PUBLIC HEALTH REPORTS

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THE WATER SUPPLIES OF SHIPS.

WATER FOR DRINKING AND COOKING PURPOSES FURNISHED INTERSTATE VESSELS.

[Amendment to Interstate Quarantine Regulations. No. 7.]

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, June 4, 1914.

To medical officers of the Public Health Service, State and local health authorities, and others concerned:

The following amendment is hereby made to the interstate quarantine regulations promulgated by this department September 27, 1894, and amended August 17, 1905, June 24, 1909, May 15, 1912, October 30, 1912, December 9, 1912, and January 25, 1913, said amendment and regulations being in accordance with section 3, act of Congress approved February 15, 1893.

Article 3, General Regulations, is hereby amended by the addition of the following paragraph:

Paragraph 16.—No person undertaking to furnish water for drinking or cooking purposes to any vessel in any harbor of the United States, intending to clear for some port within some other State or Territory of the United States or the District of Columbia, shall furnish for such purposes water taken from the waters of such harbor, or from any other place where it has been or may have been contaminated by sewer discharges. Any person violating this regulation will be liable to a penalty of not more than five hundred dollars, or imprisonment for not more than one year, or both, at the discretion of the United States District Court.

W. G. MCADOO, *Secretary.*

MINNESOTA STATE DEPARTMENT OF HEALTH.

REORGANIZATION WITH REARRANGEMENT OF THE DIVISIONS AND THEIR WORK.

Much of the efficiency of a department of health depends upon its organization. Proper organization facilitates the smooth running of the administrative machinery by the grouping together of related work, the removal of friction between bureaus and divisions, and the avoidance of duplication.

The recent rearrangement of the work and divisions of the Minnesota State Department of Health is of special interest, notably so because of the logical establishment of two major divisions of work—one having to do with the control of preventable diseases, and known as the "Division of preventable diseases;" the other having supervision over what are usually known as sanitary matters, such as water supplies and sewage disposal, and known as the "Division of sanitation."

For several years the Minnesota State Board of Health has carried on certain lines of work under three divisions, namely:

1. Division of epidemiology.
2. Laboratory division.
3. Engineering division.

It was believed that it would be an advantage for the diagnostic work of the laboratory to be closely associated with the work of the division of epidemiology.

It was also felt that the work of the engineering division should be conducted in cooperation with the study of certain water and sewage problems.

Taking these matters into consideration the board at its meeting April 14, 1914, made the following reorganization:

1. The work of the laboratory division was divided, placing that which relates to the diagnostic work of preventable diseases under the director of the division of epidemiology.

2. The engineering division, as such, was discontinued. Certain work relating to water, sewage, etc., was placed under a new division (sanitation) and an engineer from the engineering division was transferred to this new division.

3. The existing director of the engineering division was given the title of "consulting engineer."

4. The names of the two remaining divisions (the division of epidemiology and the laboratory division) were changed to "division of preventable diseases" and "division of sanitation."

The work of the department as now organized is conducted as follows:

General administration under an executive officer:
Divisions:
1. Preventable diseases.
2. Sanitation.
Consulting engineer.
3. Vital statistics.
4. Accounts, records, etc.

The division of preventable diseases has to do not only with the field work and the handling of all reports of the occurrence of the notifiable diseases but with the laboratory diagnostic work relating to this group of diseases as well.

The division of sanitation has to do with the sanitary supervision of water supplies, sewage disposal plants, disposal of commercial waste, etc.

The consulting engineer advises on water supply systems, on sewage disposal plants and all other engineering matters relating to sanitary problems.

PUBLIC HEALTH ADMINISTRATION AND THE CITIZEN.

Public health administration in a community is as extensive, and the health department is as efficient, as the people want it to be. Health administration can neither exceed to any great extent, nor lag far behind the wishes of the people. An interesting illustration of this is the experience of the city of Wilmington, N. C., during the last two or three years. Two years ago public meetings were held in protest against the extension of public health work, while recently a mass meeting rallied to the support of the health department in opposition to the expressed intention of the majority of the city council to curtail the department budget. An account of the recent citizens' meeting in support of the health department is given in the following letter from Prof. Stiles:

WILMINGTON, N. C., *June 1, 1914.*

The SURGEON GENERAL,

U. S. Public Health Service, Washington, D. C.

SIR: This evening there was held in Wilmington, N. C., one of the most remarkable public-health meetings I have ever attended. It was a citizens' mass meeting, called by prominent citizens and attended by 500 to 600 men, many of them among the most prominent leaders in the city and county.

It was called to consider the action of the city council in cutting down, by about $5,000, the budget as presented by the county board of health and as approved by the county commissioners. This cut in the budget would result in a reduction of the two full-time health officers to one, a reduction in the number of the sanitary police, and an elimination of the sanitary engineer. For several years past there has been a considerable amount of lack of harmony in reference to the health work. The health office has had an uphill fight against various elements, but has increased in efficiency and activities, notwithstanding the opposition.

Two years ago two public protest meetings were held to voice public sentiment against the action of the health office. To-night the protest was against limiting the work and the expansion of the health office.

In the city council, the mayor and one councilman were in favor of the budget, while four councilmen expressed themselves against portions of it. A committee of citizens appeared before the council and requested the opposing councilmen to change their attitude. One councilman was won over, but three stood out against certain details in the budget. This action resulted in the meeting this evening. The council had been invited to attend, but only the mayor and one councilman appeared.

The meeting unanimously indorsed the budget as originally proposed, and provided for the appointment of a committee of 25 citizens to appear before the council to urge reconsideration of its action.

The meeting was the occasion of a calm discussion of the value of and necessity for health work. It was a meeting, not of a political party, but of heads of families, who

calmly but firmly demanded that no backward step be taken in respect to the protection of the women and children against unnecessary sickness. It was a practical answer to the question whether the present day campaign for better sanitary conditions is making progress. No one could attend the meeting without feeling the serious and encouraging significance involved. It is apparent that the leading citizens of the city of Wilmington and the county of New Hanover are determined that no reasonable effort shall be omitted to make the locality as healthful as modern sanitary science can make it. The citizens seemed to realize the difference between cheapness and economy.

A mere recital of the facts conveys but a faint idea of the significance of this unusual spectacle. Fathers of families plead seriously, earnestly, calmly, eloquently, that no backward step be taken, but that the lives and health of the women and children be surrounded by every safeguard within reason.

Politics, financial considerations, even the well-earned reputation of the city and county were kept in the background. The keynote of the entire meeting was that health work must be kept in the line of progress, and that the lives of women and children were to be held above all other considerations.

Wilmington and New Hanover have to-night set to the entire country an intelligent and an inspiring example.

Respectfully,

C. W. STILES,
Professor of Zoology.

PUBLIC HEALTH ADMINISTRATION IN BALTIMORE.

A STUDY OF THE ORGANIZATION AND ADMINISTRATION OF THE CITY HEALTH DEPARTMENT.

By CARROLL FOX, Surgeon, United States Public Health Service.

In connection with the investigation of sanitary organization and administration in Maryland, a study was made of the health department of the city of Baltimore. This study occupied about four months and comprised investigations into office methods as well as surveys of field operations with the inspectors of the department.

On account of the deficiencies of organization in the department it is thought best to report the findings according to activities rather than divisions carrying on those activities. The study was accordingly taken up under the following heads: The administrative office; the control of communicable diseases, including morbidity reports, control of tuberculosis and other diseases, and fumigations; food and dairy inspection; bacteriological work; registration of births and deaths; tenement-house inspection; medical inspection of school children; control of nuisances; inspection of plumbing; maritime quarantine; the secretaries' office; appropriations; field force; transportation of the department; and other public-health activities not under the control of the health department.

There are in the department five well organized subdivisions, as follows: A bureau of food and dairy inspection, a division of tuberculosis, a division of plumbing, a fumigation division, and a division of bacteriology. Of the heads of these but one, the chief of the bureau of food and dairy inspection, is authorized to assume responsibility.

Accordingly, much of the responsibility and the details of administration fall upon the assistant commissioner of health, he being the immediate representative of the commissioner.

In addition to lack of organization, the department is handicapped by political considerations. These and other matters, including conclusions and recommendations, are subsequently presented in this report.

Health administration in Baltimore is conducted through a department of health which is a subdepartment of the department of public safety. The head of the department of public safety consists of a board of public safety composed of the president of the board of fire commissioners, who is president of the board of public safety, the commissioner of health, the inspector of buildings, the commissioner of street cleaning, and the president of the board of police commissioners. This board is for consultation or advice only, and has no power to control or direct the duties or the work of any subdepartment.

The health department, a subdepartment of the department of public safety, was formerly controlled by a board of health consisting of the mayor, the commissioner of health, and the assistant commissioner of health, but at the present time it is under the control of one man, the commissioner of health.

The Administrative Office.

Commissioner of health.—The commissioner of health is appointed by the mayor. He must be a physician of five years' experience and in active practice at the time of his appointment. The salary prescribed in the city charter is $3,500 per annum.

The commissioner of health has employed in his office one stenographer, who receives $720 a year.

The powers and duties of the commissioner of health under the charter and the code are as follows:

1. To cause all ordinances now in existence, or that may hereafter be enacted for the preservation of health, to be executed and faithfully observed.
2. To perform all other duties as are now or may hereafter be prescribed by ordinance.
3. To appoint two assistant commissioners of health, a medical examiner, and an assistant medical examiner, and a reasonable number of clerks and subordinates.
4. To appoint sanitary inspectors not to exceed 15 in number, two of whom may be physicians and one of whom must be a person skilled in matters of drainage and ventilation, and to prescribe the duties of each.
5. To appoint inspectors and analysts for the purpose of inspecting all places where food products, including milk, are handled, and to examine such food products.
6. To appoint a vaccine physician for each ward of the city to perform any duties required of him as vaccine physician and to discharge the duties of a sanitary inspector for his ward, at a salary of not more than $900 per annum.
7. To give to the mayor or other city authorities such professional advice and information as they may require with a view to the preservation of the public health.

8. To investigate and ascertain as correctly as possible the causes of any malignant, contagious, or pestilential diseases that he may hear of.

9. To adopt measures to arrest the progress of such diseases.

10. To report in writing to the mayor every circumstance likely to endanger the health of the city.

11. To report to the mayor either orally or in writing once in every month.

Any person who knowingly obstructs or resists the commissioner of health or any of his subordinates in the execution of his powers or the discharge of his duties is liable to a fine of not exceeding $100.

The commissioner of health as head of the subdepartment of health has the sole power of appointment and removal at pleasure of all deputies, assistants, clerks, and subordinate employees in his department, unless otherwise provided by the charter.

The commissioner of health is not required to devote all of his time to the work of the department, nor does the charter require that he shall be a man experienced in public-health matters. He holds his position for four years by an appointment from the mayor. During the first six months of his service he may be relieved at the will of the mayor, but after that time can be removed only for cause, after charges have been preferred.

Unfortunately in the city of Baltimore party politics plays such an important part in the affairs of the department that progress is made with great difficulty, if at all.

Considering that the department of health is the oldest in the United States, having been organized in 1797, it has certainly not reached the stage of development which should be expected of it. This lack of progress is probably due to too much politics and an apathy on the part of citizens of the city regarding health administration.

The political obstacles which the commissioners have been continually required to meet in their efforts to improve conditions in the department should not have to be overcome by them alone, but they should have as their allies every public-spirited citizen of Baltimore.

Under ordinance the commissioner of health has the sole power of appointment and removal of department employees. As a matter of fact, he can not always exercise his power, and especially so when higher political authority insists on the right of nominating appointees. Unfortunately, when nominations are influenced by politics the matter of the fitness of nominees for the positions which they are intended to fill is likely to be overlooked.

Assistant commissioner of health.—There are two assistant commissioners of health, one of whom acts as quarantine officer for the port of Baltimore and is stationed at the quarantine station; the other is the immediate assistant to the commissioner of health, and is stationed in the administrative office of the health department. The duties of the former will be taken up elsewhere. The latter receives

$3,000 per year and has one clerk at $900 and one stenographer at $720 per year. His duties are as follows:

1. To be on duty in the health office every day except Sunday, unless otherwise engaged in the duties of his office.
2. To supervise the keeping of faithful records of all reports and other matters relating to the health department.
3. To act as commissioner of health in the absence of the commissioner.

By reason of his high professional qualifications and unusual administrative ability the assistant commissioner of health has been continued in office from year to year, although political considerations have time and again been urged as cause for his removal. His continued employment was one of the conditions on which the present commissioner of health is said to have accepted office.

On account of the lack of a sufficient number of bureau and division chiefs, the assistant commissioner of health, in addition to the duties of his regular office, has to assume the duties of chief of the bureau of vital statistics and of the bureau of communicable diseases, and to attend to a host of other details which should devolve on responsible subordinates, leaving him sufficient time to give proper supervision to all of the bureaus of the department without too much attention to detail.

The Control of Communicable Diseases.

While most of the operations of any municipal health organization are primarily for the control of communicable diseases, special reference is here made to the operations relating to the notification of disease and the collection and disposition of morbidity reports, to the control of tuberculosis and other diseases, and to disinfection.

MORBIDITY REPORTS.

Reports of communicable diseases, as required by ordinance, are received and handled under the direction of the assistant commissioner of health by a clerk who is designated as the "communicable-disease clerk," who receives $1,200 per annum. He also has charge of the registration of midwives, the licensing of boarding houses for infants, and certain other duties in connection with the office of the assistant commissioner.

His duties require his presence at the office on week days from 8.30 to 5 p. m. and on Sundays and holidays from 9 until 12 noon. On these days, in the absence of other employees, he also performs their duties if necessary.

Requirements of ordinances.—The ordinances under which the above-named duties are carried on are summarized as follows:

Every physician is required to report to the commissioner of health within 24 hours after his first visit, cases of smallpox, cholera, yellow fever, malignant diphtheria, measles, whooping cough, mumps, pseudo-membranous croup, scarlet fever, varioloid, typhoid fever, ophthalmia neonatorum, epidemic cerebrospinal meningitis, and poliomyelitis (infantile paralysis), giving the address and name of the patient.

All keepers of hotels and boarding houses and owners or agents of tenement houses or private dwellings are required to report to the commissioner of health, as soon as they are aware of the fact, every case of disease as mentioned above occurring on such premises, giving name of person, age, residence, or any other fact of importance.

The persons in charge of every public or private institution where persons lodge or abide temporarily or permanently are required to report in writing every case of smallpox, cholera, yellow fever, malignant diphtheria, scarlet fever, and varioloid occurring in such premises, giving the name of the person and the condition.

Officers or consignees of vessels within one-quarter of a mile of any dock, wharf, or building are required to report in writing to the commissioner of health all cases of diseases mentioned above occurring on the vessel, giving the location and name of vessel.

No midwife, institution, etc., not duly incorporated for the purpose may receive young children for the purpose of caring for them for remuneration without first securing a license from the commissioner of health.

Before this license is issued the application must be indorsed by four reputable citizens, and a record must be kept by the commissioner containing the full name and address of each infant, date of birth, date of its reception, and, in case of change of address, the date and place of its removal.

Before issuing any such license the place must be visited by an agent of the health department, who examines as to its sanitary conditions, accommodations, etc., and makes such recommendations as the health department may use in granting or rejecting the application for license.

For violation there is a fine provided of $25 and costs for each offense, one-half to be paid to the informer, or, upon failure to pay the fine, confinement in the city jail for a period of not less than 10 nor more than 30 days.

The provisions of this act shall in no way be regarded as applying to such persons or homes as may be recommended by the supervisors of city charities of Baltimore city.

Records and reports.—All notifiable diseases are reported by physicians on regular cards to the department of health and are handled by the communicable-disease clerk. He enters the name of the patient, age, address, by whom reported, to whom referred, and any necessary remarks, on a "Daily record of cases of infectious and contagious diseases reported," grouping the different diseases together. Copies of this record are sent to the State department of health weekly. In addition to this, similar information of reported cases is entered on filing cards, a separate style of card being used for each of the following-named diseases: Measles, mumps, whooping cough, varicella, tuberculosis, typhoid fever, and scarlet fever.

Cards reporting tuberculosis are sent by the communicable-disease clerk to the tuberculosis division, so that the cases can be investigated. The other cards are sorted according to wards and are turned over to the health wardens, who investigate the cases and report the results of their investigations on special forms.

In the case of typhoid fever, scarlet fever, measles, and diphtheria, special attention is paid to the milk supply. In the case of typhoid fever special attention is paid also to the water supply, while in the case of diphtheria, scarlet fever, measles, and chicken-pox, special note is made of the school which the patient attends.

Upon the receipt of the report of the health warden and the return of the notification card the information contained in the daily report is checked, showing that the health warden has made his report, and the cards are filed away, those from the physicians by wards and those from the health wardens by diseases. These files are kept for one or two years and then destroyed.

Spot maps are made use of in recording the location in the city of typhoid fever, scarlet fever, smallpox, and other diseases when epidemic or likely to become epidemic.

For the information of the statistician a weekly report is made of the number of cases of the different cummunicable diseases reported.

Other duties of the communicable-disease clerk.—In addition to the handling of morbidity reports, the communicable-disease clerk has charge of the registration of midwives, and in this respect he has the same duties in the city as county registrars have in the counties. The blank forms used are the same and are issued by the State.

He also has charge of the registration of boarding houses for young children. This matter is covered by a State law applying to Baltimore city only. To establish such a place the person must make application, which application must contain the names of four people who recommend its establishment. When an application is received the proposed boarding house is investigated by a health warden as to its suitability for the purpose, and if he makes a favorable report, a permit on a special form is issued; the letter making application is filed away.

This clerk has as a duty also the keeping of records of reports of sore eyes of new-born children, made by midwives and physicians, and other clerical duties which arise in connection with the office of the assistant commissioner of health.

CONTROL OF TUBERCULOSIS.

The antituberculosis work is carried on through a well-organized division established in January, 1910, by the Department of Health, taking over the work that had been performed by the visiting nurses association and employing 15 nurses. Before that time there were two nurses employed by the health department, mainly for disinfecting after tuberculosis. Since the formation of the division there have been but two nurses added, and the number is yet entirely too small adequately to handle the situation.

Its personnel and their respective salaries at present are as follows:

1 superintendent of tuberculosis dispensaries	$600
1 superintendent of the division (on leave without pay)	.....
1 acting superintendent of the division	1,200
16 visiting nurses, at $900	14,400
1 clerk	720
	17,520

Duties of the division.—The duties of this division are to make diagnoses in patients supposed to be suffering with tuberculosis; to furnish free treatment to the indigent cases; to visit tuberculous patients at their residences; to give the necessary instruction to prevent the spread of the disease and improve the methods of living in the family; to furnish nursing care and antituberculosis packages free of charge; to arrange for fumigation in cases of tuberculosis; to inspect after the process of fumigation is completed; and to arrange for the destruction or disinfection of infected articles.

Requirements of ordinances.—The ordinances relating to tuberculosis are summarized as follows:

The commissioner of health is required:

To register the name, address, sex, and age of every person suffering from pulmonary tuberculosis, and physicians are requested to forward such information for the report of these cases on the same card as is used for reporting other communicable diseases. This information is solely for the use of the commissioner of health, and he is not to assume any sanitary surveillance unless the patient resides in a tenement house or hotel, or unless the attending physician requests that an inspection of the premises be made. No inspection may be made even when the patient resides in a tenement house, boarding house, or hotel if the physician in attendance is willing to deliver circulars of information designed to prevent the spread of the disease.

Under the charter the mayor and city council of Baltimore are authorized to appropriate such moneys as they deem necessary to the hospital for consumptives of Maryland of Baltimore City (Eudowood). This sum can not exceed $4,000 per annum.

It is prohibited by ordinance to expectorate or spit in, on, or upon any sidewalk, footpath, avenue, public square, public building, street or railway car, or other public conveyance, depot, or station of any common carrier, theater, store, factory, or any building used in common by the public, hall or office of any hotel or lodging house used in common by guests.

Notices forbidding spitting must be conspicuously displayed.

Places contemplated above must provide proper receptacles for expectoration, which must be cleaned and disinfected at least once every 24 hours.

For violation of the ordinance relative to expectoration there is provided a fine of not less than $1 nor more than $5 for the first offense and not less than $5 nor more than $10 for each subsequent offense.

Dispensaries.—There are three free tuberculosis dispensaries operated by the city and located in the poorer sections of the town, as follows: 1220 McCulloh Street, open after 3 p. m. on Mondays and Thursdays; 602 South Bond Street, open after 3 p. m. on Wednesdays and Fridays; 1418 Light Street, open after 3 p. m. on Tuesdays and after 10 p. m. on Saturdays. In addition to these dispensaries there are two other free tuberculosis dispensaries in the city, one at the University of Maryland and one, the Phipps Tuberculosis Dispensary, at the Johns Hopkins Hospital.

The superintendent of tuberculosis dispensaries is a physician and is required to give to the city only the time necessary to be present during the hours at which the city dispensaries are open, i. e., two to three hours a day. He is not required to treat any case at its resi-

dence. When it is necessary to see a case at other than the dispensary, the duty devolves upon one of the physicians employed by the board of supervisors of city charities. If they are called upon during the hours at which they are on duty at the other free dispensaries of the city, the case may be seen promptly; if not, it must wait until the next day.

Hospitals.—The Bay View Hospital, which is the city almshouse, has a division known as the municipal tuberculosis hospital, containing 184 beds, of which 105 are for white males, 36 are for white females, 28 for colored males, and 17 for colored females. To this hospital are sent mainly cases of advanced tuberculosis, and it is necessary to certify that they are paupers before they can be admitted.

There is also a general hospital in connection with the institution, which likewise will only admit patients who are paupers. Such a provision certainly detracts from the usefulness of any charitable institution, as there is a great distinction between poverty and pauperism. A person who is poor merely by reason of circumstances over which he has no control and who may be desirious of bettering his position when his health will permit has too much pride to be placed in an institution as a pauper. The free city beds in the other hospitals taking all patients except tuberculous, are open to the poor as well as the pauper, and the free city beds in the other sanatoria for tuberculosis.

The Bay View Hospital is in charge of the board of supervisors of city charities, and before any patient can be admitted, authority must be obtained from the proper officer of this municipal organization. His office hours are between 9 a. m. and 3 p. m., and on Saturdays from 9. a. m. until 12 noon, and the office is not open on Sundays or holidays. Except during these office hours it is impossible to have patients admitted.

In the Eudowood Sanatorium, which is located outside of the city, the city maintains 10 beds. There are, however, in this sanatorium 75 beds occupied by city patients, a number of whom pay various amounts up to $10 per week.

In the State tuberculosis sanatorium, located near Sabillasville, there are 225 beds occupied by city patients. Some of these beds are free, while for others the patients pay as high as $10 per week.

There is also a Jewish home for consumptives, to which indigent patients may be sent.

Visiting nurses.—Women employed in this capacity are all registered nurses. Their hours of duty are between 8.30 a. m. and 4 o'clock p. m. In addition to this they perform a certain amount of clerical work at home in making out their reports, which consumes about an hour, and frequently give much overtime in their dispensary or district work.

There are eight offices rented by the city to which the nurses go at noon where they eat lunch, interview patients, issue supplies to patients, and receive instructions by telephone from the supervising nurse.

Tuberculosis occurring in the city is reported by physicians by card to the city health department. These cards are immediately referred to the superintendent of visiting nurses, and the necessary information is entered on the visiting list of the nurse within whose district the case has occurred. The report card is then checked and returned to the vital statistics division to be registered and worked up as statistical data. When this is accomplished, it is returned to the tuberculosis division and filed. Cases of tuberculosis are frequently brought to the notice of the division by the charitable institutions of the city. Many cases are found during the visits of the nurses to different houses containing patients known to have tuberculosis. In fact, a study of the records of the division shows that, taking an average of the reported cases for the first three and one-half years—January 1, 1910, to July 1, 1913—there was one case only reported for each three doctors per year, while there were 26 cases reported by each nurse per year. In other words, the 16 nurses reported about as many cases as the 1,296 general practitioners.

Probably most of the cases of tuberculosis are brought to the attention of the division by the tuberculosis dispensaries.

It is the aim of the division not to have a person suspected of having tuberculosis, as reported by a layman, referred direct to a dispensary until an investigation has been made by a visiting nurse, who decides from the history and symptoms whether tuberculosis probably exists. If so, the patient is referred to a tuberculosis dispensary or to the family physician. If probably some other condition, it is referred to another dispensary, where the proper treatment may be obtained free of charge.

It has been learned by experience that where persons with suspected tuberculosis are referred direct to a tuberculosis dispensary and if it then be found that they actually have tuberculosis, the great majority of them will not return to the dispensary or take the trouble to go to another dispensary to receive the proper treatment, but will rather be inclined to hide the fact that they are suffering with the disease. It has also been learned by experience that when the nurse has an opportunity to visit the patients before they go to a dispensary she becomes familiar with them and their families, and it is easier for her to secure their confidence.

The visiting nurses do not make physical examinations. These are left entirely to the physician in charge. If a case is under the care of a practicing physician the nurse does not visit the patient

unless with the consent of that physician. She confines her attention to tuberculosis patients only, other persons in need of assistance being referred to the proper authorities. There is of course little actual nursing required except in instances where the patient is bedridden and no hospital accommodations are available for the time being. The important work of these visiting nurses consists in instructing the patients in the right way to live to prevent the spread of the disease and in efforts toward improving the hygienic condition of the household.

Antituberculosis packages are issued free of charge either at the dispensary or by one of the nurses at her visit. These packages are furnished by the State department of health. All nursing supplies and medicines required are furnished by the city department of health. In exceptional cases, milk and eggs are furnished by the federated charities, the St. Vincent de Paul Society, or Hebrew Benevolent Society upon the request of the health department. More frequently, however, if assistance is necessary, it is the aim to supply the necessary food for the entire family in worthy cases, rather than food intended only for the patient. This is done, however, only where there is no hospital accommodation for the patient.

The visiting nurses are allowed necessary car fare. The supervising nurse, however, is limited to an expenditure of 10 cents a day for this purpose. While women are not so likely to be involved in petty politics and while their moral sense is of a higher standard than that of men, nevertheless, their work, as in the case of inspectors of the department, must be followed up carefully to see that they are performing it properly. This should be one of the duties of the supervising nurse, and would require an amount of travel which would incur an expense much in excess of 10 cents a day. That supervision is necessary has been clearly indicated, an investigation of the work of one of the nurses showing that she had been neglecting her work and falsifying her reports. She was summarily dismissed.

Before a nurse is employed in the division she is required to fill out an application blank containing her name, etc., and information as to the training school she attended, the subjects taught, and her experience. No examination is held before appointment. The women employed in this kind of work should not only be graduates of a general hospital, but should have some experience in social work. The duties performed require intelligence and a high degree of capability and the more or less rare faculty of gaining the confidence of people in all walks of life. Of the cases followed up by the nurses 11 per cent only had been beneficiaries of any charitable organization.

There are at present over 3,400 names of patients on the visiting list, or an increase of about 1,783 since January 1, 1910, and with the number of visiting nurses employed it is manifestly a physical impossibility to visit the patients as often as necessary, and undoubtedly

the force of visiting nurses should be at least doubled, and at least two assistants or supervisors given to the superintendent of nurses.

Reports and records.—In order that the charitable organizations may not be imposed upon, the federated charities have instituted a confidential exchange of information, to which such organizations taking care of persons who are destitute may report the fact. The federated charities then informs all other like organizations. This tends to prevent imposition or duplication of work.

The nurses are required to submit a daily report which includes the name and address of the patients visited and the time such visit was made, also a monthly report which shows the number and disposition of patients by day, week, and month.

From the above reports there is a monthly summary made on a filing card by each nurse, showing the total amount of work done and the disposition of her patients.

Where milk and eggs are required for the patient, a regular report is made out for the files of the division.

When a patient is first seen, two cards are always made out, one containing certain data for the information of the division and the other a complete history of the case. When a case has been discharged on account of death or removal or mistaken diagnosis, the fact is noted on both cards and they are then removed to other files. The progress of the case from time to time is entered on the history cards. So far no case has been discharged on account of recovery.

As soon as a diagnosis of tuberculosis has been made by a physician, a third card is made out and sent to the State board of health in order that the case may be registered as required by the State law.

Where the laboratory reports that tubercle bacilli have been found in a sample of sputum submitted for examination, a telephone message or a postal card, if the physician can not be reached by telephone, is sent to the attending physician asking him if he wishes a visiting nurse to see the patient.

Two cards are also kept relating to the fumigation after death or removal of the patient. One of these cards is filed in the tuberculosis division and the other in that division which has charge of fumigation. Where it is necessary to have clothing, bedding, etc., destroyed or sterilized, there is a special form of request to be made out by the person interested, waiving all claim upon the city for injury to same.

A card has been devised to secure information relative to the domestic occupations of the patient. This is now in use.

A special record is kept on a card of school children having tuberculosis.

To secure admission of a patient to Bay View Hospital, two forms of application are used, one when the application is made by the

physician at the dispensary and one when the application is made by a nurse from the patient's home. These applications are sent to the chief clerk of the board of supervisors of city charities. Still another form is used requesting permission to admit a patient to the Maryland State Tuberculosis Sanatorium.

Monthly reports are made out, one having special reference to the places inspected for fumigation or cleaning; one showing the work for the month of the visiting nurses, and one, just being put into use, showing the relative amount of work performed by each nurse.

A circular is issued to households in which tuberculosis is present explaining the need for disinfection and cleaning of rooms, bedding, etc., after the removal of the patient.

At the dispensary a complete history of the patient is recorded on a special form, to which are added the results of physical examination and changes noted at each visit. In addition to this, necessary information is entered on a card and filed. Each patient is given a small card with name and number to identify him at the next visit.

The nurses are required to make out monthly an expense account of their traveling expenses for each day of the month. This is similar to the expense account that is made out in the bureau of food and dairy inspection, except that the supervising nurse enters the expenses of all her nurses on one sheet and swears to it herself, whereas in the case of the bureau of food and dairy inspection each individual account is sworn to by the inspector whose expenses it represents. These are submitted to the comptroller and the check for the total amount sent to the responsible person, who then pays the subordinates.

The details of submitting these expense vouchers and reimbursements should be taken over by the one who is responsible for the payment of bills in the department.

The clerk employed in this division is unfortunately not a stenographer nor a typewriter, and most of the correspondence has to be written in longhand before it is typewritten, which means much extra and unnecessary work for the supervising nurse. The clerk is also required to be present at the dispensary every afternoon and Saturday morning to take the history of all applicants for treatment.

Open-air schools.—There is at present in the city an open-air school for one class. This consists of a tent pitched in the playground of one of the public schools. During my visit to this school the pupils were receiving their instruction outside of the tent and with no protection from the sun, the glare of which was undoubtedly causing annoyance. Pupils requiring open-air instruction need plenty of fresh air rather than sunlight, and in this case they would receive the maximum amount of benefit from the fresh air if they were given their instruction under the shelter of the tent, the sides of the tent,

being kept raised at all times except during inclement weather. The roof of this tent is too low, however, and it should be raised. Another objection to this particular location is that, being at the street level, the atmosphere around the children must be laden with dust.

The pupils of this class are given their lunch free of charge in the school, where there is taught domestic science to other pupils of the school. They are also permitted to rest a certain amount each day. A record is kept of the physical condition of each child in the class. While such an open-air class is intended primarily for children suffering from tuberculosis not in the active stage, other children with anemia, underdevelopment, etc., are also admitted, which is a very wise provision.

There are two modern school buildings which have been so designed that the top floor is for open-air instruction, and contains, besides the classrooms, a diet kitchen and necessary toilets and lavatories. For some unknown reason, however, the school board has not seen fit to put them to the use for which they were intended, and they are now being used as ordinary schoolrooms. In fact, it was only after great effort that the open-air class at the other school was commenced, and much was accomplished through the efforts of public-spirited citizens.

Attitude of physicians.—It seems strange that some of the physicians of the city resent the efforts of the visiting nurses to assist their patients, considering it an unwarranted interference with their private practice. Their reasons are purely of a mercenary nature, and fortunately but few of them take such an attitude. These claim that it is to their interest to have the patient remain in the city and that the nurse should not recommend treatment at a sanitarium. They also seem to be unwilling to inform the patient or the family that tuberculosis is the cause of the patient's illness, this being not only unfair to the patient but to contacts as well, as it precludes the possibility of taking necessary means to prevent the spread of the disease.

Tabulation of statistics relative to the work of the tuberculosis division.

	1909	1910	1911	1912	1913
Patients under care Jan. 1	.....	1,617	2,416	2,772	3,107
Patients received during the year	.....	2,634	1,903	1,971	1,878
Total number of patients cared for during the year	.....	4,251	4,319	4,743	4,985
Total number of visits made during year	.....	61,326	69,311	81,028	79,289
Deaths from pulmonary tuberculosis in Baltimore	1,273	1,234	1,165	1,189	1,129
Under supervision before death	.....	783	802	859	995
Per cent	.....	63½	68¾	72¼	75½
Cases registered with the State board of health	919	3,202	1,712	2,215	2,204
Patients sent to dispensaries	.....	2,903	1,917	3,082	3,375
Patients sent to municipal tuberculosis hospital	.....	339	291	310	298
Patients sent to State sanitarium	.....	107	109	180	295
Patients sent to Eudowood	.....	79	109	123	116
Patients sent to Jewish Home for Consumptives	.....	25	33	53	61

Tabulation of statistics relative to the work of the tuberculosis division—Continued.

	1909	1910	1911	1912	1913
Number of cases reported by doctors and nurses:					
1,160 doctors		432			
14 nurses		706			
1,246 doctors			349		
14 nurses			358		
1,254 doctors				382	
16 nurses				251	
1,296 doctors					328
16 nurses					214
As the result of nurses' instructions following fumigation after death:	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Percentage of houses cleaned		69	77	74	79
Bedding, etc., destroyed		41	38	38	39
Bedding, etc., sterilized				22	36
As the result of nurses' instructions following fumigation after removal:					
Percentage of houses cleaned		58	64	66	73
Bedding, etc., destroyed		7	5	6	7
Bedding, etc., sterilized				7	21

CONTROL OF DISEASES OTHER THAN TUBERCULOSIS.

As in many other things, the details of the work of combating communicable diseases as they occur in the city falls upon the assistant commissioner of health. In this work he is assisted by the chief of the division of fumigation and the communicable-disease clerk, and has as field force 24 health wardens designated officially as vaccine physicians to which detailed reference is made on page 1554.

Requirements of ordinances.—The diseases to be treated in the municipal hospital for infectious diseases are diphtheria, scarlet fever, measles, and chicken-pox.

No person without a permit from the commissioner of health may transport from one place to another a person sick of a contagious disease, expose an individual sick of such disease, or a body dead of such disease, or needlessly expose himself or contribute to the spread of disease. All bodies dead of any contagious disease above mentioned must be buried within 24 hours after death unless an extension of time be granted by the commissioner of health.

With the authority of the mayor, the commissioner of health may require all persons sick from a contagious or infectious disease to be removed from a house and may place them in such building as he deems best, this to be done at the expense of the city; and for the purpose of properly treating the building from which they were removed, the commissioner of health, with the approval of the mayor, may place any house or district in quarantine, fencing it in and guarding it by sentinels, and may furnish also, with the approval of the mayor, subsistence and clothing, if necessary, during the period of quarantine, the expense to be borne by the city.

With the approval of the mayor the commissioner of health may erect temporary structures or rent such places as are necessary to be used as hospitals for isolating and treating the sick, and may cause such sick to be removed thereto unless the condition is such that they will not bear such removal, in which case the dwelling must be considered as a hospital and subject to necessary restrictive regulations.

When such diseases are found to exist the commissioner of health is required to take steps to prevent the spread of the infection and properly placard the house.

The commissioner of health must require and enforce the vaccination of all persons residing in the city not already vaccinated, and the revaccination of any person in the infected district whenever in his opinion it is necessary.

Parents and guardians are required to have their children and wards vaccinated before they reach the age of one year, and revaccinated whenever the commissioner of health, after five years from last vaccination, requires it.

The commissioner of health may appoint extra vaccine physicians when he deems it expedient to properly vaccinate the citizens of Baltimore; the advice and consent of the mayor is necessary. All physicians or dispensaries entitled to receive vaccine free of charge from the mayor and city council are required to keep on hand a full supply. Where vaccination fails it is the duty of the vaccine physicians to repeat the operation until they are satisfied that the subject will not receive vaccine infection.

No person may inoculate with the virus of smallpox under a penalty of $20 for each offense.

For noncompliance with any provision of the law relative to communicable diseases there is a fine provided of not less than $1 nor more than $100, except that the fine for the refusal to vaccinate shall not exceed $10.

Smallpox and vaccination.—During the past winter there was a considerable prevalence of smallpox in the city, with two deaths.

This disease, while mostly confined to the colored people, also attacked the whites, and seemed to be spread pretty generally over the city. The great majority attacked were unvaccinated. The outbreak called for widespread vaccination, but there was some trouble under the ordinance in compelling persons to expose their arm for inspection to determine whether they had been previously vaccinated, and in fact the court ruled that the health department would have to accept the certificate of the physician. An effort was made to have the council adopt an ordinance requiring that everybody be compelled to expose their vaccination mark when requested by the vaccine physician. In the council this was amended so that a certificate of any reputable physician would be accepted by the health department. This, of course, is useless because it is not so much the fact that a person was vaccinated as it is whether the vaccination was successful; a person unsuccessfully vaccinated is just as dangerous to himself and to the community as is one not vaccinated at all, unless he has been vaccinated a sufficient number of times to prove that he is insusceptible to the virus. This ordinance did not pass, however, but the work was carried on notwithstanding by the health wardens and emergency vaccine physicians, and in all only 5,000 people were vaccinated, most of whom had never been vaccinated before.

Cases of smallpox are taken to the hospital at the quarantine station, contacts are vaccinated, and the house is fumigated and placarded.

Typhoid fever, etc.—When a case of communicable disease is reported to the health department, the report is turned over to the health warden, who makes an investigation with special reference to the milk supply in cases of scarlet fever and diphtheria, the milk and water supply in cases of typhoid fever, and the school attended by the patient in diseases affecting children.

The details of handling these diseases are given in the tabulation which follows:

Disease.	Preliminary investigation by health department.	Placarding.	Period of quarantine for patient.	Period of quarantine for contact.	Exclusion from school—Contacts.	Breadwinners.
Smallpox	Yes; for diagnosis	Yes	End of scaling	18 days	No exclusion from school if child is vaccinated.	If vaccinated before and responsible; paroled unvaccinated and irresponsible; detention.
Scarlet fever	No	Yes	End of desquamation	7 days	7 days	No detention.
Diphtheria	No	Yes	After 1 negative culture	1 negative culture.	After house fumigation or after 1 negative culture.	Do.
Measles	No	No	Optional to physicians	None	Duration of illness except when contact has had measles.	Do.
Whooping cough	No	No	do	do	None	Do.
Varicella	Yes; in selected cases for diagnosis.	No	do	do	Until all are well except when contact has had chicken-pox; then there is no exclusion.	Do.
Mumps	No	No	do	do	None	Do.
Typhoid fever	No	No	do	do	No	Do.
Epidemic cerebrospinal meningitis.	No	No	do	do	No	Do.
Anterior poliomyelitis	No	No	do	do	No	Do.
Pediculosis	No; in schools only	No	None	do	No	Do.
Scabies	Yes; schools only	No	do	do	No	Do.
Ophthalmia neonatorum	Yes	No	do	do	No	Do.
Tuberculosis	By nurses[1]	No	do	do	No	Do.

[1] Physicians in some instances object to nurses visiting the cases.

Disease.	Closing of business.	Terminal disinfection.	Notifiable.	Hospitalization of patient.	Special treatment for—		Special investigation by health wardens.	Detention of contacts.	Visit of nurses.	Principal of school notified.
					Patients.	Contacts.				
Smallpox	No	Yes	Yes	Compulsory	Hospital	Vaccination		Yes; if unvaccinated.	No	Yes.
Scarlet fever	No, except for milk [1]	Yes	Yes	Noncompulsory.[2]	do	No	Yes	No	No	Yes.
Diphtheria	do.[1]	Yes	Yes	do	Hospital and free antitoxin.	Antitoxin	Yes	No	No	Yes.
Measles	do.[1]	No	Yes	No	No	No	Yes	No	No	Yes.
Whooping cough	do.[1]	No	Yes	No	No	No	Yes	No	No	Yes.
Varicella	do.[1]	No	Yes	No	No	No	Yes	No	No	Yes.
Mumps	do.[1]	No	Yes	No	No	No	Yes	No	No	Yes.
Typhoid fever	do.[1]	On request	Yes	No	No	Antityphoid vaccine.	Yes	No	No	
Epidemic cerebrospinal meningitis	do.[1]	Yes	Yes	No	No	No	Yes	No	No	
Anterior poliomyelitis	do.[1]	No	Yes	No	No	No	Yes	No	No	
Pediculosis	No	No	No	No	No	No	None	No	No	
Scabies	No	No	No	No	No	No	None	No	No	
Opthalmia neonatorum	No	No	Yes	No	Hospital	No	None	No	No	
Tuberculosis	No [3]	Yes	Yes	Voluntary	do	No	None	No	In most cases.	

[1] Only in such instances where there is marked exposure and the patient can not be taken to the hospital.
[2] Hospital conditions not yet sufficient.
[3] Except where the tuberculous patient is waiting on the store and selling foodstuffs consumed raw and the patient will not go to the hospital.

Hospitalization of communicable diseases.—There is accommodation at Sydenham Hospital, the municipal hospital for acute communicable diseases, for 36 patients. In addition, smallpox cases are taken to the quarantine station, where there is accommodation for 80 patients, and there are 186 beds for tuberculosis at the Bay View Hospital; there is then a total of 312 beds to accommodate the communicable diseases, and this figure does not take into consideration the city beds at the Eudowood Sanitorium and the State sanitorium for tuberculosis.

The ordinance specifies that there shall be taken to Sydenham Hospital cases of diphtheria, scarlet fever, varicella, and measles, and 36 beds are not a sufficient number to isolate these diseases occurring in a city the size of Baltimore.

On a basis of one bed to 1,000 population the communicable-disease hospital in Baltimore should have at least 500 beds, which would not be too large, especially if it were utilized to take cases of advanced tuberculosis.

The recent legislature has authorized a bond issue of $750,000 to erect a communicable-disease hospital. This amount should be sufficient to build and equip a hospital of 500 beds. The land on which the present hospital is built is located outside of the city limits and is owned by the city. There is ample ground to accommodate a large hospital. It has the disadvantage, however, of being situated outside of the city limits, which makes the transportation of patients difficult and annoying both to the health department and to the patients. A State "local law" will not permit the building of a communicable-disease hospital within the city limits, and this law has been upheld by the courts and apparently by public opinion.

The average citizen is not sufficiently familiar with the causes and methods of transmission of diseases. Consequently he looks upon a communicable-disease hospital as a "pesthouse," and believes living in its vicinity will cause sickness and death. Yet the same citizen will sit complacently by and permit scarlet fever, diphtheria, and typhoid fever to be treated in houses of his neighbors. The only rational argument in favor of the location of the hospital away from the centers of population is the fact that the city already owns a good piece of property suitable for the purpose in such location.

The management of the present hospital is under the city department of health, and the management of the proposed hospital should also be so placed, at least in so far as acute communicable diseases are concerned. The primary reason for the existence of a department of health is to combat the communicable or preventable diseases, and it should certainly have control of the hospitals for isolation, one of the most important features connected with the eradication of all diseases. Such a hospital should certainly not be under the super-

vision of the city charties, because it is not a charitable institution, and should not be associated in any way with the care of paupers. If its management is distinct from the health department, which is so vitally concerned with the admission, detention and discharge of patients, there will be a continual conflict of authority.

FUMIGATION ON ACCOUNT OF COMMUNICABLE DISEASES.

The division having charge of fumigation has been in existence a number of years, and at present its personnel and their respective salaries are as follows:

1 superintendent of division	$1,200
5 fumigators, at $800	4,000
1 chauffeur	720
4 wagon drivers, at $720	2,880
1 morgue keeper and engineer	1,200
	10,000

There are at present temporarily employed, four guards, at 20 cents an hour, on account of the prevalence of smallpox in the city.

Duties of the division.—As its name implies, the division is especially engaged in disinfection after certain of the communicable diseases, but in addition it is concerned with the burial of the pauper dead; the oiling or eradication of mosquito-breeding places; the supervision of the morgue, and the special work of handling smallpox cases within the city.

Requirements of ordinances.—A number of ordinances devolve upon the division for enforcement as follows:

It is unlawful to convey any person suffering from diphtheria, smallpox, scarlet fever, or other contagious disease, to or from any point in the city of Baltimore, or any dead body known to have died of smallpox or other contagious disease in any public conveyance under penalty of having the conveyance taken, disinfected, and quarantined for 30 days, unless such conveyance is used for that purpose only.

Public conveyances can not be used for carrying persons suffering with, or who have died from smallpox, scarlet fever, diphtheria, or any other infectious disease, from any dwelling to the cemetery, unless they have the conveyance properly disinfected after it has been used for this purpose.

Where a person has died or has been removed from the premises who has suffered with smallpox, scarlet fever, diphtheria, or other contagious disease and without proper disinfection by the occupant before vacation, it is made the duty of the owner of the property to have the premises properly fumigated before permitting other tenants to come therein.

No person may bring to any dock, wharf, or building, or within 1,000 feet thereof, or unload or store any skins, fish, rags, bones, hides, or any similar article brought from an infected place, without a permit from the commissioner of health; nor may any person sell or exchange any straw, bedding, or clothing that has been exposed to a contagious disease or is liable to communicate such disease, without previous cleansing or disinfection and a written permit from the commissioner of health.

The commissioner of health has the power to detain any package, clothing, bedding, or goods which may be infected and which may be dangerous to the public health, by first obtaining a warrant from the nearest magistrate.

The morgue is under the general charge of the commissioner of health who has the power to make regulations for its government and for the care and delivery of the bodies and effects of deceased persons.

It is used for the reception and preservation for identification of bodies of unknown persons dying within the city limits, or such other bodies as may be placed therein by the direction of the coroner.

Where bodies are decomposed so as to be unrecognizable or have died of contagious diseases, they are not placed in the morgue.

Bodies are required to remain in the morgue for at least one day, or for such a length of time as the commissioner of health may deem proper.

A room must be provided for the care of clothing and effects of deceased persons, which effects are required to be numbered and kept for 12 months, after which they may be disposed of by the coroner.

The commissioner of health appoints a superintendent, who must be a practical undertaker. This superintendent, before he takes over his duties, must give a bond of $1,000.

There is a potter's field provided for in the city of Baltimore under the control and direction of the commissioner of health, who is authorized, with the consent of the mayor, to establish regulations for its proper maintenance.

The ordinance specifies that all graves in any cemetery must be at least 4 feet 6 inches deep, and that the proper person shall see that the gates are closed or locked, and there are fines provided for failure to comply.

The commissioner of health is empowered to substitute the draining of low grounds for filling in all instances where, in his opinion, draining will as effectually answer the purpose.

Coroners are appointed by the governor, with the advice and consent of the Senate. They must be competent physicians. They hold office for two years. They receive an annual salary of $1,000 each, and there is one for each of the police districts of the city of Baltimore. In addition, there is one known as the coroner at large, who takes the place of any coroner during his illness or enforced absence and receives the same compensation.

The coroner holds an inquest for every person found dead in his district when the manner and cause of death is not already known as accidental or in the course of nature. Each coroner makes a monthly report to the police commissioner of Baltimore city.

There is a board known as the anatomy board, which is composed of a demonstrator of anatomy from each medical school in the State, and to this board the coroner is authorized to transfer any bodies to be used for scientific purposes. If a person claims the body as a relative or friend and desires to bury it, the body must be surrendered for that purpose; or if the deceased person was a stranger or traveler who died suddenly, the body shall be buried.

Physicians or surgeons, before receiving any body to be used for scientific purposes, must give a bond that such body will be used for that purpose only.

The medical examiners act as coroners' physicians upon the request of a coroner or the commissioner of health, and are required to make post mortem examinations and such medico-legal inquiries as may furnish evidence, making a formal report in writing to the commissioner of health and to the State's attorney for the city.

The assistant medical examiner attends post mortem examinations or other medico-legal inquiries with the medical examiner, assists him, and in his absence discharges his duties.

Disinfection is compulsory after smallpox, diphtheria, scarlet fever, and tuberculosis. Disinfection is performed for other communicable diseases upon request of the physician in attendance. Disinfection

for diphtheria is not performed until the report from the laboratory shows that a negative culture has been obtained from the patient and the other members of the household. Disinfection for tuberculosis is performed after death or removal of the patient upon notice received from the tuberculosis division. Disinfection for smallpox is performed as soon as the case is removed.

Disinfection for scarlet fever is performed when the physician in attendance has notified the department by card that the house is ready for fumigation, and after the matter has been examined into by one of the health wardens and the case found recovered; i. e., the termination of desquamation and the cessation of catarrhal symptoms.

A routine method is used for fumigation. The chemical used is solid formaldehyde contained in tin boxes with lamp attachment. Each box contains sufficient disinfectant for 1,000 cubic feet of space. Before the formaldehyde is liberated the room is sealed by wedging the windows against the jambs and plugging up cracks between door and frame or other places with folded pieces of newspaper. Strips of gum paper are not used for this purpose. Fireplaces are sealed by a mattress braced tightly against the opening. Control cultures are placed in the room. The exposure is six hours. After the process is completed—i. e., at the termination of six hours—the room is opened, not by a representative of the health department, but by a member of the household, who returns the culture to the health department by mail. The fumigators on leaving the house give the signed release form and with this children can return to school. Most of the disinfections are successful in that the culture is found to be killed, and from the practical side the experience has been that no case has developed after this disinfection unless it had very clearly been infected before the disinfection took place. This applies especially to diphtheria where there have probably been carriers in the house.

In the light of our present knowledge it is probable that just as good results would accrue if no terminal disinfection were practiced at all in most of the communicable diseases, and certainly much time, labor, and money would be saved. By this it is not to be understood that no precautions should be taken. On the contrary, they should be taken during the course of the disease.

During the year 1913 there were 5,413 houses fumigated on account of communicable diseases, or a total of 19,459 rooms.

Smallpox.—The duties of taking charge of smallpox patients within the city, feeding them while quarantined preparatory to transportation to the quarantine station, placarding the house, and arranging transportation to the quarantine launch, falls upon the head of this division, who, while not a physician, has had large experience in smallpox and is quite expert in recognizing the disease.

The final diagnosis is made in all cases by the assistant health commissioner.

The usual procedure is to take the patient from the house as soon as possible, isolate him in a special room in the health department, from which he is taken to a health department wharf in connection with the morgue, which is situated on the water front. This is a very convenient arrangement, as the patient can be taken away without undue publicity. It has been customary to remove contacts to quarantine also, but in the recent epidemic conditions became such that there was too much overcrowding, and contacts are now permitted to remain at the house without quarantine after vaccination.

The morgue.—The morgue, incinerator, and disinfecting chamber are located in the same building, which is on the river front, and has in connection with it a wharf to which the quarantine steamer can come. The morgue is provided with cold storage, by means of an ammonia machine, and is large enough to accommodate 12 bodies. In connection with this morgue there is also an autopsy room where the coroners' physicians perform autopsies at the request of the coroner, also necessary offices for the doctor and the morgue keeper.

In the incinerator are destroyed infected clothing and bedding which it is not deemed advisable to disinfect. The disinfecting chamber is a modern Kinyoun-Francis apparatus of medium size capable of disinfecting by steam or formaldehyde. It is constructed so that it is divided into two parts by a wall, the dirty end being in the room which contains the incinerating apparatus and the clean end on the other side of the wall in another room. The boiler in connection with it not only furnishes steam for the disinfecting chamber, but heats the building as well.

The dead bodies handled by this division are not necessarily taken to the morgue. Many are taken from private homes, and if paupers and unclaimed are either turned over to the anatomical board or buried in potter's field. Most of the bodies taken to the morgue are coroner's cases.

During the year 1913, 875 bodies were handled, including 240 taken to the morgue or delivered to the anatomical board, and 55 buried in potter's field.

Mosquito-breeding places.—One of the duties of this division also is to prevent the breeding of mosquitos by oiling stagnant pools within the city limits. Where it is not feasible to oil, the question is brought to the attention of a health warden, who investigates and handles it as a nuisance, requiring filling or draining to abate the same.

Coroners and coroners' physicians.—The ordinance relative to the appointment and duties of coroners has been included in this chapter because they bear a more or less direct relation to the department of health, although not a part of it.

The coroners lack organization, inasmuch as each works independent of the other and confines his particular work to his own district; he does not care even in an emergency to accept a case which may be just over the border line. To get the most efficient service from such an important office as the coroner's office there should be one coroner appointed for the city, who would be responsible and who should be given as many assistants as would be necessary to perform the work. He should have his office in police headquarters, and there should be a coroner on duty at all times.

Food and Dairy Inspection.

The supervision of foods and dairies is under the control of a well-organized bureau, created January 1, 1914, from the division of food and dairy inspection then existing. The personnel and their salaries at present are as follows:

1 chief of the bureau	$2,000
Assistant chief of the bureau	None.
Inspection division:	
1 chief inspector	1,200
3 food inspectors, at $900	2,700
8 city milk inspectors, at $900	7,200
6 dairy farm inspectors, at $1,080	6,480
1 bakery inspector	900
1 local dairy farm inspector	900
1 abattoir inspector	900
1 supervisor of pasteurizing dairies	1,200
Division of laboratories:	
1 assistant chemist	1,200
1 assistant chemist	800
1 assistant chemist	720
1 laboratory assistant	400
1 laboratory helper	360
2 assistant bacteriologists, at $1,000	2,000
2 bacteriological assistants, at $480	960
3 laboratory helpers, at $240	720
Clerical division:	
1 clerk	900
1 stenographer	720
	32,260

Duties of the bureau.—This bureau is really the combination of a division of food and drugs and a chemical laboratory, having special charge of the city's milk and food supply, and forms a very excellent combination to carry on the work which is required of it.

Requirements of ordinances.—The ordinances of the city of Baltimore relative to the sale of food and sale and production of milk have been summarized as follows:

It is unlawful to sell or have in possession any tainted, unsound, rotten, or partly decomposed fish, fruit, vegetables, or meat, or any food product that is kept fresh by the addition of salicylic, boracic acid, or other preservative.

After food has been condemned it is unlawful to remove it or to interfere with the confiscation or destruction of it by the commissioner of health or his subordinates.

It is the duty of the commissioner to cause inspection to be made of food products in the city and to obtain samples for analysis. The commissioner is authorized to appoint an analyst and three inspectors of food.

The term "food" is defined in the ordinance, as are the terms "sophistication," "unwholesome," "impure," and it is provided that in a warrant or other legal paper the term "impure" may be used to cover all of the other terms.

For violation of the ordinance relative to sale of food products, a fine is provided of not less than $20 nor more than $100.

It is unlawful to peddle oysters between the 1st day of June and the 15th day of September. For violation a fine is provided of $20.

The commissioner of health is authorized to appoint an inspector of bakeries and confectioneries who shall be a practical baker and confectioner, whose duty it is to inspect places where cakes, confectionery, or similar products are made for the purpose of ascertaining their sanitary condition and cleanliness and the purity and healthfulness and wholesomeness of their ingredients. He reports his findings to the commissioner of health; for violation there is a penalty provided of not less than $20 nor more than $200.

This inspector first notifies an offender and if the law is not complied with within two weeks after such notice the penalties provided above are enforced.

The inspector is required by ordinance to furnish a bond of $5,000 for the faithful performance of his duties.

It is unlawful to keep a cow or cows within the municipal limits unless located on an area not less than one-quarter of an acre, which must be set aside for their exercise. In all instances a permit must be secured from the commissioner of health. A fine is imposed for violation of not more than $20 nor less than $5 and $1 for each day that the violation is continued after notice is given to discontinue.

No more than eight cows can be kept for each one-quarter acre of ground. A penalty for violation is provided of not more than $20 nor less than $5 and $1 per day additional for each day that the offense is continued after due notice is given. The commissioner of health also has the power to revoke any license when cow stables are not kept in good condition.

When cows are so kept pasturage must be provided. For violation a fine is imposed of not more than $20 nor less than $5 and $1 per day additional for each day that the offense is continued.

The owner of such cows must register with the commissioner the place where they are kept and a complete register thereof must be kept by him. For failure on the part of the owners to register a fine is imposed of not more than $20 nor less than $5.

A permit may be issued by the commissioner of health to keep not more than four cows on unimproved lots of less than one-quarter acre, but not less than one-eighth in area, provided that the stables provided have floors of cement or other nonabsorbent materials; windows on at least two sides, giving 3 square feet of window space for each animal, an air space in the amount of one-half cubic foot for every pound live weight of the animals; and that they are provided with equipment for securing absolute cleanliness. The regulation as to the size of the lot does not apply where cows are kept temporarily for sale, but that part of the ordinance which applies to the sanitation of the stables is also applicable here.

It is unlawful to sell any milk which has been mixed with water, drug, or any other article, under penalty of a fine of not less than $20. It is also unlawful to sell milk from a diseased cow, under penalty of a fine of $20.

Every person or corporation desiring to sell, offer for sale, etc., milk shall make application to the commissioner of health for permit on special form, giving full name and residence, location of business, number of cows, number of vehicles, and

any other information required. Before issuing the permit the place is required to be inspected. Any permit may be revoked for cause after giving the holder 10 days' notice in writing, except in the case of a temporary revocation on account of communicable diseases and insanitary conditions or similar causes on the premises. Permits are not transferable.

The sale of any milk or cream which is unsuitable or unsafe for human consumption may be prohibited by the commissioner of health. For violation of the ordinance there is provided a fine of not less than $5 nor more than $100.

All consumers of milk or cream are required to cleanse cans, bottles, or other containers after emptying and before returning them to the dealer. All dealers are required to cleanse all cans, bottles, etc., after they are emptied and before returning them to the producer, and all containers must be thoroughly cleansed before they are used for furnishing milk to the consumer. For violation there is a penalty of not less than $5 nor more than $50. No person may transfer milk or cream from one receptacle to another on wharves, railroad depots, or streets or wagons, except milk which is being delivered in bulk direct to the consumer, except that milk may be transferred from a relief wagon of a vendor to the proper receptacle on a delivery wagon or in case there is a leaky can. For violation there is a fine provided of not less than $5 nor more than $100.

It is unlawful to have in the possession of anyone bottling or vending milk or cream any acid, drug, chemical substance or compound to be used for coloring, adulterating, sophisticating milk or cream, unless there is secured a written permit from the commissioner of health to keep it for experimental purposes. For violation there is provided a fine of not less than $5 nor more than $100.

The commissioner of health or anybody authorized by him has the power to enter any building where milk or cream is handled, or the right of access to all wagons, railway cars, etc., used for the conveyance of milk or cream for the purpose of taking samples for inspection, testing, or analyzing. For violation there is a fine of not less than $5 nor more than $100.

With every sample of milk delivered to the department there must be a card containing information as to the time of delivery of the sample, number of dealer's permit, number of sample, date of collection, and name of inspector. Before instituting prosecution the sample must be taken in duplicate, both samples must be sealed and marked for identification, and the duplicate presented to the dealer, wagon driver, or the person from whom the milk is obtained. Before taking samples the milk in the receptacle must be agitated.

Pure milk is defined as that coming from healthy cows; which has not been deprived of any part of its cream; to which no additional liquid or solid preservative has been added; which at a temperature of 60° F. has a specific gravity of not less than 1.029; which has not less than 12½ per cent total solids and not less than 3½ per cent butter fats. Milk under this standard can not be sold. Skim milk or buttermilk may be sold, however, provided it be sold in its true character.

Buildings for stabling cows must be well lighted, drained, and constructed according to provisions already mentioned.

All cow stables must have cement or other nonabsorbent floor material, well drained, and connected with a sewer where possible.

All cow stables must have good and sufficient food troughs or boxes, with a covered water-tight receptacle outside of the building for the reception of manure or other refuse.

No receptacle for human excrement, and no animals besides cows, are allowed to be kept in any cow stable or room used for dairy purposes, nor may such place be used for habitation or as a workshop.

No stall may be less than 4 feet in width.

It is the duty of all persons connected with the premises to keep them thoroughly clean, in good repair, and well painted or whitewashed.

All manure must be removed from the premises, so as to prevent its accumulation in great quantities.

Cows must be cleaned every day and be properly fed and watered.

None but fresh, clean water may be used for watering stock, and proper receptacles must be provided on the premises for drinking water.

Inclosures must be properly drained, and no refuse, such as garbage or fecal matter, may be placed or allowed to remain in the inclosure, and no open drain is permitted to run through it.

Proper receptacles of nonabsorbent material are required to be kept for the reception, storage, and delivery of milk, and they must be kept clean and purified at all times.

Milk must be removed without delay from the cow stable.

Contagious or infectious diseases in cows must be reported immediately upon their discovery, and sick animals must be isolated.

It is the duty of any person owning or having control of cows used for dairy purposes, for sale or exchange, to submit such cows to the tuberculin test.

It is the duty of the person having charge or control of any premises upon which milk or cream is produced, etc., to report immediately to the commissioner of health any case of Asiatic cholera, croup, diphtheria, or any other communicable disease upon the premises.

No milk or cream may be sold, etc., on such premises, and no person who attends cows or milks them, or has the care of handling utensils, is permitted to enter any place where such diseases exist, nor have any communication with any person residing in a house containing a communicable disease.

The hands and persons of milkers or others engaged in the handling of milk and the bodies of the cows, especially the udders and teats, must be kept scrupulously clean.

For violation of any of these regulations a fine is imposed of not less than $10 nor more than $25.

Requirements of regulations.—Under the provisions of ordinance the commissioner of health has issued certain regulations defining the conditions under which milk may be produced and sold. The following is a summary:

Raw milk is required not to contain more than 500,000 bacteria per c. c. when delivered to the consumer.

Pasteurized milk may not contain more than 50,000 bacteria per c. c. when delivered to the consumer, and no colon bacilli in one c. c., as determined by cultural methods.

No person is authorized to feed to milch cows or cows any slops, refuse of any distillery, brewery, or vinegar factory, or any mash or refuse, or any canning-factory refuse, or food that has been subjected to fermentation, except silage.

INSPECTION DIVISION.

For convenience the operations of the bureau may be studied under several headings, according to the work assigned to its different inspectors.

Bakery inspection.—The inspector employed in this work devotes his entire time to the inspection of bakeries and bakery products. He has served in this capacity with the department of health for a number of years and is a capable man.

The ordinances covering the subject are too general and should be more specific to include the health of the employees, the protection of the product from flies and other vermin, the proper disposition of waste matters, the unnecessary handling of bread, requiring the loaves to be covered, and prohibiting bakeries from being established in cellars or other insanitary places unfit for the purpose.

The bakery inspector makes a daily report of the bakeries examined and scores each bakery on a card devised for the purpose. This score card contains a place for the name of the proprietor, address, district, date, the location of the bake room (whether it is above ground or below ground), the light, ventilation, character of floor, walls, ceiling, sanitary conditions, and number, sex, and color of employees.

An inspection was made of numerous bakeries in different parts of the city; one especially good modern bakery was visited which carries on practically all of its operations by machinery. In the manufacture of the ordinary loaf of bread in this institution the bread is touched by the hand only twice, once after it has been shaped into loaves to put it in the bake pans and again after it is baked, when it is removed from an endless chain and transferred to the racks. The loaves of unusual shape, such as the long sandwich loaf, are molded by hand.

The flour is sifted by special machinery in the basement and is then carried up by a bucket-and-chain arrangement to the top floor, where it is automatically weighed, into the mixing chambers, mixed with water and yeast, and kneaded by means of paddle arrangements in the mixing chamber. It is then run into long portable tubs and allowed to rise. From these it is passed down by chutes to the next floor, one batch going to the machine which molds the loaf and another to the table where the loaves are molded by hand.

The machine contains a die which cuts a loaf of the exact weight required, molds it into a loaf, and passes it by a long endless chain through a heated chamber, which permits further raising of the dough. After it has gone the complete length of this chain, taking perhaps five minutes, it is removed to the bake pan and then placed in the oven; when baked properly it is removed to another endless chain, from which it is taken by hand and placed on the racks to cool. The loaves are not wrapped. This bakery is well lighted and ventilated, and everything is kept very clean.

The other bakeries visited were on a very much smaller scale, most of them being located in basements of small dwelling houses. One in particular was very clean and, although simple methods were used in the mixing and baking, everything was sanitary. Certain other bakeries visited were in poor parts of the town, and here quite opposite conditions existed.

A macaroni factory which was visited was entirely satisfactory from a sanitary standpoint.

Abattoir inspection.—The one inspector employed in this work gives his entire time to it, but it is very evident, considering the number of abattoirs and slaughterhouses there are in the city, that he can perform but a small part of the work required, and many of the animals are slaughtered without undergoing any inspection. The State department of health, in addition to having an abattoir inspector who works in the city of Baltimore, gives to the city inspector a commission to represent it in this work. Even with these two men there is not a sufficient number of inspectors for the purpose. There is no ordinance requiring the slaughtering of animals at any special time, and, in fact, it would be unfair to pass such an ordinance limiting the time for slaughter and requiring that every animal be subjected to an ante and post mortem inspection, until there are more men to perform the duties. In fact the question will be difficult to handle unless many of the small insanitary slaughterhouses are closed and the slaughter of animals is permitted in a limited number of modern well-supervised abattoirs only.

The abattoir inspector makes a daily report, on a special form, of the abattoirs, slaughterhouses, and stores visited, the animals inspected, and the meat condemned.

A number of abattoirs and slaughterhouses, some of them being packing houses as well, were visited. Many of them occupied sites entirely too small for the purpose, and much improvement could be made in their sanitary condition.

The terms "abattoir" and "slaughterhouse," as used by the health department of the city and retained in this report, merely define the size of the establishment. A slaughterhouse is a place for the slaughter of animals for human consumption and operated on a very much smaller scale than is an abattoir.

Food inspection.—Three inspectors are engaged in the inspection of food products, and while not particularly concerned with milk are directed to pay attention also to this article when it is sold at a place undergoing inspection. Judging from the number of milk permits that are revoked by these inspectors for violations of the milk ordinances and regulations, they seem to be more efficient as milk inspectors than are many of the men regularly employed for the purpose.

The food inspectors are especially engaged in inspecting food products in markets, restaurants, stores, and other places where food is sold, and are authorized to condemn any food which is spoiled or unfit for human consumption. This food is usually denatured by covering it with petroleum or a phenol disinfectant and it is taken to the garbage disposal plant or rendering establishments and destroyed. The inspectors are not required to pay any special attention to the sanitary condition of the premises and usually

confine their inspection to the products. The food inspectors make a daily report containing information as to the total number of stores, wharves, and markets visited and the amount of food condemned. In addition to this there is a special report made of the food condemned, where it came from, to whom it was consigned, why it was condemned, and how it was disposed of. The different food products to be condemned are marked with a "condemned" card, and if for detention only pending further investigation, they are marked with a card stating that fact.

The ordinances covering the sanitation of places where food products are sold, and the protection of foodstuff from contamination by dust, flies, or other vermin are very inadequate. There is no ordinance requiring the screening of stores or the screening of foods; food is exposed for sale on the streets as well as in the market without any protection. Food which is eaten raw, such as watermelon, has been seen exposed for sale on the streets and covered with flies. There is no ordinance which requires the food to be raised from the ground. The markets are known all over the United States for the bountiful supply of foodstuffs which they contain, but nevertheless they could be greatly improved in their sanitary condition. Most of them are in need of reconstruction along modern lines.

Local dairy farm inspection.—All inspectors employed in this work are mainly engaged in inspecting those producing farms which are within close proximity to Baltimore and haul their milk by wagon into the city. The amount of milk obtained from this source is approximately 6,000 gallons per day. The same forms are used in reporting on these farms as are used for the farms shipping milk by railroad.

These inspectors are also engaged in the inspection of premises within the city where application has been made to keep cows. There are practically no producing farms within the city limits.

The supervision of pasteurizing plants.—One man is engaged in this work exclusively, and his duties are to study the methods pursued in the different pasteurizing plants in the city with a view to improving them; to study the character of the milk before and after pasteurizaing; to keep check on the methods and report and remedy bad technique; and to carry on any studies that may tend to improve the product.

There are at present no ordinances setting a bacteriological standard for milk, although regulations promulgated by the commissioner of health define a maximum of 500,000 bacteria for raw milk and 50,000 for pasteurized milk. The studies being carried on are preliminary to drawing up an ordinance on the subject which will be thorough and consistent with local conditions.

The standard set by some cities for pasteurized milk, namely, that there shall be a reduction of 99 per cent in the bacterial content, does not seem to be logical. Nor is a standard specifying the maximum number of organisms that will be permitted in a pasteurized milk entirely satisfactory.

The problem is to render harmless any pathogens that may be present and to destroy or reduce in numbers as far as practicable all saprophytes such as the peptonizing bacteria that may indirectly cause sickness among the milk consumers.

It has been determined by laboratory experiments that a temperature of 145° for 20 minutes will kill all pathogenic organisms. It has also been found by practical experimentation that where milk is being pasteurized in bulk, 20 minutes is not sufficient, because the milk is heated in layers, so to speak, and so within this time the entire bulk of milk does not reach the required temperature. At least 30 minutes are necessary to secure a satisfactory pasteurization where milk is pasteurized in bulk. A temperature of 145° for 30 minutes does not alter the character of the food constituents of the milk nor will it kill all of the beneficial lactic-acid bacteria, some of which resist a temperature of 145°. It is true that this temperature and times will not destroy all the peptonizing bacteria where there is spore formation, but this is no argument against pasteurization. These bacteria were present in the raw milk and pasteurization has, if not entirely destroyed them, at least reduced their number. Immediate cooling and bottling under aseptic conditions limits further multiplication.

The important factors in pasteurization are the temperature used, the length of time this temperature is maintained, sterile apparatus, and prompt cooling and bottling. If every pasteurizing plant were required to install efficient apparatus, equipped with a thermoregulator and temperature recorder, and with means of securing absolute cleanliness, by which is meant asepsis, standards for pasteurized milk would hardly be necessary.

The inspection of the pasteurizing dairies of the city discloses the fact that there are numerous methods used, including different temperatures of pasteurization and different lengths of exposure, some of them being a flash system at a low temperature and therefore incapable of producing really satisfactory pasteurized milk, and certainly making it impossible to get any uniform results.

There are three liquids over which the governmental authorities should have unlimited control, namely, water, milk, and alcoholic beverages. In the case in point it would seem the only reasonable and logical thing for the municipality to establish one or more municipal pasteurizing and bottling plants located at railway depots

where the most milk is brought into Baltimore and requiring that milk for sale in the city should be pasteurized and bottled at these plants or at a private plant where efficient methods are used. In either case the milk should be sold only in unbroken packages. An exception to this might be made when milk or cream is sold for the purpose of manufacturing ice cream, or to bakeries and confectioneries, in which case it might be delivered in bulk.

At a very small charge a municipality could make such a plant pay expenses and could insure, with proper supervision, that milk harmless to the public health would be furnished to the poor as well as to the rich.

It would be necessary to bring the milk to the plants where it could be properly tested, then pasteurized and bottled and returned to the distributors, and a charge of ½ cent a quart or even 1 cent a gallon would probably be more than enough to cover running expenses.

City milk inspection.—Of the eight men employed in city milk inspection work, one collects sterile samples at the pasteurizing plant before and after pasteurization; inspects dairies, and on Tuesdays, Thursdays, and Saturdays collects sterile samples of milk at certain of the railway depots. Three men are especially concerned in the collection of samples of milk from stations, wagons, stores, and lunchrooms for bacteriological examination. This leaves four men to perform the regular district work. As there are 3,430 places having permits to sell milk, each inspector is required to inspect 857 places, in addition to the inspection of milk and the taking of samples for chemical analysis at depots and from wagons.

Most of the morning is consumed in the inspection of milk arriving at the different railroad depots. The total amount of milk received at depots during the year 1913 was 9,345,860½ gallons, of which 6.1 per cent, or 573,104 gallons, was inspected. For lack of time, this inspection is sometimes very superficial. When done thoroughly, however, it consists of first, stirring the milk with a dipper, then filling the lactometer cylinder and taking the specific gravity and temperature, noting the way in which the milk flows off the lactometer and the amount that adheres to it, and after correcting the specific gravity for temperature, passing or condemning the milk as indicated by the tests. The specific gravity according to ordinance must be not less than 1.029 at 60°. An inspector with intelligence and experience rarely condemns a milk that does not subsequently prove under standard. On the other hand, much milk is passed which probably should be condemned. Samples of condemned milk are always taken to the laboratory for analysis.

Heretofore all such milk has been spilled, but in the future it is the intention to denature it by means of rennet, a substance which will

destroy the character of the milk and yet permit its use in feeding animals.

Where milk is spilled and afterwards laboratory tests find that it was up to the standard, the owner is reimbursed for his loss.

When milk is condemned the can is marked with a red "condemned" tag and the necessary report made to the bureau. Score cards are filled in for the city milk plants, stores, and lunchrooms, and daily reports made by the inspectors of the work accomplished.

The milk sent in by railroad from the dairy farms represents both night and morning milking. The night's milking is placed in the spring house until the morning, when it is shipped with the morning's product, usually in uncovered wagons, to the railroad depot. Here it may remain on the platforms, which are usually uncovered, for a varying period of time, until it is placed on the train for Baltimore. The cars are neither refrigerated nor provided with ice. Few of the milk producers provide ice, but depend on springs for cooling, which in summer may have a temperature as high as 65°, and in winter 55° or lower. The cans are usually labeled as to whether they contain night or morning milk, so that when they arrive in Baltimore the distributor who does not pasteurize will be able to distribute the oldest or night's milk first and the morning's milk the next morning. It is then not less than 18 hours' old by the time it has reached the consumer. The night's milk is usually colder than the morning's milk for the reason that it has been in the spring house all night, whereas the morning's milk has been there probably not more than an hour.

An interesting series of observations of temperature was carried on by Dr. Blanck, chief of the bureau, from the time the milk arrived at the depot of departure until it arrived at the depot in Baltimore. These observations were carried on along the different railroad lines running into Baltimore and transporting milk in the months of June and August, 1911. The temperature of the milk was taken as soon as it arrived on the station platform at the place of departure, immediately after it was loaded on the car, and again after it arrived in Baltimore. He found that in time varying from 41 minutes to 3 hours and 15 minutes (the minimum and maximum time between which the milk was received at the depot of departure and arrived in Baltimore) there was an average rise in temperature of from 1.2° to 3.4°.

Practically all of Baltimore's milk comes from an area within 60 miles of the city and the hauls are therefore all short. Most of the milk arrives in Baltimore after 8 o'clock on the morning or between the hours of 8 and 11 and an effort is made by the department to inspect this milk within one-half hour after its arrival, so that there will be as little delay as possible in turning it over to the distributor.

Persistent work by dairy-farm inspectors has resulted in a marked improvement of the milk this year over previous years in that it is received at the depot with a very much lower average bacterial count than formerly. The reasonable standard, a temperature of 50°, makes it possible for dealers in milk to keep pretty close to or below it. The producers, however, are not so successful. For instance, the average daily temperature at the station in June, 1913, was 62, in July 64.5, in August 64.7, and in September 59.8. The average daily temperature of milk in wagons was in June, 1913, 51.4, in July 52, in August 50.9, and in September 52.2. The average daily temperature of milk in stores was in June, 1913, 50.8, in July 49.3, in August 50.8, and in September 50.4. The average daily temperature of milk in lunchrooms was in June, 1913, 45.5, in July 46.2, in August 46.7, and in September 50.

Notwithstanding the fact that a lower temperature is maintained after the milk leaves the depot, the bacterial count became higher, inasmuch as the average count of raw milk at the depot was 1,070,000, from wagons 3,385,000, from stores 7,780,000, and from lunchrooms 5,932,000.

These counts are entirely too high and far below the standard of 500,000, which is a generous standard for raw milk. No standard is set for inspected or certified milk.

An inspection was made by me of the stores selling milk in two of the districts of the city. One was located on the outskirts of the city in a good neighborhood. There were seven places inspected in this district, five of them being on Park Heights Avenue between the 3,600 and 4,300 blocks, two of them being each one block from Park Heights Avenue. One was a dairy, the others were stores. In every store the milk was sold in original unbroken packages, was kept in a separate compartment of a large refrigerator and the conditions were as good as could be expected. The fact that milk is sold in original unbroken packages and is kept in an ice box is of itself sufficient to score the place very high. The dairy in this district was far from satisfactory, was very small, and operated on a very inexpensive scale, making it difficult to institute reforms. This district was inspected in just about one hour, while it took the inspector who had last been in the district more than twice that time to cover it and then he did not visit the dairy nor did he visit one of the stores. There were also numerous things that required reporting which he made no mention of whatever. It should be stated that he scored the places visited, thereby requiring somewhat more time, as to score a place requires about 10 minutes.

The other district visited was of a different type altogether. It was located in the slums, among the foreign population. Here all the milk was sold in bulk under the most insanitary conditions.

To make regulations here is practically hopeless. There are but three things to be done—stop the sale of milk in such places, establish a municipally controlled dairy within the district, or prohibit the sale of anything but bottled milk in original packages. This latter has a disadvantage, in that the people who buy milk in these localities frequently buy very small quantities at a time and it is not practicable, according to the dealers, to bottle milk in anything less than 1-pint containers. A municipally controlled pasteurizing and bottling plant would make it possible to supply the poor with safe milk in any sized container they would require.

Dairy farm inspection.—There are six men employed in the inspection of farms shipping milk to Baltimore; three of these men were obtained through the efforts of the women's civic league and all are capable. These inspectors are assigned districts taking in the dairies along a certain line of transportation. They are entitled to traveling expenses up to $1,000 a year to cover railroad transportation, food and lodgings, and carriage hire. They work in the field from Monday until Friday evening, and Saturday report to the laboratory, where they submit their score cards of the dairies inspected, talk over matters with the chief of the bureau and obtain results of examination of milks for future reference when they reinspect their dairies. These inspectors do not submit samples from the dairy. Upon the inspection of each dairy a score card is made out similar to the score card used by the Department of Agriculture, which, to my mind, is deficient in several ways, in that it does not emphasize the importance of noting any case of sickness on the dairy farm or among those who handle the milk; the character and location of the privy, and the character of the water used for cooling the milk or cleansing the utensils—three very important matters from the standpoint of the transmission of human diseases.

Of all the inspectors employed in milk inspection these dairy farm inspectors are carrying on the most important part of it, as it is at the source where the remedial measures should be applied and where thorough instruction in the principles of cleanliness should be given.

To produce a good milk it is not essential that expensive machinery be installed, for there are dairy farms furnishing excellent milk, clean and high in butter fats, with only simple arrangements at their disposal, but where the owner is intelligent and applies cleanly methods throughout.

One of the four inspectors is a graduate in veterinary medicine and his time is mostly taken up with special investigations relative to the health of milch animals on producing-farms, from which samples of milk have been obtained showing high leucocyte or streptococcus counts. This leaves but three inspectors for the regular dairy farm inspection, or one inspector for 656 farms. The number of inspectors

should be increased by at least three, making it possible for each inspector to visit every farm in his district once every two months.

In the foregoing the terms "dairy farm" or "producing farm" are held to mean places where milch cows are kept for the purpose of producing milk for sale.

The term "dairy" is confined to places which keep on hand for sale, milk or cream, or at times other dairy products exclusively.

The term "store" refers to a place which sells milk or cream in addition to articles other than dairy products.

Collection of samples.—Four specially trained inspectors are engaged in collecting samples of milk for bacteriological examination. They carry with them a set of sterilized paddles for stirring the milk, and wrapped, sterilized, glass-stoppered bottles.

The milk is thoroughly stirred in the can by means of one of the sterilized paddles, the same paddle being used for different cans belonging to the same shipper. The bottle, previously wrapped in paper, as described below, and sterilized, has the stopper connected to its neck by a long piece of wire. When used, the stopper is removed, keeping it within the paper covering and by means of the long wire the bottle is withdrawn from its wrapper and immersed in the milk can, withdrawn, the stopper replaced in the bottle, and then put in a tin box containing ice.

This is a very simple and efficient means of collecting the sample without making it necessary for the inspector to touch the bottle and thus contaminate the milk.

Two pieces of paper are used in wrapping; one covers the lower half of the bottle, the other the upper half including the neck and stopper. When the stopper is removed, still under its paper covering, the wire which is coiled around the neck uncoils and finally the entire bottle is lifted out of its remaining wrapper. The fingers of the operator touch the paper only.

Samples from wagons delivering milk in bulk are taken direct from the spigot of the container.

Milk inspectors ordinarily carry with them a regular case containing 1 lactometer cylinder made of copper, 1 lactometer and thermometer combined, 9 to 18 cork-stoppered bottles, 1 lamp for sealing samples, 1 dipper, towels, necessary blank forms, and ice where bacteriological samples are to be collected or where chemical samples are taken in the summer time.

At the railway depot the dipper is used for stirring the milk and for filling the cylinder, the sample bottle being filled from the cylinder. This dipper is made to fold at the middle of the handle so that it will fit the carrying case. They are sterilized before the inspector starts out on his rounds. Arrangements are now being made at the depots whereby the dippers can be sterilized by live steam immediately after

use. Many samples of milk are taken from the delivery wagons, stores, and lunchrooms, mostly raw milk sold in bulk. Where an original container is taken as a sample a receipt is furnished to the driver.

Samples taken with a view to prosecution are obtained in duplicate and sealed, one bottle being delivered to the person handling the milk and the other taken to the department of health. The method of sealing bottles is by the use of sealing wax, which is melted in a very ingenious container easy to carry around. It consists of a copper cylinder, into the bottom of which is inserted a copper alcohol lamp closely fitting the cylinder and into the top of which is inserted a receptacle for the sealing wax, with a hinged cover. For sealed samples cork stoppers are used. The cork is cut off flush with the rim of the mouth of the bottle and then inserted into the hot sealing wax and imprinted with a seal containing the letters B. H. D. It is seemingly impossible to tamper with these seals. Care must be taken not to have too much sealing wax in the reservoir or it will boil over, and not to heat too long, for the same reason.

All samples for analysis must be accompanied by properly filled-in forms giving necessary data.

LABORATORY DIVISION.

The chemical laboratory.—The chief of the bureau is the immediate head of the chemical laboratory. This laboratory is well equipped; its force is composed of young men who have been trained in the laboratory and who seem to be capable. The work consists of the chemical analyses of milk and water mainly, the analysis of foods and the identification of suspected poisons for the police department. The examination for poisons in stomach contents or viscera is not carried on in this laboratory. One chemist has been especially trained in the examination of poisons, one is especially trained in the analysis of water, and another in the analysis of milk.

From consideration of the chemical laboratory of the city in relation to the food and drug division of the State, it would seem there is lost motion, because of an apparent lack of cooperation and because the State is performing much work within the city that the city could perform for itself, and at the same time permit the State to carry on its operation in other localities within the State where there is no machinery for enforcing a law for the purity of foods.

The city can not prosecute under the State food and drug act and its ordinances are deficient, but it seems highly reasonable for the State to give the city inspectors authority to collect samples of foods and drugs within the city, thus permitting the State inspectors to devote their time to the collection of samples in other parts of the State.

Bacteriological work.—In addition to the chemists the chief of the bureau has directly under his control a certain number of bacteriologists, whose special work is the bacteriological examination of milk. These men perform their work in the bacteriological laboratory of the department of health under the supervision of the chief of the bureau of food and dairy inspection. The subdivision of authority hardly seems wise, as the logical arrangement would be to have all bacteriologists under the immediate control of the chief of the bacteriological laboratory, who is after all responsible for the technique of all of the bacteriologists. It appears, however, that it not infrequently happened that other work of the bacteriological laboratories was inadvertently given preference over the examination of milk, thereby interfering with securing prompt reports on milk samples.

Library.—The bureau of food and dairy inspection has a very excellent working library which is kept in the bureau and not in the general library of the department. The books in this library have been carefully selected and are referred to constantly, and it would seem best to have them in the bureau so that they can be consulted without delay. In addition to the books there are 11 different journals subscribed to by the bureau, and the chief of the bureau has a number of journals and reprints which are at the disposal of his subordinates. The chief has also organized a journal club, each one of his subordinates being given a certain journal to review with special reference to the particular subject in which he is interested. The entire staff of the chemical laboratory is at present engaged in taking a special course in bacteriology at the College of Physicians and Surgeons, so that each member will be thoroughly familiar with all sides of the bacteriology of milk as well as of other foods.

The books and journals in the library are catalogued, or in process of being catalogued, so that subjects can be looked up readily.

Records and reports.—Score cards are filled in at the time of inspection of farms, dairies, stores, and lunch rooms. These are placed in separate files.

Each inspector is required to make an individual daily report on regular form, and the information taken from these is summarized on another daily report by the clerk of the bureau. This summary also includes the laboratory reports for the day. These reports are kept in separate files.

When samples of milk are taken for analysis, special forms are filled in containing the necessary data, to which is added the result of the examination when it is completed. Separate cards are kept of the same kind, one for bacteriological and one for chemical analyses. These cards cover samples from depots, wagons, stores and lunch rooms, and pasteurizing plants, and are filed in special files.

When any person wishes to sell milk within the city limits he is required to make application for a permit on a special form. This application is then referred to an inspector, who inspects the premises and determines whether it is a proper place from which to sell milk and makes the necessary recommendations. A permit is then issued by the commissioner of health. Three records are kept of these permits, one of the permit number, one of the address, and one of the name; a file is also kept of the trade names of dairies.

Where low butter-fat content is found in any milk, notice is sent to the person from whom the milk is obtained, either the producer or the dealer, and a record of these notices filed. The same procedure is used for milk having a high bacterial count. This notification does little good, as shipments from the same dealer are not systematically followed up to determine if there is any improvement.

A file is kept of the stores, etc., by districts. There are 167 districts made for the convenience of assigning the inspectors to their daily work, and the assignments are so arranged that quite a period elapses before the inspector covers the same territory a second time. A file is kept of the revocation of milk permits, temporary and permanent, not including temporary revocations on account of quarantine. Permits are revoked for violation of the rules and regulations controlling milk, as, for instance, when a place handling the milk is in an insanitary condition and where a refrigerator is not provided.

The clerk every morning examines the record of the communicable disease clerk, reporting cases of measles, scarlet fever, diphtheria, or typhoid fever occurring at any address where milk is sold. Such places are then immediately quarantined and the license temporarily revoked. Where cases of these diseases occur on any special milk route the case is first investigated by the health warden; then the milkman is notified that a case of disease has occurred on his milk route. In case of tuberculosis, permits are revoked only upon recommendation of the tuberculosis division. A record of these temporary revocations is kept in a "daily reminder" file until the permit is again granted, when it is placed in a separate file.

A file is kept of the above diseases occurring on the milk routes of the different dealers. By this file one can readily determine the presence of an unusual amount of sickness along any particular route.

A record is also kept of the employees of dairies; of the amount of milk condemned; of the amount of food condemned; of the number of cows within the city limits; and the number of sealed samples taken. The score cards are filed with the application.

In addition to these records there is a tabulation showing the districts that have been covered, with the name of the inspector and the date of inspection; there is also a daily record showing the assignment of each inspector for that particular day.

A record is kept of all prosecutions and the findings of the court. A number of prosecutions have been carried on for selling milk without a permit; for selling milk which is below standard; or for other reason; and they have been uniformly successful, the majority of the defendants being fined and required to pay the costs.

A record of water analyses is kept and a special record of all other analyses on special forms, which are bound in a loose-leaf ledger. This record contains, with other data, details of the examination which can be used as evidence in court where prosecutions are instituted.

After a study of the different records filed in the bureau, one might jump to the rather hasty conclusion that is there a duplication. This probably, however, is not the case, for it would seem on closer study that the files are quite satisfactory and that all the information filed away is needed. There are a few suggestions, however, that might be made relative to the forms used, as, for instance, the inspection card which is to be hung in stores, etc., should contain a place for the hour of inspection and possibly should have certain questions to be answered at each inspection as to the condition of the refrigerator, the temperature, sanitary condition of the store or the score at last inspection. Then, again, the inspector should be made to report more in detail on his daily report the premises inspected, by name and house number and hour of inspection. This would make it easier for the chief inspector to check up the work of the men under him.

Certain changes are desirable in some of the score cards.

Summary of information relating to the inspection of the milk and food supply of Baltimore City, 1913.

Milk producers shipping by rail	1,968
Milk producers hauling by vehicle	116
Number of local dairies	211
Number of dairies in counties	29
Number of dairy farms visited, 1913	1,098
Total number of dairy-farm inspections and reinspections, 1913	1,548
Number of near-by dairy-farm inspections, 1913	1,779
Maximum score	88.00
Minimum score	12.45
Average score	50.84
Per cent of farms having tuberculin-tested herds	3.00
Per cent of farms using small-top milk pails	9.05
Per cent of farms having special cooling apparatus	4.00
Per cent of farms having no dairy house	24.22
Number of pasteurizing dairies in the city [1]	19
Number using flash type of pastuerizer	9
Number using holding type of pasteurizer	9
Time of pasteurization.....minutes	2-30

[1] The data from one of these dairies was not secured.

Temperature of pasteurization.....degrees F..	140–155
Total daily output of pasteurized milk.....gallons..	12,300
Pasteurizing dairies having facilities for sterilizing bottles.....	9
Pasteurizing dairies having steam sterilizing apparatus.....	16
Pasteurizing dairies using hot water only.....	2
Pasteurizing dairies having system of dairy-farm inspection.....	5
Pasteurizing dairies doing bacteriological and chemical laboratory work..	4
Pasteurizing dairies selling bottled milk only.....	3
The amount of milk distributed daily by the largest pasteurizing dairy, gallons.....	4,000
The amount of milk distributed daily by the smallest pasteurizing dairy, gallons.....	60
Number of wagons operated by pasteurizing dairies.....	172
Number of people employed.....	365
Number of pasteurizing dairies producing their own milk.....	2
Number of farms supplying the other 16 pasteurizing dairies.....	746
Number of gallons of milk arriving at railroad depots, year 1913.....	9,345,860½
Per cent of milk examined at railroad depots, year 1913.....	6.1
Estimated number of gallons of milk arriving by electric railway, year 1913.	30,000
Estimated number of gallons of milk arriving by vehicles daily.....	6,000
Estimated average daily consumption of milk, 1913.....	31,600
Number of special investigations of dairy farms, 1913.....	149
Number of cows temporarily excluded from herd.....	251
Number of cows permanently excluded from herd.....	7
Number of farms where entire output of milk was excluded.....	5
Total amount of milk condemned, 1913.....gallons..	7,312½
Total number of local milk shops and distributing dairies quarantined in 1913.....	118
Average per cent of butter fat, milk from farms.....	4.01
Average per cent of butter fat, milk from wagons (bulk).....	3.71
Average per cent of butter fat, milk from stores.....	3.53
Average per cent of butter fat, milk from lunchrooms.....	3.76
Average bacterial count, raw milk from farms.....	1,070,000
Average bacterial count, raw milk from wagons.....	3,385,000
Average bacterial count, raw milk from stores.....	7,780,000
Average bacterial count, raw milk from lunchrooms.....	5,932,000
Per cent of samples raw milk from farms conforming to bacterial standard, 1913.....	71.00
Per cent of samples raw milk from farms conforming to bacterial standard, 1912.....	44.00
Per cent of samples raw milk from wagons (bulk) conforming to bacterial standard, 1913.....	37.00
Per cent of samples raw milk from wagons (bulk) conforming to bacterial standard, 1912.....	18.00
Per cent of samples raw milk from stores (bulk) conforming to baterial standard, 1913.....	25.00
Per cent of samples raw milk from stores (bulk) conforming to bacterial standard, 1912.....	31.00
Number of temporary revocations of milk permits for violations of rules and regulations.....	187
Number of permanent revocations of milk permits.....	13
Total number of permits effective December 31, 1913.....	3,430
Total number of bakeries within the city.....	342
Total bakery inspections.....	3,400

Bakeries ordered cleaned	82
Total number of abattoirs and slaughterhouses within the city	87
Total number of abattoir inspections	591
Total number of visits to slaughterhouses	3,451
Total number of inspections of animals on hoof (cattle, sheep, hogs, calves)	598,830
Total number of carcasses condemned	634
Total number of store inspections, food products (including milk)	31,338
Total number of market inspections, food products	4,576
Total number of wharf inspections, food products	3,950
Total amount of foodstuffs condemned, pounds	656,927¾

LABORATORY RECORD.

Number of milk analyses, chemical	22,757
Number of water analyses, chemical	163
Number of miscellaneous analyses, chemical	1,323
Number of milk examinations, bacteriological	8,916
Number of water examinations, bacteriological	1,337
Number of miscellaneous examinations, bateriological (food)	236
Total number of prosecutions for violations of milk ordinances	36
Total number of prosecutions for violations of food ordinances	8
Total number of convictions	36
Total number of dismissals	8

Bacteriological Work.

A division of bacteriology was organized in 1896. In 1898, the State board of health, desiring to organize a laboratory, combined with the city in organizing a common laboratory. This arrangement still exists.

At present the personnel and their respective salaries are as follows:

Chief of division [1]	$1,800
1 assistant bacteriologist	1,500
1 assistant bacteriologist	1,200
1 assistant bacteriologist	1,000
1 laboratory assistant	900
1 specimen collector	900
1 laboratory assistant	480
1 laboratory assistant	300
2 laboratory assistants, at $240	480
2 throat inspectors, at $500	1,000
1 clerk	950
	10,510

Duties of the division.—The laboratory is engaged in work similar to other laboratories of its kind. Physicians are assisted in the diagnosis of all communicable diseases by the examination of cultures or other specimens. Bacteriological examinations of water and foodstuffs, raw or preserved, are made. There is also manufactured and issued antityphoid vaccine, and diphtheria antitoxin and

[1] The chief of the division of bacteriology is also chief of the State bureau of bacteriology and as such receives an additional $1,800 from the State.

vaccine virus are issued. Disinfectants for the disinfection of stools from cases of typhoid fever or other intestinal diseases are given away free of charge.

Requirements of ordinances.—There are no specific ordinances applying to the bacteriological laboratory or to its work.

Methods of operation.—The chief of the division has under his supervision the assistant bacteriologists and other employees of the division and is responsible for their discipline and their work. He also gives his personal attention to the examination of diphtheria cultures, the examination for malarial parasites, the tests for typhoid fever, and the rabies work.

The bacteriological work is divided among the three assistant bacteriologists. The routine duties of each are specifically defined by laboratory rules.

One of the laboratory assistants prepares and distributes laboratory outfits for the transmission of specimens for examination to the various culture stations throughout the city. During this distribution he collects from these culture stations blood serum outfits which are two weeks old or over. Substations are also provided with outfits, but they are required to send to the department to secure them. A record is kept in duplicate of all outfits issued.

Another laboratory assistant, who is known as a specimen collector, collects samples of pasteurized milk in original packages on the street, collects tap-water samples from the different parts of the city and specimens of raw foods for examination in the laboratory. Recently he has been attempting to trap rats to be examined for possible bubonic plague. He is also required to make an occasional sanitary survey at the time that he is sent to collect water samples, and also to make special investigation when there is a complaint in connection with any water supply.

The other laboratory assistants are boys who are engaged in cleaning glassware, sterilizing apparatus, preparing culture outfits, cleaning up, filling in blanks, etc. These boys are too young to assume any responsibility, and while they may be trained so as to eventually become efficient laboratory assistants it is questionable whether it is advisable to employ boys for this kind of work.

The laboratory is at present engaged in determining also the efficiency of the use of hypochlorite in the city water by an examination of tap water in different parts of the city. Examinations at the plant are made by the water engineering force.

It would seem best to have all of these examinations made by a bacteriologist from the laboratory of the department of health, even though he had to be stationed at the plant. While it is of course the water engineer's duty to provide the water supply and maintain it, it should be the duty of the health department to determine at all

times whether the water is fit for drinking purposes. Where the bacteriological work is divided, as in this case, important changes can take place that may affect the health of the city and the health department know nothing about it, and there is very likely to be a conflict of opinion which need not occur.

There are six different outfits for the use of physicians to submit samples of materials for examination. Only one of these outfits is intended for mailing; the others must be sent to the health department by other means.

One outfit consists of a wide-mouthed bottle with cork stopper. In the bottle is a small amount of disinfectant solution, and accompanying the outfit are directions for collecting the sample and a blank form for data on the case, to be filled in by the physician. This is used for samples of sputum in suspected tuberculosis. It is similar to the container used by the State.

The outfit for diphtheria specimens consists of a test tube containing a sterile swab and a tube of Loeffler's blood serum mixture, two blanks for the necessary data, to be filled in by the physician, one for first cultures and one to be used in any succeeding cultures, and information as to how to take cultures. The physician inoculates the culture tube and sends it to the laboratory, where there is some one on hand at all times to receive it and place it in the incubator.

There is another outfit to be used for the transmission of specimens of blood, feces or urine for examination for intestinal diseases or for the Widal test. This outfit consists of a swab and a bile culture tube, which is inoculated by the physician from the feces, urine, or blood, and also a small aluminum box containing cover slips for the transmission of dried blood. Blanks to be filled in by the physician and information as to how to collect samples are also inclosed.

Another outfit consists of a block of wood containing a small aluminum box inclosing glass cover slips and intended for the transmission of dried blood in cases of typhoid fever or malaria. Still another consists of a number of glass slides, properly packed, for miscellaneous examinations such as pus from anthrax, ophthalmia neonatorum, etc. This outfit also contains blanks for necessary data on the case, as well as information as to how to collect the samples.

The sixth outfit consists of a wooden block inclosing a small aluminum box containing a culture medium contaminated with some harmless organism. This is exposed in a room undergoing disinfection, as a control to determine whether the disinfection has been efficient. After use, the culture is mailed to the health department for examination.

The laboratory is well equipped for any kind of bacteriological work. There are numerous sterilizers and water baths, a large ice box refrigerated by means of an ammonia machine and having in it a

compartment containing a 20° incubator. The refrigerator is kept a few degrees above zero centigrade. The incubator within it is kept at 20° by means of a resistance coil, the temperature being regulated by a thermoregulator devised by one of the chemists of the chemical laboratory, which is accurate to one-half of a degree. It is a very ingenious contrivance and a description of it should be published by the inventor as it would no doubt be useful in other laboratories. The large incubator is kept at the required temperature by means of hot water and a thermoregulator.

Records and reports.—Each specimen sent in for examination is accompanied by the necessary data on a regular form filled in by a physician. These are filed away, there being four files for diphtheria, one containing first positives, one first negatives, one second positives, and one second negatives. There are two files for tuberculosis, one for positives and one for negatives; one for typhoid positives, one for typhoid and malaria negatives, one for blood, urine, and feces cultures positive and one for negative, and one for diphtheria in institutions, while a separate file is kept for those examinations in which the results are unsatisfactory or suspicious. In addition to these files, a filing card is made out for each condition, information being taken from the reports from the doctors.

Records are also kept of the number of doses of diphtheria antitoxin and antityphoid vaccine given out and returned; also the amount of vaccine virus issued.

Blank forms are furnished to the physicians for reporting the reactions obtained after the use of antityphoid vaccine and antitoxin.

A daily report covering all the transactions is made out, enabling the clerk to readily summarize them at the end of the month.

When the results of the examination of a supposed diphtheria culture are positive, or when the attending physician requests the antitoxin for a clinical case of diphtheria, the health wardens are immediately notified so that the case may be investigated and the house placarded. Other diseases are notified to the health wardens in the same way. Results of examinations are sent to physicians by telephone as soon as they are received from the laboratory, this being followed by a report by mail on a regular form.

When samples of sputum are found positive for tuberculosis, the tuberculosis nurses are notified so that they can visit the patient, if the attending physician is willing, and give the necessary instructions.

The keeping of these reports and records and the notification to physicians is all performed by the clerk of the division.

Throat inspectors.—The two throat inspectors, one for the northern and one for the southern part of the city, collect swabbings from the throats and noses of patients who have recovered from diphtheria, or of contacts. They will, if requested, take the first culture in a sup-

posed case of diphtheria, but this is usually done by the attending physician. They also assist in taking cultures from children attending the public schools who may have been exposed to infection. No placard can be taken down from the house where there has been a case of diphtheria, or a carrier, until one culture taken from the throat and nose of patients or contacts is negative and the house is disinfected.

Combination of state and city laboratory.—This combination would seem on theoretical grounds to be economical and satisfactory, and in fact it has worked well. The State has its own employees, blank forms, and a certain amount of necessary apparatus, and pays a rent for the use of the laboratory and fixtures, such as refrigerator, incubator, etc., of $200 per year, and at three-month periods expenses connected with routine work, such as culture media, glassware, etc., are determined and the State pays its percentage of the cost.

If the contemplated move of the city department of health to new quarters materializes, separate storerooms will be provided for the State, a separate office, and separate fixtures.

Registration of Births and Deaths.

The work of collecting and compiling the data regarding births and deaths is not in the hands of any organized force. There are several employees concerned with it, most of whom work independently of each other and are under the immediate supervision of the commissioner or assistant commissioner of health. It would seem that the work would be accomplished with greater facility if it were coordinated under a responsible head or bureau chief.

The personnel concerned and the salaries are as follows:

1 chief statistician	$1,180
2 permit clerks, at $1,000	2,000
1 index clerk	900
1 statistical clerk	600
1 registrar's clerk	900
	5,580

Requirements of ordinances.—The following is a summary of the ordinances relating to births and deaths:

The commissioner of health is required to provide suitable books in which to register the returns made to him of the births and deaths within the city and reported cause of death. The registry of births and deaths is required to be kept under certain regulations specified by the commissioner of health, in separate books, properly indexed and accessible to the public at all times, except for purposes of commercial solicitation or private gain.

It is the duty of the attending physician to make out a death certificate within 18 hours after death when the case does not come under the notice of the coroner. This death certificate is required to be given to the undertaker and must contain the following information: Name, age, color, sex, nativity, occupation, conjugal state, duration of residence in the city, cause, date, and place of death, and duration of

illness. It is the duty of the undertaker to state in such certificate the date and place of burial and to sign and deliver it to the commissioner of health within 24 hours after its receipt. Where a person has died of a contagious disease, this certificate must be delivered to the commissioner immediately upon its receipt from the physician.

Where the case comes within the notice of the coroner, he must furnish the certificate within 18 hours after death, unless a more thorough investigation requires further time. This certificate is furnished to the undertaker the same as when made out by a physician. The coroner must certify the cause of death and whether the death was due to natural causes, accident, suicide, or homicide.

No interment or disinterment or other disposition of a dead body may be made within the city without a permit from the commissioner of health. This permit must be returned to the commissioner by the sexton or other person in charge, on the Saturday next succeeding the date of burial or removal. When one permit has been given, no additional permit is necessary to remove the body from one place to another place in the same cemetery.

If any person dies without medical attendance, or if the physician in attendance refuses or neglects to furnish a certificate, the undertaker or other person acquainted with the facts so reports to the commissioner of health, who is authorized to give a certificate provided it is not a case requiring the attendance of a coroner.

If a physician or coroner refuses or neglects to furnish a certificate, there is a fine provided of $10 for each offense; or if any undertaker, sexton, or other person refuses or neglects to perform any of his duties as required by ordinance there is a fine provided of $20.

Every midwife and physician must keep a true register of births and must report upon the proper form a birth within four days after delivery, by name (if it shall have been given), sex, color, name and occupation of parents, date and place of birth, and signed by the midwife.

If no midwife or physician is in attendance at the birth, it is the duty of the parents to report it. For violation there is provided a fine of $10 for each offense.

Every physician, midwife, undertaker, sexton, or superintendent of any cemetery must register by name, residence, and place of business in the book at the office of the commissioner. He must note any change of residence. For violation there is provided a fine of $10.

The commissioner is authorized to issue a copy of a birth or death certificate, for which he must charge the sum of 50 cents. If the record can not be found, a statement of such fact is required to be made and the fee of 50 cents charged. If the applicant has not furnished sufficient data, however, to identify the record, a fee of $1 is charged.

The commissioner accounts to the comptroller monthly for all fees received by his department from the above charges.

The record of births and deaths must contain the following information: Births—full name of child (if conferred), sex, color, full name of father, full name of mother, day, month, and year of birth, street and house number, signature of physician and residence. Deaths—full name of deceased, color, sex, age, conjugal state, occupation, birthplace, date of death, cause of death; when an infant is unnamed, name of father and mother, ward, street, number of house, and place of burial.

Necessary blanks and books must be kept on hand by the commissioner.

Nobody may remain unburied for longer than four days, or if dead of a communicable disease for longer than 24 hours, without a permit from the commissioner of health. For violation there is provided a fine of $50.

No dead body can be transported within the city without a permit from the commissioner, and if the body is transported outside of the city the coupon attached must be signed and returned to the commissioner before 12 o'clock on the Saturday next succeeding the transportation. For violation there is provided a fine of not less than $10 nor more than $50.

In studying the subject it will be necessary to take it up under titles of the different employees concerned with reference to the handling and disposition of the death certificate within the department

The permit clerks.—These two clerks come under the direct supervision of the chief statistician, and their duties are to issue permits to inter the dead. One of them is on duty from 7 a. m. to 3 p. m. while the other is on duty from 3 p. m. to 11 p. m. on alternate weeks.

When the death certificate is presented to the permit clerk, he examines it to detect any missing or obscure information. If the death certificate has not been made out properly, it is returned for further information and the burial permit withheld. If it has been made out properly the permit is issued. There are six different permits in use: One where the death has occurred in the city and the body is to be buried in the city; a second especially intended for the interment of stillbirths; a third for bodies which come into the city for burial; a fourth for disinterment; a fifth where the body is to be removed from one place to another, in which case before burial can take place a regular burial permit must be obtained; and a sixth which is a transit permit for the body to be removed from the city to other places.

When bodies accompanied by a transit permit arrive from other places in the city, the undertaker in charge of the body is required to obtain a burial permit from the city before interring the body, this burial permit being issued upon presentation of the transit permit. No burial permit is issued without either a death certificate or a transit permit from another part of the city or the country. The disinterment permit is sufficient authority to reinter the body.

All these permits contain stubs which are filled out at the time of issuing the permit and retained by the city. They are kept for five years and then destroyed. All permits must be returned to the health department by the superintendent of the cemetery after they have served their purpose. They are then bound and kept as records. Before a body can be brought from the outside into the city, a transit permit must be obtained, and if secured from the city it is issued upon application of the undertaker on a special form.

For every death from a communicable disease mentioned in the ordinance a regular card of information is filled in and sent to the clerk in charge of the morbidity reports, and on the burial permit is posted a notice which is an excerpt from the ordinance relative to the burial of bodies of persons who die from communicable diseases.

In addition to this there is a daily report made to the clerk in charge of the morbidity reports of all deaths due to tuberculosis.

There is also a report made to the index clerk of all children who have died under one year of age. This is done to enable him to consult the records to find out if the birth has been reported.

A report is made to the board of supervisors of city charities of all children who have died under six months of age. This report is made so that the board may have cognizance of mothers who might be willing to suckle foundlings.

The index clerk.—The death certificates received by the permit clerks and the birth certificates which come into the department are turned over immediately to the index clerk. In the case of deaths, he enters the name of the deceased, the date of death, and the number of the death certificate, on a card which is filed away alphabetically. In the case of birth, he enters the name of the father and the mother, the date of birth, and the number of the birth certificate, on a card which is filed away alphabetically. For purposes of quick recognition, the information is typewritten in blue ink for deaths and in red for births.

Stillbirths are reported by both a birth and a death certificate and are indexed accordingly. They are kept in a separate file.

Plural births are reported by a certificate for each child.

A separate file is kept for deaths occurring outside of the city but buried within the city limits. The index clerk, when he has properly indexed the certificates, sends them to the chief statistician, who secures the necessary information and returns them to the index clerk, who causes them to be bound in volumes of 500.

The chief statistician.—It is the duty of the chief statistician to classify the births and deaths and to secure from them certain statistical data.

The birth certificate used contains all the necessary information. Its receipt in the department is acknowledged by postal card where only one or two certificates have been received from the physician. Where a number have to be acknowledged to an institution, a card of acknowledgment is made out for each birth and all cards are inclosed in one envelope.

The number of births is tabulated on a special weekly form according to day of the week, color, legitimacy, and sex.

Upon the death certificate is noted by the statistician the ward, whether the disease has occurred within or without the city, and the number of the disease in the international classification. The certificates are then segregated so that the desired information can be obtained in the easiest manner and transcribed to the following weekly forms:

Deaths by wards and deaths in hospitals, asylums, etc.
Deaths by ages, according to sex and color.
Deaths by ages, according to social conditions.
Deaths in the city of Baltimore, according to classification, to be entered daily.
Deaths from pulmonary tuberculosis, according to age, sex, and color.
Deaths from other forms of tuberculosis, according to age, sex, and color.
Deaths from bronchitis, according to age, sex, and color.

Deaths from bronchial pneumonia, according to age, sex, and color.
Deaths from lobar pneumonia, according to age, sex, and color.
Deaths in the city of Baltimore, according to classification, age, ward, etc., with the comparative weekly mortality, being a summary of the weekly report, and to the following monthly forms:
Deaths in the city of Baltimore, according to classification, sex, and color.
Deaths from contagious and infectious diseases, by wards.
Deaths according to occupations.
Deaths according to nationality.
Interments at cemeteries.
Deaths in the city of Baltimore, being a summary of the other monthly reports.

In addition to these reports, there are special reports made weekly to the Surgeon General of the Public Health Service, to the United States public-health officer stationed in Baltimore, to the different consuls of the city, and a list (weekly and monthly) of certain morbidity and mortality statistics for the newspapers of the city of Baltimore.

The statistical clerk.—The duties of the statistical clerk are to secure certain special information from the death certificates. She receives the death certificates from the statistician. She first classifies the deaths of the month by wards and summarizes this information at the end of the month on another sheet.

Cards are then made out for filing, containing certain special information relative to deaths from heart disease, intestinal diseases, cancer, inanition and marasmus, tuberculosis, measles, typhoid fever, whooping cough, scarlet fever, broncho-pneumonia, pneumonia, and Bright's disease. From these cards the information is transferred to different forms arranged for the notation of data relating to occupation, sex, and age; sex, color, and ward, and sex and color. In the case, however, of marasmus, inanition, and intestinal diseases, the information is transferred to a somewhat different form, in that it covers only the ages up to 5 years according to wards. A special form is used for reporting tuberculosis and cancer, and the last forms have a general summary of information at the end of the year relative to population, deaths, death rates, etc.

The statistical clerk is also the librarian of the department, and has under her charge the cataloguing of books and magazines which are not kept in the special divisions or bureaus of the health department. The library is catalogued according to subject, author, and title.

The registrar's clerk.—The duties of this clerk are to issue transcripts of death and birth certificates to persons applying for the same. A special application blank is required for a copy of a birth certificate and another for a copy of a death certificate, and a special form is used for transcribing the records, one for births and one for deaths. There is a good deal of correspondence in connection with the work

of this clerk for the reason that many people request a record without giving the necessary information, and their request has to be returned. A special form is used for this purpose, which also quotes the ordinance regulating the issuance of transcripts.

It is difficult or impossible to get a record of a birth or death before the year 1875, for the reason that no records were kept before that date, and even to this day, while probably all the deaths are being reported, there are many births that are never notified to the health department.

The child-labor laws of the State prohibit a child under 10 years of age from being employed in any industry, and in order to secure employment for a child, a transcript of birth certificate must be presented to the bureau of statistics and information showing that it is over the required age. This certificate is obtained from the health department, and according to law no charge is made for the transcript. A complete record is kept in a book of the transcripts issued, including the amount collected and other information. This book is kept properly indexed by the registrar's clerk.

None of the clerks employed in tabulating these statistics can be considered in any way an expert in statistics. The assistant commissioner, who has himself made a special study of the subject, is prevented from giving his attention to the matter by the numerous details relating to other subjects with which he is continually overburdened. It is certainly safe to say that this statistical work should be performed in a division in charge of a division chief, an expert in statistics. Tabulating machines should be installed. With these the work that is now being performed by several could very readily be done by one more promptly and with more accuracy. There would seem to be no reason why the city should not make use of the tabulating machines which are at present in the State department of health.

Tenement-House Inspection.

The work of tenement-house inspection was organized by a man who had studied the system used in New York and adapted it to the conditions in Baltimore city. After getting the work into good running order he lost his position for political reasons. This is simply an indication of how difficult it is to do things properly when politics dominate a health situation.

The personnel and their respective salaries at present are as follows:

1 chief inspector	$1,200
2 inspectors, at $900	1,800
	3,000

Requirements of ordinances.—The ordinances relating to tenement-house inspection are summarized as follows:

The mayor and city council of Baltimore are authorized to enact ordinances regulating the construction, care, use, and management of tenement houses, lodging houses, and cellars.

Under the charter a tenement house is defined as a house, building or portion thereof, which is rented, leased, or hired out to be occupied as the house or residence of three or more families living independently of one another, and doing their own cooking upon the premises, or by more than two families upon a floor so living and cooking but having a common right in the halls, stairways, water-closets or privies, or some of them.

A lodging house is defined as a house or building or portion thereof in which persons are harbored or received or lodged for hire for a single night, or for less than a week at one time, or any part of which is let for any person to sleep in for any time less than a week, or in which free lodgings are habitually provided for and given to more than five persons who are not permanent occupants thereof.

A cellar is defined as a basement or lower story of any building or house of which one-half or more of the height from the floor to the ceiling is below the level of the street adjoining.

All tenement or lodging houses must be kept clean and free from any accumulation of filth, garbage, or other matter; the rooms, passages, privies, etc., must be thoroughly cleansed; walls and ceilings whitewashed at least once every year. They must be registered with the commissioner of health.

For violation there is provided a fine of $20 and a further fine of $5 for every day thereafter that the ordinance is not complied with.

Methods, reports, and records.—The tenement-house problem is probably not as serious in Baltimore as it is in some of the other large cities, and resolves itself more into a question of insanitary slum property, of which Baltimore has its share. Even this is not as serious, notwithstanding the age of the city, as it is for instance in some of the English cities where enormous amounts of money have been spent in the demolition of such property and the erection of modern sanitary houses for the poor. The insanitary court is not noticeable in Baltimore as it is in some other cities, although a few are in existence.

Supervision over tenement houses includes, according to the definition of the ordinance, apartment houses. Lodging houses are also subject to supervision. To build or remodel a house to be used as a tenement house the owner must register in the department of health.

In the case of all tenement houses a card is made out giving full information relative to number of apartments on each floor, number of families, rooms, people, sanitary arrangements, light, ventilation, etc. A separate card is used for lodging houses. These are permanent records.

Four sets of notices are in use—one to notify the tenant that his house is in a filthy condition and must be cleaned; one to notify the proper person that a nuisance exists and must be abated; one to

notify the proper person that the house must be connected with the sanitary sewer and certain plumbing fixtures installed. These two latter notices are delivered by the police officer and a receipt taken. The fourth notice is a legal proceeding notice in case previous notices are not complied with.

When a notice is sent relative to a nuisance in a tenement house or lodging house, it is entered on a filing card and placed in what might be called a "daily reminder" file until the nuisance is abated. Each notice is given a number. This number is entered on another card which is a permanent record of notice served.

Some of the tenement houses and lodging houses of the city were inspected and except that in many cases they were old buildings, and dirty on account of the filthy habits of the tenants, they were not bad as regards light, ventilation, and in most instances toilet facilities. The work of installing modern toilets and making sewer connections is progressing rapidly; in fact in only one instance were the tenants of the house depending upon an old filthy drop closet. In only one tenement house inspected were bathtubs observed, and in many cases they seemed to be utilized as wood bins or laundry tubs rather than for the purpose for which they were intended.

There are about 2,700 tenement houses, including apartment houses and lodging houses, within the city, and an effort is made to inspect each one of them at least twice a year. Where notices are issued to abate nuisances or install toilet arrangements they are frequently reinspected until the matter has been attended to. In ordering toilets it is usually estimated that there shall be one for every six people or at least one for every two families. To determine overcrowding in tenement houses 400 cubic feet of air space is allowed for each adult and 200 cubic feet for each child in the sleeping rooms, while for lodging houses a minimum of 700 cubic feet is required for each individual.

There is no ordinance requiring the installation of bathtubs or other washing facilities, and the ordinance does not prohibit the use of dark rooms for sleeping purposes, although an effort is always made to prevent this, which is frequently successful. In fact, the construction of the buildings in the slum districts of the city is such that light and ventilation are good as a rule.

The work of tenement-house inspection should come under a bureau of sanitation if such bureau were in existence.

Medical Inspection of School Children.

The medical inspection of school children was begun in February, 1905, with three nurses and two physicians.

It is subject to the same criticism as much of the other work of the city department of health, in that each physician works independently

of the other, there being no organization under any direct head, except the assistant commissioner of health, who, as has been said before, is overburdened with a multiplicity of details.

The personnel and their respective salaries engaged in this work at present are as follows:

5 school medical inspectors, at $600	$3,000
5 school nurses, at $600	3,000
	6,000

Methods of procedure.—A school nurse works under each school physician. Each physician has a stated number of schools to inspect, depending on the proximity of the different schools to each other. This gives some physicians as high as 22 schools. The school year is from September 15 until about June 15. The school physicians work from October 1 to June 1. They do not begin at the beginning of the school year, for the reason that the pupils have not all been enrolled until October 1.

There is no special room set aside for the work, the principal's office or sometimes the teachers' resting room being utilized for the purpose. The records are kept in the schools to which they belong. With the present force it is possible to make but two examinations of each child during the year, and only children who have shown some defects during a first examination are examined the second time.

There are in the city of Baltimore 111 day schools, 26 night schools, 6 summer vacation schools, and 1 parental school, with a total enrollment of 83,937 pupils and an average daily attendance as follows:

Day schools	57,263
Night schools	3,188
Summer vacation schools	924

Every child admitted to the first four grades is given an examination card, on which is entered the school number, the room number, the class, name, age, address, etc. This card is kept throughout the child's attendance at school, and on the reverse side is entered, by years, any diagnosis made, whether treatment was ordered, whether a cure was effected, whether treatment was secured, or whether there was no treatment.

The examination is rather cursory unless it is evident that a more thorough examination is necessary, as, for instance, if tuberculosis is suspected. The condition of the throat, nose, teeth, conjunctiva, ears, skin, and hair is always observed and the necessity for vaccination.

Where the child is in need of some medical attention a card is addressed to the family, giving the diagnosis and suggesting that they consult the family physician or send the child to a dispensary. If this is done, the card is signed by the physician and returned to

the school-teacher, who in turn hands it over to the school nurse. At the time this card is sent to the family, a card is also inclosed, which may be signed by the parents of the child and is authority for the school nurse to take the child to some institution for treatment.

No treatment is given by the school physician, whose duties are merely to make the examination and determine that some pathological trouble exists. Where it would be advisable to have a specialist make the diagnosis, an effort is made to get the child to a free dispensary for the purpose.

No special examination is made of the eyesight, but where it is noticeable that any child in the course of its studies is defective in this respect an effort is made to have it attend the proper dispensary or see the family physician. Children suffering from scabies are excluded. Glasses may be furnished by the federated charities.

Children suffering from pediculosis with live pediculi are excluded from school and a notice in four languages is sent to the parents relative to the treatment.

Children suffering from the communicable diseases—diphtheria, scarlet fever, measles, chicken-pox, or other children's diseases—are excluded as well as contacts. The teachers of the school are kept informed as to these contacts by the health department, which submits to each teacher a list made up from the health wardens' reports. In addition to this the principal is immediately notified by postal card when a communicable disease occurs in a school child. Diphtheria and scarlet fever contacts can not return to school without a certificate from the health department; in other diseases a certificate from the attending physician is sufficient.

In the case of tuberculosis an effort is made, if the parents will permit, to secure admission to a sanatorium, or if an incipient case the pupil is enrolled in the open-air school. As has been said before, however, the two schools intended for this purpose are not yet ready to be used.

While no case of trachoma has been reported, this would necessitate exclusion from school.

As is the case in all work of this character, the school nurse is probably the most important factor in the system of inspection of school children. It is her duty to keep in close touch with the children, not only in the school but out of it. It falls upon her to visit the child at its home, give advice, and secure the consent of the parents to have the child given the proper treatment, and to take the child to a dispensary where such treatment can be administered. She it is who becomes the real instructor in the right way of living during her visits to the pupils' homes. Her assistance is also valuable to the doctor during his examinations. It falls upon her to keep many of the records.

The work done by the school nurse is so important that if funds would allow there should be a nurse for every 1,000 or, at the most, 1,500 pupils. She should be made a member of the teaching staff and should have constant supervision over the health and personal hygiene of the child both at school and at home. She should be especially trained in sanitary science and should be required to teach it in the school. Certainly such a course of instruction would be far superior to the subject of hygiene and physiology as generally taught in public schools at present.

Control of Nuisances.

Complaint clerk.—The control of nuisances is supervised through an office of the department in charge of one employee known as the "complaint clerk," who receives $900 per year. His duties are to receive complaints, to distribute them among the health wardens for investigation and action, and to keep the necessary check on them to see that they have been attended to properly. He also reports the time of arrival of health wardens, who are required to come to the department at 1 o'clock each day and remain about one hour.

Requirements of ordinances.—The ordinances relating to nuisances are summarized as follows:

It is the duty of the commissioner of health to inspect lots, houses, suspected cellars, premises, possessions, streets, lanes, and alleys within the city, and if they are in a condition liable to create a nuisance and endanger the health of the citizens, it is his duty to notify the proper persons and cause the said nuisance to be removed and abated within a specified time. If the nuisance is not abated after notification, the commissioner of health has the power to do so at the expense of the owner or occupant, and this expense may be recovered by suit, if necessary. If a notice to abate a nuisance is neglected, there is a fine provided of not less than $10 nor more than $100.

If no agent, occupant, or owner can be found, the commissioner of health is authorized, after giving five days' notice in one or more daily newspapers in the city, to have the nuisance abated at the expense of the city, and this expense is recovered from the owner when his whereabouts are ascertained.

When the commissioner of health, in proceeding to abate nuisances, finds that the nuisance originates in an adjoining lot, he must order the proper person to remove that nuisance, and for failure to comply there is a fine of $20.

If no owner, agent, or occupant of such lot can be found, the notice to abate is required to be posted on the lot or premises to which it refers.

If the expense incurred in removing a nuisance has not been collected, including the cost of advertising, it remains a lien against the entire lot or premises, and after due course the property is required to be sold under due legal process.

If the property is owned by a person outside of the State of Maryland, the commissioner, before selling same, must give notice of such sale in three of the daily newspapers of the city, with a particular description of the property.

When property is under the control of an executor, administrator, etc., the same procedure must be used in the abatement of nuisances against such administrator as if he were the owner.

No provision of any ordinance may be considered to prohibit dealers in bones from purchasing the same and depositing them on their premises, provided that green bones can not be kept for longer than 12 hours and that no offensive bones may be so deposited.

Where the commissioner of health believes that any nuisance exists in a cellar, he may demand entry therein in daytime. If entry is refused there is a fine provided of $20.

The commissioner of health has the power to require that cellars and vacancies under stores, etc., be filled up with some materials and paved with brick or stone, and the lot adjoining may also be ordered filled to the level of the street to prevent the lodgment of water on the premises.

All dead animals must be removed within 12 hours after notice from the commissioner, and dead horses, mules, cattle, sheep, or hogs, must be removed in covered or in closed vans or wagons. For violation there is a fine imposed of not exceeding $20.

No manure or nuisance of any kind can be deposited on any lot within the city without the consent of the owners or occupants of the lots adjoining. For violation there is a fine of $5 and a further fine of $5 for each day such nuisance may remain.

No person may deposit on his own lot or premises the cleanings of any slaughterhouse, fish dealer's house or yards, or any other dirt or filth, nor receive nor deposit on his premises any dead animal or green bones, fish, or crabs, or other offensive articles. A penalty for violation of not less than $5 nor more than $20 is provided.

No person may remove any of the articles mentioned to any other premises within the city limits. For violation there is a fine of $5.

No person may bring from without the city any materials mentioned above and deposit the same on any premises within the city. For violation there is a fine of $5.

No oyster or clam shells can be dumped within the corporate limits without permission from the commissioner. Oyster packing establishments or oyster dealers may deposit such shells on their property. For violation there is a fine provided of $10 for each day.

Oyster shells may not be stored on premises during the months of June, July, and August. For violation there is provided a fine of $10 for each day.

Wharves and low grounds must not be filled with wood shavings or vegetable matter. For violation there is a fine provided of not exceeding $50.

The chimney or smokestack of the furnaces in the city hall or city hall annex or courthouse may not be permitted to emit dense or black smoke.

The chimneys from the furnaces of any hotel, office building, apartment house, theater, place of public assembly, or store, or dwelling, within the city may not be permitted to emit dense or black smoke, except in the case of furnaces used for heating greenhouses. For violation there is provided a fine of $25 and an additional sum of $10 for every day during which the violation continues.

It is the duty of the commissioner to see that these ordinances against smoke nuisances are enforced.

When any cow or horse stable becomes in such condition that filth and stench from it are offensive to neighbors, it must be declared a nuisance, and for failure to abate there is provided a fine of $5 for each day.

The following are considered offensive trades or businesses and their carrying on is prohibited or restricted by the municipal ordinances:

Manufacturing, grinding, or preparing any chemical or mechanical preparation for roofing or other purposes.

Distilleries for the manufacture of copal varnish, or boiling or grinding of bones.

Distillation of spirits of turpentine or varnish, or the manufacture of earthenware or stoneware.

The manufacture of soap or candles, the pulverizing of charcoal, the manufacture of red or yellow ocher or other kinds of earth of which red or yellow paint is made.

The manufacture of oil of vitriol, nitric acid, muriatic acid, crude ammonia, ivory black, alum, chloride of lime, pigments of lead, or other manufacture, where it is necessary to burn horn, blood, bones, or other animal substances.

The manufacture of cotton wadding, cotton laps or bats.

The molding of clay or any other substance for the manufacture of bricks or tiles.

Poudrette works, glue factories, or establishments for the purpose of rendering grease, dead animals, animal offal, or stockyards for receiving, feeding, and offering for sale live stock.

For violations of the ordinance covering the subject of offensive trades, penalties are provided.

No person except those authorized, may convey any garbage, house offal, etc., through the streets of the city without first obtaining a permit and then only in accordance with the terms of the permit. The commissioner of health may grant this permit in his discretion and may revoke the same. For violation there is a fine of $2 for each offense.

No earth, dirt, sand, ashes, garbage, gravel, rocks, or refuse matter may be dumped on any private property without permission from the owners or agents. For violation there is provided a fine of $5.

No garbage or refuse may be burned on or in the vicinity of any of the ash or garbage dumps in the city. For violation there is a fine of $5.

If a complaint is made to the commissioner by six property holders or heads of families within 600 feet of a slaughterhouse that such slaughterhouse is a nuisance, it shall be his duty to examine the place and if the complaint is well founded to report to the mayor. If the mayor agrees with the commissioner and it was erected with the understanding that the mayor could order its removal, he must immediately give such notice. If erected without such understanding, the nuisance must be proceeded against by law.

No slaughterhouse or hide house can be erected within the city limits. For violation there is provided a fine of $200 and a penalty of $100 for each and every month until removed out of the city limits.

No hogpen can be maintained within the city limits under a penalty of not less than $1 nor more than $5 for each day and for each hog. This does not apply to hogs that are kept for sale if they are not kept for such purpose for a period longer than 10 days.

By securing a permit from the commissioner a victualler may keep on his slaughterhouse premises a sufficient number of hogs to consume the offal from the slaughterhouse.

Such permit must not be given if, in the judgment of the commissioner, it will create a nuisance, and the permit is good for 12 months unless sooner revoked. For keeping hogs upon premises without a permit a fine is provided of $20 and $5 for every day such violation is continued.

Where any person refuses to comply with an order or notice of the commissioner and no special fine is already provided, there is a fine provided of $20 for each offense and $5 for every day that the refusal shall continue.

All fines, etc., incurred by violation of the ordinance must be recovered as other fines under the city ordinance and money so collected is required to be paid to the comptroller.

Complaints and notices.—Complaints are received from the public in person, through the mail, or by telephone. In this way about 48 or 50 complaints are received per day. Other complaints, of which there is an average of 92 per day, are received from the police department. The first are entered on three different forms, two of which are given to the health warden and one is retained in the book as a stub. Of the two issued to the health warden, one is returned properly made out when the notice to abate the nuisance is issued, while the other is returned when the nuisance is abated. These are filed away, a record being made on the stub of any information given

by the health warden, the date on which the notice of the nuisance is referred to him, and the action taken.

Notices to abate nuisances are made out by the health warden after an investigation, on a regular form, of which a retained copy is kept as a stub. Three notices to abate are in use, one for general complaints, one for insanitary privies, and a third, which is called a legal proceeding notice, to be sent when other notices have failed. Where the health warden can not determine the cause of the nuisance, as, for instance. in flooded cellars, the matter is turned over to the plumbing division for investigation. The policemen submit to their department every day a note made out on a special form of nuisances occurring in their districts; these are summarized by wards at the end of the day on a special form by a clerk of the police department and transmitted to the health department. The health department in this case makes no investigation, but issues an order to abate the nuisance and the matter is then followed up by the police department.

Where the health warden has investigated the nuisance, he follows it up to the end and swears out the warrant and appears in court against the defendant in case prosecution is brought. In the other case the police department appears against the defendant, only calling in the health warden as a witness. A complaint book is kept for each health warden, or one for each ward in the city.

All notices to abate a nuisance are served by the police officers upon the owner, authorized agent, or the tenant. A receipt for the same is taken and transmitted to the health department, where it is attached to the stub in the health warden's notice book. This is used as proof in court that the notice was served on the proper person. Where nuisances are caused by collections of rubbish in back yards or vacant lots, cellars, etc., the notice to abate is served on the tenant. Where the nuisance is due to some faulty fixtures in the house, such as leaky plumbing fixtures, the notice is served on the owner or the authorized agent of the owner.

The abatement of nuisances is of great annoyance to a health department, and too often of very little importance from the standpoint of public health. Their investigation and correction certainly do not seem to be appropriate work for a physician, but for a sanitary inspector, and should come under the authority of a bureau of sanitation in the health department, which in this particular city might be the plumbing division.

A great many nuisances of which people complain have reference to defective plumbing and drainage. These and all others could be readily handled by the same inspectors from the same division or bureau. As a matter of fact, while the health department should not lose its power to abate nuisances, these matters should be controlled by the police department, and usually the entire action should

be taken by its officers without referring to the health department. In fact the health department has recently arranged with the police department to have the police officers attend to a good deal of this work regularly and systematically and so far their work has proved valuable and it looks as if much would be accomplished.

There are certain nuisances which have a direct bearing on the transmission of the communicable or preventable diseases, such as collections of manure, which breed flies, and stagnant water, which breeds mosquitoes. These nuisances should, of course, receive the attention of the health department.

With a properly organized bureau of sanitation within the health department, to include plumbing inspection, disposal of garbage, rubbish, and the like, the abatement of nuisances could very well be handled as a routine matter with the force organized for other purposes.

Inspection of Plumbing.

Plumbing inspection is carried on through a well-organized division which was established in 1884 when the first plumbing ordinance was put into effect. At present its personnel and their respective salaries are as follows:

1 chief inspector (chief of the division)	$1,600
12 plumbing inspectors, at $900	10,800
3 sanitary inspectors, at $900	2,700
1 chief clerk	1,000
6 clerks, at $900	5,400
1 stenographer	900
	22,400

Duties of the plumbing division.—The duties of the plumbing division are concerned with the supervision of the work of plumbers, including the installation of plumbing fixtures, sewer connections, and abatement of nuisances due to defective drainage or faulty plumbing.

Requirements of ordinances.—These requirements will not be gone into in detail. Suffice it to say that they cover the construction and maintenance of privies within the city limits, the removal of night soil, the requirements for master plumbers, the kind of pipes and fixtures that may be used, etc.

Methods of procedure.—Until very recently Baltimore was far behind other cities in respect to adequate disposal of sewage, but in the last few years, the city having issued bonds to the amount of $20,000,000 for the purpose, great strides have been made in improving conditions by building a modern sewerage system. At the present time all main trunk sewers are completed, about two-thirds of the city is provided with lateral sewers, and 36,000 premises now have sewer connections. In fact the work has progressed so rapidly in this

latter respect that the division of plumbing, due to a lack of employees, has not been able to handle its work, and at present there are about 14,000 final inspections to be made. With the present force it is a physical impossibility to keep up with the work.

The construction of sewers is in the hands of the sewerage commission. The jurisdiction of the plumbing division of the department starts at the lot line, where the jurisdiction of the sewerage commission ends.

Only a master plumber is entitled to undertake contracts to do plumbing. To become a master plumber, he must secure a license from the State board of practical plumbing examiners, who are also authorized to license journeymen plumbers. The law requiring licensing in this way also provides for the fining of plumbers, and the board is empowered to revoke a license.

Before work can be commenced the plumber makes application to the plumbing division for a permit, giving all necessary information and submitting plans and a letter showing that he is authorized to do the work. A permit is then issued and given a serial number and full information entered in a loose-leaf ledger. When the job is completed the plumbing division is notified and a final inspection made. At this inspection no special test is applied.

When a sewer is ready to have connections made householders are notified that they must connect within 30 days; if then no steps are taken to comply, a second notice is sent, giving them an extension of 10 days. If no attention is paid to this final notice a warrant is obtained, and if found guilty by the court they are liable to a fine of $5 for every day's delay. The health department also has authority to make sewer connections and charge the expense to the property owner.

A notice is sent to the property owners stating that according to a recent ordinance they may place the soil, waste, and vent pipes on the outside of the building, but that by doing so the pipes may freeze and burst in cold weather. If they desire this done they must notify the health department.

The plumber must notify the health department when he will commence work. Blue prints of the different sewer districts of the city are obtained from the sewerage commission and are kept on file in the plumbing division for the purpose of keeping accurate records of all connections to the sanitary sewer.

There are a number of different forms in use covering the different conditions which come within the jurisdiction of the plumbing division relative to sewer connections, installation of plumbing fixtures, nuisances, drainage, and the like.

The system of keeping records seems to be excellent, and at the same time not too complicated.

Sewerage disposal plant.—On account of the amount of sewage flowing into the Baltimore Harbor producing nuisance and threatening to cause a pollution of the oyster beds, it was decided both for public health and economic reasons to instal a sewage disposal plant. The plant is practically completed, but provision has been made for its enlargement to provide for normal growth of the city.

The sewage collected in the low-lying portions of the city has to be pumped to a level where it will flow by gravity to the disposal plant. Here the sewage enters a concrete tank where it passes through a coarse screen. From here it passes through a meter, to determine the rate of flow, then to a sedimentation reservoir of such size that it takes about six hours for any particular portion to pass through. In this reservoir the heavier material sinks to the bottom, the supernatent liquid portion is permitted to flow out into a main channel, and the sludge pumped into concrete tanks to undergo digestion. This process is allowed to take place for a month or more, and the contents after digestion are flushed out onto sand beds and permitted to dry.

The liquid portion that has been passed into the main channel goes through a fine screen where particles which have not sunk to the bottom in the first reservoir are caught and passed back to the digestion tanks. The portion which passes through the screen escapes through jets placed at regular intervals onto a percolating bed composed of 7 feet of coarse crushed rock. The liquid thrown out by the jet passes through this layer of rock and is collected in a subsoil channel and flows out through a main effluent pipe emptying into the Back River. This outflow furnishes sufficient power to run an electric-light plant.

It is claimed that this plant gives an efficiency of 95 per cent and so far has cost about $2,000,000.

Maritime Quarantine.

The management of the quarantine station and the inspection of incoming vessels are in immediate charge of an assistant commissioner of health, who acts as quarantine officer and resides at the quarantine station.

Requirements of ordinances.—A summary of the city ordinances relating to quarantine is as follows:

The powers and duties of the assistant commissioner of health, acting as quarantine hospital physician, are:

To attend at the office of the commissioner of health when requested.

To inform the commissioner of health of anything demanding the attention of the health department.

To advise with the commissioner of health on all subjects, particularly pertaining to the sanitary condition of the port.

To collect, under the direction of the commissioner, all money coming due from patients of every class and from immigrants and others received into the hospital, and

to pay over said money to the city registrar monthly, with a report as to the number of patients under treatment at the hospital.

To make a monthly report to the commissioner of health relating to the affairs of the hospital, number of inmates, by whose order received, and by whom the expenses are borne.

To employ, with the consent and approval of the commissioner, such persons as may be necessary to carry on the duties of the quarantine hospital.

To attend properly to all messages or communications sent to him.

To carry into execution the quarantine laws and regulations.

All vessels arriving between the 30th day of April and the 1st day of November, and such other times as the commissioner of health may direct, must remain in the quarantine grounds until passed. These quarantine grounds are specified in the city ordinance.

Vessels must be boarded by the quarantine hospital physician as soon as practicable after their arrival at the quarantine grounds, between sunrise and sunset.

The quarantine hospital physician must examine into the health of the personnel of the vessel, its passengers, condition of cargo, crew, and vessel as to cleanliness, presence of disease, or any other facts of interest to health.

If deemed necessary he may require the necessary disinfection or cleansing of the vessel, the expense of which is borne by the vessel. No vessel can be removed from quarantine without the written permission of the quarantine hospital physician. For any violation there is provided a fine of $500 and a further fine of $50 for every hour the ship or vessel may remain in any position in violation hereof.

After the cargo is discharged, if deemed necessary, the quarantine hospital physician may order moved any vessel from the wharf into the stream to be thoroughly cleansed and ventilated. For violation there is provided a fine of $100 and $20 for every hour thereafter during which said disobedience shall continue. When any vessel arrives with smallpox, varioloid, or a suspicious communicable disease aboard which might be smallpox or any other infectious or contagious disease, or where any such disease has appeared during the voyage, the vessel shall be brought to quarantine and can not depart until a permit is granted by the quarantine physician. It is also unlawful to land any person suffering from a suspicious disease without written permission from the quarantine hospital physician.

Officials of the vessel must make full disclosure of all circumstances that they know of in relation to the health of the personnel or passengers, and must answer all questions asked them by the quarantine hospital physician. For violation there is provided a fine of $5.

The commissioner of health has the authority to receive into the quarantine hospital any person from Baltimore or other port of the State affected with a communicable disease dangerous to the community.

It is unlawful to bring into the city any damaged coffee, hides, rice, or other article liable to produce disease, under a penalty of $100.

The commissioner may exempt from quarantine inspection steam vessels entering the city and coming from any port in the United States north of Cape Henry; such exemption to remain in force until countermanded, or unless a dangerous communicable disease be present on the vessel.

Vessels arriving from ports north of Cape Henry, free from epidemic or contagious diseases, and all cargoes from such ports, are not subject to these quarantine regulations unless so specified by the commissioner.

The inspection of vessels is made in daylight, as soon as possible after entry into the quarantine grounds. Cases of smallpox, varioloid, or other communicable diseases found aboard are sent to the quarantine hospital. Necessary disinfection of articles, crew, and passengers is performed under the supervision of the quarantine hospital

physician, and no communication may take place between detained persons and the citizens of Baltimore until all necessary means have been taken to prevent the spread of the disease. For violation there is provided a fine of $20.

The cost of disinfection is charged against the vessel. The cost of maintenance of passengers, whether detained aboard ship or removed on shore, failing to maintain themselves, must be provided for by the master of the vessel, or charged against the vessel; and no vessel may leave quarantine until such expense has been reimbursed.

Any person in charge of a vessel detained at quarantine who refuses to comply with the requirements is liable to pay the sum of $20 for every such refusal or neglect, and the further sum of $20 for every hour thereafter during which his disobedience continues.

Any person coming ashore from a detained vessel without permission is required to pay the sum of $50, and any person leaving the hospital grounds without permission must pay the sum of $50.

Any person who goes aboard a vessel detained in quarantine is liable to a fine of $20.

If any communicable disease appears aboard a vessel while at a wharf or in the harbor at any season of the year, the commissioner of health is required to order the vessel quarantined, and necessary precautions must be taken. For violation there is provided a sum of $100 and the further sum of $20 for every hour thereafter during which such disobedience continues.

For inspection of vessels, whether at quarantine or elsewhere, there are provided the following fees to be paid by the commander, captain, owner, or consignee of the vessel:

For vessels not exceeding 200 tons register measurement, $2 for each and every voyage.

For vessels over and above 200 tons, 1 cent a ton for each and every voyage.

The quarantine hospital physician is authorized and directed to charge each patient over 15 years of age 50 cents a day and 25 cents for each person under 15 years of age, except infants; no charge is made for infants. If the patient does not pay, the master, owner, or consignee of the vessel is answerable. The quarantine hospital physician, through the commissioner, obtains the necessary supplies for the support of the hospital.

When the quarantine hospital physician finds it necessary to remove goods, baggage, or bedding from the ship, he must keep them safe from injury or depredation and return them to the ship when disinfected. If the patients owning them are detained in the hospital, they are delivered to their owners when discharged.

The quarantine hospital physician is authorized, when necessary, to make all necessary vaccinations on vessels detained at quarantine, and to charge 25 cents for each person vaccinated, and if it is necessary for the quarantine hospital physician, where a person is not in the hospital but desires the professional attendance of the quarantine hospital physician, he is authorized to charge 50 cents per day for each and every person so attended. If the person does not pay the charge, the owner or consignee of the vessel is answerable for it. Moneys so collected are paid to the city registrar and placed to the credit of the quarantine hospital.

It is the duty of the harbor master to report any violation of the quarantine regulations to the commissioner of health who is required to enforce the penalties. All money so collected is paid to the city registrar who places the same to the credit of the quarantine hospital.

Quarantine station.—The quarantine station is very well located on the Patapsco River about 10 miles below Baltimore. It comprises a small boarding tug, a gasoline launch, a wharf, a brick building containing disinfectant chamber, boiler and pump; a wooden building for isolation of contacts, a wooden hospital, a small building containing an office and a bedroom for the junior medical officer,

a residence for the chief quarantine officer, a stable and a small structure which was built and used in the past for isolating a case of leprosy.

It is not the intention to go into detail relative to this station, but it may be said in general that the buildings are all old (the station having been established since 1881), and badly in need of repair, not to mention a thorough cleaning. Toilet facilities are poor. The large building for contacts, for instance, has but two bathrooms, each containing one tub, instead of shower baths and two toilets, and the fixtures in some instances freeze in cold weather. The heating facilities are obsolete and inadequate, and judging from the appearance of the place the employees are more or less worthless. The station shows a great lack of care and discipline, not, it is to be believed, due to the shortcomings of the officer in charge, but to the political conditions of employment and character of attendants. It also seems to be the policy of the city to fail to appropriate money for the care and preservation of the property of the quarantine station, including the launch. The furnishings are all very poor and old.

The city itself might not be wise in relinquishing the control of this station, until a detention camp is provided for its smallpox cases, since there is now no other place to put such cases. As a matter of fact should the Federal Government take over this station, it would be well to continue to care for the smallpox patients of Baltimore for some remuneration, inasmuch as it would make available material with which to instruct the officers of the United States Public Health Service in the diagnosis and handling of that important communicable disease. If the transfer ever should go into effect, the money paid over to the city should go to the health department, and should be used as a fund to prevent the spread of communicable diseases, especially smallpox. If the above plan were adopted there would be little need for a detention camp in which to put smallpox cases.

At the present time the maintenance of a maritime quarantine station is not the legitimate function of the city, in fact there are only two in existence so maintained, namely, the one at Baltimore and the one at Boston. This function should properly be exercised by the Federal Government.

It is understood, however, that the business men of the community hesitate to have the city relinquish control of this station until Boston, a competitive city, does the same. This attitude is probably due to the belief on their part that the shipping interests of the city would be better looked after by a local than a Federal officer. This view is erroneous, however, and the business men would no doubt be as well satisfied with Federal control as with the city control after it had once been established.

The Secretary's Office.

The secretary of the department is actually the auditor for the health department, and is principally concerned in purchasing supplies, keeping memorandum accounts, and transmitting bills for payment to the comptroller. He also assumes charge of the department in the absence of the commissioner and the assistant commissioner.

Requisitions and supplies.—The only printing which is paid for by the department is the bill for the annual report, for which there is a special appropriation. All other printed matter is furnished by the city librarian, whose duty it is to get out the proper contracts, secure the necessary money from the board of estimates, and furnish printed matter as required. An estimate of what will be necessary during the coming year is furnished to the librarian by the department of health, and from time to time during the year requisition is made on his office for supplies.

Supplies in general use, such as antitoxin, vaccine virus, coal, groceries for the quarantine station, and the like, are contracted for at the beginning of each year. When the health department needs such supplies, an order is made out by the secretary in triplicate on the firm that has been awarded the contract. The triplicate is kept by him; the duplicate and original sent to the dealer. The original is retained by the dealer and the duplicate returned to the health department. When these supplies are furnished, the secretary does not check the goods sent with the order; he makes out the necessary warrant which is signed by the commissioner and transmitted at the end of the month with the duplicate order to the comptroller for payment. All bills are paid by the comptroller by check by mail, except in amounts under $10 bought in the city of Baltimore, which are paid in cash.

Employees of the department are paid twice a month. Pay rolls are made out and signed, and transmitted to the comptroller. A check for the entire amount is returned to the health department, made out in favor of the commissioner of health and the secretary. This fund is deposited in the bank and checked against in paying off the employees.

No special requisition forms are used by the different employees of the department, nor are bills checked by the employees who have ordered the supplies before they are paid. Several books are kept by the secretary, enabling him to determine amounts spent from each appropriation. It is difficult, however, to determine the exact expense of any one division or any particular piece of work. For instance, car fares of certain divisions are lumped together. This ap-

plies to other items as well. Entries are frequently made under the name of the dealer, so that it is necessary to go back over many bills to find out what articles were bought and to what division they went. From the standpoint of the comptroller, the books kept in the department are quite satisfactory; but from the standpoint of the public health officer, who wishes to determine the exact cost of any division or bureau, the books would not be satisfactory.

The commissioner of health should receive a monthly statement showing the exact financial standing of every division or bureau of his department, and should be able to call at any time for such a statement, and the books should be kept so that the information required by the commissioner could be secured without any difficulty.

A division should be formed to be called the financial and property division, and the secretary, on account of his present work, could be very readily made the chief of this division or bureau. Special forms should be devised for the different divisions or bureau chiefs to requisition for supplies needed by them, and the bills therefor should not be paid until checked by the bureau or division chiefs showing that the articles have been received. No supplies should be purchased until the requisition is signed by the chief of the buerau or division and approved by the commissioner.

The secretary has had, and in fact still has, a certain amount of independence which is inconsistent with a properly organized department where the head of that department or his immediate assistant is supposed to know what is going on. Formerly it was customary for an employee who wished to leave early, or not to make his appearance at all, to secure permission from the secretary, and this plan which at times is still followed, is not conducive to good discipline nor thorough work.

Where there is a bureau chief or chief of division, he should be made responsible for the absence of his employees, and without such a bureau chief they should secure permission from the assistant commissioner of health.

Due to the fact that the books are kept with the accounts charged against appropriations rather than against the work actually performed in the different divisions of the department, it is tedious or impossible to work out the yearly expenses of the department, showing the cost of maintaining any particular division. It is therefore difficult to give any figures which would be of value in comparing the work done in Baltimore with that done in other cities.

Appropriations.

A study of the budget of the city of Baltimore for the year 1914 shows that there is appropriated for purposes of public health and sanitation the following amounts:

Health department	$242,190.00
Commissioner of street cleaning (collection of garbage and ashes and street cleaning)	834,878.22
Free public bath commission	81,302.00
Sewage commission	1,864,923.00
Water department	3,057,358.32
	6,080,651.54

A further study shows that of the amount appropriated to these departments there is a certain amount for new construction, as follows:

The health department	$10,000
The sewage commission	1,431,104
The water department	2,380,565
	3,821,669

Baltimore has only recently started to provide modern sewers and water supplies, and is thus naturally under heavy expense for new construction. This expense for new construction should not be considered ordinary expenses. In making a study of the expenses for public health and sanitation, therefore, this amount should be subtracted from the total as given above, which would leave appropriated for the maintenance of public health and sanitation the sum of $2,258,982.54, which is approximately 10 per cent of the total budget, which amounts to $22,432,349.92, of which the department of public health gets but a very small percentage, being only 10 per cent of the total amount appropriated for public health and sanitation, or 1 per cent of the total budget. The city could well afford to appropriate more to the health department without being considered extravagant.

The Field Force.

The field force being of such vital importance to a health department in carrying on its operations, it is given separate consideration under the following heads: Chiefs of bureaus or divisions; health wardens, who might properly correspond to medical inspectors; chief inspector, and sanitary inspectors.

Chiefs of bureaus or divisions.—The heads of those subdivisions of the department sufficiently well organized to be called "bureaus" or "divisions" are all capable, display much interest in their work, and give full time to the department. One is already a bureau chief and at least one other should be promoted to a similar position. All are worthy of an increase in salary.

Health wardens.—Health wardens, known under the ordinance as vaccine physicians, are appointed by the commissioner of health. There is one for each ward in the city, or a total of 24, and each receives $900 per year. They must be residents of the ward from which they are appointed. The duties of a health warden are defined by ordinance, as follows:

1. To vaccinate every resident of his ward who may be designated by the commissioner or assistant commissioner of health as susceptible to smallpox.
2. To visit each dwelling in the ward and vaccinate every person who may be presented to him for that purpose.
3. To be prepared in his office at such hours as may be designated by the commissioner to vaccinate all residents of the ward who call upon him requiring vaccination.
4. To keep a record of the names, ages, and residences of all whom he may vaccinate or revaccinate and report monthly to the commissioner of health.
5. To report to the commissioner of health monthly the names of persons who refuse vaccination for themselves or members of their household.
6. To discharge the duties of sanitary inspector for his ward.
7. To act as health warden for his ward.
8. To sign certificates of vaccination for school children.
9. To have general supervision over the health of the ward.
10. To report nuisances to the commissioner of health.
11. To take the necessary steps, under the direction of the commissioner of health, to arrest the progress of any contagious disease occurring within his jurisdiction.

Some years ago men occupying this position did not have to be physicians, and the places were mostly filled by persons who could not qualify for any other place in the political organization.

It was then decided to at least require that they be graduate physicians, and their duties became those of a sanitary inspector as well as a medical inspector.

The entire system is bad. All authorities agree that health officers should be all-time men, that they should receive sufficient compensation to make up for lack of private practice, and that they should hold their office as long as they are efficient workers.

At the beginning of the present administration 11 health wardens lost their positions through politics.

They all have private practices, which under present conditions is naturally more important to them than their official work. This official work is not always attended to promptly nor accurately. The man who holds the position is hardly to be blamed. He must not only provide for the present but he must make provision for the future. A salary of $900 a year is not sufficient to live on without private practice, and the uncertain tenure of office prevents him from specializing in public health work in the hope that he may be a permanent health officer in the health department.

While the ordinance gives the appointing power to the commissioner of health, he may only appoint such men as are nominated by higher authority. This method of appointment, and the fact that no

special qualifications are necessary, makes it impracticable in most cases to secure men with proper qualifications and experience.

The corps of health wardens corresponds to an active working force of a bureau of epidemiology or communicable diseases, which should include medical inspectors who should be doctors of public health, and sanitary inspectors who should have practical knowledge of sanitary matters.

The amount which is spent for health wardens, $21,600, would employ eight all-time public health officers at $2,000 a year, and the remainder could be spent for the employment of efficient sanitary inspectors at $900 or $1,000 a year.

These medical inspectors could perform the work that is now being done by the health warden and could perform it better as they would have nothing to do but attend to their official business, and they would be more directly under the control of the department.

There should be a bureau of communicable diseases organized and a bureau chief appointed at not less than $2,500 a year who would have charge of the medical inspectors.

The duties of these medical inspectors would be essentially the control of preventable diseases. They could also perform the work of school medical inspectors, vaccinators, and the like.

The abatement of nuisances which the health wardens are now required to attend to should be left to the sanitary inspectors, who should be placed in the division of plumbing, which should be reorganized into a bureau of sanitation.

By the appointment of some responsible heads in the department the assistant commissioner of health would be relieved of much detail work which at present prevents him from attending to more important matters.

The chief inspector of the bureau of food and dairy inspection.—There is actually but one employee in the department whose duties are such as to justify the title chief inspector.

The duties of this chief inspector are to supervise the work of the inspectors, assigning them to their different details. He is responsible to the bureau chief for the discipline and conduct of these men. In addition he has a great deal of office work in connection with the inspection of milk and other foods, and receives many of the complaints, turning them over to the proper inspector for investigation.

The present incumbent is a capable man with experience.

Inasmuch as the most important part of the work of the health department depends upon its inspectors, it is essential that the work of these inspectors should be followed up frequently in order to determine whether they have performed their duty, and it should be one of the principal duties of the chief inspector to inspect frequently the work of the men under him. It might also be one of

the duties of the clerk to inspect the work of the inspector when the chief inspector is unable to take the field. At the present time such inspection is not carried on systematically.

The inspectors.—It has been said that a health department is no better than its inspectors, or that a health department may be known b the inspectors it employs.

As is to be expected, the inspectors now employed vary in ability, some of them being efficient and some inefficient. Inquiry shows a condition which renders it in some cases difficult to have the work of the bureau performed satisfactorily. It would seem that party leaders look upon the department of health as a place where men may be placed in lucrative positions as remuneration for their political services regardless of aptitude for health work or educational attainments. This applies to the office as well as the field force. Such men are apt to place party considerations ahead of health regulations and refrain from taking any action that might anger party voters, especially near election times.

It is within the power of the commissioner of health to appoint and to discharge employees, but he is handicapped in that, for political reasons, higher authority reserves the right to nominate, and the nominees are rarely of the type that is required to make efficient inspectors. The men so nominated frequently not having the required attainments, it was decided to hold an examination to determine their qualifications. The questions submitted at a recent examination were those that any man of intelligence should have answered satisfactorily, but the results proved that out of five nominees one only was capable of doing so.

Even though an inspector has become efficient, the frequent changes in administration make his position very unstable, and should he lose his position his substitute can hardly be any better and is frequently worse. Only inefficiency can be expected from such a system, and discipline is difficult to maintain for the reason that the employee has more confidence in the power of his political supporters to retain him than he has in the power of his superior in the department to discharge him when he is guilty of any dereliction of duty.

It is not unusual to find that where a number of men are employed in city work a certain proportion of them have no sense of responsibility and do just as little as possible without being found out. Only recently in the bureau of food and dairy inspection it was discovered that an inspector who had been assigned to a certain district had made no inspections, but had falsified his report, and had put in the afternoon attending to personal business. This man lost his position, and no doubt others would follow if a proper follow-up system were inaugurated. A glance over the reports of the inspectors shows that too many of them are absent on account of sickness. It is inconsistent

that a number of able-bodied men should have so many lost days for this or any other reason, and if the matter were followed up carefully, which it is not, it would probably be found that at times some of them were simply finding an excuse to get away from their regular work for the purpose of attending to personal matters.

There are certain inspectors also who will think up any excuse to avoid going to work. On a stormy day not long since two of them suggested to the chief that the inspection of stores would be dangerous in that signs might be blown down upon them. They were told to inspect just the same, and as far as could be learned there was no undue mortality in Baltimore on that day from falling signs.

It is a mistake to employ inspectors under any designation which implies the nature of their work, as, for instance, milk inspectors, food inspectors, etc. Men so employed get the idea that they are to be specialists along certain lines and rather resent being asked to perform any other duties. Except, perhaps, in the case of inspectors of plumbing, who should be master plumbers, employees of the inspection force should be employed merely as inspectors of the health department and should be given instruction in the work of different bureaus and be subject to detail from one bureau to another when emergencies arise.

Loyalty among the inspectors is necessary and it is secured with difficulty when political influence plays too great a part in appointment and retention in office. They may be loyal to their political supporters, but are not so apt to see the need for loyalty to their department.

Mention has already been made of the nurses employed in the tuberculosis division.

There is in the department also a noticeable absence of messengers, so that the clerks receiving $900 are called upon to furnish messenger service which could well be performed by boys at very much less salary.

Transportation of the Department.

In order to carry on its work effectively, the department has the following vehicles:

Fumigation division: Five fumigating wagons, one dead wagon, one incinerating wagon, one ambulance, one wagon for suspects, one automobile (passenger).

Food and dairy division: One buggy, one motor cycle.

Plumbing division: One motor cycle.

The horses employed do not belong to the city, but are hired.

Other Public Health Activities not Under the Control of the Health Department

Free public baths.—The free public baths and convenience stations are under the control of what is known as the Free Public Bath Commission instead of under a division of the department of health, as they should be.

Baltimore is fairly well provided with facilities for furnishing baths to the poor, and of the few public laundries in the United States five may be found in the city of Baltimore.

There are seven permanent bathhouses, five portable bathhouses, four outdoor swimming pools, two public-comfort stations and a third under construction. Of the five portable baths only one is open the year round, the others being for summer use only. Most of the permanent bath buildings were built by philanthropists and afterwards turned over to the city. Each of the public laundries is housed in a building which also contains baths. The type of bath used in all cases is the shower bath, which is the cheapest, most sanitary, and most convenient.

The portable bathhouses may be moved from place to place, so that different sections of the congested parts of the city may be reached.

They all provide a revenue, as 3 cents is charged for a bath for people over 12 years of age; under that age no charge is made. In the swimming pools the price varies from 1 to 3 cents, according to the age. Three cents an hour is charged for the use of the public laundry.

The permanent bath buildings are divided into two parts, one for men and one for women. There is also a bath building especially for negroes. In the other places certain days are set apart for females.

During the year 1913 the number of people making use of these facilities was as follows: Indoor baths, 746,840; outdoor baths, 301,969; or a total of 1,048,809; the public-comfort stations, 863,013; and public laundries, 22,500.

The cost of this work was $72,358.17, with revenues amounting to $22,229.84, making it partly self-supporting.

Water supply.—On account of the improvements which are being made in the water supply of the city of Baltimore it is especially worthy of an extensive study, but details are omitted in this report. In the year 1881 Baltimore inaugurated what was supposed to be an adequate system of water supply from the Gunpowder River. It proved to be deficient in amount and badly polluted, but it is only in recent years that the people have fully realized this, and therefore the necessity for a more adequate and a cleaner supply. At present there is a dam under construction across the Gunpowder River above the old dam which will impound 2,000,000,000 gallons of water and which in time will be raised higher, so that 21,000,000,000 gallons can be impounded. There are also under construction 32 rapid sand filters, each to filter a minimum of 4,000,000 gallons a day.

The present consumption of water in Baltimore amounts to 75,000,000 gallons per day. It is at present not filtered, but is treated by alum and hypochlorite of lime. The old dam forms an

artificial lake known as Lock Raven. From here the water passes into a sedimentation basin known as Lake Montebello. Before entering this lake it is mixed with alum. At the outlet it is mixed with lime, one and one-half parts per million, and passes on to the distributing reservoir. The use of lime has proved highly efficacious, as shown by the low typhoid rate in the city at present.

Collection and disposal of refuse.—The duty of collecting and disposing of garbage and rubbish is not vested in the department of health, but comes under the control of the commissioner of street cleaning. This duty might properly be placed under the control of the health department.

Requirements of ordinances.—A summary of the ordinances relating to the collection of garbage is as follows:

In general the ordinances provide that gutters must be kept clean and that no garbage or rubbish may be deposited in them or on any street, etc., or public place, and that the occupant of any house must place daily in the rear of the premises suitable boxes for garbage and ashes, and that these boxes must be removed from the sidewalk within one hour after they are emptied by the city collector.

All sidewalks and gutters must be kept open and free from obstructions. For violation there is provided a fine of not less than $2 nor more than $10 or imprisonment in the city jail for not more than five days.

The ordinance specifies that garbage and rubbish must be kept in separate containers, but does not specify what kind of containers, except to say that they shall not exceed a capacity of 1 bushel each. The ordinance distinctly specifies that garbage and ashes must be kept separate.

A regulation of the department of health requires that all garbage containers must be kept covered.

Garbage is collected by the city twice a week during the winter months and four times a week during the summer months, and every day throughout the year from hotels, lunch rooms, restaurants, and the like. It is taken to two different parts of the city on the water front some distance removed from dwelling houses, where it is dumped into scows and finally disposed of by reduction, the reduction plant being owned by a private corporation. After the garbage is dumped on the scows it becomes the property of this corporation. The fat is extracted and the refuse sold, to be made into fertilizer.

The carts used in collecting refuse are the wooden-bottom type with canvas covers and have a capacity of approximately 2 cubic yards. The wagons used for hauling garbage from hotels, etc., are double this capacity.

The average haul to the scow is about 4 miles. There is one 7½-ton automobile garbage truck, which is located at a central point and receives the contents of the carts from that section of the city, thus saving greatly in the length of the hauling. This system should be adopted all over the city.

During the year 1913 there were removed 180,531 cubic yards of garbage.

The same carts are used in the removal of ashes, this being done on alternate days, four days in the week in winter and two days in summer. The ashes are used for filling, and during the year there were 464,720 cubic yards of ashes removed.

In the work of collecting garbage and ashes there are employed 210 men.

Exclusive of the salaries of the officers and office force the cost of collection of garbage and refuse for the year 1913 was $221,114.77. In addition to this amount there was paid the corporation owning the reduction plant the sum of $66,500.

Children's playgrounds.—There are a number of playgrounds for children in the city, located in parks and school grounds. They come under the control of the children's playground association, and the city is authorized by ordinance to furnish the association with $3,000 per year for their maintenance. The school nurses of the health department not being employed during the summer in school work, two of them are employed by the playground association to care for children in the children's playgrounds. This is a very excellent idea, and all of the school nurses should be utilized for this work. They should be paid by the city and given $900 for the full year's work rather than $600 for the school year's work, which is the present arrangement. Naturally these nurses are familiar with the pupils of the public schools, and it would simply be another method of following up by having them in the playgrounds where they will encounter the same children.

District nurses.—The instructive visiting nurses' association have in the field 16 nurses whose work carries them outside of the city limits into the counties. They do general nursing among the poor when called upon by the physicians, charitable organizations, and by the people themselves. One of them does only obstetrical nursing. Where possible the patient is supposed to pay a fee of 50 cents for each visit.

This work could properly be taken over by the city, as it has a very important bearing on the health of its people.

Control of infant mortality.—According to the statistics for the year 1912 there would be a mortality of children under 1 year of age of 178 per 1,000 births. This figure is too high, partly due to the fact that many births are not recorded. It might also be said that still-births are not included in this figure.

The high death rate clearly shows that there is need for a thorough study of infantile morbidity and mortality and that proper measures should be taken to reduce the death rate. This is not at present being done by the city, but receiving some attention by several

charitable organizations, one of which is known as the Baby Milk Fund Association.

Infant milk stations which formerly existed have been abolished, and instead there are maintained infant welfare stations, where instruction in infant feeding is given. Instruction is also given in homes by the visiting nurses of the association. Good milk is delivered to the houses of the poor if they desire it. If they can afford it they are charged 8 cents a quart; if not the federated charities furnishes the milk free of cost. This work includes prenatal care as well as the care of the child from three weeks after birth until three years of age. No charge is made for these visits.

This work should also be taken over by the city and carried on by its force of nurses. It would be necessary to increase the number of nurses and to place the school nurses, tuberculosis nurses, district nurses, and child welfare nurses under one head, so that their work could be properly allotted and duplication avoided.

Conclusions and Recommendations.

The study has given rise to certain conclusions, which are stated below in the form of recommendations, as follows:

1. That the organization and conduct of the health department be based on efficiency and not on political expediency and that every public-spirited citizen of Baltimore use his best efforts to attain this end.

2. That the commissioner be given the authority without interference to reorganize his department, and that if necessary the city charter be amended so as to permit fully of this reorganization.

3. That the department be reorganized into main offices or bureaus, as follows: The office of the commissioner of health, the office of the assistant commissioner of health, a bureau of communicable diseases, a bureau of food and dairy inspection, and a bureau of sanitation.

4. That the collection and tabulation of birth and death statistics be organized into a division and made a part of the office of the assistant commissioner of health.

5. That a division of finance and property be formed from the present office of the secretary and made a part of the office of the commissioner of health.

6. That the bureau of communicable diseases be divided into four parts, a division of medical inspectors, a division of nursing service, a division of bacteriology and a fumigation division.

7. That the bureau of food and dairy inspection remain as it is, except that a division chief be appointed to serve under the present bureau chief, to be in charge of the chemical laboratory.

8. That the present bacteriological laboratory be made a division and placed under the bureau of communicable diseases.

9. That the bureau of sanitation be divided into a division of plumbing inspection, a division of sanitary inspection, and a division of tenement-house inspection.

10. That the present office of the complaint clerk be transferred to the bureau of sanitation under the division of sanitary inspection.

11. That a chief be appointed for each bureau, such chief of bureau to receive not less than $2,500 per year.

12. That a chief be appointed for each division, such division chief to receive not less than $2,000 per year.

13. That all chiefs of bureau, chiefs of division, and other officers and employees of the health department be selected solely on account of qualifications, be all-time men, and hold their office during efficiency and good behavior.

14. That the one person appointed as chief of the bureau of communicable diseases be an expert in public health, to be in charge of the department in the absence of the commissioner and the assistant commissioner.

15. That the position of health warden be abolished and in place of the 24 health wardens there be employed eight all-time medical inspectors versed in public health and sanitary science and to receive from $1,500 to $2,000 per annum.

16. That the force of inspectors be increased in number, that they be not employed for any special work but subject to detail with the different bureaus and that they be given preliminary instruction in the work of the whole department, and that they hold their office during efficiency and good behavior.

17. That all nurses connected with the department be placed in the division of nursing service, this to include tuberculosis nurses, school nurses, infant mortality nurses, district nurses, hospital and quarantine nurses, and that they be subject to changes of detail within the department.

18. That the force of nurses be increased.

19. That the responsibility of collecting and keeping check on the reports of communicable diseases be placed under the chief of the bureau of communicable diseases, the annual statistical compilation and tabulation of these records to be performed in the division of vital statistics for the bureau of communicable diseases.

20. That the work in connection with school inspection, vaccination, special investigations of communicable diseases, etc., be performed by the regular force of medical inspectors of the department.

21. That medical inspectors be relieved of the work in connection with the inspection of nuisances and this matter be performed by the sanitary inspectors of the division of sanitation.

22. That the record of finance be so kept that the commissioner of health can call at any time for the financial status of any particular division or bureau or piece of work.

23. That no warrant for articles bought be signed by the commissioner until the bill submitted has been checked by the head of the bureau for whom the articles were bought.

24. That requisition be required for all articles wanted, signed by the bureau chief, and not bought unless approved by the commissioner.

25. That the control of public baths, laundries, and playgrounds be transferred to the department of health and made a division in the bureau of sanitation.

26. That a hospital of 500 beds be erected for the hospitalization of communicable diseases occurring in the city of Baltimore.

27. That the quarantine station be turned over to the United States Public Health Service, the money paid for the station to be credited to the health department as a fund for the "prevention and control of communicable diseases," and that the United States Public Health Service continue to care for cases of "quarantinable diseases" occurring within the city, and be reimbursed by the city for such care until such time as the city is able to care for those diseases.

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.

SMALLPOX.

Texas—Galveston.

Surg. Bahrenburg, of the Public Health Service, reported by telegraph that during the week ended June 5, 1914, 7 cases of smallpox had been notified in Galveston, Tex., making a total of 107 cases reported since the beginning of the present outbreak. Three deaths have been reported.

Miscellaneous State Reports.

Places.	Cases.	Deaths	Places.	Cases.	Deaths.
Colorado (May 1-31):			Colorado (May 1-31)—Contd.		
Counties—			Counties—Continued.		
Adams	1	.....	Pueblo	1	.....
Chaffee	1	.....	Rio Blanco	1	.....
Denver	16	.....	Routt	2	.....
Eagle	1	.....	Weld	3	.....
Huerfano	3	.....	Yuma	1	.....
Jackson	2	.....			
Las Animas	1	.....	Total	71	.....
Logan	23	.....			
Montrose	9	.....	Pennsylvania (Mar. 1-31)[1]	.....	2
Phillips	6	.....			

[1] Cases not reported.

City Reports for Week Ended May 23, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Altoona, Pa	1	.....	Los Angeles, Cal	1	.....
Aurora, Ill	1	.....	Lynchburg, Va	2	.....
Austin, Tex	1	.....	Marinette, Wis	4	.....
Bellingham, Wash	1	.....	Memphis, Tenn	1	.....
Boston, Mass	1	.....	Milwaukee, Wis	10	.....
Butte, Mont	2	.....	Moline, Ill	4	.....
Cairo, Ill	1	.....	Muscatine, Iowa	1	.....
Cincinnati, Ohio	2	.....	Nashville, Tenn	8	.....
Columbus, Ohio	4	.....	New Orleans, La	2	.....
Covington, Ky	12	.....	Niagara Falls, N. Y	1	.....
Danville, Ill	2	.....	Norfolk, Va	3	.....
Detroit, Mich	10	.....	Portland, Oreg	2	.....
Duluth, Minn	2	.....	Racine, Wis	5	.....
Erie, Pa	1	.....	Richmond, Va	1	.....
Evansville, Ind	8	.....	St. Joseph, Mo	1	.....
Everett, Mass	1	.....	St. Louis, Mo	1	.....
Florence, S. C	1	.....	San Francisco, Cal	1	.....
Galveston, Tex	6	.....	Seattle, Wash	1	.....
Grand Rapids, Mich	1	.....	Superior, Wis	5	.....
Kansas City, Mo	20	.....	Tacoma, Wash	4	.....
Lexington, Ky	3	.....	Toledo, Ohio	7	.....
Little Rock, Ark	7	.....	Washington, D. C	3	.....

TYPHOID FEVER.

City Reports for Week Ended May 23, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.	6		Lowell, Mass.	2	
Beaver Falls, Pa.	1		Lynn, Mass.	1	
Boston, Mass.	8		Memphis, Tenn.	2	
Braddock, Pa.	1		Milwaukee, Wis.	4	1
Brockton, Mass.	1		Mobile, Ala.	1	
Brownsville, Tex.	1	1	Montclair, N. J.	1	
Camden, N. J.	1		Nashville, Tenn.	1	1
Charleston, S. C.	2		Newark, N. J.	5	
Chelsea, Mass.	1		New Bedford, Mass.	1	1
Chicago, Ill.	13		New Castle, Pa.	1	
Cincinnati, Ohio.		1	New Orleans, La.	4	1
Cleveland, Ohio.	1	1	Newton, Mass.	1	
Columbus, Ohio.	1	1	Norfolk, Va.		1
Covington, Ky.	1		North Adams, Mass.	1	
Cumberland, Md.	1		Pawtucket, R. I.	1	1
Dayton, Ohio.		1	Philadelphia, Pa.	22	9
Duluth, Minn.	1		Pittsburgh, Pa.	5	2
Dunkirk, N. Y.	4		Providence, R. I.	7	
Evansville, Ind.	1		Rochester, N. Y.	1	
Everett, Wash.	1		Saginaw, Mich.	1	
Fall River, Mass.		1	St. Louis, Mo.	2	
Florence, S. C.	1		San Diego, Cal.	1	1
Galveston, Tex.	2	1	San Francisco, Cal.	4	1
Grand Rapids, Mich.	2		Springfield, Mass.	1	1
Harrisburg, Pa.	1		Toledo, Ohio.	6	1
Haverhill, Mass.	3		Trenton, N. J.	1	1
Jersey City, N. J.	2		Washington, D. C.	3	
Johnstown, Pa.	1	1	Wheeling, W. Va.	7	3
Kalamazoo, Mich.	1		Worcester, Mass.	2	
Key West, Fla.	1		York, Pa.	7	
Los Angeles, Cal.	3				

CEREBROSPINAL MENINGITIS.

City Reports for Week Ended May 23, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass.	2	1	Newark, N. J.	2	
Chelsea, Mass.	1	1	New Bedford, Mass.		1
Chicago, Ill.	2		Pittsburgh, Pa.	1	
Cleveland, Ohio.	3	2	St. Louis, Mo.	3	1
Clinton, Mass.		1	Seattle, Wash.		1
Kansas City, Mo.	1	1	Washington, D. C.	1	
Manchester, N. H.	1	1	Worcester, Mass.	1	
Nashville, Tenn.	1	1			

POLIOMYELITIS (INFANTILE PARALYSIS).

City Reports for Week Ended May 23, 1914.

During the week ended May 23, 1914, 1 case of poliomyelitis was notified at Boston, Mass., and 1 at Harrisburg, Pa.

ERYSIPELAS.

City Reports for Week Ended May 23, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.	3	2	Los Angeles, Cal.	3	
Beaver Falls, Pa.	1		Milwaukee, Wis.	3	
Bridgeport, Conn.	1	1	Newark, N. J.		2
Brockton, Mass.		1	Niagara Falls, N. Y.		1
Chicago, Ill.	20	3	Passaic, N. J.	1	
Cincinnati, Ohio.	2		Philadelphia, Pa.	11	3
Cleveland, Ohio.	6		Pittsburgh, Pa.	5	1
Detroit, Mich.		1	Providence, R. I.		1
Duluth, Minn.	3		Rochester, N. Y.	3	
Erie, Pa.	1		St. Louis, Mo.	9	3
Harrisburg, Pa.	1		San Francisco, Cal.	4	
Hartford, Conn.	3		Schenectady, N. Y.	1	
Johnstown, Pa.	2		Trenton, N. J.		1
Lynn, Mass.		2	Wilkes-Barre, Pa.	1	

LEPROSY.

Michigan—Detroit.

The health officer of Detroit, Mich., reported June 4, 1914, that a case of leprosy had been notified in Detroit in a man 59 years of age, who had served 30 years as a soldier in the United States Army and during a portion of this time had been on duty in Cuba and in the Philippines. He was discharged from the Army 5 years ago. The diagnosis of leprosy was made upon bacteriological findings. The patient is under quarantine in his home.

PLAGUE.

California—Case of Human Plague.

Surg. Lloyd, of the United States Public Health Service, reported by telegraph, June 8, 1914, the bacteriological confirmation of a case of human plague occurring May 19, 1914, in Contra Costa County, Cal.

California—Rats Collected and Examined.

During the week ended May 23, 1914, 567 rats were collected in San Francisco, Cal., and 430 examined. No plague-infected rat was found.

Squirrels Collected and Examined.

During the week ended May 23, 1914, ground squirrels were examined in California as follows: Alameda County, 158; Contra Costa County, 562; Merced County, 47; Monterey County, 4; San Benito County, 231; San Joaquin County, 49; Stanislaus County, 120. No plague-infected squirrel was found.

PNEUMONIA.

City Reports for Week Ended May 23, 1914.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Chicago, Ill.	112	86	Newport, Ky.	1	1
Cleveland, Ohio	18	15	Norristown, Pa.	1	1
Dayton, Ohio	4	.....	Philadelphia, Pa.	29	52
Florence, S. C.	1	2	Pittsburgh, Pa.	16	23
Galesburg, Ill.	1	1	Rutland, Vt.	1	.....
Grand Rapids, Mich.	2	2	Sacramento, Cal.	1	1
Harrisburg, Pa.	1	1	Saratoga Springs, N. Y.	2	.....
Kalamazoo, Mich.	2	3	Schenectady, N. Y.	3	1
Kansas City, Mo.	3	5	San Francisco, Cal.	8	7
Lancaster, Pa.	3	.....	Superior, Wis.	2	.....
Los Angeles, Cal.	12	7	Weymouth, Mass.	1	1
Manchester, N. H.	5	5	Wilkinsburg, Pa.	1	.....
New Castle, Pa.	2	.....			

PELLAGRA.

Maine—Waterford.

Dr. H. L. Bartlett, of Norway, Me., reported June 3, 1914, the occurrence of a case of pellagra in Waterford, Oxford County, Me.

City Reports for Week Ended May 23, 1914.

During the week ended May 23, 1914, pellagra was notified by cities as follows: Austin, Tex., 1 case; Brownsville, Tex., 1 case; Florence, S. C., 2 cases; Los Angeles, Cal., 1 case with 1 death; Nashville, Tenn., 1 death; Richmond, Va., 1 death.

ROCKY MOUNTAIN SPOTTED FEVER.

Montana—Bitter Root Valley.

Surg. Fricks, of the Public Health Service, reported that during the week ended May 30, 1914, one case of Rocky Mountain spotted fever had been reported in the Bitter Root Valley, making a total of 9 cases reported in that section during the season of 1914. Of the 9 cases, 5 had died, 2 recovered, and 2 remained under treatment.

TETANUS.

During the week ended May 23, 1914, tetanus was notified by cities as follows: Chicago, Ill., 1 death; St. Louis, Mo., 1 case with 1 death; Trenton, N. J., 1 death.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

Pittsburgh, Pa.—Scarlet Fever.

Surg. Stoner, of the Public Health Service, reported by telegraph that during the week ended June 6, 1914, 65 cases of scarlet fever, with 5 deaths, had been notified in Pittsburgh, Pa., making a total of 3,665 cases, with 175 deaths, reported since the beginning of the outbreak, August 1, 1913.

City Reports for Week Ended May 23, 1914.

Cities.	Population as of July 1, 1914 (estimated by U. S. 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	183	13	2	22	.....	14	.....	40	27
Boston, Mass.	733,802	232	53	1	148	5	112	.....	56	23
Chicago, Ill.	2,393,325	663	127	15	238	4	108	8	241	90
Cleveland, Ohio.	639,431	161	33	1	32	.....	14	.....	42	20
Detroit, Mich.	537,650	172	23	4	.....	.....	30	2	.....	19
Philadelphia, Pa.	1,657,810	475	37	3	249	.....	30	3	155	64
Pittsburgh, Pa.	564,878	162	18	4	48	4	79	3	51	17
St. Louis, Mo.	734,667	220	59	5	123	4	40	3	39	16
From 300,000 to 500,000 inhabitants:										
Cincinnati, Ohio.	402,175	133	13	1	3	.....	17	1	19	24
Los Angeles, Cal.	438,914	.....	17	1	19	.....	11	.....	43	19
Milwaukee, Wis.	417,054	123	20	6	67	1	27	3	12	14
Newark, N. J.	389,106	105	27	.....	65	2	38	.....	33	12
New Orleans, La.	361,221	133	8	.....	13	.....	8	.....	29	25
San Francisco, Cal.	448,502	.....	10	.....	170	3	10	.....	23	11
Washington, D. C.	353,378	104	4	.....	7	.....	.....	.....	26	13

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

City Reports for Week Ended May 23, 1914—Continued.

Cities.	Population as of July 1, 1914 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	204,567	67	3	.....	101	.....	7	.....	7	12
Jersey City, N. J	293,921	.....	20	.....	23	.....	12	.....	14	.....
Kansas City, Mo	281,911	83	3	.....	17	.....	7	.....	4	5
Portland, Oreg	260,601	.....	6	.....	9	.....	6	.....	.....	.....
Providence, R. I	245,090	76	7	.....	12	2	13	.....	8	9
Rochester, N. Y	241,518	65	4	.....	58	1	7	2	10	3
Seattle, Wash	313,029	49	4	1	23	.....	2	.....	10	6
From 100,000 to 200,000 inhabitants:										
Bridgeport, Conn	115,289	31	3	1	4	.....	1	.....	3	2
Cambridge, Mass	110,357	.....	2	.....	18	.....	20	.....	9	6
Camden, N. J	102 465	.....	4	.....	4	.....	.....	.....	8	.....
Dayton, Ohio	123,794	48	.....	4	.....	1	.....	5	1	1
Fall River, Mass	125,443	43	1	.....	.....	.....	3	1	9	6
Grand Rapids, Mich	123,227	36	2	.....	8	.....	1	.....	3	1
Hartford, Conn	107,038	45	4	1	13	.....	2	.....	5	2
Lowell, Mass	111,004	33	4	.....	11	.....	1	.....	4	2
Memphis, Tenn	143,231	.....	.....	.....	11	.....	1	.....	17	4
Nashville, Tenn	114,899	32	.....	.....	2	.....	1	.....	3	3
New Bedford, Mass	111,230	42	1	.....	1	.....	4	.....	9	6
Oakland, Cal	183,002	53	2	2	29	1	1	.....	6	4
Omaha, Nebr	133,274	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reading, Pa	103,361	28	1	.....	4	.....	9	.....	3	4
Richmond, Va	134,917	41	.....	.....	2	.....	3	.....	5	2
Springfield, Mass	100,375	27	7	.....	13	.....	4	.....	12	2
Tacoma, Wash	103,418	.....	1	.....	.....	.....	.....	.....	2	.....
Toledo, Ohio	184,126	52	2	1	80	.....	2	.....	16	7
Trenton, N. J	106,831	49	1	.....	2	.....	10	.....	8	4
Worcester, Mass	157,732	42	4	.....	13	1	4	.....	5	2
From 50,000 to 100,000 inhabitants:										
Altoona, Pa	56,553	6	2	.....	4	.....	3	.....	.....	.....
Atlantic City, N. J	53,952	8	.....	.....	11	.....	2	.....	1	.....
Bayonne, N. J	65,271	.....	6	1	26	.....	2	.....	.....	.....
Binghamton, N. Y	52,191	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brockton, Mass	64,043	16	5	.....	6	.....	13	.....	1	.....
Charleston, S. C	60,121	33	2	.....	5	.....	.....	.....	.....	3
Covington, Ky	55,896	.....	6	2	3	.....	2	.....	6	1
Duluth, Minn	89,331	.....	2	.....	8	.....	21	.....	9	5
Erie, Pa	72,401	30	5	.....	11	.....	3	.....	1	.....
Evansville, Ind	71,284	17	2	.....	94	.....	1	.....	1	1
Harrisburg, Pa	69,493	15	4	.....	9	.....	.....	.....	7	2
Hoboken, N. J	74,904	.....	3	.....	4	.....	4	.....	10	.....
Houston, Tex	93,122	.....	.....	.....	.....	.....	.....	.....	.....	.....
Johnstown, Pa	64,642	22	10	1	12	.....	3	.....	8	2
Little Rock, Ark	53,811	19	.....	.....	3	.....	.....	.....	.....	.....
Lynn, Mass	98,207	29	5	1	1	.....	8	.....	7	1
Manchester, N. H	75,635	36	2	1	37	.....	9	.....	.....	.....
Mobile, Ala	55,573	.....	.....	.....	1	.....	.....	.....	.....	4
Norfolk, Va	86,540	6	1	.....	10	.....	.....	.....	3	2
Passaic, N. J	66,276	21	2	.....	14	.....	1	.....	3	.....
Pawtucket, R. I	56,901	.....	2	1	.....	.....	2	1	.....	.....
Portland, Me	62,161	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saginaw, Mich	53,988	13	4	.....	.....	.....	1	.....	.....	.....
St. Joseph, Mo	82,712	16	.....	.....	1	.....	.....	.....	5	3
Savannah, Ga	67,917	45	.....	.....	.....	.....	.....	.....	2	.....
Schenectady, N. Y	90,503	15	.....	.....	1	.....	5	.....	4	.....
South Bend, Ind	65,114	9	.....	.....	3	.....	2	.....	.....	.....
Wilkes-Barre, Pa	73,660	33	3	.....	49	.....	13	.....	4	1
From 25,000 to 50,000 inhabitants:										
Alameda, Cal	26,330	2	.....	.....	36	.....	.....	.....	.....	.....
Aurora, Ill	33,022	10	1	.....	.....	.....	.....	.....	.....	2
Austin, Tex	33,218	10	.....	.....	.....	.....	.....	.....	.....	1
Brookline, Mass	31,138	6	.....	.....	17	.....	3	.....	.....	.....
Butte, Mont	41,781	22	2	.....	1	.....	1	.....	2	6
Chelsea, Mass	32,452	12	.....	.....	5	.....	5	.....	1	2
Chicopee, Mass	28,057	9	1	.....	1	.....	1	.....	.....	1
Danville, Ill	30,847	12	1	.....	6	.....	.....	.....	.....	3
East Orange, N. J	39,852	.....	5	.....	9	.....	5	.....	1	.....
Elmira, N. Y	37,816	8	.....	.....	1	.....	.....	.....	.....	.....
Everett, Mass	37,381	11	.....	.....	11	.....	5	.....	1	.....
Everett, Wash	32,048	.....	.....	.....	7	.....	.....	.....	.....	.....
Galveston, Tex	40,289	18	2	.....	.....	.....	.....	.....	1	2

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

City Reports for Week Ended May 23, 1914—Continued.

Cities.	Population as of July 1, 1914 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—Continued.										
Haverhill, Mass	47,071	11	.....	.....	.....	1	4	.....	3	3
Kalamazoo, Mich	45,842	.....	.....	.....	65	2	.....	.....	3	1
Lancaster, Pa	49,685	.....	1	.....	.....	.....	1	.....	1	.....
Lexington, Ky	38,819	14	.....	.....	9	.....	1	.....	.....	2
Lynchburg, Va	31,830	15	1	.....	7	.....	1	.....	3	2
Malden, Mass	48,979	10	7	1	3	.....	8	.....	6	2
Medford, Mass	25,240	7	1	.....	1	.....	7	.....	.....	.....
Moline, Ill	26,402	9	1	.....	.....	.....	.....	.....	.....	1
New Castle, Pa	39,569	.....	.....	.....	.....	.....	1	.....	.....	.....
Newport, Ky	31,517	6	1	.....	1	.....	.....	.....	.....	.....
Newport, R. I	29,154	7	.....	.....	29	.....	3	.....	.....	.....
Newton, Mass	42,455	13	1	.....	42	.....	4	.....	1	.....
Niagara Falls, N. Y	35,127	16	2	1	1	.....	.....	.....	.....	1
Norristown, Pa	30,265	11	2	1	7	.....	1	.....	1	1
Orange, N. J	31,968	12	1	.....	6	.....	1	.....	1	1
Pasadena, Cal	40,880	12	.....	.....	5	.....	1	.....	2	1
Portsmouth, Va	37,569	7	.....	.....	10	.....	3	.....	.....	2
Racine, Wis	44,528	14	.....	.....	.....	.....	4	3	.....	.....
Roanoke, Va	40,574	6	.....	.....	31	.....	1	.....	1	1
Sacramento, Cal	62,717	18	.....	.....	13	1	.....	.....	2	3
San Diego, Cal	48,900	.....	1	.....	2	.....	1	.....	.....	.....
South Omaha, Nebr	26,368	6	.....	.....	.....	.....	.....	.....	.....	.....
Superior, Wis	44,344	9	.....	.....	.....	.....	5	.....	.....	1
Taunton, Mass	35,631	11	1	.....	3	.....	5	.....	.....	1
Waltham, Mass	29,688	.....	2	.....	2	.....	1	.....	2	.....
West Hoboken, N. J	40,647	.....	2	.....	6	.....	7	.....	1	1
Wheeling, W. Va	42,817	18	3	1	4	.....	.....	.....	1	.....
Wilmington, N. C	27,781	22	.....	.....	4	.....	.....	.....	.....	2
York, Pa	49,430	.....	5	.....	.....	.....	.....	.....	4	.....
Zanesville, Ohio	29,949	.....	1	.....	.....	.....	.....	.....	.....	.....
Less than 25,000 inhabitants:										
Ann Arbor, Mich	14,948	9	.....	.....	.....	.....	.....	.....	4	.....
Beaver Falls, Pa	13,100	.....	1	.....	.....	.....	2	.....	.....	.....
Braddock, Pa	20,935	.....	1	.....	4	.....	1	.....	2	.....
Cairo, Ill	15,392	7	.....	.....	.....	.....	1	.....	.....	.....
Cambridge, Ohio	12,640	.....	1	.....	40	.....	.....	.....	1	.....
Clinton, Mass	13,075	10	.....	.....	.....	.....	1	.....	1	1
Coffeyville, Kans	15,982	.....	.....	.....	1	.....	.....	.....	.....	.....
Concord, N. H	22,291	6	2	.....	.....	.....	.....	.....	.....	.....
Cumberland, Md	23,846	6	2	.....	3	.....	5	.....	.....	.....
Dunkirk, N. Y	19,607	.....	1	.....	.....	.....	.....	.....	.....	.....
Galesburg, Ill	23,570	7	.....	.....	.....	.....	1	.....	.....	.....
Harrison, N. J	16,160	4	.....	.....	.....	.....	5	.....	2	.....
Kokomo, Ind	19,694	2	.....	.....	.....	.....	6	.....	.....	.....
Marinette, Wis	14,610	3	.....	.....	3	.....	.....	.....	.....	.....
Masillon, Ohio	14,912	6	.....	.....	6	.....	.....	.....	.....	.....
Melrose, Mass	16,887	3	2	.....	.....	.....	5	.....	.....	.....
Montclair, N. J	24,782	3	.....	.....	45	.....	.....	.....	4	.....
Morristown, N. J	13,033	4	.....	.....	.....	.....	.....	.....	.....	1
Munice, Ind	24,969	4	1	.....	.....	.....	3	.....	.....	.....
Muscatine, Iowa	17,074	3	.....	.....	1	.....	.....	.....	.....	.....
Nanticoke, Pa	21,756	2	.....	.....	2	.....	.....	.....	.....	.....
Newburyport, Mass	15,147	3	.....	.....	.....	.....	.....	.....	.....	.....
New London, Conn	20,557	.....	.....	.....	5	.....	3	.....	1	2
North Adams, Mass	22,019	4	.....	.....	.....	.....	.....	.....	.....	.....
Northampton, Mass	19,766	12	2	.....	17	.....	1	.....	1	2
Palmer, Mass	8,955	3	.....	.....	.....	.....	.....	.....	.....	1
Palo Alto, Cal	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Plainfield, N. J	22,755	.....	.....	.....	18	.....	.....	.....	2	1
Portsmouth, N. H	11,538	.....	.....	.....	2	.....	5	.....	.....	.....
Pottstown, Pa	16,408	4	.....	.....	.....	.....	.....	.....	.....	.....
Rockland, Me	8,182	1	1	.....	.....	.....	.....	.....	.....	.....
Rutland, Vt	14,417	2	.....	.....	.....	.....	.....	.....	.....	.....
Saratoga Springs, N. Y	12,813	3	.....	.....	2	.....	.....	.....	.....	.....
Steelton, Pa	15,126	4	.....	.....	1	.....	2	.....	2	.....
Weymouth, Mass	13,564	6	.....	.....	.....	.....	.....	.....	.....	1
Wilkinsburg, Pa	21,701	4	.....	.....	.....	.....	4	.....	.....	.....
Woburn, Mass	15,755	6	.....	.....	.....	.....	.....	.....	.....	1

FOREIGN REPORTS.

CHINA.

Plague—Amoy.

During the week ended April 25, 1914, plague was reported present in Amoy and the vicinity.

Plague—Hongkong.

During the two weeks ended June 10, 1914, 204 cases of plague were notified in Hongkong.

Plague-Infected Rats—Hongkong.

During the week ended May 2, 1914, 2,568 rats were examined at Hongkong. Of this number, 39 were found plague infected.

CUBA.

Plague—Habana.

Two cases of plague were notified, June 10, 1914, at Habana. One of these cases terminated fatally June 11. The total number of cases notified in Cuba from March 5, 1914, was 23, of which 22 occurred in Habana and 1 in Artemisa.

Rat Plague—Jaruco.

Rat plague was notified June 6, 1914, at Jaruco, a locality situated 26 miles from Habana.

Communicable Diseases—Habana.

Communicable diseases have been notified in Habana as follows:

MAR. 10-20, 1914.

Diseases.	New cases.	Deaths.	Remaining under treatment.
Diphtheria	11	1	14
Leprosy			260
Malaria	1		[1] 4
Measles	23		145
Paratyphoid fever			1
Plague	1		7
Scarlet fever	30	2	41
Typhoid fever	11	2	26
Varicella	8		41

[1] From the interior of the Republic.

JAPAN.

Plague—Typhus Fever.

During the week ended June 8, 1914, plague and typhus fever were notified in Japan as follows: Tokyo, plague 1 case, typhus fever 90 cases; Yokohama, typhus fever 1 case.

Typhus Fever, 1879–1912.

The following tabular statement relative to the prevalence of typhus fever in Japan was taken from a report issued in March, 1914, by the bureau of hygiene of the department of home affairs. The presence of typhus fever in Japan has been reported since 1875, but no statistics of the disease are available for a period earlier than the year 1879:

Year.	Cases notified.	Fatal cases registered.	Fatality rate.
			Per cent.
1879	2,341	601	25.67
1880	1,527	360	23.58
1881	564	153	27.13
1882	629	435	68.65
1883	412	120	29.13
1884	3,459	445	12.86
1885	2,302	365	15.86
1886	8,225	1,577	19.17
1887	2,487	448	18.01
1888	1,131	207	18.30
1889	300	88	29.33
1890	251	67	26.69
1891	1,194	203	17.00
1892	281	62	22.06
1893	228	56	24.56
1894	139	33	23.74
1895	186	49	26.34
1896	92	28	30.43
1897	58	23	39.66
1898	41	15	36.59
1899	55	13	23.64
1900	73	13	17.81
1901	21	7	33.33
1902	22	3	13.64
1903	8	5	62.50
1904	35	4	11.43
1905	2	2	100.00
1906	4	1	25.00
1907	8	1	12.50
1908	3	1	33.33
1909	3	2	66.66
1910	5	4	80.00
1911	3	3	100.00
1912	1	1	100.00
Total	26,090	5,395	

Average death rate, 20.68 per cent.
Up to May 7, 1914, 3,817 cases (deaths not stated) have been reported in the Empire of Japan during the present calendar year.

ZANZIBAR.

Plague-Infected Rats Found—Zanzibar.

During the two weeks ended April 21, 1914, 1,932 rats were examined at Zanzibar. Of this number 3 were found plague infected.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended June 12, 1914.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Apr. 26–May 2	2	1	
Calcutta	Apr. 19–25		137	
Siam:				
Bangkok	Apr. 12–18		99	
Straits Settlements:				
Kedah, province [1]	Feb. 4–Mar. 15	1,733	[1] 1,074	
Penang	Apr. 9	1	1	
Singapore	Apr. 12–18	5	5	
Turkey in Europe:				
Adrianople	May 9–14	4	4	
Dardanelles	Jan. 21–May 1	13	11	

YELLOW FEVER.

Brazil:				
Bahia	May 3–9	1	3	
Venezuela:				
Caracas	Mar. 1–31		1	

PLAGUE.

Ceylon:				
Colombo	Apr. 19–25	25	27	Including 17 deaths in February and March.
Chile:				
Iquique				Year 1913: Cases, 79; deaths, 33. Apr. 1–18: Deaths, 8.
China:				
Amoy				May 2, increasing.
Hongkong	Apr. 26–May 2	203	171	May 30–June 10: Cases, 204.
Cuba:				
Habana	June 10–11	2	1	Total Mar. 5–June 11: Cases, 22; deaths, 5.
India:				
Karachi	Apr. 26–May 2	65	56	
Indo-China:				
Saigon	Apr. 21–May 4	11	2	
Japan:				
Taiwan—				
Kagi	May 2	65	55	
Tokyo				June 8, 1 case.
Morocco:				
El Arish (Larache)	Mar. 6	1		
Siam:				
Bangkok	Mar. 24–Apr. 18		16	
Turkey in Asia:				
Beirut	May 16	1		

SMALLPOX.

Australia				Apr. 3–29: Cases, 11 in the metropolitan area of Sydney; 6 in the Newcastle district and 2 at Coraki.
Brazil:				
Para	May 3–16		4	
Canada:				
Montreal	May 24–30	1		
Windsor	do	2	2	
Winnipeg	May 3–30	11	1	
Dutch East Africa:				
Mombasa	Mar. 1–31	1		
Germany				May 10–23: Cases, 11.
Greece:				
Kalamata	May 1–31			Present in vicinity.
Japan:				
Kobe	Apr. 20–26	1		
Nagasaki	Apr. 20–May 17	74	13	
Taiwan	Apr. 19–May 2	2	2	

[1] From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, May 20, 1914.

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

Reports Received During Week Ended June 12, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Luxemburg:				
Echternach, canton	May 2–16	1		
Mexico:				
Chihuahua	May 11–17		1	
Vera Cruz	Apr. 26–May 23	4	3	
Philippine Islands:				
Provinces				Year 1913: Cases, 1,885.
Russia:				
Libau	May 11–17	1		
Moscow	Apr. 26–May 9	11	5	
Riga	Apr. 27–May 16	16		
St. Petersburg	May 3–9	12	3	
Siberia—				
Vladivostok	Apr. 1–13	3	1	
Warsaw	Jan. 25–31	1	3	
Servia:				
Belgrade	Apr. 19–May 23	12	2	
Spain:				
Barcelona	May 9–23		15	
Valencia	May 9–16	3		
Turkey in Asia:				
Beirut	May 3–16	18	10	
Mersina	May 16			Present in vicinity.
Smyrna	Mar. 15–Apr. 13		6	
Trebizond	May 16			Present.
Turkey in Europe:				
Saloniki	May 3–16		11	

Reports Received from Dec. 27, 1913, to June 5, 1914.

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Bosnia-Herzegovina—				
Brod	Nov. 13–18	2		
Kostjnica	do	1		
Novigrad	Oct. 26–Nov. 5	1		
Sjekocac	Nov. 6	1		
Travnik, district	Dec. 10–16	6		
Vranduk	Nov. 20	1		
Zenica	Oct. 20–Nov. 19	9	2	
Croatia-Slavonia—				
Pozenga	Nov. 18–Dec. 1	2		
Syrmien—				
Adasevci	do	6	2	
Semlin	do	1	1	
Vitrovica—				
Dobrovic	do	2	2	
Hungary				Total, Sept. 1–Dec. 29: Cases, 729; deaths, 372; Dec. 29, free.
Bacs-Bodrog, district	Nov. 9–Dec. 29	52	31	
Jasz-Nagy-Kun-Szol-nok—				
Szolnok	Nov. 9–15	2	2	
Maramaros	Nov. 30–Dec. 6	1	1	
Pest Pilis—				
Soroksar	Nov. 9–22	2	1	
Szabolcs—				
Nyiregyhaza	Nov. 9–15	1	1	
Temes—				
Varasliget	do		1	
Torontal	Nov. 9–Dec. 13	27	19	
Ung—				
Jasza	Nov. 9–15	1	1	
Ceylon:				
Colombo	Nov. 9–Jan. 17	33	19	
Galle	Feb. 9–Mar. 28	12		
China:				
Hongkong	Nov. 9–Mar. 22	10	4	

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies				Jan. 1-31: Cases, 91; deaths, 74.
Java—				
Batavia and Tanjong Priok.	Nov. 9-Feb. 14	47	35	
Do	Jan. 18-24	1	1	
Pamanoekan	do	1	1	
Samarang	Nov. 30-Dec. 27	47	25	
Do	Jan. 1-31	8	5	
Sumatra—				
Padang	Dec. 1-Jan. 24	136	101	Total.
Baros	Jan. 15-31	55	46	
Sorkam	Jan. 1-17	22	17	
India:				
Bassein	Feb. 1-Mar. 7	15	13	
Bombay	Nov. 10-Apr. 25	37	19	
Calcutta	Nov. 9-Apr. 18		1,487	
Madras	Nov. 16-Mar. 7	14	5	
Moulmine	Jan. 4-Feb. 28	23	23	
Negapatam	Jan. 4-Mar. 14	108	89	
Rangoon	Nov. 1-Dec. 31	5	1	
Do	Jan. 1-Mar. 31	15	11	
Indo-China				Year 1913: Cases, 432; deaths, 13. Total, Jan. 1-Feb. 10: Cases, 16; deaths, 13.
Cholon	Jan. 21-31	1		
Laos (Shan States)	Jan. 1-10	10		Along the upper Mekong River.
Phanri	Jan. 1-Feb. 10		3	
Saigon	Jan. 13-Apr. 13	4	1	
Philippine Islands				The last instance of cholera was on Panay Island Mar. 18. Apr. 14, free.
Manila	Nov. 9-Mar. 14	86	56	Total, Aug. 23-Jan. 24: Cases, 186; deaths, 124. Third quarter, 1913: Cases, 14; deaths, 6. Fourth quarter, 1913: Cases, 107 deaths, 104. Jan. 3, 1 fatal case on s. s. Sigismund from Rabal, New Guinea. At the necropsy pathological lesions of cholera and beriberi were found.
Provinces				Total, Aug. 23-Dec. 27: Cases, 148; deaths, 94.
Bulacan—				
Bulacan	Dec. 14-20			Present in vicinity.
Meycauayan	do			Present.
Capiz				Total, Dec. 17-23: Cases, 26; deaths, 18. Feb. 21, still present.
Banga	Dec. 17-20			Present.
Capiz	Jan. 28			Do.
Calivo	Dec. 17-Jan. 24			1 death daily.
New Washington	do			Present.
Cavite—				
Santa Cruz	Nov. 13-19			Do.
Cebu—				
Cebu	do			Do.
Opon	Nov. 19	1		On Mactan Island.
Pampanga	Dec. 7-Jan. 28			Present in Guagua, Macabebe, San Fernando, and other places.
Pangasinan	Dec. 19-29			Present in Dagupan, Lingayen, San Carlos, and Urdaneta.
Rizal—				
Las Pinas	do	1		
Pasig	Nov. 19			Present.
Pateros	Jan. 28			Do.
Rizal	do			Do.
Roumania				Total, Nov. 14-Dec. 7: Cases, 18, deaths, 15.
Russia:				
Bessarabia—				
Ismail	Oct. 26-Nov. 8	6	1	
Ekaterinoslav	do	1		
Kherson	do	6	9	
Taurida—				
Dneiper district	do	1	2	
Servia				Nov. 10-24: 8 cases with 2 death in the districts Podrigne and Pojarevatz.

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

CHOLERA—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Siam:				
Bangkok	Nov. 2–Mar. 21	.....	168	
Straits Settlements:				
Kedah, Province	Feb. 4	.....	.....	Present.
Singapore	Nov. 2–Apr. 11	44	24	
Turkey in Asia:				
Aivali	Jan. 10–23	9	6	
Beirut	Dec. 23	2	1	From among troops on the s. s. Bahr Amer from Rodosto.
Smyrna	Dec. 16–Jan. 8	11	4	
Trebizond	Dec. 9–Jan. 24	22	16	Dec. 9–16: 6 cases among troops from s. s. Guldjemal. Jan. 17, 1 case in the city.
Turkey in Europe:				
Adrianople	Feb. 28–May 7	110	38	Among the military.
Constantinople	Nov. 25–Feb. 15	141	56	Total, Aug. 2–Feb. 15: Cases, 216; deaths, 96. Total, Jan. 1–Mar. 21: Cases, 30; deaths, 14; Mar. 24, 1 fatal case.
Dardanelles	Jan. 9–20	10	9	
Gallipoli	Jan. 1–3	2	2	
Kirk Kilisse	Mar. 16	2	2	
Pera	Jan. 3–10	5	.....	
Rodosto	Dec. 21–Jan. 9	22	.....	

YELLOW FEVER.

Brazil:				
Bahia	Nov. 23–May 2	34	43	May 2: Diminishing.
Ceara	Nov. 1–30	.....	2	
Pernambuco	Mar. 1–15	.....	17	
Ecuador:				
Guayaquil	Nov. 1–Dec. 31	9	6	
Do	Jan. 1–Mar. 31	18	8	
Milagro	Jan. 1–Feb. 28	6	4	
Naranjito	Jan. 1–31	3	2	
Mexico:				
Merida	Dec. 10–11	1	1	From Campeche.
Do	Jan. 4–10	1	1	Do.
Southern Nigeria:				
Logas	Oct. 20–Dec. 28	5	1	Among Europeans from a vessel. Feb. 26, present.
Do	Feb. 13–Mar. 8	3	.....	Case Mar. 8, a European.
Omitsha	Jan. 24	1	.....	
Togo:				
Lome	Sept. 12	1	.....	
Trinidad:				
Brighton	Dec. 30	1	.....	Total, Nov. 22–Dec. 30: Cases, 10; deaths, 3. Mar. 26, 1 case, 3½ miles distant.
Labrea	Mar. 27	1	.....	
Venezuela:				
Caracas	Feb. 1–28	.....	3	

PLAGUE.

Arabia:				
Debai	Mar. 7	.....	.....	Present.
Australia:				
Thursday Island Quarantine Station.	May 21	5	.....	Pestis minor from s. s. Taynan from Hongkong to Townsville
Azores:				
Terceira—				
Angra-Heroismo	Dec. 21	.....	1	
Brazil:				
Bahia	Nov. 23–May 2	27	20	
Pernambuco	Dec. 16–31	.....	1	
Do	Jan. 1–Feb. 28	.....	2	
Rio de Janeiro	Nov. 16–22	1	1	
British East Africa:				
Kisumu	Sept. 12–Oct. 13	2	.....	Jan. 14–Nov. 15, 1913: Cases, 20; deaths, 22.
Mombasa	Sept. 12–Dec. 15	31	16	Feb. 6–Dec. 15: Cases, 200; deaths, 173, including previous reports.
Nairobi	.....do	3	3	

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo	Jan. 25–Apr. 18	121	105	Total Jan. 25–Mar. 25: Cases, 100; of which 71 fatal cases were septicemic and 29 cases, with 17 deaths, bubonic. From Mar. 25 type not stated.
Kandy	Jan. 25–Feb. 7	1		From Colombo.
Chile:				
Iquique	Nov. 9–Dec. 28	12	6	
Do	Jan. 1–Mar. 28	25	15	
Santiago	Mar. 11–Apr. 18		4	
China				Mar. 14, present in Ampo and Tah-tau-po. Jan. 17–Mar. 1, present in localities 15 miles from Chaoyang and in Chin Khoi, Hak Is, Hweilai, Ko Khoi, Khoi Tau, Kun Pau, Sua Ming Sia, and Toa Phau.
Amoy	Feb. 18–Mar. 28	8	5	Present in the island.
Chao-Chow-fu	Mar. 29–Apr. 4			Present.
Hongkong	Nov. 2–Apr. 18	638	465	May 23–29: Cases, 218.
Hweian	Apr. 6			About 4 deaths daily per week. 30 miles from Amoy.
Shanghai	Apr. 13–22	1	1	Oct. 1–7, 1 case.
Swatow	Apr. 19			Present in Chaochow and in the Puning district.
Cuba:				
Artemisa	Apr. 23	1		
Habana	Mar. 5–May 29	20	4	
Dutch East Indies:				
Java				Total in East Java, year 1913. Cases, 11,218; deaths, 10,556. Jan. 1–Mar. 31, 1914: Cases, 3,418; deaths, 3,067.
Provinces—				
Kediri	Nov. 1–Dec. 31	547	481	
Do	Jan. 1–Mar. 31	623	579	
Madioen	Nov. 1–Dec. 31	151	140	
Do	Jan. 1–Mar. 31	396	352	
Pasoeroean, including Malang.	Nov. 1–Dec. 31	1,550	1,463	
Do	Jan. 1–Mar. 31	2,217	1,982	
Surabaya	Nov. 1–Dec. 31	93	93	
Do	Jan. 1–Mar. 31	181	153	
Surakarta	do	1	1	
Ecuador:				
Babahoyo	Nov. 1–Dec. 31	1		
Duran	Dec. 1–31	1		
Do	Jan. 1–31	1	1	
Guayaquil	Nov. 1–Dec. 31	349	157	
Do	Jan. 1–Mar. 31	79	36	
Manta	Dec. 1–31	8		
Milagro	Nov. 1–Dec. 31	2	1	
Naranjito	do	3	1	
Yaguachi	Nov. 1–30	2	2	
Do	Jan. 1–31	1	1	
Egypt				Jan. 1–Dec. 24, 1913: Cases, 654; deaths, 304. Jan. 1–Apr. 30: Cases, 34; deaths, 17.
Alexandria	Feb. 19–May 2	2	2	
Cairo	Feb. 13–22	2		
Port Said	Feb. 10–Apr. 26	7	4	
Provinces—				
Assiout	Jan. 5–May 2	4	4	
Assouan	Dec. 10	1		
Do	Jan. 5	1	1	
Dakahlia	Mar. 23	1		
Fayoum	Feb. 10–Apr. 30	5	1	
Garbieh	Dec. 11	1		
Do	Jan. 15–Apr. 27	9	3	
Menouf	Mar. 31–Apr. 2	2	2	
Minieh	Dec. 9–24	3	1	
Do	Jan. 8–Apr. 16	4	2	
German East Africa:				
Dar-es-Salaam	Mar. 13	1	1	Pneumonic.
Hawaii:				
Honokaa	May 16	1	1	
Kukuihaele	Apr. 18		1	

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
India				Total Jan. 1, 1913–Jan. 3, 1914: Cases, 238,198; deaths, 198,875. Jan. 4–Mar. 31: Cases, 147,995; deaths, 123,362.
Bassein	Jan. 4–Mar. 15	161	136	Total Jan. 1, 1913–Jan. 3, 1914: Cases, 304; deaths, 283.
Bombay	Nov. 9–Apr. 25	1,772	1,531	Apr. 1–18, epidemic.
Calcutta	Nov. 2–Apr. 18		176	
Karachi	Nov. 9–Apr. 25	898	782	
Madras	Nov. 16–Apr. 25	7	4	
Moulmine	Jan. 4–24		18	Jan. 1, 1913–Jan. 3, 1914: Cases, 574; deaths, 576.
Negapatam	Feb. 1–Mar. 14	41	41	
Rangoon	Oct. 26–Dec. 31	74	68	
Do	Jan. 1–Mar. 31	588	565	
Indo-China				Year 1913: Cases, 4,038; deaths, 3,805. Jan. 1–Feb. 10: Cases, 330; deaths, 303.
Saigon	Nov. 11–Apr. 20	53	5	
Japan				Total Jan. 1–Dec. 31: Cases, 27; deaths, 20; exclusive of Taiwan. Apr. 18–20: 11 cases in Komikawa Cho, and Katori-Gun Chiba, near Tokyo.
Kobe	Dec. 1–7	1		
Taiwan—				
Kagi	Feb. 1–Apr. 18	129	108	
Tokyo	Apr. 18–June 1	33		Apr. 18: 5 cases in the vicinity.
Yokohama	Jan. 4–10	1	1	Total Sept. 19–Jan. 10: Cases, 22; deaths, 18.
Do	May 25–June 1	5	1	
Mauritius	Jan. 1–Apr. 2	42	23	Total year 1913: Cases, 305; deaths, 183.
Morocco:				
Casablanca	Jan. 7	1	1	
El-Arish (Larache)	Sept. 17	1		Among the military.
Fedala	Mar. 16–Apr. 4	5	1	
New Caledonia:				
Bourail	Sept. 1–Oct. 14	8	2	In a school of the tribe of the Azaren.
Persia:				
Lingah	Mar. 25	1		
Peru				Deaths not reported. Total year 1913: Cases, 869; deaths, 459.
Ancachs—				
Casma	Feb. 9–Mar. 22	2		Dec. 1–Feb. 8, present.
Chimbote	Feb. 23–Mar. 22			Present.
Nepena	Nov. 1–Jan. 18			Do.
Arequipa—				
Mollendo	Dec. 1–Mar. 22	17		Apr. 11, 5 cases present.
Cajamarca—				
Contumaza	Jan. 19–24	12		Feb. 8, present.
Callao—				
Callao	Jan. 19–Feb. 22	7		
Lambayeque—				
Chiclayo	Dec. 1–Mar. 22	84		
Ferrenaje	Dec. 1–Feb. 8	18		
Guadalupe	Dec. 1–Mar. 22	27		
Pacasmayo	Jan. 25–Mar. 22	6		
Libertad—				
San Pedro	Dec. 1–Mar. 22	37		
Salaverry	Feb. 16–Mar. 22	7		Mar. 17–25: Cases, 3; deaths, 1.
Santiago de Coa	Feb. 23–Mar. 22			Present.
Trujillo	Dec. 1–Feb. 22	73		Apr. 21: 10 cases in hospital.
Lima	Dec. 1–Jan. 18	6		
Laisna	Dec. 1–Mar. 22	51		
Pisco	Dec. 1–Jan. 18	2		
Monsefu	do	2		
Piura—				
Catacaos	Dec. 1–Mar. 22	18		
Piura	Dec. 1–Jan. 24	10		Feb. 8, present.
Philippine Islands:				
Manila	Nov. 23–Apr. 25	16	15	Third quarter, 1913: Cases, 2; deaths, 1. Fourth quarter, 1913: Case, 1; death, 1.

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Saratov	Feb. 11	1		
Ural territory				Total Oct. 20-Nov. 10: Cases, 212; deaths, 170; and 2 fatal cases from Issum Tube.
Djakisabevsk district	Mar. 2-13	16	16	
Djumarta	Nov. 9-10	5	1	
Djantayu	Nov. 8-10	2	2	
Kizilu	Nov. 8	1	1	
Fourteenth village	Nov. 7-9	6		
Sarbas	Nov. 8-10	13	7	
Kaziljar district	Nov. 5-10	39	24	In Assaukurt, Baitchurek, Biskuduk, and Djamankuduk.
Lbistchensky district	Mar. 2-13	16	15	
Issum Tube	Oct. 20-Nov. 10	138	127	
Kaimikov	Nov. 4-10	6	6	
Senegal:				
Dakar	May 13			Present.
Siam:				
Bangkok	Nov. 2-Mar. 21		26	
Tripoli:				
Bengazi	Jan. 31			Present. Apr. 15, free.
Turkey in Asia:				
Beirut	Dec. 10-23	2	2	
Jiddah	Feb. 2-Mar. 11	5	2	
Venezuela:				
Caracas	Apr. 7		1	Of case reported Apr. 12.
Miranda, State	May 19	1	1	
Zanzibar	Dec. 31-Jan. 21	5	3	On s. s. Prasident from Dar-es-Salaam.

SMALLPOX.

Algeria:				
Departments—				
Algiers	Sept. 1-Dec. 31	10		
Do	Jan. 1-Feb. 28	3		
Constantine	Oct. 1-Dec. 31	15		
Do	Jan. 1-Feb. 28	1		
Oran	Sept. 1-Nov.30	216		Feb. 1-28: Cases, 5; deaths, 4.
Do	Jan. 1-Feb. 28	117		
Arabia:				
Aden	Nov. 25-Mar. 9	6	6	
Maskat	Nov. 30-Dec. 6	10		Dec. 20, present.
Matarah	Dec. 23-Jan. 10	9		Nov. 30, present; Mar. 7, still present.
Argentina:				
Buenos Aires	Nov. 1-30		1	
Rosario	Dec. 1-31	1		
Australia:				
New South Wales				Total July 1, 1913-Jan. 31, 1914: Cases, 1,078.
Singleton	Feb. 1-Mar. 13	15		
Sydney, metropolitan area				July 1, 1913-Jan. 8, 1914: Cases, 1,032. Feb. 1-Apr. 2: 27 cases in the metropolitan area of Sydney and 10 cases in the country districts.
Western Australia—				
Fremantle				Dec. 2: 1 fatal case on R. M. S. Malwa, from London via Port Said, Aden, and Colombo.
Victoria—				
Melbourne				At Point Napean quarantine station, Jan. 19: 1 case from F. M. S. Caledonian from Noumea via Sydney.
Austria-Hungary:				
Coastland—				
Trieste	Jan. 25-31	3		
Galicia	Feb. 15-21	1		
Krain	Mar. 1-14	4		
Lower Austria—				
Vienna	Jan. 4-24	6		
Moravia	Jan. 18-Feb. 21	5		
Silesia	Feb. 15-18	1		
Tyrol and Vorarlberg	Nov. 23-Feb. 21	6		
Upper Austria	Dec. 14-Feb. 21	20		

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Belgium:				
Liege	Mar. 1-7		6	
Brazil:				
Bahia	Nov. 23-Apr. 11	83	1	
Para	Dec. 1-Apr. 11	80	85	
Pernambuco	Nov. 1-Feb. 28		78	
Rio de Janeiro	Nov. 9-Apr. 18	613	128	
Canada:				
British Columbia—				
Vancouver	Apr. 19-25	1		
Manitoba—				
Winnipeg	Feb. 14-May 2	26		
Ontario—				
Cornwall	Feb. 26-Apr. 4	1		
Fort William	Feb. 24-Mar. 2	1		
Hamilton	Jan. 1-Apr. 30	33		
Ottawa	Dec. 7-May 2	25		
Toronto	Dec. 7-May 8	15	1	
Windsor	May 3-16	2		
Quebec—				
Montreal	Dec. 7-May 23	95		
Quebec	Jan. 24-31	1		
Canal Zone:				
Panama				Nov. 1-30: Santo Tomas hospital, 1 case from a vessel from Callao.
Ceylon:				
Colombo	Nov. 30-Dec. 6	1		
Do	Mar. 22-May 23	8		
Chile:				
Talcahuano	Apr. 5-May 12	11		
China:				
Amoy	Dec. 14-Jan. 10			Present.
Kulangsu	Apr. 12-18	1		
Antung	Jan. 4-Apr. 26	7	2	
Chefoo	Feb. 22-Mar. 7	2	1	
Dairen	Dec. 7-Apr. 11	32	10	
Hankow	Nov. 2-Mar. 8	14	2	
Hongkong	Dec. 14-Apr. 18	48	34	
Mukden	Mar. 8-15	3	1	
Nanking	Jan. 24-Apr. 18			Do.
Shanghai	Dec. 8-Apr. 26	30	33	Deaths among natives.
Tientsin	Nov. 9-15		1	
Ting Chow	Jan. 5			Epidemic, 130 miles from Amoy.
Tsingtau	Jan. 15-Apr. 25	15	1	
Tong An	Dec. 27			Present, 20 miles from Amoy.
Dutch East Indies:				
Java				Dec. 13-Apr. 4: 1,083 cases with 266 deaths in the western part, and 100 cases with 63 deaths in the interior.
Batavia				Nov. 27-Dec. 27: Cases, 51; deaths, 13.
Do	Jan. 11-Apr. 4	106	48	
Besoeki	Oct. 19-29	227	47	
Cheribon	Mar. 7			Epidemic.
Madioen	Oct. 19-28	36	12	
Surabaya	Oct. 28-Jan. 31	6		
Surakarta	Oct. 19-Dec. 6	481	91	
Sumatra—				
Padang	Jan. 1-31			Present.
Egypt:				
Alexandria	Nov. 26-May 6	37	15	
Cairo	Nov. 19-Apr. 29	322	117	
Port Said	Dec. 3-Apr. 22	10	2	
France:				
Bordeaux	Mar. 8-14		1	
Marseille	Nov. 1-Apr. 30		119	
Nantes	Feb. 1-May 2	9	2	
Nice	Nov. 1-Dec. 31	2		
Paris	Nov. 23-May 2	55		
St. Etienne	Nov. 16-Mar. 14	12	4	
Toulon	Jan. 1-31		1	
Germany				Dec. 7-13, 1913: Case, 1; Jan. 1-May 9: Cases, 58.
Berlin	Feb. 8-14	2		
Bremen	do	1		
Breslau	do	1		
Hamburg	Dec. 11-25	4		

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Germany—Continued.				
Kehl	Jan. 1-31		1	
Lubec	Feb. 15-21	1		
Plauen	Mar. 1-31	11		
Strassburg	do	1	1	
Gibraltar	Dec. 1-Mar. 22	6		
Great Britain:				
Aberdeen	Feb. 22-Mar. 21	6	1	
Cardiff	Feb. 16-21	1		
Edinburgh	Mar. 1-7		1	
Liverpool	Mar. 15-21	1		From a vessel.
London	Jan. 18-Mar. 22	6		
Nottingham	Dec. 21-27	28		
Southampton	Feb 2-28	1		
Greece				Jan. 28-Feb. 12: Present in the barracks at Athens and in the surrounding country.
Achaia and Elis, Province	Mar. 8-14	7	5	Jan. 29, present.
Hermopolis (Syros)	Mar. 16	6		
Piraeus	Jan. 18-Feb. 12	19	11	
Grenada	Mar. 18	3		In St. Andrews Parish, 20 miles from St. Georges.
St. Georges	Mar. 22-28	4		
Guadeloupe:				
Pointe a Pitre quarantine station, Islet a Cosson.	Feb. 16-23	10	1	From among returned troops from s. s. Perou from Havre via Bordeaux and Santander.
Guatemala:				
Guatemala	Apr. 21			Present.
Honduras:				
Puerto Cortes	Apr. 1-30	3		
India:				
Bombay	Nov. 23-Apr. 25	181	82	
Calcutta	Nov. 2-Apr. 18		303	
Karachi	Nov. 2-Apr. 25	26	7	
Madras	do	64	23	
Rangoon	Jan. 1-Mar. 31	62	8	
Indo-China				Total Jan. 1-31: Cases, 160; deaths, 16.
Saigon	Nov. 11-24	1	1	
Italy:				
Genoa	Mar. 1-15	1	1	
Leghorn	Dec. 21-27	1		
Milan	Feb. 1-28	1		
Naples	Jan. 3	1		
Turin	Dec. 22-28	1		
Do	Apr. 29-May 10	2	1	
Japan				Total Jan. 1-Dec. 31, 1913: Cases, 108; deaths, 39, exclusive of Taiwan. Total Jan. 1-Mar. 31: Cases, 57; deaths, 12.
Fukuoka ken	Dec. 1-31	2		
Nagasaki	Jan. 1-Mar. 22	3	1	
Taiwan	Mar. 22-Apr. 11	3		
Tokyo	Nov. 1-Mar. 7	10		
Yokohama	Jan. 6-12	1	1	
Mauritius	Oct. 2-25	60	4	
Mexico:				
Acapulco	Dec. 6-Apr. 18	5	6	
Aguascalientes	Dec. 1-Mar. 29		112	
Chihuahua	Dec. 29-May 3		24	
Cruz	Apr. 2			Epidemic in vicinity.
Durango	Apr. 1-May 31		77	
Guadalajara	Jan. 11-Feb. 14	89	46	
Imuris	Dec. 29-Jan. 4	5		
Juarez	Feb. 15-Apr. 9	2	4	
Llano	Jan. 17	8		
La Paz	Jan. 16-22	3	1	
Manzanillo	Mar. 21-27	2		
Mexico	Oct. 26-Jan. 17	129	40	
Monterey	Nov. 17-May 17	14	10	
Nogales	Apr. 27-May 23	10		
Salina Cruz	Jan. 18-Apr. 15	3	1	Present in vicinity.
San Luis Potosi	Nov. 2-Jan. 24	4	7	
Tampico	Dec. 24-Mar. 10	200	58	May 19: 50 cases present.
Vera Cruz	Dec. 6-Apr. 25	73	30	Apr. 25: 2 cases among refugees.

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

Reports Received from Dec. 27, 1913, to June 5, 1914—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Morocco:				
Casablanca	Mar. 7			Present.
Tangier	Apr. 11			Do.
Netherlands, The	Feb. 8–14	1	1	
New Zealand				Apr. 8, 1913, to Jan. 7, 1914: Cases, 2,000, including report, p. 2863, vol. 28.
Norway:				
Trondhjem	Nov. 1–Apr. 30	35		
Peru:				
Callao	Jan. 26			Still epidemic, Mar. 7, improving.
Lima	do			Do.
Philippine Islands:				
Manila				Third quarter, 1913: Cases, 15. Fourth quarter, 1913: Cases, 18.
Portugal:				
Lisbon	Nov. 16–May 9	32		
Russia:				
Libau	May 4–10	1		
Moscow	Dec. 14–Apr. 4	94	27	
Odessa	Nov. 16–Apr. 4	43	2	
Riga	Jan. 1–Feb. 28	63	16	Apr. 25, 5 cases.
St. Petersburg	Nov. 23–May 2	129	34	
Vladivostok	Dec. 22–Jan. 28	5		
Warsaw	Oct. 5–Jan. 24	85	48	
Servia:				
Belgrade	Nov. 7–Mar. 28	142	50	
Siam:				
Bangkok	Jan. 25–Mar. 22		4	
Spain:				
Almeria	Nov. 1–Jan. 31		9	
Barcelona	Nov. 30–May 9		131	
Madrid	Nov. 1–Apr. 30		103	
Seville	do		2	
Valencia	Dec. 1–May 9	44		
Straits Settlements:				
Penang	Nov. 2–Dec. 6	13	1	
Singapore	Nov. 2–22	2		
Sweden:				
Malmo	Mar. 22–28	13		
Switzerland:				
Canton—				
Aargau	Apr. 12–25	10		
Basel	Nov. 23–Apr. 25	146		
Genoa	Nov. 23–29	3	1	
Turkey in Asia:				
Adana	Jan. 10–24	2		Dec. 28, epidemic.
Beirut	Nov. 23–May 2	360	153	
Jaffa	Dec. 6–Apr. 11	39	7	
Jerusalem	Feb. 1–Apr. 11	10		
Mersina	Jan. 4–Mar. 7	3	3	
Smyrna	Nov. 16–Mar. 14		176	
Tarsus	Dec. 28–Feb. 8			Still present.
Trebizond	Jan. 11–Apr. 25			Present.
Tripoli	Jan. 25–Apr. 4	110	8	
Turkey in Europe:				
Constantinople	Nov. 20–Apr. 25		25	
Saloniki	Dec. 1–May 2		104	

SANITARY LEGISLATION.

COURT DECISIONS.

MASSACHUSETTS SUPREME JUDICIAL COURT.

Industrial Diseases—Compensation for, Under Workmen's Compensation Act.

IN RE HURLE, 104 N. E. 336. February 28, 1914.

Blindness resulting from an acute attack of optic neuritis induced by poisonous coal-tar gases is a "personal injury arising out of and in the course of" employment within the meaning of the Massachusetts law providing for compensation for injuries to workmen.

RUGG, *C. J.:* This is a case under the workmen's compensation act. The facts as found by the industrial-accident board are that the employee is totally incapacitated for work by personal injury which arose out of and in the course of his employment, and which caused total loss of vision in both eyes, and which resulted from an acute attack of optic neuritis induced by poisonous coal-tar gases. His work was about furnaces for producing gas by the burning of coal, in the top of which were several holes through which, after opening a cover, he could watch the fire. It was his duty to see that the furnaces were supplied with coal and burning evenly, and to prevent incandescent spots caused by the burning by forced draft. It was necessary for him to open one or another of these holes about 70 times a day, and whenever these holes were opened poisonous gases were given forth. The inhalation of these caused his blindness.

The question to be decided is whether this was a "personal injury arising out of and in the course of his employment," within the meaning of those words in Statutes 1911, chapter 751, page 2, section 1. Unquestionably it arose out of and in the course of his employment. The only point of difficulty is whether it is a "personal injury."

The words "personal injury" have been given in many connections a comprehensive definition. They are broad enough to include the husband's right to recover for damage sustained by bodily harm to his wife, the alienation of a husband's affections, the seduction of one's daughter, and other kindred tortious acts. (Mulvey *v.* Boston, 197 Mass., 178; 83 N. E., 402; 14 Ann. Cas., 349, and cases there cited. Riddle *v.* MacFadden, 201 N. Y., 215; 94 N. E., 644. New York, Philadelphia & Norfolk R. R. *v.* Waldron, 116 Md., 441; 82 Atl., 709; 39 L. R. A. (N. S.), 502. Jefferson Fertilizer Co. *v.* Rich, 180 Ala., —; 62 South., 40. McDonald *v.* Brown, 23 R. L., 546; 51 Atl., 213; 58 L. R. A., 768; 91 Am. St. Rep., 659. Tomlin *v.* Hildreth, 65 N. J. Law, 440, 445; 47 Atl., 649. Sharkey *v.* Skilton, 83 Conn., 503, 510; 77 Atl., 950.) They are not confined to the instances where the wrong can be described technically as trespass to the person vi et armis. The statement in Com. *v.* Mosby (163 Mass., 291, 294; 39 N. E., 1030) that a "threat to injure the person of another naturally

means a threat to use actual physical force" is not at variance with this idea. There were special reasons why the word "injury" was given a constricted meaning in 28 Opinions of the Attorneys General of the United States, 254. It has been interpreted broadly in policies of accident insurance. (Freeman *v.* Mercantile Mutual Accident Association, 156 Mass., 351; 30 N. E., 1013; 17 L. R. A., 753.)

At common law the incurring of a disease or harm to health is such a personal wrong as to warrant a recovery if the other elements of liability for tort are present. (Hunt *v.* Lowell Gas Light Co., 8 Allen, 169; 85 Am. Dec., 697. Allen *v.* Boston, 159 Mass., 324; 34 N. E., 519; 38 Am. St. Rep., 423. Larson *v.* Boston Elev. Ry., 212 Mass., 267; 98 N. E., 1048. Deisenrieter *v.* Kraus-Merkel Malting Co., 92 Wis., 164; 66 N. W., 112. Wagner *v.* H. W. Jaynes Chemical Co., 147 Pa., 475; 23 Atl., 772; 30 Am. St. Rep., 745. See also Gossett *v.* Southern Ry., 115 Tenn., 376; 89 S. W., 737; 1 L. R. A. (N. S.), 97; 112 Am. St. Rep., 846.) Damages of this sort have been held not recoverable under the mill acts, although an independent action would lie if a nuisance were created. (Eames *v.* N. E. Worsted Co., 11 Metc., 570; Fuller *v.* Chicopee Mfg. Co., 16 Gray, 46. See also Wellington *v.* Boston & Maine A. R., 158 Mass., 185, 189; 33 N. E., 393.) The preponderance in recent years of actions grounded upon some physical violence has tended to emphasize the aspect of injury which depends upon visual contact or direct lesion. But that is by no means the exclusive signification of the word either in common speech or in legal use.

The English workmen's compensation act affords compensation only where the workman receives "personal injury by accident." It adds to the personal injury alone required by our act the element of accident. Yet it has been held frequently that disease induced by accidental means was ground for recovery; as, for example, a rupture resulting from overexertion (Fenton *v.* Thorby & Co., Ltd., [1903] A. C. 443; infection of anthrax from a bacillus from wool which was being sorted, Brintons, Ltd., *v.* Turney, [1905] A. C. 230; heat from a furnace, Ismay Imrie & Co. *v.* Williamson, [1908] A. C. 437; sunstroke, Morgan *v.* S. S. Zenaida, 25 L. T. R. 446, s. c. 2 B. W. C. C. 19; pneumonia, induced by inhalation of gas, Kelly *v.* Anchenlea Coal Co., Ltd., [1911] S. C. 864, s. c. 4 B. W. C. C. 417. See also Brown *v.* George Kent, Ltd., [1913] 3 K. B. 624, and Alloa Coal Co., Ltd., *v.* Drylie, 6 B. W. C. C. 398, s. c. 50 S. L. R. 350). We lay these cases on one side, however, because it is plain from the third schedule of 6 Edward 7, c. 58, that certain occupational diseases were intended to be included within the English act.

Hood & Sons *v.* Maryland Casualty Co. (206 Mass., 223; 92 N. E., 329; 30 L. R. A. (N. S.), 1192; 138 Am. St. Rep., 379) goes far toward deciding the case at bar. That was an action by an employer of labor against an insurer who had contracted to indemnify against damages sustained by the employer by reason of liability to its employees for "bodily injuries accidentally suffered" by them in their employment. The employer had been obliged to respond in damages to one Barry, an employee, who had become infected by glanders while cleaning a stable. It was said in the opinion, at page 225 of 206 Massachusetts, and page 330 of 92 New England (30 L. R. A. [N. S.], 1912; 138 Am. St. Rep., 379): "It is plain that Barry suffered bodily injury in consequence of becoming infected with glanders; as much so as if he had had a leg or an arm broken by a kick from a vicious horse. Indeed, it is possible that the bodily injury caused by glanders was greater and more lasting than that caused by a broken leg or arm would have been." That case related to the kind of bodily injuries which arise from the relation of master and servant. It was decided about one year before the enactment of our workmen's compensation act. It relates to the same general subject matter. The law of accident insurance has

been applied to injuries under the workmen's compensation act in England. (Wicks *v.* Dowell [1905], 2 K. B., 225.)

There is nothing in the act which leads to the conclusion that "personal injuries" was there used in a narrow or restricted sense. The provisions as to notice of the injury (pt. 2, secs. 15 to 18, both inclusive, as amended by St. 1912, c. 172, and c. 571, sec. 3) indicate a purpose that information shall be given as to the time, place, and cause of the injury as soon as practicable after it is suffered. But this requirement can be complied with in the case of an injury caused by the inhalation of a poisonous gas producing such results as here are disclosed, as well as in the case of a blow upon the body. An argument may be drawn from the provisions of part 3, section 18, as amended by statute of 1913, chapter 746, section 1, in favor of a liberal interpretation of "personal injuries." By the section as originally enacted the duty was imposed upon every employer to keep a record of all injuries, but he was required to make return to the industrial accident board only of "an accident resulting in a personal injury." By the amendment, which of course has no effect upon the legal rights of the parties in the present action, but which may be resorted to for discovery of legislative intention, the employer is required to make return of "the occurrence of an injury" and to state "the day and hour of any accident causing the injury." If these words are accurately used, a distinction is drawn between the injury and the accident causing the injury. The authority conferred upon the board of directors of the Massachusetts Employees' Insurance Association by part 4, section 18, is to "make and enforce reasonable rules and regulations for the prevention of injuries" and not for the prevention of accidents. See also statute of 1913, chapter 813. The name "Industrial Accident Board," which is the administrative body created by part 3, is a mere title and can not fairly be treated as restrictive of its duties.

The difference between the English and Massachusetts acts in the omission of the words "by accident" from our act, which occur in the English act as characterizing personal injuries, is significant that the element of accident was not intended to be imported into our act. The noxious vapors which caused the bodily harm in this case were the direct production of the employer. The nature of the workman's labor was such that they were bound to be thrust in his face. The resulting injury is direct. If the gas had exploded within the furnace and thrown pieces of cherry hot coal through the holes into the workman's eyes, without question he would have been entitled to compensation. Indeed there probably would have been common-law liability in such case. (Dulligan *v.* Barber Asphalt Co., 201 Mass., 227; 87 N. E., 567.) There appears to be no sound distinction in principle between such case and gas escaping through the holes and striking him in the face, whereby through inhalation the vision is destroyed. The learned counsel for the insurer in his brief has made an exhaustive and ingenious analysis of the entire act touching the words "injury" or "injuries," and has sought to demonstrate that it can not apply to an injury such as that sustained in the case at bar. But the argument is not convincing. It might be decisive if accident had been the statutory word. It is true that in interpreting a statute words should be construed in their ordinary sense. Injury, however, is usually employed as an inclusive word. The fact remains that the word "injury" and not "accident" was employed by the legislature throughout this act. It would not be accurate but lax to treat the act as if it referred merely to accidents. (Warner *v.* Couchman [1912], A. C. 35, at page 38.)

Decree affirmed.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

MARYLAND.

State Board of Health—Powers—State Health Officer—Duties. (Chap. 675, Act Apr. 16, 1914.)

SECTION 1. *Be it enacted, etc.*, That section 2 of article 43 of the Code of Public General Laws of Maryland, title "Health," be, and the same is hereby, repealed and reenacted with amendments so as to read as follows:

"SEC. 2. The State board of health shall have the general care of the sanitary interests of the people of this State; they shall make sanitary investigations and inquiries respecting the causes of disease, and especially epidemics, the causes of mortality and the influence of locality, employments, habits, and other circumstances and conditions upon the health of the people; they shall inquire into and investigate all nuisances affecting the public health and are authorized and empowered, by information or petition filed in the name of the board, to apply to the judges or to any judge of the circuit court for the county in which such nuisance shall exist, or to the judge of the circuit court of Baltimore city, as the same may be, in term time or vacation, for an injunction to restrain and prevent such nuisance, no matter by whom or what authority committed. They shall have the power to enter upon and inspect private property in regard to the presence of nuisances, cases of infections and contagious diseases, and to determine the cause and source of diseases; to make rules and regulations not inconsistent with law regulating the character and location of plumbing, drainage, water supply, disposal of sewage, garbage or other waste material, and offensive trades; the sanitary condition of streets, alleys, outhouses, cesspools, and all sanitary features connected therewith; no rule or regulation, however, to carry a higher penalty than $100 for each offense, and all such rules and regulations to bear the seal of the State board of health and be attested by its secretary and be published not less than three times in some daily newspaper published in the city of Baltimore, such rules and regulations not to be effective until 30 days after their publication."

SEC. 2. That an additional section be, and the same is hereby, added to article 43 of the Code of Public General Laws of Maryland, title "Health," said section to follow immediately after section 2 of said article 43 and to be designated as section 2a.

"SEC. 2a. The State board of health, by any member thereof, shall have power to administer oaths, certify to official acts, issue subpœnas, compel the attendance of witnesses and production of papers, books, documents, and testimony. In case of the failure of any person to comply with any subpœna lawfully issued, or on refusal of any witness to testify to any matter regarding which he may be lawfully interrogated, it shall be the duty of the circuit court of any county, or the judge thereof, or of either of the circuit courts of Baltimore city, or the judges thereof, on application of any member of the State board of health, to compel obedience by attachment proceedings for contempt. Every witness who shall appear before the board by its orders shall receive for his attendance the

fees now provided for witnesses in civil cases in courts of record, which shall be audited and paid by the State in the same manner as other expenses are audited and paid upon the presentation of properly verified vouchers. But no witness subpœnaed at the instance of parties other than the board shall be entitled to compensation from the State for attendance or travel unless the board shall certify that his or her testimony was material to the matter investigated. Fees paid under this section shall be charged to the general appropriation for the State board of health. The State board of health may, in any investigation, cause depositions of witnesses residing within or without the State to be taken in the manner prescribed by the law for like depositions in civil actions in courts of record."

SEC. 3. That section 5 of article 43 of the Code of Public General Laws of Maryland, title "Health," be, and the same is hereby, repealed and reenacted with amendments so as to read as follows:

"SEC. 5. The secretary shall be the State health officer and shall hold office as long as he shall faithfully discharge the duties thereof, but may be removed for just cause at a regular meeting of the board, a majority of the members voting therefor; he shall keep a record of the transactions of the board and an account of all expenditures by them; he shall, whenever necessary or practicable, correspond and consult with health authorities of other States, and with the local boards and all health officers in this State, and secure an interchange of all useful sanitary information, especially respecting the causes, treatment, and progress of epidemics; he shall keep on file all reports received from such boards and all correspondence relating to the duties of this board; he shall prepare blank forms of returns and such instructions as may be necessary, and forward them to the several local boards of health and all health officers throughout the State; he shall, when requested by local boards or any health officers, visit their respective districts, cities, or villages, to investigate the cause of any existing disease, and shall, from time to time, and whenever directed by the governor or the legislature, make special inspections of public hospitals, asylums, prisons, and other institutions, and shall, at each session of the legislature, submit, through the board, a full report of his investigations, with such suggestions and recommendations as he may deem proper; he shall, when required by the governor or other proper authorities, advise in regard to the location, drainage, water supply, disposal of excrement, heating and ventilation of any public institution or building belonging to the State; he shall collect information concerning vital statistics, prevailing diseases, and the general hygiene of the State, and through an annual report and otherwise, as the board may direct, shall disseminate such information among the people. He shall have general jurisdiction and control over all health officers, inspectors, agents, nurses, and others appointed under the jurisdiction of the State board of health, and shall assist and advise them in the performance of their duties, and shall have and perform such other duties as the State board of health may impose upon him. During his term of office he shall not engage in the practice of medicine or in any occupation which would be in conflict with the performance of his official duties, and he shall receive from the treasury, in monthly payments, an annual salary of $3,000, to be paid on the warrant of the comptroller out of any money in the treasury not otherwise appropriated."

Sanitary Districts—Establishment—Deputy State Health Officers. (Chap. 675, Act April 16, 1914.)

SEC. 4. That six additional sections be and the same are hereby added to article 43 of the Code of Public General Laws of Maryland, title "Health," said sections to follow immediately after section 5 of article 43 and to be designated

as section 5A, section 5B, section 5C, section 5D, section 5E, and section 5F, said sections to read as follows:

"SEC. 5A. The State board of health of Maryland shall divide the State outside of Baltimore city into 10 sanitary districts, following county lines, and upon the recommendations of its secretary, and by a majority vote thereof, it shall appoint a deputy State health officer for each sanitary district.

"SEC. 5B. The deputy State health officers shall be trained in sanitary science and hygiene, and shall possess the same qualifications required of the State health officer, and shall hold their office during efficiency and good behavior, but may be removed for cause by a majority vote of the State board of health after having been given an opportunity to be heard in their own defense. No deputy State health officer shall practice medicine or engage in any other occupation which would conflict with the performance of his official duties. Each deputy State health officer shall have an office located at some accessible point, designated by the State board of health, within his sanitary district, and he shall receive an annual salary to be fixed by the State board of health, to be not less than $1,200 nor more than $2,500 per annum, and shall also receive his expenses actually and necessarily incurred in the performance of his official duties.

"SEC. 5C. Each deputy State health officer, under the direction of the State board of health and the State health officer, shall have jurisdiction throughout his district; and he shall have the right of entry into any workshop, factory, dairy, creamery, slaughterhouse, or other place of business or employment, or into any private house, when in pursuit of his official duties. He shall carry out the instructions of the State board of health and shall make such investigations and reports as said State board of health may require. He shall, when required by the State board of health, inspect and report upon the sanitary conditions of streams and sources of public water supply, sewerage facilities, schools and schoolhouses, dairies, creameries, slaughterhouses, workshops, and factories, and all places where offensive trades or industries are conducted in his district. He shall respond promptly when called upon for advice or assistance by any board of health or health officer within his jurisdiction, and it shall be his duty and he is hereby authorized to enforce any public-health statute, or rule, or regulation of the State board of health, or of any local board of health or health officer within his district, when such local board of health or health officer neglects or refuses to enforce such statute, rule, or regulation after due notice by him or by the State board of health. He shall keep himself informed as to the work of each local health officer within his district and aid each local health officer within his district in the performance of his duties, and particularly on the appearance of any communicable disease. He shall purchase samples of food and drugs for analysis when directed to do so by the State health officer, and promote an efficient registration of births and deaths within his district, and in addition he shall have and perform such other duties as are or may be imposed upon him by the State board of health or the State health officer.

"SEC. 5D. Whenever the State health officer or deputy State health officer shall have assumed jurisdiction over any health condition in this State the local health authorities shall assist the State health officer or his deputy in the performance of their duties.

"SEC. 5E. The State board of health shall have power to remove any deputy health officer from any sanitary district into any other sanitary district in this State, or, in case of epidemics, to locate any number of the deputy State health officers in any one sanitary district in this State or in the city of Baltimore; and it shall have power to appoint such inspectors, nurses, and agents to aid

the deputy State health officers as it may deem necessary and pay them a reasonable compensation for their service within the limits of this appropriation.

"SEC. 5F. For the purpose of carrying out the provisions of this act the sum of $50,000 annually, or as much thereof as may be necessary, is hereby appropriated, to be payable by the treasurer of the State upon warrant of the comptroller, at such times and in such sums as may be authorized by the State board of health upon presentation of the proper vouchers."

SEC. 5. That all acts and parts of acts inconsistent with this act be, and the same are hereby, repealed.

SEC. 6. That this act shall take effect from and after the 1st day of July, 1914.

Foodstuffs—Supervision of Production, Care, and Sale by State Board of Health. (Chap. 678, Act Apr. 16, 1914.)

SECTION 1. *Be it enacted, etc.*, That from and after the approval of this act all matters and things relating to the sanitation of factories, canneries, bakeries, confectioneries, creameries, milk plants and distributing dairies, hotels, restaurants or eating houses, packing and slaughter houses, ice-cream plants, and other places where food products are manufactured, packed, stored, deposited, collected, prepared, produced, or sold for any purpose whatever shall be under the supervision of the State board of health of Maryland, which said State board of health, with its officers and such agents as may be appointed by it, is hereby vested with power and authority to carry into effect the provisions hereof.

SEC. 2. The said State Board of Health of Maryland shall cause to be inspected at reasonable hours, and as often as practicable, all factories, canneries, bakeries, confectioneries, creameries, milk plants and distributing dairies, hotels, restaurants or eating houses, packing and slaughter houses, ice-cream plants, and other places where food products are manufactured, packed, stored, deposited, collected, prepared, produced, or sold for any purpose whatever, and to enforce the correction of all insanitary conditions and practices found therein.

SEC. 3. The said State Board of Health of Maryland and its agents and inspectors in the discharge of their duties under the provisions hereof, and every person, firm, association, or corporation engaged in the handling of food and food products, shall be governed by the following rules and regulations, which are hereby made the law of this State:

(*a*) The floors, side walls, ceilings, furniture, receptacles, implements, and machinery of every establishment or place where food is manufactured, packed, stored, sold, or distributed, and all cars, trucks, and vehicles used in the transportation of food products, shall at all times be kept in a clean and sanitary condition. Unclean and insanitary conditions shall be deemed to exist if the food in the process of manufacture, preparation, packing, storing, sale, distribution, or transportation is not protected as far as practicable from flies, filth, and all foreign or injurious contamination; or if the refuse, dirt, and waste products subject to decomposition and fermentation incident to the manufacture, preparation, packing, storing, selling, distribution, and transportation of food are not removed daily; or if all the trucks, trays, boxes, baskets, and other receptacles, chutes, platform, racks, tables, shelves, and knives, saws, cleavers, and other utensils, and other machinery used in moving, handling, cutting, chopping, mixing, canning, and all processes, are not at all times kept clean; or if the clothing and body of operatives, employees, clerks, or other persons therein employed are not kept as clean as the nature of their employment will permit.

(*b*) The side walls and ceilings of every bakery, confectionery, creamery, cheese factory, ice-cream plant, milk plant and distributing dairy, hotel and restaurant kitchen, shall be kept clean; and the floor of every building, room, basement, cellar, or other place occupied or used for the preparation, manufacture, packing, storing, selling, or distribution of food must be kept clean.

(*c*) Every building, room, basement, cellar, or other place occupied or used for the preparation, manufacture, packing, canning, sale, or distribution of food shall have convenient toilet or toilet rooms, which shall be kept separate or partitioned from the room or rooms where the process of production, manufacture, packing, canning, selling, or distribution is conducted, and the floor and all parts of such toilet room shall be kept clean.

(*d*) No person or persons shall sleep in any workroom of a bakeshop, creamery, cheese factory, milk plant or distributing dairy, ice-cream plant, or in the kitchen, dining room, or food-storage room of any hotel, restaurant, or boarding house.

(*e*) No employer shall knowingly require, permit, or suffer any person to work, nor shall any person knowingly work, in any building, room, basement, cellar, or vehicle, or any other place occupied or used for the production, preparation, manufacture, packing, storage sale, collection, distribution, and transportation of food who is affected with any venereal disease, smallpox, diphtheria, scarlet fever, yellow fever, tuberculosis or consumption, bubonic plague, Asiatic cholera, leprosy, trachoma, typhoid fever, epidemic dysentery, measles, mumps, German measles, whooping cough, chicken pox, or any other infectious or contagious diseases, unless a person so affected shall produce a certificate from the State board of health granting him or her permission to work or be employed as aforesaid.

(*f*) Every building, basement, cellar, or other place occupied or used for the preparation, manufacture, packing, canning, sale, or distribution of food, shall have a convenient lavatory and shall be supplied with soap, water, and towels maintained in a sanitary condition.

All persons, firms, or corporations operating canning factories affected by this act shall be subject to the following additional rules and regulations, which are hereby made the law of this State:

(*g*) All rooms in which fruits, vegetables, or by-products thereof are packed and preserved, and in which manufacturing is actually carried on, shall be provided with smooth, water-tight floors, made of concrete or wood, which can be properly cleansed, except when the factory is built over flowing water of sufficient volume to carry away all waste liquids an open floor may be permitted, in the discretion of the board.

(*h*) Adequately equipped wash stations and places where employees may change their clothing and hang the clothes not in use shall be provided for male and female employees.

(*i*) Separate toilet rooms shall be maintained for male and female employees.

(*j*) Living quarters, if provided by the canner, shall have waterproof roofs and tight board floors, and shall be provided with ample light and ventilation, and provision shall be made therein for the proper separation and privacy of sexes. An ample supply of pure drinking water shall be furnished within reasonable distance of the living quarters.

(*k*) Adequate drainage shall be provided to lead all waste liquids outside and away from the building.

(*l*) No litter, drainage, or waste matter of any kind shall be allowed to collect in and around the buildings, and the surroundings shall be kept in a clean and sanitary condition.

(*m*) Occupants of living quarters provided by the canner shall be required to keep the same in a clean and sanitary condition.

(*n*) Employees are prohibited from smoking or spitting in any room in the cannery where foods are being prepared for canning.

(*o*) Female employees who work where foods are being prepared for canning shall wear clean aprons or dresses made of washable fabrics, and shall also wear clean, washable caps over the hair.

(*p*) Employees with infected wounds on the hands or arms are prohibited from handling food products or the containers in which they are placed before such containers are sealed or capped. Clean cuts which are not infected shall be covered with rubber cots securely fastened.

SEC. 4. Whenever any person, firm, or corporation shall violate any of the provisions of this act the said State Board of Health of Maryland shall cause the person, firm, or corporation so violating to be prosecuted before any justice of the peace in any county of this State where such offense is committed or before any committing magistrate in the city of Baltimore, provided that the accused shall have the right of trial by a jury if he so elects, and the right of appeal from the decision of the justice of the peace where the accused does not elect a jury trial, and that in any such case the State Board of Health of Maryland shall, before prosecuting such person, firm, or corporation, cause an order to be served on such person, firm, or corporation commanding him or it to discontinue or abate such violation or to make such improvements as may be necessary to abate such violation within a reasonable time, to be fixed by the said board and stated in said order. Such order shall be in writing, and the person receiving such order shall have the right to be heard, either in person or by attorney, byt the said State Board of Health of Maryland.

SEC. 5. Any person, firm, or corporation who violates any of the provisions of this act, or refuses, neglects, or fails to comply with the provisions and requirements hereof, or fails to comply with any lawful order or requirements of said board of health duly made in writing as herein provided, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall, for the first offense, be fined not more than $50; for the second offense, not more than $100; and for the third offense, not more than $300.

SEC. 6. The State Board of Health of Maryland, its agents and servants, are hereby authorized and empowered to enter at reasonable hours the premises of any establishment in this State, or into any room in any building in this State, engaged in any business herein set forth, for the purpose of inspecting and enforcing the provisions of this act; and any person, firm, or corporation engaged in the business aforesaid refusing access to the said State Board of Health of Maryland, its officers and agents, or in any way interfering with them in the exercise of their duties, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined in the sum not exceeding $100 for each offense.

SEC. 7. The said State Board of Health of Maryland shall have the power to adopt, from time to time, promulgate, and publish, by circular or otherwise, such general rules and regulations for the enforcement of the act and for the government of the inspectors and employees of the said board as may be necessary, and it shall have prepared and printed abstracts of this law, which shall be furnished to any person, firm, or corporation in this State demanding the same: *Provided, however*, That before finally adopting or enforcing such general rules and regulations hereinbefore referred to the said State board of health shall give at least 30 days' notice, by publication, circular, or otherwise, informing all persons who may be interested in the enforcement of said rules and regulations that said board of health will hear such persons on a

certain day or days named in said notice for the purpose of receiving and considering suggestions before the final adoption of such rules or regulations. The said notice shall contain a copy of the proposed rules and regulations.

SEC. 8. That all acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

SEC. 9. That this act shall take effect from and after July 1, 1914.

Water, Ice, Sewerage, Refuse Disposal—Supervision by State Board of Health. (Chap. 810, Act April 16, 1914.)

SECTION 1. *Be it enacted, etc.*, That the term "waters of the State" shall include that portion of the Atlantic Ocean and its estuaries within the State of Maryland, the Chesapeake Bay and its estuaries, and all springs, ponds, streams, wells, and bodies of surface or ground water, whether natural or artificial, within the boundaries of this State or subject to its jurisdiction. "Sewage" shall mean human and animal excretions, street wash, and all domestic and manufacturing waste. "Waterworks," "water supply," and "water-supply system" shall mean the sources and their surroundings from which water is supplied for drinking or domestic purposes, together with all structures, channels, and appurtenances by means of which it is prepared for use and delivered to consumers, excepting only the piping and fixtures inside the building served. "Sewerage system" shall mean the channels by which sewage is collected and disposed of, together with the body of water into which it is directly discharged, and all structures and appurtenances made use of in its collection and preparation for discharge in satisfactory condition into the waters of the State, excepting only the plumbing system inside the individual buildings served. For the purposes of this act any sewer, no matter what its length and size may be, shall be sufficient to constitute a sewerage system.

SEC. 2. That the State board of health shall have general supervision and control over the waters of the State, in so far as their sanitary and physical condition affect the public health or comfort; and it may make and enforce rules and regulations, and order works to be executed, to correct and prevent their pollution. It shall investigate all sources of water and ice supply, and all points of sewage discharge. It shall examine all existing public water supplies, sewerage systems, and refuse-disposal plants, and shall have power to compel their operation in a manner which shall protect the public health and comfort, or to order their alteration, extension or replacement by other structures when deemed necessary. After the passage of this act it shall pass upon the design and construction of all public water supplies, sewerage systems, and refuse-disposal plants which shall be built within the State.

SEC. 3. That the State board of health shall, when requested, consult with and advise the authorities of counties and municipalities, and persons having or about to have systems of water supply, drainage, sewerage, or refuse disposal, as to the most appropriate source of water supply, and the best method of assuring its purity, or as to the best method of disposing of drainage, sewage, or refuse, with reference to the existing and future needs of all communities or persons which may be affected thereby. It shall also consult with and advise corporations, companies, and individuals engaged or intending to engage in any manufacturing or other business whose sewage may tend to pollute the waters of the State. It may also conduct experiments relating to the purification of water and the treatment of sewage or refuse. No county, municipality, corporation, company, or individual shall be required to bear the expense of such consultation, advice, or experiments. Information that may be given shall be only of such preliminary nature as to outline the best course to pursue, and in no case shall the State board of health be required

to prepare plans, specifications, or detailed estimates for any improvement, unless it be specifically delegated to do so by the governor or legislature, and adequate special appropriation be provided for the purpose.

SEC. 4. That every county, water, sewerage, or sanitary district authority, municipality, corporation, company, institution, and individual supplying or authorized to supply, at the time of the passage of this act, water, sewerage, or refuse-disposal service to the public, or owning water or sewerage systems, or refuse-disposal plants, serving or authorized to serve the public within the State shall, within six months after the passage of this act, file with the State board of health a certified copy of the plans of its water-supply or sewerage system, or refuse-disposal plant, complete; such plans to be correct to date of submission, and to be of such scope and in such detail as to be satisfactory to the State board of health. In case no plans, or only those of insufficient scope or detail, are in existence, this section shall be complied with by the preparation of new, or the completion of the existing plans, and such investigations as may be necessary to insure the approximate correctness of the plans shall be instituted by the county, district authority, municipality, corporation, company, institution, or individual required to supply them. In case specifications of or reports on the water-supply and sewerage systems or refuse-disposal plants are in existence, they shall be submitted, as well as plans. The State board of health may request such other information and records concerning the water-supply and sewerage systems or refuse-disposal plants, and their maintenance and operation, as it may deem proper for its purposes; and it shall be the duty of the county, district authority, municipality, corporation, company, institution, or individual interrogated to furnish such information and records.

SEC. 5. That when the State board of health finds, upon investigation, that any water-supply or sewerage system, or refuse-disposal works, on account of incompetent supervision or inefficient operation, is not producing such results, from a sanitary standpoint, as might reasonably be expected, or is in any way a menace to health or comfort, or is creating a nuisance, it shall issue an order to the proper officer, board, department, or person having charge of or owning such system or plant to secure such operating results as might be reasonably expected, which results shall be, and shall be produced within such time as shall be, satisfactory to the State board of health. If the desired results be not produced within the time specified the State board of health may order the proper officer, board, department, or person having charge of or owning such system or plant to appoint, within such time as it may specify, and pay the salary of a competent person, to be approved by the State board of health, who shall take charge of and operate such system or plant so as to secure the results demanded by the board.

SEC. 6. That when the State board of health finds, upon investigation, that any water-supply or sewerage system or refuse-disposal works is in any way a menace to health or comfort or is creating a nuisance and conditions can not be sufficiently improved, in the opinion of the board, by mere change in the method of operation, the State board of health shall be empowered to issue an order requiring the owner of the system or plant to make such alterations or extensions to the system or plant or to install such new system or plant as the board may determine necessary to correct improper conditions. The State board of health shall name in its order such date for the completion of the work as it may deem reasonable and proper.

SEC. 7. That when the State board of health finds, upon investigation, that any of the waters of the State are being, or are liable to become, polluted in a way dangerous to health, or so as to be in any way a nuisance, and such condition is due to the fact that there is no, or only a partial, system of public water

supply, sewerage, or refuse disposal in a certain county, municipality, district, subdivision, or locality, or in case absence or incompleteness of a public system of water supply, sewerage, or refuse disposal in any county, municipality, district, subdivision, or locality is, in the opinion of the State board of health, sufficiently prejudicial to the health or comfort of that or any other county, municipality, district subdivision, or locality, then the State board of health may issue an order to the effect that a public system of water supply, sewerage, or refuse disposal shall be installed and put into operation or the existing system completed in that county, municipality, district, subdivision, or locality within a specified time, or the board may order the installation of such devices or the institution of such methods and enforce such measures or regulations as it may deem proper under the circumstances.

SEC. 8. That after the passage of this act the State, a county, municipality, district, corporation, company, institution, or person shall not install a system of water supply, sewerage, or refuse disposal, for public use, nor materially alter or extend any such existing system, without having received a written permit from the State board of health so to do; nor shall any permit for this purpose be issued until complete plans and specifications for the installation, alteration, or extension, together with such information as the State board of health may require, have been submitted and approved by the board. All construction shall take place in accordance with the approved plans. In case it shall become necessary or desirable to make material changes in plans or specifications, such changed plans or specifications, together with a statement of the reasons for the alterations, shall be submitted to the State board of health, and no material changes shall be embodied in the actual construction until they are approved by the board and a permit issued therefor. After completion of the work a certified copy of the plans in full, showing the work as built, shall be filed with the State board of health for permanent record. The State board of health shall be empowered to make and enforce such rules and regulations regarding the submission of plans for approval and record as it may deem reasonable and proper. Before plans are drawn or application filed for a prospective system of water supply, sewerage, or refuse disposal, a preliminary statement concerning the improvement may be made to the State board of health, whereupon the State board of health shall, if requested, outline the general requirements of the case conformity with which would meet with the board's approval. Whenever application shall be made to the State board of health for a permit under the provisions of this section, it shall be the duty of the board to examine the application without delay and, as soon as possible thereafter, to issue said permit, disapprove the application, or state the conditions under which said permit will be granted.

SEC. 9. That the State, or any county, legally constituted public water, sewerage, or sanitary district, or any municipality upon which an order of the State board of health is served, shall, through its proper official or department, proceed to raise such funds as may be necessary to comply with such order within the time specified. When approved by the governor and attorney general, any county, legally constituted public water, sewerage, or sanitary district or municipality may raise such funds, or any part of them, by issuing bonds, stocks, or notes without prior legislative enactment; and the question of issuance of such bonds, stocks, or notes shall not be required to be submitted to a vote of the people. The money made available by bonds, stocks, or notes so issued shall constitute a sanitary fund, and shall be used for no other purpose than for carrying out the order or orders of the State board of health. At no time shall the total outstanding issue of such bonds, stocks, or notes exceed 2 per cent of the total value of all property within the limits of such county, district, or

municipality as listed and assessed for taxation. The amount of bond, stock, or note issue as allowed by this section may be in addition to the total indebtedness otherwise permitted by law. No public moneys shall be expended by the State, any county, legally constituted public water, sewerage, or sanitary district for any of the purposes enumerated within this act, unless such expenditure and the amount thereof has been approved by the State board of health.

SEC. 10. That before land platted for subdivision is put upon the market by any corporation, company, persons or person, and before any permanent building is erected thereon, there shall be filed with the State board of health a plat of such subdivision, together with a statement as to the methods proposed for supplying the subdivision with water and sewerage service, and such other information as may be required by the board. The State board of health may thereupon order the preparation and submission of such plans and specifications, within a specified time, as it may deem necessary for furnishing adequate water supply and sewerage service to said subdivision; and it may at any time order the installation, within a specified period, in accordance with the plans presented or approved revisions thereof, of the whole or any part of the water supply and sewerage systems for said subdivision as the public health may, in its judgment, require.

SEC. 11. That whenever the State board of health shall find that any of the waters of the State are polluted by wastes from any manufacturing or industrial establishment, in such a way as to be or to be liable to become a menace to the public health or comfort, or whenever the existing method of waste disposal in a manufacturing or industrial establishment is found to be or to be liable to become in any way a menace to health or comfort, the State board of health shall issue an order requiring the owner of such establishment to cease pollution of the body of water into which the waste is discharged, or to make such alterations in the method of disposing of said waste as the board may deem necessary to protect the public health and comfort; and said order shall be complied with within such time as the State board of health shall determine. Plans for all such changes in the method of disposing of trades wastes shall be submitted to the State board of health for approval, and all construction shall be carried out in conformity therewith. If the State board of health shall approve the plans submitted, it shall issue a permit for the use of the method proposed for taking care of the waste, and no revised method for taking care of said waste shall be put into effect without such permit. The owner of any manufacturing or industrial establishment shall submit to the State board of health, on demand, all plans, information, and records regarding the existing methods used for the disposal of wastes at that establishment.

SEC. 12. That whenever the State board of health shall find that the water or ice from any public or private source of water or ice supply is, or is likely to become, dangerous to health, or that the discharge of sewage or the method of disposal of sewage or refuse from any system or plant, public or private, is, or is likely to become, prejudicial to health or comfort it shall order that said source of water or ice supply shall be closed, or said point of sewage discharge or method of disposal of sewage or refuse abandoned; or the board may order that such works or devices shall be installed, or such measures instituted, as shall be sufficient to remedy existing conditions if, in its judgment, such conditions can be remedied in a practical manner by said works, devices, or measures. In case a public or private system of water supply, sewerage, or such arrangements made by the owner of said system or plant as will effectually prevent its operation. The State board of health shall specify such date for

compliance with any order provided for in this section as it may deem reasonable and proper.

SEC. 13. That wenever a system of water supply or sewerage serving the public is directly available to any property upon which there exists a spring, well, cesspool, privy, sink drain, or private sewage disposal plant, which is or may become prejudicial to health, the State board of health may order said property to be connected with the water supply or sewerage system and the spring, well, cesspool, privy, sink drain, or private sewage disposal plant abandoned and left in such a way that it can not be again used nor become injurious to health. The State board of health shall be empowered to prevent the construction of any proposed well, cesspool, privy, sink drain, or private sewage disposal plant whenever or wherever it may deem that the proposed construction would be prejudicial to health. After the passage of this act no privy shall be built within the State of Maryland, except it be of such construction as will effectually prevent any contact of fecal matter with the soil and also access to such matter by flies. The State board of health shall be the judge as to whether or not any privy is built in conformity with this rule, and if it shall find that the regulation has not been strictly complied with, it shall condemn the structure and shall order that such changes be made as will be sufficient for compliance with this provision.

SEC. 14. That the State board of health shall have supervision and control over the surroundings of any source from which either surface or underground water, for potable purposes, is collected for delivery in containers; and it shall also assume jurisdiction over the method of collecting, bottling, and delivering such waters. After the passage of this act no such waters shall be collected, bottled, or delivered until a written permit so to do has been issued by the State board of health to the owner of such supply. No such permit will be issued if the State board of health determines that said water is in any way injurious to the public health. Corporations, companies, and persons handling potable waters, shipped from points outside of the State of Maryland, shall receive permits to sell waters only upon presentation to the State board of health of a permit issued by the State board of health of the State from which the water is collected, stating that the source of such water supply and the method of handling the water, as practiced within the limits of that State, are such as not to be prejudicial to the public health, and that said water is allowed to be sold within the limits of the State issuing said permit. Nothing herein provided shall, however, prevent the State board of health from prohibiting the use of such water shipped from another State if in its judgment said water is shown by analysis to be unfit for potable purposes or if its quality in any way is injured by such handling as may be accorded to it after arriving within this State.

SEC. 15. That after the passage of this act no new source of ice supply, either natural or artificial, shall be used for furnishing ice to the public for domestic purposes unless such source be approved by the State board of health and a written permit be issued by the board for the harvesting or manufacture and the sale of ice from said source. No ice shall be stored in an unclean place, handled in an unclean manner, nor brought into contact with polluted water. The State board of health shall be empowered to make and enforce such rules and regulations as it may deem proper regarding the selection and care of sources of ice supply and the methods employed in harvesting, manufacturing, storing, and handling ice.

SEC. 16. That all such records as may be required by the State board of health shall be kept by counties, municipalities, districts, corporations, companies, and persons supplying water, ice, sewerage, or refuse-disposal service

to the public; by corporations, companies, and persons owning manufacturing and industrial establishments; and by owners of private systems of water supply and sewerage; and the State board of health shall be supplied at all times with all records and information upon demand. Agents of the State board of health shall be allowed entry to all buildings, structures, and premises owned by counties, municipalities, districts, corporations, companies, and persons supplying the public with water, ice, sewerage, or refuse-disposal service, or upon all private properties, for the purpose of collecting samples, records, and information and ascertaining whether the rules, regulations, and orders of the State board of health are obeyed.

SEC. 17. That every permit issued by the State board of health under this act shall be revocable or subject to modification and change by the State board of health after due notice of which contemplated action has been given by the board to the recipient of such permit. When the length of time that a permit is to run is specified in such permit, said permit shall become automatically inoperative at the expiration of the period of time prescribed, without notice to that effect having been given by the State board of health.

SEC. 18. That any county, municipality, legally constituted water, sewerage, or sanitary district, corporation, company, institution, or person dissatisfied with any order or regulation of the State board of health under the provisions of this act, may commence, within 10 days after the service of such order or regulation, any action in the circuit court for any county or before any judge of the supreme bench of Baltimore city, in any court of Baltimore city of appropriate jurisdiction against the State board of health as defendant, to vacate and set aside any such order or regulation on the ground that such order or regulation is unlawful or unreasonable, or that said order is not necessary for the protection of the public health or comfort, in which action a copy of the complaint shall be served with the summons. The answer of the State board of health shall be filed within 10 days, whereupon said cause shall be at issue, and stand ready for trial upon 15 days' notice to either party. All such actions shall have precedence over any civil cause of a different nature, except appeals from an order of the Public Service Commission, and the said courts shall always be deemed open for trial thereof, and the same shall be tried and determined as other civil actions. Either party to said action, within 20 days after service of a copy of the order or judgment of any court of Baltimore city or of the circuit court of any county, may appeal to the Court of Appeals of Maryland.

SEC. 19. That if any county, municipality, water, sewerage or sanitary district, corporation, company or institution, or officer thereof upon whom the duty to act is cast, or any person, shall fail to comply with any order of the State board of health before the expiration of the time specified for compliance with said order, or in case of appeal or appeals, for a period of 10 days after final judgment affirming the board's order shall have been entered, to obey said order or in good faith to begin to obey the same; such county, municipality, district, corporation, company, or institution, or officer thereof, or person, so failing shall become liable for and forfeit to the State of Maryland a sum of not less than $10 nor more than $500, with an extra fine of not less than $5 nor more than $50 per day for each day beyond the time limit that said order is not complied with. All penalties are to be recovered by the State in civil action brought by the State of Maryland, and such penalty when collected shall be paid into the State treasury.

SEC. 20. That the State board of health shall be empowered to employ and fix the compensation of such experts, engineers, clerical, and other assistants as

it may deem necessary to carry out the provisions of this act: *Provided, however*, That all the expenses, for salaries or otherwise, incurred under the provisions of this act shall not exceed in the aggregate the amount appropriated by this act.

SEC. 21. That for the purpose of making effective the provisions of this act the sum of $25,000, annually, or so much thereof as may be necessary, is hereby appropriated, payable by the treasurer of the State upon the warrant of the comptroller, at such times and in such sums as may be authorized by the State board of health upon presentation of the proper vouchers.

SEC. 22. That all acts and parts of acts inconsistent with the provisions of this act be and the same are repealed.

SEC. 23. That this act shall take effect from and after the date of its passage.

MASSACHUSETTS.

Ophthalmia Neonatorum—Notification of Cases—Prevention of. (Chap. 177, Act Mar. 16, 1914.)

Section 49 of chapter 75 of the Revised Laws, as amended by section 1 of chapter 251 of the acts of the year 1905, by chapter 480 of the acts of the year 1907, and by chapter 269 of the acts of the year 1910, is hereby further amended by inserting after the word "necessary," in the 22d line, the words, "including, so far as may be possible, consultation with an oculist and the employment of a trained nurse," so as to read as follows:

"SEC. 49. A householder who knows that a person in his family or house is sick of smallpox, diphtheria, scarlet fever, or any other infectious or contagious disease declared by the State board of health to be dangerous to the public health shall forthwith give notice thereof to the board of health of the city or town in which he dwells. Upon the death, recovery, or removal of such person, the householder shall disinfect to the satisfaction of the board such rooms of his house and articles therein as, in the opinion of the board, have been exposed to infection or contagion. Should one or both eyes of an infant become inflamed, swollen, and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative, or other attendant having charge of such infant to report in writing within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling, and redness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same symptoms given by a physician as provided by the following section, the board of health shall take such immediate action as it may deem necessary, including, so far as may be possible, consultation with an oculist and the employment of a trained nurse, in order that blindness may be prevented. Whoever violates the provisions of this section shall be punished by a fine of not more than $100. But the board of health of a city or town may in its discretion, disinfect or fumigate all such premises as in the opinion of the board have been exposed to any infectious or contagious disease, at the expense of the city or town, and may employ any proper and competent person or corporation for the purpose of such disinfecting or fumigating."

Meat—Branding of Carcasses and of Packages Containing Meat. (Chap. 206, Act Mar. 19, 1914.)

SECTION 1. Section 103 of chapter 75 of the revised laws, as set forth in chapter 220 of the acts of the year 1903, and as amended by chapter 471 of the acts of the year 1909, and by section 5 of chapter 297 of the acts of the year 1911, is hereby further amended by inserting after the word "therefor," in the 14th line, the words: "All packages containing meats so stamped or branded by the inspector as aforesaid shall, before they have been shipped from the slaughtering establishments, have

properly secured to them a tag bearing the words 'Massachusetts, Inspected, Passed,' which tag may be so attached by the licensee," and by inserting after the word "stamps," in the same line, the words: "and tags," so as to read as follows:

"SEC. 103. In a slaughtering establishment wherein inspection and branding are not carried on under the rules and regulations for the inspection of live stock and other products, established by the United States Department of Agriculture in accordance with acts of Congress, the carcasses of animals slaughtered under the provisions of the four preceding sections shall at the time of slaughter, if not condemned, be stamped or branded by the inspector thereof in like manner as those inspected by the United States Bureau of Animal Industry for interstate trade, by a stamp or brand designed for the purpose by the State board of health, which shall be furnished by it to the board of health of a city or town applying therefor. All packages containing meats so stamped or branded by the inspector as aforesaid shall, before they have been shipped from the slaughtering establishment, have properly secured to them a tag bearing the words 'Massachusetts, Inspected, Passed,' which tag may be so attached by the licensee. Such stamps and tags shall be uniform in design throughout the Commonwealth, but shall contain the name of the city or town in which they are used."

Sausages or Chopped Meat, Manufacture—Eggs, Breaking or Canning—License Required. (Chap. 325, Act Apr. 8, 1914.)

SECTION 1. The proprietor of every establishment for the manufacture of sausages or chopped meat of any kind, or for the breaking or canning of eggs, shall apply for a license to the mayor and aldermen of the city, the selectmen of the town, or, in a town having a population of more than 5,000, to the board of health, in which such establishment is situated. The application shall be in writing, signed and sworn to by one or more of the owners or by one or more of the persons carrying on such business or, if a corporation, by some authorized officer thereof, shall state the name and address of all the owners or persons carrying on said business, the situation of the establishment in which it is to be conducted, and the nature of the products thereof to be sold or used for food. The board of health of a city or town may make and enforce such rules and regulations as it deems necessary for the conduct of all establishments mentioned in this act, and the license therefor may be revoked for any violation of such rules and regulations after notice to the licensee and a hearing before said board.

SEC. 2. Whoever carries on an establishment for the manufacture of sausages or chopped meat of any kind, or for the breaking or canning of eggs without a license as provided herein shall be punished by fine or imprisonment at the discretion of the court.

Tuberculosis Dispensaries—Must be Established by Cities and Towns. (Chap. 408, Act Apr. 23, 1914.)

Chapter 576 of the acts of the year 1911 is hereby amended by inserting after the word "situated," in the tenth line, the following: "and shall be inspected by and be satisfactory to the State board of health," so as to read as follows:

"Every city and every town containing population of 10,000 or more, as determined by the latest United States census, shall establish and maintain within its limits a dispensary for the discovery, treatment, and supervision of needy persons resident within its limits and afflicted with tuberculosis, unless there already exists in such city or town a dispensary which is satisfactory to the State board of health. The said dispensary shall be subject to the regulations of the boards of health of the cities or towns in which they are respectively situated, and shall be inspected by and be satisfactory to the State board of health. A city or town subject to the provisions of this act which, upon the request of the State board of health, refuses or neglects to comply with the provisions hereof, shall forfeit not more than $500 for every such refusal or neglect."

NEW JERSEY.

Laboratory Supplies—Sale by State Board of Health. (Chap. 13, Act Mar. 10, 1914.)

1. The Board of Health of the State of New Jersey may prepare, or cause to be prepared, in the State laboratory of hygiene such culture media, stains, solutions, cultures, cultural products, and other laboratory supplies as may be useful to the county or municipal laboratories, physicians, or pharmacists in this State. Such substances so prepared may be sold at prices to be fixed by said board to county and municipal laboratories, physicians, and pharmacists in this State, under such rules and regulations as may from time to time be made by said board.

2. All moneys received from the sale of such laboratory supplies shall be paid by the Board of Health of the State of New Jersey to the treasurer of the State and shall be added to the amount appropriated for the support of the bacteriological laboratory, and shall be expended by said board for the maintenance of said laboratory.

Milk and Cream—Local Boards of Health Authorized to Regulate Production and Sale—Inspection and Control by State Board of Health. (Chap. 78, Act Mar. 30, 1914.)

1. Any local board of health organized and existing under the provisions of any law of this State shall, in addition to the powers now vested in them, have power to pass, alter, or amend ordinances and rules for the licensing and regulating of all persons engaged, either as principals or agents, in the production, sale, or distribution of milk or cream within the limits of the jurisdiction of such local board of health, and to fix an annual license fee, not to exceed $2, for each wagon or vehicle used in the distribution and sale of milk or cream, which said license fee shall be paid by the person, firm, or corporation conducting said business.

2. Any such local board of health may include in any ordinance or rule passed under the authority of the first section of this act a provision requiring any person or persons applying to such board for a license to sell milk or cream within the limits of the jurisdiction of said board, setting forth the locality from which such person or persons procure the milk or cream sold or distributed by him or them, and also a full and complete list of the names and addresses of all persons from whom he purchases milk or cream, and requiring said blanks, when properly filled in as aforesaid, to be signed by said person or persons applying for said license. Said board may also provide, by ordinance, that any person or persons engaged in the sale of milk or cream within the limits of the jurisdiction of said board shall notify, in writing, said board immediately upon changing the source of supply of said milk or cream, of such change, and said notice shall also state the name or names of the person or persons or corporation supplying said milk or cream, and the locality from which said milk or cream is procured.

3. Any such board of health may also provide by ordinance that no license shall be granted to any person selling or distributing milk or cream which contains any unhealthful or unclean ingredient, constituent, or substance, or which has been transported or stored in an unclean manner or place, or which has been produced wholly or in part from any cow which is fed on swill, or any substance of an unwholesome nature, or on any food or substance which may produce diseased or unwholesome milk or cream, or which has been produced wholly or in part from any cow which is diseased, or which is kept or stabled under unhealthful or unclean conditions, or in a stable or place which is not provided with at least 2 square feet of window light to each 500 cubic feet of air space in said stable and ventilation adequate and sufficient for the number of animals kept therein, or which is not provided with a pure and unpolluted water supply for the use of such animals and for the cleansing of vessels used for containing or transporting milk or cream as aforesaid.

4. Any such local board of health may further provide, by ordinance, that if any person licensed to sell or distribute milk or cream by said board shall sell any milk or cream containing any unhealthful or unclean ingredient, constituent, or substance, or which has been transported or stored in an unclean manner or place, or which has been produced wholly or in part from any cow which is fed on swill or any substance in a state of rottenness or putrefaction, or on any substance of an unwholesome nature, or on any food or substance which may produce diseased or unwholesome milk or cream, or which has been produced wholly or in part from any cow which is diseased, or which is kept or stabled under unhealthful or unclean conditions or in a stable or place not provided with at least 2 square feet of window light to each 500 cubic feet of air space in said stable and ventilation adequate and sufficient for the number of animals kept therein, or which is not provided with a pure and unpolluted water supply for the use of such animals and for the cleansing of vessels used for containing or transporting milk or cream that the license held by such person may be revoked by said board.

5. Any person, firm, or corporation who keeps cows for the production and sale of milk or cream shall file at least once a year in the office of the Board of Health of the State of New Jersey a certificate signed by a duly licensed veterinary surgeon stating that such cows have passed a physical examination, and such certificate shall state the results of the examination of said cows with reference to the existence of any disease with which they may be afflicted.

6. It shall be the duty of the board of health of the State of New Jersey, when so requested by any local board of health in this State, to inspect any or all dairies supplying the municipality within the jurisdiction of any local board of health and to furnish said local board of health a record showing the sanitary conditions under which milk or cream is produced for sale or distribution within the limits of the municipality so requesting it.

7. Any board of health which provides by ordinance for the licensing of dealers of milk or cream under the provisions of this act may provide, by ordinance, for a penalty not exceeding $50 to be incurred by any person engaging, either as principal or agent, in the sale or distribution of milk or cream within the limits of the jurisdiction of said board, who shall not be duly licensed to engage in such business by said board. Said penalty shall be recovered by said board in an action of debt by said local board of health or by the board of health of the State of New Jersey, and said penalty when recovered shall be paid to the local board of health when the action was instituted by said local board of health, and to the State of New Jersey when the action was instituted by the board of health of the State of New Jersey. All penalties collected for the violation of any ordinance passed pursuant to the provisions of this act shall be used by the local board of health to which the same shall be paid, for the purpose of defraying the expenses of carrying into effect the ordinance or ordinances adopted by virtue of the provisions of this act.

8. It shall be the duty of the Board of Health of the State of New Jersey, whenever it shall ascertain that milk or cream is produced for sale or distribution which contains any unhealthful or unclean ingredient, constituent, or substance, or which is stored in an unclean manner or place, or which is produced wholly or in part from any cow which is fed on swill, or any substance in a state of rottenness or putrefaction, or on any substance of an unwholesome nature, or on any food or substance which may produce diseased or unwholesome milk or cream, or which has been produced wholly or in part from any cow which is diseased or which is kept or stabled under unhealthful or unclean conditions, or in a stable or place which is not provided with at least 2 square feet of window light to each 500 cubic feet of air space, in said stable, and ventilation adequate and sufficient for the number of animals kept therein, or which is not provided with a pure and unpolluted water supply for the use of such animals and for the cleansing of vessels used for containing or transporting milk or cream, to notify the

local board of health having jurisdiction over the place where such milk or cream is distributed or sold, and it shall be the duty of such local board of health receiving such notice from the board of health of the State of New Jersey to prohibit the sale of such milk or cream within its jurisdiction.

9. The officers, agents, or employees of the board of health of the State of New Jersey by virtue of the authority contained in this act shall have full and free access, ingress, and egress to all barns, stables, and places of every kind or character in which milk or cream is stored or had in possession for the purpose of distribution or sale, and shall have power to enter and inspect the premises used in connection with any such barns, stables, or places, and to inspect the utensils and fixtures which are in any way used in the production or storage of milk or cream for distribution or sale as aforesaid.

10. Every person who shall in anywise interfere with any officer, agent, or employee of the board of health of the State of New Jersey in the discharge of his duties under this act shall be liable to a penalty of $100, to be recovered in an action of debt by the board of health of the State of New Jersey, said penalty when recovered to be paid into the treasury of this State.

11. No officer, agent, or employee of the board of health of the State of New Jersey shall be liable to damages, arrest, or imprisonment for the enforcement of any of the provisions of this act.

Eggs and Egg Products—Sale, Handling, and Distribution. (Chap. 30, Act Mar. 18, 1914.)

1. No person shall operate or conduct any establishment where the business of breaking eggs is carried on, whether such eggs are broken for use as food or for other purposes, unless a license has first been issued by the board of health of the State of New Jersey to the owner, operator, or manager of said establishment to conduct and operate an establishment for the breaking of eggs. Any such license issued by said board may be revoked if the establishment for which it is issued is not conducted in accordance with the requirements of law and the rules and regulations made by the State board of health under authority conferred by section 2 of this act, and no establishment for the breaking of eggs shall continue to be operated after the revocation of such license by the State board of health.

2. The State board of health shall have power to make rules and regulations for the enforcement of the provisions of this act and for the conduct of the business of breaking eggs; said board shall also cause inspections to be made of all places where eggs are broken, stored, had in possession with intent to sell, or sold.

3. No eggs shall be broken for use as food which are of the grades commonly known as "rots" or "spots." For the purpose of this act, the term "rot" shall be held to mean any egg which has decomposed to such an extent that it has a putrefactive odor, and the term "spot" shall be held to mean any egg which is wholly or partly decomposed, moldy or sour, or which is partially hatched or contains blood rings or veins, or in which the yolk is broken.

4. All eggs which are broken for manufacturing purposes shall be denatured at the time of breaking by the addition of some substance to the eggs which will make their use for food impossible, and such eggs shall be plainly and legibly labeled with the words, "For manufacturing purposes only," and all broken eggs not so denatured nor so labeled shall, for the purposes of this act, be held to be had in possession with intent to sell or use for food.

5. No person shall have in possession any broken eggs of the grades defined in section 3 of this act as "rots" or "spots" unless the containers in which such eggs are held shall be plainly and legibly marked on at least two sides with the words "Rots and spots, unfit for food," in solid black letters at least 1½ inches in height, and the several lines of which are at least one-fourth of an inch in width.

6. Any person who shall conduct or operate any establishment, where eggs are broken, without holding a license as provided in section 1 of this act, or who shall conduct or operate or continue to conduct or operate any such establishment after revocation by said State board of health of the license to conduct or operate the same and after notice in writing has been served on said person, or who shall violate any of the other provisions of this act, shall be liable to a penalty of $100.

7. All penalties prescribed by the provisions of this act shall be recovered in an action of debt by and in the name of the Board of Health of the State of New Jersey as plaintiff. The pleading shall conform in all respects to the practice prevailing in the court in which any such action shall be instituted, but no pleading or process shall be set aside or invalidated by reason of any formal or technical defects therein if the same contain a statement of the nature of the alleged violation and of the section of the act alleged to have been violated.

8. When judgment shall be rendered against any defendant other than a body corporate execution shall be issued against his goods and chattels and body without any order of the court first had and obtained. If the officer executing any such writ shall be unable to find sufficient goods and chattels of said defendant in his bailiwick to make the amount of said judgment, he shall take the body of the said defendant and deliver him to the keeper of the common jail of said county, there to be detained until discharged by the court in which said judgment was obtained, or by one of the justices of the supreme court, when such court or justice shall be satisfied that further confinement will not result in the payment of the judgment and costs. In case judgment shall be rendered against a body corporate execution shall be issued against such body corporate as in other actions of debt. All penalties collected under this act shall be paid into the treasury of the State of New Jersey.

9. Whenever any person shall violate any of the provisions of this act it shall be lawful for the State board of health, either before or after the institution of proceedings for the collection of the penalty imposed by this act for such violation, to file a bill in the court of chancery in the name of the State at the relation of such board for an injunction to restrain such violation, and for such other or further relief in the premises as the court of chancery shall deem proper, but the filing of such bill, or any of the proceedings thereon, shall not relieve any party to such proceedings from the penalty or penalties prescribed by this act for such violation.

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

NEW BRUNSWICK, N. J.

Sewers—Connections with Required. (Reg. Bd. of H., Mar. 20, 1913.)

ART. 13. *Sewerage connections.*—Section 1. Where in any street or section of street there is now constructed a public sewer, or where hereafter in any street or section of street there may be constructed any public sewer for the purpose of carrying off the sewage, the owner or owners of property abutting on, adjacent to, or along the line of any such sewer so constructed or to be constructed shall, within 30 days after being notified by the board of health, connect the houses and buildings on such property with such public sewer in a proper manner.

SEC. 2. Any person refusing or neglecting to make such connection, or to comply with the provisions of this article and said notice, shall pay a fine of $25 and an additional fine of $10 for each and every day after the aforesaid notice of 30 days shall have expired, and during which time the provisions of this ordinance and said notice have not been complied with.

Communicable Diseases—Morbidity Reports—Quarantine—Disinfection—Funerals—Burial. (Reg. Bd. of H., Mar. 20, 1913.)

ART. 14. *Reports of contagious disease.*—SECTION 1. The terms "communicable disease," "contagious disease." "infectious disease," "pestilential disease," whether used in the singular or plural in the ordinances and regulations of this board, shall be considered as equivalent, synonymous, and interchangeable. These terms shall be considered as applicable to any disease which may be communicated or transmitted directly or indirectly.

SEC. 2. Every physician shall, within 12 hours after his professional attendance upon any person who is suffering from cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, smallpox, varioloid, enteric (or typhoid) fever, diphtheria, membranous croup, scarlet fever, chicken pox, cerebrospinal meningitis, infantile paralysis, trachoma, hydrophobia, glanders, anthrax, whooping cough, or measles, or any other contagious, infectious, or communicable disease which hereafter may be publicly declared by the State board of health or this board of health to be preventable and specially dangerous to the public health, report such sickness to the health officer of this board, which report shall be in writing, signed by such physician, and shall set forth the name, age, and precise location of the person suffering from such disease, and such further information as this board may require.

SEC. 3. Every house owner or householder who knows that any person living, dwelling, or being in any building under his control is affected by any of the contagious, infectious, or communicable diseases hereinabove specified or referred to shall, when no physician has professionally attended such sick person, within 12 hours after discovering the same, report the fact in writing to the

same person and in the same manner as any physician attending such sick person would be required to do as hereinbefore set forth.

SEC. 4. On the 30th day of June and the 31st day of December in each and every year every physician, house owner, and householder making any report or reports as in this article required shall be entitled to receive from the officer to whom such report or reports shall have been made duing the preceding six months a certificate in writing, under the hand of such officer, setting forth the number of names of persons reported to have been affected with any of the diseases hereinabove specifically named or referred to, which certificate, when presented by such physician, house owner, or householder to the treasurer of this board, shall entitle such physician, house owner, or householder to receive from such officer the sum of 10 cents for each and every name by such certificate certified to have been reported, unless such notification shall be found to have been erroneous.

SEC. 5. Any physician, house owner, or householder who shall refuse or neglect to perform the duty herein required of him in this article shall be liable to a penalty of $50.

ART. 15. *Contagious disease—Prevention of spread of same.*—SECTION 1. No person being in charge of any person suffering from any of the diseases hereinbefore mentioned in article 14 shall wilfully expose such sufferer without proper precautions against spreading the disease in any street, public place, shop, inn, or public conveyance, or shall enter any public conveyance in this city without previously notifying the owner, conductor, or driver thereof that he is in charge of the person so suffering.

SEC. 2. No person shall, within this city, give, lend, sell, transmit, or expose, without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection from any of the diseases hereinbefore mentioned in article 14: *Provided*, That no proceedings under this section shall be taken against any person transporting with proper precaution any bedding, clothing, rags, or other things, for the purpose of having the same disinfected.

SEC. 3. No person, while suffering from any of the diseases hereinbefore mentioned in article 14, shall wilfully expose himself or herself without proper precautions against spreading the said disease in any street, public place, shop, inn, or public conveyance, or enter any public conveyance in said city without previously notifying the owner, conductor, or driver thereof that he is so suffering.

SEC. 4. It shall be the duty of every person knowing of any individual in said city who may be sick with any contagious disease, or hearing of any such sick person whom he shall have reason to believe requires the attention of this board, to at once report the facts to the board of health.

SEC. 5. Any person who shall violate any of the provisions of this article shall forfeit and pay a penalty of not less than $10 nor more than $50 for every such offense.

ART. 16. *Quarantine and disinfection.*—SECTION 1. That in case of any of the diseases mentioned in article 14, or any other contagious, infectious, or communicable disease in the city of New Brunswick, the persons affected thereby shall, at the discretion of this board or the health officer, be isolated, or they may be removed to such locality as this board may order and direct; and all buildings, clothing, property, and other things, and premises and vehicles which may become infected by the presence of such contagious, infectious, or communicable disease, shall be disinfected by or under the direction of the board of health.

SEC. 2. This board may establish such separation and isolation or quarantine of the sick from other persons not necessary as attendants, and also provide

and effect such special care, disinfection, and cleansing of property and premises as shall, in the judgement of the board or the health officer, be deemed necessary to prevent the spreading of such disease.

SEC. 3. When the house infected by the presence of a person suffering from any contagious or infections disease shall no longer contain a person so suffering, or upon recovery of such patient, it shall be the duty of the attending physician to so report to the board of health, when the infected house shall be thoroughly disinfected by the health officer.

SEC. 4. Whenever quarantine has been established by the board of health upon or in any house or premises within said city in which any contagious or infectious disease exists, by a placard affixed to said house or premises, such quarantine and all provisions thereof shall be maintained and obeyed by all persons until the recovery or death of the person or persons so affected with such disease and until the said house has been disinfected by or under the direction of this board, and such placard has been removed by said board.

SEC. 5. No person shall interfere with or obstruct the entrance, inspection, or examination of any house by the members, officers, or agents of this board, when there has been reported the case of a person sick with contagious disease therein.

SEC. 6. The health officer shall have power to cause to be placed on the outside of any building or other premises, or upon door of any room, occupied by a person having an infectious, contagious, or communicable disease, except tuberculosis, a printed placard giving notice of such disease. No person shall remove, deface, or in any manner whatsoever knowingly obstruct from public view such placard placed by order of the health officer, and every person having control or occupancy of a house or premises upon which a placard is placed by the health officer shall be held responsible for the removal, defacement, or obstruction of the same.

SEC. 7. Any person offending against any of the provisions of this article shall forfeit and pay a penalty of $25 for every such offense.

ART. 17. *Contagious disease in schools, etc.*—SECTION 1. No principal, teacher, or superintendent of any public or private school, or any Sunday school, shall knowingly permit any person sick with any disease declared by this board to be contagious or communicable, or any other communicable disease, or any person residing in any house in which scarlet fever, diphtheria, smallpox, measles, or cerebrospinal meningitis shall exist, to attend any school until such time as the board of health or the health officer, certifies in writing to such teacher, principal, or superintendent that the said child may attend school without communicating the disease to others.

SEC. 2. It shall be the duty of the principal or teacher of any private or public day school, night school, or Sunday school, within the city to report to the board of health the name and residence of any person affected with any contagious or infectious disease who shall present himself or herself for attendance at such school.

SEC. 3. No person from any dwelling wherein a disease dangerous to the public health exists shall take any book or magazine to or from any circulating library.

SEC. 4. No circulating library, librarian, or employee of the same shall allow any books or magazines to be taken or returned from a dwelling or premises where contagious or infectious disease may exist until he shall receive from the health officer or board of health a written permit to do so.

SEC. 5. Any person who shall violate any of the provisions of this article shall forfeit and pay a penalty of $25 for each offense.

ART. 18. *Tuberculosis.*—SECTION 1. Tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in the city of New Brunswick to report in writing, signed by him, the name, age, sex, color, occupation, place where last employed, if known, and address of every person known by the said physician to have tuberculosis, to the health officer within 48 hours after such fact comes to the knowledge of said physician. It shall also be the duty of the chief officer, or person having charge for the time being of any hospital, asylum, prison, jail, or other private or public institution in said city, to report in like manner the name, age, sex, color, occupation, place where last employed, if known, and previous address of every patient having tuberculosis who comes into his care or under his observation, within 48 hours thereafter.

SEC. 2. When notified of the vacation of any apartment or premises occupied by a person having tuberculosis, the health officer shall order and direct that, except for purposes of cleaning or disinfection, no infected article shall be removed therefrom until properly and suitably cleaned or disinfected.

SEC. 3. Any person having tuberculosis who shall dispose of his sputum, saliva, or other bodily secretion or excretion so as to cause offense or danger to any person or persons, shall be deemed guilty of a nuisance. Any person subjected to such a nuisance may make complaint in person or writing to the health officer. It shall be the duty of the health officer, upon receiving such complaint, or whenever he has notice of the existence of such a nuisance, to investigate, and if it appears that the nuisance causing offense or danger to any person exists, he shall serve a notice upon the person who has committed said nuisance, reciting the alleged cause of offense or danger, and requiring him to dispose of his sputum, saliva, or other bodily secretion or excretion in such a manner as to remove all reasonable cause of offense or danger.

SEC. 4. Any person violating any of the provisions of this article shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than $10 nor more than $500.

ART. 19. *Funerals of persons dead of contagious disease.*—SECTION 1. There shall not be a church or other public funeral of any person who has died of smallpox, diphtheria, membranous croup, scarlet fever, measles, yellow fever, typhus fever, leprosy, or Asiatic cholera, or other contagious or infectious disease when so directed by the health officer or this board of health; but the funeral of such person shall be private, and the burial shall take place within 24 hours after the death of said person. It shall not be lawful to permit at the funeral of any person who has died of any of the above-named diseases, or at any services connected therewith, any person whose attendance is not necessary.

SEC. 2. Every undertaker having notice of the death of any person within the city of New Brunswick from smallpox, varioloid, diphtheria, membranous croup, scarlet fever, typhus fever, Asiatic cholera, leprosy, measles, or any other communicable disease dangerous to the health of the community, or of the bringing of the dead body of any person who has died of any such disease into said city shall give immediate notice thereof to the board of health.

SEC. 3. No public coach, hack, cab, or carriage, nor any upholstered vehicle used for the conveyance of passengers, shall be used to convey the body of a person who has died from any communicable disease.

SEC. 4. Every undertaker who shall be called upon to take charge of the body of any person who shall have died of smallpox, diphtheria, scarlet fever, yellow fever, typhus fever, or Asiatic cholera, or any other contagious or pestilential disease, shall bury the body of such person at the earliest possible moment, which time shall in no case be longer than 24 hours after such undertaker is called upon.

SEC. 5. Any person, corporation, or association of persons violating any of the provisions of this article shall, upon conviction thereof, forfeit and pay a penalty of $50 for each offense.

ART. 20. *Burials and exhumations.*—SECTION 1. Every dead human body interred in any burial ground or cemetery within the limits of the city of New Brunswick shall be buried so that the top of the outside coffin shall be at least 4 feet below the natural surface of the ground, and shall be immediately covered with at least 4 feet of earth, soil, or sand; excepting only the bodies of infants in boxes not more than 4 feet in length, which shall be so interred that the top of the outside box inclosing them shall be at least 3 feet and 6 inches below the natural surface of the ground, and they shall be immediately covered with at least 3 feet and 6 inches of earth, soil, or sand: *Provided*, This shall not apply where bodies are placed or buried in properly constructed vaults, so as to prevent the escape of noxious or unhealthy gases therefrom.

SEC. 2. No dead human body shall be disinterred or removed from any grave, tomb, or burial place within the limits of this city between the 1st day of May and the 1st day of November, except by the direction of a competent court of this State for the purpose of criminal investigation: *Provided, however*, That such disinterment or removal may be made at any time on a permit being given for the purpose by the board of health.

SEC. 3. Any person or corporation offending against the provisions of this article shall forfeit and pay a penalty of $25 for every such offense.

Foods and Drugs—Adulteration and Misbranding. (Reg. Bd. of H., Mar. 20, 1913.)

ART. 21. *Food and drugs.*—SECTION 1. No person shall distribute or sell, or manufacture for distribution or sale, or have in his possession with intent to distribute or sell, any article of food or drug which under any of the provisions of chapter 217 of the Laws of the State of New Jersey, 1907, shall be deemed to be adulterated or misbranded.

SEC. 2. Chapter 217 of the laws of 1907, cited in section 1 of this article, being "An act to secure the purity of foods, beverages, confectionery, condiments, drugs and medicines, and to prevent deception in the distribution and sale thereof" (revision of 1907), together with the supplements thereto and the regulations and rules of the State board of health adopted for the enforcement of the said act is hereby adopted as an ordinance of this board.

SEC. 3. The term "drug" as used in this article shall include all medicines and preparations recognized in the United States Pharmacopœia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used internally for the cure, mitigation, or prevention of disease of man or animal; the term "food," as used in this article, shall include every article used for food or drink by man or animal, and every ingredient of such article, and all confectionery and condiments.

SEC. 4. The health officer of this board is hereby charged with the enforcement of this article, and in accordance with section 30 of chapter 217, Laws of 1907, referred to in sections 1 and 2 of this article, is hereby authorized to designate one or more inspectors of foods and drugs in this city, subject to the approval of this board, and whose duties shall be to aid in the enforcement of said act in this city, and who shall have within the limits of said city all the powers and authority given to any inspector appointed under the provisions of the act.

Foodstuffs—Manufacture, Care, and Sale. (Reg. Bd. of H., Mar. 20, 1913.)

ART. 22. *Protection of food.*—SECTION 1. The term "food" as used in this article shall include every article used as food or drink by man or animal, and every ingredient of such article, and shall include milk and cream and preparations of milk and cream, confectionery, and condiments.

SEC. 2. Every building, room, basement, or cellar occupied or used as a bakery, confectionery, cannery, packing house, slaughter house, dairy, creamery, cheese factory, restaurant, hotel, grocery, meat market, or other place or apartment used for the production manufacture, preparation, packing, storage, or distribution of food intended for sale or distribution, shall be properly lighted, drained, plumbed, and ventilated, and the operations carried on in such building, room, basement, or cellar shall be conducted in such a manner that the purity and wholesomeness of the food therein produced, manufactured, prepared, packed, stored, sold, or distributed shall not be impaired.

SEC. 3. The floors, side walls, ceilings, furniture, receptacles, implements, and machinery of every establishment or place where food intended for distribution or sale is produced, manufactured, prepared, packed, stored, sold, or distributed, and all cars, trucks, and vehicles used in the transportation of such food products shall at no time be kept in an unclean or insanitary condition. All food intended for distribution or sale in the process of production, manufacture, preparation, packing, storing, sale, distribution, or transportation shall be securely protected from flies, dust, dirt, and, so far as possible, by the use of all reasonable means, from all other foreign or injurious contamination; the refuse, dirt, and waste products subject to decomposition or fermentation incident to the production, manufacture, preparation, packing, storing, sale, distribution, or transportation of food shall be removed daily. The clothing worn by all operatives, employees, clerks, and other persons while engaged in work in any of the places where food intended for sale or distribution is produced, manufactured, prepared, packed, stored, sold, distributed, or transported shall be in a clean condition at all times. No person shall transport any such food in such a manner that the purity or wholesomeness thereof shall be in any wise impaired.

SEC. 4. The side walls of every bakery, confectionery, creamery, cheese factory, hotel, or restaurant kitchen shall be well plastered, wainscoted, or ceiled with metal or lumber and shall be oil painted or kept well limewashed, and all interior woodwork in every bakery, confectionery, creamery, cheese factory, hotel, or restaurant kitchen shall be kept well oiled or painted with oil paint, and shall be kept washed clean with soap and water; and every building, room, basement, or cellar occupied or used for the preparation, manufacture, packing, storage, sale, or distribution of food, or in which food intended for distribution or sale is exposed, shall have a tight floor made of cement, or of tile laid in cement, brick, wood, or other suitable material which can be flushed or washed clean with water.

SEC. 5. All operatives, employees, clerks, or other persons who handle the material from which food intended for distribution or sale is prepared, or the finished product, before beginning work and after visiting the toilet shall wash their hands and arms thoroughly with clean water and soap, and every owner or manager of any place in which food is produced, manufactured, prepared, packed, stored, distributed, or sold shall provide adequate facilities for such washing; and it shall be the duty of every such owner or manager to take all reasonable means to compel all operatives, employees, clerks, or other persons handling the material from which such food is prepared, or the finished product, to perform such washing as aforesaid. All toilets, lavatories, and wash rooms shall be separate and apart from the room or rooms where any process inci-

dent to the production, manufacture, preparation, packing, storage, sale, or distribution of such food is carried on, and such toilets, lavatories, and wash rooms shall at all times be kept in a clean and sanitary condition.

SEC. 6. Cuspidors for the use of operatives, employees, clerks, or other persons shall be provided whenever necessary, and each cuspidor shall be emptied and thoroughly washed out daily with a disinfectant solution, and at least 5 ounces of such disinfectant solution shall be left in each cuspidor while the same is in use. No operative, employee, clerk, or other persons shall expectorate anywhere in any building, room, basement, or cellar where the production, manufacture, preparation, packing, storage, sale, or distribution of any food intended for sale or distribution is conducted, except in cuspidors provided for that purpose.

SEC. 7. No person or persons shall be allowed to live or sleep in any room where food intended for sale or distribution is produced, manufactured, packed, distributed, or sold.

SEC. 8. No employer shall require, permit, or allow any person to work, nor shall any person work in any building, room, basement, cellar, or vehicle occupied or used for the production, preparation, manufacture, packing, storage, sale, distribution, or transportation of food intended for sale or distribution who is affected with any communicable disease.

SEC. 9. Fruits, vegetables, meats, and other food products shall not be displayed or exposed on the sidewalk or outside of places of business, unless such foods are securely covered by cases of glass, wood, or metal, or unless they are inclosed in tight barrels, bags, or boxes: *Provided, however,* That this rule shall not apply to fruits or vegetables which must necessarily be peeled before use, but such foods, when displayed outdoors, must be supported on platforms at least 18 inches above the surface of the sidewalk or ground.

SEC. 10. Prepared foodstuffs, such as bakers' goods, confectionery, shelled nuts, etc.; dried fruits, such as dates, figs, peaches, prunes, apricots, etc.; cereal products, such as tapioca, breakfast foods, etc.; pickled products, such as pickles, chili sauce, etc.; fruit products, such as apple butter, jellies, jams, etc.; meat products, such as dried, salted, or smoked fish, veal loaf, pickled pigs' feet, chipped beef, boiled ham, mince meat, or other foods prepared for eating or subject to the attacks of worms or flies, shall not be displayed for sale unless protected from flies, dust, and dirt, and all other foreign and injurious contamination by suitable covering of glass, wood, or metal.

SEC. 11. Whenever any person shall violate any of the provisions of this article, the board may, in their discretion, instead of prosecuting such person for the recovery of such penalty, cause an order to be served on such person, commanding him to discontinue or abate such violation, or to make such improvements as may be necesary to abate such violation, within a reasonable time to be fixed by the said board and stated in said order. Such order shall be in writing, and the person receiving such order shall have the right to be heard, either in person or by attorney.

SEC. 12. Any person who violates any of the provisions of this article, or refuses, neglects, or fails to comply with any lawful order or requirement of the board of health, duly made in writing, as provided in section 11 of this article, shall be liable to a penalty not exceeding $50 for the first offense, $100 for the second offense, and $200 for the third and each subsequent offense.

SEC. 13. When any person shall violate any of the provisions of this article, or shall refuse to comply with any orders duly made in writing, as provided for in section 11 of this article, each day upon which such violation occurs shall be deemed to constitute a distinct and separate violation, and each day elapsing after the expiration of the time limit fixed for the compliance with the said order in writing shall be deemed to constitute a distinct and separate offense.