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THE TRACHOMA PROBLEM.[1]

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On account of the increasing number of trachoma cases that had been applying for treatment at dispensaries in eastern cities of the United States prior to 1897, the American Ophthalmological Society by resolution urged that immediate steps be taken by the Government to prevent further importations of what was then considered essentially an exotic disease. Accordingly, the Surgeon General of the Public Health Service in an official communication of October 30, 1897, called attention to the communicability of the disease, and as a result it was classified as "dangerous contagious" within the meaning of the immigration law of 1891.

Beginning of Exclusion of Aliens Having Trachoma.

During the last 17 years, therefore, arriving aliens have been carefully examined to detect trachoma cases with the view to their exclusion. The total number of immigrants examined during the 10 years ended June 30, 1914, and the total number of trachoma cases discovered are shown in the following table:

TABLE I.—*Trachoma among arriving aliens for 10 years ended June 30, 1914.*

Year.	Aliens examined.	Trachoma cases.	Per cent trachoma.	Year.	Aliens examined.	Trachoma cases.	Per cent trachoma.
1905	1,026,499	1,172+	.....	1911	1,093,809	2,504	.....
1906	1,175,000	1,600+	.....	1912	1,143,234	1,906	.....
1907	1,285,349	2,167+	.....	1913	1,574,371	2,704	.....
1908	935,597	2,074	.....	1914	1,485,957	3,051	.....
1909	966,124	2,586	.....				
1910	1,280,957	3,220	.....		11,966,897	22,984+	0.19

At domestic ports within that 10-year period there have been examined a total of 11,966,897 aliens, among whom 22,984+ had trachoma. Inasmuch as official and unofficial inspections were constantly maintained also at foreign ports to prevent the embarkation

[1] Read at the Seventh Pan-American Medical Congress, San Francisco, Cal., June 18, 1915.

of diseased aliens, many times greater numbers were undoubtedly prevented from coming at all. During the fiscal year ended June 30, 1906, for instance, 29,600 cases of the disease were prevented from embarking at foreign ports.

By reason of the measures taken many foci of the disease were undoubtedly prevented, and for some years it was felt that the trachoma problem, which had been assumed to be essentially dependent on immigration, was decreasing. In fact, statistics compiled by Davies, of New York, indicated that, whereas prior to 1897 the percentage of trachoma in half a million cases of eye diseases investigated was 4 per cent, within three years after the restrictive measures mentioned only a little over 2 per cent of nearly 100,000 cases compiled were trachomatous.

Impressed with the importance of excluding trachoma cases, and the reduction that could be effected, the Canadian Government likewise inaugurated restrictive measures, although for some years these were not as far-reaching as were those of the United States, since some old cases of trachoma were occasionally permitted to go to the great rural sections of the Northwest.

On the assumption that it is easier for American Republics to prevent trachoma than to cure it, the question of the desirability of concerted action to exclude the disease at ports of entry was taken up with Mexico in 1906 by the United States Government. The existence of the disease was also made a subject of report by the several delegates to the Third International Sanitary Conference of the American Republics held in Mexico City, December 2–7, 1907, and by resolution it was recommended to the several participating Governments to exclude aliens afflicted with trachoma.

Prevalence of Trachoma in Some of the American Republics.

In his presidential address before this conference, Liceaga stated that in Mexico trachoma had theretofore been known only to oculists. Cruz, of Brazil, reported the occurrence of the disease among immigrants in some localities of the State of Sao Paulo. From the report of Guiteras, presumably trachoma then prevailed in Cuba and was an excludable disease according to the immigration laws. According to Esteves, the delegate from Ecuador, trachoma was unknown in that country. Ortega and Azurdia, of Guatemala, likewise reported that the existence of the disease had not been demonstrated in that Republic, and Arriaga said it was entirely unknown in Honduras. In Salvador, according to Gonzalez, not a single case of trachoma had been encountered.

At the Fifth International Sanitary Conference held in Santiago, Chile, November, 1911, trachoma was again made a subject for discussion. Alfaro and Alvarez reported that in Argentina trachoma was a rare disease and not allowed to enter the country. The

Chilean delegate said the disease was imported into Chile in 1881, and that the percentage of trachoma patients in the total number of cases treated in the infirmaries of Santiago had increased from 0.5 per cent in 1895 to an average of 3.1 per cent for 11 years. In Uruguay, according to Fernandez, Espiro, and Oliver, trachoma occurs with some frequency. In Venezuela, on the other hand, as stated by Ortiz and Razetti, the disease is very seldom seen.

From the foregoing, it would appear that in at least 12 American Republics trachoma up to 1911 had attracted very little or no public-health attention except as an exotic disease to be prevented from entry. In the United States, however, foci of the disease which had been known to exist, especially on the Ohio River watershed, were found to be presenting a public-health problem of increasing importance. It was becoming apparent, also, that trachoma was prevailing unduly among the Indians.

Prevalence of Trachoma in the United States.

In order to ascertain the prevalence of the disease in our Appalachian Mountains, in 1912 McMullen examined 3,974 persons in Knott, Perry, Leslie, Breathitt, Lee, Owsley, and Clark Counties, Ky., of whom 500, or 12.5 per cent, were found to have trachoma. Since that time, like examinations have been made in 23 other counties of that State.

Examinations have also been made in counties in 12 other States and in sections of Alaska, Porto Rico, and the Philippines. The following table shows the States and Territories where these examinations were conducted between July 1, 1912, and April 30, 1915, the classes of the population examined, the number of schools visited, the numbers examined, the number of cases of trachoma found, and the percentage of infection among those examined:

TABLE II.—*Trachoma among white and colored persons examined, July 1, 1912, to Apr. 30, 1915.*

State or Territory.	County, town, or section.	Class examined.	Number examined.	Cases of trachoma.	Per cent of infection.	Schools examined.
Alabama	Tuscaloosa County	School children and prisoners.	2,759	65	1.3	12
Alaska	Southeastern section	Natives	2,494	49?	2.0	
Arizona	Douglas	School children	2,417	73	3.0	10
California	Tulare County	do	1,478	5	.33	12
Florida	Manatee County	do	1,684	70	4.1	25
Indiana	Bartholomew County.	do	3,969	48	1.2	83
	Porter County	do	2,488	7	.28	76
Georgia	Northern counties (25).	do	7,855	7	.08	84
Kentucky	Blue-grass section, 8 counties.	Adults and school children.	8,815	246	2.78	26
	Mountain section, 20 counties.	do	12,276	920	7.50	234+
	Jefferson County	School children	35,297	805	2.25	239
Minnesota	Various representative sections.	School children and miners.	39,164	24	.06	120
North Carolina	Mountain counties	School children and mill workers.	12,021	33	.27	84

TABLE II.—*Trachoma among white and colored persons examined, July 1, 1912, to Apr. 30, 1915*—Continued.

State or Territory.	County, town, or section.	Class examined.	Number examined.	Cases of trachoma.	Per cent of infection.	Schools examined.
Ohio	Youngstown	Mill workers	5,962	76	1.3	.....
Porto Rico	Various sections	School children mostly.	4,202	401	9.5	19
South Carolina	Mountain and lowland section.	School children and mill workers.	4,303	1	.02	36
Tennessee	Mountain counties (31).	School children mostly.	16,950	341	2.01	130
Virginia	Mountain counties (10).	.....do	7,801	103	1.38	68
West Virginia	Mountain and hill counties (23).	.....do	20,848	340	1.63	131
			192,788	3,619	.....	1,389+

Within a period of three years, therefore, there were examined a total of 192,788 white and colored persons in 16 different States and Territories. Practically all of this number were school children and 3,619 had trachoma.

Within the same period 39,231 Indians were also examined in 24 States, this work having been done in compliance with an act of Congress approved August 24, 1912. Table III gives by States the location of these Indians, the number of cases of trachoma found, and the percentage of those infected.

TABLE III.—*Trachoma among Indians examined, Sept. 28, 1912, to Dec. 30, 1912.*

State.	Number examined.	Number of cases.	Per cent of trachoma.	State.	Number examined.	Number of cases.	Per cent of trachoma.
Arizona	5,873	1,459	24.9	North Carolina	317	23	7
California	1,555	238	15.3	North Dakota	3,447	791	22.94
Colorado	262	41	15.64	Oklahoma	3,252	2,235	68.72
Florida	22	.....	.....	Oregon	904	94	10.4
Idaho	126	84	15.96	Pennsylvania	552	76	13.76
Iowa	53	17	32.04	South Dakota	6,121	1,059	17.24
Kansas	834	176	21.1	Utah	182	75	39
Michigan	643	48	7.46	Virginia	43	13	30.2
Minnesota	3,542	533	15.05	Washington	1,347	180	13.35
Montana	2,042	537	26.3	Wisconsin	2,999	207	6.86
Nebraska	322	130	41	Wyoming	392	199	51
Nevada	851	229	26.9				
New Mexico	2,207	494	22.38	Total	39,231	8,940	22.7
New York	943	2	.2				

From the above data it is evident that trachoma prevails among some portions of the population in at least 34 States of the Union. Among the Indians, 22.7 per cent of 39,231 examined were afflicted. Among the mountains of Kentucky approximately 8 per cent of 12,276 examined were trachomatous.

Based on these figures McMullen has estimated that there are at present 33,000 cases of this communicable eye disease in the 35 mountain counties of eastern Kentucky. There is reason to believe that the disease is as prevalent in some mountain sections of Tennessee, Virginia, and West Virginia.

The incidence of the disease among the Indians in certain sections is even more striking. Out of a total of 3,252 examined indiscriminately in Oklahoma, 68.72 per cent were afflicted. It may be concluded, therefore, that in the United States a serious situation exists.

Since the greatest prevalence occurs in inland regions and among native-born Americans, especially Indians, and since Mexico and Central and South American countries have large numbers of this latter class among their populations, it is difficult to see why the disease should not be more prevalent in those countries. That it does prevail to some extent in Mexico is shown by the following figures giving the number of trachoma cases discovered from July 1, 1910, to June 30, 1914, as a result of the medical inspection of immigrants on the Mexican frontier:

TABLE IV.—*Trachoma among aliens examined on the Mexican frontier, July 1, 1910, to June 30, 1914.*

Year.	Total number of aliens examined.	Trachoma cases found.	Per cent.
1910	76,318	58	.....
1911	60,562	114	.....
1912	78,049	146	.....
1913	80,358	358	.....
1914	59,544	240	.....
Total	354,831	916	0.257

[1] It is probable that the cases of trachoma discovered may have been among nationalities other than Mexican.

During the five years ended June 30, 1914, 354,831 aliens were thus examined and 916 cases of trachoma discovered. This represents 0.257 per cent of the total examined.

In view of the demonstrated prevalence of trachoma, its chronicity, and marked resistence to treatment, the control of the disease is a serious problem in the United States.

The Control of the Disease.

The measures to be taken must have a twofold object, viz, the elimination of foci of the disease and the improvement of community sanitation. Trachoma is largely a disease of insanitary surroundings, and their abolishment will depend in great measure on improving the social and economic conditions in infected communities. The bringing about of these improvements and the education of children in individual prophylaxis are essentials to success. Not only should children be taught, but they should be examined regularly in schools in order that their health and vision may be safeguarded.

The care of the individual case is largely a surgical matter, and treatment and instruction had best be begun in a hospital.

Preventive Measures in the Appalachian Mountains.

In order to combat trachoma in the Appalachian Mountains, therefore, steps were taken to put these principles into effect. One hospital each was established at Hindman, Ky., September 4, 1913, Hyden, Ky., September 24, 1913, and Jackson, Ky., March 24, 1914, and one is being established at Coeburn, Va., a fifth to be opened later in the mountains of West Virginia. These hospitals are located in converted dwelling houses, and are purposely inexpensive as to equipment and maintenance in order to demonstrate that such institutions can be operated annually for a sum any county should be able to raise. The total cost is about $7,000 for each hospital annually. At least two counties have already undertaken to carry on such work.

Since their opening, the three Government hospitals in Kentucky have been available to the population of an area covering more than 10,000 square miles. In the 17 months that they have been open, i. e., to May 1, 1915, a total of 1,437 cases of trachoma have been treated. These patients have been given a total of 18,860 treatments, and 1,823 operations were performed, many of them under general anesthesia. As a result, a fair proportion of cases have already been cured and over a thousand foci of infection prevented.

In order to give instruction regarding the prevention of trachoma, educational bulletins have been sent to 12,079 households in the counties operated in. A total of 120 public-health lectures have been presented before audiences in the mountains and other infected counties, and visits for purposes of instruction were made to 677 mountain homes.

By such means may the trachoma problem be met in infected communities. In any event, however, the process of elimination of the disease will be prolonged—probably for years—but antitrachoma work will be beneficent in preventing other diseases, and eventually trachoma itself must yield to thorough scientific methods.

PUBLIC HEALTH ADMINISTRATION IN CHICAGO, ILL.

A STUDY OF THE ORGANIZATION AND ADMINISTRATION OF THE CITY HEALTH DEPARTMENT.[1]

By J. C. PERRY, Senior Surgeon, United States Public Health Service.

At the request of the commissioner of health, the efficiency division of the Chicago civil-service commission recently commenced a critical study of the city's health department. Before much progress had been made, however, the desirability of having the assistance of one

[1] This study was conducted during the period from December, 1914, to April, 1915.

familiar with the more or less technical work of a health department became apparent, and consequently a request for assistance was made to the United States Public Health Service. The work of the writer, who was detailed to assist the commission, has extended over a period of four months, and has embraced not only a general study of the various functions of the health department, but also a critical examination of the duties performed by the several bureaus from an efficiency standpoint.

Health matters in Chicago are administered by a department of health, which is well organized and free from political influence in its general administration. The bureau chiefs and other persons employed in the department are civil-service employees, the only exception being the commissioner, who, with the advice and consent of the city council, is appointed by the mayor for a term of four years.

The department, for the purpose of effective administration and the satisfactory performance of the various functions falling within its province, is subdivided into the following bureaus:

Commissioner's office.
Bureau of medical inspection.
Bureau of hospitals, baths, and lodging houses.
Bureau of sanitary inspection.
Bureau of vital statistics.
Laboratory bureau.
Bureau of food inspection.

The city has been divided into the following districts in order to facilitate administration:

School districts	105
Medical inspection districts	50
Quarantine officer districts	25
Supervising medical inspectors' districts	8
Food inspection districts	17
City milk inspection districts	12
Restaurant inspection districts	5
Bakery inspection districts	6
Plumbing inspection districts	23
Work shop inspection districts	17
Ventilation inspection districts	5
Complaint districts	14

THE COMMISSIONER'S OFFICE.

Commissioner of Health.

Ordinances relating to duties.—The commissioner of health, who is the responsible head of the department and reports only to the mayor, is given wide latitude in the conduct of his department and ample authority in the enforcement of the ordinances governing health

matters. A summary of the provisions of the general ordinances will make the duties of the commissioner easily understood:

The establishment of an executive department known as the department of health.

The provision for a commissioner of health, who is head of the department. He must be a physician duly licensed to practice medicine, and is appointed by the mayor with the advice and consent of the city council.

He exercises a general supervision over the sanitary condition of the city, and all orders from the health department are issued in his name.

The commissioner appoints an assistant commissioner, a secretary, heads of the different bureaus, and necessary employees, who perform the duties provided by State law and city ordinances and other duties the commissioner may require.

It is the commissioner's duty to enforce the laws, ordinances, and regulations of the department of health relating to the sanitary condition of the city.

The commissioner, at all times, is permitted to enter any house, store, etc., to determine its sanitary condition.

He gives professional advice and information to the mayor and city council relative to public health matters, investigates outbreaks of contagious or epidemic diseases, and also adopts measures to arrest the progress of these diseases.

He has charge of the city isolation hospital, and has the power to make such regulations for the prevention and suppression of disease as he may deem necessary.

The commissioner of health makes an annual report to the city council, giving a statement of the work performed by his department during the preceding year, together with any other information regarding his department he deems proper. He also has the authority to publish from time to time statistics and information concerning the work of his department or relating to the health of the community and methods of preventing or curing diseases.

The duties of the commissioner are thus twofold in character: (*a*) those relating to the administration of the health department, and (*b*) those pertaining to the activities of other commissions through an "interlocking directorate."

Membership in health organizations.—The present commissioner is secretary of the Municipal Tuberculosis Sanitarium Board and has been intimately connected with the construction and equipment of the sanatorium, as well as with the general campaign against tuberculosis in the city of Chicago; another cooperative position filled by him is that of member of the board of directors of the Infant Welfare Society. He is chairman of the board of examiners of plumbers acting under authority conferred by a State law. He is also chairman of the technical board, division of wastes, which is engaged in studying the problems of city waste disposal, and under the authority of an ordinance has control of the operation of the municipal plant for reduction of garbage.

The commissioner is president of the morals' commission and as such is connected with investigations concerning public morals, the regulation of dance halls, etc. He is president of the Chicago ventilation commission, a semiofficial body made up of representatives of the health department, board of education, and members of technical societies. He is also president of the Lake Michigan water commis-

sion, composed of representatives of the States of Illinois, Indiana, Wisconsin, and Michigan and of the cities of Chicago, Milwaukee, and Grand Rapids. This commission studies all matters concerning water supplies from the Lake to the different States and cities and considers the disposal of sewage in relation to this water supply. The commissioner is also member of the advisory board of Cook County Hospital and the Elizabeth McCormick foundation.

This membership on the boards of various allied activities has placed the commissioner of health in intimate touch with the work of other health-conserving agencies, official and private, and enables him more efficiently to promote the public health of the community.

Assistant Commissioner of Health.

The assistant commissioner is a civil-service employee and receives a salary of $4,500 per annum.

His duties as defined by ordinance are that he shall see that a record is kept of the department's work and that during the absence of the commissioner, or when directed by the mayor, he shall perform the duties of the commissioner.

In addition general administrative duties have been assigned him by the commissioner. He has general supervision of the employees of the department, grants regular leaves of absence, and passes on the sick leave of the employees; audits and checks all requisitions emanating from the different bureaus; authorizes payment of vouchers for supplies; makes contracts; signs the pay rolls of the department; has control and supervision of the property and the proper accounting therefor by the chiefs of the different bureaus. He also keeps the efficiency records of the employees of the department and lectures on subjects pertaining to public health in the school of instruction recently established in the department and before audiences at schools and various societies.

Secretary.

This official of the health department is engaged in propaganda to educate the public in the ordinary measures to be taken to conserve the health of the community. His duties consist of editing the weekly bulletin of the department, preparing press matter on health subjects for the daily newspapers, and issuing and distributing bulletins, pamphlets, leaflets, etc., for the purpose of disseminating information on subjects pertaining to health.

Educational and Publicity Work.

Particular stress is laid on educational work in fostering improvement in living conditions and the enlightenment of the public in matters of sanitation. Lectures, illustrated with lantern slides and

moving-picture films, are given at frequent intervals by the commissioner, the assistant commissioner, the secretary, and the different heads of bureaus. These lectures embrace various phases of sanitary work and hygiene, including correct methods of living and the precautions to be taken to preserve health. In addition, special exhibits are prepared illustrating improved housing conditions and the hygienic necessity for the protection of milk and food supplies, and exemplifying the work of the department in its efforts to protect the public health.

These exhibits are shown in the public-school buildings and are open to the public. They are moved from school to school, and by this rotation are made accessible to the people in different sections of the city.

School of Sanitary Instruction.

The school of sanitary instruction, organized in 1907, was considerably expanded in scope in the course of instruction commencing January 1, 1915. Two courses are given a year, one beginning in January and one in July.

All probationary employees of the health department are required to take the course in such general subjects as department rules and orders; functions and relations of the department of health; the important ordinances in the sanitary code and such violations as should be reported by all field employees; method of reporting violations and of collecting and reporting evidence; and the manner of transmission and the means of control of the communicable diseases.

These employees must also take courses especially applicable to the work of the bureau in which they are engaged. The courses embrace preliminary instruction in field work and office methods and practical demonstration by the supervisors as to the proper manner of "carrying out" any special work, such as collecting chemical and bacteriological samples, basis to be used in scoring various establishments, proper methods of isolation, disinfection of premises, etc.

Employees may take any of the special courses in addition to those pertaining to the work of their own bureau or division, and on passing a satisfactory examination will be granted a certificate setting forth their qualifications.

Courses are also given in public-health work to limited groups of undergraduates of medicine, nurses, and social-welfare workers. Instruction is given in the following subjects:

(*a*) Control of communicable diseases, including methods of reporting, inspection, and disinfection.

(*b*) Medical inspection of school children, including practical field work, inspection for contagious diseases, physical defects, etc.

(c) Field nursing, including duties in assisting health officer in inspection, care of skin diseases, and minor surgical ailments in school children; general duties in visiting homes and the instruction of parents in proper home care and treatment of physically disabled children.

(d) Nursing of contagious diseases, diphtheria, scarlet fever, etc.

(e) Instruction in practical laboratory methods in the examination of milk and water, and in making clinical diagnoses.

(f) Inspection of food, including field work in meat inspection, inspection of milk depots and pasteurizing plants, and the collection of chemical and bacteriological samples.

(g) Sanitary building inspections, including office and field work in examination of plans, plumbing, ventilation, etc.

(h) Instruction in the collection and tabulation of mortality data.

Other subjects taught are: Administration, operation, and construction of municipal lodging and public bath houses; general principles of waste disposal, and the operation of garbage-reduction plants.

Courses of instruction are also given to milk-plant operators, and lectures and exhibits to the public in a general educational campaign for the improvement of sanitary conditions and for the preservation of health.

Office Secretary.

This employee is in reality the business manager of the office and has charge of the proper preparation of requisitions, vouchers, and pay rolls for the signature of the assistant commissioner. He checks the pay rolls, keeps records of contracts, supplies received and issued, and property accountability of the chiefs of bureaus. He has control of the clerks in the office and supervises and directs their work. In order more correctly to present the work of this office the various activities will be considered under appropriate headings.

Requisitions.—They originate in the bureau requiring the supplies and are transmitted in duplicate to the assistant commissioner, who examines them and makes such changes in items and quantities as he deems advisable. After this audit, the requisition is prepared in duplicate and after approval one copy is sent to the general supply clerk, and the other to the bureau making the requisition, so that it will have information of any items or quantities disallowed.

Purchase of supplies.—The city supply clerk may have requisitions filled and purchase supplies in amounts not exceeding $500. Regular supplies in excess of this amount must be secured under contracts made under competitive bids. The commissioner of health is authorized to purchase such supplies as vaccines and antitoxins in an amount not to exceed $250 in value.

All supplies furnished by dealers and contractors are carefully checked upon receipt, and if questions of standard arise laboratory examinations are made and payment for the supplies is withheld until they have been proven satisfactory. The clerk in the bureau

where the requisition originated certifies on a duplicate copy of the bill that the articles have been received.

Time record.—Work performed for the department of health by another division, contractor, or day laborer is carefully checked as to the actual time of the persons engaged. An employee of the health department, on a specially prepared blank, checks the actual number of hours worked each day. When the work is completed this sheet is sent to the contractor or other person interested, with a statement that if no claim is made for correction in five days the account will stand as shown. This check results in a saving to the department by obviating claims for work not rendered.

Pay rolls.—The procedure followed is a pay roll for each bureau. Formerly there was one general pay roll for the whole department, but as an error in any part of it held up the entire payment there were annoying delays. Under the present plan only the bureau the pay roll of which is in error is affected.

The pay rolls are checked by the office secretary against leaves of absence, and from the files in the assistant commissioner's office they are checked according to rating in order to determine that the amounts claimed are correct. The pay rolls are then signed by the assistant commissioner in duplicate. One copy is sent to the civil service commission and the other to the comptroller for audit, and the paymaster pays in individual checks coming to the department for this purpose. Payments for salary are made twice a month.

Property.—The different bureau chiefs are held responsible for the property in their custody and are required to render quarterly property returns. The records kept of property received and issued could be simplified to advantage, and there is not a proper examination and check of the property returns rendered.

I believe the detail of a competent property clerk in the commissioner's office would be advisable. Such an employee could examine all property returns for correctness and make inventories of the property in the various bureaus. He should also be in charge of the requisitions for supplies, check the receipt of such supplies, and keep a record of the articles issued to the different bureaus.

Files.—The central file of the entire department is kept in this office. This was found adequate and up to date.

Suits.—A clerk in the office has charge of all suits instituted for violation of ordinances. Two copies are made of suit cards prepared by the different bureaus, the original is given an office number and sent to the assistant prosecuting attorney for necessary action and the duplicate is placed in a special file. When cases are set for trial the list by number and date of trial is sent to the commissioner's office, and the clerk arranges the cards in his file according to the date, so that he can easily keep in touch with the proceedings. He

also investigates and prepares the evidence in cases of violations occurring in the work of the bureau of medical inspection.

When the trial has been concluded this clerk makes a summary of the disposition of the cases, giving the cause of dismissal or tabulating the fines imposed. Thus a complete record of results is available.

Although the process of carrying a suit to termination is still a slow procedure by persistent effort the department has effected considerable improvement. At the beginning of 1912 the average time that elapsed between the date of filing the suit and its final disposition, either by fine or dismissal, was 212 days. So much time was consumed that a reorganization of department methods was instituted, and in 1913 the average time was reduced to 112 days. In 1914, as a result of further improvements in the methods of suit procedure, the time was reduced to 91 days. Taking into consideration the large number of suits instituted by the health department, it is apparent that the proper remedy to apply in securing more satisfactory legal service would be to detail an assistant prosecuting attorney for the specific purpose of handling such suits. This would result in the desirable moral effect of a more prompt disposal of the cases.

Leaves of absence.—Under the regulations an employee is annually entitled to 14 days regular leave of absence and 15 days sick leave, with pay. He can, however, utilize the regular leave as sick leave, making the total 29 days, if the exigency arises from prolonged illness. If an employee is absent only three days or less on account of sickness, no certificate is required, and he only has to report by telephone each morning that he is unable to perform duty on account of illness. If his sickness exceeds three days, a physician's certificate must be presented covering the period of his illness.

It can be readily seen that in cases of three days' illness, there are opportunities for fraud, as no check is made in the majority of instances to determine whether the employee is actually ill or not. The bureau chief makes such a report on white paper to the assistant commissioner. An examination of the files showed that such reports of illness exceeded those accompanied with a physician's certificate in the proportion of 8 to 1. The forms used are prescribed, that of the physician's certificate being on yellow paper. Different colors are used to simplify office procedure. Many of the physician's certificates are faulty in that they do not specify that the employee has been seen each day covered by the certificate, and bear evidence that the information concerning the length of sickness is often secured from the employees themselves. As the number of employees reporting sick at one time is not large, a more satisfactory procedure

would be the detailing of a physician of the health department to visit such employees.

A card index is kept of employees reporting sick, so that the time lost may be checked against the leave authorized, and no payment made in excess of what is due. Injuries to employees by accident is immediately reported by the bureau chief, who gives the date, nature of the accident, and probable length of time the employee will be incapacitated.

Efficiency report.—New employees are probationary for a period of six months, and the bureau chief is required to rate them each month on a special blank for this purpose; the report must show general attendance, attention to rules and regulations, promptness, speed, diligence, exactness, sobriety, truthfulness, and faithfulness; also general or special ability for the position, general health, and days absent on account of sickness. During this period of probation the employee must take the prescribed course in the school of sanitary instruction and pass a satisfactory examination on the subjects taught. He must attain an efficiency record of 80 per cent to be deemed satisfactory for permanent employment.

If unsatisfactory, he can be dismissed, but once given a permanent appointment, he can not be removed except for cause.

Bureau chiefs are required to submit a monthly report on the general efficiency of each employee in their division; the report is on a prescribed form and the rating of an employee takes into consideration his general efficiency in his particular branch of work, aptitude, attention to duty, tact, etc.

A card index file of employees is kept in the assistant commissioner's office. A rating of 80 per cent is required for continuance in the position.

The commissioner's office is well organized and the work is systematized.

Library.

There is a working library in connection with the commissioner's office. It contains about 1,000 volumes and 40 current periodicals on medical and sanitary subjects. The books and journals are for the use of all employees interested in special subjects or lines of work. Employees can take out books by signing a receipt, and from these charge cards are made out holding the signer responsible for the books' value. Journals can be taken out by bureau heads and other persons located in the building. Proper charge cards are made in such instances.

Monthly meetings.—There is a monthly meeting of the chiefs of bureaus with the commissioner and assistant commissioner for the purpose of discussing important articles in current literature on the

various subjects in which the department is interested. Abstracts made of such articles by the heads of bureaus are read at these meetings.

FINANCIAL STATEMENT.

Appropriations 1914.

Commissioner's office, salaries			$32,620.00
Bureau of medical inspection, salaries			321,940.00
Bureau of hospitals, baths, and lodging houses:			
Administrative salaries		$8,340.00	
Contagious disease hospital—			
Salaries	$45,442.00		
Repairs and improvements	2,400.00		
		47,842.00	
Isolation hospital		6,820.00	
Iroquios Memorial Hospital		6,540.00	
Municipal lodging houses, salaries (includes supplies, repairs, $2,000)		15,460.00	
Public baths		36,256.00	
			121,258.00
Bureau of vital statistics			23,155.00
Bureau of food inspection			134,460.00
Bureau of sanitary inspection			158,564.00
Laboratory			34,155.00
Supplies, etc			170,850.00
Total health department proper			997,002.00
Board of examiners, plumbers, salaries			8,592.00
Waste disposal:			
Grace Street plant, wages, supplies, etc		$43,000.00	
Reduction plant, Thirty-ninth Street—			
Purchase	$350,000.00		
Repairs	185,000.00		
Operation and maintenance	276,142.50		
		811,142.50	
Three additional plants, purchase of sites and construction		200,000.00	
			1,054,142.50
Total			2,059,736.50

FOR CONSTRUCTION.

[Payable from proceeds of health department building bonds.]

	1914	1915
Sixteenth ward bath	$4,788.98	$15.25
Mayor bath	9,511.16	3,419.96
Nineteenth ward bath and equipment	20,000.00	50,000.00
Fifteenth ward bath	17,500.00	40,000.00
Fifth ward bath, contract liability	23,250.97	6,724.62
Contagious disease hospital	292,724.84	561,353.86
Twelfth ward bath	.....	35,000.00
Bath at South Chicago	.....	35,000.00
Municipal lodging house	.....	123,923.85
Total	367,775.95	855,437.54

Appropriations, 1915.

Commissioner's office, salaries			$50,920.00
Bureau of medical inspection, salaries			341,440.00
Bureau of hospitals, baths, and lodging houses:			
Administrative salaries		$9,060.00	
Contagious-disease hospitals, salaries		44,724.00	
Isolation hospital		6,920.00	
Iroquois Memorial Hospital		7,480.00	
Municipal lodging houses:			
Salaries	$9,080.00		
Expenses	22,400.00		
		31,480.00	
Public baths		37,576.00	
			137,240.00
Bureau of vital statistics			24,220.00
Bureau of food inspection			140,340.00
Bureau of sanitary inspection			164,864.00
Laboratory			39,360.00
Supplies, etc			160,300.00
Total, health department proper			1,058,684.00
Morals commission, salaries and expenses			8,680.00
Waste disposal:			
Administrative salaries	$14,850.00		
Technical board, expense	10,000.00		
		$24,850.00	
Reduction plant—			
Salaries	218,970.00		
Supplies, etc	120,200.00		
Completing reconstruction and equipment [1]	385,500.00		
Equipment for transportation and disposal [2]	70,500.00		
		795,170.00	
Incinerator, Ninety-fifth Street—			
Salaries	32,754.67		
Supplies	10,200.00		
Completing construction and equipment [2]	170,000.00		
Unpaid bills	8,455.17		
		221,409.84	
Goose Island incinerator, construction [2]		75,000.00	
Bridewell incinerator, repairs, unpaid bills		5,606.25	
			1,122,036.09
			2,189,400.09
Less amount to be reimbursed from bonds			700,000.00
Total			1,489,400.09

BUREAU OF MEDICAL INSPECTION.

The duties embraced under this bureau are probably the most important performed by a municipal health department. The prime function of boards of health is to control communicable diseases, suppress

[1] $384,500, contingent on passing of bond issue. [2] Contingent on passing of bond issue.

epidemics, and prevent the spread of infection. Work of this character brings the health department in intimate contact with the public, and its efficiency is weighed by the skill and promptness exercised in combating such diseases.

This bureau is the largest in the department, both in personnel and in amount of expenditure. As the character of its work requires covering the entire city daily, a large number of employees are needed.

Organization.—In order to effect proper division of work and to facilitate administration, three divisions have been created in the bureau, viz, division of contagious diseases, clerical division, and division of child hygiene. The bureau is under the direction of a bureau chief, the clerical division under a chief clerk, and the other two divisions are in charge of assistant bureau chiefs.

Briefly abstracted, the provisions of the ordinances covering this bureau, especially those which relate to the notification and control of communicable diseases, are given below:

The commissioner of health must see that persons reported as sick with contagious or epidemic diseases are examined and removed to the proper hospital, and also that suitable nurses and medical attendants are provided.

The commissioner must also see that a strict quarantine is observed in the case of these diseases by isolating the sick person and by posting a notice on the house. A fine is provided for removing this notice.

Every physician attending a person sick of any of the following diseases must report the fact to the commissioner of health inside of 24 hours: Cholera, yellow fever, scarlet fever, diphtheria, smallpox, typhus fever, typhoid fever, membranous croup, measles, whooping cough, mumps, German measles, infantile paralysis, cerebrospinal meningitis, streptococcic sore throat, pneumonia, tuberculosis, erysipelas, ophthalmia neonatorum, rabies, and puerperal septicemia.

Every physician, midwife, or nurse attending a child at birth or during the first week is directed to report to the commissioner within 24 hours any case of sore eyes, developed by the child.

Every veterinarian or any one else discovering a dog or other animal suffering with rabies must report that fact immediately to the commissioner, with the location of the dog and his license number, when known.

Anyone having knowledge of a person suffering from a contagious disease must report the case to the commissioner. The ordinance is directed in particular at managers of public or private institutions, hotels, and boarding and lodging houses.

No person in the city is allowed to move a person sick with a contagious disease without a permit from the commissioner, nor indeed can a person suffering from a mental disease or drug addiction be moved except by a person with the proper city, county, or State authority.

Household goods exposed to a contagious disease can not be moved or exposed until disinfected.

A supply of antitoxin must be kept on hand by the commissioner for treating dependent and deserving persons without charge.

The commissioner or authorized health officer has the power to enter any lodging house, boarding house, factory, workshop, or schoolhouse for the purpose of vaccination when the commissioner thinks smallpox is epidemic, or where the occupants have actually been exposed to infection.

The commissioner is directed to keep on hand sufficient vaccine lymph to vaccinate all persons who apply to him.

He also has the power to cause any house to be disinfected when occupied by a person suffering with a contagious disease. He may also close the house to visitors.

Division of Contagious Diseases.

In order to insure prompt investigation of communicable diseases, including inspection of individual cases and institution of proper quarantine, the city has been divided into 50 health officers' districts, 8 supervising medical inspectors' districts, and 25 quarantine officers' districts. The duties of the several employees in charge of these districts are clearly set forth in the handbook of the department, containing rules and regulations governing the various phases of field work in the bureau of medical inspection.

HEALTH OFFICERS.

The total number of health officers employed in this division is 55, one in charge of each district and five additional for assignments or emergency work. They are part-time men, but are required to work three hours a day, or as assigned. They must keep in touch with the department and are subject to call at any hour of the day to perform emergency work. A health officer has charge of all communicable diseases in his district and is responsible for a proper supervision of them.

The general duties performed are twofold: The inspection of cases of communicable diseases reported by physicians and the investigation of suspects, persons supposed to be suffering with such diseases, reported by others on the one hand; and the instituting of quarantine on the other. The latter embraces the proper isolation of the patient with attendant, instruction of the family and attendant as regards the necessary precautions to be taken to prevent spread of infection, and the proper disinfection and disposal of discharges or excretions from the patient. The health officer must investigate all suspected cases of infectious diseases occurring in his district and take the necessary measures to prevent spread of infection. He leaves a card of instruction for the quarantine officer, giving the class of quarantine imposed. He also notifies the principals of schools and Sunday schools of the children that should be excluded, sends notice to the milkman, and when the disease is diphtheria, scarlet fever, typhoid fever, infantile paralysis, or streptococcic sore throat posts cards of warning. These cards are posted by the health officer on the door in a conspicuous place to warn persons of the presence of a communicable disease on the premises. Such notices are posted when the case is one of the following diseases: Diphtheria, scarlet fever, measles, whooping cough, and acute anterior poliomyelitis.

Smallpox patients must be sent to the isolation hospital, and cases of diphtheria and scarlet fever that can not be isolated at home must also, if possible, be sent to the hospitals provided for them.

Believing the proper procedure to be that of quarantining the "public out" and the "patient in," the health department in 1914 inaugurated three classes of quarantine, designated as A, B, and C:

A. Isolation with trained attendant.—When it is possible satisfactorily to isolate the patient and attendants in one or more rooms, supply food and other necessities to the patient and attendants without its being necessary for the latter to leave the rooms set aside, and no dishes or other articles are permitted to leave these rooms until they have been disinfected, the other members of the family may be permitted to come and go without restraint. In the case of diphtheria, however, cultures from the noses and throats of these members must be negative. Furthermore, children in an apartment or dwelling where the patient is quarantined will not be permitted to attend school, Sunday school, and other places of assembly, or to use public conveyances. School teachers and persons handling milk must not engage in these occupations until the case on the premises where they live is terminated; but if they show a negative culture when the disease isolated is diphtheria, and change their domicile, the prohibition will not be enforced.

The rooms set aside for the isolation of the patient and attendant must be placarded: "For patient and attendant only." The attendant must thoroughly wash her face and hands and remove her outer clothing before leaving the patient's quarters.

In cases quarantined in this manner the attendants may be allowed to leave the house for an hour each day; but in the case of diphtheria cultures from their throats, taken every four days, must be negative. The attendants must thoroughly wash their faces and hands and change their outer clothing before leaving, and they must not visit places of assembly, enter stores, nor use public conveyances.

B. Isolation with member of household or other person as attendant—not trained.—Where the conditions, financial or otherwise, render it impossible to provide specially trained attendants, a member of the household is designated as attendant and is quarantined with the patient in a room or rooms set aside for this purpose. The attendant must observe all the rules and comply with all the isolation requirements specified under class A quarantine. When the prescribed rules are observed, other members of the household may be permitted to go and come as prescribed under rule A if, in diphtheria, cultures from the nose and throat are negative. The attendant must not leave the premises without special permission of the health depart-

ment and then only after the requirements prescribed for attendants under class A have been fully carried out.

C. Impossible to isolate.—When it is impossible to set aside a room or rooms for the exclusive use of the patient, hospitalization is required to be enforced in so far as possible. In event this can not be carried out, persons living where there is a case of communicable disease will not be allowed to go in and out of the house. They must either remain in the house, or room and board away until the case has been terminated. However, in event a room can be sealed off so that there will be no contact with other members of the family, the wage earners can be allowed to room at home and take their meals elsewhere.

After instituting quarantine the health officer gives to the attendant isolated with the patient, or to a responsible member of the family in event isolation is not possible, a circular of instruction on the disease quarantined. This embodies information as to the proper disinfection and disposal of excretions from the patient and articles used by the sick or kept in the room, and the necessary precautions to be taken to prevent spread of infection. He also carefully instructs the attendant, especially in class B quarantine, or in class C the member of the family caring for the patient, as to the proper method of minimizing the danger of the spread of the disease.

On reporting an inspection that falls in class C quarantine, the health officers are required to make a very full report to the bureau, so that if hospitalization is impossible the existing conditions can be understood and the nature of the restraint determined. They must also secure accurate data as to milkmen and the milk supply of the family in all cases of diphtheria, scarlet fever, smallpox, and typhoid fever; and inquiry must be made as to what school the patient was attending.

QUARANTINE OFFICERS.

In order to carry out a systematic and adequate surveillance of cases under quarantine, the city has been divided into 25 quarantine officers' districts, with an officer in each.

The duty of these employees is to follow up and keep under supervision all cases where quarantine has been instituted by the health officer. In class A only the initial visit need be made, but in the other classes of quarantine visits are to be made daily if possible, or at such frequent intervals as duties will permit. On each visit inquiry is made of the care exercised in disinfecting and disposing of excretions from the patient and the method of disinfecting articles used by him. The necessity of keeping the rooms clean by scrubbing with hot water and soap, and properly airing and sunning them, are emphasized and insisted upon.

The other special duty of the quarantine officer is to perform terminal disinfections as required. In disinfection, special stress is laid on thoroughly washing the floor, woodwork, and similar surfaces with hot water and soap, on boiling fabrics that will not be injured, and on aeration and exposure to sunlight. Gaseous disinfection, when performed, is by the use of paraformaldehyde and potassium permanganate.

Quarantine officers are full-time employees.

SUPERVISING MEDICAL INSPECTORS.

Eight supervising medical inspectors' districts have been created, so that each supervisior has six health officers and three quarantine officers under his supervision. The work of these employees is followed, and premises from which communicable diseases have been reported are visited in order to check the efficiency of the work performed by these officers in their respective districts. Nine supervising medical inspectors, who are full-time employees, are provided, one in charge of each of the eight districts and a ninth who spends a portion of his time in the office and forms a connecting link between it and the field, being available for any special investigations upon which immediate report is desired.

In addition to checking the work of the health and quarantine officers and determining the efficiency of these employees, the supervisors are required to investigate all suspected cases of smallpox, reinspect all doubtful cases in which the diagnosis is disputed, and investigate sources of localized epidemics of typhoid fever, diphtheria and scarlet fever. They also make special investigations of communicable diseases requiring expert knowledge; they perform intubations, and carry an intubation outfit with them while on duty; they instruct health officers and special vaccinators who enter the service in their duties and reports and make recommendations as to their efficiency.

The inspectors must keep in touch with the bureau while in the field by telephoning every two hours, in order to ascertain if there are any new assignments, or if their services are needed, and they must be within call day or night. Once a month they inspect and check up the different supply stations, to see that an ample stock of report cards, culture tubes, etc., are on hand, and also inspect the incubators in the police stations, at least once a month, to see that they are operating satisfactorily.

The accompanying table presents pertinent data regarding the handling of communicable diseases.

TABLE.

Disease.	Hospitalization of patients.	Period of quarantine for patients.	Period of quarantine, contacts.	Exclusion from school, patient.	Exclusion from school, contacts.
Diphtheria....	In class C quarantine if possible.	Until negative results from cultures made on 2 consecutive days.	No detention in class A and B quarantine, except children must not attend school, Sunday school, and places of assembly; class C quarantine same as patient and negative result from culture.	Until throat and nose cultures made on 2 consecutive days give negative results.	7 days from last exposure and after negative culture.
Scarlet fever ..	.....do.....	Until (a) termination of desquamation; (b) cessation of all discharges from ear and nose; (c) disappearance of evidence of acute inflammation of tonsils. If (b) and (c) are satisfactory case may be terminated in 5 weeks.	Same, except negative culture does not apply.	7 days after terminal disinfection.	Susceptibles: 7 days after last exposure, provided there is change of domicile. Those that have had the disease: no exclusion if change of domicile.
Smallpox....	Compulsory...	End of scaling...	Under observation for 18 days from last exposure.	.....	No exclusion if recently successfully vaccinated or after vaccination.
Measles.....	No.....	Until temperature has been normal for 24 hours.	Duration of illness of patient.	Duration of illness.	Susceptibles: 18 days from last exposure. No exclusion for those that have had the disease.
Whooping cough.	.....do.....	5 weeks. (See Remarks.)	None.....	Excluded for period of quarantine.	Susceptibles excluded. No exclusion of those who have had the disease.
Mumps.....	.....do.....	Isolation until all swelling has subsided.	.....do.....	Excluded until swelling has subsided.	Susceptibles 3 weeks. No exclusion for those that have had the disease.
Chicken pox..	.....do.....	14 days or until end of scaling.	.....do.....	Period of quarantine.	Susceptibles: 14 days. No exclusion of those who have had the disease. (See Remarks.)
German measles.	.....do.....	10 days.....	.....do.....	.....do.....	Susceptibles: 3 weeks. Others no exclusion.

TABLE.

Detention other members of family breadwinners.	Termination of case.	Disinfection, variety.	Special duties of health officer.	Remarks.
No detention in class A and B quarantine. In class C breadwinner must live away from house or in room sealed off.	When cultures on 2 consecutive days give negative results.	Thorough scrubbing with hot water and soap, floor, woodwork, and soaking washable articles in disinfectant solution, airing and sunning; milk bottles boiled; gaseous when case is terminated early.	Take diagnostic culture from patient if not already done. Culture all contacts. Administer immunizing doses of antitoxin to contacts. Take terminal cultures from patient.	Carriers must be isolated and are terminated on one negative culture. Cases remaining positive for 21 days terminated as carrier, and if they persist to 28 days a virulence test is made.
.....do.....	Same requirements as given under heading "quarantine for patient."	Same as for diphtheria, supplemented by gaseous disinfection.	Examine cases for termination.	The following governs request for termination of case. If under 21 days from onset, the supervisor examines the patient; 21 to 28 days, the health officer, and after 28 days, the quarantine officer.
Observation for 18 days.	.....	Gaseous. Paraformaldehyde and potassium permanganate method.	Vaccinate and revaccinate if necessary all persons exposed to the infection.	
None for adults....	After 24 hours normal temperature.	None.....	.....	
None.....	.....	.....do.....	.....	First 2 weeks of quarantine patient must be kept in house or yard of premises. Remaining period of 3 weeks allowed to go at large provided a band marked whooping cough is worn.
.....do.....	.....	.....do.....	.....	
.....do.....	.....	.....do.....	If vaccinal status is not known or patient is an adult, the health officer inspects the case; otherwise no inspections.	Contacts from exposure to a case in schoolroom are not excluded for 10 days from such exposure: at end of this period excluded for 7 days.
.....do.....	.....	.....do.....	Inspection of all reported cases in order to verify diagnosis.	

TABLE—Continued.

Disease.	Hospitalization of patients.	Period of quarantine for patients.	Period of quarantine, contacts.	Exclusion from school, patient.	Exclusion from school, contacts.
Typhoid fever.	Recommended when proper precautions can not be carried out at home.	Urge isolation and treatment apart from other cases.	None.....	Time of illness..	No.....
Acute anterior poliomyelitis.	No.....	Rigid isolation for 5 weeks.	5 weeks. Children quarantined on the premises. Access to yard allowed.	.....	Children of family excluded for period of quarantine.
Epidemic cerebro spinal meningitis.	.....do.....	Isolation for 2 weeks.	2 weeks. Children quarantined on the premises.	.....	.....do.....
Streptococcic sore throat.	.....do.....	Isolation.....	None.....	.....	Until termination of case.
Ophthalmia neonatorum.	If medical attendance can not be afforded, send to hospital or dispensary for treatment.	None.....	.....do.....	.....	No.....

The following is supplementary to data given in table:

(1) *Special quarantine for stores.*—If a case of contagious disease is in any way connected with a store, either the patient must be sent to hospital or the part of the house or rooms used by the person sick must be effectively sealed off from the place of business. All communication between sick room and store must be stopped. If neither of the above plans can be carried out the store must be closed.

(2) *Quarantine for hotels and boarding houses.*—In cases of scarlet fever and diphtheria, unless isolation can be effected in adequate quarters with private bath and toilet facilities and with a trained attendant,

TABLE—Continued.

Detention other members of family breadwinners.	Termination of case.	Disinfection, variety.	Special duties of health officer.	Remarks.
None	End of illness, provided 4 weeks have elapsed.	Only in cases where the discharges and excretions have not been properly disinfected, day by day, during last 3 weeks of illness. Scrubbing floors and woodwork, boiling linen used by patient.	Thorough inspection and complete report embracing following data: Location, milk supply, water supply, occupation, sanitary condition of promises, whether absent from city and places visited, etc. Secure blood for Widal.	Urge screening against flies of room occupied by patient.
do	do	Disinfection on termination. Method same as for scarlet fever.	do	Room or rooms used by patient must be screened against flies.
do	do	do	do	Do.
do	do	Boiling milk bottles and infected clothing.	Post milkman's warning card.	
do	do	None	Investigate all cases reported by midwives, charity organizations, school nurses, and other persons. Make smears for bacteriological examination, and use a nitrate of silver solution in eyes of patient. Urge securing medical attendance, sending case to hospital or dispensary, or refer the case to county physician for treatment.	

the patient must be removed to the hospital. In cases of measles and whooping cough the patient and susceptibles must not leave the placarded rooms.

(3) *Quarantine for milk depots and vendors*—The patient must be either hospitalized or removed to another location, except in certain instances where the room occupied by the patient can be sealed off to the satisfaction of the health officer.

QUARANTINE TREATED IN DETAIL.

A further consideration of this subject is of importance in showing its effectiveness in preventing spread of infection and the occurrence of secondary cases among the susceptible contacts under the different classes of quarantine.

A study of the three classes of quarantine inaugurated by the department of health in 1914 is very interesting, especially the very satisfactory showing in classes A and B. A careful examination has been made of the results achieved by this mitigated quarantine, and the commissioner recently published some statistics on the subject. The following tabulated statement contains the data presented by him and the addition of other cases to the end of January, 1915, furnished by the bureau. The table embraces the two important communicable diseases in which proper isolation is required:

SCARLET FEVER.

	Cases.	Susceptibles.	Contact cases.	Per cent.
Quarantine "A":				
Prior to Jan. 1, 1915	117	198	1	0.85
January, 1915	32	71	.....	.....
Total	149	269	1	.67
Quarantine "B":				
Prior to Jan. 1, 1915	365	445	16	4.38
January, 1915	34	61	.....	.....
Total	399	506	16	4.26
Quarantine "C":				
Prior to Jan. 1, 1915	1,189	1,952	71	5.96
January, 1915	122	182	10	8.2
Total	1,311	2,134	81	6.17
Hospitalized:[1]				
Prior to Jan. 1, 1915	460	417	10	2.39
January, 1915	47	71	.....	.....
Total	507	488	10	1.97

DIPHTHERIA.

Quarantine "A":				
Prior to Jan. 1, 1915	204	792	.....	.....
January, 1915	38	67	.....	.....
Total	242	859	.....	.....
Quarantine "B":				
Prior to Jan. 1, 1915	655	2,279	6	0.91
January, 1915	39	68	.....	.....
Total	694	2,347	6	.86
Quarantine "C":				
Prior to Jan. 1, 1915	2,994	11,627	127	4.21
January, 1915	341	626	19	5.57
Total	3,335	12,253	146	4.37
Hospitalized:				
Prior to Jan. 1, 1915	711	2,116	1	.14
January, 1915	73	261	.....	.....
Total	784	2,377	1	.13

[1] From those hospitalized, 5 cases occurred in other members of family subsequent to and within seven days after return of patient from hospital.

Deductions.—A study of the table permits some interesting deductions:

1. Class A quarantine is effective in preventing spread of infection and meets the objections raised by the more financially able against hospitalization.

2. Class B quarantine is more effective than would naturally be supposed and shows the results of educational instruction by the health and quarantine officers. The showing made in diphtheria is excellent, and in investigating the much larger percentage of contact cases in scarlet fever, it was found that the greater number of such cases occurred in the early months of this quarantine procedure and that during the last three months no contact case had developed. This improvement is probably due to more careful explanation to the untrained attendant on the part of the health and quarantine officers. A steady improvement in effectiveness is shown in this class of quarantine, and it is one that meets the objection against hospitalization.

3. While the data on class C quarantine shows that the number of contact cases has undoubtedly been reduced on account of instruction given, the results are not satisfactory. Hospitalization is urged and required in this class of cases, but at present the hospital facilities are inadequate to care for the number of patients.

HOSPITAL FACILITIES.

The health department has the following hospital facilities available for the care of communicable diseases: Isolation hospital for smallpox, 35 beds; contagious disease hospital for diphtheria, 65 beds; 125 beds in the county hospital for scarlet fever; and a small number of beds in the Durand hospital for diphtheria and scarlet fever.

The construction of a new contagious disease hospital has been commenced, and some of the pavilions will be ready for use during the year. This hospital will consist of necessary administration and service buildings and five four-story pavilions, and will have a capacity of 700 beds.

When this new hospital is ready for receiving patients, all cases of scarlet fever and diphtheria that can not be isolated under class A and B quarantine should be hospitalized. Considerable opposition will at times be encountered, but if the rules of the institution are sufficiently elastic to allow the mother to accompany the child to the hospital and spend a day or part of the first day, so that she can see for herself that the child is contented and receiving good care, the opposition to hospitalization will in the main cease.

With the development of its A and B quarantine and the hospitalization of patients not falling in those classes, the health department need not fear a comparison of its management of contagious diseases with that of any city.

The following table is presented to show the occurrence in Chicago of five of the most important communicable diseases during a period of five years:

Comparison and total number of cases of diphtheria, scarlet fever, smallpox, typhoid fever, and tuberculosis, by months, for 1910, 1911, 1912, 1913, and 1914.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total cases.	Total deaths.
Diphtheria:														
1910.....	468	443	470	527	468	484	406	394	470	769	1,155	1,907	7,961	822
1911.....	738	611	624	568	621	526	484	372	560	872	941	752	7,669	878
1912.....	617	506	526	535	472	538	4[illegible]	346	389	823	1,077	1,035	7,288	950
1913.....	1,175	890	823	676	709	713	493	330	429	730	813	812	8,593	969
1914.....	744	542	676	515	528	449	443	372	478	679	806	839	7,071	764
Scarlet fever:														
1910.....	688	671	692	600	680	595	298	271	269	364	583	716	6,427	404
1911.....	894	726	867	963	1,050	613	338	280	309	360	506	516	7,422	476
1912.....	611	671	921	1,038	1,046	848	481	418	293	537	799	1,040	8,703	602
1913.....	1,797	1,596	1,828	1,431	1,149	873	370	206	174	286	426	464	10,600	906
1914.....	477	418	511	458	417	231	162	82	107	136	243	276	3,518	228
Smallpox:														
1910.....	3	1	1	3	10	2	0	2	1	1	1	6	31	1
1911.....	14	19	6	36	25	3	0	0	1	1	0	0	105	3
1912.....	1	2	5	16	17	7	4	5	1	2	2	6	68	7
1913.....	56	10	7	17	6	7	3	0	2	4	17	7	136	1
1914.....	15	11	21	8	1	5	2	1	2	2	1	1	70	1
Typhoid fever:														
1910.....	92	77	31	49	49	57	119	352	387	363	314	160	2,050	300
1911.....	89	56	43	45	85	105	131	172	225	190	161	141	1,443	242
1912.....	86	61	52	46	60	72	75	129	162	151	74	77	1,045	173
1913.....	66	45	53	74	86	63	94	181	200	251	272	170	1,555	246
1914.....	98	73	49	76	51	67	93	128	176	125	140	105	1,181	167
Tuberculosis:														
1910.....	392	472	450	471	522	607	493	494	461	599	555	605	6,121	3,885
1911.....	727	597	682	723	825	662	670	559	683	649	686	699	8,162	3,726
1912.....	685	748	743	658	458	551	622	632	600	615	512	688	7,512	3,750
1913.....	1,028	581	777	771	851	800	702	680	817	869	720	719	9,315	3,848
1914.....	788	679	1,042	1,022	892	814	724	826	819	827	613	963	10,009	3,909

A study of the statistics shows quite markedly the seasonal fluctuation in the number of cases of diphtheria and scarlet fever. With the opening of schools in September an increase in the number of cases of these diseases occurs, which becomes sharply pronounced in October and reaches a maximum in December or January. There is a gradual decline in the number of reported cases in the spring months, and this is more marked in diphtheria than in scarlet fever; but the decrease is rather small until July and August, when there is a great falling off in the number of reported cases.

Smallpox.—Chicago has a good record relative to smallpox, as the statistics show comparatively few cases, notwithstanding the fact that this city is a great center of travel and receives a large number of immigrants. This is due to a progressive vaccination campaign in which the cooperation of most of the large department stores, factories, and workshops has been secured. Most of these establishments require their employees to be vaccinated or protected by previous successful vaccination. Furthermore, a large percentage of the citizens were vaccinated in 1904 and 1905 during an outbreak of smallpox.

The following data furnished me by the bureau is deemed of sufficient value to insert in this report. It covers 15 years, giving number of cases, vaccinal status of all, and the number of deaths:

Year.	Cases of smallpox.	Died.	Never vaccinated.	Vaccinated.
1899	25	1	24	1
1900	52	2	48	4
1901	276	4	237	39
1902	339	5	318	21
1903	389	47	339	50
1904	358	28	311	47
1905	546	61	402	144
1906	23	0	21	2
1907	94	0	82	12
1908	82	0	74	8
1909	25	0	23	2
1910	31	1	29	2
1911	105	3	96	9
1912	68	7	60	8
1913	136	1	124	12
Total	2,549	160	2,188	361

NOTE.—None died who had been vaccinated and none of the 361 who were vaccinated had ever been revaccinated.

Typhoid fever.—A study of the table shows that the status of this disease in Chicago is satisfactory, as regards the number of cases, in comparison with the typhoid incidence of other large cities; also that a marked improvement has taken place during the five years covered by the statistics.

The data show a slight increase in the number of cases in July, a rather sharp advance in August, with the maximum reached in September; a slight decline occurs in October and a gradual diminution in the number of cases takes place during November and December, with a sharp decline in January, the normal low curve being reached in March.

The records of the health department show that in 25 to 30 per cent of the cases of typhoid fever occurring in Chicago the infection was contracted outside of the city, and as July and August are the principal months for vacation, it seems probable that the regular autumnal increase in the disease is largely due to this factor and that the resultant increased number of contacts and carriers is sufficient to explain the relatively large number of cases during the fall months. Another factor that must be taken into consideration is that, with the larger number of cases the possibility of a mild attack of the disease or a carrier in the person of one engaged in handling milk is materially increased. Flies may be a minor distributing cause, as they are more prevalent during July, August, and September. The increase in the number of cases in October and November, 1913, was due to two localized outbreaks that occurred on two milk routes; in one a driver was found suffering with a mild attack of typhoid fever and in the other a carrier was engaged in handling milk.

It was found that in the vast majority of cases the disease was terminated and the case discharged without proper bacteriological examination to determine that the patient no longer harbored the bacilli in the stools. As 56.4 per cent of the cases during 1914 were treated in hospitals it seems desirable that these and all other cases should not be terminated until proper examination has been made to eliminate the possibility of carriers. A further study should be given this subject in order to determine whether such an examination is feasible and if facilities exist for a proper supervision of carriers that might be found.

Tuberculosis.—There were reported to the health department 10,009 cases of tuberculosis in 1914, and as the reported deaths numbered 3,909, it is apparent that only the more pronounced cases of the disease were reported. A safe estimate of the total number of cases of tuberculosis in Chicago would probably be 20,000.

While the control of this important communicable disease is not vested in the health department, there is such a close relationship between the disease and certain health activities that it has been deemed advisable to consider the subject in this connection. The commissioner of health is ex officio a member of the board of directors of the Chicago Municipal Tuberculosis Sanitarium and acts in an advisory capacity in the deliberations of the board relative to the control of tuberculosis and the sanatorium treatment of the disease.

The health department cooperates to the extent of performing terminal disinfection of houses after death of the patient or transfer of the case to the sanatorium or hospital. It also keeps a house record and individual record card of all cases reported, and the sputum is examined in the laboratory, a bacteriologist paid by the tuberculosis board being detailed for this duty.

Activities of the Municipal Sanitarium Board.

Rapid strides have been made in the last few years in ways and means for controlling tuberculosis, and Chicago now occupies a place in the forefront of American cities in this particular. In 1905 the entire provision for tuberculous patients in Chicago consisted of about 200 beds, 150 of which were in the poorhouse, and there was no organized effort toward the prevention of the disease or to aid the sufferer in the incipient stage. The year 1915 shows an entirely different picture, as at its end there will be 2,300 sanatorium and hospital beds, and there now exist a comprehensive dispensary system and all the auxiliary means essential in a fight against the disease.

The first organized effort was the formation of the Chicago Tuberculosis Institute in 1906. The object of the institute was to collect and disseminate knowledge relative to the prevention, care, and cure

of tuberculosis, to show the necessity for improved living conditions and education along these lines, and to provide dispensary treatment for the poor suffering with tuberculosis. A camp was established, and it was demonstrated that tuberculous patients could be satisfactorily treated in the climate of Chicago. The following year eight dispensaries for the treatment of tuberculosis were opened under the auspices of the institute. The education of the public in the correct way of living and the necessity for fresh air, as well as in the care of the consumptive in the home, was an important feature of the work.

A law was passed by the Illinois Legislature in 1908 enabling cities and villages to provide by popular vote for the erection and maintenance of tuberculosis sanatoria by the creation of a fund by a tax of 1 mill. Such provisions were adopted in Chicago in 1909, and the Chicago Municipal Sanatorium was authorized; but on account of the provisions of law governing taxation, the first levy for sanatorium purposes was not available until January, 1911. The scope of the sanatorium law was extended by an amendment enacted in 1913. Under the provisions of the law as they now exist, municipalities have the power to maintain branch sanatoria, dispensaries, and other auxiliary institutions for the treatment and care of persons suffering with tuberculosis; and to extend into the homes of those so afflicted the benefits and privileges of such institutions, including the furnishing of nurses, medicines, attendants, and other aids necessary to effect a cure, and to do all things necessary to stamp out tuberculosis.

The operations of the Chicago sanatorium are carried out under four definite procedures: (1) The dispensary department, (2) the sanatorium home extension department, (3) educational department, and (4) the sanatorium proper.

Dispensary department.—In different sections of the city there are maintained 10 dispensaries, which have a combined personnel of 35 physicians and 50 field nurses. The functions of this department are to detect cases of tuberculosis, select cases suitable for sanatorium treatment, and supervise the treatment of cases in their homes. The nurses act in conjunction with the physicians in this work, make frequent visits to the homes of the sufferers and teach them the necessary precautions to observe, the correct mode of living, and the necessity and value of fresh air. The growth of the work in this department is shown below:

	1911	1912	1913	1914
Number of persons under observation	4,943	9,159	12,593	14,972
Number of positive cases	1,911	2,196	2,727	3,538
Visits of patients to dispensaries	22,331	42,335	43,989	52,544
Visits by nurses to homes of patients	31,080	32,678	39,377	46,183

The sanatorium home extension department.—This will probably become one of the most important functions of the work, as it carries into the homes of sufferers who can not go to the sanatorium certain institutional benefits. The homes are visited, inexpensive sleeping porches are constructed, and the necessary equipment for outdoor sleeping, such as reclining chairs, beds, bed clothing, canvas curtains, etc., are furnished.

Educational department.—This department was organized four years ago, and the work is being standardized along definite lines. It consists of the distribution of leaflets and pamphlets dealing with proper living to prevent tuberculosis, the early symptoms and diagnosis of the disease, and the precautions to be observed by the sufferer for the protection of other members of the family. Popular lectures and exhibits are given in the public schools and before other audiences.

Sanatorium.—The new municipal sanatorium, opened March 1, 1915, is situated on 160 acres in the northwest section of the city. It was built out of funds created by tax levy, and when completed and equipped will have cost, including the site, about $2,400,000. The construction of the sanatorium was commenced in 1911, and the plans of the institution were the result of much careful study. At present it has a capacity of 650 beds, but an increase of 300 beds will be provided during the year by the erection of 12 additional cottages.

The sanatorium has the advantage of location in the city, at the end of a street car line, so that friends can visit patients. The community in general is in easy touch with it, and this enhances its educational influence.

The institution is designed for the care and treatment not only of incipient cases, but also of those advanced cases in which an arrest of the disease may possibly be effected by the application of sanatorium treatment.

First of the main buildings is the administration building, in which are located the offices of the director, assistant director, business manager, nose and throat examination rooms, main laboratory, X-ray room, and consultation rooms. The upper floor of this building is used as quarters for the medical staff, and in the basement are various storerooms.

Next to this is located the service building, which contains the patients' cloak rooms, dining rooms, main kitchen, cold-storage rooms, bakery, etc. Quarters are provided in this building for attendants, and, in view of the fact that it is planned to give employment to discharged patients in various departments of the institution, open-air sleeping porches in this and other buildings are a special feature.

The infirmary is constructed in two wings in which patients are treated and a connecting central portion in which are located quarters for the attendants required in connection with the infirmary. Here open-air sleeping porches are also a feature. This building has been planned for securing a maximum of sunlight and fresh air, and admirably meets the requirements in the care and treatment of bed cases of tuberculosis. It has a capacity of 300 beds, 150 in each lateral wing, distributed in small wards of 10 or 12 beds each and private rooms with 1 or 2 beds.

Two important departments have been instituted in this infirmary; (*a*) maternity department for tuberculous women, and (*b*) nursery for infants of tuberculous mothers. The former has all the auxiliary arrangements and a series of private rooms, so located as to meet all needs. The nursery is a very important provision, as it will prove of value in meeting one of the serious problems of the tuberculosis situation, i. e., the care of infants of tuberculous mothers and the education of the community in the proper care of all infants with poor resistance who are in contact with tuberculous infection. Two classes of infants are received: Newborn infants from the maternity department of the infirmary and those removed from home surroundings in which prevention of infection is impossible. Full consent of parents is necessary for admission in either case.

Cottages having a capacity of 25 to 30 beds each have been provided for the treatment of ambulant cases. There are now 350 such beds available, and since, as already stated, 12 additional cottages will be erected during the year, the sanatorium will be equipped with 650 beds for this class of patients. The general type of the building is a central portion containing dressing room, toilets and lavatory, nurses' room, and sitting room, and on each end an open-air ward of 12 to 15 beds.

The cottages for children are of an original design and embrace the features of an open-air school. Of the total capacity of the institution 240 beds are for children, housed in open-air cottages in groups of 25 to 30.

A separate building for nurses' quarters has been provided.

In its institutions for tuberculosis, Cook County, in which Chicago is located, has provided 900 beds for the advanced cases.

In addition to the 1,850 beds already mentioned may be added 97 beds of the Chicago fresh-air hospital and 100 beds of the Edward Sanatorium. The latter institution is for the treatment of pay patients, the charges being $10 per week for ambulant cases and $15 a week for infirmary cases. There are also other sanatoria for the treatment of tuberculous patients, so that there will be available during 1915 about 2,300 beds for this class of patients.

The amount available for tuberculosis work is about $900,700 annually, so that Chicago is in a position to carry out an active and useful campaign against tuberculosis.

I am indebted to the reports of Dr. Sachs, chairman of the municipal tuberculosis sanatorium board, for much of the data presented on tuberculosis.

Open-air schools and rooms.—In addition to the sanatoria and hospitals for tuberculous sufferers, provisions through a private enterprise, the Elizabeth McCormick Foundation, have been made for 4 open-air schools and 35 open-air rooms for the care and instruction of children suffering with tuberculosis in the quiescent stage. The average attendance in these schools and rooms is 550 pupils; but as the principle of an open-air school will be followed at the new municipal tuberculosis sanatorium, increased facilities will exist for this important work.

These schools are conducted on a cooperative principle: The Foundation supplies the physician, attendants, and extra clothing, and bears the greater part of the expense for food. The board of education provides the open-air rooms, school equipment, and teachers. The municipal tuberculosis sanatorium supplies the nurse and pays a part of the cost for food. The sites for the schools are provided by civic and charitable organizations.

On arrival at school the pupils are given food consisting of a cereal, bread and milk, and a substantial meal at noon, and are required to lie down for one hour each day, generally from 12.30 to 1.30. Records of weight and progress are kept.

Office Procedure of Bureau.

The office procedure will be considered under the following functional divisions: (*a*) Receipt of reports of communicable diseases and cases suspected of being of this nature; (*b*) assignment of cases to health officers and quarantine officers; (*c*) reports required of health officers and quarantine officers; (*d*) use of spot maps in charting cases of certain communicable diseases, including book records in specific instances; and (*e*) special and general filing system.

Reports.—Reports of communicable diseases are made by physicians on postal cards furnished by the health department that may be secured from any of the 55 supply stations maintained in different sections of the city. A separate report must be made out for each case in a family. At times a physician makes report of a case by telephone, and in such instances the clerk "fills in" the pertinent data on the regular report card. Reports are also received by mail or telephone from persons other than physicians, and in all such instances the case is assigned as a suspected communicable disease

and the necessary data placed on a different report card, labeled "Suspected case."

As there is always some one on duty in the office, a report can be received day or night. If work of an emergency nature arises after regular office hours, the circumstances are telephoned to the health officer in whose district the emergency has arisen, and in event he can not be found, the facts are communicated to the supervisor.

Assignments.—The bulk of the reports are received in the mail which is delivered at the bureau at 7.30 a. m. A number of clerks are on duty at that hour and the mail is rapidly sorted. All reports of communicable diseases and those of suspects are arranged according to health officers' districts; a large wall map of the city, divided into 50 districts, with the name of the health officer and quarantine officer for the respective districts charted thereon, is consulted in order to insure accurate assignment. Such reports are checked against the files to make certain that the case reported is a new one and not a second report on a case already assigned.

This work completed, the health officer is called by telephone and all cases in his district, with name and address of patient and the communicable disease reported, are assigned; the reports of suspected cases are also given him in the same manner. There are generally four clerks engaged in making the assignments, district by district, and they finish their work by about 8.30 a. m. A second assignment is made in the same manner at 1 p. m., embracing all reports of cases received in the forenoon. A third assignment is made, between 5 and 6 p. m., of any additional cases. Any reports of cases received after the last assignment are placed in a proper box and included in the first assignment on the following day.

The report cards are then arranged according to disease, and the total number of the different diseases counted and tabulated to show an increase or decrease in the number of cases occurring from day to day. A mimeograph copy is made of all placardable diseases reported during the day, giving the name and address of the patient, the name of the physician reporting the case, the city ward in which the case occurs, and the name of the health officer. This is prepared in the morning and includes the cases assigned in the afternoon of the preceding day and those in the first assignment of the day of issue. A copy is sent to every health officer, quarantine officer, and school health o icer. This is received in the afternoon of the same day, and includes the bulk of the cases assigned on even date. The health officer is required to check the cases assigned by telephone against those enumerated on this list, and if any discrepancies are noted he must telephone the bureau for verification and instructions.

The quarantine officers receive assignments twice a day, at 8.30 a. m. and 12.30 p. m. In the first assignment they receive calls for disinfection, termination of cases, removal of placards, and reports of lax quarantine. These various items are arranged in envelopes according to districts, and the assignment of the notices is made by telephone in the same manner as outlined for that of health officers. In the afternoon assignment are included further notices of the same nature that have accumulated during the morning. The quarantine officers consult the mimeograph list for the cases of communicable diseases occurring in their districts, so that they can follow the cases inspected and quarantined by the health officer and see that proper quarantine is maintained.

The supervisors report at the office each morning to receive any special assignments.

Reports required of health officers and quarantine officers.—Health officers are required to forward to the bureau within 24 hours an inspection report on every case of communicable disease assigned them. This card must be completely filled out and give all data pertinent to the case. These inspection reports are made out at the conclusion of the day's work and are mailed so as to arrive at the bureau in the first mail of the following day. A daily report embracing all work done must also be prepared and forwarded so as to reach the bureau at the same time. These reports are checked against each other, and the inspection reports are compared with the assignments, and if it is found that an inspection report is missing, the matter is immediately taken up with the health officer. In investigating suspected cases the regular report card must be forwarded in addition to an inspection report.

The quarantine officers must prepare daily reports embracing all the work done, the address of premises visited, and the hour when the visit was made. This report must be forwarded so as to arrive at the bureau in the first mail of the following day.

Spot maps.—The cases of the following diseases are shown on spot maps: Diphtheria, scarlet fever, typhoid fever, and diarrheal diseases. A separate map is used for each disease and covers a period of one month, different colors being used to chart the cases for each week. Carriers are shown on the same map by means of a spot of a different shape. The diseases are spotted according to districts and location. The map of the preceding month is placed in juxtaposition so that a comparison can be easily made.

Two other spot maps are kept for recording cases of typhoid fever. One shows the districts supplied by water from the different pumping stations and the cases of typhoid occurring therein. The other, a very large and complete map, is kept in the division chief's office. This shows the cases by districts, and by comparing with a chart showing density of population the percentage of cases per capita is

readily seen. Some interesting details are the use of different colored tacks to represent the cases in different months, a larger tack to show fatal cases, and different colored bits of paper beneath the tack to indicate whether the case is a primary one, or contact, or if the infection was contracted outside of the city.

Spot maps are also kept for each of six large milk dealers. The number of supply stations is shown and the territory to which milk is distributed from each station. Cases of diphtheria, scarlet fever, and typhoid fever are charted, and if two cases of any of these diseases occur in one week on any milk route an investigation is made in order to determine if the milk has been a factor.

Charts for the different schools are also kept, and if two cases of scarlet fever or diphtheria occur in one school in one week a special investigation is made.

Book records are kept of cases of typhoid fever and smallpox. Concerning the former, all pertinent data is included, so that easy reference is possible. The names and addresses of all milk dealers are kept in a book and each case of diphtheria, scarlet fever, or typhoid is charged against the milk dealer; thus if two or more cases occur on the route of one dealer the milk supply can be promptly investigated. A record book of ambulance service shows the name of patient, address from which removed, time of removal, hospital to which taken, and disease.

Filing system.—All data pertaining to a case of communicable disease are filed in a special envelope, and as soon as a case is reported a record is prepared, to include all data from the physician's notification card to the termination of the disease. If a secondary case occurs in another member of the family through contact, the case record is attached to that of previous case. Different colored envelopes are used for different diseases, and the following synopsis of the case is written on the front of the envelope: Name, age, and address of patient, name of physician reporting the case, date on which patient was taken ill, and date of termination of case. The name of the disease is printed in heavy type in the upper corner of the envelope. Case records for diphtheria, scarlet fever, measles, and whooping cough are filed together, and special files are kept of each of the following diseases: Tuberculosis, typhoid fever, smallpox, and infantile paralysis. The files are arranged alphabetically by streets and numerically by case number.

Until a case is ended its record remains in the live file, and the clerk in charge goes over the file daily for cases of measles and whooping cough. In measles if the record shows no susceptibles in the family the physician is advised that the case can be terminated after the temperature has been normal 24 hours. If there are susceptible contacts, cases of measles are set for termination in 14 days, and whooping

cough at the expiration of 6 weeks. The case records of diphtheria and scarlet fever are examined twice a week, and in all cases of these diseases not terminated in four and five weeks, respectively, a communication is sent the attending physician asking if the case is not ready for termination. If no reply is received in three days such cases are set for termination. By this procedure a careful watch is maintained over ending cases in this important group, and unnecessarily prolonged periods of isolation and quarantine are obviated.

House record cards are made for the following diseases: Diphtheria, scarlet fever, typhoid fever, tuberculosis, and infantile paralysis. These are filed separately, alphabetically by streets, and numerically by case number.

Antitoxins.—Diphtheria antitoxin is supplied by the State in 1,000, 3,000, and 5,000 units. It is kept on hand at the various supply stations (drug stores) throughout the city and in the office of the bureau of medical inspection and is free for all classes of patients. The physician receiving and using the antitoxin is required to fill out duplicate blanks, giving name, age, and address of patient on whom it was used, and to return the same to the supply station, where one copy is filed and the other sent to the secretary of the State board of health.

A supply of diphtheria antitoxin furnished by the Memorial Institute is also kept on hand for sale to druggists and physicians at cost, plus expense incident to handling. This supply was instituted a few years ago when the price charged for antitoxin was so high as to place its use beyond the means of the poor and before the State had made a general supply available.

Tetanus antitoxin is supplied to physicians on request, either for immunizing purposes or for the treatment of cases of tetanus.

Typhoid fever prophylactic vaccine is also furnished physicians, and about 100 treatments of three doses each are distributed monthly.

Vaccine against smallpox is supplied to any person desiring it, and an ample supply of fresh vaccine to meet emergencies is kept constantly on hand.

A book record is kept of all antitoxins and vaccines issued.

Ambulance service.—When the health officer hospitalizes a patient, he must report to the bureau all the circumstances, stating whether the procedure was carried out by request of the attending physician or the family of the patient, or was necessary on account of lax quarantine. He telephones the bureau, giving the name, sex, age, address, and disease of the patient. A clerk then ascertains by telephone if accommodations are available and requests that the ambulance remove the patient to the hospital specified. A book record is kept of all ambulance calls, giving the time of notice and the hour at which the patient was received at the hospital.

Clerical Division.

The daily office work of most of the employees in the clerical division has been given under office procedure. Consequently there is not much to be added.

The office force is under the direction of a chief clerk, who outlines the work of the junior clerks and assigns them to special activities. This results in increased efficiency of the office force as a whole, as each clerk becomes trained in his particular duty, and therefore is able more promptly and efficiently to dispatch the work allotted to him. The chief clerk issues general orders governing office administration and exercises general supervision over all the work performed by his assistants. He also pays special attention to the storeroom and the quantity of antitoxin and vaccines in stock, to insure that the requisite amount of such supplies is kept on hand.

At the end of each month, in addition to the work already mentioned, a tabulation is made of all the placardable diseases by wards, and records are kept of the work performed by the school health officers, dental surgeons, and nurses. A directory is maintained of all employees of the bureau and of the chiefs and supervisors of other bureaus.

Efficiency records.—The rating of office employees is by judgment marks, with deductions or demerits for absence and errors. The record of field employees is based on work requirements, each variety of work being given a specific value, less demerits for negligence or failure promptly to execute work assigned in accordance with the regulations prescribed in the handbook. The values of different units of work and the demerits for failure to execute them in specific instances are clearly set forth in the handbook issued for the guidance of the field employees of this bureau.

Files.—The files in this office are in excellent condition, well arranged, and kept strictly up to date. The live file receives constant attention and is never allowed to fall behind in recording the daily work. The other files are carefully arranged for quick and easy reference.

The organization of the office force is well planned, and the work accomplished has reached a high standard of efficiency, deserving of commendation.

Division of Child Hygiene.

As the work performed by this division is fourfold in character, it is advisable to consider it under the following subdivisions: (*a*) medical inspection of school children; (*b*) dental service and dental dispensaries; (*c*) nursing service; and (*d*) infant welfare.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

In a city the size of Chicago, with 330 public and 220 parochial schools and a school population of more than 400,000 pupils, the problem of a daily medical inspection service is not a small one. Previous to 1914 the inspection of schools was performed by the same health officers who inspected the reported cases of communicable diseases. At that time 100 health officers performed the combined duties. In March, 1914, a reorganization of the bureau of medical inspection was effected and a division of child hygiene was created with an assistant bureau chief in charge; in considering this branch of the work, therefore, it must be borne in mind that, although an inspection of schools was started about six years ago, it has been operating on its present plane for only 12 months.

In order to meet the requirements of this inspection service 105 school districts have been arranged, each containing an average of five schools with about 4,000 pupils in attendance. These districts are formed in relation to the number of school children, that there may be from 4,000 to 4,500 to each of the 105 school health officers assigned to this medical inspection service. A further provision has been made for this work by providing nine supervisors, eight of whom are engaged in field work, and one in connection with the office and on special details. For purposes of administration the school districts are grouped into eight districts; thus a supervising health officer can be assigned to each and exercise supervision over the work of 13 school health officers.

In the new school buildings satisfactory waiting and consultation rooms are being provided for the use of the health officer in his work; but in the majority of the old buildings there is no proper room available and the health officer has to use any space he can secure, often a part of the principal's office.

School health officers.—The principal object to be attained in the medical inspection of schools is the detection of communicable and parasitic skin diseases, and the exclusion of those suffering from the former and in some cases from the latter. An efficient daily inspection will promptly detect the few cases that may convey infection and their immediate exclusion obviates any necessity for closure of a school, even when the disease is diphtheria or scarlet fever.

The school health officer is required to make a rapid inspection of all children upon the opening of the school term and at the opening of the session after the Christmas holidays, in order to detect the presence of any communicable disease in pupils or evidences of a recent attack in any of those seeking admission.

All cases of communicable disease are excluded from school. The health officer notifies the principal in writing, giving the name, address,

and schoolroom of pupil. The child is sent home with an exclusion card to the parents. This gives the disease with which the child is suffering and states that he must not be allowed to attend school until the case has been released by the health officer. A notification card properly filled out must be sent to the bureau.

If two or more cases of diphtheria occur in a given school in one week, if the pupils were in school with sore throat, or if two or more cases attended the same room, cultures are made from the throats and noses of all the pupils in the suspected class room. Any absentees from the room must not be readmitted to school until cultures have been taken. When two cases of scarlet fever are reported from a particular school in one week, the health officer examines daily for seven days all pupils in the class room attended by these patients. The principal must also be cautioned to be on the alert to detect any mild case of scarlet fever that might occur.

Exclusion of contacts.—The exclusion of contacts in households where cases of communicable diseases have occurred and are under treatment have already been considered, but in this connection it is necessary to give the procedure followed where a case is found in a schoolroom. When a pupil in a classroom is found suffering with measles, mumps, whooping cough, chicken pox, or German measles, all the other children in that room, susceptible to the disease, are termed "contacts" and are excluded from school in the following manner:

Disease.	Length of time permitted to attend school after date of exposure.	Period of exclusion from school.
Measles	One week	Ten days.
Whooping cough	do	Two weeks.
Mumps	Two weeks	One week.
Chicken-pox	Ten days	Do.
German measles	Two weeks	Do.

When a pupil is found sick with diphtheria or scarlet fever in a schoolroom and the exposure is sufficient to warrant it the pupils in the room are dismissed and the room is disinfected.

A study of the procedure followed in the diseases enumerated above shows that the pupils exposed to possible infection are allowed to remain at school so long as is deemed absolutely safe and are then excluded for a period covering that during which the child would develop the disease in event infection had been contracted.

This plan of exclusion is a safe one, but the question arises whether it is necessary, especially when the exposure has been slight and in view of the fact that both a health officer and a nurse make daily visits to the school and could examine all these susceptible contacts

before they were allowed to go to their classroom. Furthermore, if the occurrence of contact cases in C quarantine (6.17 per cent) is taken for comparative purposes, it is easy to surmise that the occurrence of secondary cases, where the exposure has been for such a short period, will be rare, rather the exception than the rule, and these could be detected by the health officer and any spread of infection prevented. Children absent from school for two or more consecutive days are not allowed in the classroom until inspected by the health officer, and every pupil suspected of having a communicable disease is sent to the consultation room by the teacher or nurse for inspection and this procedure is followed daily. In the majority of such instances, therefore, the time of exposure from contact with such a case would be short.

This exclusion causes much dissatisfaction among the parents and in some instances among the teachers, and it is believed that the friction could be obviated, the child allowed to continue at school, and a satisfactory control of possible infection effected by a daily inspection of these contacts by the health officer during the period when they would at present be excluded from school. The pupils should immediately be sent to the consultation room and wait for inspection before being allowed to enter classrooms or mingle with other children. An exception to the procedure suggested might be made in cases of measles, especially if the history of the case showed that the pupil had been attending school for one or more days during the catarrhal stage of the disease and that there had been intimate contact with other pupils in the classroom during this period.

The department has taken such an important step in its classification of quarantines, mitigating the detention of contacts and breadwinners, that its progressive policy should be further extended and consideration given to this subject of exclusion.

Duties of school health officers.—In addition to the general inspection given at the commencement of the school term and the session after the holidays, the health officer is required to visit all the schools in his district daily, reaching the first school at 9.15 a. m. and finishing his work at the last school at 12 noon. He is a part-time employee and is required to give only three hours' service daily.

Health officers must prepare and submit to the division office a schedule of their work, giving the time of their visit at each school in their district. They must also inform the principal of each school of the approximate time at which the school will be visited for the purpose of inspecting for communicable diseases. The schedule is so arranged that the physical examinations and vaccinations are made at the last school visited. When all the physicals are finished in one school, the schedule is changed so that this particular work can be carried out in another school.

Physical examinations.—In so far as possible physicals are made of all pupils in the third, fifth, and seventh grades. This important work is handicapped by the necessity of securing the parent's consent, and varies in the different schools in accordance with the active cooperation of the principals, the intelligence of the parents, and the ability of the field-nurse in convincing the children and their parents that there is no exposure of the person and that it is of vital importance to determine if there is any defect that impairs the child's health and progress in studies. Much also depends upon the personality of the health officer in securing the cooperation of the principal and teachers.

The number of physical examinations varies from practically none in some of the parochial schools to 75 per cent in some of the public schools. At present these examinations are made on only about one-half of the children in attendance, but steady progress is being made and each year shows an improvement; this is especially true in parochial schools as in many of them there has developed a spirit of cooperation.

It is the duty of the field nurse to distribute the parents' consent cards to the pupils in advance of the date set for the commencement of physicals, and to endeavor to have as many signed as possible. No physical examination of a pupil is made unless the parents give their consent by signing the card.

The health officer is required to make 50 physical examinations a week, except when busy with vaccinations or culturing the pupils of a room. A record card is prepared for each pupil upon whom a physical is made and the following data are filled in: Name, age at examination, age at starting school, years in school, height, weight, and notation of any disease or defect found. Upon subsequent examinations all pertinent data are added. These cards are filed alphabetically in a cabinet kept at the school. When the examination shows marked defects or serious diseases and a more thorough examination is deemed necessary, the consent of the parents must be secured for a special examination.

When the diseased conditions present are of sufficient gravity to require treatment, the health officer issues a card to the parents stating that the child is in need of medical attention and should be taken to the family physician or a dispensary for this purpose, and with this notice a card is inclosed for the physician to sign and return when the child has been placed under his treatment, so that the health officer will be properly advised. A duplicate of the card sent to the parent is given the nurse.

Vaccination.—At the beginning of the fall term parents' consent cards are distributed, and commencing October 15 the health officer begins the vaccination of all children for whom consent cards have

been procured. All such cards are sent to the department and all refusal cards are dated and filed alphabetically in the cabinet at the school. These children are vaccinated whenever smallpox is sufficiently prevalent to make general vaccination advisable.

Reports.—The health officer sends to the bureau in the first morning mail a report of all the work performed by him during the preceding day. This embraces all examinations made, number of physicals, vaccinations, diseases found and excluded, including all pertinent data in exclusion cases. This will also include the schools visited and the time spent at each.

Consultation day.—The health officers of a designated group of schools meet once a month for the purpose of considering the more complex and serious cases. The supervisors of the section, the field nurses, and, if possible, the teachers and parents also attend. At these meetings special methods of procedure and the general scope of the work are discussed.

Supervising health officers.—These employees are part-time and are required to be on duty the same number of hours as specified for health officers. They exercise general supervision over the work of the health officers and the field nurses; investigate complaints of inefficiency and neglect of duty on the part of employees of the division; arrange meetings with principals and teachers and take up for consideration the activities of the health department in relation to school work; endeavor to secure cooperation for the inspection and physical examination of children in certain schools in which the health officer has failed to obtain satisfactory results; and perform any special investigations assigned by the chief of the division.

DENTAL SERVICE AND DENTAL DISPENSARIES.

In recent years the benefits of the medical inspection of school children have been supplemented by the creation of a dental service and the establishment of 10 dental dispensaries where indigent children can secure free treatment. Formerly the inspection for dental defects was made by a volunteer corps of dentists, but when the parents' consent card was made a necessary preliminary, that procedure was no longer feasible, and such inspections are now made by the health officer in connection with the regular physical examinations.

When carious teeth in urgent need of treatment are found, the regular notice card is sent to the parents and a duplicate furnished the nurse. If the parents request that the child be treated at one of the school dental dispensaries, the nurse visits the home and ascertains whether the parents are able to pay, and if so the child is not granted treatment at the dispensary. In other cases a proper card is made out and the nurse arranges an appointment with the surgeon in charge

of the nearest dental dispensary. She takes the children to the dispensary and assists the dentist in his work. When the group is finished, she escorts the children to their school. Little difficulty is experienced in securing parents' consent for dental treatments, and the service has to be safeguarded against abuse. Even in caring for indigent cases there is sufficient work to keep more than double the present number of dispensaries fully occupied.

Supervising dentist.—The general duties of this employee duplicate those of other supervisors in relation to the particular activity in their province. He supervises the work of the dental surgeons, the condition of the dispensaries, gives instruction to employees entering the service, and makes such investigations and regular reports as are required of supervisors. He is part-time, being on duty from 9.15 a. m. to 12 noon.

Dental surgeons.—There are 10 dental surgeons employed in the service, each in charge of one of the dispensaries, which are located in school buildings in different sections of the city. These employees are full-time, and are on duty from 9 to 12 a. m. and 12.30 to 3.30 p. m. on every day the schools are open during the school year.

They receive for treatment the children referred to them by the health officers, and as the work progresses they fill out a dispensary record in triplicate for each child. On completion of the work the original is transmitted to the health department, the duplicate returned with the inspection slip to the school from which the patient was received, and the triplicate filed in the dispensary.

Other duties are the custody and care of property and materials, reports of contagious diseases or serious physical defects that come under their observation in their school clinics, and the forwarding of the required reports.

NURSING SERVICE.

Superintendent of nurses.—The nursing service is under the direction of a superintendent of nurses, who is empowered, subject to the approval of the division chief, with the necessary authority over the field nursing force to carry out such procedures as are essential for the proper performance of the work. She assigns the field nurses to such districts or special work as is deemed best, but in cases of radical departure from established usages or general plans of assignment the approval of the chief of the division must be secured.

Other duties of the superintendent are the arrangement for lectures and demonstrations pertaining to nursing and social welfare work, investigation and recommendations for improving the efficiency of the work, and the preparation of the required records and reports.

Supervising field nurses.—There are 5 of these employees, each in charge of a district that embraces the activities of 20 or more field

nurses. These supervisors are required to visit one or more schools each day and devote as much time to the work as is required of the field nurse under their supervision. They check up the efficiency of the nurses, investigate reasons for lack of cooperation of the nurse, health officer, and principal, and endeavor to secure cooperation of the parochial schools. They also furnish instructions to nurses recently entering the service and review the schedule of work submitted by field nurses and see that it corresponds to that of the health officer in a way to conserve the nurses' time to the best advantage.

Field nurses.—One hundred and five field nurses are employed, of whom 99 are assigned to school health officers' districts for work in connection with the schools, 2 to infant welfare stations, and 5 are engaged on special assignments and relief work.

The nurses submit a schedule of their work, which must be approved by the supervisors and the superintendent. The hours of work in the different schools in their district are so arranged that the nurses will be present to assist the health officers in physical examinations, vaccinations, and inspections, and they are required to make an inspection of all the children in schools assigned to them once in three months.

They furnish emergency dressings for cuts, burns, and abrasions, and treat minor contagious skin diseases, as favus, ringworm, scabies, and impetigo. They also apply proper treatment for pediculosis.

One of the important duties of the nurse is to follow up cases in which treatment has been advised for remedying serious defects and the parents have been urged to have the family physician institute treatment. When a physician can not be employed and consent is gained for having the child taken to a dispensary, the nurse accompanies the child. After regular school hours each day and on Saturday forenoons, the time not reserved for instructions and demonstrations is utilized for following up in the homes the care received by children under treatment.

Another duty of the field nurse is to investigate cases of absence from school, in which the history justifies the suspicion of a communicable disease. When a suspected case of measles is excluded from school, the nurse visits the home the same day and instructs the parents to isolate the child; a second visit is made in three days, and if the case has sufficiently developed to warrant it, a report is made to the bureau of a suspected case of measles.

INFANT WELFARE SERVICE.

The city of Chicago is distinctly backward in providing adequate funds for this important activity and most of the work accomplished is performed through the agency of the infant welfare society and by funds contributed by public-spirited citizens.

The plan of work carried out may be outlined as follows:

A. Health department:
   1. Prevention—Finding the babies and advising mothers in the proper care to be exercised to keep the baby well.
B. Other agencies—Prevention and remedial:
   1. (*a*) Infant welfare society.
   2. Remedial—
      (*a*) County physicians.
      (*b*) Visiting nurses association.
   3. Curative—
      (*a*) Tents.
      (*b*) Dispensaries.
      (*c*) Sanitaria.
      (*d*) Hospitals.
   4. Auxiliary—
      (*a*) County agents.
      (*b*) United charities.
      (*c*) Women's clubs.

Health department.—The infant welfare work which the health department can conduct is small on account of inability to secure appropriations for this purpose. The amount available for this activity in 1914 was only $6,000, and the sum appropriated for 1915 is only a slight increase—$7,240. The funds available allow only for the operation of four stations in summer and two in winter, although it is now contemplated to maintain three stations throughout the year. At conferences held three afternoons a week, children are examined, changes in condition noted, and instructions given to the parents in the proper dressing and feeding of their infants. The personnel of a station comprises a physician who is on duty during the hours of conference and subject to call to administer treatments in emergency cases, a trained nurse, and a woman attendant. The nurse follows up the children in their homes, and instructs the mother in bathing and clothing the child and in the method of preparing modified milk when this is used in feeding the infant.

During July and August the field nurses employed in connection with schools are assigned to this work. Six substations are created, each in charge of a supervising nurse, and 72 districts are formed, grouped in relation to the substations, and nurses are assigned to each. The ability to place this number of nurses in the field during the hot months when infant welfare work is most urgent, results in a large extension of such activity and is productive of much good. The infant mortality in such districts is 17 per cent less than in those of even better grade but in which infant welfare work is not carried out.

In this general canvass the cases found requiring care and attention are referred mainly to the stations operated by the infant welfare society, the visiting nurses association, or the health department, and

those in need of medical attention are referred to the county physicians, dispensaries, or hospitals.

A record card in triplicate is made for each child visited, the original being sent to the department, the duplicate to the nearest station of the infant welfare society, and the third retained by the nurse as her record.

As the majority of cases requiring welfare work occurs among the poor in crowded tenements, with insanitary surroundings, and since the milk supply furnishing the baby's food is also an important factor, it is evident that the health department is the proper agency to carry out this work. It has jurisdiction over the insanitary conditions and the milk supply, and is thereby in a better strategic position to handle welfare work from more than one angle.

The department should be supplied with ample funds to enable it to execute this work satisfactorily, with merely supplemental support from private charities; but a start has been made, and future appropriations may furnish the means for greater activities.

The following statement is given to show what was accomplished by the health department under such limitations during 1914:

New cases investigated (children under 2 years)	22,216
Revisits made	52,089
Cases of sickness found (under 2 years)	1,388
As follows:	
Acute enteritis	245
Chronic enteritis	27
Marasmus	6
Rickets	84
Bronchitis and pneumonia	71
Skin diseases	573
Sore eyes	20
Not classified	362

The following statistics from the health department reports on food for babies may be of interest:

	Healthy.	Sick.	Total.
Breast fed	9,234	447	9,681
Mixed feeding	6,637	586	7,223
Artificial feeding	4,957	355	5,312
Cow's milk, raw	6,349	184	6,533
Cow's milk, pasteurized	2,702	85	2,787

Infant Welfare Society.—Most of the work accomplished in looking after the welfare of infants is performed by the employees of this society. It is a private organization supported by voluntary subscriptions and by its steady growth has reached a stage at which much important work relative to the conservation of the health of children is carried out. The society maintains and operates 21 stations, at

which conferences are held twice or three times a week. The aim is to prevent sickness, and only well babies are received; those found sick are reported to the county physician or referred to the dispensaries and hospitals. The mother brings her baby to the station, the child is examined, and instructions are given the mother concerning general hygiene and proper feeding of the child. The nurse attached to the station follows up the case in the home and teaches the mother in all matters pertaining to the daily life of the infant; dress, bathing, fresh air, and preparation of food. The mother is required to report at the station at proper intervals, and the progress of the child is noted.

The principal aim is to prevent sickness and deaths in the infantile population among the poor, but a more remote effect is the education of the mother and older sisters in the proper care of infants. This general educational work of the nurse is of incalculable value to the ignorant mother.

The growth of this organization during a period of four years is shown as follows:

Year.	Number of stations.	Number of nurses.	Number of babies cared for.	Number of visits.
1911	10	10	2,129	16,706
1912	12	12	3,423	35,528
1913	13	13	3,678	41,647
1914	21	23	6,803	[1] 48,572

[1] For first 10 months.

Though considerable work is being done for the welfare of the infants, there is need for more stations, nurses, fresh-air sanatoria, and dispensaries.

Each of the agencies engaged in welfare work has a distinctive label, and when calls have been made at a home it is affixed to the door of the house. This shows that the premises have already been visited by the particular agency and in this way duplication of work, is avoided.

Little mothers' clubs.—Another agency that will have a future bearing on welfare work is the little mothers' clubs, formed in the public schools with members from the sixth, seventh, and eighth grades. Instructions are given one hour a week for twelve weeks by a field nurse. The subjects taught embrace home sanitation, care of the baby in summer, feeding, bathing, and dressing the baby, signs of illness in the baby, and milk modification.

County Physicians.

Although the county physicians are in no way under the control of the health department, the intimate connection between them and certain activities of the bureau of medical inspection necessi-

tates a brief mention. The indigent sick are referred to them for treatment, and in order that their services may be readily available 17 districts have been created, with a county physician stationed in each.

Administration of Bureau.

The bureau of medical inspection is well organized for the different sorts of work performed, and more actual supervision is carried out in this bureau than in any other in the department.

The assistant bureau chiefs have been very wisely intrusted with the general management of their divisions and the direction of the work performed, and they have authority to decide all routine matters.

One of the most important steps taken in increasing the efficiency of the contagious-disease division is the employment of full-time supervisors in checking the work performed by the health and quarantine officers. A study made of the work of all these employees showed that it was promptly and well executed, that this division is keenly alive to its responsibilities, and that it is satisfactorily organized for efficient and thorough work.

The work of the division of child hygiene is to a large extent in a formative stage, but steady progress is shown by a study of past and present results. The work was examined in a number of districts, embracing that of the various activities, and it may be stated that the organization is adequate for the amount of work it is now possible to do. However, when an increase occurs through more active cooperation of the schools, as a result of the educational propaganda, the necessity for full-time supervisors in this division will arise.

Bureau's activities in 1914.

Some of the important activities of the bureau during 1914 are shown below:

Division of contagious diseases:

Number of cases reported—

Typhoid fever	1,181
Smallpox	70
Chicken-pox	3,735
Measles	4,391
German measles	341
Scarlet fever	3,518
Whooping cough	5,317
Diphtheria	7,071
Diphtheria carriers	2,608
Streptococcus sore throat	705
Erysipelas	782
Mumps	2,459
Rabies	4
Tuberculosis—all forms	10,009
Ophthalmia neonatorum	30

Division of contagious diseases—Continued.	
Number of cases reported—Continued.	
Cerebrospinal fever	99
Infantile paralysis	53
Pneumonia	6,422
Quarantine and disinfection:	
Premises placarded	21,321
Quarantine visits	51,711
Premises disinfected	11,502
Rooms disinfected	33,283
Inspections of contagious diseases	23,303
Inspections, suspected contagious diseases	10,189
Throat cultures made	37,331
Visits for diagnostic cultures	1,018
Visits for contact cultures	2,795
Visits for terminal cultures	12,224
Vaccinations—smallpox	53,302
Field calls by health officers	50,072
Division of child hygiene:	
Total visits to schools	81,299
Pupils inspected (preliminary, 301,547)	987,056
Contagious disease cases found	53,099
Pupils excluded from school	13,777
Pupils examined (physical)	75,476
Pupils found with defects	45,176
Pupils advised to seek treatment	35,425
Pupils examined for dental defects	15,598
Pupils found with dental defects	13,586
Total dental treatments given	55,625
Total fillings	21,905
Crown and bridge work	19
Extractions	19,823
Work of field nurses:	
Total school visits	55,214
Total inspections and reinspections of school children	696,739
Total cases of contagious diseases found	6,132
Number of suspects referred to department	2,336
Number of routine inspections made	303,567
Total school dressings	242,892
Total emergency dressings	32,702
Total children referred for treatment	76,867
Total home treatments	1,809
Total pupils taken for treatment to dispensaries, etc	21,943
Total calls for instruction on physical defects	78,028
Total calls other than teeth and fitting of eyeglasses	1,278
Total pupils' eyeglasses fitted	1,826
Total field calls	95,175

[This article will be continued in a subsequent issue.]

PLAGUE-PREVENTION WORK.

CALIFORNIA.

The following report of plague-prevention work in California for the week ended July 31, 1915, was received from Senior Surg. Pierce, of the United States Public Health Service, in charge of the work:

SAN FRANCISCO, CAL.

RAT PROOFING.

New buildings:	
Inspections of work under construction	122
Basements concreted (23,750 square feet)	38
Floors concreted (15,033 square feet)	9
Yards, passageways, etc. (11,178 square feet)	54
Total area of concrete laid (square feet)	49,961
Classes A, B, and C (fireproof) buildings:	
Inspections made	202
Roof and basement ventilators, etc., screened	5,380
Wire screening used (square feet)	26,020
Openings around pipes, etc., closed with cement	8,811
Sidewalk lens lights replaced	720
Old buildings:	
Inspections made	330
Wooden floors removed	27
Yards and passageways, planking removed	20

SAN FRANCISCO, CAL.—Continued.

RAT PROOFING—continued.

Old buildings—Continued.	
Cubic feet new foundation walls installed	5,661
Concrete floors installed (72,706 square feet)	40
Basements concreted (55,545 square feet)	32
Yards and passageways, etc., concreted (53,769 square feet)	72
Total area concrete laid (square feet)	182,020
Floors rat proofed with wire cloth (3,100 square feet)	2
Buildings razed	13
New garbage cans stamped approved	762
Nuisances abated	311

OPERATIONS ON THE WATER FRONT.

Vessels inspected for rat guards	21
Reinspections made on vessels	23
New rat guards procured	12
Defective rat guards repaired	7
Vessels on which cargo was inspected	1

Amount of cargo inspected and description of same.	Condition.	Rat evidence.
Steamer Congress from Seattle:		
30 bundles rags	O. K.	None.
212 cases salmon, cheese, bacon, milk, and household goods	O. K.	None.
500 sacks flour, wheat, and corn	O. K.	None.

Rats trapped on wharves and water front	38
Rats trapped on vessels	10
Traps set on wharves and water front	175
Traps set on vessels	44
Vessels trapped on	10
Poisons placed on water front (pieces)	3,600
Poisons placed within Panama-Pacific International Exposition grounds (pieces)	7,200
Bait used on water front and vessels, bacon (pounds)	6
Amount of bread used in poisoning water front (loaves)	12
Pounds of poison used on water front	6

RATS COLLECTED AND EXAMINED FOR PLAGUE.

San Francisco:	
Collected	403
Examined	329
Found infected	0
Contra Costa County:	
Collected	5
Examined	5
Found infected	0

SQUIRRELS COLLECTED AND EXAMINED FOR PLAGUE.

Contra Costa County	1,075
Alameda County	309
San Benito County	302
Monterey County	92
Stanislaus County	18
Total	1,796
Found infected	6

OTHER ANIMALS COLLECTED AND EXAMINED.

San Benito County	1 rabbit.
Found infected	None.

RANCHES INSPECTED AND HUNTED OVER.

Contra Costa County	86
Alameda County	47
San Benito County	34
Monterey County	17
Stanislaus County	2
Total	186

PLAGUE-INFECTED SQUIRRELS.

San Benito County:
Found dead July 12, 1915. L. J. Abrams ranch, 8 miles southwest of Llanada. Sec. 31, T. 16 S., R. 11 E..... 2
Found dead July 15, 1915. L. J. Abrams ranch, 9 miles southwest of Llanada. Sec. 5, T. 17 S., R. 11 E..... 2

PLAGUE-INFECTED SQUIRRELS—Continued.

Contra Costa County:
Shot July 19, 1915. J. McCusker ranch, 8 miles southwest of Lafayette, P. W. Co. Sec. 16, T. 1 S., R. 3 W..... 1
Alameda County:
Shot July 12, 1915. Peoples Water Co., plot O, southwest of Grizzly Peak..... 1

Record of plague infection.

Places in California.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number rodents found infected since May, 1907.
Cities:				
San Francisco	Jan. 30, 1908	Oct. 23, 1908	(1)	398 rats.
Oakland	Aug. 9, 1911	Dec. 1, 1908	(1)	126 rats.
Berkeley	Aug. 28, 1907	(1)	(1)	None.
Los Angeles	Aug. 11, 1908	(1)	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).	Sept. 21, 1909	Oct. 17, 1909[2]	July 12, 1915	287 squirrels, 1 wood rat.
Contra Costa	July 13, 1915	(1)	July 19, 1915	1,573 squirrels.
Fresno	(1)	(1)	Oct. 27, 1911	1 squirrel.
Merced	(1)	(1)	July 12, 1911	5 squirrels.
Monterey	(1)	(1)	Apr. 10, 1914	6 squirrels.
San Benito	June 4, 1913	(1)	July 15, 1915	47 squirrels.
San Joaquin	Sept. 18, 1911	(1)	Aug. 26, 1911	18 squirrels.
San Luis Obispo	(1)	(1)	Jan. 29, 1910	1 squirrel.
Santa Clara	Aug. 31, 1910	(1)	July 23, 1913	25 squirrels.
Santa Cruz	(1)	(1)	May 17, 1910	3 squirrels.
Stanislaus	(1)	(1)	June 2, 1911	13 squirrels.

[1] None. [2] Wood rat.

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Stanislaus, San Benito, and Monterey.

LOUISIANA—NEW ORLEANS—PLAGUE ERADICATION.

The following report of plague-eradication work at New Orleans for the week ended August 7, 1915, was received from Passed Asst. Surg. Simpson, of the United States Public Health Service, in temporary charge of the work:

OUTGOING QUARANTINE.

Vessels fumigated with sulphur	13
Vessels fumigated with carbon monoxide	11
Vessels fumigated with hydrocyanic gas	1
Pounds of sulphur used	3,087
Coke consumed in carbon monoxide fumigation (pounds)	17,200
Pounds of potassium cyanide used in hydrocyanic-gas fumigation	102
Pounds of sodium carbonate used in hydrocyanic-gas fumigation	120
Pounds of sulphuric acid used in hydrocyanic-gas fumigation	104
Clean bills of health issued	35
Foul bills of health issued	4

FIELD OPERATIONS.

Rats trapped	5,465
Premises inspected	11,534
Notices served	3,591
Garbage cans installed	230

BUILDINGS RAT PROOFED.

By elevation	174
By marginal concrete wall	276
By concrete floor and wall	175
By minor repairs	247
Total buildings rat proofed	872
Square yards of concrete laid	10,877
Number lots and sheds, planking removed	126
Number of buildings demolished	161
Total buildings rat proofed to date (abated)	93,220

LABORATORY OPERATIONS.

Rodents received by species:	
Mus rattus	240
Mus norvegicus	1,369
Mus alexandrinus	140
Mus musculus	3,657
Wood rats	44
Muskrats	43
Putrid (included in enumeration of species)	65

LABORATORY OPERATIONS—continued.

Total rodents received at laboratory	5,493
Rodents examined	1,980
Number of suspicious rats	3
Plague rats confirmed	None.
Number of human plague cases	None.
Last case of human plague, Oct. 4, 1914.	
Last case of rodent plague, July 20, 1915.	
Total number of rodents captured to Aug. 7	407,885
Total number of rodents examined to Aug. 7	275,151

LABORATORY OPERATIONS—continued.

Total cases of rodent plague to Aug. 7, by species:	
Mus musculus	4
Mus alexandrinus	8
Mus rattus	16
Mus norvegicus	218
Total rodent cases to Aug. 7, 1915	246

WASHINGTON—SEATTLE—PLAGUE ERADICATION.

The following reports of plague-eradication work at Seattle were received from Surg. Lloyd, of the United States Public Health Service, in charge of the work:

WEEK ENDED JULY 24, 1915.

RAT PROOFING.

New buildings inspected	22
New buildings reinspected	5
Basements concreted, new buildings (16,329 square feet)	11
Floors concreted, new buildings (37,750 square feet)	8
Yards, etc., concreted, new structures (1,326 square feet)	6
Sidewalks concreted (square feet)	9,675
Total concrete laid, new structures (square feet)	65,080
New buildings elevated	2
New premises rat proofed, concrete	19
Old buildings inspected	3
Premises rat proofed, concrete, old building.	1
Floors concreted, old buildings (2,760 square feet)	1
Premises otherwise rat proofed, old buildings	2
Openings screened, old buildings	24
Rat holes cemented, old buildings	19
Wooden floors removed, old buildings	1
Wire screening used	750

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	7
Rodents trapped and killed	295
Rodents recovered after fumigation	67
Total	369
Rodents examined for plague infection	239
Rodents proven plague infected	0
Poison distributed, pounds	18
Bodies examined for plague infection	2
Bodies found plague infected	0

CLASSIFICATION OF RODENTS.

Mus rattus	32
Mus alexandrinus	45
Mus norvegicus	212
Mus musculus	58
Unclassified	22

WATER FRONT.

Vessels inspected and histories recorded	8
Vessels fumigated	3
Sulphur used, pounds	5,480
New rat guards installed	11
Defective rat guards repaired	7
Fumigation certificates issued	3
Port sanitary statements issued	68

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

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	16
Letters sent in re rat complaints	9
Lectures delivered on sanitary subjects	1

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	36
Mus norvegicus found dead	0
Mus rattus trapped	1
Mus musculus trapped	12
Total	49
Rodents examined for plague infection	43
Rodents proven plague infected	0

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	4
New buildings, concrete foundations	4

WEEK ENDED JULY 31, 1915.

RAT PROOFING.

New buildings inspected	18
New buildings reinspected	9
Basements concreted, new buildings, 17,550 square feet	14

RAT PROOFING—Continued.

Floors concreted, new buildings, 38,750 square feet	10
Yards, etc., concreted, new structures, 2,175 square feet	4

RAT PROOFING—continued.

Sidewalks concreted, 26,475 square feet.	
Total concrete laid, new structures, 84,950 square feet.	
New buildings elevated	3
New premises rat proofed, concrete	24
Old buildings inspected	3
Premises otherwise rat proofed, old buildings	3
Openings screened, old buildings	17
Rat holes cemented, old buildings	34
Doors rat proofed, old buildings	2
Wire screening used	650

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	6
Rodents trapped and killed	366
Rodents recovered after fumigation	45
Total	417
Rodents examined for plague infection	288
Rodents proven plague infected	1
Poison distributed, pounds	13

CLASSIFICATION OF RODENTS.

Mus rattus	53
Mus alexandrinus	75
Mus musculus	86
Mus norvegicus	203

WATER FRONT.

Vessels inspected and histories recorded	9
Vessels fumigated	2
Sulphur used, pounds	3,100

WATER FRONT—continued.

New rat guards installed	16
Defective rat guards repaired	9
Fumigation certificates issued	2
Port sanitary statements issued	49

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

MISCELLANEOUS WORK.

Rat proofing notices sent to contractors, new buildings	16
Letters sent in re rat complaints	4

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	33
Mus norvegicus found dead	3
Mus musculus trapped	3
Mus alexandrinus trapped	3
Total	42
Rodents examined for plague infection	39
Rodents proven plague infected	0

RAT PROOFING OPERATIONS IN EVERETT.

New buildings inspected	5
New buildings, concrete foundations	4
New buildings elevated 18 inches	1
New buildings, basements concreted, 2,368 square feet	4
New buildings, yards concreted, 932 square feet	4
Total concrete laid, new buildings, 3,300 square feet.	

HAWAII—PLAGUE PREVENTION.

The following reports of plague-prevention work in Hawaii were received from Surg. Trotter, of the United States Public Health Service:

Honolulu.

WEEK ENDED JULY 24, 1915.

Total rats and mongoose taken	342
Rats trapped	306
Mongoose trapped	15
Rats found dead (mus alexandrinus)	1
Examined microscopically	288
Showing plague infection	0
Classification of rats trapped:	
Mus alexandrinus	167
Mus musculus	52
Mus norvegicus	77
Mus rattus	10
Classification of rats killed by sulphur dioxide:	
Mus norvegicus	6
Classification of rats killed by sulphur dioxide—Continued.	
Mus rattus	13
Mus alexandrinus	1
Average number of traps set daily	984
Cost per rat destroyed ..... cents	22½
Last case rat plague, Aiea, 9 miles from Honolulu, April 12, 1910.	
Last case human plague, Honolulu, July 12, 1910.	
Last case rat plague, Kalopa stable, Paauhau, Hawaii, August 29, 1914.	
Last case human plague, Paauhau landing, Hawaii, June 29, 1915.	

Hilo.

WEEK ENDED JULY 17, 1915.

Rats and mongoose taken	2,463
Rats trapped	2,421
Rats found dead	5
Mongoose taken	37
Rats and mongoose examined macroscopically	2,463

Rats and mongoose plague infected	0
Classification of rats trapped and found dead:	
Mus norvegicus	620
Mus alexandrinus	294
Mus rattus	713
Mus musculus	799

Last case of rat plague, Paauhau Sugar Co. Aug. 29, 1914.

Last case of human plague, Paauhau Sugar Co., Aug. 16, 1914.

PREVALENCE OF DISEASE.

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

IN CERTAIN STATES AND CITIES.

CEREBROSPINAL MENINGITIS.

Kansas—Wyandotte County.

Collaborating Epidemiologist Crumbine reported that during the week ended July 31, 1915, one case of cerebrospinal meningitis was notified in Wyandotte County, Kans.

State Reports for July, 1915.

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Maryland—Continued.	
Baltimore City	6	Somerset County—	
Anne Arundel County—		Marumsco	1
Camp Parole	1	Crisfield, R. F. D	1
Annapolis	1		
Fairfield	1	Total	10
Baltimore County—			
Catonsville	1	Wisconsin:	
Frederick County—		Juneau County	1
Frederick	1	Manitowoc County	1
Garrett County—		Milwaukee County	4
Mountain Lake Park	1		
Howard County—		Total	6
Savage	1		
St. Marys County—			
Palmers	1		

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio		1	Kansas City, Kans	1	1
Boston, Mass	1	1	Milwaukee, Wis	1	1
Buffalo, N. Y		1	Muscatine, Iowa	1	
Cincinnati, Ohio	1		New York, N. Y	2	4
Cleveland, Ohio	1		Philadelphia, Pa	2	2
Davenport, Iowa		1	Providence, R. I	1	1
Detroit, Mich	1		Schenectady, N. Y	1	
Dubuque, Iowa		2	West Hoboken, N. J		1

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2500.

ERYSIPELAS.

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Bridgeport, Conn.	1		Pasadena, Cal.		1
Buffalo, N. Y.	3		Passaic, N. J.	1	
Chicago, Ill.	16	4	Philadelphia, Pa.	2	
Cincinnati, Ohio.	4		Pittsburgh, Pa.	5	1
Cleveland, Ohio.	1		Portland, Oreg.	2	
Clinton, Mass.	1		Richmond, Va.		1
Detroit, Mich.	3		Rochester, N. Y.	1	
Harrisburg, Pa.	1		St. Louis, Mo.		2
Kalamazoo, Mich.	1		San Francisco, Cal.	1	1
Los Angeles, Cal.	3		Seattle, Wash.	1	
New Orleans, La.		1	Steubenville, Ohio.	1	
New York, N. Y.		4			

GONORRHEA.

Wisconsin Report for July, 1915.

During the month of July, 1915, 7 cases of gonorrhea were notified in the State of Wisconsin.

MALARIA.

Maryland Report for July, 1915.

During the month of July, 1915, 8 cases of malaria were notified in the State of Maryland.

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass.	3		Mobile, Ala.		1
Brockton, Mass.	1		Montclair, N. J.	1	
Chicopee, Mass.	1		Newark, N. J.	2	
Cleveland, Ohio.	1		Sacramento, Cal.	2	

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2500.

PELLAGRA.

Kansas.

Collaborating Epidemiologist Crumbine reported that during the week ended July 31, 1915, cases of pellagra were notified in counties of Kansas as follows: Allen, 1; Dickinson, 1; Linn, 1; Shawnee, 2.

PELLAGRA—Continued.

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass	2	.....	Northampton, Mass	1	1
Charleston, S. C	.....	4	Richmond, Va	5	1
Lynchburg, Va	7	1	Taunton, Mass	1	.....
Nashville, Tenn	18	1	Wilmington, N. C	.....	2
New Orleans, La	2	3			

PNEUMONIA.

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Binghamton, N. Y	2	2	Norristown, Pa	1	.....
Butte, Mont	1	1	Philadelphia, Pa	9	7
Chicago, Ill	49	28	Pittsburgh, Pa	5	5
Cleveland, Ohio	14	6	Salt Lake City, Utah	1	1
Fall River, Mass	2	2	San Francisco, Cal	1	1
Kalamazoo, Mich	1	1	South Bethlehem, Pa	1	1
Los Angeles, Cal	6	3	Stockton, Cal	2	2
Newark, N. J	3	3			

City Reports for Week Ended July 24, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Binghamton, N. Y	2	2	Newark, N. J	1	1
Chicago, Ill	53	22	Philadelphia, Pa	10	11
Cleveland, Ohio	54	7	Pittsburgh, Pa	7	7
Dayton, Ohio	2	1	Schenectady, N. Y	1	.....
Kalamazoo, Mich	1	.....	South Bethlehem, Pa	1	.....
Los Angeles, Cal	7	5	Stockton, Cal	1	1
Muscatine, Iowa	1	.....			

POLIOMYELITIS (INFANTILE PARALYSIS).

Maryland Report for July, 1915.

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Maryland—Continued.	
Baltimore City	11	Worcester County—	
Baltimore County—		Snow Hill	2
Highlandtown	2		
Cockeysville	1	Total	17
Prince George County—			
Muirkirk	1		

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio	2	1	New York, N. Y	1	.....
Baltimore, Md	2	.....	Richmond, Va	1	.....
Canton, Ohio	2	1	Rochester, N. Y	6	.....
Chicago, Ill	2	.....	San Francisco, Cal	1	.....
Cleveland, Ohio	4	.....	Steubenville, Ohio	1	.....
Jersey City, N. J	1	.....			

RABIES.

City Reports for Week Ended July 31, 1915.

During the week ended July 31, 1915, cases of rabies were notified in cities as follows: Boston, Mass., 1; Chicago, Ill., 1.

ROCKY MOUNTAIN SPOTTED FEVER.

Oregon—Grant County.

During the month of June, 1915, four cases of Rocky Mountain spotted fever were notified in Grant County, Oreg.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2500.

SMALLPOX.

Kansas.

Collaborating Epidemiologist Crumbine reported that during the week ended July 31, 1915, cases of smallpox were notified in counties of Kansas as follows: Crawford, 2; Greenwood, 1; Jefferson, 1; Morris, 3; Sedgwick, 3; Wilson, 2.

Minnesota.

Collaborating Epidemiologist Bracken reported by telegraph that during the week ended August 14, 1915, two new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Lyon County, Fairview Township, 1; McLeod County, Stewart, 1.

State Reports for July, 1915.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Maryland:						
Washington County—						
Sharpsburg	2				2	
Downsville	1				1	
Total	3				3	
Wisconsin:						
Barron County	2				2	
Crawford County	8				8	
Dane County	3				1	2
Dodge County	1				1	
Door County	2				2	
Jefferson County	5				2	3
Manitowoc County	5				5	
Milwaukee County	5					5
Monroe County	1			1		
Racine County	13		4	6	1	2
Sheboygan County	4		2		1	1
Vernon County	7				7	
Waukesha County	3					3
Winnebago County	1					1
Total	60		6	7	30	17

SMALLPOX—Continued.

Oregon Report for June, 1915.

Place.	Cases.	Deaths.
Oregon (June 1-30):		
Clackamas County	3	.....
Clatsop County	4	.....
Multnomah County	2	.....
Portland	30	.....
Total	39	.....

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.	1	.....	Lincoln, Nebr.	2	.....
Butte, Mont.	1	.....	Madison, Wis.	1	.....
Charleston, S. C.	2	.....	Milwaukee, Wis.	2	.....
Chicago, Ill.	1	.....	New Bedford, Mass.	2	.....
Cincinnati, Ohio.	2	.....	New Orleans, La.	1	.....
Cleveland, Ohio.	2	.....	Portland, Oreg.	1	.....
Davenport, Iowa.	9	.....	Racine, Wis.	2	.....
Galesburg, Ill.	2	.....	Rock Island, Ill.	4	.....
Galveston, Tex.	1	.....	Springfield, Ill.	1	.....
Grand Rapids, Mich.	2	.....	Superior, Wis.	3	.....
Kalamazoo, Mich.	1	.....	Tacoma, Wash.	1	.....
Kansas City, Kans.	2	.....			

SYPHILIS.

Wisconsin Report for July, 1915.

During the month of July, 1915, 3 cases of syphilis were notified in the State of Wisconsin.

TETANUS.

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Chicago, Ill.	.....	1	Pittsburgh, Pa.	1	1
Cleveland, Ohio.	1	1	Richmond, Va.	.....	1
Harrison, N. J.	.....	1	St. Louis, Mo.	1	1
Lowell, Mass.	.....	1	Stockton, Cal.	1	.....
New York, N. Y.	.....	1	Yonkers, N. Y.	.....	1
Philadelphia, Pa.	1	.....			

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 2500.

TYPHOID FEVER.

State Reports for July, 1915.

Place.	New cases reported.
Maryland:	
Baltimore City	109
Allegany County—	
Cumberland	14
Westernport	3
Luke	2
Eckhart Mines	1
Anne Arundel County—	
Deale	3
Churchton	2
Germantown, R. F. D.	1
Friendship	1
Shady Side	1
Annapolis, R. F. D.	1
Glenburnie	1
McKendree	1
Elvaton	1
Baltimore County—	
Highlandtown	7
St. Marys Industrial School	3
Riderwood	3
St. Agnes Hospital	3
Mount Winans	2
Lutherville	1
Halethorpe	1
Pikesville	1
Hampden	1
Canton	1
Owings Mills	1
Ilchester, R. F. D.	1
Roland Park	1
Mount Washington	1
Calvert County—	
Chesapeake Beach	2
Willows	1
Sunderland	1
Poplars	1
Carroll County—	
Asbestos	1
Sykesville	1
Harney, R. F. D.	1
Taneytown	1
Sandyville	1
Sykesville, R. F. D.	1
Charles County—	
Bryantown	2
Port Tobacco	1
Bel Alton	1
Berry	1
Bel Alton, R. F. D.	1
Cecil County—	
Port Deposit	1
Dorchester County—	
Cambridge	8
Cambridge, R. F. D.	2
Thomas	1
Hills Point	1
Castlehaven Point	1
Cornersville	1
Bucktown	1
Frederick County—	
Emmitsburg	3
Rocky Ridge	2
Brunswick	2
Frederick	2
Middletown	1
Myersville	1
Ladiesburg, R. F. D.	1
State Sanatorium	1
Detour, R. F. D.	1
Burkittsville	1
Maryland—Continued.	
Garrett County—	
Grantsville	2
Harford County—	
Perryman	7
Fallston	1
Havre de Grace	1
Howard County—	
Mount Airy, R. F. D.	1
Gary	1
Lisbon	1
Montgomery County—	
Damascus	6
Dickerson	2
Silver Spring	1
Germantown	1
Prince Georges County—	
Nottingham	3
Mitchellville	1
Hyattsville	1
Croom, R. F. D.	1
Westwood	1
Cheltenham	1
T. B	1
Suitland	1
Queen Annes County—	
Centreville, R. F. D.	2
Fords Store	2
Love Point	1
Church Hill, R. F. D.	1
Somerset County—	
Marion	5
Princess Anne	2
Crisfield, R. F. D.	1
Rehobeth	1
Dublin	1
Crisfield	1
Talbot County—	
Tilghman	3
Oxford	2
Easton	2
Washington County—	
Hagerstown	4
Wicomico County—	
Salisbury	7
Pittsville, R. F. D.	5
Quantico	1
Salisbury, R. F. D.	1
Worcester County—	
Snow Hill, R. F. D.	3
Pocomoke City	2
Snow Hill	2
Berlin	2
Ocean City	1
Stockton	1
Pocomoke City, R. F. D.	1
Berlin, R. F. D.	1
Total	305
Wisconsin:	
Clark County	1
Columbia County	1
Marathon County	2
Milwaukee County	11
Rock County	1
Sauk County	1
Sheboygan County	2
Total	19

TYPHOID FEVER—Continued.

State Reports for June, 1915—Continued.

Place.	New cases reported.
Hawaii:	
Hawaii—	
Hamakua district	1
Hilo	1
Puna district	1
Kauai—	
Makaweli district	1
Maui—	
Makawao district	1
Puunene and Kihei district	1
Oahu—	
Ewa district	3
Honolulu	2
Koolauloa district	1
Total	12
Oregon:	
Clatsop County	1
Lane County	3
Multnomah County—	
Portland	5
Umatilla County	2
Total	11

City Reports for Week Ended July 31, 1915.

Place.	Cases.	Deaths.
Baltimore, Md	29	6
Berkeley, Cal	2	
Binghamton, N. Y	1	
Boston, Mass	18	
Buffalo, N. Y	7	1
Camden, N. J	1	
Canton, Ohio	1	
Charleston, S. C	7	1
Chicago, Ill	12	3
Cincinnati, Ohio	3	
Cleveland, Ohio	5	1
Columbus, Ohio	10	1
Cumberland, Md	3	
Danville, Ill	2	
Dayton, Ohio	4	
Detroit, Mich	15	4
Everett, Mass	1	
Fall River, Mass		4
Galesburg, Ill	2	
Galveston, Tex	3	2
Grand Rapids, Mich	1	1
Harrisburg, Pa	9	
Hartford, Conn	3	
Haverhill, Mass	2	
Jersey City, N. J	1	
Kalamazoo, Mich	1	1
Knoxville, Tenn	7	
Kokomo, Ind	3	
Lawrence, Mass	2	
Lima, Ohio	2	
Los Angeles, Cal	4	
Lowell, Mass	2	1
Lynchburg, Va	3	
Milwaukee, Wis	2	
Mobile, Ala		3
Montclair, N. J	1	
Nashville, Tenn	19	2
Newark, N. J	2	
New Bedford, Mass	7	
New Haven, Conn	7	2
New Orleans, La	4	
Newton, Mass	3	
New York, N. Y	76	14
North Adams, Mass	1	
Pasadena, Cal	1	
Passaic, N. J	1	
Philadelphia, Pa	14	2
Pittsburgh, Pa	1	1
Pittsfield, Mass	1	
Providence, R. I	3	1
Richmond, Va	15	3
Rochester, N. Y	3	
Sacramento, Cal	1	
Saginaw, Mich	2	1
St. Louis, Mo	5	1
Salt Lake City, Utah	2	1
San Diego, Cal	2	
San Francisco, Cal	4	1
Saratoga Springs, N. Y	1	
Schenectady, N. Y	1	
Seattle, Wash	2	1
South Bethlehem, Pa	1	
Springfield, Ill	3	1
Springfield, Mass	1	
Tacoma, Wash	2	
Toledo, Ohio	19	1
Washington, D. C	7	1
Wilkes-Barre, Pa	2	
Wilmington, N. C	2	
Worcester, Mass	1	
Yonkers, N. Y	3	
York, Pa	1	

TYPHUS FEVER.

Utah—Ogden—Correction.

The report of two cases of typhus fever at Ogden, Utah, published in the Public Health Reports August 13, 1915, page 2402, was an error. The disease in these two cases was typhoid fever.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for July, 1915.

During the month of July, 1915, 96 cases of diphtheria, 215 cases of measles, and 97 cases of scarlet fever were notified in the State of Maryland; and in Wisconsin 68 cases of diphtheria, 209 cases of measles, and 80 cases of scarlet fever were notified.

State Reports for June, 1915.

During the month of June, 1915, 6 cases of diphtheria, 10 cases of measles, and 2 cases of scarlet fever, were notified in the Territory of Hawaii; and in Oregon 25 cases of diphtheria, 99 cases of measles, and 15 cases of scarlet fever were notified.

City Reports for Week Ended July 31, 1915.

City.	Population as of July 1, 1915. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md	584,605	153	13	1	14	.....	13	.....	48	28
Boston, Mass	745,139	222	33	5	43	1	24	.....	50	18
Chicago, Ill	2,447,045	490	73	13	112	6	33	.....	212	62
Cleveland, Ohio	656,975	152	9	.....	42	4	8	.....	30	8
Detroit, Mich	554,717	172	28	.....	7	1	5	.....	39	13
New York, N. Y	5,468,190	1,328	241	22	251	8	61	3	427	137
Philadelphia, Pa	1,683,664	444	30	2	87	4	6	1	93	45
Pittsburgh, Pa	571,984	153	17	1	60	5	23	2	38	10
St. Louis, Mo	745,988	200	20	3	34	1	5	.....	39	11
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	461,335	162	8	1	76	4	8	.....	24	22
Cincinnati, Ohio	406,706	108	11	1	30	2	2	.....	25	20
Jersey City, N. J	309,133	95	4	2	14	3	9	.....	27	11
Los Angeles, Cal	465,367	100	10	2	9	.....	4	.....	31	19
Milwaukee, Wis	428,062	71	5	1	4	.....	4	.....	21	6
Newark, N. J	399,000	102	6	.....	17	1	8	.....	36	17
New Orleans, La	366,484	139	23	.....	.....	.....	.....	.....	28	21
San Francisco, Cal	[1] 416,912	104	13	.....	2	.....	4	.....	37	10
Seattle, Wash	330,834	55	.....	.....	5	.....	.....	.....	12	3
Washington, D. C	358,679	133	3	2	23	.....	3	.....	12	17
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	203,722	62	4	.....	1	.....	4	1	11	9
Portland, Oreg	272,833	21	2	.....	5	.....	1	.....	5	1
Providence, R. I	250,025	66	3	.....	4	.....	4	.....	3	10
Rochester, N. Y	250,747	53	1	.....	8	.....	3	.....	1	2
From 100,000 to 200,000 inhabitants:										
Bridgeport, Conn	118,434	29	3	.....	.....	.....	5	.....	3	.....
Cambridge, Mass	111,669	22	8	.....	8	.....	3	.....	6	5
Camden, N. J	104,349	.....	2	.....	.....	.....	.....	.....	6	.....
Dayton, Ohio	125,500	34	.....	.....	.....	.....	6	.....	6	1
Fall River, Mass	126,904	.....	2	.....	4	.....	.....	.....	2	2
Grand Rapids, Mich	125,759	18	3	.....	1	.....	2	.....	1	.....
Hartford, Conn	108,969	.....	5	1	.....	.....	2	.....	.....	4
Lowell, Mass	112,124	37	5	.....	.....	.....	1	.....	3	2
Lynn, Mass	100,316	20	1	1	3	.....	2	.....	6	1
Nashville, Tenn	115,978	55	.....	.....	.....	.....	2	.....	4	1
New Bedford, Mass	114,694	44	.....	.....	17	.....	.....	.....	6	3
New Haven, Conn	147,095	.....	.....	.....	1	.....	.....	.....	11	1
Oakland, Cal	190,803	.....	1	.....	2	.....	1	.....	5	2
Reading, Pa	105,094	18	1	.....	16	.....	.....	.....	1	3
Richmond, Va	154,674	43	.....	.....	1	.....	1	.....	5	2
Salt Lake City, Utah	113,567	21	6	.....	.....	.....	1	.....	.....	2

[1] Population Apr. 15, 1910; no estimate made.

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

City Reports for Week Ended July 31, 1915—Continued.

City.	Population as of July 1, 1915. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 100,000 to 200,000 inhabitants—Continued.										
Springfield, Mass.	103,216	30	.....	.....	23	.....	.....	.....	6	2
Tacoma, Wash.	108,094	.....	1	.....	.....	.....	1	.....	.....	.....
Toledo, Ohio.	187,840	50	3	2	5	.....	2	.....	29	9
Trenton, N. J.	109,212	45	1	.....	9	.....	.....	.....	12	2
Worcester, Mass.	160,523	42	2	.....	1	.....	2	.....	4	4
From 50,000 to 100,000 inhabitants:										
Akron, Ohio.	82,958	33	1	.....	.....	.....	1	.....	1	4
Bayonne, N. J.	67,582	.....	3	.....	5	.....	.....	.....	7	.....
Berkeley, Cal.	54,879	10	1	.....	.....	.....	.....	.....	.....	1
Binghamton, N. Y.	53,082	21	6	1	.....	.....	1	.....	1	1
Brockton, Mass.	65,746	8	1	.....	5	.....	.....	.....	2	1
Canton, Ohio.	59,139	11	4	.....	.....	.....	2	.....	.....	1
Charleston, S. C.	60,427	40	1	.....	.....	.....	.....	.....	.....	4
Covington, Ky.	56,520	14	3	.....	2	.....	.....	.....	2	.....
Duluth, Minn.	91,913	12	.....	.....	.....	.....	3	.....	2	.....
Harrisburg, Pa.	70,754	23	2	.....	.....	1	.....	.....	.....	1
Johnstown, Pa.	66,585	22	.....	.....	1	1	.....	.....	.....	.....
Kansas City, Kans.	96,854	.....	2	.....	2	.....	1	.....	1	2
Lancaster, Pa.	50,269	.....	1	.....	1	.....	1	.....	1	.....
Lawrence, Mass.	98,197	23	2	1	4	.....	.....	.....	4	2
Malden, Mass.	50,067	7	1	.....	1	1	.....	.....	.....	.....
Mobile, Ala.	56,536	22	.....	.....	.....	.....	.....	.....	.....	2
New Britain, Conn.	52,203	.....	1	.....	.....	.....	.....	.....	1	2
Passaic, N. J.	69,010	28	2	.....	13	.....	4	.....	5	3
Pawtucket, R. I.	58,156	16	.....	.....	1	.....	1	.....	.....	1
Rockford, Ill.	53,761	15	.....	.....	.....	.....	.....	.....	.....	3
Sacramento, Cal.	64,806	13	.....	.....	1	.....	.....	.....	2	1
Saginaw, Mich.	54,815	14	2	.....	2	.....	1	.....	3	2
San Diego, Cal.	51,115	21	1	.....	.....	.....	.....	.....	4	1
Schenectady, N. Y.	95,265	23	3	1	.....	.....	3	.....	1	1
Somerville, Mass.	85,460	16	3	.....	1	.....	7	.....	1	3
South Bend, Ind.	67,030	12	.....	.....	5	.....	.....	.....	.....	.....
Springfield, Ill.	59,468	12	.....	.....	1	.....	1	.....	.....	.....
Wilkes-Barre, Pa.	75,218	18	2	.....	8	.....	.....	.....	5	.....
Yonkers, N. Y.	96,610	24	.....	.....	5	.....	1	.....	2	2
York, Pa.	50,543	.....	.....	.....	.....	.....	.....	.....	7	.....
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,031	2	.....	.....	.....	.....	.....	.....	2	.....
Brookline, Mass.	31,934	4	4	.....	1	.....	.....	.....	.....	.....
Butler, Pa.	26,587	6	1	.....	.....	.....	.....	.....	.....	.....
Butte, Mont.	42,918	19	.....	.....	1	.....	.....	.....	1	1
Chelsea, Mass.	[1]32,452	4	1	.....	4	.....	.....	.....	3	.....
Chicopee, Mass.	28,688	8	.....	.....	.....	.....	1	.....	.....	.....
Cumberland, Md.	25,564	4	1	.....	.....	.....	.....	.....	1	.....
Danville, Ill.	31,554	3	.....	.....	1	.....	.....	.....	.....	.....
Davenport, Iowa.	47,127	.....	.....	.....	.....	.....	1	.....	.....	.....
East Orange, N. J.	41,155	2	.....	.....	3	.....	1	.....	3	.....
Elgin, Ill.	27,844	7	.....	.....	.....	.....	.....	.....	1	.....
Everett, Mass.	38,307	8	1	.....	.....	.....	1	.....	7	.....
Fitchburgh, Mass.	41,144	9	.....	1	.....	.....	.....	.....	.....	1
Galveston, Tex.	41,076	23	.....	.....	.....	.....	1	.....	.....	1
Haverhill, Mass.	47,774	16	1	.....	1	.....	.....	.....	1	1
Kalamazoo, Mich.	47,364	16	2	.....	.....	.....	.....	.....	2	1
Kenosha, Wis.	30,319	3	.....	.....	.....	.....	.....	.....	.....	.....
La Crosse, Wis.	31,522	7	.....	.....	.....	.....	.....	.....	.....	.....
Lexington, Ky.	39,703	15	.....	.....	1	.....	.....	.....	2	3
Lima, Ohio.	34,644	10	.....	.....	.....	.....	4	.....	.....	2
Lincoln, Nebr.	46,028	7	1	.....	1	.....	2	.....	.....	.....
Lynchburg, Va.	32,385	13	.....	.....	.....	.....	.....	.....	.....	3
Madison, Wis.	30,084	.....	.....	.....	2	.....	.....	.....	.....	.....
Medford, Mass.	25,737	7	.....	.....	.....	.....	.....	.....	.....	.....
Montclair, N. J.	25,550	1	.....	.....	.....	.....	.....	.....	.....	.....
Newport, Ky.	31,722	7	.....	.....	.....	.....	.....	.....	.....	.....
Newport, R. I.	29,631	6	.....	.....	.....	.....	.....	.....	.....	1
Newton, Mass.	65,085	8	2	.....	.....	.....	1	.....	.....	1

[1] Population Apr. 15 1910; no estimate made.

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

City Reports for Week Ended July 31, 1915—Continued.

City.	Population as of July 1, 1915. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabitants—Continued.										
Niagara Falls, N. Y.	36,240	13			3					1
Norristown, Pa.	30,833	10								
Ogden, Utah	30,466	7					1			
Orange, N. J.	32,524	13							2	2
Pasadena, Cal.	43,859	11							3	
Perth Amboy, N. J.	39,725		3		2				1	
Pittsfield, Mass.	37,580	14							1	3
Racine, Wis.	45,507	4					1			1
Rock Island, Ill.	27,961	4					2		1	
Steubenville, Ohio.	26,631	10	3				1			
Stockton, Cal.	34,508						1			
Superior, Wis.	45,285	10					5		4	1
Taunton, Mass.	35,957	11			8	1			2	1
Waltham, Mass.	30,129	8	2	1	2					
West Hoboken, N. J.	41,893	6	6		2		3		2	1
Wheeling, W. Va.	43,097	9	5		3		1			
Williamsport, Pa.	33,495		3		1					
Wilmington, N. C.	28,264	15								2
Zanesville, Ohio.	30,406				1					
From 10,000 to 25,000 inhabitants:										
Ann Arbor, Mich.	14,979	13	1		1				6	
Beaver Falls, Pa.	13,316				1		1			
Braddock, Pa.	21,310		1		1					
Cairo, Ill.	15,593	8								1
Clinton, Mass.	[1]13,075	3								
Coffeyville, Kans.	16,765								2	
Concord, N. H.	22,480	5	2				1			1
Galesburg, Ill.	23,923	6								
Kearney, N. J.	22,753	4	1		1					
Key West, Fla.	21,437	2								
Kokomo, Ind.	20,312	5								
Melrose, Mass.	17,166	2								
Morristown, N. J.	13,158	5							1	
Muscatine, Iowa.	17,287	6								
Nanticoke, Pa.	22,441	4	2							
Newburyport, Mass.	15,195	5			2					
New London, Conn.	20,771	10							2	
North Adams, Mass.	[1]22,019	4							1	
Northampton, Mass.	19,846	8							1	
Phoenix, Ariz.	17,798	2								1
Plainfield, N. J.	23,280	5			1				3	
Rutland, Vt.	14,624	5	2							
Saratoga Springs, N. Y.	12,342	4								
South Bethlehem, Pa.	23,522		1	1	3	1			1	1
Steelton, Pa.	15,337	3								2
Wilkinsburg, Pa.	22,361	4					1		6	
Woburn, Mass.	15,862	3								

[1] Population April 15, 1910; no estimate made.

FOREIGN REPORTS.

AUSTRIA-HUNGARY.

Cholera—Trieste.

During the week ended August 7, 1915, a case of cholera was reported at Trieste, Austria. The patient was a civilian laborer employed by the military, and was brought into Trieste and placed in the hospital for infectious diseases for treatment.

CUBA.

Plague—Habana.

A case of plague was reported at Habana, Cuba, August 15, 1915.

DUTCH EAST INDIES.

Plague—Java.

During the period from March 26 to May 20, 1915, plague was notified in East Java as follows:

District.	New cases.	Deaths.	District.	New cases.	Deaths.
Kediri	157	141	Surakarta	17	17
Madioen	17	15			
Pasoeroean	352	313	Total	582	521
Surabaya	39	35			

FRANCE.

Typhus Fever—La Rochelle.

During the week ended July 17, 1915, one fatal case of typhus fever was reported at La Rochelle, France.

GERMANY.

Cholera—Silesia.

Five cases of cholera were reported in Silesia, Germany, from July 3 to 17, 1915.

ITALY.

Cholera—Leghorn and Venice.

On August 11, 1915, one case of cholera was reported at Leghorn, and on the same date three cases were reported at Venice, Italy.

RUSSIA.

Cholera—Moscow.

During the week ended June 12, 1915, 75 cases of cholera were reported in Moscow, Russia.

Typhus Fever—Vladivostok.

During the week ended June 21, 1915, one fatal case of typhus fever was reported at Vladivostok, Russia.

TYPHUS FEVER.

Reports Received During Week Ended Aug. 20, 1915.[1]

Place.	Date.	Cases.	Deaths.	Remarks.
France:				
La Rochelle	July 11–17	1	1	
Greece:				
Saloniki	July 4–10	.....	4	
Russia:				
Moscow	June 6–26	55	15	
Petrograd	May 31–June 5	4	1	
Vladivostok	June 15–21	1	1	

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

Reports Received from June 26 to Aug. 13, 1915.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria	Apr. 25–May 22	1,212	.....	Mainly among soldiers, prisoners of war, and persons from Galicia; 6 among the civil population, of which 1 in Vienna.
Bosnia-Herzegovina	May 2–15	64	.....	Mainly among military.
Hungary:				
Budapest	May 16–June 12	12	4	
Azores:				
Terceira	May 23–29	1	.....	July 24, 1915; present.
Canary Islands:				
Santa Cruz de Teneriffe	May 16–June 19	.....	2	
China:				
Antung	June 28–July 4	1	.....	
Hungtaohotze Station	Apr. 19–25	1	.....	On Eastern Chinese Ry.
Mukden	June 6–July 3	.....	.....	Present.
Tientsin	....do	.....	1	
Cuba:				
Santiago	July 4–10	2	2	
Dutch East Indies:				
Java	Apr. 25–May 1	13	3	Mid-Java.
Do	Apr. 27–May 10	22	4	West Java.
Batavia	June 6–19	18	4	
Egypt:				
Alexandria	May 21–June 17	119	35	
Cairo	May 7–June 3	70	95	
Port Said	....do	2	3	
Germany	May 16–22	12	.....	In German soldiers and 1 prison-camp employee; among prisoners of war in 14 districts and in Saxony and Hesse.
Do	June 6–26	33	.....	Among military: Present in prison camps.
Do	June 27–July 3	76	.....	Do.
Aix la Chapelle	May 30–June 5	.....	1	
Bremen	May 30–June 12	1	1	
Breslau	May 30–June 5	5	.....	
Konigsberg	June 6–12	3	.....	
Leipzig	....do	.....	1	
Great Britain and Ireland:				
Dublin	May 23–July 10	6	.....	
Glasgow	May 29	1	.....	
Newcastle	June 27–July 3	1	.....	

TYPHUS FEVER—Continued.

Reports Received from June 26 to Aug. 13, 1915—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Greece:				
Athens	June 14–25		1	
Salonika	May 30–June 19		10	
Do	June 20–July 3	3		
Italy:				
Florence	May 1–31	5	1	
Turin	May 17–23	1		
Japan:				
Tokyo	June 7–13	2		
Mexico:				
Aguascalientes	June 21–27		1	
Russia:				
Moscow	May 2–June 5	148	42	
Petrograd	May 9–June 19	9	2	
Riga	Mar. 1–31	1	1	
Do	June 6–12	1		
Warsaw				Sept. 27–Oct. 31, 1914: Cases, 31. Nov. 1–28, 1914: Cases, 31; deaths, 1. Maximum incidence, Nov. 22–28: Cases, 20; deaths, 1.
Serbia	Apr. 27			Prevalent.
Spain:				
Madrid	June 1–30		1	
Switzerland:				
Zurich	May 30–July 10	2		
Turkey in Asia:				
Adana	May 9–15			Present.
Beirut	May 27–June 2	2	1	
Harput	Apr. 1–30			Do.
Jaffa	Apr. 25–June 19	15	7	
Mersina	May 9–29	2	2	
Tarsus	do			Do.
Trebizond				October, 1914–May 22, 1915: 6,000 fatal cases (estimated).
Tripoli	May 9–15	1	1	

CHOLERA, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended Aug. 20, 1915.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria—				
Trieste	June 27–July 3	1		
Germany:				
Silesia	July 3–17	5		
Italy:				
Leghorn	Aug. 11	1		
Venice	do	3		
Russia:				
Moscow	June 6–12	75	14	

PLAGUE.

Brazil:				
Bahia	June 27–July 10	3	2	
Cuba:				
Habana	Aug. 15	1		
India:				
Bombay	June 28–July 3	4	4	
Karachi	do	3	4	
Japan:				
Taiwan, island—				
Kagi	do	1	2	

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

CHOLERA, PLAGUE, AND SMALLPOX—Continued.

Reports Received During Week Ended Aug. 20, 1915—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria—				
Vienna	July 4–10	7	1	
Canada:				
Ontario—				
Toronto	Aug. 1–7	1		
Quebec—				
Montreal	do	2		
India:				
Bombay	June 28–July 3	7	4	
Mexico:				
Progreso	July 18–24	3		
Vera Cruz	July 12–Aug. 1	25	18	
Portugal:				
Lisbon	July 11–17	3		
Russia:				
Petrograd	May 31–June 5	42	12	
Do	June 20–26	30	17	
Spain:				
Valencia	July 19–25	5		
Turkey in Asia:				
Beirut	June 6–12	6	2	

Reports Received from June 26 to Aug. 13, 1915.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria	May 2–June 5	239	52	July 3–17, 1915: 5 cases in Galicia.
Vienna	May 9–15	9	3	Among soldiers and prisoners.
Bosnia-Herzegovina	Apr. 25–May 29	128	46	96 cholera carriers in 3 localities.
Croatia-Slavonia	May 3–June 7	70	21	14 among soldiers.
Hungary	Apr. 26–June 13	510	187	May 16–23: 5 additional cases notified.
Ceylon:				
Colombo	Apr. 25–May 22	8	1	
China:				
Hongkong	May 2–8	1	1	
Dutch East Indies:				
Java—				
Batavia	Apr. 25–June 5	56	50	
Germany:				
Breslau district—				
Jägerndorf	June 13–July 2	1		
Oppeln—				
Rosenberg	do	1		
Slaventzitz	do	1		
Sachsenhausen	July 16	1	1	Corrected date: June 13–July 2.
India:				
Akyab	May 16–29		2	
Bassein	Apr. 18–June 5		22	Epidemic.
Bombay	June 6–12	2	2	
Calcutta	Apr. 25–June 5		141	
Madras	May 2–June 5	4	5	
Rangoon	Apr. 24–June 12	3	4	
Indo-China				Jan. 1–31, 1915: Cases, 284; deaths, 178.
Saigon	May 2–June 19	656	306	
Provinces—				
Anam	Jan. 1–31	3	2	
Cochin China	do	243	158	
Tonkin	do	38	18	
Serbia	June 25–July 2	2		
Siam:				
Bangkok	Apr. 19–May 15		4	
Straits Settlements:				
Singapore	May 9–June 12	2	1	

CHOLERA, PLAGUE, AND SMALLPOX—Continued.

Reports Received from June 26 to Aug. 13, 1915—Continued.

PLAGUE.[1]

Place.	Date.	Cases.	Deaths.	Remarks.
Bahrein, island	Apr. 1-30			Present.
Ceylon:				
Colombo	May 9-29	3	3	
China:				
Amoy	May 2-June 5			Present. Present in Sio-Khe Valley, 60 miles inland.
Do	June 13-19			Increasing.
Do	June 20-26			40 deaths daily (estimated). At Kulangsu, international settlement, 1 case.
Hongkong	May 9-June 26	52	46	
Brazil:				
Bahia	June 20-26	1	1	
Dutch East Indies:				
Java				Jan. 1-Feb. 25, 1915: Cases, 2,004; deaths, 1,864.
Do	Mar. 12-25	326	295	
Do	Mar. 26-May 20	582	521	
Do	June 21-July 3	62	61	East Java.
Surabaya	Apr. 18-June 12	13	12	
Ecuador:				
Guayaquil	May 1-31	1		
Egypt				Jan. 1-May 20, 1915: Cases, 93; deaths, 48.
Alexandria	May 21-27		1	
Assiout, province	May 14-June 3	7	2	
Fayoum, province	May 14-July 9	49	9	
Galioubeh, province	May 14-27	1		
Minieh, province	May 14-July 11	10	5	
Port Said	May 28-July 12	7	3	
India:				
Bassein	Apr. 18-June 12		58	
Bombay	May 2-June 26	117	107	
Calcutta	Apr. 25-June 5		55	
Henzada	May 2-8	1		
Karachi	May 2-June 26	607	523	
Mandalay	Apr. 25-June 12		3	
Moulmein	May 23-June 12		5	
Myingyam	Apr. 5-17		1	
Pegu	Apr. 18-May 1		5	
Rangoon	Apr. 18-June 19	95	64	Apr. 1-May 31, 1915: Cases, 94; deaths, 92.
Toungoo	Apr. 25-May 1		38	
Indo-China:				
Saigon	May 9-June 19	10	6	Jan. 1-31, 1915: Cases, 73; deaths, 58.
Provinces—				
Anam	Jan. 1-31	36	33	
Cambodia	do	18	18	
Cochin China	do	19	7	
Japan:				
Taiwan, island—				
Kagi	May 30-June 26	6	5	
Tokyo	May 31-June 13	5	5	
Persia:				
Mohammerah	Apr. 10-June 1	3		
Peru:				
Callao	May 3-9	1		
Lima (city)	do	1		
Mollendo	do	1		
Salaverry	Apr. 26-May 27	2		May 30. Vicinity.
Trujillo	May 3-9	2		May 30, 7 cases in hospital.
Straits Settlements:				
Singapore	Apr. 25-June 5	4	1	
Turkey in Asia:				
Bagdad	May 2-June 13	704	520	
Union of South Africa:				
Cape Province—				
Tarka, district	June 2-16	2	1	
Wodehouse, district	June 5	2	2	At Dordrecht.
Zanzibar:				
Zanzibar	Mar. 1-31		1	

[1] The report of a case of plague at Paauhau, Hawaii, June 29, 1915, and heretofore published in this table, was an error. Bacteriological examinations made after the death of the patient proved the disease not to be plague.

CHOLERA, PLAGUE, AND SMALLPOX—Continued.

Reports Received from June 26 to Aug. 13, 1915—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Australia:				
New South Wales—				
New Castle District—				
Cessnock	June 10–July 1	4		
Kurri Kurri	May 26–July 1	6		
Standford Morthyr	June 25–July 24	1		
Victoria—				
Melbourne	Apr. 20	1		At Point Nepean quarantine station, from S. S. Lord Derby from Rangoon.
Western Australia—				
Fremantle	Apr. 27	1		At Woodmans Point quarantine station, from S. S. City of Baroda from Calcutta via Colombo.
Austria-Hungary:				
Austria	May 2–15	275		
Dalmatia, Province	May 2–8	1		
Vienna	May 23–June 3	22	7	Aug., 1914–May 8, 1915: Cases, 1,487; deaths, 316. May 9–15, 1915: Cases, 28.
Hungary—				
Budapest	May 2–June 12	265	1	
Brazil:				
Rio de Janeiro	Apr. 18–June 15	88	24	
Canada:				
Ontario—				
Hamilton	June 1–30	2	4	
Sarnia	June 13–19	1		
Toronto	June 6–July 24	6		
Quebec—				
Montreal	June 13–July 24	9		
Sherbrooke	June 1–30		1	
Ceylon:				
Colombo	May 2–29	21	7	
China:				
Chungking	May 23–June 19			Present.
Foochow	May 9–22			Do.
Hongkong	May 9–June 12	7	4	
Nanking	June 20–July 3			Do.
Shanghai	May 9–June 25	4	5	Natives.
Tientsin	May 16–22		1	
Dutch East Indies:				
Java	Apr. 18–June 12	143	38	Mid Java.
Do	Apr. 27–June 19	373	97	West Java.
Batavia	Apr. 25–June 19		29	Natives.
Egypt:				
Alexandria	May 21–July 1	37	12	
Cairo	Apr. 30–June 3	10	3	
Germany				Total, May 16–July 3, 1915: 9 cases.
Hamburg	June 6–12	1		
Government districts—				
Allenstein	June 13–19	1		
Arnsberg	do	1		
Breslau	June 20–July 3	1		
Danzig	June 13–19	2		
Gumbinnen	May 23–29	2		
Marienwerder	do	2		
Merseburg	June 20–July 3	1		
Oppeln	May 16–July 3	7		Prisoners of war.
Posen	May 30–June 5	3		
Potsdam	June 13–July 3	3		
Great Britain:				
Bristol	Mar. 21–May 22	29	7	1 from vessel from Bombay. Maximum incidence, Apr. 4–17: Cases, 22; deaths, 2.
London	May 30–June 12	3		
Greece:				
Saloniki	May 23–29		1	
India:				
Bassein	May 2–8		1	
Bombay	May 2–June 26	168	91	
Calcutta	Apr. 25–June 5		237	
Karachi	May 2–June 12	23	4	
Madras	May 2–June 19	11	4	
Moulmein	May 23–29		1	
Pegu	Apr. 18–June 12	1	1	
Rangoon	Apr. 18–June 19	81	34	May 1–31, 1915: Cases, 37; deaths, 14.

CHOLERA, PLAGUE, AND SMALLPOX—Continued.

Reports Received from June 26 to Aug. 13, 1915—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China, provinces:				
Anam	Jan. 1-31			Present.
Cambodia	do	23	5	
Cochin China	do	12		
Saigon	May 23-29	1	1	
Tonkin	Jan. 1-31	56	12	
Italy:				
Milan	May 1-31	1		
Japan:				
Taiwan, island	May 23-29	1		
Mexico:				
Aguascalientes	June 7-July 4		8	
Frontera	May 23-July 17	98	38	
Mazatlan	June 23-July 13		3	
Monterey	June 14-July 4	6		
Progreso	June 6-July 17	4	1	
Salina Cruz	June 1-30	4	1	Soldier from San Geronimo.
Vera Cruz	June 7-July 10	44	24	
Portugal:				
Lisbon	May 23-July 3	20		
Russia:				
Moscow	May 2-15	19	5	
Petrograd	May 8-June 19	174	59	
Riga	May 9-July 3	55		Mar. 1-31, 1915: Cases, 89; deaths, 22.
Warsaw				Sept. 27-Oct. 31, 1914: Cases, 51; deaths, 16. Nov. 1-28, 1914: Cases, 70; deaths, 23.
Vladivostok	May 29-June 4	1		
Serbia	Apr. 21-May 3	356		
Spain:				
Madrid	June 1-30		3	
Seville	May 1-June 30		7	
Valencia	May 30-July 17	62	10	
Straits Settlements:				
Penang	Apr. 25-May 15	6	2	
Singapore	May 23-29	1		
Switzerland:				
Basel	May 16-July 3	18		
Turkey in Asia:				
Bagdad	May 2-8			Present.
Beirut	May 16-June 19	29	12	
Haifa	May 3-June 20	6		
Jaffa	May 9-29	2		
Mersina	May 30-June 5	1		
Tripoli	May 2-8			Do.

SANITARY LEGISLATION.

COURT DECISIONS.

NEW JERSEY SUPREME COURT.

Heroin Not Included in the Terms of the New Jersey Statute Prohibiting the Sale of Habit-Forming Drugs.

STATE *v.* NORWOOD, 93 Atl. Rep., 683. (Mar. 23, 1915.)

The New Jersey statute prohibiting the sale of morphine except upon a physician's prescription does not include heroin as one of the prohibited habit-forming drugs therein specifically referred to.

The act, being penal in its consequences, will not receive a construction which will enlarge its specific scope.

Where the defendant denied the sale of the drug and testified that he had given specific orders to his clerk to sell no habit-forming drugs, and that he was not aware until a recent period that the drug in question was included in that category, a direction of conviction was therefore erroneous.

MINTURN, J.: The conviction of the defendant was based upon an indictment which charged him with selling morphine, and at the conclusion of the trial the court directed the jury to return a verdict of guilty, from which conviction this writ of error is taken. The act upon which the indictment is based is a supplement to the crimes act (P. L. 1908, p. 399), and reads as follows:

"Any person who shall sell, give away, furnish, or dispose of the alkaloid cocaine, or its salt, alpha or beta eucaine, or their salts, opium, morphine, codine, chloral, or any of the derivatives of chloral, or who shall sell, give away, furnish, or dispose of any admixtures of cocaine or eucaine or any patent or proprietary remedy containing cocaine or eucaine, except on the written prescription of a duly licensed and practicing physician, shall be guilty of a misdemeanor."

The defendant is a druggist in Jersey City and a graduate of a recognized college of pharmacy. The alleged commission of the offense charged in the indictment consisted in the fact that a clerk in the defendant's employ, upon the day mentioned in the indictment, sold a bottle containing 100 tablets, each tablet containing one-twelfth of a grain of "heroin," to one Courtney. The clerk when employed had been instructed by defendant not to sell drugs contrary to law. Courtney, it seems, had made prior purchases of the drug at the defendant's store, but defendant testified that when those sales were made he was not informed that "heroin" was included in the category of habit-forming drugs, and it is inferable from the testimony that the general discovery of that fact has been only of comparatively recent date.

To bring the commission of the offense within the language of the statute the State offered expert testimony to show that "heroin" is in fact morphine. Expert chemists in behalf of the defendant testified that "heroin" and morphine are two distinct drugs, the latter being a very old alkaloid and the former a comparatively recent derivative of morphine, and that each responds differently to recognized chemical tests. It was also in evidence that the two drugs respond differently on the human system, and that "heroin" may be used with benefit for throat ailments. We do not deem it necessary to say more in the disposition of the case than that the statute in question does not include in its categorical statement of the inhibited habit-forming drugs the drug known as "heroin."

If it were known and in existence by name as a habit-forming drug at the time of the enactment of the prohibiting law, it must be assumed that the legislature purposely excluded it. If it were not known and not in existence at that period, it is equally manifest that the legislature did not have it in mind for condemnation in its generic designation of habit-forming drugs. The act is penal in its object and consequences and under familiar rules of statutory construction can not be enlarged by judicial construction to include subjects and cases which upon its face are literally excluded. (Black on Interpretation, 286; Lair *v.* Killmer, 25 N. J. Law, 527; State *v.* Woodruff, 68 N. J. Law, 89, 52, Atl., 294.)

But if it were conceded that the language of the act included "heroin" among the derivatives of the drugs therein specifically condemned, the difficulty of sustaining this conviction inheres in the fact that the defendant personally did not sell the drug; that he had given orders to his clerk not to sell habit-forming drugs; and that when he learned that this drug was included in the category of habit-forming drugs he ceased to sell it. This testimony presented an issue of fact as to the defendant's guilt which should have been left to the jury to determine.

The judgment of conviction will therefore be reversed.

COLORADO SUPREME COURT.

Cocaine, Sale of—Evidence Insufficient to Convict.

STADLER v. PEOPLE, 147 Pac. Rep., 658. (Apr. 5, 1915.)

The evidence in this case was held not to be sufficient to prove that the powder sold by the defendant contained cocaine.

SCOTT, J.: The plaintiff in error was convicted in the county court of Ouray County, upon an information charging as follows:

"Lester C. Stadler, late of the county of Ouray, State of Colorado, on or about the 19th day of July, in the year of our Lord 1912, at and within the county aforesaid, did unlawfully sell to one Ralph M. Williams a certain compound, mixture, and product of which the salts of cocaine was constituent and ingredient."

The assignments of error, sought to be considered in the determination of this case, are: (1) That if there was any offense committed, it was solely at the instigation and inducement of the sheriff of the county, and for such reason there can be no conviction; (2) that the evidence is insufficient to sustain a conviction.

It appears that the plaintiff in error was, at the time of trial, a physician of some 30 years' practice, 18 of which had been in the city of Ouray, in the said county.

The testimony of the people is to the effect that R. A. McKnight, sheriff of Ouray County, procured one Ralph Williams, who admits that he is given to the use of cocaine and liquor, to go to the office of the defendant and purchase cocaine. For this purpose the sheriff gave Williams $1 with which to make the purchase. The sheriff then procured one Humphries, who was the town marshal of Ouray, to be present when Williams should go to the physician's office, with instructions that upon his return to the street he was to receive from Williams the cocaine so intended to be purchased. Williams went to the physicians' office, which was in the upper story of the building occupied by him, and upon returning and after reaching the street, Humphries met him and took the powder from his pocket, which it is claimed contained cocaine. The sheriff, Williams, and Humphries, all understood before the occurrence the part that each was to play in the transaction. Williams says that he went to the doctor's office and said to him, "What is the chance to get a dollar's worth of cocaine?" to this he says the doctor replied, "I guess it will be all right," and then went into another room and procured the powder for which Williams paid him the dollar given him by the sheriff and went out. Upon cross-examination, Williams three times contradicts his testimony in this respect, and says that he did not mention cocaine, but asked for "some stuff"; that he did not give any name at all; again that he "wanted some of that stuff for his lady

friends." He further says that he went to the doctor's office for the sole purpose of having him arrested, and that he had no intention of using the cocaine, but intended simply to get it as evidence upon which to convict the defendant.

The testimony shows that the defendant does not keep drugs of any character for sale, but that he carries medicines, which he uses solely in his practice.

The defendant testified as to the circumstances under which Williams procured the powder upon which the complaint is based, as follows:

"He came in on the evening of July 19; he smelled of liquor and was shaky. I noticed unsteadiness in his gait, and had difficulty in understanding him. He said he would like some medicine, and I asked him 'for what. To brace you up and quiet you?' And he said, 'Yes.' I gave him a powder. It contained five grains of chloretone, about three grains of acetanilid, and a grain of caffeine, and a sixtieth of a grain of digitaline. Chloretone does not contain any cocaine."

He says further that he charged Williams $1 for the prescription and medicine.

We do not find it necessary to determine the first assignment of error, for the reason that it is quite clear that the evidence is not sufficient to sustain a conviction under the information.

That Williams was in the apparent distressing physical condition at the time, as testified by the defendant, is not disputed, nor is it denied that the doctor gave him but one powder for a single dose, or that the powder did not contain each and all of the ingredients as testified by the defendant.

The only testimony upon the part of the people tending to show that the powder contained cocaine was that of two physicians, Sickenberger and Crosby, both admittedly unfriendly to the defendant, each of whom testified that he tested the powder by tasting the contents only, and upon such test pronounced that it contained cocaine. Upon cross-examination each of these witnesses was presented a medical work and his attention called to the following statement therein by the author:

"Cocaine responds to all the general tests for alkaloids, giving precipitates for tannic acid, picric acid, solutions of iodine, etc., but these are not distinctive nor, unfortunately, do we possess at the present time any one characteristic test for this alkaloid."

Dr. Sickenberger upon that matter testified as follows:

"Q. Do you agree that Dr. Haines is right about that statement or not?—A. I am not able to judge about that. I am not qualified to judge whether Dr. Haines is right or wrong."

Dr. Crosby testified concerning the statement from the medical work as follows:

"Q. Do you agree or disagree with this statement?—A. I would not disagree if you confine that to the chemical test.

"Q. But your claim is that while they have no absolutely certain chemical test by way of reaction on this alkaloid cocaine, there is the tasting test which you can absolutely determine it by.—A. I do not claim that they have no chemical test by which they can determine cocaine, but I am not familiar with it."

There is no contention that the medical work referred to is not standard authority on the subject, and it will be seen that neither of the witnesses disputes the correctness of the statement of fact therein made. Yet the only test upon which these witnesses based their conclusion that the powder contained cocaine was by that of taste. The testimony of these witnesses can be no stronger than the expression of an opinion based on taste alone. Neither do we gather that there was other intention on the part of either. That the powder contained cocaine must be proven as any other material fact beyond a reasonable doubt, before conviction can be had in this case. Plainly the witnesses were not qualified, by the alleged test made, to so testify.

That cocaine was sought to be purchased or intended to be sold rests wholly upon the testimony of Williams. This testimony can not be read without a strong conviction that the witness is given to the use of dope and liquor, and is unreliable and untruthful. Indeed, it appears that the sheriff himself did not trust him, for he had an officer meet him as he came down the stairway from the doctor's office, and who there took the powder from him. As further illustrating the unreliability of the testimony

of the witness, he makes the following contradictory statements in his direct examination:

"On July 19, in the evening, I went to Dr. Stadler's office. I sat down for a while and said, 'What is the chance to get a dollar's worth of cocaine?' He said, 'I guess it will be all right; take a chair.' I took a chair and pretty soon after he had weighed it out, I took the package and went downstairs."

Again, he says:

"I saw Mr. Humphries at the time I went up, and knew he was there to search me when I came down. I did not stay in Dr. Stadler's office over 10 minutes. I did not sit down; stood up at the table all the time, looking through a magazine. The doctor went into another room to get the medicine."

To permit conviction upon a criminal charge solely upon the testimony of such a witness would be to sanction a mockery of justice.

We are clearly of the opinion that the testimony in this case is palpably insufficient upon which to sustain the verdict.

The judgment is reversed.

Garrigues, J., dissents.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

ILLINOIS.

Whooping Cough—Notification of Cases—Placarding—Quarantine—Disinfection—School Attendance. (Reg. Bd. of H., Feb. 16, 1915.)

1. *Reports.*—Every physician, attendant, parent, householder or other person having knowledge of a known or suspected case of whooping cough must immediately report the same to the local health authorities.

2. *Placarding.*—Whenever a case of whooping cough is reported to the local health authorities, they shall affix in a conspicuous place at each outside entrance of the building, house, or flat, as the case may be, a red warning card not less than 10 by 15 inches in size, on which shall be printed in black, with bold-face type, at least the following "Whooping cough" in type not less than 3½ inches in height, and "keep out" in similar type not less than 2½ inches in height. Defacement of such placards or their removal by any other than the local health authorities or by the duly authorized representative of the State board of health is strictly prohibited.

3. *Quarantine.*—The period of quarantine shall be eight weeks from date of first "whoop," or until one week after the characteristic whoop has disappeared. The patient must be kept in the house, or, if there is an inclosed yard, he may be permitted the freedom of the same provided that he does not come in contact with other children.

Other children in the family who have not had whooping cough and who continue to reside on the infected premises must be excluded from all places of public gathering for two weeks from date of last exposure.

Adult members of the family may go about their usual business.

4. *Exclusion from school.*—Children from families in which whooping cough exists must be excluded from the schools unless they present a physician's certificate to the effect that, to the personal knowledge of the physician, they have had the disease.

Children who have not had the disease and who have been removed from the infected premises must be excluded from school for two weeks following such removal.

5. *Disinfection.*—The quarantined premises need not be disinfected upon the termination of quarantine. However, free airing, scrubbing, and washing of premises, clothing, and contents of premises is recommended as a wise precaution.

6. *Visitors.*—There must be no contact permitted between the patient and visitors. Visiting of children is strictly prohibited.

7. *Deaths and burials.*—Attendance of susceptible children at funerals of those dead from whooping cough is strictly prohibited.

Chicken-Pox—Notification of Cases—Placarding—Quarantine—Disinfection—School Attendance. (Reg. Bd. of H., Feb. 16, 1915.)

1. *Reports.*—Every physician, attendant, parent, householder, or other person having knowledge of a known or suspected case of chicken pox must immediately report the same to the local health authorities.

2. *Placarding.*—Whenever a case of chicken pox is reported to the local health authorities, they shall affix in a conspicuous place at each outside entrance of the

building, house, or flat, as the case may be, a red warning card not less than 10 by 15 inches in size, on which shall be printed in black, with bold-face type, at least the following "Chicken pox" in type not less than 3½ inches in height, and "Keep out" in similar type not less than 2½ inches in height. Defacement of such placards or their removal by any other than the local health authorities or by the duly authorized representative of the State board of health is strictly prohibited. (In view of the frequent mistakes in diagnosis when the mild type of small pox is prevalent placarding of chicken pox cases is deemed necessary, and it will be adopted as a wise precaution by communities desiring to give their citizens the fullest measure of protection.)

3. *Quarantine.*—The patient shall be confined to the quarantined building, house, or flat for two weeks, or until scaling is completed and the skin is smooth. All other children in the family who have not had the chicken pox and who continue to reside on the infected premises must be confined to the building, house, or flat for two weeks from date of last exposure. Susceptible children removed from the infected premises must be confined to the premises to which removed for a period of two weeks following date of such removal.

4. *Exclusion from schools.*—All susceptible children in the family must be excluded from school for two weeks from date of last exposure. Children in the family who have had chicken pox may attend school upon a physician's certificate that, to his personal knowledge, they have had the disease, providing they do not come in contact with the patient.

5. *Disinfection.*—Upon termination of quarantine the patient must be given a thorough bath and a complete change of clothing before going out. Scales and scabs should be burned as they peel off. All bedding, handkerchiefs, clothing, and other things coming in contact with the patient should be disinfected by boiling thoroughly, or by placing in a 5 per cent solution of carbolic acid, or in a solution of bichloride of mercury, and allowing them to soak for three hours or longer.

6. *Visitors.*—There must be no contact permitted between the patient and adult visitors. Visiting of children to the infected premises is strictly prohibited.

Typhoid Fever—Notification of Cases—Placarding—Quarantine—Precautions—Disinfection—Burial—Typhoid "Carriers." (Reg. Bd. of H., Feb. 16, 1915.)

1. *Reports.*—Every physician, attendant, parent, householder, or other person having knowledge of a known or suspected case of typhoid fever or of a person known or suspected to be a "typhoid carrier" must immediately report the same to the local health authorities.

2. *Placarding.*—Whenever a case of typhoid fever is reported to the local health authorities, they shall affix in a conspicuous place at the outside entrance of the building, house, or flat, as the case may be, where milk and other foodstuffs are received, a red warning card, not less than 11 by 14 inches in size, on which shall be printed in black, with bold-faced type, at least the following: "Typhoid fever here" in type not less than 3½ inches in height, and "remove no milk containers, etc.," in similar type not less than 2½ inches in height.

3. *Quarantine.*—The patient should be confined to one well-ventilated room, screened against flies and other insects, and as remote as possible from other occupied rooms. The room should be stripped of draperies, carpets, upholstery, and all furniture and articles not necessary for the comfort of the occupants. Visitors must not be permitted to enter the sick room or to come in contact with the attendants. Quarantine can be raised only by the local health authorities or by the State board of health.

4. *Other inmates of the infected premises.*—The other inmates of the infected premises, except the attendants, may go about their usual business. The attendants, upon leaving the premises, must take all precautions necessary to prevent the spread of the disease.

5. *Precautions.*—No persons, except the necessary attendants, who, whenever possible, should be persons who have had typhoid fever, should come in contact with the patient. Attendants, who have not had typhoid fever, should, as a wise precaution, be protected by an antityphoid vaccination. Attendants must not prepare or handle food for others than the patient and themselves and their intercourse with the other members of the family must be as restricted as possible. The patient and attendants are strictly prohibited from engaging in any work connected with the drawing, preparing, marketing, or selling of foodstuffs, milk or milk products, including the washing or care of milk utensils or containers of any description.

An ample supply of towels, basins, water, and a standard disinfectant should always be on hand for the disinfection of the hands of the attendants, and attendants should carefully disinfect their hands after each handling of the patient or of articles which may be infective.

Soiled body or bed clothing and handkerchiefs or cloths used to receive discharges from the patient should be immediately disinfected by boiling or by immersion in an approved disinfecting solution.

No article of body or bed clothes, handkerchiefs, or any other article from the sick room shall be taken to a public laundry unless any and all such articles have been properly disinfected by immersion in an approved disinfecting solution and permission shall have been granted by the local health authorities for such removal.

All knives, forks, spoons, glasses, cups, and plates used by the patient or attendants must be immediately disinfected in a similar manner.

All discharges from bowels and bladder must be received in a vessel containing a liberal quantity of an approved disinfectant. Such disinfectant must be continued so long after the recovery of the patient as the intestinal discharges continue to be more copious, liquid, or frequent than natural. Discharges from the mouth and any vomit matter must be completely disinfected before disposed of.

The discharges should never be emptied on the ground or into a stream. After thorough disinfection they may be emptied in the sewerage system, or if no such system exists, as in rural districts, they should be buried at least 1 foot below the surface of the ground and not closer than 150 feet to any well or other source of water supply. If deposited in an outhouse, they must first be disinfected and the contents of the privy vault must be sprinkled daily with crude oil or kerosene, or other approved solution or substance employed for the purpose of repelling flies.

Dogs, cats, and other household pets must be excluded from the infected premises. Any such animals which have been in contact with the patient must be killed or subjected to a thorough disinfecting bath, and must not be permitted to enter the premises while the disease exists.

6. *Deliveries of milk, groceries, and other necessities.*—Milk, foodstuffs, and other necessary supplies may be delivered at the infected premises, but there must be no contact of any kind between the delivery agents and the attendants or patient. Milk may be delivered in bottles only, and such bottles must not be taken from the infected premises during the existence thereon of the disease. Before they are removed from the premises after the death or recovery of the patient they must be sterilized under the direction of the local health authorities.

7. *Sale of milk, groceries, and provisions from infected premises prohibited.*—Whenever a case of typhoid fever exists on any premises where milk, groceries, vegetables, or other foodstuffs are either produced, handled, or sold, the sale, exchange, or distribution in any manner whatsoever, or the removal from the infected premises of any milk, cream, or other milk products, groceries, vegetables, or other foodstuffs is strictly prohibited until the case has terminated by recovery, removal, or death, and the premises, its occupants, and all utensils have been thoroughly disinfected.

A person recovered from typhoid fever will not be permitted to engage in any manner in the handling or preparation of foodstuffs, milk or milk products, including the handling of milk containers until one month after date of recovery and until after the intestinal discharges have ceased to be more copious, liquid, or frequent than normal, or until such time as it has been ascertained that such person is in no danger of spreading the infection.

8. *Warnings and investigations.*—Upon the appearance of several cases of typhoid fever in a community, the development being simultaneous or nearly so, the mayor or village president shall issue a proclamation advising citizens to home pateurize all milk and to boil all water before drinking. (Simple instructions for home pasteurization of milk will be furnished in pamphlet form by the State board of health upon request.)

In all such instances the local health authorities shall at once investigate the milk and other food supplies of the infected families with a view of determining the source of infection. If suspicion attaches to the milk or other food supply, and the source of the infection appears to be in territory outside the jurisdiction of the local health authorities, or if the source of infection can not be definitely determined, the State board of health shall be notified immediately.

9. *Removals.*—No person affected with or suspected of being affected with typhoid fever shall be removed from the premises on which he resides when such diagnosis is made or opinion is given, unless consent of the local health authorities to such removal is obtained.

10. *Disinfection.*—Upon the termination of quarantine the sick room and contents must be disinfected. The room must be thoroughly aired and all woodwork must be thoroughly scrubbed and the walls cleaned. The body and bed clothing and all articles coming in personal contact with the patient must be disinfected by boiling or by immersion in an approved disinfectant. Grossly soiled articles which can not be disinfected by the usual methods should be burned.

11. *Deaths and burials.*—In the event of death the body must be wrapped in a sheet thoroughly soaked in an approved disinfectant and then placed in an air-tight coffin. The casket or coffin must not be opened in the presence of the public.

12. *Typhoid "carriers."*—Any person known to be or suspected of being a typhoid "carrier," and therefore capable of spreading typhoid infection shall be treated as a typhoid patient, even though to all outward appearances such person may appear to be well, and shall be subject to the rules governing typhoid fever cases: *Provided, however,* That in order to meet conditions peculiar to individual cases the State board of health, upon its own initiative or upon recommendation of the local health authorities, may modify or relax these rules.

KANSAS.

Drinking Water—Collection of Samples and Analyses of. (Reg. Bd. of H., June 8, 1915.)

1. *Rules and regulations governing collections of samples and analysis of water from city supplies furnishing ground water to the public.*—A complete sanitary inspection of city supplies furnishing ground water shall be made by a representative of the division of water and sewage of the State board of health at least once each year and samples collected for analysis. Samples so collected shall be subjected to a complete analysis at the water and sewage laboratory of the State board of health, including microscopical, bacteriological, sanitary, chemical, and mineral examinations.

2. A second sample shall be collected, according to directions sent out by the water and sewage laboratory of the State board of health, by city officials, waterworks officials, or other persons authorized by the secretary of the State board of health, upon receipt of container from said laboratory, and shall return said container within one week from date of receipt.

3. Results of these analyses, with any pertinent remarks and advice, shall be reported to the person whose name is signed to the information blank and to the secretary of the State board of health.

4. As many additional analyses shall be made as are deemed necessary by the engineer of the State board of health to show the quality of the water.

(1) Analyses of proposed city supplies shall be made upon request to the water and sewage division of the State board of health.

5. Fees for service rendered under these rules and regulations for ground-water supplies shall be payable July 1 of each year to the director of the water and sewage laboratory of the State board of health at the University of Kansas, Lawrence, Kans.

6. Fees have been fixed, based upon the population of the cities. The population of a city shall be taken from the preceding State enumeration.

Population of cities—	Fees.
Under 500	$12.50
500- 1,000	20.00
1,000- 2,000	25.00
2,000- 3,000	30.00
3,000- 5,000	35.00
5,000-15,000	40.00
15,000 and up	50.00

Rules and regulations governing collections of samples and analysis of water from city supplies furnishing surface water to the public.—

(2) Analyses of chemicals used in water purification shall be analyzed [sic] upon request.

1. A complete sanitary inspection of city supplies furnishing surface water shall be made twice annually, and tests of the operation of the plant shall be carried on at the time of these inspections by a representative of the division of water and sewage of the State board of health.

2. Samples shall be collected weekly, according to directions of the water and sewage laboratory, by city officials, waterworks officials or other persons authorized by the secretary of the State board of health from the raw and finished treated water and sent to said laboratory for analysis in containers furnished.

3. Results of these analyses, with any pertinent remarks and advice, shall be reported to the person whose name is signed to the information sheet and to the secretary of the State board of health.

4. City officials shall be required to keep any data on the operation of purification plants that may be required by the division of water and sewage of the State board of health. This data shall be transmitted to the engineer of the division upon his request.

5. Fees for the services rendered under these rules and regulations pertaining to surface water supplies shall be payable July 1 of each year to the director of the water and sewage laboratory of the State board of health at the University of Kansas, Lawrence, Kans.

6. Fees have been fixed, based upon the population of the cities. The population of a city shall be taken from the preceding State enumeration.

Population of cities—	Fees.
Under 1,500	$30
1,500-3,000	50
3,000-6,000	90
6,000-10,000	100
10,000 and above	150

1. *Rules and regulations governing collection of samples and analysis of drinking water supplied by common carriers.*—Sanitary inspections of the sources of supply and methods of handling water furnished by common carriers to the public within the State shall be made twice annually by a representative of the division of water and sewage of the State board of health.

2. Samples shall be collected at the time of inspection from the sources of supply and the place where trains are watered. Samples so collected shall be subjected to complete analysis in the water and sewage laboratory of the State board of health in accordance with the standard adopted by the United States Treasury Department for drinking water supplied to the public by common carriers in interstate commerce.

3. Results of these analyses shall be reported to the proper railroad officials, to the secretary of the State board of health, and to the Surgeon General of the United States Public Health Service.

4. In case a water supply furnished by common carriers to passengers in the State does not meet the requirements of the standard of the Treasury Department, and repairs or improvements on the supply are made with the approval of the division of water and sewage of the State board of health, one additional analysis shall be made without cost to the common carrier.

5. Railroads or common carriers shall file with the water and sewage laboratory of the State board of health a list of all places in the State of Kansas where passenger trains are furnished with water for drinking purposes, and the said laboratory shall be notified at once in case any change is made in the source of supply or method of handling the water.

6. The fees for the services rendered under these rules and regulations pertaining to railroads or common carriers shall be payable July 1st of each year to the director of the water and sewage laboratory of the State board of health at the University of Kansas, Lawrence, Kans.

7. The fee for analysis shall be $30 annually for each place where passenger trains are furnished with water to be used by passengers.

1. *Rules and regulations governing collection of samples and analysis of waters sold to the public for domestic consumption in bottles or other containers.*—All plants for the preparation of water for sale in bottles or other containers for domestic consumption and the sources of water supply shall be inspected twice annually by a representative of the division of water and sewage of the State board of health and samples collected for complete analysis by the water and sewage laboratory of the State board of health.

2. Bottles or other containers in which water is sold to domestic consumers must be sterilized before refilling. The method of sterilization shall be passed upon and approved by the water and sewage laboratory of the State board of health, subject to approval by the State board of health.

3. Processes of purification of waters that are to be sold for domestic consumption must be passed upon and approved by the water and sewage laboratory of the State board of health, subject to approval by the State board of health, before the water can be sold or offered for sale.

4. Any company, corporation, or individual outside of the State of Kansas preparing water for sale within the State of Kansas shall file full information with the water and sewage laboratory of the State board of health at the University of Kansas, Lawrence, Kans., as to the sources of supply and methods of sterilization of bottles, and equipment for handling the water, and shall collect samples twice each year, according to directions, in containers sent out by the water and sewage laboratory of the State board of health, and return same at once for complete analysis, carriage charges prepaid.

5. Reports of analysis shall be made to the person signing the information blank and to the secretary of the State board of health, and permits shall be issued by the secretary of the State board of health for the sale of a water based upon the results of analysis and inspection and the recommendations of the division of water and sewage of the State board of health.

6. The fees for the services rendered under these rules and regulations pertaining to bottled and treated waters shall be payable July 1 of each year to the director of

the water and sewage laboratory of the State board of health at the University of Kansas, Lawrence, Kans.

7. The fee shall be $30 annually for each source of supply from which water is bottled.

In case a person, company, corporation, institution, or municipality believes that a decision of the division of water and sewage of the State board of health is unjust or unfair in any matter pertaining to the administration of the rules and regulations herein contained, he shall within 30 days have the privilege of appealing to the State board of health as a whole, and said State board of health shall approve, set aside, or modify the decision of the division of water and sewage.

Fees collected under these rules and regulations shall be distributed over the expenses of collection and shipping of samples and making of analyses, under the direction of the State board of health, subject to the approval of the board of administration of educational institutions.

Schools—Cleaning and Disinfection—Water Supplies—Privies. (Reg. Bd. of H., June 8, 1915.)

Resolved, That the following be adopted as a regulation of the Kansas State Board of Health:

That in the interest of the public health all school houses shall be thoroughly cleansed at some time during the annual vacation and disinfected at such times when known to be infected by a contagious or infectious disease; that the source of water supply be inspected as to its wholesomeness and purity, and that the privies be required to be put in a sanitary condition before the fall term of school begins. Be it further

Resolved, That the enforcement of the provisions of this regulation shall be a part of the duties of city health officers in cities of the first class and of county health officers in all territory outside of cities of the first class in their respective jurisdictions.

MAINE.

Rabies—Importation of Dogs—Muzzling Required. (Reg. Bd. of H., July 28, 1915.)

Under the authority conferred by section 8 of chapter 18 of the revised statutes as amended, the State board of health hereby makes the following rules and regulations, which shall remain in effect until altered, modified, or revoked by vote of said board:

SECTION 1. Any person bringing into this State a dog which, within six months, has been in the State of Massachusetts or other State where rabies is prevalent, shall within two days of the arrival of the dog in this State notify the secretary of the State board of health of the place from which the dog has come and the dog's destination in this State.

SEC. 2. Any person owning, having an interest in, or having the care, charge, control, or possession of any dog which has been brought or has come from the State of Massachusetts within six months, or from other State where rabies is prevalent, shall for six months after its arrival in this State keep the animal muzzled so that it shall be impossible for it to bite any person or animal, and, muzzled or not muzzled, shall not let such dog run at large in or upon any public street, alley, or other public place, or in or upon any uninclosed lot or premises.

Deaths—Transportation of Bodies. (Reg. Bd. of H., July 28, 1915.)

Under the authority conferred by section 8 of chapter 18 of the revised statutes as amended, the State board of health hereby makes the following rules and regulations, which shall remain in effect until altered, modified, or revoked by vote of said board:

RULE 1. A copy of the original death certificate, signed by the attending physician, a permit from the town or city clerk or local registrar, and a transit label signed by the shipping funeral director and the initial baggage agent, printed on strong paper, supplied by the State board of health, shall be required for the transportation by common carriers of the bodies of persons who have died in this State. The death certificate shall contain such information, if obtainable, as is required in the form of death certificate which is furnished by the department of vital statistics.

The permit of the town or city clerk shall authorize the transportation of the body of the person described in the physician's certificate. The shipping funeral director shall state on the shipping label how the body is prepared, and the local baggage agent shall state thereon the route and the name and address of the escort.

The physician's permit and that of the town or city clerk shall be given to the escort, to be delivered with the body at destination. The shipping label shall be securely attached to the outside case. If the body is sent by express, the physician's certificate and the permit shall be attached to the express way bill and shall be delivered with the body at the destination, and the shipping label shall be attached to the outside case.

If burial is made in this State, the sexton, undertaker, or other person who has charge of the burial shall, after he has presented the conjoined certificate and permit to the town or city clerk for a burial permit, forward them to the secretary of the State board of health within 10 days after he has received them.

RULE 2. The transportation of bodies dead of smallpox, plague, Asiatic cholera, yellow fever, typhus fever, diphtheria (membranous croup or diphtheritic sore throat), scarlet fever (scarlet rash or scarletina), erysipelas, and anthrax shall be permitted only under the following conditions: The body shall be thoroughly embalmed with an approved disinfectant fluid, all orifices shall be closed with absorbent cotton, the body shall be washed with the disinfectant fluid, enveloped in a sheet saturated with the same, and placed at once in the coffin or casket, which shall be immediately closed, and the coffin or casket, or the outside case containing the same, shall be metal or metal lined, and hermetically and permanently sealed.

RULE 3. The transportation of bodies dead of any diseases other than those mentioned in rule 2 shall be permitted under the following conditions:

(*a*) When the destination can be reached within 24 hours after death the coffin or casket shall be inclosed in a strong outside box made of good sound lumber, not less than seven-eighths of an inch thick, all joints must be tongued and grooved, top and bottom, put on with cleats or cross pieces, all put securely together, and be tightly closed with white lead, asphalt varnish, or paraffin paint, and a rubber gasket placed on the upper edge between the lid and box: *Provided, however*, That caskets containing embalmed bodies may be shipped to points in this State in tight ordinary casket boxes: *And provided further*, That bodies addressed to the anatomical board of this State may be received for shipment when prepared in such manner as the State board of health may direct.

(*b*) When the destination can not be reached within 24 hours after death the body shall be thoroughly embalmed and the coffin or casket placed in a strong, well-made outside shipping case.

RULE 4. No disinterred body, dead from any disease or cause, shall be transported by common carrier unless approved by the local board of health having jurisdiction at the place of disinterment, and a transit permit and transit label shall be required as provided in rule 1. The disinterment and transportation of bodies dead of diseases mentioned in rule 2 shall not be allowed except upon special permission of the health authorities at both the place of disinterment and the point of destination. All disinterred remains for transportation shall be encased in metal caskets or metal-lined boxes and hermetically sealed: *Provided*, That bodies in a receiving vault when

prepared by licensed embalmers shall not be regarded as disinterred bodies until after the expiration of 30 days.

RULE 5. The outside case may be omitted in all instances when the body is transported in a hearse or a funeral director's wagon.

RULE 6. Every outside case shall have at least four handles, and when over 5 feet 6 inches in length shall have six handles.

RULE 7. An approved disinfectant fluid shall contain not less than 5 per cent of formaldehyde gas. The term "embalming," as employed in these rules, shall require the injection by a licensed embalmer of not less than 10 per cent of the body weight for bodies of persons dead of diseases under rule 2, injected arterially in addition to cavity injections; and not less than 6 per cent of the body weight injected arterially in all other cases in addition to cavity injection, and 10 hours shall elapse between the time of embalming and the shipment of the body.

RULE 8. The attached form of death certificate, town or city clerk permit, and label as described herein, with these rules printed thereon, shall be used in this State for the shipment of bodies as herein provided.

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

NEW YORK, N. Y.

Foodstuffs—Preparing and Serving in Hotels, Restaurants, and other Public Places. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the department of health of the city of New York, adopted March 30, 1915, effective April 1, 1915, relating to section 149 of the Sanitary Code, which provides as follows:

SEC. 149. *Preparation, service, and sale of food and drink in kitchens, serving rooms, or dining rooms regulated.*—No kitchen, serving room, or dining room of any hotel, boarding house, restaurant, café, lunch room, saloon, grill room, buffet, or other public place where food or drink is cooked, prepared, served, dispensed, offered for sale or sold, shall be conducted, operated, or maintained otherwise than in accordance with the regulations of the board of health.

REGULATIONS GOVERNING THE PREPARATION, STORING, OFFERING FOR SALE, AND SELLING OF FOOD AND DRINK IN KITCHENS, SERVING AND DINING ROOMS OF HOTELS, RESTAURANTS, BOARDING HOUSES, CAFÉS, LUNCH ROOMS, SALOONS, GRILL ROOMS, AND BUFFET, OR OTHER PUBLIC PLACES.

REGULATION 1. *Food or drink not to be stored in stables or other insanitary places.*—Food and drink shall not be prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale or sold in any stable, room used for sleeping purposes, or in any room or place which is dark, damp, poorly ventilated, or insanitary.

REG. 2. *Water-closet compartments.*—Every water-closet compartment, except when provided with mechanical means of ventilation, shall have a window at least 1 foot by 3 feet between stop beads opening to the external air, and the entire window shall be made so as to readily open, or an opening connected with the external air measuring at least 144 square inches for each water-closet or urinal, with an increase of 72 square inches for each additional water-closet or urinal. The door or doors of the water-closet compartment shall be self-closing. Where the water-closet is in direct communication with the room in which food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale or sold, if required by the department of health, a suitable and properly lighted vestibule shall be provided. The door of the vestibule shall be self-closing. All water-closet fixtures, water-closet compartments, and vestibules shall be maintained in a clean and sanitary condition and in good repair.

Reg. 3. *Stables.*—Food or drink shall not be prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale or sold in any room located in the building where horses, cows, or other animals are stabled, except when said room is separated from said stable by impenetrable walls without doors, windows, or other openings.

Reg. 4. *Rubbish, useless or offensive material.*—No accumulation of rubbish, useless or offensive material shall be permitted in any room or place where food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale, or sold.

Reg. 5. *Lighting.*—All rooms or places in which food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale, or sold, shall be properly and adequately lighted so that all parts thereof may be readily inspected.

Reg. 6. *Screening of doors, windows, and other openings.*—All doors, windows, and other openings shall be properly screened from May 1 to October 31. Screen doors shall be provided with self-closing devices.

Reg. 7. *Construction of walls and ceilings.*—Walls and ceilings shall be of a smooth, hard material and must be kept clean and sanitary and in good repair, and shall be of light-colored finish.

Reg. 8. *Construction of floors.*—Floors shall be smooth and water-tight and must be kept clean and sanitary and in good repair and shall be scrubbed or flushed with water twice weekly.

Reg. 9. *Counters, shelves, showcases, and windows.*—All show or display cases or windows, counters, or shelves, used in handling, keeping, and displaying food and drink shall be kept clean and sanitary, free from dust, dirt, and other contaminating material and in good repair.

Reg. 10. *Refrigerators, ice boxes, etc.*—All refrigerators, ice boxes, and appurtenances thereof used for the storage of food and drink shall be kept clean and sanitary and in good repair, and the compartment used for the storage of ice shall be lined with some proper metallic substance so as to be water-tight.

Reg. 11. *Drainage of refrigerators, ice boxes, etc.*—Waste water from refrigerators, ice boxes, refrigerated display cases, windows or counters, vats or tanks, or other containers, used in refrigerating and storing food or drink shall discharge into an open, water-supplied, properly-trapped, sewer-connected sink.

Reg. 12. *Refrigeration of perishable foodstuffs.*—All perishable food or drink shall be stored and kept refrigerated in a properly constructed refrigerator.

Reg. 13. *Lighting and ventilation of kitchens.*—All kitchens shall be provided with proper and adequate windows, or with artificial light and mechanical means of ventilation, so that all parts thereof may be readily inspected and ventilated.

Reg. 14. *Ventilation of stoves, ovens, and ash pits.*—All stoves, ovens, and ash pits shall be provided with ventilating hoods and pipes or with other mechanical means to so ventilate same as to render harmless to persons working therein any steam, gases, vapors, excessive heat or any impurities that may be generated or released by or in the process of making, preparing, baking and cooking food.

Reg. 15. *Wooden platforms.*—All wooden platforms used in kitchens and not entering into the permanent construction of building shall be thoroughly scrubbed daily with hot water and sal soda, or other suitable cleansing agent.

Reg. 16. *Construction of apparatus, utensils, and appurtenances.*—All apparatus, utensils, and appurtenances thereof used in the preparation and handling of food or drink shall be so constructed and placed that they can be thoroughly cleaned and shall be kept clean and sanitary and in good repair.

Reg. 17. *Sinks and water supply.*—Suitable sinks with an adequate supply of running hot and cold water shall be provided.

Reg. 18. *Cleanliness of utensils.*—All utensils used in the preparation, service and sale of food or drink shall be properly cleansed with hot water after being used and no utensil shall, under any circumstances, be used a second time unless it shall have been, after previous use thereof, so cleansed, and in such cleansing, the use of water which has become insanitary by previous use is prohibited.

REG. 19. *Use of rusted or badly worn utensils prohibited.*—The use of any utensil used in the preparation, service, and sale of food or drink, which is badly worn, rusted, corroded, or in such condition that it can not be rendered clean and sanitary by washing, is prohibited.

REG. 20. *Protection of foodstuffs.*—All foodstuffs not protected by a fly and dust proof wrapper, must be covered in cases of glass, metal, wood, or close-mesh wire screening, so as to prevent contamination by dust, dirt, and flies.

REG. 21. *Storage of food on floor, sidewalk, etc.*—No food intended for human consumption shall be deposited or allowed to remain within two feet of the surface of any sidewalk, street, alley, or public place or on the floor of any building where exhibited unless the same shall be contained in boxes or other receptacle so as to be protected from dogs and other animals and their excretions.

REG. 22. *Covering of food and drink.*—Food and drink shall be kept covered so as to prevent contamination from dust, dirt, flies, and other contaminating material.

REG. 23. *Storing of foods in metal containers.*—All foods which are preserved or canned in metal containers shall be removed therefrom immediately upon being opened so as to prevent contamination thereof.

REG. 24. *Raw material.*—All food, drink, and raw material used in the preparation, service, and sale shall be healthy, fresh, sound, wholesome, and safe for human consumption.

REG. 25. *Storing of foodstuffs to be considered prima facie evidence of its use.*—The presence of any food, drink, or raw material in any part of the establishment shall be deemed prima facie evidence of its use for human food.

REG. 26. *Coloring matter or preservatives.*—The presence in any part of an establishment of any prohibited coloring matter or preservative shall be deemed prima facie evidence of its use and the presence of any such material may be sufficient cause for the prosecution of the owners and proprietors of the establishment.

REG. 27. *Disposition of food and drink unfit for human consumption.*—Food or drink which has become unfit for human consumption shall be kept separate and apart from other foodstuffs which are held, kept, and offered for sale, properly denatured, marked "Condemned," and removed daily.

REG. 28. *Garbage receptacles.*—Suitable water-tight, properly covered, galvanized iron, other sanitary metal cans for receiving and holding without leakage all garbage and other waste material shall be provided. A tight-fitting cover shall be provided for each can, and the can shall be kept covered. All garbage and other waste material shall be removed from the premises daily and shall not be allowed to become a nuisance.

REG. 29. *Use of lead, or other metallic faucet, tank, etc., that may affect liquids.*—No person shall use any tap, faucet, tank, fountain, or vessel, or any pipe or conduit in connection therewith, which shall be composed or made, either wholly or in part of lead, or other metal or metallic substance that is or will be affected by a liquid so that dangerous, unwholesome, and deleterious compounds are formed therein or thereby, or such that soda water, sirups, or other liquids, or any beverage, drink, or flavoring material drawn therefrom shall be unwholesome, dangerous, or detrimental to health.

REG. 30. *Water-closets and washing facilities.*—A sufficient number of water-closets conveniently located shall be provided for all employees engaged in the preparation or handling of food or drink, and such water-closets shall be kept clean and sanitary and in good repair. A wash room conveniently located shall be provided, furnished with soap, running water, and fresh, clean, individual towels daily. A notice shall be conspicuously posted in water-closet compartment or wash room directing all employees to cleanse their hands before leaving and immediately before commencing work. The use of common towel is prohibited.

REG. 31. *Lockers.*—Sufficient lockers of metallic construction and conveniently located shall be provided on premises for street clothing of employees engaged in the

preparation or handling of food or drink; such lockers, however, shall not be located in any room where food or drink is manufactured, prepared, cooked, baked, or bottled.

REG. 32. *Health of employees.*—No person who has any infectious or venereal disease shall be permitted to prepare or handle food or drink or any utensils used in the preparation or handling of same.

REG. 33. *Habits of employees.*—All persons preparing or handling food or drink shall be cleanly in their habits, and must wash their hands before beginning work and after visiting toilet.

REG. 34. *Clothing of employees.*—All persons preparing or handling food or drink shall wear clean, washable outer garments.

REG. 35. *Cleanliness of employees engaged in mixing ingredients.*—All persons immediately engaged in the mixing of ingredients entering into the composition of food or drink, or its subsequent handling, shall thoroughly wash their hands and shall thereafter keep them clean during such manufacture and handling.

REG. 36. *Towels and cloths used by waiters.*—All towels and cloths used by waiters, chefs, and other employees shall be clean and sanitary and such towels and cloths shall not be used for drying or wiping plates, glasses, or other utensils, or permitted to come in contact with any foodstuff.

REG. 37. *Spitting signs.*—Placards prohibiting spitting on floors shall be conspicuously posted.

REG. 38. *Cuspidors.*—A sufficient number of cuspidors shall be provided and shall be cleansed and disinfected daily.

REG. 39. *Housing of animals prohibited.*—No animals, excepting cats, shall be housed or kept in any room where food or drink is prepared, cooked, mixed, baked, exposed, bottled, packed, handled, stored, manufactured, offered for sale, or sold.

Oysters—Sale of. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the Department of Health of the City of New York, adopted March 30, 1915, effective April 1, 1915, relating to section 164 of the Sanitary Code, which provides as follows:

Sec. 164. *Oysters; sale regulated.*—No oysters shall be brought into or held, kept, or offered for sale anywhere in the city of New York without a permit therefor issued by the board of health or otherwise than in accordance with the terms of said permit and with the regulations of said board.

Definition 1.—By the term "point" in these regulations is meant the exact location of the beds, the number of the plot, leasehold or other distinguishing designation; it also means the location of storehouse or floating basin with reference to the oysters the sale of which is under consideration in the application.

Definition 2.—Under "Regulation 1" as regards contamination will be included the requirement that oysters score as a minimum 50 points, as recorded on the official scoring designated by the United States Government.

REGULATION 1. *Points where oysters are grown or floated to be free from contamination.*—A permit for the sale of oysters in the city of New York shall not be issued unless the points where said oysters are grown or floated are shown to be free from contamination which might affect their wholesomeness for consumption by man.

REG. 2. *Application to state point where oysters are grown or floated and point where and to whom sold or delivered.*—An application for a permit to sell oysters in the city of New York shall plainly state the point where said oysters are grown or floated and the point where and to whom the said oysters are sold or delivered.

REG. 3. *Time of the year and place where oysters may be sold.*—Oysters produced in New York City shall not be sold in New York City unless in such places and at such times of the year as may be approved by the board of health.

REG. 4. *Containers to be marked with name of shipper and date of shipment.*—All containers in which oysters are shipped into the city of New York shall be plainly and individually marked with the name of the shipper and the place and date of shipment.

Sausage and Smoked or Preserved Meat and Fish—Manufacturing or Preparing. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the department of health of the city of New York, adopted March 30, 1915; effective April 1, 1915; relating to section 330 of the sanitary code, which provides as follows:

SEC. 330. *Business of manufacturing or preparing sausages and smoking or preserving meat or fish regulated.*—The business of manufacturing or preparing sausages or smoking or preserving meat or fish shall not be carried on, nor shall any place therefor be established, in the city of New York without a permit therefor issued by the board of health or otherwise than in accordance with the terms of said permit and with the regulations of said board.

Any meat or meat products sold under the name of sausage or sausage meat shall correspond to the following definition:

Definition.—For the purpose of these regulations sausage or sausage meat shall be held to be a comminuted meat from cattle or swine, or a mixture of such meat, either fresh, salted, pickled, or smoked, with or without added salt and spices and with or without the addition of edible animal fats, blood, and sugar.

REGULATION 1. *Animal tissues used as containers, such as casings or stomachs.*—All animal tissues used as containers, such as casings or stomachs, must be clean and sound and impart to the contents no other substance than salt.

REG. 2. *Food not to be stored in stables or other insanitary places.*—Food shall not be prepared or stored in any stable, room used for sleeping purposes, or in any room or place which is dark, damp, poorly ventilated, or insanitary.

REG. 3. *Water-closet compartments.*—Every water-closet compartment, except when provided with mechanical means of ventilation, shall have a window at least 1 foot by 3 feet between stop beads opening to the external air and the entire window shall be made so as to readily open, or an opening connected with the external air measuring at least 144 square inches for each water-closet or urinal, with an increase of 72 square inches for each additional water-closet or urinal. The door or doors of the water-closet compartment shall be self-closing. Where the water-closet is in direct communication with the room in which food is prepared or stored, if required by the department of health, a suitable and properly lighted vestibule shall be provided. The door of the vestibule shall be self-closing. All water-closet fixtures, water-closet compartments and vestibules shall be maintained in a clean and sanitary condition and in good repair.

REG. 4. *Rubbish, useless or offensive material.*—No accumulation of rubbish, useless or offensive material shall be permitted in any room or place where food is prepared or stored.

REG. 5. *Lighting.*—All rooms or places in which food is prepared or stored shall be properly and adequately lighted so that all parts thereof may be readily inspected.

REG. 6. *Screening of doors, windows and other openings.*—All doors, windows, and other openings shall be properly screened from May 1 to October 31. Screen doors shall be provided with self-closing devices.

REG. 7. *Construction of walls and ceilings.*—Walls and ceilings shall be of a smooth cement, enamel tile, enamel brick, or other smooth, hard substance that can be kept clean and sanitary and in good repair.

REG. 8. *Construction of floors.*—Floors of meat canning rooms, curing cellars, boning rooms, meat chopping rooms, where water is used in connection with the opera-

tion, shall be of cement, properly graded to sewer-connected drains and must be kept clean and sanitary and in good repair.

REG. 9. *Construction of tables and equipment.*—The tables and other equipment used in the meat canning rooms, curing cellars, boning rooms, meat chopping rooms, or other rooms must be made of smooth, hard, material and be so constructed that they can be kept clean and sanitary. When the tops of tables are made of wood (which must be hardwood) they must be constructed so that they can be easily taken apart to admit of cleaning at the end of each day's work.

REG. 10. *Rooms where artificial illumination is required.*—Rooms in which artificial illumination is required or any portion of which is below the level of the ground shall not be used for the preparation of meats unless a permit shall be separately issued therefor by the board of health. Such room or rooms shall be adequately ventilated.

REG. 11. *Sinks and water supply.*—Suitable sinks with an adequate supply of running hot and cold water shall be provided, and wherever required hose connections shall be installed.

REG. 12. *Cleansing of apparatus, utensils, etc.*—All apparatus, containers, and utensils shall be thoroughly cleaned and rinsed with boiling water or sterilized with live steam after each day's use.

REG. 13. *Garbage receptacles.*—Suitable, water tight, properly covered, galvanized iron or other sanitary metal cans for receiving and holding without leakage all garbage and other waste material, shall be provided. A tight fitting cover shall be provided for each can, and the can shall be kept covered. All garbage and other waste material shall be removed from the premises daily and shall not be allowed to become a nuisance.

REG. 14. *Meat not to be placed on floor.*—Meat shall not be placed directly on the floor, but must be placed on a rack or in a suitable container. All racks upon which meat is laid or hung shall be made of a smooth, hard, material and constructed so that they can be removed for cleaning. Floor racks must be at least 6 inches from floor.

REG. 15. *Construction of pickling vats.*—Pickling vats must be constructed of cement or other smooth, hard substance so that they can be kept clean, inoffensive and sanitary. Wooden vats must be elevated at least 6 inches from the floor.

REG. 16. *Water and ice used.*—All water and ice used on premises shall be clean and uncontaminated.

REG. 17. *Meat falling on floor to be condemned.*—All meats that fall on floor shall be immediately condemned and tanked.

REG. 18. *Use of lungs and cows' udders prohibited.*—The use of lungs and cows' udders for use in making sausage or other meat food product is prohibited.

REG. 19. *All equipment such as presses and coolers to be covered.*—All equipment such as presses and coolers must be covered when not in use.

REG. 20. *Working over of sausages.*—The working over of sausages is prohibited.

REG. 21. *Use of coloring matter prohibited.*—The use of coloring matter is prohibited.

REG. 22. *Use of preservatives prohibited.*—Only salt, sugar, saltpetre (except Chili saltpetre), pure spices, vinegar, and wood smoke may be used as preservatives.

REG. 23. *Repeated use of brine.*—The repeated use of brine is prohibited unless it be sterilized after each use.

REG. 24. *Keeping of preservatives, coloring matter.*—The presence in any part of an establishment of any prohibited coloring matter or preservative shall be deemed prima facie evidence of its use and the presence of any such material may be sufficient cause for the prosecution of the owners or proprietors of the establishment.

REG. 25. *Rats, mice, and vermin.*—The premises shall be kept free from rats, mice, and other vermin at all times.

REG. 26. *Water-closets and washing facilities.*—A sufficient number of water-closets conveniently located shall be provided for all employees, and such water-closets shall

be kept clean and sanitary and in good repair. A wash room conveniently located shall be provided, furnished with soap, running water, and fresh, clean, individual towels daily. A notice shall be conspicuously posted in water-closet compartment or wash room directing all employees to cleanse their hands before leaving and immediately before commencing work. The use of common towel is prohibited.

REG. 27. *Lockers for clothing of employees.*—Sufficient lockers of metallic construction shall be provided on premises for street clothing of employees. Such lockers, however, shall not be located in any room where food is manufactured or prepared.

REG. 28. *Spitting signs.*—Placards prohibiting spitting on floors shall be conspicuously posted.

REG. 29. *Cuspidors.*—A sufficient number of cuspidors shall be provided, and shall be cleansed and disinfected daily.

Poultry Slaughterhouses—Regulation of. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the department of health of the city of New York, adopted March 30, 1915, effective April 1, 1915, relating to section 325 of the Sanitary Code, which provides as follows:

SEC. 325. *Business of slaughtering cattle, sheep, swine, pigs, calves, and fowl regulated.*—The business of slaughtering cattle, sheep, swine, pigs, calves, or fowl shall not be conducted in the city of New York without a permit therefor issued by the board of health, or otherwise than in accordance with the terms of said permit and with the regulations of said board. It shall not be unlawful, however, to slaughter cattle, sheep, swine, pigs, or calves in the borough of Brooklyn, at such places where such business was established and carried on on January 3, 1898.

REGULATION 1. *Approval of site.*—No poultry slaughterhouse site shall be approved unless the written consent of all owners of real property within a radius of 200 feet from the proposed site shall be obtained and filed simultaneously with the filing of application for approval of site. All such written consents must be attested by a duly authorized notary public or commissioner of deeds.

REG. 2. *Changes of the environment.*—When the environment has changed since the granting of the last permit to such an extent that the maintenance of the slaughterhouse would constitute a nuisance, the application for the maintenance thereof shall be denied, even though the site has been previously approved by the board of health.

REG. 3. *Construction of floors.*—Floors shall be constructed of cement and shall be sloped to one or more drains which are properly trapped and sewer connected. Floors shall be scrubbed and flushed at the close of business each day.

REG. 4. *Construction of side walls and ceiling.*—Side walls and ceilings shall be of smooth, hard, impervious material and must be kept clean and shall be painted or whitewashed as frequently as may be required by the department of health.

REG. 5. *Lighting.*—All rooms in which poultry is stored or killed shall be adequately lighted so that all parts may be readily inspected.

REG. 6. *Ventilation.*—All rooms in which poultry is stored or killed shall be adequately ventilated.

REG. 7. *Height of cages.*—Cages in which poultry is kept shall not be more than two tiers high, and shall be elevated 12 inches above the floor and shall be set on rollers or casters and shall be emptied and cleaned every 48 hours.

REG. 8. *Construction of cages.*—Floors of cages shall be constructed of metal or cement and shall be provided with permanent gutters and leaders. Frames of cages shall be constructed of angle iron; standards shall be constructed of bar iron.

REG. 9. *Cleanliness of cages and gutters.*—Cages and gutters shall be kept clean and sanitary and shall be painted whenever required by the department of health. Floors of cages shall be scrubbed and cleaned immediately after emptying.

REG. 10. *Water supply.*—An adequate supply of running water shall be provided and hose connection for the flushing of all parts of premises shall be provided.

REG. 11. *Killing room.*—A separate killing room shall be provided and all poultry killed on premises shall be killed in said room. Killing room shall be provided with killing trough, constructed of nonabsorbent material and killing trough shall be provided with plug. Killing trough shall discharge over a properly trapped sewer-connected drain. A properly trapped and sewer-connected drain shall be provided in center of killing room.

REG. 12. *Side walls of killing room.*—Side walls and sliding doors of killing room shall be metal sheathed or finished in other nonabsorbent and sanitary material and partitions shall be at least 7 feet high. The junction of the walls and floors of killing room shall be made by means of sanitary cove base.

REG. 13. *Side walls of killing room to be kept clean.*—Side walls of killing room, killing trough, and all appurtenances shall be kept clean and sanitary and shall be flushed daily with hot water with a solution of washing compound or its equivalent, one-half pound of washing soda to a pail full of hot water.

REG. 14. *Use of sawdust.*—Sawdust which has been used for the absorption of blood or other purposes and all refuse shall be removed from premises at the close of each day's operations.

REG. 15. *Storing of empty crates prohibited.*—Empty crates shall not be stored on premises. Any accumulation of disused barrels, boxes, crates, or other offensive material or refuse shall be removed daily.

REG. 16. *Poultry at large prohibited.*—Poultry shall not be allowed at large upon premises.

REG. 17. *Adequate toilet facilities.*—Adequate toilet facilities, properly located, shall be provided.

REG. 18. *Stables.*—Room in which poultry is stored or killed shall not communicate directly with stable and shall not be used as an entrance to any stable.

Laundries—Regulation of. (Reg. Dept. of Health, Mar. 30, 1915.)

Regulations of the department of health of the city of New York, adopted March 30, 1915, effective April 1, 1915, relating to section 336 of the Sanitary Code, which provides as follows:

SEC. 336. *Public laundries regulated.*—No public laundry shall be conducted otherwise than in accordance with the regulations of the board of health. The provisions of this section shall not apply to the home of a person performing laundry work thereat for a regular family trade.

REGULATION 1. *Floors.*—In every such establishment the wash-room floors shall be smooth and watertight and must be kept clean and sanitary and in good repair. Where required, the floors shall be properly graded and drained into properly trapped sewer connected drains. Where no sewer is available, a properly constructed watertight cesspool or a leaching cesspool under permit from the department of health must be provided.

REG. 2. *Light and ventilation.*—All rooms or places in which the business is conducted shall be properly and adequately lighted and ventilated.

REG. 3. *Water-closet accommodations.*—In every such establishment suitable and sufficient water-closets shall be provided for the use of the persons therein engaged, such water-closets to be in compartments ventilated to the external air.

REG. 4. *Maintenance.*—Every such establishment shall be kept clean and wholesome and be so conducted in every part as not to be offensive or prejudicial to life or health.

REG. 5. *Containers not to be opened during transit.*—All soiled clothes shall be packed when received in containers which shall not be opened during transit.

REG. 6. *Soiled clothes to be treated.*—All soiled clothes shall be so treated in the process of washing, drying, or ironing as to destroy all pathogenic bacteria.

REG. 7. *Clothes to be sorted, etc., separately.*—Soiled clothes shall not be sorted, marked, or handled in immediate proximity to the washed (clean) clothes.

REG. 8. *Eating or cooking forbidden in laundry rooms.*—No eating by the employees or others shall be allowed in the rooms in which soiled clothes are handled, sorted, marked, or washed. No cooking shall be allowed in any room where miscellaneous laundry work is handled.

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