than 88 per cent of watery fluid and less than 12 per cent of total milk solids, of which at least $3\frac{1}{2}$ per cent shall be of butter fat.

SEC. 107. *Milk, standard of bacteria count.*—No person, firm, or corporation shall sell, offer, or have for sale, within the county of New Hanover any milk containing more than 100,000 bacteria in each cubic centimeter thereof during October, November, December, January, February, or March in any year. During April, May, June, July, August, and September in any year it shall be unlawful to offer or have for sale within the county any milk containing more than 200,000 bacteria per cubic centimeter.

SEC. 108. *Milk, skimmed, standard of contents.*—No person, firm, or corporation shall sell, exchange or deliver, or have in his, her, or its custody or possession with intent to sell, exchange, or deliver, within the county of New Hanover, skimmed milk containing less than 9.3 per cent of milk solids, inclusive of fats.

SEC. 109. *Milk, skimmed, sale of regulated.*—No dealer in milk, and no servant or agent of such dealer, shall sell, exchange, or deliver, or have in his possession or custody with intent to sell, exchange, or deliver within the county of New Hanover, milk from which the cream, or any part thereof, has been removed unless, in a conspicuous place above the center and upon the outside of every vessel, can, bottle, or package thereof, from or in which such milk is sold, the words, "skimmed milk" are distinctly marked in letters not less than 1 inch in length. Condensed skimmed milk shall not be sold or offered for sale within the county in quantity or in containers of less than 1 gallon.

SEC. 110. *Milk sampling and grading.*—The board of health shall from time to time establish a standard or standards of cleanliness, under which all milk sold within the

county of New Hanover, shall be graded. Such standard or standards to be based upon the number of bacteria contained in each cubic centimeter of such milk. Gratings made under such standards shall be posted or published, in a manner deemed advisable by the board of health, for the information of the public. In all cases of sampling in the county of New Hanover milk taken for analysis shall be taken, examined, and analyzed in the presence of at least two witnesses, if such is desired, one of whom may be the owner of the milk or his agent; and in all cases such sampling, when samples are taken from large bulk containers or cans for examination as to food value, shall be made according to the Babcock method, to wit, dumping the milk from one can to another not less than twice before sampling. Bottled milk may be taken from delivery wagons or places where milk is sold by the inspector, and such sample shall be marked by the owner for the purpose of identification.

SEC. 111. *Milk dealers, name of dairy to be posted.*—All grocers, bakers, soft drink dealers, or other persons, within New Hanover County having or offering milk or cream for sale, shall at all times keep the name of the dairyman from whom milk or cream on sale shall have been obtained posted in a conspicuous place wherever such milk may be so exposed or kept for sale

SEC. 112. *Inspections, persons authorized to inspect.*—All officers of the sanitary police, inspectors, and officials of the health department, and all members of the board of health are hereby designated as agents of the board of health, and shall have the right to enter, without previous notice, for the purpose of inspection or in the discharge of duty, any dairy or dairy farm or place from which milk or milk products are offered for sale within the county of New Hanover.

SEC. 113. *Enforcement of regulations.*—It shall be the duty of the county health officer, under the direction of the board of health, to enforce regulations, to secure proper water supply, drainage, ventilation, air space, floor space, and cleaning of all dairies and dairy farms within the county of New Hanover, not otherwise provided for by regulations; to secure the isolation of cattle suffering from any contagious disease, and to supervise the carrying into effect of the provisions of these regulations.

SEC. 114. *Penalty.*—Any person, firm, or corporation failing to comply with, or violating any of the provisions of these foregoing regulations, governing the production and sale of milk, except where a penalty is otherwise especially provided in any section, shall be subject for each and every such offense to a penalty of \$20.

SEC. 115. *Rules adopted by the board of health to be used in connection with the regulations governing the production and sale of milk in the county of New Hanover.*—(1) No building or space shall be used for dairy purposes which is not well lighted and ventilated, and if such room or space be a cellar or subcellar, or be located in a cellar or subcellar, it must be properly concreted, guttered, and drained.

(2) No dairy shall be located or maintained within any kitchen, washroom, work shop, or inhabited room, nor in proximity to any water-closet, privy, cesspool, or urinal, nor in any room or space which is not of such size and construction as to permit the entire separation of all milk and milk products, both in process of storing and handling same, from all probable sources of contamination, either by dirt, noxious gases, infective organisms, or substances, or from anything liable to alter or affect injuriously and unnecessarily the quality of such milk or milk products.

(3) Every person, firm, or corporation maintaining a dairy, or handling milk for sale, shall provide for the use thereof, and shall use, a sufficient number of receptacles, made of nonabsorbent material, for the reception, storage, and delivery of milk, and shall cause the same to be kept clean and wholesome at all times; and having delivered any such receptacle to a consumer shall not again use the same for the reception, storage, or delivery of milk or cream, in any form, until it has been properly cleaned and sterilized with live steam or boiling water after every such use.

(4) Every person, firm, or corporation maintaining a dairy shall provide, for the use thereof, a supply of pure and suitable water, sufficient for the proper washing of all cans, bottles, and appliances.

(5) Every person, firm, or corporation maintaining a dairy shall keep the same and appurtenances thereto clean and wholesome at all times, and shall change the water in the coolers at least once each day.

(6) No building for stabling cows from which milk is sold, or for dairy purposes, shall be used which is not well lighted, ventilated, drained, and constructed, or which is not provided with stalls, or with proper stanchions for anchoring the cows, so arranged as to allow not less than 3½ feet width of space for each milch cow; or which is not provided with a properly constructed cement floor and gutter for each such stall, and with good and sufficient facilities for feeding the animals in a cleanly manner; or which contains less than 800 cubic feet of clear air space for each cow.

(7) No room shall be used for stabling cows which contains any water closet, privy, cesspool, urinal, or manure pit, nor shall any fowl, hog, horse, sheep, goat, or other animal be kept in any such room.

(8) Every person, firm, or corporation using any premises for keeping cows for dairy purposes, shall, when so directed by the health officer, erect and maintain in the stables, stalls, sheds, or yards connected therewith, one or more proper receptacles for drinking water for such cows, and shall keep the same supplied with clean, fresh water and none other.

(9) Every person, firm, or corporation using any premises for keeping cows for dairy purposes shall keep the entire premises so used clean and in good repair, and the buildings well painted or whitewashed.

(10) Every person, firm, or corporation using any premises for keeping cows for dairy purposes, not otherwise covered by regulations, shall cause the manure to be removed from the stables at least twice daily, and always one hour preceding every milking of the cow or cows; and shall not allow an accumulation of manure in the building occupied by the cow or cows, but shall, whenever in the opinion of the county health officer it is required by local conditions and surroundings, provide temporary storage for the same, and for the refuse, in a separate place, which shall be covered and shall be water-tight and fly proof.

(11) Every person, firm, or corporation keeping cows for dairy purposes, under conditions when in the opinion of the county health officer the protection of public health shall require it, shall cause the inclosure in which such cows are kept to be graded and drained, so as to keep the surface reasonably dry and to prevent the accumulation of water and mud therein. Garbage, urine, fecal matter, or similar substances, shall not be permitted to remain in such inclosure, nor shall any open drain run through it.

(12) Every person, firm, or corporation keeping cows for dairy purposes shall cause every such animal to be kept clean and wholesome at all times, and shall cause them to be cleaned and brushed, and the teats and udders to be carefully cleaned by wiping with damp cloths before each milking, and shall cause each such cow to be properly fed and watered.

(13) Receptacles used for milk shall at all times be kept clean and wholesome, and at milking times each receptacle used for such purpose, as soon as filled, shall be removed from the stable or room in which the cow or cows are kept; nor shall any milk or cream or other dairy products be stored or kept within any room used for stabling any cow or other domestic animal.

(14) It shall be the duty of every person having charge or control of any premises within the county upon which any cow or cows are kept from which milk or milk products are sold, delivered, or distributed to notify the county health officer of the existence of any contagious or infectious disease among any of such cows thereon,

within 24 hours of the discovery of such disease, and to thoroughly isolate any cow or cows so diseased, or which may be reasonably believed to be so diseased or infected, and to exercise such other precautions as may be directed by the said county health officer.

(15) Milkers or those engaged in the handling of milk or cream and other dairy products shall maintain strict cleanliness of their hands and persons while milking or handling such milk or milk products. It shall be the duty of every person, firm, or corporation holding a permit to maintain a dairy or dairy farm, or to sell milk or cream or milk products, to enforce this regulation in reference to such persons as may assist them in the work or maintenance thereof.

SEC. 116. *Penalty for violations of the foregoing rules governing the maintenance of dairies and dairy farms.*—Any person, firm, or corporation failing to comply with or violating any of the foregoing rules and regulations, numbered from 1 to 15, inclusive, and contained in section 115 of these regulations, shall be subject to a penalty of \$20 for each and every such offense, and where the condition or neglect provided against shall continue from day to day, each such day shall be considered a separate offense, and the board of health shall revoke the license of any person, firm, or corporation who shall, after due notice, continue in such violation or such neglect.

Stables—Location, Construction, and Maintenance. (Reg. Ed. of H., Sept. 8, 1914.)

SEC. 36. *Stables for horses and mules, location.*—No building or other structure used for the stabling of horses or mules, singly or otherwise, shall be maintained or used within the corporate limits of the city of Wilmington unless the same be 30 feet or more from any dwelling or part thereof or from any building or store in which food for human consumption is stored or kept for sale.

SEC. 37. *Stables for horses and mules, construction of, cleaning.*—It shall be unlawful for any person, firm, or corporation to have, keep, or maintain any stable used for a horse or horses, mule or mules, within the corporate limits of the city of Wilmington unless the same shall be provided with a water-tight, wood, brick, cement, or tamped clay floor, properly drained. Tamped clay floors herein provided for shall be underlaid with sufficient and adequate foundations throughout, and so tamped and rammed with a sufficient amount of clay that the surface thereof shall be impermeable to water and so drained that at no place on said surfaces shall water or other fluids stand or accumulate.

Every such stable shall be cleaned daily and shall be provided with a fly-proof bin substantially covered, which shall be kept tightly closed at all times save when being filled or emptied, in which all manure and litter shall be placed daily. Said bin to be emptied and contents removed from the city limits whenever necessary, or at least four times each month.

SEC. 38. *Stables, sanitation of, penalty.*—That all stables and premises herein provided for shall be kept clean and shall be disinfected and attended to in such manner and under such rules and regulations as may be prescribed by the board of health or the county health officer. Any person, firm, or corporation violating any provision of these regulations governing the keeping and stabling of domesticated animals shall be subject to a penalty of \$10 for each and every such offense, and each day the provisions of these regulations or any part of them are uncomplished with shall constitute a separate offense.

Rabies—Muzzling of Dogs. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 39. *Dogs, hydrophobia.*—Whenever in the opinion of the board of health there is reason to apprehend danger of the existence or spread of hydrophobia in the county of New Hanover, it shall be the duty of the board of health to issue a proclamation, to be published at least five times in the newspapers of the county, notifying the

public of any such danger or apprehended danger, and requiring all owners and keepers of dogs to muzzle such animals for a length of time which may, in the opinion of the board of health be necessary to avert the danger of hydrophobia and the spread thereof. Every dog, upon such publication and during the time prescribed, found running at large without a good and sufficient muzzle may be summarily destroyed.

Offensive Trades—Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 43. *Businesses dangerous to health.*—No person, firm, or corporation shall erect or maintain within the limits of New Hanover County any manufactory or place of business deemed dangerous to life or detrimental to health, or where unwholesome, offensive, or deleterious odors, gas, smoke, deposits, or exhalations are generated, such as tanneries, refineries, manufactories of starch, glue, leather, chemicals, fertilizers, gas, or any other manufactory, the waste from which may pollute streams from which water supplies are taken without a permit from the board of health; and all such establishments wherever located shall be kept clean and wholesome at all times, so as not to be offensive or prejudicial to public health, and shall be subject at all times to inspection and regulation in the interest of public health.

Any permit granted under this section shall be subject to revocation by the board of health whenever any person, firm, or corporation operating such businesses as are above described shall refuse or neglect to abate any nuisance or remedy any condition dangerous to health when duly notified to do so by the board of health. In addition to the aforesaid revocation of permit, each violation of this section shall be subject to a penalty of \$50, and each day's continuance thereof shall constitute a separate and distinct offense.

Factories—Sanitary Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 45. *Factories, shops, offices, etc., regulations governing.*—1. Every person, firm, or corporation owning or operating any factory or workshop, office building, mill, or loft or any other place, building, or structure within the county in which persons assemble for work shall be governed and shall strictly observe the following regulations pertaining to such places.

2. There shall be for each person employed in such factory, mill, or other place not less than 40 square feet of floor space and not less than 300 cubic feet of air space.

3. The ventilation of workrooms of every kind and description shall provide a supply of not less than 3,000 cubic feet of fresh outside air for each person in each hour that such workroom is so occupied.

4. Every such workroom shall be heated during the winter months, or at such other times as such heating may be necessary, to a temperature not less than 70° F., and this temperature shall be maintained while such workroom is occupied.

5. No building or part thereof used as a mill, factory, or workroom shall be so used when the floors or walls of such building or part thereof are continuously damp or when such building or part thereof is permeated by noxious gases or exhalations which may be detrimental to health.

6. No building or part thereof shall be used as a workroom unless properly lighted, so that all parts of such building or room so used shall be so illuminated during working hours, either by day or night, that those who work therein shall not be subjected to eyestrain at any time during said working hours.

7. Every building or part thereof that is occupied as a workroom shall be kept in a clean and wholesome condition at all times, and all refuse and waste therein shall be deposited and kept in suitable receptacles at all times, which shall be removed and emptied at least once every working day.

8. Whenever any factory, mill, or workshop is used for the handling or production of anything or material in the handling or manufacturing of which there is danger of producing in the workmen any of the so-called occupational diseases, the person, firm, or corporation owning or operating such factory, mill, or workshop shall supply all necessary means, which may be prescribed by the board of health from time to time in the interests of health, for the protection of workmen so employed from said occupational diseases, and they shall strictly observe and cause to be observed all other rules and regulations that have been or may be prescribed by said board of health in the interests of health for the protection of said workmen from said occupational diseases.

9. There shall be provided for each factory, mill, or workshop in operation a plentiful supply of pure water at all times.

10. In all factories, mills, workshops, or such places, there shall be provided a water-closet or privy in conformity with these regulations for every 20 persons therein employed, and where there be less than 20 persons employed therein at least one closet or privy shall be supplied: *Provided further*, Where persons of both sexes are employed in such places, privies or water-closets shall be provided for each sex, in different parts of said building, conforming to the rule as stated above.

11. There shall be supplied for every factory, mill, workshop, or other similar place a sufficient quantity of water for toilet purposes, and adequate equipment for the cleanly washing of hands.

12. Drinking cups, towels, and soap to be used in common shall not be provided or permitted in any such factory, mill, or workshop.

13. No person who is suffering from any contagious or infectious disease, acute or chronic, shall be permitted to work in any factory, mill, office, workshop, or other similar place where persons assemble for work when infection or contagion therefrom shall be dangerous to persons therein or to the public.

14. Any person, firm, or corporation violating any of these regulations, or any superintendent, manager, or proprietor who shall permit the violation of any of these regulations shall be subject to a penalty of \$25 for each and every such offense and each day's continuance after due and legal notice has been given to abate or discontinue any act or condition herein declared to be unlawful shall constitute a separate and distinct offense.

Barbers and Barber Shops—Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 46. *Barber shops, etc., regulations governing.*—1. Every person, firm, or corporation in New Hanover County who desires to establish a barber shop or any other of the businesses named in this section, or who desires to continue and maintain a barber shop or such businesses, shall make application to the board of health for permission so to do. Such application shall be made in writing and shall set forth the name of the proprietor or owner, the name of the manager, and the names of all persons who are employed in said barber shop, together with the location, giving the street and number where such shop is to be operated and maintained. If, upon inspection, it is found that such location is suitable and that the persons to be employed are free from all communicable diseases and that the following regulations can be strictly observed, then the board of health shall issue to such person, firm, or corporation the permit applied for and such barber shop shall be open at all reasonable times for inspection by agents of the board of health and officers of the health department, and the owner or manager and all of the employees therein shall conform strictly to the following regulations:

2. No person shall be employed in a barber shop as a barber, manicure, chiropodist, hair dresser, masseur, or bath attendant who is suffering from any communicable disease.

3. All places within the county of New Hanover used as barber shops, together with the furniture, fixtures, tools, implements, and linen, shall be kept in a clean and sanitary condition at all times.

4. Mugs, shaving brushes, scissors, combs, and other tools and appliances of like nature that will admit of such treatment shall, after use on each person, be sterilized by immersion in boiling water or in alcohol of at least 60 per cent strength.

5. A separate clean towel or face cloth shall be used for each customer.

6. The common use of powder puffs and sponges is prohibited.

7. No alum or other astringent shall be used in stick form. If used at all, such astringent must be in powder form.

8. All hair brushes, hair dusters, and analogous articles shall be washed thoroughly at frequent intervals and kept scrupulously clean at all times.

9. No barber shall permit any person to use the headrest of any barber's chair under his control unless said headrest is covered with a towel that has been washed since last being used or with a clean, new paper.

10. No barber shall shave any person when the surface to be shaved is inflamed or broken out or contains pus unless such person be provided with a cup and shaving brush for his individual use.

11. Every barber or other employee, as stated above, shall cleanse his hands thoroughly immediately before serving each customer.

12. Every barber shall, while serving customers, wear a washable apron or coat, which shall be kept clean.

13. No person shall use a barber shop as a place in which to sleep, nor shall any proprietor or owner thereof permit said shop to be so used.

14. Every barber or other person in charge of any barber shop shall furnish a plentiful supply of hot and cold water and shall use hot-water tanks for no other purpose than that of heating water.

15. The owner or proprietor of every barber shop shall keep a copy of these regulations, which shall be furnished by the board of health, posted in said shop for the information and guidance of persons working or employed therein.

16. Any owner, proprietor, barber, or other employee violating any of the provisions of these regulations shall be subject to a penalty of \$25 for each and every such offense.

Laundries—Location and Sanitary Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 47. *Laundries, construction, sanitation.*—It shall be unlawful for any person, firm, or corporation to establish, maintain, or carry on a public laundry within the city of Wilmington or in any other incorporated municipality in New Hanover County in any building or in any portion thereof or in any annex thereto that shall be occupied or used, either directly or indirectly, as a public hall, store, restaurant, or lodging house, or that is frequented or occupied by many persons, or that is occupied as a stopping place, or is frequented by persons likely to spread infectious, contagious, or loathsome diseases, or that is occupied or used or frequented, directly or indirectly, for any immoral or unlawful purpose. No person, firm, or corporation shall employ in the conduct or operation of a public laundry any person suffering from any contagious, infectious, or loathsome disease, or shall permit any person suffering from any such disease to frequent or remain in any portion of any building used for any of the purposes of conducting a public laundry in said city or municipalities.

SEC. 48. *Laundries, regulations governing.*—Excepting in cases where clothes are dried by the forced circulation of heated air, or by the circulation of the clothes mechanically through air artificially heated, it shall be unlawful for any person, firm, or corporation conducting, maintaining, or operating a public laundry within the

limits of any municipality of New Hanover County to dry any article of clothing washed in such laundry in any room other than one used exclusively for drying purposes, which room must be entirely shut off from every other room, excepting that it may be connected with another room by means of a door opening thereto, in which event such door shall always be kept closed when not being used by a person entering or leaving such drying room. Said room must be ventilated by means of at least two windows opening to the outer air, which windows shall be on different sides of the room. No person, firm, or corporation conducting, maintaining, or operating a public laundry within any municipality of New Hanover County shall wash or permit to be washed any article of clothing in any room the floor of which is not constructed of solid waterproof material and completely drained. If such floor is drained into the public sewer, the drainpipe shall be of cast iron, extra heavy, and properly leaded and calked wherever such drain shall be beneath the building, and said drain shall be connected with a proper drainage cesspool set in flush with the floor at every drainage outlet, and said cesspool shall be trapped and vented so as to prevent sewer gases from entering into such room. Any person, firm, or corporation who shall violate any of the provisions of these regulations governing public laundries shall be subject to a penalty of \$50 for each and every such offense.

Slaughterhouses—Sanitary Regulation of. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 49. *Slaughterhouses, reduction plants, construction.*—Every abattoir or slaughterhouse or other place for the slaughter of animals in operation at which animals are slaughtered for purposes of being used for food, exhibited for sale as food, or sold for use as food within the limits of New Hanover County, shall be constructed in accordance with the following provisions:

The same shall consist of a substantial and suitable building, well lighted, containing a killing room, a chill room, a reduction plant, and suitable pens, chutes, etc., commensurate therewith, together with all knives, tools, cleavers, etc.

The killing room shall be adequate in size, and the floor of said killing room shall be of concrete not less than 3 inches thick, connected with the sewer or drain by means of bell traps and duly equipped with water seals, and constructed in such a manner as to secure perfect drainage; it shall be provided with a plentiful supply of pure and unpolluted hot and cold water, also a tank for scalding animals, together with an ample supply of hose; it shall be provided with such runways, windlasses, overhead trackage, and system of trolleys, running from the killing rooms into and connecting with the chill room and other parts of the slaughterhouse as may be necessary, by which and upon which animals slaughtered can be raised, lowered, and carried from the killing room to the chill room or elsewhere that is necessary within the slaughterhouse without handling the same with hands; it shall be amply equipped with buckets, tubs, and other utensils and devices into which the blood, offal, and refuse shall be placed, and immediately removed without the necessity of handling with hands; the walls, ceiling, and partitions in said building and the floors of the same shall be constructed of material that is easily cleaned and kept so; all apparatus, tools, knives, cleavers, and other utensils used in or about said building shall be kept thoroughly cleaned; said room shall be provided with cuspidors, toilets, towels, and soap for the use of employees working therein.

The chill room shall be of adequate size; the walls, partitions, and ceiling of said room shall, when mechanical or other cooling apparatus is used, be thoroughly insulated with approved material and equipped in such a manner that all condensation shall take place above carcasses and be promptly trapped out of the building, thereby securing, as far as practical, dry refrigeration; where refrigeration is used for the preservation of meats within the county in any cold-storage or refrigeration establishment, the construction and equipment of same shall be such that the approximate

temperature maintained shall be 40° Fahrenheit or less at all times. Every such cold-storage or refrigeration establishment shall also be equipped with overhead trolleys, trackage, or racks sufficient in height and capacity to permit all slaughtered animals or parts thereof to be kept on such trolleys, tracks, or racks, and no animal or portion of same shall be placed on the floor or permitted to rest thereon, and all animals or food products therein shall be handled with the hands as little as possible.

Whenever and wherever a reduction plant shall be established in connection with a slaughterhouse within the county, such plant shall be of adequate size and equipped so as to dispose of all offal, blood, and residue resulting from the slaughtering of animals, without odor, and all products taken from said plant shall be finished products. The rooms in which tankage and tallow are removed from the reduction plant shall be of adequate size and the floors shall be constructed of concrete not less than 3 inches thick and connected with a sewer or drain by means of bell traps and water seals, and shall be supplied with water service in such manner as to secure cleanliness and perfect drainage. The floors of the room in which refuse is handled shall be constructed so as to be water-tight, and shall be thoroughly treated with oil prior to use, and such room and floors shall be kept clean and in good sanitary condition. All offal and refuse from slaughtered animals shall be reduced or otherwise finally disposed of as soon as practical after such animals are slaughtered.

Every abattoir or slaughterhouse, and every reduction plant within the county of New Hanover, shall be located at such places only as are permitted by the board of health, and as shall be easily accessible to the meat and milk inspector, and they shall be so located as to provide for complete and satisfactory drainage at all times.

SEC. 50. *Slaughterhouses, reduction plants, refrigeration, regulations governing.*—All abattoirs or slaughterhouses within the county of New Hanover in which animals used as food are slaughtered shall be operated in accordance with the following regulations:

1. No animal intended for slaughter shall remain on the premises or in any pen or inclosure immediately adjoining or adjacent to any slaughterhouse to exceed 24 hours, nor shall any such animal be slaughtered while overheated.

2. All animals intended to be slaughtered for use as food in any slaughterhouse within the county shall be inspected while alive and on foot by the meat and milk inspector in pens specially constructed for that purpose, which shall be well lighted, and all animals so inspected shall be slaughtered within a reasonable time thereafter, and no animal shall be slaughtered for food purposes that has been condemned by the said inspector.

3. Every animal slaughtered shall be inspected immediately thereafter or as soon as practicable, said animal having been first skinned and opened so as to expose the viscera and the interior of the carcass, and the heart, lungs, liver, and kidneys of every slaughtered animal shall be permitted to remain naturally attached to the interior of every such carcass until such inspection shall have been made.

4. The carcass of every animal slaughtered for food within the county shall be inspected by the meat and milk inspector and tagged, marked, or stamped by him, and a record of said inspection with the name of the owner, kind of animal, and condition shall be made by said inspector, which record of each inspection shall be entered upon his report, which shall be filed with the county health officer.

5. The offal, blood, and refuse from slaughtered animals and the carcasses of such animals or portions thereof condemned upon dead inspection by the meat and milk inspector shall be immediately removed from the premises of the slaughterhouse and either placed in the reduction plant or conveyed by the owner thereof to the incinerator and there destroyed under the direction of said inspector.

6. All trucks, traps, and other receptacles, all chutes, platforms, racks, tables, etc., and all knives, saws, cleavers, and other tools, and all utensils, machinery; and articles used in moving, handling, cutting, or other process shall be thoroughly cleaned before using.

7. All employees must be cleanly, and no person affected with tuberculosis or any other communicable disease shall be employed in any of the departments of any slaughtering place or other such place where carcasses are dressed, meat is handled, or meat food products are prepared, and all employees shall be examined when directed by the meat and milk inspector by the county health officer, who shall report their condition to the inspector and to the manager or person in charge of the slaughterhouse in which they may be employed.

8. It shall be the duty of the meat and milk inspector to see that the clothing and hands of all such employees are clean and sanitary, and they shall be required to change or clean the same at any time he may so direct.

9. No employees or other persons shall be permitted to expectorate on the floor or walls within any slaughterhouse, cold storage, or part thereof, and proper cuspidors which will not readily upset shall be provided in each room and shall be kept thoroughly clean and sanitary.

10. Water-closets and toilet rooms shall be supplied for employees, and such rooms shall be entirely separated from compartments in which carcasses are dressed or meat food products are stored, placed, handled, or prepared. Such closets and toilet rooms shall be conveniently located, sufficient in number, and shall be kept in a sanitary condition.

11. The room or rooms in which meat or meat food products are prepared, stored, packed, or otherwise handled shall be free of odors from toilet rooms, catch basins, tank rooms, etc., and shall be kept free from flies and other vermin by screening or other methods.

12. Butchers who dress or handle diseased carcasses or parts thereof shall cleanse their hands of all grease by washing in hot water with soap and then immerse them in a prescribed disinfectant and rinse them in clear water before dressing or handling other carcasses or meats. All butchers' implements used in dressing diseased carcasses shall be sterilized by boiling for 20 minutes in water before further use and facilities for same shall be provided.

13. Meat and meat food products must not be permitted to fall on the floors, and in event of their having fallen they must be condemned or the soiled portions removed and condemned.

14. Carcasses shall not be inflated with air from the mouth, and no inflation, except by mechanical means, shall be allowed. Carcasses shall not be dressed with skewers, knives, etc., that have been held in the mouth. Spitting on whetstones or steels when sharpening knives is prohibited.

15. Only clean and unpolluted water shall be used in the preparation of carcasses, parts of meat, or meat food products.

16. Each animal that is slaughtered shall be required to remain in the chill or refrigerating room at least 12 hours before the same is used for food or offered for sale as food.

17. Wagons in which meat or meat food products are conveyed or delivered from slaughterhouses or cold-storage places shall be constructed and covered so that the contents shall be kept clean.

18. The managers or persons in charge of all abattoirs and slaughterhouses shall notify the meat and milk inspector in ample time to enable him to prepare for and make each inspection.

19. It shall be the duty of the meat and milk inspector to see that all of the provisions of this section are duly observed.

20. Any person, firm, or corporation who shall violate any of the provisions of this section or any of these rules shall be subject to a fine of \$50 for each and every such offense.

Hotels, Restaurants, Markets, Etc.—Permit Required. (Reg. Bd. of H., Sept. 8, 1914.)

SEC. 51. *Hotels, restaurants, bakeries, food stores, etc., permits required.*—Every person, firm, or corporation engaging or hereafter purposing to engage in the business of keeping, maintaining, conducting, or operating any store, shop, stand, meat market, butcher stall, or business in the county of New Hanover for the retail of fish, game, poultry, or butcher's meat, or engaging or hereafter purposing to engage in the business of keeping, maintaining, and conducting any hotel, restaurant, lunch room, or other public eating room, bakery, soft-drink stand, ice-cream factory or parlor, confectionery, fruit stand, or any place keeping and operating or hereafter purposing to keep or operate a soda fountain shall file with the county health officer a written application for a permit to conduct and operate such business as is hereinbefore described, which application shall state the name of the applicant or applicants, his or their place of residence, and the character of business and location for which a permit is desired on blanks furnished by the health department for this purpose. All persons or corporations from and after the adoption of this regulation purposing to engage in any such business shall first file such application. The said county health officer shall thereupon examine, or cause to be examined, the sanitary conditions of the place proposed to be occupied or occupied for such business, and if such place be found to be in such sanitary condition and in such situation that such business can be conducted therein without danger to the public health, then the said county health officer shall recommend to the board of health that such permit be granted. It shall be unlawful for any person, firm, or corporation to maintain or operate such business as hereinbefore described unless such person, firm, or corporation shall have been granted a permit so to do by the board of health. The permit so issued shall be kept conspicuously posted in the place for which the same is issued. Any permit issued hereunder may be revoked by the board of health upon satisfactory evidence that the holder thereof disregards, neglects, or wilfully refuses to abide by the sanitary regulations of the county of New Hanover, or who fails, neglects, or refuses to obey any proper order or instructions given by the board of health or by any authorized agent of the board of health for the purpose of remedying or correcting any insanitary condition or thing found within or about the place covered by such permit.

Any person, firm, or corporation who shall operate or conduct any of the businesses mentioned in this section without a permit as herein required, or shall operate or conduct such business after the revocation of such permit shall be subject to a penalty of \$50, and each day such business shall be so conducted or operated shall constitute a separate and distinct offense.