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SOME PROPERTIES OF IRON COMPOUNDS AND THEIR RELATION TO WATER CLARIFICATION

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In the clarification of water for potable purposes by rapid sand filtration it is necessary to add a chemical coagulant to assist the process. The two most commonly used coagulants are filter alum and copperas. In previous papers from this laboratory (see Theriault and Clark, 1923; Miller, 1923, 1924, and 1925) studies have been made of some of the fundamental properties of the "alum floc"

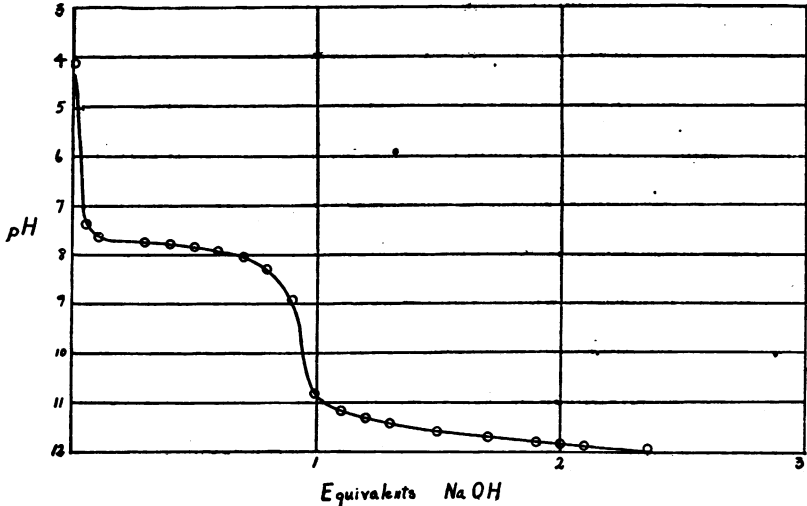


FIG 1

and the conditions for its formation in relation to its use in water clarification. The present paper deals with the application of the principles evolved for "alum floc" to the iron compounds used to assist in rapid sand filtration.

As a preliminary step, an electrometric titration of a 0.01 molar solution of recrystallized ferrous sulfate was made, using the hydrogen electrode. The results are given in Figure 1.

This curve apparently corresponds to the results obtained by Hildebrand (1913). There is at first a decided increase in pH value with the addition of small quantities of alkali. Simultaneously

with the increase in pH a precipitate begins to form. Upon the addition of one equivalent of alkali a second increase in pH value occurs. A curve of this type suggests the formation of a solid phase consisting of the basic sulfate.

The composition of the precipitate from partially alkalized ferrous sulfate was determined as follows: Five hundred c. c. of 0.02 molar ferrous sulfate solution were placed in a tall cylinder fitted with a rubber stopper. Oxygen-free nitrogen was bubbled through this solution for an hour. To this solution were added slowly 500 c. c. of solution containing the desired amount of sodium hydroxide through which nitrogen had likewise been bubbled. During this process nitrogen was bubbled continuously through the solution. The precipitate was then repeatedly centrifuged and washed with oxygen-free water in a closed vessel in a nitrogen atmosphere until the wash water no longer gave a test for sulfate. The precipitate was then dissolved and analyzed to determine its sulfate-iron ratio. In spite of precautions, the iron could not be kept in the pure ferrous state. This was indicated by the fact that the precipitate formed during this process was always discolored and that during the centrifuging process the color appreciably darkened. In Table 1 are given the results of these analyses. The results indicate that sulfate is carried down to an appreciable extent in the precipitate from the partially alkalized, ferrous sulfate solution. As increasing quantities of alkali are added, the proportion of sulfate present in the precipitate decreases and finally becomes zero.

To determine whether a progressive hydrolysis of the precipitate occurred during washing, samples were made up and precipitated as before. These were centrifuged and the precipitates containing adhering solution analyzed at once without washing. The results indicated a low ratio of sulfate to iron in the precipitate.

Since, in the use of ferrous sulfate as a coagulant in water purification, oxidation to the ferric condition occurs, a study was next made of certain ferric compounds similar to the study made upon copperas.

TABLE 1

Experiment No.	Mols. NaOH added per mol. Fe	pH	Mol. ratio $\frac{SO_4}{Fe}$ in the solid phase
1.....	0.5	7.9	0.0999
6.....	.8	7.9	.1002
2.....	1.0	(C)	.0617
4.....	1.2	(C)	.0667
5.....	1.4	(C)	.0704
3.....	1.5	(C)	0
7.....	2.0	(C)	0

¹ Gave pH values above the indicator range.

Since an electrometric titration by the hydrogen electrode can not be made upon ferric compounds without special procedures of dubious value, titration curves were made in the following manner upon ferric chloride and potassium ferric alum: One-liter mixtures of the ferric salt and sodium hydroxide were made up in which the concentration of iron was 0.01 molar and the quantity of alkali varied. After the precipitate had settled, the pH value of the solution was determined colorimetrically. In Figure 2 are given the results obtained.

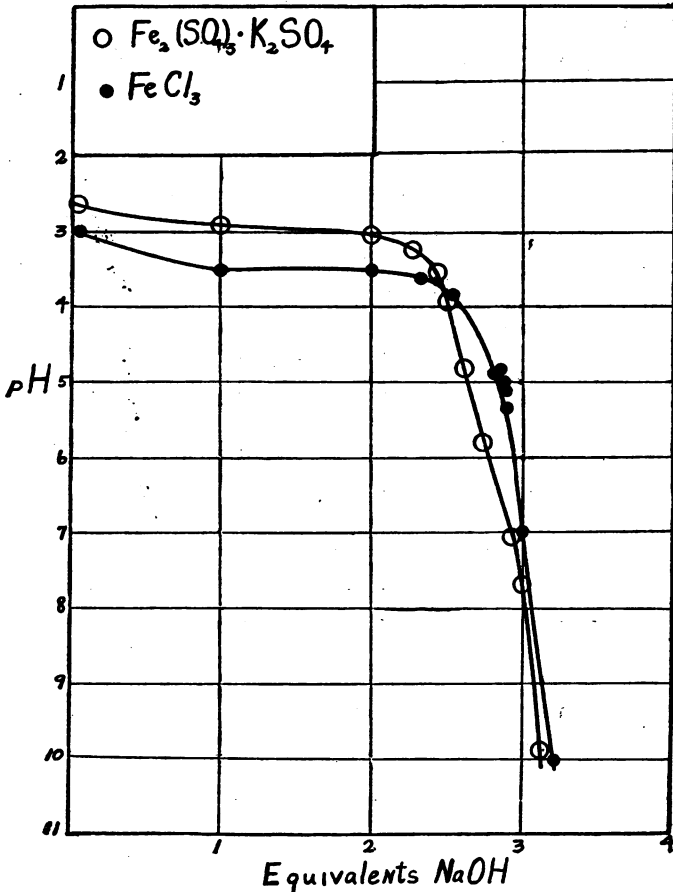


FIG. 2

It will be observed that the titration curves in Figure 2 are very similar to the titration curves for the corresponding aluminium compounds over the more acid ranges (see Theriault and Clark, 1923). An essential difference exists between compounds of the two metals in alkaline solutions, due to the fact that the aluminium precipitate dissolves readily, forming soluble aluminates. The ferric precipitate

does not so dissolve. Keeping this difference in mind, the discussion upon aluminium given in previous papers (Therault and Clark, 1923, and Miller, 1923) holds equally for the ferric compounds.

The composition of the precipitate from partially alkalized ferric alum solution was next studied according to the method of Miller (1923). Solutions 0.01 molar with respect to iron were used. The results are tabulated in Table 2 and shown graphically in Figure 3.

TABLE 2

Experiment No.	Mols. NaOH added per mol. Fe	pH	Mol. ratio $\frac{SO_4}{Fe}$ in the solid phase	Remarks
51.....	0	2.6	-----	Precipitate yellow-brown. Tends to disperse on long washing. Do. Do. Do. Do.
50.....	1.00	2.9	0.1825	
52.....	2.00	3.1	.1561	
59.....	2.25	3.2	-----	
53.....	2.50	3.9	.1580	
56.....	2.60	4.8	.1363	Color deepening. Tends to disperse on long washing. Do. Deep reddish-brown. No tendency to disperse. Do.
55.....	2.70	5.8	.1256	
57.....	2.80	7.1	.0347	
54.....	3.00	7.7	0	
58.....	3.10	9.8	0	Do.

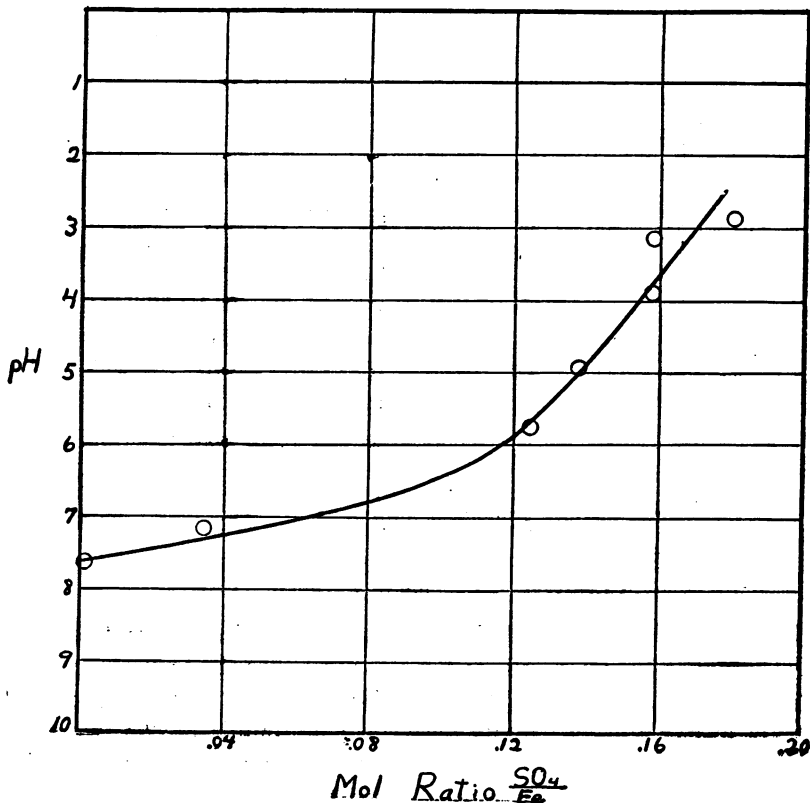


FIG. 3

The precipitate from ferric alum contains sulfate when there is used less than the stoichiometric quantity of alkali necessary to react according to the equation



This sulfate is replaceable by other negative ions of equal or greater valence. The precipitate containing sulfate differs from ferric hydrate (which forms when three or more equivalents of alkali are added) in color and in greater tendency to disperse on washing. In all probability it is analogous to the aluminium precipitate (see Miller, 1924) and consists of a solid solution of ferric hydrate with ferric sulfate or with one or more basic ferric salts.

When an attempt was made to determine the composition of the precipitate from the partially alkalized *ferric chloride* solution the same difficulties were encountered as with *aluminium chloride* (see Miller, 1923). The tendency of the insoluble material to disperse was so great, when less than three equivalents of alkali were added, that no determination could be effected.

In a previous paper from this laboratory it was shown that the pH range over which flocculation of "alum floc" occurred was determined by the nature and concentration of the anions present (Miller, 1925). This principle was likewise applied to the formation of the floc from ferric salts. The effect of chloride ion and sulfate ion upon the pH range of flocculation of the "ferric floc" was determined by treating liter quantities of 0.01 molar ferric chloride and potassium ferric alum, respectively, with varying quantities of sodium hydroxide. The pH was determined colorimetrically and the quantity of iron precipitated was determined quantitatively. In Figure 4 are given graphs representing the results obtained. The floc from ferric alum is almost completely precipitated near a pH value of 3. With ferric chloride, although a solid phase appears as a stable colloid rendering the solution opalescent, flocculation does not occur until a pH value of about 5 has been reached. This is quite analogous to the effects occurring with "alum floc" in presence of these ions.

The results of the experimental work with ferric salts indicate that the "ferric floc" possesses many of the properties of "alum floc." Some of these properties have been enumerated in this article. In relation to the clarification of water by ferric salts, the same three chemical factors which determined the optimum conditions for formation of "alum floc" apply equally to the "ferric floc": (1) There must be present in the water a certain minimum quantity of ferric ion; (2) there must be present an anion of strong coagulating power, such as the sulfate ion; (3) the hydrion concentration must be properly adjusted. "Ferric floc" differs from "alum floc" in the

fact that it does not redissolve at higher pH values. Less careful adjustment of pH at the higher values is therefore required in order to form the "ferric floc." The "ferric floc" begins to form at somewhat lower pH values than does "alum floc." This may prove to be an advantage under certain conditions.

One very important principle underlying the use of copperas in water clarification has not been included in this paper. This principle involves the change from the ferrous to the ferric condition in relation to the formation of "ferric floc" and includes especially a

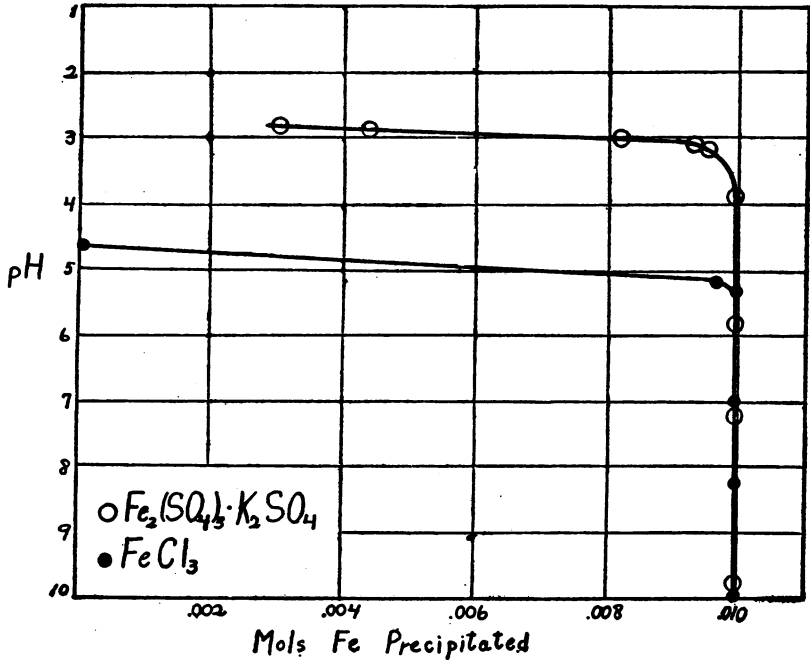


FIG. 4

consideration of the rate of oxidation of ferrous compounds at different hydrogen ion concentrations by dissolved oxygen. It is believed, however, that the information contained in this paper upon the properties of the ferrous and ferric systems forms a scientific basis upon which an investigation of this important principle may be made.

Acknowledgment.—I wish to express my appreciation to Prof. William Mansfield Clark, Chief of the Division of Chemistry, Hygienic Laboratory, for generous assistance and advice throughout the course of this investigation.

SUMMARY

1. The electrometric titration curve of ferrous sulfate by alkali has been determined.
2. The composition of the precipitate from ferrous sulfate at varying hydrogen ion concentrations has been determined in a nitrogen atmosphere.
3. The titration curves of ferric alum and ferric chloride by alkali have been made, using colorimetric methods.
4. The composition of the precipitate from ferric alum at varying hydrogen ion concentrations has been determined. The precipitate from ferric chloride did not lend itself to this type of analysis.
5. The ranges of hydrogen ion concentration over which precipitation occurs with ferric alum and ferric chloride has been determined.
6. The relation of these experimental facts to water clarification by copperas has been discussed. The importance of these data as a basis for a further study of principles has been pointed out.

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THE CHRONOLOGICAL DEVELOPMENT OF FEDERAL HEALTH LEGISLATION AND PUBLIC HEALTH AND MEDICAL ACTIVITIES

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FOREWORD

The following dates list in proper chronological order various Federal statutes dealing with health and medical matters, the inauguration of especially important activities along these lines by the National Government, and other significant events relating to national vitality. The list does not include every law or circumstance, but only the more important ones. Some are given merely for their historical interest.

Items relating to national health

- 1789: Federal Constitution adopted.
- 1794: An act authorizing the President to convene Congress at a place where there is no hazard to health. Act of April 3, 1794 (1 Stat. 353).
- 1798: Authorizing President to appoint a physician general for the Army. Act of May 28, 1798 (never called into service).
- 1798: Relief of sick and disabled seamen. Act of July 16, 1798 (1 Stat. 605). The foundation for the Marine Hospital Service.
- 1799: Extension of this relief to Navy and provisions for expenditure of funds. Act of March 2, 1799 (1 Stat. 729).
- 1799: To regulate the medical establishment, providing for a physician general, an apothecary general, and a purveyor, and other personnel in the Army. Act of March 2, 1799 (1 Stat. 721).
- 1811: Placing naval hospitals under a board of commissioners of navy hospitals. Act of February 26, 1811 (2 Stat. 650).
- 1813: An act to encourage vaccination. Act of February 27, 1813 (2 Stat. 806). Repealed in 1822 (3 Stat. 677).
- 1813: Army medical establishment reorganized. Act of March 3, 1813 (2 Stat. 818).
- 1818: Creation of Office of Surgeon General of Army. Act of April 14, 1818 (3 Stat. 426).
- 1821: Office of apothecary general in Army abolished. Act of March 2, 1821 (3 Stat. 615).
- 1832: Provision for vaccination of Indian tribes. Act of May 5, 1832 (4 Stat. 514). The first law to deal with the health of Indians.
- 1832: Navy hospitals transferred to Secretary of the Navy. Act of July 10, 1832 (4 Stat. 572).
- 1842: Bureau of Medicine and Surgery established in Navy Department. Act of August 31, 1842 (5 Stat. 579).
- 1848: Examination of imported drugs and medicinal preparations by customs officers authorized. Act of May 17, 1848 (9 Stat. 237). This act remained in force until the pure food law of 1906.
- 1850: First Federal report on mortality statistics. Based on census enumerators' returns.
- 1852: Appropriation of \$100,000 for Government Hospital for the Insane. Act of August 31, 1852 (10 Stat. 92).
- 1855: Government Hospital for Insane organized. Act of March 3, 1855 (10 Stat. 682).
- 1862: Chemist appointed (August 21) in the Department of Agriculture, which had been created by the act of May 15, 1862 (12 Stat. 387).
- 1870: Marine Hospital Service definitely created. Act of June 29, 1870 (16 Stat. 169).
- 1871: Dr. John M. Woodworth appointed (April) Supervising Surgeon of Marine Hospital Service.
- 1871: Establishment of Freedmen's Hospital. Act of March 3, 1871 (16 Stat. 506). Placed under supervision of Secretary of War in 1872, transferred to Department of Interior in 1874.
- 1873-1877: Medical and education division in Office of Indian Affairs.¹
- 1878: Investigation of diseases of animals authorized by appropriation act of June 20, 1878 (20 Stat. 240). Also by act of May 29, 1884 (23 Stat. 32) especially for that purpose.

¹ Information from Office of Indian Affairs.

- 1878: First quarantine law of national scope, charging officers of Marine Hospital Service with its enforcement. Act of April 29, 1878 (20 Stat. 27). Other quarantine laws extending Federal aid to State and local regulations were passed in 1796, 1832, and 1866.
- 1879: National Board of Health established for four years. Acts of March 3, 1879 (20 Stat. 484), and June 2, 1879 (21 Stat. 5). Appropriations were made until 1885, then discontinued. The act creating the board was repealed in 1893 (27 Stat. 452).
- 1880: First death registration area.²
- 1884: Bureau of Animal Industry established under Commissioner of Agriculture. Act of May 29, 1884 (23 Stat. 31).
- 1884: Bureau of Labor established in Interior Department. Act of June 27, 1884 (23 Stat. 60). Became an independent department in 1888, transferred to the Department of Commerce and Labor in 1903, and to the Department of Labor in 1913 as the Bureau of Labor Statistics. From the beginning the bureau has investigated industrial hygiene, housing, and other socio-health conditions.
- 1886: Tax on oleomargarine imposed. Act of August 2, 1886 (24 Stat. 209). Analytical work done by analytical and chemical division of the Bureau of Internal Revenue until the passage of the pure food law of 1906, when it was transferred to the Bureau of Chemistry.
- 1890: First effective measure dealing with interstate control of disease. Act of March 27, 1890 (26 Stat. 31).
- 1890: Medical inspection of immigrants by Federal officers of the Marine Hospital Service begun (April) at the port of New York. An act of 1882 (22 Stat. 214) was the first placing restrictions on the admission of defective aliens.
- 1891: Medical inspection of immigrants extended to all ports. Act of March 3, 1891 (26 Stat. 1084).
- 1893: New quarantine act. Extension of activities of Marine Hospital Service. Act of February 15, 1893 (27 Stat. 449). Still in force. Amended in 1901 (31 Stat. 1086).
- 1894: Appropriation of \$10,000 to Department of Agriculture for a study of nutrition. Act of August 8, 1894 (27 Stat. 264).
- 1901: Appropriation for Hygienic Laboratory under Marine Hospital Service. Act of March 3, 1901 (31 Stat. 1137). The laboratory was not occupied until 1904.
- 1902: Collection of vital statistics by Bureau of the Census (Department of the Interior, transferred to Department of Commerce and Labor in 1903, and to Department of Commerce in 1913) authorized. Act of March 6, 1902 (32 Stat. 52) amended by act of April 27, 1904 (33 Stat. 362). An act of July 1, 1902 (32 Stat. 714) authorized the Public Health and Marine Hospital Service to prepare forms and compile vital statistics.
- 1902: Division of Chemistry raised to status of a bureau in the Department of Agriculture. Act of June 3, 1902 (32 Stat. 303).
- 1902: Name of Marine Hospital Service changed to Public Health and Marine Hospital Service. Act of July 1, 1902 (32 Stat. 712). Various other new provisions.
- 1902: Tests and control of biological products in interstate commerce. Act of July 1, 1902 (32 Stat. 728). This duty was turned over to the Public Health and Marine Hospital Service, which issued the first regulations on February 21, 1903.

² Information from division of vital statistics, United States Bureau of the Census.

- 1905: Leprosy hospital established in Hawaii. Act of March 3, 1905 (33 Stat. 1009). Operated by the Public Health and Marine Hospital Service. An investigation of leprosy had been authorized in 1899 (30 Stat. 976).
- 1906: The pure food and drugs law passed. Increase of scope of Bureau of Chemistry. Act of June 30, 1906 (34 Stat. 768). In 1918 detail of Public Health Service officers to the Bureau of Chemistry was authorized (40 Stat. 992).
- 1906: Meat inspection law passed. Increase of scope of Bureau of Animal Industry. Act of June 30, 1906 (34 Stat. 679). Other meat inspection laws had been passed in 1890 (26 Stat. 414), 1891 (26 Stat. 1090), and 1895 (28 Stat. 732).
- 1906: Extension of national control of quarantine by purchase of local stations. Act of June 19, 1906 (34 Stat. 299).
- 1909: First organized medical relief for natives of Alaska. Under jurisdiction of Bureau of Education (Department of the Interior). The first definite appropriation for this purpose was not made until 1915 (38 Stat. 822, 862). An officer of the Public Health Service was detailed to assist in health work in Alaska in 1912, following a survey made by the service in 1911.
- 1909: Creation of a health section in the educational division of the Office of Indian Affairs, presumably by department order.
- 1909: National Bureau of Health advocated by President W. H. Taft in his first annual message on December 7. He repeated this recommendation in his second message on December 6, 1910. Bills to this end were introduced in Congress, but were not successful.
- 1910: Bureau of Mines established in Department of the Interior. Act of May 16, 1910 (36 Stat. 369). This was revised in 1913 (37 Stat. 681). Investigations to improve the health and safety of miners were authorized. An act of June 12, 1917 (40 Stat. 146), authorized detail of Public Health Service officers to the bureau.
- 1910: Law prohibiting white-slave traffic (the so-called Mann Act) passed. Act of June 25, 1910 (36 Stat. 825).
- 1911: Division of school hygiene in the Bureau of Education of the Interior Department established by order of the Commissioner of Education.
- 1912: Children's Bureau established in the Department of Commerce and Labor. Act of April 9, 1912 (37 Stat. 79). Transferred to Department of Labor in 1913 (37 Stat. 736).
- 1912: Tax imposed on white phosphorus matches. Act of April 9, 1912 (37 Stat. 81).
- 1912: Name of Public Health and Marine Hospital Service changed to Public Health Service, and field of action extended somewhat. Act of August 14, 1912 (37 Stat. 309).
- 1914: Antinarcotic law, the so-called Harrison Act, passed. Act of December 17, 1914 (38 Stat. 785).
- 1915: First birth registration area.³
- 1916: First Federal child labor law. Act of September 1, 1916 (39 Stat. 675). Administered by Children's Bureau. Declared unconstitutional by the United States Supreme Court, June 3, 1918.
- 1916: Federal employees' compensation law. Act of September 7, 1916 (39 Stat. 742).
- 1917: Federal leprosy hospital authorized. Act of February 3, 1917 (39 Stat. 872). Not occupied until 1920.

³Information from division of vital statistics, United States Bureau of the Census.

- 1917: **New immigration law.** Act of February 5, 1917 (39 Stat. 874). Provisions controlling medical examination now in force.
- 1917: **Federal Board for Vocational Education established.** Act of February 23, 1917 (39 Stat. 929). A previous law in 1914 had authorized Federal aid to the States (38 Stat. 372).
- 1918: **The World War.** An order placing all Federal health work, except that of the Army, Navy, and Bureau of Labor Statistics, under the Secretary of the Treasury, through the Public Health Service, was issued by President Wilson on July 1, 1918.
- 1918: **Division of venereal diseases created in the Public Health Service, and also an interdepartmental social hygiene board.** Act of July 9, 1918 (40 Stat. 886). The latter has received no appropriations since 1922.
- 1918: **The Women in Industry Service created in the Department of Labor.** Act of July 1, 1918 (40 Stat. 634). Became a permanent bureau, called the Women's Bureau, in 1920. Act of June 5, 1920 (41 Stat. 987).
- 1918: **The influenza epidemic.** In October \$1,000,000 was appropriated to enable the Public Health Service to combat and suppress the disease (40 Stat. 1088).
- 1919: **The child labor tax law, administered by the Bureau of Internal Revenue** (40 Stat. 1138). Declared unconstitutional in 1922.
- 1919: **Public Health Service authorized to give medical relief to war veterans.** Act of March 3, 1919 (40 Stat. 173). The service had already been doing this since October, 1917, through an arrangement with the Bureau of War Risk Insurance. The work was turned over to the Veterans' Bureau when it was created in 1921. Act of August 9, 1921 (42 Stat. 147).
- 1921: **Maternity and infancy law passed.** Increase of scope of Children's Bureau. Act of November 23, 1921 (42 Stat. 135).
- 1922: **Increase of compensation for commissioned officers of Public Health Service.** Act of June 10, 1922 (42 Stat. 625).
- 1922: **Welfare division established in the Post Office Department by order of the Postmaster General.** Now known as the service relations division.
- 1922: **Federal Narcotics Control Board created.** Act of May 26, 1922 (42 Stat. 596). The act prohibits the importation of crude opium for other than medicinal uses.
- 1923: **Bureau of Home Economics established in the Department of Agriculture.** Act of February 26, 1923 (42 Stat. 1289). This bureau had been a division of the States Relations Service since 1915, and previously studies had been made under the Office of Experiment Stations since 1894.
- 1924: **Bureau of Dairying established in the Department of Agriculture.** Act of May 29, 1924 (43 Stat. 243). This bureau had been a division of the Bureau of Animal Industry since 1895.

CITY HEALTH OFFICERS, 1925

Directory of Those in Cities of 10,000 or More Population

Directories of the city health officers in the cities of the United States having a population of 10,000 or more have been published in the Public Health Reports ¹ for each year from 1916 to 1924, for the information of health officers and others interested in public

¹ Reprints Nos. 346, 416, 494, 539, 599, 702, 767, 876, and 930 from the Public Health Reports.

health activities. These directories have been compiled from data furnished by the health officers. The cities included in this directory are those having 10,000 population or more on July 1, 1924, as estimated by the Bureau of the Census.

The asterisk (*) indicates that the officer so designated has been reported to be a "whole-time" health officer. For this purpose a "whole-time" officer is defined as "one who does not engage in the practice of medicine or any other business, but devotes all his time to official duties."

City	Name of health officer	Official title
Alabama:		
Anniston.....	*G. A. Cryer, M. D.....	County health officer.
Bessemer.....	.....	.....
Birmingham.....	*J. D. Dowling, M. D.....	County and city health officer.
Dothan.....	*T. E. Tucker, M. D.....	City and county health officer.
Florence.....	*W. D. Hubbard, M. D.....	Field agent, U. S. Public Health Service.
Gadsden.....	*C. L. Murphree, M. D.....	County health officer.
Mobile.....	*C. A. Mohr, M. D.....	Do.
Montgomery.....	*J. L. Bowman, M. D.....	Do.
Selma.....	*L. T. Lee, M. D.....	Do.
Tuscaloosa.....	*A. A. Kirk, M. D.....	County and city health officer.
Arizona:		
Douglas.....	Zachery Causey, M. D.....	City health officer.
Phoenix.....	L. D. Dameron, M. D.....	Do.
Tucson.....	A. G. Schnabel, M. D.....	City physician.
Arkansas:		
Fort Smith.....	*J. E. Johnson, M. D.....	Health officer.
Helena.....	Mrs. E. G. Miles.....	Public health nurse.
Hot Springs.....	*Austin F. Barr, M. D.....	City health officer.
Jonesboro.....	W. C. Overstreet, M. D.....	Do.
Little Rock.....	*William Leland Holt, M. D., C. P. H.....	Do.
North Little Rock.....	Howell Atkinson, M. D.....	City physician.
Fine Bluff.....	Wm. H. Blankenship, M. D.....	City health officer.
California:		
Alameda.....	Arthur Hieronymus, M. D.....	Health officer.
Alhambra.....	*S. J. Stewart, M. D.....	District health officer.
Bakersfield.....	P. J. Cuneo, M. D., LL. B.....	Health officer.
Berkley.....	*William P. Shepard, M. D.....	Do.
Chico.....	C. E. Tovee.....	City health officer.
Eureka.....	*John N. Chain, M. D.....	City physician and health officer.
Fresno.....	C. Mathewson, M. D.....	Health officer.
Glendale.....	*Gerhard Kaemmerling, M. D.....	Do.
Long Beach.....	*G. E. McDonald, M. D.....	City health officer.
Los Angeles.....	*George Parrish, M. D.....	Health commissioner.
Modesto.....	J. W. Morgan, M. D.....	City health officer.
Oakland.....	Harry E. Foster, M. D.....	Health officer.
Pasadena.....	*Frank W. Hodgdon, Jr., M. D.....	City health officer.
Pomona.....	*Eugene F. Fontaine, M. D.....	Deputy county health officer.
Richmond.....	Charles Robert Blake, M. D.....	Commissioner of health.
Riverside.....	W. B. Wells, M. D.....	Health officer.
Sacramento.....	Walter William Cress, M. D.....	Do.
San Bernardino.....	Colin C. Owen, M. D.....	City health officer.
San Diego.....	*Alex M. Lesem, M. D.....	Health officer and superintendent.
San Francisco.....	*William C. Hassler, M. D., Ph. G.....	Health officer and registrar.
San Jose.....	Henry C. Brown, M. D.....	Health officer.
Santa Ana.....	*V. G. Preston, M. D.....	County health officer.
Santa Barbara.....	*William H. Eaton, M. D.....	Health officer.
Santa Cruz.....	W. R. Congdon, M. D.....	Do.
Santa Monica.....	A. C. Weaver, M. D.....	City health physician.
Stockton.....	*John J. Sippy, M. D.....	District health officer.
Vallejo.....	Edward A. Peterson, M. D.....	City health officer.
Venice.....	*J. B. Sands, M. D.....	Do.
Colorado:		
Boulder.....	J. H. Bush, M. D.....	Director of public health.
Colorado Springs.....	Omer R. Gillett, M. D.....	City health officer.
Denver.....	*Ethel D. Humphreys, M. D.....	Manager of health and charities.
Greeley.....	Burgen Woodcock, M. D.....	City physician.
Pueblo.....	W. E. Buck, M. D.....	Chief, department of health and sanitation.
Trinidad.....	G. W. Robinson, M. D.....	City physician.
Connecticut:		
Ansonia.....	Frederick C. Goldstein, M. D.....	Health officer.
Bridgeport.....	*William H. Coon, M. D.....	Do.
Bristol.....	Joseph I. Woisard, M. D.....	Do.
Danbury.....	Everett J. S. Scofield, M. D.....	Do.

City	Name of health officer	Official title
Connecticut—Contd.		
Derby	Thomas F. Plunkett, M. D.	Health officer.
East Hartford	F. H. Mayberry, M. D.	Do.
Enfield	Frank F. Simonton, M. D.	Do.
Fairfield	*Laurence E. Poole, M. D.	Do.
Greenwich	Albert E. Austin, M. D.	Do.
Groton	Frank W. Hews, M. D.	Do.
Hartford	*Charles P. Botsford, M. D.	Superintendent of health and registrar.
Manchester	D. C. Y. Moore, M. D.	Chairman, board of health.
Meriden	Joseph A. Cooke, M. D.	Health officer.
Middletown	Thomas P. Walsh, M. D.	Do.
Milford	Willis S. Putney, M. D.	Town health officer.
Naugatuck		
New Britain	*Richard W. Pullen, M. D.	Health officer.
New Haven	*John L. Rice, M. D.	Do.
New London	*Benjamin N. Pennell, D. V. S.	Do.
Norwalk	Robert E. Perdue, M. D.	City health officer.
Norwich	Edward J. Brophy, M. D.	Do.
Orange		
Shelton	Gould A. Shelton, M. D.	Do.
Stamford	*Raymond D. Fear, M. D., Dr. P. H.	Health commissioner.
Stonington ¹	Charles F. Congdon, M. D.	Town health officer.
Stratford	DeRuyter Howland, M. D.	Do.
Torrington		
Wallingford	Wm. Joseph Riordan, M. D.	Health officer.
Waterbury	*Thomas J. Kilmartin, M. D.	Do.
West Hartford	Ralph W. E. Alcott, M. D.	Do.
Willimantic	Wm. P. S. Keating, M. D.	City health officer.
Delaware:		
Wilmington	Fred F. Armstrong, M. D.	Secretary, board of health.
District of Columbia:		
Washington	*Wm. C. Fowler, M. D.	Health officer.
Florida:		
Jacksonville	*Noble A. Upchurch, M. D.	City health officer.
Key West	Eugene C. Lowe, M. D.	Do.
Miami	*W. T. Lanier, M. D.	Chief, division of health.
Orlando	Sylvan McElroy, M. D.	City physician.
Pensacola		
St. Petersburg	Ray Davies, M. D.	Health commissioner.
Tampa	*A. C. Hamblin, M. D.	City health officer.
West Palm Beach	*E. D. Clawson, V. M. D.	Do.
Georgia:		
Albany	*Hugo Robinson, M. D., Ph. G.	Commissioner of health.
Athens	*J. D. Applewhite, M. D.	County health commissioner.
Atlanta	*John F. Kennedy, M. D.	City health officer.
Augusta	*Harry B. Neagle, M. D., D. P. H.	Commissioner of health.
Brunswick	*H. L. Akridge, M. D.	Do.
Columbus		Health officer.
La Grange	*C. S. Kinzer, M. D.	Do.
Macon	*Chas. L. Ridley, M. D.	City health officer.
Rome	*Buena Vesta Elmore, M. D.	Commissioner of health.
Savannah	*Victor H. Bassett, M. D.	City health officer.
Valdosta	*Gordon T. Crozier, M. D.	Do.
Waycross	*George E. Atwood, M. D.	Commissioner of health.
Idaho:		
Boise	*R. H. Pratt	Health officer.
Pocatallo	H. H. Hughart, M. D.	City physician.
Illinois:		
Alton	D. F. Duggan, M. D.	Health commissioner.
Aurora	Geo. W. Haan, M. D.	Do.
Belleville		
Berwyn		
Bloomington	*Charles E. Shultz, M. D.	Health director.
Blue Island	*Louis A. Burkhardt	Commissioner of health.
Cairo	B. S. Hutcheson, M. D.	City health officer.
Canton		
Centralia		
Champaign	W. E. Schowengerdt, M. D.	Do.
Chicago	*Herman N. Bundesen, M. D.	Commissioner of health.
Chicago Heights	E. F. Hay, M. D.	Health physician.
Cicero	J. J. Hood, M. D.	Commissioner of health.
Collinsville	R. H. Greaves, M. D.	City health officer.
Danville	W. C. Dixon, M. D.	Health commissioner.
Decatur	*Wm. S. Keister, M. D.	Director of health.
East Moline	J. Henry Fowler, M. D.	City health officer.
East St. Louis	*John T. Connors	Commissioner of health.
Elgin	*A. L. Mann, M. D.	City physician.
Evanston	Clarence T. Roome, M. D.	Commissioner of health.
Forest Park	Hermann P. A. Carstens, M. D.	Health commissioner.
Freeport	Robert J. Burns, M. D.	Commissioner of health.
Galesburg	*E. M. Ellsworth	City health officer.
Granite City	J. J. Fitzgerald, M. D.	City physician.
Harvey	M. R. Morse, M. D.	Health officer.

¹ Address, Mystic, Conn.

City	Name of health officer	Official title
Illinois—Continued		
Herrin	Wm. G. Davis	President, board of health.
Jacksonville	*Thomas Allen Mann, M. D.	Director of health.
Joliet	Ed. J. Huggins, M. D.	Commissioner of health.
Kankakee	C. K. Smith, M. D.	Health officer.
Kewanee	H. N. Heflin, M. D.	Superintendent of health.
La Salle	*E. W. Weis, M. D.	Health commissioner.
Lincoln	*Oscar Blackford	Health officer.
Marion	W. Edw. Reid, M. D.	President, board of health.
Mattoon	R. J. Coultas, M. D.	City health officer.
Maywood	R. L. Reynolds, M. D.	Health officer.
Moline	*E. A. Edlen, M. D.	City physician.
Mount Vernon		
Murphysboro	Ray Essick, M. D.	Health officer.
Oak Park	Frank S. Needham, M. D.	Commissioner of health.
Ottawa	Enos E. Palmer, M. D.	Health officer.
Pekin	L. R. Clary, M. D.	Do.
Peoria	Joel A. Eastman, M. D.	Commissioner of health.
Quincy	*Wm. D. Wrightson	Public health officer.
Rock Island	Harry Frey, M. D.	Health commissioner.
Rockford	*N. O. Gunderson, M. D.	Commissioner of health.
Springfield	*Raymond Voorhees Brokaw, M. D.	Superintendent of health.
Streator	*Arthur Gaff	Health officer.
Urbana	George F. Way, M. D.	Do.
Waukegan	Howard C. Hoag, M. D.	City physician.
West Frankford	H. L. Davis, M. D.	Do.
Indiana		
Anderson	E. M. Conrad, M. D.	Secretary, board of health.
Bloomington	C. E. Harris, M. D.	Do.
Clinton	Isaac D. White, M. D.	Do.
Connersville	B. R. Smith, M. D.	Do.
Crawfordsville	Aubrey L. Loop, M. D.	City health officer.
East Chicago	M. A. Given, M. D.	Secretary, board of health.
Elkhart	*E. C. Meyers	Health officer.
Elwood	Harry W. Fitzpatrick, M. D.	Secretary, health department.
Evansville	Wallace C. Dyer, M. D.	Secretary, board of health.
Fort Wayne	John H. Gilpin, M. D.	Do.
Frankford	A. G. Chittick, M. D.	City health officer.
Gary	C. M. Reyher, M. D.	Secretary, board of health.
Hammond	Wm. A. Buchanan, M. D.	Do.
Huntington	R. F. Frost, M. D.	Do.
Indianapolis	*Herman G. Morgan, M. D.	Do.
Jeffersonville	D. L. Field, M. D.	Do.
Kokomo	Thomas C. Cochran, M. D.	City health officer.
Lafayette	A. J. Bauer, M. D.	City health commissioner.
LaPorte	John Fracher, M. D.	City health officer.
Logansport	*Fred G. Six	Health inspector.
Michigan City	Nelle C. Reed, M. D.	Health officer.
Marion	V. V. Cameron, M. D.	Secretary, board of health.
Mishawaka	Leo P. Van Rie, M. D.	Do.
Muncie	U. G. Poland, M. D.	Do.
New Albany	Chester C. Funk, M. D., Ph. G.	Do.
New Castle	Wm. C. Heilman, M. D.	Do.
Peru		
Richmond	Charles E. Duffin, M. D.	City health officer.
South Bend	Charles S. Bosenbury, M. D.	Secretary, board of health.
Terre Haute	George T. Johnson, M. D.	Do.
Vincennes	Clarke E. Stewart, M. D.	Do.
Wabash	L. O. Sholty, M. D.	Do.
Whiting	E. L. Dewey, M. D.	Do.
Iowa		
Boone	Wm. Woodburn, M. D.	Health officer.
Burlington	George H. Steinle, M. D.	Do.
Cedar Rapids	*Anton Flusty	Do.
Clinton	H. R. Sugg, M. D.	Do.
Council Bluffs	A. A. Robertson, M. D.	Do.
Davenport	*Theodore J. Meyer	Do.
Des Moines	*H. L. Saylor, M. D.	Health commissioner.
Dubuque	*D. C. Steelsmith, M. D., C. P. H.	Director of health.
Fort Dodge	*E. S. Welch	Health officer.
Iowa City	Geo. H. Scanlon, M. D.	City health physician.
Keokuk	Bruce L. Gilfillan, M. D.	Do.
Marshalltown	B. L. Frey, M. D.	Health officer.
Mason City	Matthew J. Fitzpatrick, M. D.	Health physician.
Muscataine	A. L. Bryan, M. D.	City health physician.
Ottumwa	J. W. Elerick, M. D.	City health officer.
Sioux City	*W. D. Hayes, C. P. H.	Commissioner of health.
Waterloo	J. R. Thompson, M. D.	City health officer.
Kansas		
Arkansas City	Ernest F. Day, M. D.	Chairman, board of health
Atchison	Charles W. Robinson, M. D.	City health officer.
Chanute	M. A. Duncan, M. D.	City physician.
Coffeyville	Walter H. Wells, M. D.	Do.
El Dorado	*J. W. Buckley	City health officer.
Emporia	*J. S. Fulton, M. D.	Do.

City	Name of health officer	Official title
Kansas—Continued		
Fort Scott	C. L. Mosley, M. D.	Assistant collaborating epidemiologist, U. S. P. H. S.
Hutchinson	Guy R. Walker, M. D.	City physician
Independence		
Kansas City	*Louis B. Gloyne, M. D.	Commissioner of health and sanitation.
Lawrence	H. L. Chambers, M. D.	Superintendent, health department.
Leavenworth	Cyrus D. Lloyd, M. D.	City health officer.
Newton	H. M. Glover, M. D.	County health officer.
Parsons	L. B. Kackley, M. D.	Health officer.
Pittsburg	Ralph E. Jenkins, M. D.	City health officer.
Salina	S. T. Blades, M. D.	Do.
Topeka	*Earle G. Brown, M. D.	Do.
Wichita	*D. H. Cooper, M. D.	Director of public welfare.
Kentucky:		
Ashland		
Covington	James P. Riffe, M. D.	City health officer.
Henderson	E. L. Busby, M. D.	Do.
Lexington	*Charles H. Voorhies, M. D.	Do.
Louisville	Ellis Owen, M. D.	Do.
Newport	John Todd, M. D.	Do.
Owensboro	*Robert M. Hathaway, M. D.	Director of health.
Paducah	*J. Ernest Fox, M. D.	Do.
Louisiana:		
Alexandria	J. A. Parker, M. D.	Chairman, board of health.
Baton Rouge	T. Jeff McHugh, M. D.	President, city board of health.
Lake Charles	J. G. Martin, M. D.	City health officer.
Monroe	*John Scriber, M. D.	Health officer.
New Orleans	E. L. Leckert, M. D.	Superintendent of health.
Shreveport	A. G. Heath, M. D.	President, department of health.
Maine:		
Auburn	*C. E. Williams, M. D.	Health officer.
Augusta	George A. Coombs, M. D.	Do.
Bangor	*H. D. McNeil, M. D.	Do.
Bath	*Chester S. Kingsley	City sanitarian.
Biddeford	*John W. Mahoney	Health officer.
Lewiston	*L. J. Dumont, M. D.	Do.
Portland	*Thomas Tetreau, M. D.	Do.
Sanford	*C. W. Blagden, M. D.	Do.
South Portland	Reginald T. Lombard, M. D.	Do.
Waterville	*William James Young, M. D.	Do.
Maryland:		
Annapolis		
Baltimore	*Charles Hampton Jones, M. D.	Commissioner of health and registrar of vital statistics.
Cumberland	*Harvey H. Weiss	City health officer and registrar of vital statistics.
Frederick	*E. C. Kefauver, M. D.	Assistant deputy State health officer.
Hagerstown	Henry R. Kritzer, M. D.	County health officer.
Massachusetts:		
Adams	*L. French, M. D.	District health officer.
Amesbury	Charles B. Kingsbury	Agent, board of health.
Arlington	*William H. Bradley	Do.
Athol	Marion B. Sibley, M. D.	Health officer.
Attleboro	William O. Hewitt, M. D.	Do.
Belmont	*H. E. Berger, jr., C. P. H.	Agent, board of health.
Beverly	*Alonzo O. Woodbury	Do.
Boston	*Francis X. Mahoney, M. D., M. D. V.	Health commissioner.
Braintree	Joseph G. Bailey	Chairman, board of health.
Brockton	David B. Tuholski, M. D.	Health officer.
Brookline	Francis P. Denny, M. D.	Do.
Cambridge	S. B. Kelleher, M. D.	Medical inspector.
Chelsea	*John F. Welch	Health officer.
Chicopee	*Gertrude M. DeWitt	Agent and secretary.
Clinton	*Frederick E. Murphy	Agent, board of health.
Danvers	*Hugo Nappe	Health officer.
Dedham		
Easthampton	Clemence C. Buckner	Agent, board of health.
Everett	*William Gess	Health officer.
Fall River	*Samuel B. Morriss	Agent, board of health.
Fitchburg	Fred R. Brigham	Do.
Frammingham	*E. B. Johnson	Agent and executive officer.
Gardner	*Wm. P. O'Donnell	Agent, board of health.
Gloucester		
Greenfield	*Geo. P. Moore	Health agent.
Haverhill	*George T. Lennon	Agent and clerk.
Holyoke	*J. Sidney Wright	Agent and health officer.
Lawrence	John P. Kane	Chairman, board of health.
Leominster		
Lowell	*Francis J. O'Hare	Agent, board of health.
Lynn	Michael R. Donovan, M. D.	Commissioner of public health
Malden	*Frederick Walmsley	Health inspector.
Marlboro	*John J. Cassidy	Agent, board of health.
Medford	William N. Lanigan, M. D.	Medical inspector.
Melrose	Clarence P. Holden, M. D.	Chairman, board of health

City	Name of health officer	Official title
Massachusetts—Con.		
Methuen	*Albert Slack	Clerk, board of health.
Milford	James Birmingham	Sanitary inspector.
Milton	*Paul W. Kimball, M. D.	Agent, board of health.
Natick	Thomas F. Morris	Do.
New Bedford	*Wm. G. Kirschbaum	Agent and executive officer.
Newburyport	*William Thurston	Agent and clerk.
Newton	*Francis Geo. Curtis, M. D.	Chairman, board of health.
North Adams	*Douglas W. Hyde	Agent, board of health.
Northampton	George R. Turner	Do.
Northbridge	Daniel C. Duggan	Chairman, board of health.
Norwood	James J. Mulvehill	Health officer.
Palmer	J. P. Schneider, M. D.	Chairman, board of health.
Peabody	*James J. Ray	Agent, board of health.
Pittsfield	*Willys M. Monroe, M. D.	City health officer.
Plymouth	Walter D. Shurtleff, M. D.	Do.
Quincy	Fred A. Bartlett, M. D.	Health commissioner.
Revere	*Joseph E. Lamb, M. D.	Health officer.
Salem	*John J. McGrath	Agent, board of health.
Saugus	Charles E. Light	Chairman, board of health.
Somerville	Frank L. Morse, M. D.	Medical inspector and bacteriologist.
Southbridge	*Albert R. Brown	Agent, board of health.
Springfield	*Jacob R. Sackett	Do.
Taunton	T. F. Cusick, M. D.	Health officer.
Wakefield	David Taggart	Health officer and agent.
Waltham	Charles B. Fuller, M. D.	Director, public welfare commission.
Watertown	*John W. Tapper	Health officer.
Webster		
West Springfield	*J. J. Lysaght	Agent, board of health.
Westfield	R. M. Marr, M. D.	Health officer.
Weymouth	F. L. Doucett, M. D.	Clerk of board.
Winchester	*Maurice Dinneen	Health officer.
Winthrop	*H. C. Daniels	Do.
Woburn	*Edward F. Gorman	Agent and secretary.
Worcester	*Thomas F. Kenney, M. D.	Director, board of health.
Michigan:		
Adrian	Emily Stark, M. D.	Health officer
Alpena	D. A. Cameron, M. D.	City physician.
Ann Arbor	John A. Wessinger, M. D.	Health officer.
Battle Creek	*A. A. Hoyt, M. D.	Do.
Bay City	Geo. W. Moore, M. D.	Do.
Benton Harbor	Carl A. Mitchell, M. D.	Director of public health
Cadillac	D. Ralston, M. D.	City health officer.
Detroit	*Henry F. Vaughan, D. P. H.	Commissioner of health.
Escanaba	*Harry J. Defnet, M. D.	Do.
Flint	*Robert A. Stephenson, M. D.	City health officer.
Grand Rapids	*C. C. Slemson, M. D.	Health officer.
Hamtramck	T. T. Dysarz, M. D.	Do.
Highland Park	William N. Braley, M. D.	Do.
Holland		
Ironwood	*Louis Dorpat, M. D.	Do.
Ishpeming	*George G. Barnett, M. D.	Do.
Jackson	*Floyd R. Town, M. D.	Do.
Kalamazoo	*Alvin H. Rockwell, M. D.	Do.
Lansing	*S. Rowland Hill, M. D.	Health director.
Marquette	*L. L. Youngquist, M. D.	City health officer.
Monroe	Varnum C. Southworth, M. D.	City physician.
Mount Clemens	Edward G. Folsom, M. D.	Health officer.
Muskegon	R. J. Harrington, M. D.	Do.
Muskegon Heights	William Chapin, M. D.	Do.
Owosso	R. C. Mahaney, M. D.	Do.
Pontiac	*C. A. Neale, M. D.	Director of public health.
Port Huron	*Gertrude O'Sullivan, M. D.	Health officer.
River Rouge	Claud Smith, M. D.	Do.
Saginaw	*Stuart Yntema, M. D.	Do.
Sault Ste. Marie	*John J. Griffin, M. D.	Do.
Traverse City	George A. Holliday, M. D.	Do.
Wyandotte		
Minnesota:		
Albert Lea	*P. W. Henry	Secretary and executive officer.
Austin	Clifford C. Leck, M. D.	Chairman, board of health.
Brainerd	Joseph Nicholson, M. D.	Health officer.
Duluth	Lincoln A. Sukeforth, M. D.	Director of public health.
Faribault	Frederick U. Davis, M. D.	Health commissioner.
Hibbing	Hugh W. Reynolds, M. D.	Chairman, board of health.
Mankato	Thomas C. Kelly, M. D.	Health commissioner.
Minneapolis	*Francis E. Harrington, M. D., LL. D.	Do.
Rochester	*C. H. Mayo, M. D.	Health officer.
St. Cloud	*Paul Scherer, M. D.	Do.
St. Paul	*Benj. F. Simon, M. D.	Do.
Virginia	R. P. Pearsall, M. D.	Do.
Winona	W. V. Lindsay, M. D.	City physician.

A full-time deputy health officer employed.

City	Name of health officer	Official title
Mississippi:		
Biloxi	G. F. Carroll, M. D.	City health officer.
Columbus	W. J. C. Wierms, M. D.	Do.
Greenville	*A. J. Ware, M. D.	Do.
Hattiesburg		
Jackson	*James B. Black, M. D., C. P. H.	Director, county health department.
Laurel	*J. M. Kittrell, M. D.	Do.
Meridian	T. J. Houston, M. D.	City health officer.
Natchez	W. H. Aikman, M. D.	Do.
Vicksburg	S. Myers, M. D.	Do.
Missouri:		
Cape Girardeau	*Robert J. Wilson	Do.
Carthage	W. E. Steele, M. D.	City physician.
Columbia	W. A. Norris, M. D.	City health commissioner.
Hannibal		
Independence	H. A. Schroeder, M. D.	City health officer.
Jefferson City		
Joplin	*M. B. Harutun, M. D.	Commissioner of health.
Kansas City	Herman E. Pearce, M. D.	Do.
Moberly	C. H. Dixon, M. D.	Do.
Sedalia		
St. Joseph	William W. Gray, M. D.	Health officer.
Saint Louis	*Max C. Starkloff, M. D.	Health commissioner.
Springfield	*Lon Sharp	Do.
Webster Groves	A. W. Westrup, M. D.	Do.
Montana:		
Anaconda	Gail R. Soper, M. D.	City health officer.
Billings	J. I. Wernham, M. D.	Do.
Butte	J. B. Freund, M. D.	City physician.
Great Falls	*William H. Pickett, M. D.	Field agent, U. S. P. H. S., and health officer.
Helena	*Arthur Jordan, M. D.	Do.
Missoula	*F. D. Pease, M. D.	Health officer.
Nebraska:		
Grand Island	Frank D. Ryder, M. D.	City physician.
Hastings		
Lincoln	*Chauncey F. Chapman, M. D., Ph. G.	Superintendent of health.
North Platte	Josiah B. Redfield, M. D.	City physician.
Omaha		
Nevada:		
Reno	A. F. Adams, M. D.	Secretary, board of health.
New Hampshire:		
Berlin	*Harry F. Leeds	Health officer.
Claremont	William P. Prescott	Do.
Concord	*Charles E. Palmer	Sanitary officer.
Dover	*William E. Whiteley	Executive officer.
Keene	*Fred C. Nims	Health officer.
Manchester	*Howard A. Streeter, M. D.	Do.
Nashua	P. J. McLaughlin, M. D.	Do.
Portsmouth	L. R. Hazzard, M. D.	Sanitary inspector.
Rochester		
New Jersey:		
Asbury Park	*Budd H. Obert	Health officer and registrar of vital statistics.
Atlantic City	Samuel L. Salasin, M. D.	Health officer.
Bayonne	William W. Brooke, M. D.	Do.
Belleville	*Mabel M. Clarke	Do.
Bloomfield	*Joseph C. Saile, P. H. G., D. V. S.	Do.
Bridgeton	*Charles E. Bellows, Ph. G.	Sanitary inspector.
Camden	*A. L. Stone, M. D.	Director of public health.
Carteret	H. L. Stranoberg, M. D.	Health officer.
Clifton		
Collingswood	Edw. B. Rogers, M. D.	Medical inspector.
Dover	*John G. Taylor	Health officer.
East Orange	*F. J. Osborne	Health officer and registrar of vital statistics.
Elizabeth	*Louis J. Richards	Health officer.
Englewood	*John A. Manson	Sanitary inspector.
Garfield	Chas. B. Bleasby, M. D.	Health officer.
Gloucester	J. Alonzo Beek, M. D.	Do.
Hackensack	*L. Van D. Chandler	Do.
Harrison	*John T. McClure	Do.
Hoboken	J. F. Stack, M. D.	Commissioner of health.
Irvington	Paul C. Schotte	Health officer.
Jersey City	*James J. Hagan	Do.
Keary	*Henry V. Amerman	Do.
Lodi	H. H. Brevoort, M. D.	Health inspector.
Long Branch	*R. Clifford Erickson	Health officer.
Millville		
Montclair	*Carl T. Pomeroy, C. P. H.	Do.
Morristown	*John F. Kilkenny	Sanitary inspector.
Newark	*Charles V. Craster, M. D., D. P. H.	Health officer.
New Brunswick	E. I. Cronk, M. D.	Do.
Nutley	*Eugene H. Sullivan	Do.

City	Name of health officer	Official title
New Jersey—Continued.		
Orange.....	*Lenore Young, R. N.....	Health officer and registrar of vital statistics.
Passaic.....	John N. Ryan, M. D.....	Health officer.
Paterson.....	*Frederick P. Lee, M. D.....	Do.
Perth Amboy.....	*Chas. S. Thompson, D. V. S.....	Do.
Phillipsburg.....	Alma Williston, M. D.....	Health inspector.
Plainfield.....	*N. J. Randolph Chandler.....	Health officer.
Rahway.....	*Fred N. Williams.....	Do.
Red Bank.....		
Ridgefield Park.....	William F. Reynolds, D. V. M.....	Sanitary inspector.
Rutherford.....	Marine Dunn.....	Do.
Summit.....	H. P. Dengler, M. D.....	Health officer.
Trenton.....	Alton S. Fell, M. D.....	Do.
Union.....	J. E. L. Imbleau, M. D.....	Medical health officer.
West Hoboken.....	*Frank A. Frederick.....	Health officer.
West New York.....	*Rudolph Kunze.....	Chief inspector.
Westfield.....	*Andrew Carney.....	Health officer.
West Orange.....	*David E. Buckley.....	Health officer and registrar.
New Mexico:		
Albuquerque.....	*James R. Scott, M. D.....	Health officer.
New York:		
Albany.....	James W. Wiltse, M. D.....	Health officer.
Amsterdam.....	Julius Schiller, M. D.....	Commissioner of health
Auburn.....		
Batavia.....	John W. Baker, M. D.....	Health officer.
Beacon.....		
Binghamton.....	Chalmer J. Longstreet, M. D.....	Do.
Buffalo.....	*Francis E. Fronczak, M. D., LL. B.....	Health commissioner.
Cohoes.....	Edward M. Bell, M. D.....	Do.
Corning.....	Henry E. Elwood, jr., M. D.....	Health officer.
Cortland.....	A. C. Knapp, M. D.....	Do.
Dunkirk.....	Geo. E. Ellis, M. D.....	Do.
Elmira.....	Reeve B. Howland, M. D.....	Do.
Endicott.....	*D. W. Hardy, M. D.....	Do.
Freeport.....	Wm. H. Runcie, M. D., D. P. H.....	Health commissioner.
Fulton.....	C. L. Fessenden, M. D.....	Health officer.
Geneva.....	C. W. Grove, M. D.....	Do.
Glens Falls.....	*Virgil D. Selleck, M. D., C. P. H.....	Do.
Gloversville.....	Alexander L. Johnson, M. D.....	Do.
Herkimer.....	James W. Graves, M. D.....	Do.
Hornell.....	B. R. Wakeman, M. D.....	Do.
Hudson.....	Charles R. Skinner, M. D.....	Do.
Ilion.....	Frank B. Conterman, M. D.....	Do.
Ithica.....	*Lewell T. Genung, M. D.....	Do.
Jamestown.....	*John J. Mahoney, M. D.....	Superintendent of public health.
Johnson City.....	Rollin O. Crosier, M. D.....	Health officer.
Johnstown.....	F. M. Neuendorf, M. D.....	City physician and health officer
Kingston.....	Daniel Connelly, M. D.....	Health officer.
Lackawanna.....	A. S. Culkowski, M. D.....	Do.
Little Falls.....	A. B. Santry, M. D.....	Do.
Lockport.....	Thomas E. Spalding, M. D.....	City physician.
Middletown.....	H. J. Shelley, M. D.....	Health officer.
Mount Vernon.....	Wm. H. Purdy, M. D.....	Commissioner of health.
New Rochelle.....		
New York.....	*Frank J. Monaghan, M. D.....	Do.
Newburgh.....	Thomas J. Burke, M. D.....	Health officer.
Niagara Falls.....	Edward E. Gillick, M. D.....	Do.
North Tonawanda.....	Henry C. Lapp, M. D.....	Do.
Ogdensburg.....	John W. Benton, M. D.....	Do.
Olean.....	W. E. MacDuffie, M. D.....	Commissioner of health.
Oneida.....	Nelson D. Brooks, M. D.....	Health officer.
Oneonta.....	Geo. W. Augustin, M. D.....	Do.
Ossining.....	Amos Osborn Squire, M. D.....	Do.
Oswego.....	Harvey S. Albertson, M. D.....	Do.
Peekskill.....	Fred. A. Snowden, M. D.....	Do.
Plattsburg.....	Leo. A. Schiff, M. D.....	Do.
Port Chester.....	Wm. J. Sheehan, M. D.....	Do.
Port Jervis.....	G. Otto Fobe, M. D.....	Do.
Poughkeepsie.....	*Wm. G. Conger, M. D.....	Do.
Rensselaer.....	D. F. Hannon, M. D.....	Do.
Rochester.....	*George W. Goler, M. D.....	Do.
Rome.....	Roy J. Marshall, M. D.....	Do.
Salamanca.....	L. D. Gunn, M. D.....	Health commissioner.
Saratoga Springs.....	Charles B. Small, M. D.....	City health officer.
Schenectady.....	J. H. Collins, M. D.....	Commissioner of health.
Syracuse.....	Thomas P. Farmer M. D.....	Commissioner of health.
Tonawanda.....	John T. Harris, M. D.....	Health officer.
Troy.....	Wm. N. Champaigne, M. D.....	Do.
Utica.....	Hugh H. Shaw, M. D.....	Do.
Watertown.....	Maurice D. Barnette, M. D.....	Do.
Watervliet.....	Charles A. Birmingham, M. D.....	Do.
White Plains.....	Edwin G. Ramsdell, M. D.....	Do.
Yonkers.....	Clarence W. Buckmaster, M. D., C. P. H.....	Commissioner of health.

City	Name of health officer	Official title
North Carolina:		
Asheville	*Dan E. Sevier, M. D.	Health officer.
Charlotte	*Wilbur A. McPhaul, M. D.	Do.
Concord		
Durham	*J. H. Epperson.	Superintendent of health.
Gastonia		
Goldsboro	*L. W. Corbett, M. D.	Do.
Greensboro	*C. C. Hudson, M. D.	Health officer.
High Point	S. S. Coe, M. D.	City physician.
Kinston	*Robert S. McGeachy, M. D.	County health officer.
New Bern	*D. E. Ford, M. D.	Do.
Raleigh	*A. C. Bulla.	Do.
Rocky Mount		
Salisbury	*C. W. Armstrong, M. D.	Do.
Wilmington	*John H. Hamilton, M. D.	Do.
Wilson	*L. J. Smith, M. D.	City health officer.
Winston-Salem	*R. L. Carlton, M. D.	Do.
North Dakota:		
Fargo	*B. K. Kilbourne, M. D.	Do.
Grand Forks		
Minot	Frank E. Wheelon, M. D.	Do.
Ohio:		
Akron	*Donald D. Shira, M. D.	Director of health.
Alliance	Floyd R. Stamp, M. D.	Health commissioner.
Ashland	George W. Mehl, M. D.	Director of welfare and commissioner of health.
Ashtabula	Azro J. Pardee, M. D.	Health officer.
Barberton	W. A. Mansfield, M. D.	Health commissioner.
Bellaire	W. J. Shepard, M. D.	Do.
Bucyrus	A. H. McCrory, M. D.	Do.
Cambridge	Clyde L. Vorhies, M. D.	Do.
Canton	F. M. Sayre, M. D.	Health officer.
Chillicothe	G. E. Robbins, M. D.	Commissioner of health.
Cincinnati	*William H. Peters, M. D.	Do.
Cleveland	*Harry L. Rockwood, M. D.	Do.
Cleveland Heights	*Robert Lockhart, M. D.	Director of health.
Columbus	*James A. Beer, M. D.	Health commissioner.
Conneaut	Inez Hyatt, M. D.	Do.
Coshocton	*David M. Criswell, M. D.	Do.
Cuyahogus Falls	*R. H. Markwith, M. D.	Do.
Dayton	*A. O. Peters, M. D.	Health officer.
East Cleveland	George W. Stober, M. D.	Director of health.
East Liverpool	*John A. Fraser, M. D.	Health commissioner
East Youngstown	James S. Mariner, M. D.	Do.
Elyria	G. E. French, M. D.	Do.
Findlay	*Edward W. Misamore, M. D.	Do.
Fostoria	*W. N. Caldwell	Do.
Fremont	E. L. Vermilya, M. D.	Health officer.
Hamilton	M. F. Vereker, M. D.	Health commissioner
Ironton	O. U. O'Neill, M. D.	Do.
Lakewood	Wallace J. Benner, M. D.	Do.
Lancaster	Clifford B. Snider, M. D.	Do.
Lima	James B. Poling, M. D.	Do.
Lorain	Valloyd Adair, M. D.	Do.
Mansfield	*William De Kleine, M. D.	Do.
Marietta	J. W. Donaldson, M. D.	Do.
Marion	W. J. Weiser, M. D.	Do.
Martins Ferry	*Charles Keller	Do.
Massillon	*John H. Williams	Do.
Middletown	G. D. Lummis, M. D.	Do.
Newark	W. H. Knauss, M. D.	Do.
New Philadelphia	*Joseph Blickensderfer, M. D.	Do.
Niles	W. A. Werner, M. D.	Do.
Norwood	*H. J. Wittenberg, M. D.	Do.
Piqua	J. G. Freshour, M. D.	Do.
Portsmouth	O. D. Tatje, M. D.	Do.
Salem	*Thomas T. Church, M. D.	Do.
Sandusky	*Fred M. Houghtaling, M. D.	Do.
Springfield	*Oscar M. Craven, M. D.	Director of public health.
Steubenville	*Theodore W. Smith	Health commissioner.
Tiffin	J. A. Gosling, M. D.	Do.
Toledo	Daniel W. Iford, M. D.	Do.
Warren		
Youngstown	H. E. Welch, M. D.	Do.
Zanesville	Beatrice Todd Hagen, M. D.	Superintendent of health and sanitation.
Oklahoma:		
Ardmore	Ambert Y. Easterwood, M. D.	City health officer.
Bartlesville	Elizabeth Chamberlain, M. D.	Superintendent of health.
Chickasha	E. L. Dawson, M. D.	Do.
Enid		
Guthrie	Wm. C. Miller, M. D.	City health officer.
McAlester	W. C. Graves, M. D.	Do.
Muskogee	F. W. Ewing, M. D.	Do.

* Commissioner of health for Kenmore and Summit County.

City	Name of health officer	Official title
Oklahoma—Continued.		
Okmulgee	.....
Oklahoma City	*W. H. Miles, M. D.	Director of health.
Sapulpa	P. K. Lewis, M. D.	Superintendent of health.
Shawnee	*T. C. Sanders, M. D.	City health officer.
Tulsa	David A. Beard, M. D.	Supt. city health department.
Oregon:		
Astoria	N. S. Vernon, M. D.	County health officer.
Eugene	S. M. Kinon, M. D.	City health officer.
Portland	*John G. Abele, M. D.	Do.
Salem	William B. Mott, M. D.	Do.
Pennsylvania:		
Allentown	*J. Treichler Butts, M. D., D. D. S.	Do.
Altoona	*T. G. Herbert	Chief, bureau of health.
Ambridge	.....
Beaver Falls	*Nelson W. Osmond	Health officer.
Berwick	*C. W. Shannon	Do.
Bethlehem	*Ed. Brader	Do.
Braddock	*Jas. E. Mills	Do.
Bradford	*Carl L. Peterson	Do.
Bristol	John M. Wright	Do.
Butler	*J. Fred Leetch	Do.
Cannonsburg	*J. Mart Templeton	Do.
Carbondale	*W. J. Morgan	Sanitary officer.
Carlisle	*A. P. Lisman	Health officer.
Carnegie	Jas. Lewis	Do.
Carrick	William Windeknecht	Do.
Chambersburg	Frank J. Croft	Do.
Charleroi	*W. M. Darby	Health inspector.
Chester	*John W. Shaw	Health officer.
Clairton	*Wm. P. Davidson	Do.
Coatesville	*Charles V. Peace, V. M. D., Ph. G.	Do.
Columbia	G. M. Rodenhauser	Do.
Connellsville	*John Irwin	Do.
Dickson City	*Frank J. Meehan	Do.
Donora	.....
DuBois	Luther W. Quinn, M. D.	Do.
Dunmore	.....
Duquesne	.....
Easton	J. James Condran, M. D.	Do.
Elwood City	*Louis Young	Do.
Erie	*J. W. Wright, M. D.	Do.
Farrell	*Wm. C. Heinze	Do.
Franklin	.....
Greensburg	*T. Ray Hunter	Do.
Harrisburg	John M. J. Raunick, M. D.	Do.
Hazleton	*P. J. Bonner	Do.
Homestead	*James L. King	Do.
Jeanetta	*A. T. Coon	Do.
Kingston	*J. F. Seward	Do.
Lancaster	*Benjamin F. Charles	Do.
Lansford	Alex Gibson	Do.
Lebanon	Frank B. Witmer, M. D.	Do.
Lewistown	*H. E. Fetterolf	Do.
McKeesport	*Daniel F. Marsh	Do.
McKees Rocks	.....
Mahanoy	*John Sullivan	Do.
Meadville	.....
Monessen	*Francis E. Gibson	Inspector public safety.
Nanticoke	*Edward J. Humphreys	Health officer.
New Castle	William L. Steen, M. D.	Do.
New Kensington	.....
Norristown	*Chas. E. White	Do.
North Braddock	*Robert M. Sykes	Do.
Oil City	*W. J. Lewis	Do.
Old Forge	.....
Olyphant	*James F. O'Malley	Do.
Philadelphia	*A. A. Cairns, M. D.	Chief of bureau of health.
Phoenixville	Allen L. Bevan	Do.
Pittsburgh	*Carey J. Vaux, M. D.	Director.
Pittston	*Matthew A. Hurst	Health officer.
Plymouth	H. G. Templeton, M. D.	Do.
Pottstown	.....
Pottsville	*O. L. Kleckner	Do.
Punxsautawney	J. Frank Boney	Do.
Reading	*Ira J. Hain, M. D.	Do.
Seranton	F. R. Wheelock, M. D.	Director.
Sharon	*L. C. Brainard	Sanitary officer.
Shenandoah	.....
Steelton	*E. G. Butler	Health officer.
Sunbury	*Victor A. Koble	Do.
Swissvale	*F. H. Richardson	Do.
Tamaqua	Lamont Perrine	Do.
Taylor	E. E. Edwards, M. D.	Do.

City	Name of health officer	Official title
Pennsylvania—Contd.		
Uniontown.....	*W. C. Hall.....	Health officer.
Vandergrift.....	*J. Elmer Spang.....	Do.
Warren.....	*R. N. Brown.....	Do.
Washington.....	*J. G. Dinsmore.....	Do.
Waynesboro.....	*Percy H. Snowberger.....	Do.
West Chester.....	Jos. Scuttlegood, M. D.....	Secretary board of health.
Wilkes-Barre.....	G. A. Clark, M. D.....	City physician.
Wilkinsburg.....	*J. M. Snyder.....	Health officer.
Williamsport.....	Robert F. Trainer, M. D.....	Do.
Windber.....	S. W. McMullen.....	Do.
Woodlawn.....	*James E. Tanner.....	Do.
York.....	J. Frank Small, M. D.....	Director of public health.
Rhode Island:		
Bristol.....	John H. Magee, P. H. D.....	Health officer.
Central Falls.....	A. R. V. Fenwick, M. D.....	Superintendent of health.
Cranston.....	Daniel S. Latham, M. D.....	Do.
Cumberland.....	Stephen A. Kenney, M. D.....	Health officer.
East Providence.....	W. H. T. Hamill, M. D.....	Do.
Newport.....	*J. W. Sampson.....	Executive officer board of health.
Fawtucket.....	Florian A. Ruest, M. D.....	Superintendent of health.
Providence.....	*Charles V. Chapin, M. D.....	Do.
Warwick.....		
West Warwick.....	H. Barton Bryer, M. D.....	Health officer.
Westerly.....	Samuel C. Webster, M. D., Ph. G.....	Superintendent of health.
Woonsocket.....	Wm. A. Bernard, M. D.....	Health officer.
South Carolina:		
Anderson.....	*E. R. Van de Grift, D. V. M.....	Do.
Charleston.....	*J. Mercer Green, M. D.....	Do.
Columbia.....	M. M. Rice, M. D.....	Do.
Florence.....	*P. H. Brigham, M. D., D. D. S.....	Health commissioner.
Greenville.....	*Irving Sydnor Barksdale, M. D.....	Do.
Spartanburg.....		
Sumter.....	*John R. Sumter.....	Health officer.
South Dakota:		
Aberdeen.....	*George M. Boteler, M. D.....	Do.
Sioux Falls.....	*Albert E. Campbell, M. D.....	Do.
Watertown.....		
Tennessee:		
Chattanooga.....	*C. B. Crittenden, M. D.....	Director of health.
Jacksonville.....		
Johnson City.....	J. P. Randall, M. D.....	City physician.
Knoxville.....	*Marvin F. Haygood, M. D., C. P. H.....	City health officer.
Memphis.....	*J. J. Durrett, M. D., Ph. G.....	Superintendent of health.
Nashville.....	*W. E. Hibbett, M. D.....	City health officer.
Texas:		
Abilene.....	Scott W. Hollis, M. D.....	Do.
Amarillo.....	A. H. Lindsay, M. D.....	City physician.
Austin.....	Z. T. Martin, M. D.....	Health officer.
Beaumont.....	Dru McMickin, M. D.....	Do.
Brownsville.....		
Cleburne.....	Jas. D. Osborn, M. D.....	Do.
Corpus Christi.....	A. H. Speer, M. D.....	Do.
Corsicana.....		
Dallas.....	*Noah W. Andrews, M. D.....	Director of public health.
Del Rio.....	B. F. Orr, M. D.....	City health officer.
Denison.....	Alex. W. Acheson, M. D.....	Do.
Eastland.....	E. R. Townsend, M. D.....	Do.
El Paso.....	*John William Brown, M. D., C. P. H.....	Do.
Fort Worth.....		
Galveston.....	Walter Kleberg, M. D.....	Do.
Greenville.....	William M. Dickens, M. D.....	Do.
Houston.....	*Arthur H. Flickwir, M. D.....	Do.
Laredo.....		
Marshall.....		
Orange.....		
Palestine.....		
Paris.....	Lewis Melvin Gooch, M. D.....	Do.
Port Arthur.....	J. P. Read, M. D.....	Do.
Ranger.....		
San Angelo.....	A. C. De Long, M. D.....	Do.
San Antonio.....	Wm. A. King, M. D.....	Do.
Sherman.....	J. A. Swafford, M. D.....	Do.
Temple.....		
Texarkana.....	Wm. Hibbits, M. D.....	Do.
Tyler.....	Albert Woldert, M. D.....	Do.
Waco.....	R. F. Minnock, M. D.....	Do.
Wichita Falls.....	James M. Whitworth, M. D.....	Do.
Utah:		
Logan.....		
Ogden.....	*H. Earl Belnap, M. D.....	Health commissioner.
Provo.....	Arnold E. Robinson, M. D.....	City physician.
Salt Lake City.....	Willard Christopherson, M. D.....	Health commissioner.

City	Name of health officer	Official title
Vermont:		
Barre.....	Marshall Dana Lamb, M. D.....	Health officer.
Bennington.....	*Joseph M. Ayres.....	Do.
Burlington.....	*J. W. Courtney, M. D.....	Do.
Rutland.....		
Virginia:		
Alexandria.....	*Louis E. Foulks, M. D.....	Do.
Charlottesville.....	*G. B. Young, M. D.....	Do.
Danville.....	*R. W. Garnett, M. D.....	Do.
Lynchburg.....	*Mosby C. Perrow.....	Director public welfare.
Newport News.....	Samuel Downing, M. D.....	Acting health officer.
Norfolk.....	*Powhatan S. Schenck, M. D.....	Health commissioner.
Petersburg.....	*Robert A. Martin, M. D.....	Do.
Portsmouth.....	*Lonsdale J. Roper, M. D.....	Director of public welfare.
Richmond.....	*W. Brownley Foster, M. D.....	Do.
Roanoke.....	*Coleman B. Ransone, M. D.....	Health officer.
Staunton.....		
Washington:		
Aberdeen.....	B. O. Swinehart, M. D.....	Do.
Bellingham.....	W. W. Ballaine, M. D.....	Do.
Bremerton.....	T. H. Holmes, M. D.....	Do.
Everett.....	J. Spencer Purdy, M. D.....	Do.
Hoquiam.....	H. C. Watkins, M. D.....	Do.
Seattle.....	*Geo. N. McLoughlin, M. D.....	Commissioner of health.
Spokane.....	*Ralph Hendricks, M. D.....	Health officer.
Tacoma.....	Charles F. Engels, M. D.....	Do.
Vancouver.....	R. D. Wiswall, M. D.....	City physician.
Walla Walla.....	*Joseph P. Kane, M. D.....	City health officer.
Yakima.....		
West Virginia:		
Bluefield.....	J. B. Lohan, M. D.....	Health commissioner.
Charleston.....	*Robert Linn Osborn, M. D.....	City physician.
Clarksburg.....	*J. A. Jamison, M. D.....	Health officer.
Fairmont.....		
Huntington.....		
Martinsburg.....	Arthur Bruce Eagle, M. D.....	Health commissioner.
Morgantown.....	R. H. Edmondson, M. D.....	Health officer.
Moundsville.....	*V. D. Guittard, M. D.....	Field agent, U. S. P. H. S.
Parkersburg.....		
Wheeling.....	*William Hay McLain, M. D.....	Health commissioner.
Wisconsin:		
Appleton.....	Wm. C. Felton, M. D.....	Do.
Ashland.....	C. O. Hertzman, M. D.....	Do.
Beloit.....	*Lewis M. Field, M. D.....	Health officer.
Eau Claire.....	J. F. Farr, M. D.....	Executive officer, department of public health.
Fond du Lac.....	A. C. Dana, M. D.....	Do.
Green Bay.....	*George F. Goggins, M. D.....	Commissioner of health.
Janesville.....	Fred B. Welch, M. D.....	Health officer.
Kenosha.....	*Gustave Windesheim, M. D.....	Director of health.
La Crosse.....	*Arthur M. Murphy.....	Health officer.
Madison.....	*A. M. Carr, M. D., D. P. H.....	Do.
Manitowoc.....	Max Staehle, M. D.....	Commissioner of health.
Marinette.....	S. Berglund, M. D.....	Health officer.
Milwaukee.....	*John P. Koehler, M. D.....	Commissioner of health.
Oshkosh.....	*A. H. Broche, M. D.....	Health officer.
Racine.....	*W. W. Bauer, M. D.....	Do.
Sheboygan.....	*Joseph C. Elfers, M. D.....	Commissioner of public health.
Stevens Point.....	F. A. Southwick, M. D.....	Health commissioner.
Superior.....	P. G. McGill, M. D.....	Do.
Waukesha.....	Geo. E. Peterson, M. D.....	Do.
Wausau.....	*L. F. Bugbee.....	Health officer.
West Allis.....	*S. C. McCorkle, M. D.....	Health commissioner.
Wyoming:		
Casper.....	*H. Garst, M. D.....	Director, county health department.
Cheyenne.....	J. H. Conway, M. D.....	County health officer.

DEATHS DURING WEEK ENDED JUNE 20, 1925

Summary of information received by telegraph from industrial insurance companies for week ended June 20, 1925, and corresponding week of 1924. (From the Weekly Health Index, June 23, 1925, issued by the Bureau of the Census, Department of Commerce)

	Week ended June 20, 1925	Corresponding week, 1924
Policies in force.....	60, 266, 214	56, 391, 496
Number of death claims.....	12, 057	9, 646
Death claims per 1,000 policies in force, annual rate..	10. 4	8. 9

Deaths from all causes in certain large cities of the United States during the week ended June 20, 1925, infant mortality, annual death rate, and comparison with corresponding week of 1924. (From the Weekly Health Index, June 23, 1925, issued by the Bureau of the Census, Department of Commerce)

City	Week ended June 20, 1925		Annual death rate per 1,000 corresponding week, 1924	Deaths under 1 year		Infant mortality rate week ended June 20, 1925 ¹
	Total deaths	Death rate ¹		Week ended June 20, 1925	Corresponding week, 1924	
Total (66 cities).....	6, 077	11. 4	¹ 11. 8	716	² 758	³ 55
Akron.....	27			5	7	56
Albany ⁴	18	7. 8	15. 4	2	2	44
Atlanta.....	58			7	8	
Baltimore ⁴	192	12. 6	12. 4	16	22	48
Birmingham.....	53	13. 4	18. 7	12	7	
Boston.....	179	11. 9	13. 8	22	24	58
Bridgeport.....	24			1	6	16
Buffalo.....	144	13. 6	12. 1	19	17	77
Cambridge.....	18	8. 3	14. 0	2	1	34
Camden.....	30	12. 2	14. 0	5	5	80
Chicago ⁵	563	9. 8	10. 9	63	86	56
Cincinnati.....	105	13. 4	14. 4	8	11	47
Cleveland.....	153	8. 5	9. 8	19	15	47
Columbus.....	59	11. 0	12. 4	4	9	37
Dallas.....	68	18. 3	13. 6	9	9	
Dayton.....	37	11. 2	8. 6	1	4	16
Denver.....	75	13. 9	10. 8	7	9	
Des Moines.....	24	8. 4	11. 1	1	5	17
Detroit.....	265			37	30	64
Duluth.....	14	6. 6	10. 6	1	5	22
Erie.....	20			2	3	39
Fall River ⁵	21	9. 0	11. 6	2	3	29
Flint.....	13	3. 2	6. 7	4	3	63
Fort Worth.....	29	9. 9	11. 6	11	3	
Grand Rapids.....	36	12. 3	8. 8	2	2	31
Houston.....	59	18. 7	15. 3	10	8	
Indianapolis.....	90	13. 1	10. 8	8	8	57
Jersey City.....	57	9. 4	12. 7	7	3	50
Kansas City, Kans.....	23	9. 7	10. 3	3	3	63
Kansas City, Mo.....	79	11. 2	11. 2	15	8	
Los Angeles.....	210			23	27	63
Louisville.....	76	15. 3	12. 7	7	5	61
Lowell.....	19	8. 5	10. 8	1	4	17
Lynn.....	26	12. 9	7. 5	2	4	53
Memphis.....	82	24. 5	19. 1	12	7	
Milwaukee.....	110	11. 4	10. 1	9	16	42
Minneapolis.....	96	11. 8	6. 7	11	6	59
Nashville ⁵	35	13. 4	16. 9	4	4	
New Bedford.....	24	9. 3	7. 1	4	3	66
New Haven.....	33	9. 6	9. 8	3	2	39
New Orleans.....	156	19. 6	17. 7	33	29	
New York.....	1, 237	10. 6	11. 1	149	146	60
Bronx borough.....	139	8. 0	9. 3	20	11	69
Brooklyn borough.....	416	9. 7	9. 9	51	48	52
Manhattan borough.....	531	12. 3	13. 3	58	65	60
Queens borough.....	100	9. 1	9. 5	14	18	63
Richmond borough.....	51	19. 9	12. 8	6	4	107

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1924. Cities left blank are not in the registration area for births.

³ Data for 64 cities.

⁴ Data for 62 cities.

⁵ Deaths for week ended Friday, June 19, 1925.

Deaths from all causes in certain large cities of the United States during the week ended June 20, 1925, infant mortality, annual death rate, and comparison with corresponding week of 1924. (From the Weekly Health Index, June 23, 1925, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended June 20, 1925		Annual death rate per 1,000 corresponding week, 1924	Deaths under 1 year		Infant mortality rate week ended June 20, 1925
	Total deaths	Death rate		Week ended June 20, 1925	Corresponding week, 1924	
Newark, N. J.	92	10.6	10.3	12	12	53
Norfolk	30			4	4	74
Oakland	43	8.8	8.2	4	4	46
Oklahoma City	14			2	2	
Omaha	39	9.6	12.8	6	9	62
Paterson	26	9.6	13.0	7	2	118
Philadelphia	435	11.5	12.3	52	53	66
Pittsburgh	148	12.2	13.7	11	30	37
Portland, Oreg.	84	15.6	11.1	11	4	110
Providence	64	13.6	13.7	3	9	24
Richmond	49	13.7	15.3	4	16	48
Rochester	51	8.0	12.2	3	5	24
St. Louis	197	12.5	12.1	25	18	
St. Paul	48	10.2	12.4	4	4	34
Salt Lake City ¹	26	10.4	12.6	5	7	78
San Antonio	77	20.3	17.2	22	16	
San Diego	28	14.5		3		70
San Francisco	121	11.3	11.4	6	9	35
Schenectady	16	8.2	10.4	1	1	28
Seattle	52			6	5	58
Somerville	16	8.2	7.3	1	0	27
Spokane	26	12.4	13.0	2	3	45
Springfield, Mass.	27	9.2	13.0	2	6	30
Syracuse	41	11.2	10.5	6	4	75
Tacoma	24	12.0	10.1	3	2	70
Toledo	54	9.8	13.0	2	6	18
Trenton	42	16.6	14.5	3	0	49
Utica	28	13.6		1		21
Washington, D. C.	141	14.8	12.0	15	14	84
Waterbury	19			2	4	43
Wilmington, Del.	20	8.5	13.0	1	3	23
Worcester	39	10.2	10.4	7	4	81
Yonkers	20	9.3	12.8	2	4	44
Youngstown	22	7.2	11.1	4	8	49

¹ Deaths for week ended Friday June 19, 1925.

COLORADO—continued

	Cases
Tuberculosis.....	14
Typhoid fever.....	3
Whooping cough.....	12

CONNECTICUT

Chicken pox.....	17
Diphtheria.....	18
German measles.....	3
Influenza.....	1
Lethargic encephalitis.....	1
Malaria.....	1
Measles.....	193
Mumps.....	5
Pneumonia (all forms).....	26
Scarlet fever.....	25
Tuberculosis (all forms).....	45
Typhoid fever.....	3
Whooping cough.....	95

DELAWARE

Measles.....	6
Smallpox.....	2
Tuberculosis.....	5
Typhoid fever.....	1

FLORIDA

Diphtheria.....	15
Influenza.....	1
Malaria.....	23
Measles.....	2
Mumps.....	18
Poliomyelitis.....	1
Scarlet fever.....	1
Smallpox.....	1
Tuberculosis.....	27
Typhoid fever.....	22
Whooping cough.....	5

GEORGIA

Chicken pox.....	17
Conjunctivitis.....	2
Diphtheria.....	8
Dysentery.....	61
German measles.....	2
Hookworm disease.....	5
Influenza.....	21
Lethargic encephalitis.....	1
Malaria.....	128
Measles.....	7
Mumps.....	22
Paratyphoid fever.....	7
Pellagra.....	26
Pneumonia.....	26
Scarlet fever.....	5
Septic sore throat.....	1
Smallpox.....	8
Tuberculosis.....	33
Typhoid fever.....	128
Whooping cough.....	69

ILLINOIS

Diphtheria:	
Cook County.....	48
Scattering.....	21
Influenza.....	13
Lethargic encephalitis—Boone County.....	1
Measles.....	549
Pneumonia.....	121
Scarlet fever:	
Cook County.....	77
Scattering.....	37

ILLINOIS—continued

	Cases
Smallpox.....	17
Tuberculosis.....	256
Typhoid fever:	
Cook County.....	4
Ogle County.....	7
Scattering.....	26
Whooping cough.....	296

INDIANA

Chicken pox.....	51
Diphtheria.....	17
Influenza.....	3
Measles.....	135
Mumps.....	1
Pneumonia.....	3
Scarlet fever.....	59
Smallpox.....	50
Tuberculosis.....	48
Typhoid fever.....	13
Whooping cough.....	79

IOWA

Diphtheria.....	8
Scarlet fever.....	8
Smallpox.....	13

KANSAS

Chicken pox.....	23
Diphtheria.....	18
Influenza.....	5
Lethargic encephalitis.....	1
Measles.....	4
Mumps.....	42
Pneumonia.....	18
Scarlet fever.....	28
Septic sore throat.....	6
Smallpox.....	11
Tuberculosis.....	59
Typhoid fever.....	19
Whooping cough.....	124

LOUISIANA

Cerebrospinal meningitis.....	1
Diphtheria.....	6
Leprosy.....	1
Malaria.....	14
Paratyphoid fever.....	2
Pneumonia.....	20
Scarlet fever.....	8
Smallpox.....	8
Tuberculosis.....	40
Typhoid fever.....	89
Whooping cough.....	11

MAINE

Chicken pox.....	14
Diphtheria.....	4
German measles.....	1
Influenza.....	2
Measles.....	5
Mumps.....	68
Pneumonia.....	7
Scarlet fever.....	6
Tuberculosis.....	9
Typhoid fever.....	3
Whooping cough.....	4

MARYLAND ¹		MISSISSIPPI	
	Cases		Cases
Chicken pox.....	25	Cerebrospinal meningitis.....	1
Diphtheria.....	23	Diphtheria.....	2
Dysentery.....	5	Scarlet fever.....	4
German measles.....	3	Smallpox.....	7
Influenza.....	4	Typhoid fever.....	48
Lethargic encephalitis.....	1		
Malaria.....	1	MISSOURI	
Measles.....	48	(Exclusive of Kansas City)	
Mumps.....	56	Anthrax.....	2
Pneumonia:		Cerebrospinal meningitis.....	2
Broncho.....	20	Chicken pox.....	13
Lobar.....	6	Diphtheria.....	28
Poliomyelitis.....	1	Measles.....	8
Scarlet fever.....	17	Mumps.....	15
Tuberculosis.....	68	Pneumonia.....	1
Typhoid fever.....	11	Poliomyelitis.....	1
Whooping cough.....	82	Scarlet fever.....	53
		Smallpox.....	14
MASSACHUSETTS		Tetanus.....	2
Actinomycosis.....	1	Trachoma.....	11
Cerebrospinal meningitis.....	2	Tuberculosis.....	48
Chicken pox.....	75	Typhoid fever.....	9
Conjunctivitis (suppurative).....	10	Whooping cough.....	47
Diphtheria.....	79		
German measles.....	71	MONTANA	
Influenza.....	4	Chicken pox.....	5
Malaria.....	2	German measles.....	6
Measles.....	533	Measles.....	2
Mumps.....	37	Mumps.....	23
Ophthalmia neonatorum.....	16	Poliomyelitis.....	1
Pneumonia (lobar).....	33	Scarlet fever.....	14
Poliomyelitis.....	1	Smallpox.....	1
Scarlet fever.....	96	Tuberculosis.....	6
Tetanus.....	2	Typhoid fever.....	1
Trachoma.....	1	Whooping cough.....	8
Tuberculosis:			
Pulmonary.....	115	NEW JERSEY	
Other forms.....	85	Chicken pox.....	58
Typhoid fever.....	7	Diphtheria.....	58
Whooping cough.....	116	Dysentery.....	1
		Influenza.....	1
MICHIGAN		Measles.....	198
Diphtheria.....	82	Pneumonia.....	48
Measles.....	327	Poliomyelitis.....	7
Pneumonia.....	68	Scarlet fever.....	80
Scarlet fever.....	185	Smallpox.....	1
Smallpox.....	22	Trachoma.....	1
Tuberculosis.....	86	Typhoid fever.....	6
Typhoid fever.....	8	Whooping cough.....	136
Whooping cough.....	157		
		NEW MEXICO	
MINNESOTA		Diphtheria.....	4
Chicken pox.....	85	Mumps.....	1
Diphtheria.....	50	Pneumonia.....	2
Influenza.....	3	Scarlet fever.....	2
Lethargic encephalitis.....	2	Smallpox.....	1
Measles.....	25	Tuberculosis.....	27
Pneumonia.....	2	Tularaemia.....	1
Poliomyelitis.....	7	Typhoid fever.....	10
Scarlet fever.....	91	Whooping cough.....	10
Smallpox.....	6		
Tuberculosis.....	45		
Typhoid fever.....	2		
Whooping cough.....	24		

¹ Week ended Friday.

NEW YORK

(Exclusive of New York City)

	Cases
Cerebrospinal meningitis.....	3
Diphtheria.....	85
Influenza.....	1
Lethargic encephalitis.....	6
Measles.....	402
Pneumonia.....	71
Poliomyelitis.....	4
Scarlet fever.....	95
Smallpox.....	3
Typhoid fever.....	11
Whooping cough.....	131

NORTH CAROLINA

Chicken pox.....	34
Diphtheria.....	18
German measles.....	1
Measles.....	7
Poliomyelitis.....	4
Scarlet fever.....	8
Smallpox.....	34
Typhoid fever.....	43
Whooping cough.....	61

OKLAHOMA

(Exclusive of Oklahoma City and Tulsa)

Cerebrospinal meningitis—Osage County.....	1
Chicken pox.....	7
Diphtheria.....	5
Influenza.....	11
Malaria.....	52
Measles.....	3
Mumps.....	8
Pneumonia.....	11
Poliomyelitis—Cotton County.....	1
Scarlet fever.....	14
Smallpox.....	8
Typhoid fever:	
Stephens County.....	8
Washington County.....	20
Scattering.....	61
Whooping cough.....	78

OREGON

Cerebrospinal meningitis.....	11
Chicken pox.....	7
Diphtheria:	
Portland.....	11
Scattering.....	8
Measles.....	6
Mumps.....	16
Pneumonia.....	13
Scarlet fever.....	16
Septic sore throat.....	11
Smallpox.....	15
Tuberculosis.....	11
Typhoid fever.....	5
Whooping cough.....	18

SOUTH DAKOTA

Chicken pox.....	1
Diphtheria.....	2
Scarlet fever.....	8
Smallpox.....	1
Whooping cough.....	6

1 Deaths.

TEXAS

Cases

Chicken pox.....	28
Diphtheria.....	15
Dysentery (epidemic).....	21
Measles.....	5
Mumps.....	17
Paratyphoid fever.....	4
Pellagra.....	7
Pneumonia.....	9
Poliomyelitis.....	2
Rabies in man.....	1
Scarlet fever.....	22
Smallpox.....	21
Tuberculosis.....	25
Typhoid fever.....	27
Typhus fever.....	4
Whooping cough.....	71

VERMONT

Chicken pox.....	16
Diphtheria.....	2
Measles.....	14
Mumps.....	13
Scarlet fever.....	4
Whooping cough.....	3

VIRGINIA

Smallpox—Louisa County.....	2
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WASHINGTON

Chicken pox.....	61
Diphtheria.....	12
German measles.....	2
Lethargic encephalitis.....	1
Measles.....	2
Mumps.....	36
Poliomyelitis—Pacific County.....	1
Scarlet fever.....	7
Smallpox.....	33
Tuberculosis.....	61
Typhoid fever.....	7
Whooping cough.....	81

WEST VIRGINIA

Diphtheria.....	1
Scarlet fever.....	8
Smallpox.....	5
Typhoid fever.....	5

WISCONSIN

Milwaukee:	
Chicken pox.....	10
Diphtheria.....	13
German measles.....	7
Measles.....	69
Mumps.....	9
Pneumonia.....	7
Scarlet fever.....	4
Smallpox.....	3
Tuberculosis.....	24
Typhoid fever.....	1
Whooping cough.....	43
Scattering:	
Cerebrospinal meningitis.....	1
Chicken pox.....	66
Diphtheria.....	24
German measles.....	91

WISCONSIN—continued

	Cases
Scattering—Continued.	
Influenza.....	13
Measles.....	118
Mumps.....	68
Pneumonia.....	6
Scarlet fever.....	55
Smallpox.....	27
Tuberculosis.....	17
Typhoid fever.....	3

WYOMING

	Cases
Whooping cough.....	71
Chicken pox.....	5
Impetigo contagiosa.....	1
Influenza.....	1
Mumps.....	4
Rocky Mountain spotted fever.....	1
Scarlet fever.....	5
Typhoid fever.....	2
Whooping cough.....	3

Reports for Week Ended June 20, 1925

ALABAMA

	Cases
Chicken pox.....	14
Diphtheria.....	7
Dysentery.....	35
Influenza.....	5
Malaria.....	63
Measles.....	9
Mumps.....	13
Paratyphoid fever.....	4
Pellagra.....	33
Pneumonia.....	16
Poliomyelitis.....	4
Scarlet fever.....	23
Smallpox.....	67
Tuberculosis.....	27
Typhoid fever.....	70
Whooping cough.....	24

CALIFORNIA

Cerebrospinal meningitis:	
Fresno.....	1
San Francisco.....	1
Diphtheria.....	74
Influenza.....	12
Jaundice (epidemic).....	1
Lethargic encephalitis:	
Colton.....	1
Sacramento.....	1
Measles.....	47
Poliomyelitis:	
Berkeley.....	2
Burbank.....	1
Inyo County.....	1
Los Angeles.....	2
Los Angeles County.....	2
Oakland.....	2
San Diego County.....	1
San Francisco.....	2
Stanislaus County.....	1
Scarlet fever.....	78
Smallpox:	
Los Angeles.....	33
Oakland.....	15
Scattering.....	26
Typhoid fever.....	14

INDIANA

Cerebrospinal meningitis:	
Jennings County.....	1
Union County.....	1
Chicken pox.....	37
Diphtheria.....	19

INDIANA—continued

	Cases
Influenza.....	20
Measles.....	114
Mumps.....	1
Pneumonia.....	2
Scarlet fever.....	46
Smallpox.....	68
Tuberculosis.....	44
Typhoid fever.....	6
Whooping cough.....	9

MINNESOTA

Chicken pox.....	111
Diphtheria.....	38
Influenza.....	1
Lethargic encephalitis.....	1
Measles.....	36
Pneumonia.....	4
Scarlet fever.....	121
Smallpox.....	4
Tuberculosis.....	59
Typhoid fever.....	1
Whooping cough.....	32

MISSISSIPPI

Diphtheria.....	2
Smallpox.....	22
Typhoid fever.....	31

MISSOURI

(Exclusive of Kansas City)

Chicken pox.....	42
Diphtheria.....	40
Influenza.....	2
Malaria.....	3
Measles.....	19
Mumps.....	25
Ophthalmia neonatorum.....	2
Pneumonia.....	5
Scarlet fever.....	88
Smallpox.....	30
Tetanus.....	1
Trachoma.....	3
Tuberculosis.....	65
Typhoid fever.....	7
Whooping cough.....	45

NEBRASKA

Cerebrospinal meningitis.....	1
Chicken pox.....	7
Diphtheria.....	7
Measles.....	3

NEBRASKA—continued

	Cases
Mumps.....	5
Scarlet fever.....	4
Smallpox.....	20
Tuberculosis.....	2
Typhoid fever.....	2
Whooping cough.....	11

NORTH DAKOTA

Chicken pox.....	5
Diphtheria.....	12
German measles.....	1
Measles.....	1
Mumps.....	4
Pneumonia.....	4
Scarlet fever.....	29
Smallpox.....	2
Tuberculosis.....	2
Whooping cough.....	11

OKLAHOMA

(Exclusive of Oklahoma City and Tulsa)

Cerebrospinal meningitis—McIntosh County.....	1
Chicken pox.....	17
Diphtheria.....	7
Influenza.....	24
Measles.....	5
Mumps.....	12
Pellagra.....	11
Pneumonia.....	10
Scarlet fever.....	18
Smallpox.....	8
Typhoid fever:	
Stephens.....	8
Scattering.....	52
Whooping cough.....	104

WASHINGTON

Cerebrospinal meningitis—Tacoma.....	1
Chicken pox.....	50
Diphtheria.....	10
German measles.....	7
Measles.....	4

WASHINGTON—continued

	Cases
Mumps.....	38
Scarlet fever.....	7
Smallpox.....	31
Tuberculosis.....	18
Typhoid fever.....	4
Whooping cough.....	78

WISCONSIN

Milwaukee:	
Chicken pox.....	38
Diphtheria.....	11
German measles.....	21
Influenza.....	2
Lethargic encephalitis.....	1
Measles.....	142
Mumps.....	47
Pneumonia.....	10
Scarlet fever.....	13
Smallpox.....	12
Tuberculosis.....	14
Typhoid fever.....	1
Whooping cough.....	42

Scattering:

Chicken pox.....	104
Diphtheria.....	12
German measles.....	106
Influenza.....	21
Measles.....	265
Mumps.....	50
Pneumonia.....	16
Scarlet fever.....	82
Smallpox.....	21
Tuberculosis.....	21
Typhoid fever.....	2
Whooping cough.....	63

WYOMING

Chicken pox.....	2
German measles.....	1
Mumps.....	5
Scarlet fever.....	2
Smallpox.....	1
Whooping cough.....	10

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Cerebrospinal meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Polio-myelitis	Scarlet fever	Smallpox	Typhoid fever
<i>April, 1925</i>										
California.....	9	560	349	5	555	6	29	620	827	54
<i>May, 1925</i>										
Illinois.....	13	370	243	12	6,237	2	4	1,682	150	71
Kansas.....	0	50	16		58	0	1	258	18	11
Louisiana.....	0	39	125	59	10	62	1	48	50	213
Maine.....	1	13	319		24		3	90	0	10
Massachusetts.....	12	354	108		3,756		1	906	1	37
North Carolina.....	5	83			116		1	80	253	41
Oregon.....	7	116	109		13			85	52	7
South Carolina.....		119	1,045	1,134	33	5		32	133	223
South Dakota.....		18	10		12		2	148	20	3

RECIPROCAL NOTIFICATIONS, MAY, 1925

Notifications regarding communicable diseases sent during the month of May, 1925, to other State health departments by departments of health of certain States

Referred by—	Diph- theria	Scarlet fever	Small- pox	Ty- phoid fever	Tuber- culosis
Illinois.....		1	1	2	
Minnesota.....			3	3	52
New Jersey.....				1	
New Mexico.....					1
New York.....	1	1		1	

PLAGUE-ERADICATIVE MEASURES IN THE UNITED STATES

The following items were taken from the reports of plague-eradicated measures from the cities named:

Oakland, Calif.

(Including other East Bay communities)

Week ended June 13, 1925:

Number of rats trapped.....	1,461
Number of rats found to be plague infected.....	0
Number of squirrels examined.....	715
Number of squirrels found to be plague infected.....	0

Totals:

Number of rats trapped Jan. 1 to June 13, 1925.....	52,811
Number of rats found to be plague infected.....	21
Number of squirrels examined May 1 to June 13, 1925.....	3,289
Number of squirrels found to be plague infected.....	0

Date of discovery of last plague-infected rat, Mar. 4, 1925.

Date of last human case, Sept. 10, 1919.

New Orleans, La.

Week ended June 13, 1925:

Number of vessels inspected.....	256
Number of inspections made.....	694
Number of vessels fumigated with cyanide gas.....	23
Number of rodents examined for plague.....	5,819
Number of rodents found to be plague infected.....	0

Totals, Dec. 5, 1924, to June 13, 1925:

Number of rodents examined for plague.....	124,428
Number of rodents found to be plague infected.....	12

Date of discovery of last plague-infected rat, Jan. 17, 1925.

Date of last human case occurring in New Orleans, Aug. 20, 1920.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

Diphtheria.—For the week ended June 13, 1925, 35 States reported 1,030 cases of diphtheria. For the week ended June 14, 1924, the same States reported 1,336 cases of this disease. One hundred and one cities, situated in all parts of the country and having an aggregate population of nearly 27,600,000, reported 657 cases of diphtheria

for the week ended June 13, 1925. Last year, for the corresponding week, they reported 905 cases of diphtheria. The estimated expectancy for these cities was 847 cases. The estimated expectancy is based on the experience of the last nine years, excluding epidemics

Measles.—Thirty-two States reported 5,591 cases of measles for the week ended June 13, 1925, and 6,935 cases of this disease for the week ended June 14, 1924. One hundred and one cities reported 3,202 cases of measles for the week this year, and 2,805 cases last year.

Scarlet fever.—Scarlet fever was reported for the week as follows: Thirty-five States—this year, 1,815 cases; last year, 2,219 cases; 101 cities—this year, 964 cases; last year, 1,055; estimated expectancy, 724 cases.

Smallpox.—For the week ended June 13, 1925, 35 States reported 658 cases of smallpox. Last year for the corresponding week they reported 863 cases. One hundred and one cities reported smallpox for the week as follows: 1925, 202 cases; 1924, 309 cases; estimated expectancy, 101 cases. These cities reported 14 deaths from smallpox for the week this year.

Typhoid fever.—Five hundred cases of typhoid fever were reported for the week ended June 13, 1925, by 34 States. For the corresponding week of 1924 the same States reported 342 cases. One hundred and one cities reported 155 cases of typhoid fever for the week this year, and 107 cases for the corresponding week last year. The estimated expectancy for these cities was 92 cases.

Influenza and pneumonia.—Deaths from influenza and pneumonia (combined) were reported for the week by 101 cities as follows: 1925, 591 deaths; 1924, 578 deaths.

City reports for week ended June 13, 1925

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence how many cases of the disease under consideration may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding week of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during nonepidemic years.

If reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1915 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Population July 1, 1923, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland.....	73, 129	4	2	2	0	0	1	8	0
New Hampshire:									
Concord.....	22, 408	0	0	0	0	0	4	0	0
Manchester.....	81, 383	0	1	0	0	0	5	0	2
Vermont:									
Barre.....	1 10, 008	2	0	0	0	0	0	3	0
Burlington.....	23, 613	2	1	1	0	0	1	5	0
Massachusetts:									
Boston.....	770, 400		51	18	2	1	188		26
Fall River.....	120, 912	1	3	1	0	0	3	1	2
Springfield.....	144, 227	2	2	3	0	0	4	2	1
Worcester.....	191, 927	11	4	1	1	0	62	0	2
Rhode Island:									
Pawtucket.....	68, 799	0	1	0	0	0	0	0	0
Providence.....	242, 378	0	9	0		1	4	0	6
Connecticut:									
Bridgeport.....	1 143, 555	3	5	7	0	0	4	1	2
Hartford.....	1 138, 086	0	5	5	0	0	13	2	3
New Haven.....	172, 967	5	3	1	0	0	76	0	5
MIDDLE ATLANTIC									
New York:									
Buffalo.....	536, 718	15	12	6	0	1	185	3	13
New York.....	5, 927, 625	406	244	194	7	8	298	37	151
Rochester.....	317, 867	1	6	4		0	130	6	6
Syracuse.....	184, 511	22	6	0		0	32	10	1
New Jersey:									
Camden.....	124, 157	2	4	6		0	39	1	3
Newark.....	438, 699	59	13	9	0	0	77	5	5
Trenton.....	127, 390	3	4	3	0	1	0	0	1
Pennsylvania:									
Philadelphia.....	-1, 922, 788	105	57	71		0	344	25	49
Pittsburgh.....	613, 442	26	19	12		2	272	5	27
Reading.....	110, 917	6	2	3	0	0	59	2	1
Scranton.....	140, 636	0	3	1	0	0	5	0	3
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	406, 312		7						
Cleveland.....	888, 519	153	20	28	2	0	41	6	11
Columbus.....	261, 082	1	2	2		0	5	0	6
Toledo.....	268, 338	33	4	6		0	114	0	2
Indiana:									
Fort Wayne.....	93, 573	4	2	0	0	0	8	0	2
Indianapolis.....	342, 718	55	5	1		0	48	2	
South Bend.....	76, 709	3	1	1	0	0	1	0	0
Terre Haute.....	68, 939	9	1	2	0	0	29	0	0
Illinois:									
Chicago.....	2, 886, 121	114	92	53	4	2	616	24	44
Cicero.....	55, 968	1	1						1
Springfield.....	61, 833	5	1	2	0	0	41	13	1
Michigan:									
Detroit.....	995, 668	97	44	18	7	4	26	12	27
Flint.....	117, 968	12	3	1	0	0	38	3	1
Grand Rapids.....	145, 947	3	2	1	0	0	118	0	7
Wisconsin:									
Madison.....	42, 519	5	1	0	0	0	0	4	0
Milwaukee.....	484, 595	42	11	11	0	0	145	52	8
Racine.....	64, 393	8	1	1	0	0	0	13	1
Superior.....	1 39, 671	0	1	0	0	0	0	0	1
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	106, 289	7	1	0	0	0	3	0	2
Minneapolis.....	409, 125	76	12	8		1	21	2	5
St. Paul.....	241, 891	33	14	15		1	12	16	10

1 Population Jan. 1, 1920.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Population July 1, 1923, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Meas-les, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated expec-tancy	Cases re-ported	Cases re-ported	Deaths re-ported			
Iowa:									
Davenport.....	61,262	0	1	2	0	0	2	0	0
Des Moines.....	140,923	0	1	4	0	0	1	0	0
Sioux City.....	79,662	9	1	0	0	0	0	1	0
Waterloo.....	39,667	6	0	0	0	0	4	0	0
Missouri:									
Kansas City.....	351,819	19	6	5	1	1	3	10	3
St. Joseph.....	78,232	0	1	0	0	0	0	0	4
St. Louis.....	803,853	26	36	38	1	1	19	3	0
North Dakota:									
Fargo.....	24,841	3	1	0	0	0	0	2	0
Grand Forks.....	14,547	3	0	0	0	0	0	0	0
South Dakota:									
Aberdeen.....	15,829	0	0	0	0	0	0	0	0
Sioux Falls.....	29,206	0	0	0	0	0	0	0	0
Nebraska:									
Lincoln.....	58,761	5	1	0	0	0	1	1	0
Omaha.....	204,382	7	3	2	0	0	2	0	1
Kansas:									
Topeka.....	52,555	3	1	1	1	0	0	16	1
Wichita.....	79,261	11	1	1	0	0	1	0	1
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	117,728	4	1	3	0	0	17	0	2
Maryland:									
Baltimore.....	773,580	114	14	12	2	2	38	53	23
Cumberland.....	32,361	2	0	0	0	0	1	1	1
Frederick.....	11,301	1	0	0	0	0	0	0	0
District of Columbia:									
Washington.....	1,437,571	4	7	6	9	0	28	0	8
Virginia:									
Lynchburg.....	30,277	6	0	0	0	0	0	5	1
Norfolk.....	159,089	8	0	1	0	0	2	2	2
Richmond.....	181,044	5	1	1	0	0	16	0	2
Roanoke.....	55,502	1	1	1	0	0	13	1	0
West Virginia:									
Charleston.....	45,597	2	0	0	0	0	23	1	1
Huntington.....	57,918	0	0	0	0	0	0	0	0
Wheeling.....	156,208	1	1	0	0	0	5	0	1
North Carolina:									
Raleigh.....	29,171	5	0	0	0	0	0	0	1
Wilmington.....	35,719	0	1	0	0	0	0	3	1
Winston-Salem.....	56,230	8	1	0	0	0	2	3	2
South Carolina:									
Charleston.....	71,245	0	0	0	0	0	1	0	1
Columbia.....	39,688	4	0	0	0	0	0	0	0
Greenville.....	25,789	0	0	0	0	0	0	0	0
Georgia:									
Atlanta.....	222,963	3	1	4	7	0	0	3	12
Brunswick.....	15,937	0	0	0	0	0	0	0	0
Savannah.....	89,448	1	1	0	1	0	0	0	1
Florida:									
St. Petersburg.....	24,403	0	0	0	0	0	0	0	0
Tampa.....	56,050	0	1	0	0	0	0	0	1
EAST SOUTH CENTRAL									
Kentucky:									
Covington.....	57,877	0	0	0	0	0	0	0	0
Louisville.....	257,671	3	3	0	0	2	2	3	3
Tennessee:									
Memphis.....	170,067	2	1	0	0	0	12	0	4
Nashville.....	121,128	3	0	0	0	0	22	0	2
Alabama:									
Birmingham.....	195,901	11	1	0	3	1	1	2	2
Mobile.....	63,858	0	1	1	0	0	0	1	0
Montgomery.....	45,383	1	0	0	0	0	0	1	0

¹ Population Jan. 1, 1920.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Population July 1, 1923, estimated	Chick- en pox, cases re- ported	Diphtheria		Influenza		Meas- les, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths re- ported
			Cases, esti- mated expec- tancy	Cases re- ported	Cases re- ported	Deaths re- ported			
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	30, 635	0	1	2	0	0	0	1	3
Little Rock.....	70, 916	1	0	0	0	0	0	0	0
Louisiana:									
New Orleans.....	404, 575	1	6	10	2	3	1	0	6
Shreveport.....	54, 590	0	0	0	0	1	1	0	0
Oklahoma:									
Oklahoma.....	101, 150	0	1	0	0	2	0	0	4
Texas:									
Dallas.....	177, 274	9	2	1	0	0	0	2	0
Galveston.....	46, 877	0	1	0	0	0	1	2	0
Houston.....	154, 970	1	2	0	0	0	0	0	3
San Antonio.....	184, 727	0	1	2	0	0	0	0	3
MOUNTAIN									
Montana:									
Billings.....	16, 927	0	0	0	0	0	0	6	0
Great Falls.....	27, 787	0	1	1	0	0	0	1	0
Helena.....	12, 037	0	0	0	0	0	0	0	0
Missoula.....	12, 668	0	0	1	0	0	0	0	0
Idaho:									
Boise.....	22, 806	2	1	0	0	0	0	0	0
Colorado:									
Denver.....	272, 031	9	10	10	1	7	19	7	7
Pueblo.....	43, 519	0	2	3	0	1	0	0	2
New Mexico:									
Albuquerque.....	16, 648	0	1	0	0	0	1	3	0
Arizona:									
Phoenix.....	33, 899	0	0	1	0	0	0	0	0
Utah:									
Salt Lake City.....	126, 241	11	2	4	0	0	2	34	2
Nevada:									
Reno.....	12, 429	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	1 315, 685	27	4	3	0	0	0	42	0
Spokane.....	104, 573	5	2	6	0	0	0	0	0
Tacoma.....	101, 731	4	1	1	0	0	0	2	1
Oregon:									
Portland.....	273, 621	7	4	14	1	1	0	12	2
California:									
Los Angeles.....	666, 853	41	35	28	4	0	27	29	7
Sacramento.....	69, 950	20	1	3	0	0	0	1	0
San Francisco.....	539, 038	20	23	16	4	1	3	46	4

1 Population Jan. 1, 1920.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	1	2	0	0	0	1	1	0	0	1	15
New Hampshire:											
Concord	0	0	0	0	0	1	0	0	0	0	4
Manchester	0	3	0	0	0	1	0	0	0	0	22
Vermont:											
Barre	0	2	0	0	0	0	0	0	0	0	0
Burlington	0	0	0	0	0	0	0	0	0	0	5
Massachusetts:											
Boston	37	42	0	0	0	18	2	6	0	-----	242
Fall River	2	2	0	0	0	4	2	0	0	4	47
Springfield	4	5	0	0	0	2	0	1	0	6	48
Worcester	5	3	0	0	0	6	0	0	0	3	42
Rhode Island:											
Pawtucket	1	0	0	0	0	0	0	0	0	1	21
Providence	8	3	0	0	0	3	0	0	0	1	85
Connecticut:											
Bridgeport	4	8	0	0	0	3	0	0	0	0	23
Hartford	3	1	0	0	0	2	0	0	0	7	40
New Haven	2	4	0	0	0	2	1	3	0	31	43
MIDDLE ATLANTIC											
New York:											
Buffalo	17	15	0	0	0	16	1	2	0	14	160
New York	149	120	0	1	0	1100	12	21	3	118	2,054
Rochester	9	26	0	0	0	5	0	1	0	18	82
Syracuse	8	2	0	0	0	1	0	0	0	6	35
New Jersey:											
Camden	2	4	0	0	1	4	1	0	0	7	45
Newark	15	13	0	0	0	5	1	1	0	45	99
Trenton	1	2	0	0	0	4	1	0	0	2	69
Pennsylvania:											
Philadelphia	59	64	1	3	0	52	5	7	0	91	907
Pittsburgh	19	58	0	0	0	11	2	1	0	22	181
Reading	1	4	0	0	0	2	0	0	0	10	40
Scranton	2	1	0	0	0	1	0	0	0	4	-----
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	7	-----	2	-----	-----	-----	1	-----	-----	-----	-----
Cleveland	16	15	1	1	1	17	1	1	1	66	165
Columbus	4	7	1	16	0	7	0	0	0	6	72
Toledo	14	10	1	0	0	10	1	0	1	20	54
Indiana:											
Fort Wayne	1	4	2	1	0	2	0	0	1	1	23
Indianapolis	10	1	5	12	0	4	1	0	0	31	78
South Bend	2	4	1	0	0	1	0	0	0	0	13
Terre Haute	1	5	0	11	0	2	0	0	0	0	35
Illinois:											
Chicago	60	134	2	4	0	59	3	7	0	96	670
Cicero	0	-----	0	-----	-----	-----	0	-----	-----	-----	-----
Springfield	1	4	1	0	0	0	0	0	0	0	18
Michigan:											
Detroit	55	49	11	1	0	16	3	2	1	137	247
Flint	4	8	1	1	0	0	0	0	0	0	16
Grand Rapids	4	22	0	0	0	1	1	1	0	6	37
Wisconsin:											
Madison	1	2	1	0	0	0	0	1	0	6	3
Milwaukee	21	6	3	6	8	9	0	0	0	33	104
Racine	3	1	1	1	0	0	0	0	0	1	10
Superior	1	12	2	1	1	0	1	0	0	0	6
WEST NORTH CENTRAL											
Minnesota:											
Duluth	3	5	3	0	0	0	1	0	0	0	22
Minneapolis	22	46	9	3	1	6	1	1	0	7	84
St. Paul	15	25	4	-----	2	10	0	0	0	15	76

¹ Pulmonary tuberculosis only.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—CON											
Iowa:											
Davenport	1	0	4	4			0	0		0	
Des Moines	4	1	3	0			0	0		0	
Sioux City	2	2	1	2			0	0		0	
Waterloo	3	0	0	2			0	0		9	
Missouri:											
Kansas City	5	9	3	0	0	2	1	6	0	26	67
St. Joseph	1	0	0	0	0	1	0	0	0	4	29
St. Louis	21	64	2	3	0	12	2	4	1	19	182
North Dakota:											
Fargo	1	2	0	0	0	1	0	0	0	9	6
Grand Forks	1	0	0	0			0	0		0	
South Dakota:											
Aberdeen	2	0	0	0			0	0		0	
Sioux Falls	1		0	0			0	0		0	4
Nebraska:											
Lincoln	1	0	0	0	0	1	1	1	0	8	12
Omaha	4	3	2	15	0	7	0	0	0	1	57
Kansas:											
Topeka	1	0	1	0	0	1	0	0	0	2	12
Wichita	1	1	3	0	0	0	0	1	0	22	34
SOUTH ATLANTIC											
Delaware:											
Wilmington	3	1	0	0	0	2	1	0	0	0	39
Maryland:											
Baltimore	19	12	1	0	0	20	3	2	0	85	338
Cumberland	1	0	0	0	0	2	0	0	0	1	13
Frederick	1	0	0	0	0	0	0	0	0	0	6
District of Col.:											
Washington	11	5	1	0	0	12	2	2	0	14	141
Virginia:											
Lynchburg	0	1	1	0	0	0	0	0	0	8	12
Norfolk	1	0	0	0	0	1	1	0	0	11	
Richmond	2	2	0	0	0	3	1	3	0	1	43
Roanoke	0	0	1	0	0	1	0	1	0	3	11
West Virginia:											
Charleston	1	0	0	0	0	1	1	0	1	0	13
Huntington	1	0	0	0			0	0		0	
Wheeling	1	4	0	0	0	0	1	0	0	0	12
North Carolina:											
Raleigh	0	0	0	0	0	0	0	3	0	1	18
Wilmington	1	0	0	1	0	1	1	0	0	0	10
Winston-Salem	1	1	1	5	0	0	1	1	0	29	11
South Carolina:											
Charleston	0	0	0	0	0	3	1	2	2	0	24
Columbia	1	0	1	0	0	0	2	4	0	2	
Greenville	0	0	0	4	0	0	1	3	0	7	16
Georgia:											
Atlanta	4	3	7	1	0	6	1	4	3	20	77
Brunswick	0	0	0	0	0	0	1	1	0	0	2
Savannah	0	0	0	0	0	0	2	2	0	0	24
Florida:											
St. Petersburg	0		0				0				
Tampa	0	1	0	0	0	2	1	4	0	0	23
EAST SOUTH CENTRAL											
Kentucky:											
Covington	1		0				1				
Louisville	2	12	1	1	0	3	1	1	0	6	70
Tennessee:											
Memphis	3	1	1	1	0	10	1	9	0	15	66
Nashville	1	3	1	8	0	5	2	6	1	7	42
Alabama:											
Birmingham	1	12	1	41	0	8	3	2	0	16	93
Mobile	0	0	1	0	0	2	1	0	0	0	18
Montgomery	0	0	1	1	0	0	1	3	1	0	19

¹ Pulmonary tuberculosis only.

City reports for week ended June 13, 1925—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	1	0	0	0	0	0	0	0	11		
Little Rock.....	1	1	1	0	0	2	1	4	1		
Louisiana:											
New Orleans.....	2	7	3	0	0	19	3	8	3	11	137
Shreveport.....		0		0	0	0		4	0	0	25
Oklahoma:											
Oklahoma.....	1	0	5	0	0	3	0	5	1	1	34
Texas:											
Dallas.....	1	2	2	0	0	5	1	4	2	24	54
Galveston.....	0	0	0	1	0	2	1	0	0	0	12
Houston.....	1	0	1	0	0	1	1	0	1	0	37
San Antonio.....	1	0	0	0	0	11	1	5	2		64
MOUNTAIN											
Montana:											
Billings.....	1	2	1	0	0	1	0	0	0	0	3
Great Falls.....	1	11	1	2	0	1	0	0	0	4	8
Helena.....	0	4	0	0	0	0	1	0	0	0	6
Missoula.....	1	0	0	0	0	0	0	0	0	0	3
Idaho:											
Boise.....	1	0	1	1	0	0	0	0	0	1	3
Colorado:											
Denver.....	8	3	0	0	0	11	1	0	0	13	73
Pueblo.....	1	2	0	0	0	3	0	0	0	0	14
New Mexico:											
Albuquerque.....	0	0	0	0	0	2	0	0	0	0	8
Arizona:											
Phoenix.....		0		0	0	4	0	0	0	0	25
Utah:											
Salt Lake City.....	2	7	1	0	0	1	0	5	1	5	33
Nevada:											
Reno.....	0	0	1	0	0	0	1	0	0	0	7
PACIFIC											
Washington:											
Seattle.....	7	14	3	8			1	1		81	
Spokane.....	3	1	3	0			0	0		14	
Tacoma.....	2	4	2	3	0	0	1	0	0	2	24
Oregon:											
Portland.....	6	10	3	6	0	1	1	1	0	12	0
California:											
Los Angeles.....	11	24	1	36	0	25	3	2	0	81	220
Sacramento.....	1	1	0	2	0	1	1	1	0	7	26
San Francisco.....	12	12	0	2	0	10	1	1	0	41	150

City reports for week ended June 13, 1925—Continued

Division, State, and city	Cerebrospinal meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)			Typhus fever	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths	Cases	Deaths
NEW ENGLAND											
Massachusetts:											
Boston.....	0	0	0	0	0	0	0	0	2		
Worcester.....	1	0	0	0	0	0	0	0	0		
Rhode Island:											
Pawtucket.....	1	0	0	0	0	0	0	0	0		
Providence.....	0	1	0	0	0	0	0	0	0		
Connecticut:											
Bridgeport.....	0	0	1	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC											
New York:											
New York.....	3	5	3	3	0	0	1	3	1		
New Jersey:											
Newark.....	0	1	1	0	0	0	0	0	0		
Trenton.....	0	0	0	1	0	0	0	0	0		
Pennsylvania:											
Philadelphia.....	1	0	0	0	0	0	0	0	0		
Pittsburgh.....	0	0	0	0	0	0	1	1	0		
EAST NORTH CENTRAL											
Ohio:											
Columbus.....	0	1	0	0	0	0	0	0	0		
Illinois:											
Chicago.....	1	0	0	0	0	0	0	0	0		
Michigan:											
Detroit.....	1	0	0	0	0	1	0	0	0		
SOUTH ATLANTIC											
Maryland:											
Baltimore.....	0	1	0	0	0	0	0	2	1		
District of Columbia:											
Washington.....	1	1	1	1	0	0	0	0	0		
EAST SOUTH CENTRAL											
Tennessee:											
Memphis.....	0	0	0	0	1	1	0	0	0		
Nashville.....	0	0	0	0	1	0	0	0	0		
Alabama:											
Birmingham.....	1	1	0	0	1	1	0	2	1		
Mobile.....	0	0	0	0	0	1	0	0	0		
Montgomery.....	0	0	0	0	0	1	0	0	0		
WEST SOUTH CENTRAL											
Arkansas:											
Little Rock.....	0	0	1	1	0	0	0	0	0		
Louisiana:											
New Orleans.....	0	0	2	1	1	0	0	0	0		
Shreveport.....	0	0	0	0	0	1	0	0	0		
Texas:											
Dallas.....	0	0	0	0	2	1	0	0	0		
Houston.....	0	0	0	0	0	2	0	0	0	0	0
San Antonio.....	0	0	0	0	1	1	0	1	0		
MOUNTAIN											
Arizona:											
Phoenix.....	0	0	0	0	0	0		1	1		
PACIFIC											
Oregon:											
Portland.....	3	2	0	0	0	0	0	0	0		
California:											
Los Angeles.....	0	0	0	0	0	0	0	3	0		
Sacramento.....	0	0	0	0	0	0	0	0	1		
San Francisco.....	0	0	1	0	0	0	0	3	0		

The following table gives the rates per hundred thousand population for 105 cities for the 10-week period ended June 13, 1925. The population figures used in computing the rates were estimated as of July 1, 1923, as this is the latest date for which estimates are available. The 105 cities reporting cases had an estimated aggregate population of nearly 29,000,000, and the 97 cities reporting deaths had more than 28,000,000 population. The number of cities included in each group and the aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, April 5 to June 13, 1925—Annual rates per 100,000 population ¹

DIPHTHERIA CASE RATES

	Week ended—									
	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16	May 23	May 30	June 6	June 13
105 cities.....	158	160	162	158	157	164	153	149	157	121
New England.....	166	129	144	127	109	154	127	114	129	94
Middle Atlantic.....	220	228	218	213	212	238	203	211	244	156
East North Central.....	96	110	113	110	113	110	108	106	99	96
West North Central.....	226	168	187	201	278	211	251	197	189	145
South Atlantic.....	73	102	108	104	104	85	87	77	93	57
East South Central.....	34	46	40	40	11	34	40	11	11	6
West South Central.....	107	74	79	70	65	56	42	65	42	70
Mountain.....	105	239	267	115	105	153	134	143	76	181
Pacific.....	171	168	165	206	123	138	165	168	145	165

MEASLES CASE RATES

105 cities.....	531	589	645	581	627	624	601	593	618	589
New England.....	1,011	917	1,217	1,004	984	1,188	1,051	967	872	892
Middle Atlantic.....	680	815	782	734	797	768	617	704	774	727
East North Central.....	710	742	901	761	890	854	954	913	893	886
West North Central.....	58	91	102	79	112	79	236	145	114	135
South Atlantic.....	207	256	295	305	240	329	327	256	416	299
East South Central.....	34	97	189	200	343	166	337	217	132	226
West South Central.....	51	65	37	28	32	14	23	14	23	14
Mountain.....	57	267	219	534	181	57	181	248	38	95
Pacific.....	241	154	203	162	95	178	131	165	165	87

SCARLET FEVER CASE RATES

105 cities.....	367	342	360	309	323	352	307	278	266	177
New England.....	529	350	407	430	415	358	350	211	266	179
Middle Atlantic.....	359	343	336	323	319	331	265	271	263	156
East North Central.....	422	403	433	324	368	399	413	346	317	217
West North Central.....	647	651	692	518	613	728	556	531	481	325
South Atlantic.....	152	167	175	132	106	165	146	122	132	62
East South Central.....	280	229	257	263	263	326	246	183	126	171
West South Central.....	88	60	121	111	88	74	23	65	88	46
Mountain.....	258	315	401	334	277	353	324	419	334	277
Pacific.....	174	145	148	125	151	197	162	139	151	162

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1923.

² Spokane, Wash., not included. Report not received at time of going to press.

³ Tacoma, Wash., not included.

⁴ Charleston, W. Va., not included.

⁵ Wilmington, N. C., not included.

⁶ Cincinnati, Ohio, Cicero, Ill., St. Petersburg, Fla., and Covington, Ky., not included.

⁷ Cincinnati, Ohio, and Cicero, Ill., not included.

⁸ St. Petersburg, Fla., not included.

⁹ Covington, Ky., not included.

Summary of weekly reports from cities, April 5 to June 13, 1925—Annual rates per 100,000 population—Continued

SMALLPOX CASE RATES

	Week ended—									
	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16	May 23	May 30	June 6	June 13
105 cities.....	51	48	62	50	¹ 46	² 46	60	⁴ 48	⁵ 46	⁶ 37
New England.....	2	0	2	0	2	0	0	0	0	0
Middle Atlantic.....	10	18	12	8	6	7	2	2	4	2
East North Central.....	22	27	39	30	44	56	70	58	65	⁷ 44
West North Central.....	97	85	89	75	60	79	68	70	95	52
South Atlantic.....	43	53	79	63	45	37	65	¹ 10	² 39	³ 23
East South Central.....	572	395	457	435	377	189	440	423	114	⁴ 317
West South Central.....	51	14	42	32	28	37	130	56	32	5
Mountain.....	19	10	29	10	48	29	29	57	33	29
Pacific.....	148	162	264	206	¹ 176	² 191	186	168	191	148

TYPHOID FEVER CASE RATES

105 cities.....	10	12	16	18	¹ 14	² 13	19	⁴ 16	⁵ 25	⁶ 29
New England.....	2	7	17	10	5	12	25	17	30	25
Middle Atlantic.....	9	11	14	22	13	10	19	9	26	17
East North Central.....	6	4	7	4	9	6	5	7	10	⁷ 10
West North Central.....	2	2	6	12	2	0	4	10	8	25
South Atlantic.....	20	12	14	28	28	26	39	⁴ 41	⁵ 41	⁶ 66
East South Central.....	17	34	80	46	46	63	74	51	40	⁷ 128
West South Central.....	37	56	51	51	46	79	65	74	88	116
Mountain.....	19	38	29	0	0	0	19	10	76	43
Pacific.....	9	12	23	17	¹ 9	² 3	6	9	9	15

INFLUENZA DEATH RATES

105 cities.....	27	27	30	22	15	14	14	¹ 12	² 11	³ 7
New England.....	32	27	30	20	10	7	5	7	2	5
Middle Atlantic.....	16	24	17	14	10	12	11	9	11	6
East North Central.....	27	24	33	23	16	11	12	14	10	⁷ 5
West North Central.....	37	50	48	31	11	11	18	18	4	9
South Atlantic.....	26	12	43	26	24	10	6	¹ 12	² 6	³ 4
East South Central.....	74	80	86	51	51	80	86	40	54	⁴ 18
West South Central.....	46	36	25	31	15	20	24	31	5	20
Mountain.....	86	38	76	48	19	57	19	0	29	10
Pacific.....	12	29	12	12	16	12	25	8	12	4

PNEUMONIA DEATH RATES

105 cities.....	201	192	203	167	151	127	128	¹ 117	² 128	³ 105
New England.....	211	206	186	149	161	134	119	114	72	117
Middle Atlantic.....	190	204	223	206	185	143	144	146	163	130
East North Central.....	190	190	211	148	130	125	125	119	114	⁷ 90
West North Central.....	228	171	136	72	77	58	79	59	57	50
South Atlantic.....	238	232	191	195	156	136	134	¹ 157	² 146	³ 123
East South Central.....	343	206	286	194	160	166	137	172	126	⁴ 67
West South Central.....	168	173	158	127	138	112	84	76	66	87
Mountain.....	267	210	219	124	124	162	172	76	95	105
Pacific.....	119	98	147	127	123	78	135	82	131	49

¹ Spokane, Wash., not included. Report not received at time of going to press.

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⁴ Wilmington, N. C., not included.

⁵ Cincinnati, Ohio, Cicero, Ill., St. Petersburg, Fla., and Covington, Ky., not included.

⁶ Cincinnati, Ohio, and Cicero, Ill., not included.

⁷ St. Petersburg, Fla., not included.

⁸ Covington, Ky., not included.

Number of cities included in summary of weekly reports and aggregate population of cities in each group, estimated as of July 1, 1923

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases	Aggregate population of cities reporting deaths
Total.....	105	97	28,898,350	28,140,934
New England.....	12	12	2,098,746	2,098,746
Middle Atlantic.....	10	10	10,304,114	10,304,114
East North Central.....	17	17	7,032,535	7,032,535
West North Central.....	14	11	2,515,330	2,381,454
South Atlantic.....	22	22	2,566,901	2,566,901
East South Central.....	7	7	911,885	911,885
West South Central.....	8	6	1,124,564	1,023,013
Mountain.....	9	9	546,445	546,445
Pacific.....	6	3	1,797,830	1,275,841

FOREIGN AND INSULAR

THE FAR EAST

Wireless health news messages.—The following data for the week ended June 6, 1925, were sent by wireless from the Far Eastern Bureau of the Health Section of the League of Nations located at Singapore to the headquarters at Geneva, Switzerland:

Port	Plague		Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Calcutta.....		1		23	50	45
Bombay.....		2	0	0	12	10
Madras.....	0	0	0	0	20	10
Rangoon.....		13		2	14	6
Karachi.....	0	0	0	0	1	
Negapatam.....	0	0	0	0	0	0
Singapore.....	0	0	0	0	0	0
Port Swettenham.....	0	0	0	0	0	0
Penang.....	0	0	0	0	0	0
Batavia.....	0	0	0	0	0	0
Soerabaya.....	0	0	0	0	0	0
Samarang.....	0	0	0	0	0	0
Belawan Deli.....	0	0	0	0	0	0
Macassar.....	0	0	0	0	0	0
Sandakan (North Borneo).....	0	0	0	0	0	0
Sarawak.....	0	0	0	0	0	0
Bangkok ¹	3	3			6	3
Saigon and Cholon.....	1		1		1	0
Hongkong.....	0	0		0	0	1
Shanghai.....	0	0	0	0	2	
Manila.....	0	0	0	0	0	0
Colombo.....	0	0	0	0	0	0
Nagasaki.....	0	0	0	0	0	0
Yokohama.....	0	0	0	0	0	0
Shimonoseki.....	0	0	0	0	0	0
Kobe.....	0	0	0	0	0	0

¹ Plague-infected rats found.

BRAZIL

Plague—Bahia—May 3-16, 1925.—During the two weeks ended May 16, 1925, four cases of plague with three deaths were reported at Bahia, Brazil.

CUBA

Communicable diseases—Provinces—March and April, 1925.—Cases of disease were notified in the provinces of Cuba for the months of March and April, 1925, as follows:

MARCH, 1925

Disease	Pinar del Rio	Havana	Matanzas	Santa Clara	Camaguiay	Oriente	Total
Cerebrospinal meningitis					2	5	7
Chicken pox		23		13	38	9	83
Diphtheria	4	16		2	1	5	28
Malaria	1	37	2	1	47	569	657
Measles	1	140	1	40	7	2	191
Paratyphoid fever		5		1			6
Poliomyelitis	4						4
Scarlet fever	1	15		32			48
Tetanus (infantile)				1			1
Typhoid fever	9	43	7	21	12	29	121

APRIL, 1925

Cerebrospinal meningitis		2		1			3
Chicken pox	2	24		15	2	3	46
Diphtheria	1	25	2	1	2	3	34
Malaria	2	50		2	16	306	376
Measles	4	227	11	27	4	8	281
Paratyphoid fever		3	3	1			7
Scarlet fever		7		1			8
Typhoid fever	9	47	21	22	10	21	130

MADAGASCAR

Plague—Tananarive Province—April 1-15, 1925.—During the period April 1 to 15, 1925, 79 cases of plague with 60 deaths were reported in the Province of Tananarive, Madagascar. Of these, 50 cases with 35 deaths were bubonic, 17 cases with 13 deaths pneumonic, and 12 cases with 12 deaths septicemic in type.

MALTA

Communicable diseases—May 1-15, 1925.—During the period May 1 to 15, 1925, communicable diseases were reported in the island of Malta as follows: Chicken pox, cases 11; diphtheria, 2; malaria, 1 case; Malta (undulant) fever, 26 cases, typhoid fever 2, and tuberculosis 17 cases.

VIRGIN ISLANDS

Communicable diseases—May, 1925.—During the month of May, 1925, communicable diseases were reported in the Virgin Islands of the United States as follows:

Island and disease	Cases	Remarks
St. Thomas and St. John:		
Chicken pox	1	
Dengue	22	
Gonorrhoea	1	
Pellagra	3	
Syphilis	5	Secondary. One imported.
Tuberculosis	1	Acute miliary.
St. Croix:		
Chancroid	2	
Filariasis	2	Bancrofti.
Gonorrhoea	3	
Malaria	1	Estivo-autumnal.
Syphilis	7	Secondary.

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER

The reports contained in the following tables must not be considered as complete or final as regards either the lists of countries included or the figures for the particular countries for which reports are given.

Reports Received During Week Ended July 3, 1925¹**CHOLERA**

Place	Date	Cases	Deaths	Remarks
Algeria:				
Algiers.....	May 11-20.....	1		
Ceylon.....				Jan. 25-Apr. 4, 1925: Cases, 10; deaths, 10.
India:				
Calcutta.....	May 3-9.....	58	49	
Rangoon.....	May 3-9.....	8	5	
Indo-China:				
Saigon.....	May 4-10.....	1	1	
Siam:				
Bangkok.....	Apr. 26-May 2.....	2	1	
Turkey:				
Constantinople.....	May 16-22.....	1		

PLAGUE

Brazil:				
Bahia.....	May 3-16.....	4	3	
British East Africa:				
Uganda.....	Feb. 1-28.....	28	28	
Ceylon:				
Colombo.....	May 10-16.....		1	
India:				
Bombay.....	Apr. 26-May 9.....	15	16	
Karachi.....	May 18-23.....	3	3	
Rangoon.....	May 3-9.....	27	24	
Indo-China:				
Cochin-China—				
Saigon.....	Apr. 20-26.....	1	1	Including 100 square kilometers surrounding country.
Madagascar:				
Tananarive Province.....	Apr. 1-15.....	79	60	Bubonic: Cases, 50; deaths, 35; pneumonic, cases, 17; deaths, 13; septicemic, cases, 12; deaths, 12.
Nigeria.....	Dec., 1924.....	17	13	
Do.....	Jan., 1925.....	10	6	
Siam:				
Bangkok.....	Apr. 26-May 9.....	5	5	
Straits Settlements:				
Singapore.....	May 3-9.....	6	6	

SMALLPOX

Algeria:				
Algiers.....	May 11-20.....	7		
Brazil:				
Pernambuco.....	Apr. 26-May 2.....	21	2	
Rio de Janeiro.....	May 9-16.....	1		
British East Africa:				
Kenya—				
Mombasa.....	Apr. 19-May 2.....	12	3	
Tanganyika Territory.....	Apr. 5-18.....	19	3	
Uganda.....	Feb. 1-28.....	2		
British South Africa:				
Northern Rhodesia.....	Apr. 23-May 4.....	3		
Canada:				
British Columbia—				
Vancouver.....	June 1-14.....	5		
Saskatchewan—				
Regina.....	May 24-30.....	3		

¹ From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 27, 1924, to June 26, 1925, see Public Health Reports for June 26, 1925. The tables of epidemic diseases are terminated semiannually and new tables begun.

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER—Continued

Reports Received During Week Ended July 3, 1925—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
China:				
Antung.....	May 11-17.....	1		
Canton.....	May 10-16.....			Present.
Chungking.....	May 3-9.....			Present.
Hongkong.....	Apr. 19-May 2.....	7	6	
Manchuria—				
Dairen.....	Apr. 13-May 3.....	54	6	
Harbin.....	May 13-19.....	1		
Nanking.....	May 9-23.....			Present.
France:				Feb.-Mar., 1925: Cases, 48.
Paris.....	May 21-31.....	1		
Gold Coast.....				Jan.-Feb., 1925: Cases, 114; deaths, 17.
Great Britain:				
England and Wales.....				May 24-June 6, 1925: Cases, 187.
New Castle-on-Tyne.....	May 31-June 6.....	2		
Greece.....				Jan.-Feb., 1925: Cases, 43; deaths, 6.
India:				
Bombay.....	Apr. 26-May 9.....	48	42	
Calcutta.....	May 3-9.....	109	100	
Karachi.....	May 18-23.....	1	1	Feb. 15-21, 1925: Cases, 2; deaths, 2.
Madras.....	do.....	40	16	
Rangoon.....	May 3-9.....	63	24	
Indo-China:				
Cochin-China—				
Saigon.....	Apr. 20-May 10.....	7	4	Including 100 square kilometers of surrounding country.
Irak.....				Jan. 11-Apr. 4, 1925: Cases, 87; deaths, 42.
Jamaica.....				Apr. 26-May 30, 1925: Cases, 75. Exclusive of Kingston.
Java:				
East Java—				
Soerabaya.....	Apr. 16-22.....	33	4	
West Java—				
Batavia.....	May 2-8.....	1		Province.
Tegal.....	Mar. 29-Apr. 4.....	2		
Mexico:				
Guadalajara.....	June 2-15.....		2	
Mexico City.....	May 24-30.....	1		Including municipalities in Federal District.
Tampico.....	June 1-10.....		1	
Morocco:				
Tangier.....	May 17-June 5.....			Present among natives.
Nigeria:				December, 1924: Cases, 40; deaths, 16.
Do.....				January-February, 1925: Cases, 421; deaths, 11.
Poland.....				Mar. 1-7, 1925: Cases, 3.
Portugal:				
Lisbon.....	Apr. 26-May 30.....	33		
Russia:				December, 1924: Cases, 880.
Do.....				January, 1925: Cases, 383.
Siam:				
Bangkok.....	Apr. 26-May 9.....	4	2	
Spain:				
Malaga.....	May 24-June 6.....		8	
Valencia.....	May 31-June 6.....	1		
Syria:				
Beirut.....	Apr. 21-30.....	1		
Tripoli.....				Jan. 3-Feb. 20, 1925: Cases, 6.
Tunis:				
Tunis.....	May 6-20.....	8	19	
Turkey:				
Constantinople.....	May 16-22.....	2		
Uruguay.....				December, 1924: Cases, 8.

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER—Continued

Reports Received During Week Ended July 3, 1925—Continued

TYPHUS FEVER

Place	Date	Cases	Deaths	Remarks
Algeria: Algiers.....	May 11-20.....	6	2	In vicinity stated to be 12 cases. Isolated.
Bulgaria..... Do.....				Nov.-Dec., 1924: One case. Jan.-Mar., 1925: Cases, 36; deaths, 2.
Chile: Valparaiso.....	May 10-16.....		1	
Egypt: Alexandria..... Port Said.....	May 7-13..... May 14-20.....	2 1		
Greece: Athens.....	May 1-31.....		2	Jan.-Feb., 1925: Cases, 40; deaths, 4.
Mexico: Mexico City.....	May 24-30.....	11		Including municipalities in Federal District. Jan., 1925: Cases, 63.
Morocco.....				
Peru: Arequipa.....	Apr. 1-30.....		2	
Poland.....				Mar. 1-7, 1925: Cases, deaths, 9.
Russia..... Do.....				Dec., 1924: Cases, 4,227. Jan., 1925: Cases, 3,823.
Turkey: Constantinople.....	May 11-20.....	6	2	
Union of South Africa: Cape Province..... Natal..... Durban..... Orange Free State.....				Apr. 19-25, 1925: Outbreaks.