

# PUBLIC HEALTH REPORTS

VOL. 51

NOVEMBER 13, 1936

No. 46

## THE EFFICIENCY OF RAPID SAND FILTERS IN REMOVING THE CYSTS OF THE AMOEBIC DYSENTERY ORGANISMS FROM WATER <sup>1</sup>

By JOHN R. BAYLIS, *Physical Chemist, OSCAR GULLANS, Senior Sanitary Chemist, Division of Water Purification, Department of Public Works, City of Chicago;* and BERTHA KAPLAN SPECTOR, Ph. D., *Associate Protozoologist, United States Public Health Service, and Research Associate, Department of Medicine, Douglas Smith Foundation of the University of Chicago.*

Previous experiments <sup>1</sup> on the removal from water of *Endamoeba histolytica* cysts (the cysts of amoebic dysentery) indicated that filtration through rapid sand filters was an effective means of removing such organisms. These earlier tests were run with glass-tube filters, and were on such a small scale that it was thought advisable to conduct a few experiments on a larger scale. Experience with small glass-tube filters on ordinary water filtration indicates that reliable results can be obtained with these filters; yet so few such filters are being used for experimental work that results on a larger scale may be more convincing to many who have not had experience with the glass-tube filters.

The area of the sand surface of the glass-tube filters used in the previous tests was approximately 2.5 square inches, whereas the filter used in the experiments herein given had a sand-surface area of 10 square feet.

In addition to conducting the filtration experiments on a larger scale, a new method of concentrating the cysts in water by passing a large volume of the filtered water through a continuous-flow centrifuge was used. Determination of the number of cysts in water which contains not more than one cyst in 10 gallons of water is not an easy task, though it is believed that this method of concentration gave fairly accurate results.

### APPARATUS

The filter used in this series of experiments was one of the small plant filters of the Chicago Experimental Filtration Plant. Figure

<sup>1</sup> This work was conducted at the Chicago Experimental Filtration Plant under the direction of Mr. Arthur E. Gorman, Engineer of Water Purification, Bureau of Engineering, Department of Public Works, City of Chicago, and Dr. G. W. McCoy, Director, National Institute of Health, United States Public Health Service, Washington, D. C.

1 shows a section through the filter and how the filter was connected to receive coagulated water contaminated with *E. histolytica* cysts. Long-time operation of filters of this size has demonstrated that they are suitable for almost any type of filtration experiment.

The water was coagulated in the vertically baffled mixing basin of the experimental plant in a manner typical of ordinary filter-plant operation. A small portion of the water was taken off near the end of the mixing basin through a 3-inch pipe. This pipe had no direct connection to the influent line of the filter used for filtering the cysts.

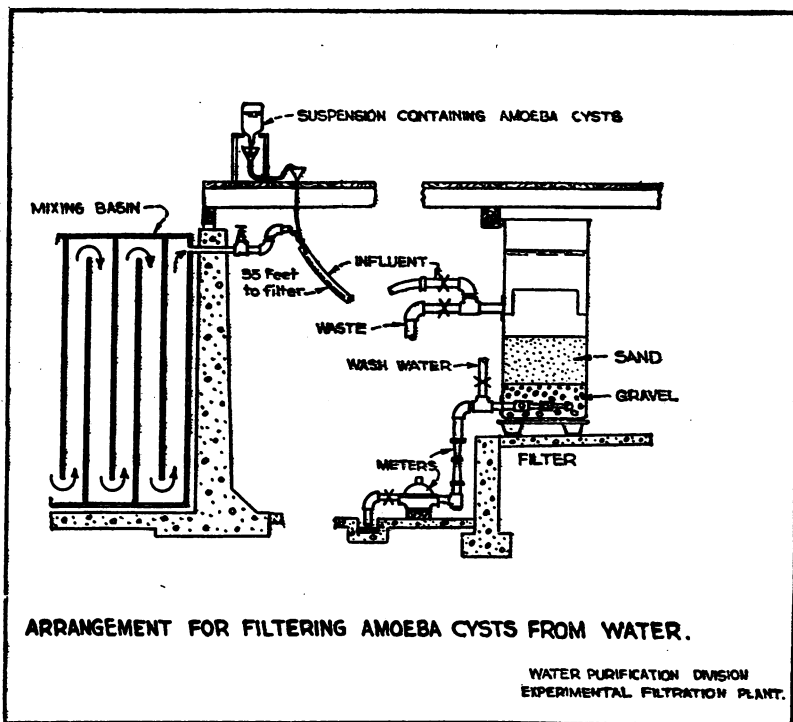


FIGURE 1.

The water poured from the outlet of the pipe into a 3-inch rubber hose about 30 feet long, which carried it to the filter. This hose served as a mixing channel for the cysts and mixed them with the coagulated water. There was a free fall of the water of about 6 inches into the hose to insure that water containing cysts would not be drawn back into the mixing basin, should the water level in the mixing basin be lowered. By suspending the end of the hose in a certain position, practically all the water flowing out of the pipe fell into the end of the hose. By regulating the flow so that there was a small overflow from the hose, the level on the filter was kept constant.

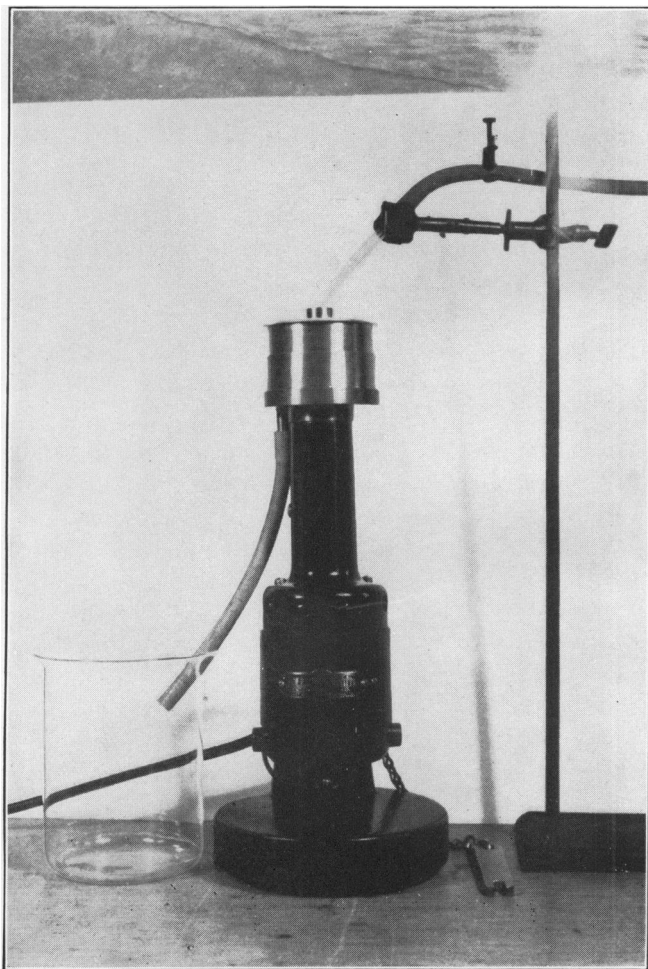


FIGURE 2.—The centrifuge used in the experiments.

To feed the solution containing the cysts into the 3-inch hose a small rubber tube leading from a funnel on the floor above was used. This carried the suspension of cysts to a point about 6 feet into the hose. A glass orifice was located in this funnel, and the funnel was connected with a second funnel over which a 5-gallon bottle of water containing a known number of cysts was inverted. The orifice was calibrated to give the desired rate of feed; and as the level of water was maintained almost constant in the funnel underneath the bottle, the flow from the orifice was constant. The arrangement of the bottle and funnels is shown in figure 1.

The bottle was stoppered with a rubber stopper having a glass tube about 8 mm inside diameter passing through the stopper and projecting outward about 3 inches. Over the end of this was a rubber tube about 6 inches long. A screw clamp was used to close the tube so that the solution would not run out in tipping the bottle to place in position. Two bottles were used, one being filled with the suspension of cysts while the other one was in use. A frequent inspection of the 5-gallon bottle in use was all that was necessary to determine the time to replace the bottle with a full one.

The sand was typical of that used extensively in rapid sand filtration; the bed was 24 inches in depth of sand having an effective size of 0.5 mm diameter and a uniformity coefficient of 1.40, according to the Hazen method of determining the size and uniformity coefficient. The bed was maintained in good condition.

The centrifuge used to concentrate the cysts in the filtered water was a continuous-flow type. The machine was developed primarily for concentrating algae and other plankton in water. The efficiency for concentrating such organisms is high. The instrument has a fast revolving cup about 1.5 inches inside diameter, with the diameter being slightly greater at the bottom so that the cup, when in operation, retains continuously about 5 cc of water. Figure 2 is an illustration of the centrifuge.

#### EXPERIMENTS

The filter (10 sq. ft.) used in these tests was kept in continuous operation throughout the period of about 9 months, in which occasional experiments on filtering the cysts were conducted. The work was purposely spread over a long period so as to have tests for all changes in the lake water. Usually the filter was washed just before starting an experiment on filtering the cysts so that the run would be as long as possible.

A stool containing many *E. histolytica* cysts was thoroughly emulsified with distilled water and strained through two layers of gauze, so that the suspension was uniform. The number of cysts for a given volume of the suspension was determined by examining a small

portion with a microscope. The concentrated suspension was diluted to a definite amount with distilled water, and 1 cc of the diluted portion placed in a Rafter's counting cell and the cysts counted. The dilution should be such that the number of cysts will be between 50 and 200 per cc. In this manner the number of cysts in the concentrated suspension may be determined with fair accuracy, though variations as much as 10 to 20 percent are to be expected.

Having determined the number of cysts in the concentrated suspension, the amount of the suspension to add to the 5-gallon portions of water to produce some certain number in the water going to the filter could be determined. For ease in measuring, a definite number of cubic centimeters of the concentrated suspension were added. After agitating thoroughly the mixture of water and cysts in the 5-gallon bottle, the suspension was ready to be used. In some tests about 20 p. p. m. of aluminum sulphate were added to the water in the bottles partially to coagulate the suspended matter, and in others the suspensions of cysts were not coagulated. There was no difference in the results; that is, in the efficiency of the filter in removing the cysts.

When the 5-gallon bottle was placed in an inverted position over the funnel, the end of the tube which passed through the rubber stopper projected downward to about the center of the funnel. Air enters the bottle as the water flows out, both air and water passing through the same tube in opposite directions. This will continue until the level of the water in the funnel rises to a point where air cannot enter the tube. A sloping end on the tube facilitates starting the action when the water level in the funnel lowers slightly. The variation of the water level in the funnel is not greater than about one-half inch. This keeps a uniform head on the orifice and insures a uniform flow, through the orifice, of cysts suspended in the water. The time required for each 5-gallon portion containing cysts to run out was set at about 60 minutes. With the rate of filtration kept constant, the cysts should be uniformly distributed in the water going to the filter. The air bubbles rising through the water in the bottles each time that air runs into the bottle agitates the water sufficiently to keep the cysts in suspension and distributed uniformly through the water.

This type of experiment differed from natural pollution in that the water was coagulated before the cysts were added, and the coagulated water was not settled before filtration. The water was not very turbid and was coagulated with such a small amount of aluminum sulphate (8 to 17 p. p. m.) that the volume of coagulated matter could be handled by the filter without difficulty. The lengths of filter runs were shorter than they would have been had the water been settled before going to the filter, but experience has shown that coagulated

matter is much more likely to pass through a filter bed when all of the coagulated matter produced by the chemical treatment is applied directly to the filter than when the water passes through settling basins which remove a substantial portion of the coagulated matter. Since much of the filtered water from the experimental plant is used for drinking purposes, it was not advisable to apply the cysts to the water going through the plant settling basins. Had the cysts been added first, the water coagulated, later settled, and then filtered, even better results should have been expected.

The filter was operated at a rate of 2 gallons per square foot per minute. The rate of filtration was controlled by hand, but was kept very close to the desired rate. For the first few tests, enough caustic lime was added to the effluent water from the filter to produce about 25 percent saturation with calcium hydroxide, the samples, of course, being collected before the addition of the lime. The addition of the lime was for the purpose of destroying any cysts which might pass through the filter. After it was demonstrated that almost no cysts were passing the filter, use of the lime was discontinued. Samples of filtered water were collected at equal intervals for testing. The method of concentrating the cysts in the filtered water for examination with the microscope is explained in another paragraph.

At the completion of each test 5 gallons of lysol were added to the water in the filter and the filter was allowed to stand over night. This was sufficient lysol to kill all of the cysts removed from the water which was filtered and retained in the filter. The filter was then washed in the usual manner and placed in service, filtering coagulated Lake Michigan water. It was kept in continuous service until the next experiment was conducted.

#### RESULTS OF EXPERIMENTS

Fifteen experiments were run at intervals between May 28, 1935, and February 25, 1936. As stated, they were purposely spread over a long period. The results of the experiments are given in table 1. Cysts were added to the water in all of the experiments except one, in which the water was contaminated with sewage. For the 14 tests in which cysts were used 433 liters (114 gallons) of filtered water were centrifuged and all of the sediment resulting from centrifuging was examined for cysts. The number of cysts in this same volume of water applied to the filter amounted to about 178,000. Only 4 cysts were found in the 114 gallons of filtered water, which is 1 cyst in the filtered water to 44,500 cysts in the applied water. Should the process of concentrating the cysts by centrifuging have recovered only 50 percent of the cysts, the removal by filtration still would be in excess of 99.99 percent.

The water was prechlorinated for some of the experiments, while no chlorine was used in others. The results indicate that prechlorination has no influence on filtration of the cysts from water.

#### CONCENTRATING CYSTS IN FILTERED WATER

Where there are very few cysts in the water to be examined, they have to be concentrated in some manner. Should it be possible to make tests for cysts in the usual procedure for determining bacteria in water, the enumeration of one cyst in 10 gallons of water still would be a complicated procedure. The method used in the experiments conducted in 1934 was to collect one-gallon samples of the filtered water in bottles, allow the bottles to stand 20 to 24 hours, carefully siphon off the supernatant fluid, then concentrate and examine the sediment under the microscope for cysts. This procedure was cumbersome when 10 to 20 gallons of water had to be examined.

In these experiments a Foerst centrifuge was used for concentrating the cysts in the filtered water. Such apparatus, as has been stated, is satisfactory for concentrating plankton in water and gives from 90 to 100 percent recovery. As the *E. histolytica* cysts are as large as some of the microscopical organisms, it was thought that they could be concentrated by centrifuging with such a device. Table 2 shows that there was good recovery of the cysts by the procedure.

After concentrating the respective quantities of filtered water in the centrifuge, the concentrated material was carefully pipetted into a centrifuge tube by means of a Wright's pipette. The cup in the centrifuge was washed with a little distilled water and the washing added to the material in the centrifuge tube. This was then centrifuged in an International centrifuge at about 1,500 r. p. m. for 10 minutes.

The entire sediment was examined for *E. histolytica* cysts direct and by staining with iodine solution (5-percent aqueous potassium iodide saturated with iodine and diluted with equal parts of distilled water).

For further reference on methods of diagnosing *E. histolytica* cysts, see American Public Health Association Year Book, 1935-36 (2).

## SUMMARY

Experiments on the removal of *Endamoeba histolytica* cysts from water by rapid sand filtration have been conducted.

The filter used in the experiments had a surface area of 10 square feet, and contained 24 inches of sand having an effective size of 0.5 mm diameter.

The cysts were not in the water when it was coagulated, but were added to the coagulated water going to the filter. They were fed into the influent water at a constant rate from 5-gallon portions of a suspension of the organisms.

The number of cysts in the influent water varied from 362 to 2,370 per gallon of water. A total of 114 gallons of filtered water was tested and only 4 cysts were found. The percent reduction was in excess of 99.99.

The duration of an experiment was from 3.7 to 13.7 hours. Nine to 74 liters of filtered water were collected at equal intervals during the period of the run.

The filtered water collected for testing was first run through a Foerst centrifuge for concentrating the cysts.

Prechlorinating the water did not affect the efficiency of the filters.

## CONCLUSION

Filtration of water through rapid sand filters, in the manner now extensively used throughout the United States, is an effective means of removing *Endamoeba histolytica* cysts from water.

## REFERENCES

- (1) Spector, Bertha Kaplan, Baylis, John R., and Gullans, Oscar: Effectiveness of Filtration in removing from water, and of chlorine in killing, the causative organism of amoebic dysentery. Pub. Health Repts., 49: 786-800 (July 6, 1934). (Also Reprint No. 1633.)
- (2) Spector, Bertha Kaplan: Tentative methods for the diagnosis of amebiasis and amoebic dysentery. American Public Health Association Yearbook, 1935-36, vol. 26, pp. 130-143, March 1936.



TABLE 1.—*Filtration of amoebic dysentery cysts from water*

Date	May 28, 1935	June 4, 1935	June 11, 1935	June 14, 1935	June 18, 1935	June 20, 1935	June 25, 1935	June 27, 1935	July 2, 1935	Jan. 8, 1936	Jan. 14, 1936	Jan. 16, 1936	Jan. 21, 1936	Jan. 23, 1936	Feb. 25, 1936
Test number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Parts per million of aluminum sulphate	14.7	15.3	15.7	15.2	15.0	16.3	16.7	17.0	16.3	8.6	8.6	8.6	11.5	8.6	8.1
Number of cysts in 5 gallons of suspension	800,000	870,000	427,000	540,000	595,000	651,000	1,156,000	Sewage	1,240,000	2,400,000	2,440,000	2,100,000	2,900,000	2,000,000	2,660,000
Minutes for 5-gallon portions to empty	60	60	60	60	60	60	60	-----	60	60	60	65	62	62	61
Cysts per gallon of influent water	717	725	362	450	498	543	933	Unknown	1,033	2,000	2,033	1,615	2,370	2,370	2,220
Liters of water collected for testing	9	12	22	24	28	26	24	30	26	30	26	38	74	36	58
Number of cysts found in filtered water	1 (?)	0	0	0	1	0	0	0	1	0	0	0	0	1	0
Duration of test in hours	6.5	4.8	4.4	4.6	4.6	5.0	4.6	3.7	5.0	4.0	5.0	6.7	13.7	7.2	11
Hours filter in operation before test was started	0	0	0	0	0	0	0	0	0	5.4	5.2	8.3	0	2.5	3.3
Loss of head on filter at beginning of test, feet	0.6	0.8	0.6	0.7	0.7	0.5	0.6	0.7	0.6	1.6	1.5	4.3	0.7	1.1	1.9
Loss of head on filter at end of test, feet	5.8	10.4	9.2	9.0	7.4	8.2	6.5	6.4	7.0	2.9	3.4	9.0	5.9	9.3	8.3
Water prechlorinated	Yes	Yes	Yes	Yes	No	No	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Residual chlorine, p. p. m.	No test	0.25	1.40	2.50	-----	-----	2.00	-----	-----	-----	-----	.80	0.8	0.9	1.1

TABLE 2.—*Recovery of cysts by centrifuging with Foerst centrifuge*

Test number	Cysts in 1.0 cc of concentrated suspension	Number of cysts recovered from 1.0 cc of concentrated suspension of cysts diluted to 2 liters, then concentrated by centrifuging	Percent recovery
1	350	248	71
2	430	597	118
3	430	350	81
4	170	160	94
5	870	730	84

## CITY HEALTH OFFICERS, 1936

## 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 and reprinted as separates <sup>1</sup> for each year from 1916 to 1934, except 1932, for the information of health officers and others interested in public-health activities. These directories have been compiled from data furnished by the health officers. The cities included in this directory are those having populations of 10,000 or more according to the 1930 census.

The asterisk (\*) indicates that the officer before whose name it appears 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 in any other business but devotes all of his time to official duties."

City	Name of health officer	Official title
<b>Alabama:</b>		
Anniston	*G. A. Cryer, M. D.	County health officer.
Bessemer	*J. D. Dowling, M. D.	Do.
Birmingham	do.	Do.
Decatur	*Lee Roy Murphree, M. D., C. P. H.	Do.
Dothan	*Wyatt Thomas Burkett, M. D.	Do.
Fairfield		
Florence	*W. D. Hubbard, M. D.	Do.
Gadsden	*C. L. Murphree, M. D.	Do.
Huntsville	*W. C. Hatchett, M. D.	Do.
Mobile	*O. L. Chason, M. D., Dr. P. H.	Do.
Montgomery	*J. L. Bowman, M. D.	County and city health officer.
Phenix City	*Marion Leonard Shaddix, M. D.	County health officer.
Selma	*L. T. Lee, M. D.	Do.
Tuscaloosa	*A. A. Kirk, M. D.	County and city health officer.
<b>Arizona:</b>		
Phoenix	*R. W. Hussong, M. D.	City health officer.
Tucson	*Lewis H. Howard, M. D.	Director of City-County Health Service.
<b>Arkansas:</b>		
Blytheville	Max O. Usrey, M. D.	City health officer.
El Dorado	Fergus O. Mahony, M. D.	Do.
Fort Smith	*James Edward Johnson, M. D.	District health officer.
Hot Springs	*James Foster Merritt, M. D.	City and county health officer.
Jonesboro	R. C. Shanley, M. D.	Chairman, board of health.
Little Rock	*Thomas M. Fly, M. D.	City health officer.
North Little Rock	Val L. Eason, M. D.	Health officer.
Pine Bluff	*Walter Hugh Bruce, M. D.	Director, county health department.
Texarkana	Harry E. Murry, M. D.	City health officer.

<sup>1</sup> Reprints nos. 346, 416, 494, 539, 599, 702, 767, 876, 930, 1025, 1103, 1177, 1257, 1333, 1426, 1521, 1613, and 1635, from the Public Health Reports.

## City health officers, 1936—Continued

City	Name of health officer	Official title
California:		
Alameda	Paul Baron, M. D.	Health officer.
Alhambra	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Anaheim	*K. H. Sutherland, M. D.	County health officer.
Bakersfield	Peter J. Cuneo, LL. B., M. D.	City health officer.
Berkeley	*Frank L. Kelly, M. D., Dr. P. H.	Health officer.
Beverly Hills	H. H. Blodgett, M. D.	City health officer.
Brawley	John L. Parker, M. D.	Do.
Burbank	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Burlingame	H. W. Macomber, M. D.	Acting city health officer.
Compton	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Eureka	William J. Quinn, M. D.	Health officer.
Fresno	C. Mathewson, M. D.	City health officer.
Fullerton	*K. H. Sutherland, M. D.	County health officer.
Glendale	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Huntington Park	do	Do.
Inglewood	do	Do.
Long Beach	*G. E. McDonald, M. D.	Health officer.
Los Angeles	*George Parrish, M. D.	Do.
	*George M. Stevens, M. D.	Epidemiologist and first assistant health officer.
	*G. F. Schmelzel, M. D.	Chief deputy health officer.
	*A. L. Peterson	Executive assistant.
	Divisional directors:	
	*Charles F. Kiley	Chief accountant.
	*J. L. Lanigan	Secretary to health board.
	*Harry Cohn, M. D.	Director of tuberculosis.
	*Agnes M. Talcott	Director of nurses.
	*F. W. Peterson	Director of vital statistics.
	*John Carman	Chief chemist.
	Mona Bettin, M. D.	Chief bacteriologist.
	*Morris S. Siegel	Director of housing and sanitation.
	*G. L. Clark, D. V. M.	Director of milk and meat inspection.
	*H. Manning Elliott, M. D.	Director of venereal clinic (male).
	*Emily F. Balcom, M. D.	Director of venereal clinic (female).
	Lyle McNeile, M. D.	Director, maternity division.
	*C. K. Stewart	Director of rodent division.
	*J. M. Cain	Director of quarantine and morbidity division.
	*L. V. Dieter, D. Phar.	Director of laboratories.
	*Lillian Kositz, M. D.	Director, child hygiene division.
Modesto	*E. F. Reamer, M. D.	County health officer.
Monrovia	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Oakland	*N. N. Ashley, M. D.	Health officer.
Ontario	Calvert L. Emmons, M. D.	Do.
Falo Alto	*Louis Olsen, S. E.	Do.
Pasadena	*Wilton L. Halverson, M. D., Dr. P. H.	Do.
Pomona	*J. L. Pomeroy, M. D.	County health officer, Hall of Justice, Los Angeles.
Redlands	Frank H. Folkins, M. D.	City health officer.
Richmond	*Charles R. Blake, M. D.	Commissioner of health.
Riverside	*W. A. Jones, M. D.	Health commissioner.
Sacramento	Herbert F. True, M. D.	City health officer.
Salinas	*Miss Marie K. Fidel, P. H. N.	Do.
San Bernardino	G. Stirling Landon, M. D.	Health officer.
San Diego	*Alex M. Lesem, M. D.	Director of health.
San Francisco:	Health advisory board:	
Department of public health.	T. J. Lenehan, Chairman.	
	Lawrence Arnstein	
	Frank J. Klimm	
	Frank H. McKevitt, D. D. S.	
	Langley Porter, M. D.	
	W. C. Voorsanger, M. D.	
	J. W. Ward, M. D.	
	Consultants:	
	P. J. Hanzlik, M. D.	
	O. G. Hyde, C. E.	
	O. D. Leake, Ph. D.	
	M. S. Marshall, Ph. D.	
	K. F. Meyer, Ph. D.	
	A. C. Reed, M. D.	
	Alanson Weeks, M. D.	
	Executive staff:	
	*J. O. Gelger, M. D.	Director of public health.
	*J. P. Gray, M. D.	Assistant director of public health.
	*O. M. Woolenberg, Ph. G.	Director of institutions and superintendent, Laguna Honda Home.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>California—Continued.</b>		
<b>San Francisco:</b>		
<b>Department of public health.</b>		
	*L. M. Wilbor, M. D.....	Superintendent, San Francisco Hospital.
	*W. C. Vanderventer, M. D.....	Acting medical superintendent, Hassler health home.
	Edmund Butler, M. D.....	Chief surgeon, emergency hospital service.
	*J. I. O'Dea.....	Chief steward, emergency hospital service.
	George H. Becker, M. D.....	Director, bureau of communicable diseases.
	R. W. Burlingame, M. D.....	Resident physician, isolation division, San Francisco Hospital, and chief, division of venereal disease control.
	*P. S. Barrett, M. D.....	Director, bureau of child hygiene.
	*Ernestine Schwab.....	Director, division of field nursing.
	Olga Bridgman, M. D.....	Chief, division of mental hygiene.
	Robert Grosso, D. D. S.....	Chief, division of dental hygiene.
	*T. P. Lydon.....	Director, bureau of food and milk.
	*J. J. Burke.....	Chief, food and restaurant inspection.
	*B. Q. Engle.....	Chief, pasteurizing plant inspection.
	*C. G. Hansen.....	Chief, meat and market inspection.
	*F. W. Orme, D. V. M.....	Chief, abattoir inspection.
	*A. B. Crowley.....	Chief, industrial hygiene.
	*H. P. Thyle.....	Chief, housing inspection.
	*W. D. Hobro.....	Chief, plumbing inspection.
	*Kathryn B. Walker, M. D.....	Bacteriologist-in-charge, division of bacteriology-serology.
	*Clinton G. Davis.....	Senior chemist, division of chemistry.
	*P. R. Hennessy.....	Senior accountant.
	*R. C. Miller.....	Vital statistician.
San Jose.....	*Henry C. Brown, M. D.....	City health officer.
San Leandro.....	*Joseph P. Rose.....	Food inspector.
San Mateo.....	James A. Warburton, M. D.....	Director of public health.
Santa Ana.....	*K. H. Sutherland, M. D.....	County health officer.
Santa Barbara.....	*Clarence T. Roome, M. D.....	Health officer.
Santa Cruz.....	Mahlon D. McPherson, M. D.....	Do.
Santa Monica.....	*J. L. Pomeroy, M. D.....	County health officer, Hall of Justice, Los Angeles.
Santa Rosa.....	*E. J. Helgren, B. S., in chemistry; Dr. B.....	Health officer.
South Gate.....	*J. L. Pomeroy, M. D.....	County health officer, Hall of Justice, Los Angeles.
South Pasadena.....	Albert Supple, M. D.....	Health officer.
Stockton.....	*John J. Sippy, M. D.....	District health officer.
Vallejo.....		
Ventura.....	J. A. DeSerpa, D. V. M.....	City health officer.
Whittier.....	*J. L. Pomeroy, M. D.....	County health officer, Hall of Justice, Los Angeles.
<b>Colorado:</b>		
Boulder.....	*H. L. Morency, Ph. B., D. V. M.....	Director of public health and sanitation.
Colorado Springs.....	Omer R. Gillett, Ph. B., M. D.....	Health officer.
Denver.....	*Theodore Williams, M. D.....	Deputy manager of health.
Fort Collins.....	T. C. Taylor, M. D.....	Health officer.
Grand Junction.....	E. H. Munro, M. D.....	City physician.
Greeley.....	W. A. Schoen, M. D.....	City health officer.
Pueblo.....	*W. E. Buck, M. D.....	Chief, department of health, sanitation and inspection.
Trinidad.....	Bernard M. Cawley, M. D.....	City physician.
<b>Connecticut:</b>		
Ansonia.....	Louis H. Wilmot, M. D.....	City health officer.
Bridgeport.....	*Richard O'Brien Shea, M. D.....	Health officer and registrar.
Bristol.....	Benjamin B. Robbins, M. D.....	City health officer.
Danbury.....	Felix F. Tomaino, M. D.....	Do.
Derby.....	Thomas F. Plunkett, M. D.....	Do.
East Hartford.....	F. W. Brecker, M. D.....	Do.
Enfield.....	F. F. Simonton, M. D.....	Health officer.
Fairfield.....	*Laurence E. Poole, M. D., Dr. C. P. H.....	Do.
Groton.....	Frank William Hewes, M. D.....	Do.
Hamden.....	George H. Joslin, M. D.....	Superintendent of health.
Hartford.....	*Benjamin G. Horning, M. D., C. P. H.....	Do.
Manchester.....	D. C. Y. Moore, M. D.....	Chairman, board of health.
Meriden.....	Michael J. Sullivan, M. D.....	Health officer.
Middletown.....	Louis O. La Bella, M. D.....	Do.
Millford.....		
Naugatuck.....		
New Britain.....	*Louis J. Dumont, M. D.....	Superintendent of health.
New Haven.....	*Joseph I. Linde, M. D.....	Health officer.
New London.....	*Benjamin N. Pennell, D. V. S.....	Do.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Connecticut—Continued.</b>		
Norwalk		
Norwich	Harrison Gray, M. D.	Health officer.
Shelton		
Stamford	*Raymond D. Fear, M. D., Dr. P. H.	Health commissioner.
Stonington	William T. Veal, M. D.	Health officer.
Stratford	DeRuyter Howland, M. D.	Do.
Torrington		
Wallingford		
Waterbury	*Edward J. Godfrey, M. D.	Do.
West Hartford	*Harry B. Smith, M. D., M. P. H.	Director of health.
Willimantic	Reuben Rothblatt, M. D.	Acting city health officer.
<b>Delaware:</b>		
Wilmington	Roger Murray, M. D.	Executive secretary, board of health.
<b>District of Columbia:</b>		
Washington	*George C. Ruhland, M. D.	Health officer.
	*Arthur G. Cole	Chief clerk and deputy health officer.
Bureau of preventable diseases.	*James G. Cumming, M. D.	Director.
Medical inspection of schools.	*Joseph A. Murphy, M. D.	Do.
Food inspection	*Reid R. Ashworth, D. V. S.	Do.
Sanitary inspection	*J. Frank Butts, LL. B.	Do.
Vital statistics	*Joseph B. Irvine	Do.
Chemical laboratory	*John B. Reed	Do.
Bacteriological laboratory	*John E. Noble	Do.
Serological laboratory	*Jesse P. Porch, D. V. M.	Do.
Child welfare and hygiene service.	*Hugh J. Davis, M. D.	Do.
Pound.		
Tuberculosis	A. Barklie Coulter, M. D.	Do.
Nursing	*Mrs. Josephine Pittmann Prescott.	Do.
Maternity welfare	J. Bay Jacobs, M. D.	Do.
<b>Florida:</b>		
Daytona Beach		
Gainesville	*Simon Reed	Health officer.
Jacksonville		
Key West	*N. A. Upchurch, M. D.	Do.
Lakeland	William R. Warren, M. D.	City health officer.
Miami	*J. D. Griffin, M. D.	City physician and health officer.
Orlando	*George N. MacDonell, M. D.	Director of public health.
Pensacola	Claude Anderson, M. D.	City health officer.
	*William H. Pickett, M. D., C. P. H.	Director, county health department.
St. Augustine	Herbert E. White, M. D.	City health officer.
St. Petersburg	*Frederick F. Kumm, M. D.	City physician.
Sanford	J. N. Tolar, M. D.	Health officer.
Tallahassee	*Leander Johnson Graves, M. D.	Director, county health unit.
Tampa	*James R. McEachern, M. D.	City health officer.
West Palm Beach	W. E. Van Landingham, M. D.	City health officer and city physician.
<b>Georgia:</b>		
Albany		
Athens	*Wedford W. Brown, M. D.	Commissioner of health.
Atlanta	*John P. Kennedy, M. D.	City health officer.
Augusta	*Thomas B. Phinizy, M. D.	Acting commissioner of health.
Brunswick	*Millard E. Winchester, M. D., Dr. P. H.	Commissioner of health.
Columbus	William Edgar Mayher, M. D.	City health officer.
Decatur	H. Homer Allen, M. D.	Do.
Griffin	*William C. Humphries, M. D.	Commissioner of health.
Lagrange	*S. C. Rutland, M. D.	Health officer.
Macon	*J. D. Applewhite, M. D., M. P. H.	Do.
Rome	*B. V. Elmore, Dr. P., M. D.	Commissioner of health.
Savannah	*Victor H. Bassett, M. D.	City health officer.
Thomasville	J. R. Dykes, M. D.	County health officer.
Valdosta	*Gordon T. Crozier, M. D., D. P. H.	City health officer.
Waycross	*George E. Atwood, M. D., D. P. H.	Commissioner of health.
<b>Idaho:</b>		
Boise	*C. K. Macey	Health officer.
Pocatello	*Archer Townsend	Sanitary inspector.
<b>Illinois:</b>		
Alton	D. M. Roberts, M. D.	Health commissioner.
Aurora	George W. Haan, M. D.	Health commissioner and registrar.
Belleville	*William Farley	Health officer.
Berwyn	*Edward J. Farrell, M. D.	Health director.
Bloomington	Ben Markowitz, M. D.	Do.
Blue Island	A. J. Roemisch, M. D.	Commissioner of health.
Brookfield	Harriet L. Hoekendorf, R. N.	Health commissioner.
Cairo		

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Illinois—Continued.</b>		
Calumet City	Andrew Nady, M. D.	Health commissioner
Canton	J. C. Simmons, M. D.	City physician.
Centralla	J. M. Haney, M. D.	Health officer.
Champaign	C. George Appelle, M. D.	City health officer.
Chicago	*Herman N. Bundesen, M. D.	President, board of health.
	H. O. Jones, M. D.	Assistant to the president.
	Louis E. Schmidt, M. D.	Secretary.
	Isaac D. Rawlings, M. D.	Chief of bureau.
Bureau of communicable diseases.		
Bureau of child welfare	Henry C. Niblack, M. D.	Do.
Bureau of laboratories and research.	John L. White, M. D.	Do.
Bureau of public health engineering.	Joel I. Connolly	Do.
Bureau of dairy products.	Henry C. Becker, M. D. V.	Do.
Bureau of food inspection.	J. P. Kilcourse	Do.
Chicago Heights.	Hugo Long, M. D.	Health officer.
Cicero	Frank J. Pokorney, Ph. C., M. D.	Health commissioner.
Danville	C. M. Cook, M. D.	Health officer.
Decatur	*W. M. Talbert, M. D.	City health physician.
East Moline	John Henry Fowler, M. D.	Health officer.
East St. Louis.	*Albert P. Lauman	Commissioner of public health.
Elgin	*A. L. Mann, M. D.	Executive officer.
Elmhurst	Frank D. Leahy, M. D.	President, board of health.
Elmwood Park	James A. Moxon, M. D.	Health commissioner.
Evanston	*John W. H. Pollard, M. D.	Commissioner of health.
Forest Park	G. J. Baumgartner, M. D.	Do.
Freeport	Robert J. Burns, M. D.	Do.
Galesburg	*E. D. Wing, M. D.	Health commissioner.
Granite City	M. E. Kirkpatrick	Chairman, board of health.
Harrisburg	B. E. Montgomery, M. D.	City physician.
Harvey	John W. Blair, M. D.	Health officer.
Highland Park		
Jacksonville	Friederich Engelbach, M. D.	City health warden.
Joliet	*E. J. Higgins, M. D.	Health commissioner.
Kankakee	*C. K. Smith, M. D.	Health officer.
Kewanee	C. Paul White, M. D.	President, board of health.
La Grange	*T. O. McDougal, M. D.	Health officer.
La Salle	*Arlington Alles, M. D., C. F. H.	Health commissioner.
Lincoln	*George Seller	City health officer.
Mattoon	Lovell A. Neal, M. D.	Health officer.
Maywood	R. L. Reynolds, M. D.	Health commissioner.
Melrose Park	Edmund G. Brust, M. D.	Commissioner of health.
Moline	C. C. Ellis, M. D.	City physician.
Mount Vernon		
Oak Park	Frank S. Needham, M. D.	Commissioner of health.
Ottawa	E. P. Hatheway, M. D.	Health officer.
Park Ridge		
Pekin	C. G. Muehlmann, M. D.	Do.
Peoria	Sumner M. Miller, M. D.	Commissioner of health.
Quincy	*H. O. Collins, M. D.	Public health officer.
Rock Island	Harry W. Shuman, M. D.	Health commissioner.
Rockford	*Norman C. Bullock, M. D.	Commissioner of health.
Springfield	H. H. Tuttle, M. D.	Superintendent of health.
Sterling	Herbert M. Jacobs, M. D.	City health officer.
Streator	T. K. Jennings, M. D.	President, board of health.
Urbana	L. M. T. Stillwell, M. D.	Health commissioner.
Waukegan	Rowland M. Ekstrand, M. D.	City physician.
West Frankfort	Wm. Thad Fife	City health officer.
Wilmette	Martin H. Seifert, Ph. D., M. D.	Commissioner of health.
Winnetka	*Howard A. Orvis, M. D., M. S.	Health officer.
	in P. H.	
<b>Indiana:</b>		
Anderson	George B. Metcalf, M. D.	Health commissioner.
Bedford	Charles Blackburn	City health officer.
Bloomington	Charles E. Holland, M. D.	Secretary, city board of health.
Connersville	Herman W. Smelser, M. D.	County health commissioner.
Crawfordsville	Fred N. Daugherty, M. D.	Secretary, board of health.
East Chicago	David R. Johns, M. D.	Do.
Elkhart	A. W. Kistner, M. D.	Secretary, city board of health.
Elwood	W. Merle Hoppenrath, M. D.	Do.
Evansville	Thomas F. Reitz, M. D.	Do.
Fort Wayne	Karl C. Eberly, M. D.	City health commissioner.
Frankfort	Milton T. McCarty, M. D.	City health officer.
Gary	Beilfield Atcheson, M. D.	Health commissioner.
Goshen	G. A. Whippy, M. D.	City health officer.
Hammond	Herschel G. Cole, M. D.	Health commissioner.
Huntington	R. F. Frost, M. D.	Secretary, board of health.
Indianapolis	*H. G. Morgan, M. D.	Health commissioner.
Jeffersonville	Sam Adair, M. D.	City health commissioner.
Kokomo	Will J. Martin, M. D.	Secretary, board of health.
La Fayette	Harry J. Laws, M. D.	Do.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Indiana—Continued.</b>		
La Porte.....	Jon Nelson Kelly, M. D.....	Health officer.
Logansport.....	*Louis P. Deuner.....	Health inspector.
Marion.....	G. R. Daniels, M. D.....	Secretary, board of health.
Michigan City.....	N. R. Carlson, M. D.....	Secretary and health officer.
Mishawaka.....	*Harry J. Magrane, D. V. M., M. D.....	Sanitary and health officer.
Muncie.....	Jules LaDuron, M. D.....	Secretary, board of health.
New Albany.....	W. L. Starr, M. D.....	City health officer.
Newcastle.....	Walter M. Stout, M. D.....	Secretary, board of health.
Peru.....	F. M. Lynn, M. D.....	City health officer.
Richmond.....	Charles J. Hufnagel, M. D.....	Secretary, board of health.
Shelbyville.....	Paul R. Tindall, M. D.....	Do
South Bend.....	F. R. Nicholas Carter, M. D.....	Executive secretary and health officer.
Terre Haute.....	Maurice B. Van Cleave, M. D.....	Secretary, city board of health.
Vincennes.....	Norman E. Beckes, M. D.....	Secretary, board of health.
Whiting.....	Jeremiah A. McCarthy, M. D.....	Health commissioner.
<b>Iowa:</b>		
Ames.....	B. D. Atchley, M. D.....	City health officer.
Boone.....	William Woodburn, M. D.....	Health officer.
Burlington.....	Arthur C. Schach, M. D.....	Do.
Cedar Rapids.....	Victor H. Hasek, M. D.....	City physician.
Clinton.....	J. C. Burke, M. D.....	Health physician.
Council Bluffs.....	J. M. Moskovitz, M. D.....	Health officer.
Davenport.....	George Braunlich, Ph. B., M. D.....	City physician.
Des Moines.....	Harry E. Ransom, M. D.....	Commissioner of health.
Dubuque.....	Walter J. Connell, M. D., M. P. H.....	Health director.
Fort Dodge.....	*T. M. Riordan.....	Sanitary officer.
Fort Madison.....	Joseph M. Casey, M. D.....	Physician, board of health.
Iowa City.....	Isom A. Rankin, M. D.....	Health officer.
Keokuk.....	Charles A. Dimond, M. D.....	Physician to board of health.
Marshalltown.....	R. S. Grossman, M. D.....	Health officer.
Mason City.....	C. M. Franchere, M. D.....	City health director.
Muscatine.....	Rodney M. Arey, M. D.....	City health officer.
Newton.....	E. A. McMurray, M. D.....	City health physician.
Oskaloosa.....	Oscar J. DuBois, D. O.....	City health officer.
Ottumwa.....		
Sioux City.....	*W. S. Petty, M. D.....	Director, county health unit.
Waterloo.....	R. W. Driver, M. D.....	Health officer.
<b>Kansas:</b>		
Arkansas City.....	P. F. Theis, M. D.....	City health officer.
Atchison.....	W. K. Fast, M. D.....	Do.
Chanute.....	James A. Butin, M. D.....	Do.
Coffeyville.....	P. S. Townsend, M. D.....	City physician and health officer.
Dodge City.....	K. F. Alexander, M. D.....	County and city health officer.
Eldorado.....	F. A. Loman.....	Sanitary inspector.
Emporia.....	*C. H. Munger, M. D.....	County health director.
Fort Scott.....	C. L. Mosley, M. D.....	City health officer.
Hutchinson.....	Guy R. Walker, M. D.....	City physician.
Independence.....	E. C. Wickersham, M. D.....	City and county health officer.
Kansas City.....	*W. F. Lunsford, M. D., M. P. H.....	City director of health.
Lawrence.....	J. M. Mott, M. D.....	Superintendent of health.
Leavenworth.....	Alonzo R. Adams, M. D.....	City physician.
Manhattan.....	Darrel L. Evans, M. D.....	County health officer.
Newton.....	W. F. Schroeder, M. D.....	Do.
Parsons.....	L. A. Proctor, M. D.....	City physician.
Pittsburg.....	C. Mart Montee, M. D.....	City health officer.
Salina.....	W. R. Dillingham, Ph. B., M. D.....	Health officer.
Topeka.....	*Fred Power Helm, M. D.....	City health officer.
Wichita.....	J. E. Wolfe, M. D.....	Director of public welfare
<b>Kentucky:</b>		
Ashland.....	*Robert Donald Higgins, M. D., M. P. H.....	Director of health.
Bowling Green.....	*G. M. Wells, M. D.....	County health officer.
Covington.....	Theodore Sallee, M. D.....	City health officer.
Fort Thomas.....	Frank H. Southgate, M. D.....	Health officer.
Frankfort.....	R. M. Coblin, M. D.....	City health officer.
Henderson.....	*J. Leland Tanner, M. D., M. P. H.....	Director, county health department.
Hopkinsville.....	Philip E. Haynes, M. D.....	City health officer.
Lexington.....	*Charles M. Moore, M. D.....	Health officer.
Louisville.....	Hugh R. Leavell, M. D.....	Director of public health.
Middlesboro.....		
Newport.....	John Todd, M. D.....	City health officer.
Owensboro.....	A. L. Kincheloe, M. D.....	Health director.
Paducah.....	*Russell E. Teague, M. D., C. P. H.....	Director, county health department.
<b>Louisiana:</b>		
Alexandria.....		
Baton Rouge.....	T. Jeff McHugh, M. D.....	City health officer.
Bogalusa.....	J. H. Slaughter, M. D.....	City physician.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Louisiana—Continued.</b>		
Lafayette.....	*G. A. Martin, M. D.....	City physician.
Lake Charles.....	W. P. Bordelon, M. D.....	President, board of health.
Monroe.....	D. I. Hirsch, M. D.....	Do.
New Orleans.....	J. M. Batchelor, M. D.....	Superintendent of public health.
Shreveport.....	*W. J. Sandidge, M. D., C. P. H.....	Director, city-parish health department.
<b>Maine:</b>		
Auburn.....	*Shirley J. Davis, R. N.....	Health officer.
Augusta.....	George A. Coombe, M. D.....	Do.
Bangor.....	*Harry D. McNeil, M. D.....	Do.
Bath.....	Joseph I. Smith, M. D.....	Do.
Biddeford.....	Oscar Perrault, M. D.....	Do.
Lewiston.....	*Robert J. Wiseman, Jr., M. D.....	Do.
Portland.....	*Thomas Tetreau, M. D.....	City health officer.
Sanford.....	*William H. Kelly, M. D.....	Local health officer.
South Portland.....	Waldo T. Skillin, M. D.....	Health officer.
Waterville.....	*Arthur R. Daviau, M. D.....	Do.
Westbrook.....	Patrick H. Welch.....	Local health officer.
<b>Maryland:</b>		
Annapolis.....	James J. Murphy, M. D.....	City health officer.
Baltimore:		
Administration.....	*Huntington Williams, M. D., Dr. P. H.....	Commissioner of health.
	*William H. F. Warthen, M. D.....	Assistant commissioner of health.
	*Harry S. Mustard, M. D.....	Health officer, eastern health district.
	*George W. Hemmeter, M. D.....	Health officer, western health district.
	*W. Thurber Fales.....	Director.
	*Dorothy Yoe Kalben.....	Do.
Bureau of vital statistics.		
Bureau of public education.		
Medical section:		
Bureau of communicable diseases.	*Adolph Weinzirl, M. D.....	Epidemiologist.
Sydenham Hospital.....	*Myron G. Tull, M. D.....	Superintendent.
Bureau of tuberculosis.....	Bartus T. Baggott, M. D.....	Director.
Bureau of venereal diseases.	*Ferdinand O. Reinhard, M. D.....	Do.
Bureau of occupational diseases.	*John M. McDonald, M. D.....	Do.
Bureau of child welfare.	*William K. Skilling, M. D.....	Do.
Division of school hygiene.	*H. Warren Buckler, M. D.....	Chief.
Dental clinics.....	Morris Cramer, D. D. S.....	Supervisor.
Laboratories.....	*C. Leroy Ewing.....	Director.
Public health nursing.....	*Jana B. Laib, R. N.....	Do.
Sanitary section.....	*R. S. Craig.....	Do.
Bureau of milk control.....	*John A. Lescure.....	Do.
Bureau of food control.....	*Ferdinand A. Korff.....	Do.
Bureau of meat inspection.	*William Brenner, V. D.....	Chief.
Bureau of environmental hygiene.	*Wilmer H. Schulze, Phar. D.....	Director.
Cumberland.....	*Joseph P. Franklin, M. D.....	City and county health officer.
Frederick.....	*E. C. Kefauver, M. D.....	Deputy State health officer.
Hagerstown.....	*W. R. Cameron, M. D.....	City and county health officer.
Salisbury.....	*S. H. Hurdle, M. D.....	Deputy State health officer.
<b>Massachusetts:</b>		
Adams.....	James F. McLaughlin, M. D.....	Chairman, board of health.
Amesbury.....	Clarence S. Morse.....	Agent, board of health.
Arlington.....	*William H. Bradley.....	Do.
Athol.....	Marion B. Sibley, M. D.....	Secretary, board of health.
Attleboro.....	Ralph P. Kent, M. D.....	Health officer.
Belmont.....	*Kebble B. Perine, G. S. in P. H.....	Agent, board of health.
Beverly.....	*Alonzo O. Wootbury.....	Clerk and agent, board of health.
Boston.....	*William B. Keeler, M. D.....	Health commissioner.
	*Joseph A. Cahalan.....	Secretary.
Divisions:		
Medical.....	*M. Victor Safford, M. D.....	Deputy commissioner.
Communicable diseases.	*Frederick J. Bailey, M. D.....	Do.
Bacteriological laboratory.	*Karl R. Bailey, M. D.....	Do.
Food.....		
Child hygiene.....	*P. H. Mallowney, D. V. M.....	Do.
Sanitary.....	Charles F. Willinsky, M. D.....	Do.
Tuberculosis.....	*M. Victor Safford, M. D.....	Acting deputy commissioner.
Vital statistics.....	*George O'Donnell, M. D.....	Deputy commissioner.
	*Joseph W. Monahan.....	Do.
Braintree.....	*John A. Hedlund.....	Health officer and secretary.
Brockton.....	David B. Tuholski, M. D.....	Health officer.
Brookline.....	Francis P. Denny, M. D.....	Do.
Cambridge.....	Simon B. Kelleher, M. D.....	Medical inspector.
Chelsea.....	*John F. Welch.....	Health officer.
Chicopee.....	*Paul G. Martel.....	Agent and clerk.
Clinton.....	*Frederick E. Murphy.....	Health officer.



## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Massachusetts—Continued.</b>		
Danvers.....	*Hugo Nappe, R. N.....	Health officer.
Dedham.....	Thomas J. Brennan.....	Do.
Easthampton.....	Charles J. Hansen, M. D.....	Agent, board of health.
Everett.....	*William F. Hogan.....	Do.
Fairhaven.....	*W. F. Delano.....	Secretary and executive officer.
Fall River.....	*Ernest M. Morris, M. D., C. M.....	Health commissioner.
Fitchburg.....	*Fred R. Brigham.....	Agent, board of health.
Frammingham.....	*David Moxon, C. P. H.....	Do.
Gardner.....	*William P. O'Donnell.....	Do.
Gloucester.....	George S. Rust, M. D.....	Health officer.
Greenfield.....	*George P. Moore.....	Agent, board of health.
Haverhill.....	*Frederick W. Morse.....	Clerk and agent, board of health.
Holyoke.....	*Daniel P. Hartnett, Ph. G.....	Health officer.
Lawrence.....	*Daniel J. Costello.....	Clerk, board of health.
Leominster.....	Hugh E. Crain.....	Agent, board of health.
Lowell.....	*John J. McNamara, S. E., M. D.....	Director of health.
Lynn.....	James A. Dumas, M. D.....	Commissioner of public health.
Malden.....	*May C. Welsh.....	Clerk and agent, board of health.
Marlboro.....	*Mary N. O'Connor, R. N.....	Agent, board of health.
Medford.....	William N. Lanigan, M. D.....	Medical inspector.
Melrose.....	Clarence P. Holden, M. D.....	Chairman, board of health.
Methuen.....	John Oddy, M. D.....	Board of health physician.
Milford.....	Walter H. Chapin.....	Sanitary inspector.
Milton.....	Paul W. Kimball, M. D.....	Agent, board of health.
Natick.....	Charles D. Colford, D. M. D.....	Do.
Needham.....	*Edward W. Palmer.....	Acting health officer.
New Bedford.....	*William G. Kirschbaum.....	Agent and executive officer.
Newburyport.....	*Wilbur N. O'Brien, Ph. G.....	Agent, board of health.
Newton.....	*Harold D. Choqe, M. D., M. P. H.....	Director of public health.
North Adams.....	*Douglas W. Hyde, S. E.....	Agent, board of health.
North Attleboro.....	Daniel J. Kiley, M. D.....	Health officer.
Northampton.....	George R. Turner.....	Agent, board of health.
Norwood.....	*John A. Shannoch.....	Agent, board of health.
Peabody.....	*Percy F. Murray.....	Do.
Pittsfield.....	*Willis M. Monroe, M. D.....	Health commissioner.
Plymouth.....	Almeda Chandler.....	Clerk, board of health.
Quincy.....	Richard M. Ash, M. D.....	Health commissioner.
Revere.....	Frank F. Sandler, M. D.....	Chairman and health officer.
Salem.....	*John J. McGrath.....	Agent, board of health.
Saugus.....	Myron H. Davis, M. D.....	Chairman, board of health.
Somerville.....	Frank L. Morse, M. D.....	Medical inspector and bacteriologist.
Southbridge.....	*Albert R. Brown.....	Agent, board of health.
Springfield.....	*L. Jackson Smith, M. D.....	Commissioner of public health.
Stoneham.....	*George A. Hinchcliffe.....	Health officer.
Swampscott.....	*Clarence W. Horton.....	Do.
Taunton.....	John I. McNamara, M. D.....	Chairman, board of health.
Wakefield.....	David Taggart.....	Health officer and agent.
Waltham.....	*Joseph T. Mulcahy.....	Director of public welfare.
Watertown.....	*Fred W. Bodge.....	Agent, board of health.
Webster.....	Arthur D. Chartier, M. D.....	Physician, board of health.
Wellesley.....	Curtis M. Hilliard.....	Supervisor of health.
West Springfield.....	John J. Lysaght.....	Agent, board of health.
Westfield.....	Robert M. Marr, M. D.....	Chairman, board of health.
Weymouth.....	Frederick L. Doucett, M. D.....	Clerk, board of health.
Winchester.....	*Maurice Dinneen.....	Agent, board of health.
Winthrop.....	*William D. Childress.....	Health officer.
Woburn.....	*Edward F. Gorman.....	Agent and secretary, board of health.
Worcester.....	*Peter O. Shea, M. D.....	Director of public health and school hygiene.
<b>Michigan:</b>		
Adrian.....	W. S. Mackenzie, M. D.....	Health officer.
Alpena.....	Francis J. O'Donnell, M. D.....	Do.
Ann Arbor.....	John A. Wessinger, M. D., Dr. P. H.....	City health officer.
Battle Creek.....	*A. A. Hoyt, M. D.....	Health officer and registrar.
Bay City.....	G. W. Moore, M. D.....	Health officer.
Benton Harbor.....	E. R. Taylor, M. D.....	Director of public health.
Dearborn.....	C. A. Christensen, M. D.....	Commissioner of health and sanitation.
<b>Detroit.....</b>		
	Board of health:	
	Ledru O. Geib, M. D.....	President.
	Gustavus D. Pope.....	Vice president.
	William M. Walker.....	
	William A. Evans, M. D.....	
	Executive staff, department of health:	
	*Henry F. Vaughan, Dr. P. H.....	Commissioner of health.
	Bert U. Easterbrook, M. D.....	Deputy commissioner.
	*Fred M. Meader, M. D.....	Deputy commissioner and secretary.
	*Don W. Gudakunst, M. D.....	Deputy commissioner and medical director.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Michigan—Continued.</b>	<b>Executive staff, department of health.</b>	
<b>Detroit—Continued.</b>	*Joseph A. Kasper, M. D.	Director of laboratories.
	A. C. Thompson, D. D. S.	Director of school dental service.
	*Miss Grace Ross, R. N.	Superintendent of nursing.
	Russell W. Alles, M. D.	Director of prenatal division.
	*John F. Roehl.	Director of special investigation.
		Director, social hygiene division.
	*Bruce H. Douglas, M. D.	Tuberculosis controller.
	*George E. Phillips.	Superintendent of Herman Kiefer Hospital.
	*Henry S. Willis.	Superintendent of William H. Maybury Sanatorium.
	*F. Gardner Legg, C. E.	Director of sanitary engineering.
	*Edward C. Schultz.	Director of dairy and food inspection.
	*Arthur P. Derby, M. D.	Director of division of tuberculosis.
	*G. Arthur Blakeslee.	Director of division of vital statistics.
	*Franklin H. Top, M. D.	Medical director and epidemiologist of Herman Kiefer Hospital.
Ecorse	L. H. Van Becelaere, M. D.	Health officer.
Escanaba	Harry J. Defnet, M. D.	Do.
Ferndale	W. L. Dumond, M. D.	Do.
Flint	C. J. Scavarda, M. D.	Health officer and registrar.
Grand Rapids	*John L. Lavan, M. D.	Health director.
Grosse Pointe	*Benjamin H. Warren, M. D.	Health commissioner.
Hamtramck	Stephen S. Skrzycki, M. D.	Do.
Highland Park	William N. Braley, M. D.	Health officer.
Holland	W. M. Tappan, M. D.	Do.
Iron Mountain	J. L. Browning, M. D.	Do.
Ironwood	C. C. Urquhart, M. D.	Do.
Jackson	*Elmer J. MacLachlan, D. V. M.	Do.
Kalamazoo	*Irmel W. Brown, M. D.	Director of public health.
Lansing	*E. R. Van der Slice, M. D.	Director of health.
Lincoln Park	Dan R. Herkimer, M. D.	Health officer.
Marquette	*Charles P. Drury, M. D.	Do.
Menominee	John T. Kaye, M. D.	Do.
Monroe	James A. Humphrey, M. D.	Do.
Mount Clemens	W. J. Kane, M. D.	Do.
Muskegon	M. E. Stone, M. D.	Do.
Muskegon Heights	O. M. La Core, M. D.	Do.
Niles	Lawrence M. Rutz, M. D.	Health commissioner.
Owosso	*W. E. Ward, M. D.	City health officer.
Pontiac	*Charles A. Neafe, M. D., M. S. in P. H.	Director of public health.
Port Huron	A. L. Callery, M. D.	Health officer.
River Rouge	Harvey S. Broderson, M. D.	Do.
Royal Oak	Donald A. Cameron, M. D.	Director of public health.
Saginaw	*Frank A. Poole, M. D.	City health officer.
Sault Ste Marie	E. A. Cornell, M. D.	Health officer.
Traverse City	George A. Holliday, D. D. S., M. D.	Do.
Wyandotte	E. H. Engel, M. D.	Health commissioner.
Ypsilanti	Bradley M. Harris, M. D.	Health officer.
<b>Minnesota:</b>		
Albert Lea	Donald S. Branham, M. D.	Do.
Austin	H. M. Fisch, M. D.	Chairman, board of health.
Brainerd	R. A. Beise, M. D.	Do.
Duluth	*Mario McC. Fischer, M. D.	Director of public health.
Fairbault	Frederick U. Davis, M. D.	Health commissioner.
Hibbing	Carl N. Harris, M. D.	Health officer.
Mankato	Henry Bradley Troost, M. D.	City health officer.
Minneapolis	*F. E. Harrington, LL. D., M. D.	Commissioner of health.
Rochester	C. H. Mayo, M. D.	Health officer.
St. Cloud	Henry W. Goehrs, M. D.	City physician.
St. Paul	*R. B. J. Schoch, M. D.	Chief health officer.
South St. Paul	O. S. Ely, M. D.	Commissioner of health.
Virginia	Robert P. Pearsall, M. D.	Health officer.
Winona	William Vardeman Lindsay, M. D.	Do.
<b>Mississippi:</b>		
Biloxi		
Clarksdale	*N. C. Knight, M. D., C. P. H.	Director, county health department.
Columbus	C. E. Lehmberg, M. D.	City health officer.
Greenville	*John W. Shackelford, M. D., M. P. H.	Director, county health department.
Greenwood	*Levi A. Barnett, M. D.	Director of health.
Gulfport	Daniel J. Williams.	County health officer.
Hattiesburg	*B. D. Blackwelder, M. D., C. P. H.	Director, county health department.

<sup>1</sup> D. C. Lockhead, M. D., D. P. H., deputy health officer, full time.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Mississippi—Continued.</b>		
Jackson.....	*William Earl Noblin, M. D.....	Director, county health department.
Laurel.....	*T. Paul Haney, Jr., M. D., C. P. H.....	Director of health department.
McComb.....	*D. V. Galloway, M. D., M. P. H.....	Director, county health department.
Meridian.....	*A. R. Perry, M. D., M. P. H.....	Do.
Natchez.....	*F. Michael Smith, M. D.....	Do.
Vicksburg.....		
<b>Missouri:</b>		
Cape Girardeau.....	*C. C. Summers.....	Health officer.
Columbia.....	A. W. Kampschmidt, M. D.....	Acting health commissioner.
Hannibal.....	*E. M. Lucke, M. D.....	Health officer.
Independence.....	F. L. Cook, M. D.....	City physician.
Jefferson City.....	James G. Bruce, M. D.....	Do.
Joplin.....	V. E. Kenney, M. D.....	Commissioner of health and sanitation.
Kansas City.....	Edwin Henry Schorer, M. D., Dr. P. H.....	Director of health.
Maplewood.....	Pierre M. Brossard, M. D.....	Health commissioner.
Moberly.....	H. C. Griffiths, M. D.....	City physician and health commissioner.
St. Charles.....	L. E. Belding, M. D.....	Health officer.
St. Joseph.....	J. M. Allaman, M. D.....	City health officer.
St. Louis.....	*Jos. F. Bredeck, M. D., D. P. H.....	Health commissioner.
	*H. I. Spector, M. D.....	Assistant health commissioner.
	*W. Scott Johnson.....	Sanitary engineer.
	*Jos. C. Willett, D. V. M.....	Chief of laboratories.
	Arthur Kelley.....	Chief of food control.
	Milton R. Fisher, M. D.....	Milk controller.
	*Walter E. Cook.....	Field supervisor.
	*Harry M. Stamm, D. D. S.....	Dental supervisor.
	*A. L. Kavanaugh, M. D.....	Chief, venereal clinic.
	*Mildred Sanderson, R. N.....	Municipal nurses' supervisor.
	*W. C. Dillard, D. V. M.....	Veterinary meat inspector.
	*H. V. Persells, D. V. M.....	Do.
	*C. B. Michael, D. V. M.....	Do.
	*Downey L. Harris, M. D.....	Rabies controller.
	*Thomas Chamberlain.....	Recorder of births and deaths.
	J. Earl Smith, M. D.....	Epidemiologist.
	*E. T. Suit, D. V. M.....	Supervisor, meat control.
	*Arthur H. Knost, D. V. M.....	Veterinary milk inspector.
	*L. A. Rosner, D. V. M.....	Do.
	*C. A. Falge, D. V. M.....	Do.
Sedalia.....	*Raymond Fellers.....	Sanitary officer.
Springfield.....	*Charles A. George, M. D.....	Commissioner of health and sanitation.
University City.....	O. P. Hampton, Jr., M. D.....	Health commissioner.
Webster Groves.....	Carl O. Irick, M. D.....	Do.
<b>Montana:</b>		
Anaconda.....	John J. Malee, M. D.....	City physician.
Billings.....	A. E. Stripp, M. D.....	City health officer.
Butte.....	Frank J. Williams, M. D.....	Do.
Great Falls.....	*F. L. Watkins, M. D.....	Health officer.
Helena.....	C. F. Jump, M. D.....	City health officer.
Missoula.....	*F. D. Pease, M. D.....	Health officer.
<b>Nebraska:</b>		
Beatrice.....	J. R. Leibes, M. D.....	City physician.
Fremont.....	Richard T. Van Metre, M. D.....	Do.
Grand Island.....	John G. Woodin, M. D.....	Do.
Hastings.....	J. W. Brown, M. D.....	Do.
Lincoln.....	*M. F. Arnholt, M. D.....	Superintendent of health.
Norfolk.....	Victor L. Siman, M. D.....	City physician.
North Platte.....	J. B. Redfield, M. D.....	Do.
Omaha.....	F. H. Kinyoun, M. D.....	Health commissioner.
<b>Nevada:</b>		
Reno.....	John J. Sullivan, M. D.....	Secretary, city board of health.
<b>New Hampshire:</b>		
Berlin.....	*John C. Greenan.....	Health officer.
Claremont.....	William P. Prescott.....	Do.
Concord.....	*Travis Pollard Burroughs, M. D., C. P. H.....	Sanitary officer.
Dover.....	*George E. Brennan.....	Health officer.
Keene.....	*Evan Carpenter White.....	Do.
Leona.....	E. J. Gage, M. D.....	Secretary, board of health.
Manchester.....	*Howard A. Streator, M. D.....	Health officer.
Nashua.....	*Leon A. Sylvester, M. D.....	Do.
Portsmouth.....	L. R. Hazzard, M. D.....	Do.
Rochester.....	Charles E. Goodwin.....	Do.
<b>New Jersey:</b>		
Asbury Park.....	*B. 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.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>New Jersey—Continued</b>		
Belleville.....	*Eugene T. Berry.....	Health officer.
Bloomfield.....	*Joseph C. Saile, Ph. G., D. V. S., D. O.	Do.
Bridgeton.....	*John G. Robbins.....	Sanitary inspector.
Burlington.....	*Kathryn C. Phillips.....	Health officer.
Camden.....	*A. L. Stone, M. D.	Director of public health.
Carteret.....		
Cliffside Park.....	Frederick J. Dyer.....	Health officer.
Clifton.....	Lester Foye Meloney, M. D.	Do.
Collingswood.....	Harold K. Eynon, M. D.	Do.
Dover.....	*John G. Taylor.....	Do.
East Orange.....	*Frank J. Osborne, B. S. in P. H.	Health officer and registrar of vital statistics.
Elizabeth.....	*Louis J. Richards, S. B. in S. E.	Health officer.
Englewood.....	*H. R. H. Nicholas.....	Do.
Garfield.....	Charles B. Bleasby, M. D.	Do.
Gloucester City.....	J. Alonzo Beek, M. D.	Do.
Hackensack.....	*L. Van D. Chandler.....	Do.
Harrison.....	*John T. McClure.....	Do.
Hawthorne.....	T. J. Emberton Holmes, M. D.	Sanitary inspector.
Hoboken.....	J. F. X. Stack, M. D.	Health commissioner.
Irvington.....	*William S. Bailey.....	Health officer.
Jersey City.....	*Dennis J. Sullivan.....	Do.
Kearny.....	*Amos Field, Jr.....	Do.
Linden.....	*Maidie E. Noe.....	Do.
Lodi.....		
Long Branch.....	*R. C. Erickson.....	Do.
Millville.....	Richard H. Knowles, Ph. G.	Do.
Montclair.....	*Carl T. Pomeroy, C. P. H.	Do.
Morristown.....	*John F. Kilkenny.....	Do.
New Brunswick.....	E. Irving Cronk, M. D.	Health officer and registrar of vital statistics.
Newark.....	*Charles Vaughan Craster, M. D., D. P. H.	Health officer.
Nutley.....	*Richard V. Fellers.....	Health officer and registrar of vital statistics.
Orange.....	W. M. Brien, M. D.	Do.
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.....	William Dana Pursel, D. D. S., M. D.	Town physician.
Plainfield.....	*Andrew J. Krog.....	Health officer.
Pleasantville.....	Robert M. Grier, M. D.	Health inspector.
Rahway.....	*Fred M. Williams.....	Health officer and registrar.
Red Bank.....	Wm. H. Lawes.....	Sanitary inspector.
Ridgefield Park.....	*William F. Reynolds, D. V. M.	Health officer.
Ridgewood.....	J. F. Benjamin, M. D.	Do.
Roselle.....	Perry Alexander Proudfoot, M. D.	Do.
Rutherford.....	*Marine Dunn.....	Do.
South Orange.....	A. C. Benedict, M. D.	Do.
South River.....	A. A. Pansey, M. D.	Do.
Summit.....	Henry Paul Dengler, M. D.	Executive officer.
Trenton.....	*Alton S. Fell, M. D.	Director of public welfare and health officer.
Union City.....	Grant P. Curtis, M. D.	Health officer.
West New York.....		
West Orange.....	Kurt William Thum, M. D.	Director of health.
Westfield.....	*Andrew Carney.....	Executive officer.
<b>New Mexico:</b>		
Albuquerque.....	*James R. Scott, Ph. D., M. D.	District health officer.
Roswell.....	W. W. Phillips, M. D.	Assistant district health officer.
Santa Fe.....	*Elroy Francis McIntyre, M. D.	District health officer.
<b>New York:</b>		
Albany.....	*Daniel V. O'Leary, M. D.	Commissioner of health.
Amsterdam.....	P. J. Fitzgibbons, M. D.	Health commissioner.
Auburn.....	*John W. Copeland, M. D.	Do.
Batavia.....	Emery F. Will, M. D.	Health officer.
Beacon.....	Charles B. Dugan, Ph. B., M. D.	Do.
Binghamton.....	Chalmer J. Longstreet, M. D.	Do.
Buffalo.....	*Francis E. Fronczak, LL. D., M. D., Dr. Sc. P. H.	Health commissioner.
	*Edward Durney, M. D.	Deputy health officer.
	*Charles A. Bentz, M. D.	Do.
	*Edward Durney, M. D.	Director.
	*Charles A. Bentz, M. D.	Do.
Division of child hygiene.....		
Communicable disease and division of labora- tories.....		
Division of vital statistics.....	*Delmer E. Batcheller.....	Registrar of vital statistics
Division of sanitation.....	*Frank E. Trumble.....	Assistant chief inspector.
Division of smoke abate- ment.....	do.....	Do.

## City health officers, 1936—Continued

City	Name of health officer	Official title
New York—Continued.		
Buffalo—Continued.		
Division of food inspection	*Willard B. Diebold	Assistant chief inspector.
J. N. Adam Memorial Hospital (Perrysburg, N. Y.)	Horace Lo Grasso, M. D.	Superintendent.
Cohoes	E. M. Bell, M. D., P. H. D.	Commissioner of health.
Corning	Henry E. Elwood, Jr., M. D.	Health officer.
Cortland	*Merle R. French, M. D.	County commissioner of health.
Dunkirk	Edgar Bieber, M. D.	Health officer.
Elmira	Reeve B. Howland, M. D.	Do.
Endicott	Mark W. Welch, M. D.	Do.
Floral Park	Arthur E. Goldfarb, M. D., C. P. H.	Do.
Freeport	William H. Runcie, M. D.	Do.
Fulton	Harold F. McGovern, M. D.	Health officer and city physician.
Geneva	C. W. Grove, M. D.	Health officer.
Glen Cove	Joseph B. Conolly, M. D.	Do.
Glens Falls	*Virgil D. Selleck, M. D., C. P. H.	Do.
Gloversville	Alex. L. Johnson, M. D.	Do.
Hempstead	William H. Runcie, M. D.	Do.
Herkimer		
Hornell	George E. Taylor, M. D.	Do.
Hudson	*Louis Van Hoesen, M. D.	Commissioner of health.
Ithaca	*Lewell T. Genung, M. D.	Health officer.
Jamestown	William M. Sill, M. D.	Superintendent of public health.
Johnston City	Rollin O. Crozier, M. D.	Health officer.
Johnstown	Guy Vail Wilson, M. D.	Commissioner of public health and welfare.
Kenmore	E. R. Linklater, M. D.	Health officer.
Kingston	Lester E. Sanford, M. D.	Do.
Lackawanna	A. S. Culkowski, M. D.	Do.
Little Falls	A. B. Santry, M. D.	Do.
Lockport	Lyman H. Wheeler, M. D.	Health officer and city physician.
Lynbrook	F. Maxwell Galloway, M. D.	Health officer.
Mamaroneck	Edward M. Clark, M. D.	Do.
Massena	C. E. Elkins, M. D.	Do.
Middletown	*H. J. Shelley, M. D.	Do.
Mount Vernon	*F. W. Shipman, M. D.	Commissioner of health.
New Rochelle	*Bertrand F. Drake, M. D., Dr. P. H.	Health officer.
New York		
Bureau:		
General administration	*John L. Rice, M. D.	Commissioner of health.
Records	*William H. Best, M. D.	Deputy commissioner of health.
Sanitation	*George T. Palmer, Dr. P. H.	Do.
Preventable diseases	*Sol Pincus, C. E.	Do.
Child hygiene	*Maurice G. Postley	Secretary.
	*Thomas J. Duffield	Director.
School hygiene	*John Oberwager, M. D.	Do.
Nursing	*Victor Mildenberg, M. D.	Acting director.
Public health education	*Jules Blumenthal, M. D., Dr. P. H.	Director.
Laboratories		
Food and drugs	*Elwood S. Morton, M. D.	Do.
District health administration	*Miss Amelia H. Grant, R. N.	Do.
Tuberculosis	*Charles F. Bolduan, M. D.	Do.
Social hygiene	*Ralph S. Muckenfuss, M. D.	Acting director.
Newburgh	*Abraham Lichterman	Do.
Niagara Falls	*Margaret W. Barnard, M. D., Dr. P. H.	Director
North Tonawanda	*Herbert R. Edwards, M. D.	Do.
Ogdensburg	*Walter Clarke, M. D.	Do.
Olean	Thomas J. Burke, M. D.	Health officer.
Oneida	E. E. Gillick, M. D.	Do.
Oneonta	Henry C. Lapp, M. D.	Do.
Ossining	F. E. Clark, M. D.	Do.
Oswego	Joseph P. Garen, M. D.	Do.
Peekskill	Edmund L. Finley, M. D.	Do.
Plattsburg	E. P. Hall, M. D.	Do.
Port Chester	James E. Mansfield, M. D.	Do.
Port Jervis	J. Douglas Barry, M. D.	Do.
Poughkeepsie	Leo F. Schiff, M. D.	Do.
Rensselaer	Wm. J. Sheehan, M. D.	Do.
	G. Otto Pobe, M. D.	City health officer.
	*William H. Conger, M. D.	Health officer.
	Charles Howard Harbinson, M. D.	Do.
Rochester		
Rockville Center	*Arthur M. Johnson, M. D.	Do.
Rome	Arthur D. Jaques, M. D.	Health commissioner.
Saratoga Springs	Lewis N. Eames, M. D.	Health officer.
Schenectady	Frederic J. Resseguie, M. D.	Do.
	Robert A. MacTaggart, M. D.	Acting commissioner of health.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>New York—Continued.</b>		
Syracuse.....	*Gregory D. Mahar, M. D.....	Commissioner of health.
Tonawanda.....	R. H. Wilcox, M. D.....	Health officer.
Troy.....	James H. Flynn, M. D.....	Commissioner of health.
Utica.....	*Hugh H. Shaw, M. D.....	Health officer.
Valley Stream.....	John M. Quinn, M. D.....	Do.
Watertown.....	George B. Van Doren, M. D.....	Do.
Watervliet.....	Chas. A. Birmingham, M. D.....	Do.
White Plains.....	*Matthias Nicoll, Jr., M. D.....	County commissioner of health.
Yonkers.....	*Louis V. Waldron, M. D.....	Commissioner of health.
<b>North Carolina:</b>		
Asheville.....	*John W. Williams, M. D., C. P. H.....	Director of public health.
Charlotte.....	*G. L. Rea, M. D.....	Health commissioner.
Concord.....	*Daniel Greenlee Caldwell, M. D.....	City and county health officer.
Durham.....	*Jesse H. Epperson.....	Superintendent of health.
Elizabeth City.....	Thomas S. McMullan, M. D.....	Health officer.
Fayetteville.....	*Malcolm Tennyson Foster, M. D., C. P. H.....	Do.
Gastonia.....	L. N. Patrick, Phar. D., M. D.....	City health officer.
Goldsboro.....	*S. B. McPheeters, M. D., C. P. H.....	Director, county health department.
Greensboro.....	*C. Curtis Hudson, M. D.....	Health officer.
High Point.....	Wm. J. McAnally, M. D.....	Do.
Kinston.....	*Z. V. Moseley, M. D.....	County health officer.
New Bern.....	*John S. Anderson, M. D.....	Do.
Raleigh.....	*A. C. Bulla, M. D.....	Superintendent of health.
Rocky Mount.....	*James Allen Whitaker, M. D., C. P. H.....	Superintendent, health department.
Salisbury.....	*Charles W. Armstrong, M. D.....	Health officer.
Shelby.....	J. S. Dorton, D. V. M.....	Health officer and meat inspector.
Statesville.....	Ross S. McElwee, M. D.....	County physician.
Thomasville.....	*G. C. Gambrell, M. D.....	County health officer.
Wilmington.....	*A. H. Elliott, M. D.....	Do.
Wilson.....	*W. H. Anderson, M. D.....	Health officer.
Winston-Salem.....	*R. L. Carlton, M. D.....	City health officer.
<b>North Dakota:</b>		
Bismarck.....	Albert M. Fisher, M. D.....	Do.
Fargo.....	*H. J. Skarshaug, M. D.....	Do.
Grand Forks.....	E. C. Haagensen, M. D.....	Health officer.
Minot.....	J. L. Devine, M. D.....	Do.
<b>Ohio:</b>		
Akron.....	*Melville D. Ailes, LL. B., M. D.....	Director of health.
Alliance.....	G. O. Rowland, M. D.....	City health commissioner.
Ashland.....	Robert P. Bogniard, M. D.....	Director of welfare.
Ashtabula.....	James H. Park, M. D.....	Health officer.
Barberton.....	H. A. Finefrock, M. D.....	Health commissioner.
Bellaire.....	W. J. Shepard, M. D.....	City health commissioner.
Bucyrus.....	W. G. Carlisle, M. D.....	Health commissioner.
Cambridge.....	Carl M. Oshe.....	City health commissioner.
Campbell.....	James S. Mariner, M. D.....	Health commissioner.
Canton.....	Frank M. Sayre, M. D.....	Do.
Chillicothe.....	*R. E. Bower, Ph. B., M. D.....	Do.
Cincinnati.....	*F. K. Harder, M. D.....	Acting health commissioner.
Cleveland.....	*Harold J. Knapp, M. D.....	Commissioner.
<b>Division:</b>		
Communicable diseases.....	*T. G. Duncan, M. D.....	Chief.
Venereal diseases.....	*E. J. Braun, M. D.....	Do.
Tuberculosis.....	E. P. Edwards, M. D.....	Do.
Child hygiene.....	*R. J. Ochsner, M. D.....	Do.
School health service.....	*J. G. Smith, M. D.....	Do.
Food and drug administration.....	*E. B. Buchanan.....	Do.
Laboratories.....	Emerson Megrall, M. D.....	Consulting laboratory director.
Public health nurses.....	*Wm. H. Hay, LL. B.....	Assistant laboratory director.
Vital statistics.....	*Cora M. Templeton, R. N.....	Director.
Cleveland Heights.....	*Sara B. Hartley.....	Chief.
Columbus.....	*Robert Lockhart, M. D.....	Director of health.
Coshocton.....	*Nelson C. Dysart, Ph. C., M. D.....	Health commissioner.
Cuyahoga Falls.....	J. D. Lower, M. D.....	City health commissioner.
Dayton.....	*R. H. Markwith, M. D.....	Commissioner of health.
East Cleveland.....	*A. O. Peters, M. D.....	Do.
East Liverpool.....	George W. Stober, M. D.....	Director of health.
Elyria.....	Roy C. Costello, M. D.....	Health commissioner.
Euclid.....	George E. French, M. D.....	Do.
Findlay.....	*Robert Lockhart, M. D.....	District health commissioner.
Fostoria.....	*Miss Martha Laffey, R. N.....	Health commissioner.
Fremont.....	*H. A. DeVore.....	Do.
Garfield Heights.....	E. L. Vermilya, M. D.....	Do.
Hamilton.....	*Robert Lockhart, M. D.....	County health commissioner.
Ironton.....	*C. J. Baldrige, B. L., M. D.....	Health commissioner.
	Harry Sherwood Allen, M. D.....	Do.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Ohio—Continued.</b>		
Lakewood	Wallace J. Benner, M. D.	Health commissioner.
Lancaster	Clifford B. Snider, B. S. in Agr., M. D.	Do.
Lima	James B. Poling, M. D.	Do.
Lorain	Valloyd Adair, M. D.	Do.
Mansfield	*M. C. Hanson, M. D., Dr. P. H.	Do.
Marietta	F. S. McGee, M. D.	Do.
Marion	M. M. Weinbaum, M. D.	Do.
Martins Ferry	*John Donovan	Do.
Massillon	*Dwight L. Fisher	Do.
Middletown	*George D. Lummis, M. D.	Do.
New Philadelphia	*Joseph Blickensderfer, M. D.	Do.
Newark	*W. H. Knauss, M. D.	Do.
Niles	W. A. Werner, M. D.	Do.
Norwood	Ralph E. Hatfield, M. D.	Do.
Painesville	*Mrs. Clara Carter Wilder, R. N.	Do.
Parma		
Piqua	F. Robert Buechner	Do.
Portsmouth	*Floyd R. Stamp, D. O., M. D.	County health commissioner.
Salem	Raymond T. Holzbach, M. D.	Health commissioner.
Sandusky	*F. M. Houghtaling, M. D.	Do.
Shaker Heights	Paul Marcus Spurney, M. D.	Director of health.
Springfield	*Oscar M. Craven, M. D.	Director of public health.
Steubenville	*Julius A. Pizzoferrato	Health commissioner.
Struthers	Charles Scofield, M. D.	County health commissioner.
Tiffin	J. A. Gosling, M. D.	Health commissioner.
Toledo	Basil B. Brim, M. D.	Do.
Warren	M. T. Knappenberger, M. D.	Do.
Wooster	*James T. Duncan, M. D.	Acting health commissioner.
Xenia	A. D. DeHaven, M. D.	Health commissioner.
Youngstown	Wallace W. Ryall, M. D.	Do.
Zanesville	D. G. Candy, M. D.	Superintendent of health and sanitation.
<b>Oklahoma:</b>		
Ada	S. P. Ross, M. D.	City health officer.
Ardmore	A. Y. Easterwood, M. D.	City physician.
Bartlesville	Elizabeth Chamberlin, M. D.	City superintendent of health.
Chickasha	S. O. Marrs, M. D.	Do.
Enid	R. C. Baker, M. D.	Do.
Lawton	*Kenneth P. Cash	City chemist.
McAlester	*Benl. B. Kies, M. D.	County superintendent of health.
Muskogee	James T. Nichols, M. D.	City superintendent of health.
Oklahoma City	*Walter H. Miles, M. D.	Director of health.
Okmulgee	*C. E. Denerso	Sanitary officer.
Ponca City	*C. C. Gardner, M. D.	City health director.
Sapulpa	A. C. Frampton	City health inspector.
Seminole	*George Hunter, M. D.	County superintendent of health.
Shawnee	T. D. Rowland, M. D.	City health officer.
Tulsa	J. Jeff Billington, M. D.	Superintendent of health.
Wewoka	*George Hunter, M. D.	County superintendent of health.
<b>Oregon:</b>		
Astoria	Nellie S. Vernon, M. D.	City and county health officer.
Eugene	*Alstrup N. Johnson, M. D.	County public health officer.
Klamath Falls	*Neil Black, M. D.	County health officer.
Medford	L. D. Inskeep, M. D.	City health officer.
Portland	*John G. Abele, M. D.	Do.
Salem	*Vernon A. Douglas, M. D.	City-county health officer
<b>Pennsylvania:</b>		
Aliquippa	*J. E. Tanner	Health officer.
Allentown	*J. Treichler Butz, D. D. S., M. D.	Do.
Altonna	*Raymond A. Herbert	Superintendent of health.
Ambridge	*Louis Herrmann	Health officer.
Arnold	Frank E. Morrison	Secretary, board of health.
Beaver Falls	*H. B. Plummer	Health officer.
Bellevue	*Goldie P. Brown	Do.
Berwick	*Charles Ross	Do.
Bethlehem	Francis J. Conahan, M. D.	City physician.
Braddock	*James E. Willis	Health officer.
Bradford	*R. G. Vogel	Do.
Bristol	John M. Wright	Do.
Butler	A. M. Rensel	Superintendent of public safety.
Canonsburg		
Carbondale	*Arthur John Dearie	Health officer.
Carlisle		
Carnegie	Arthur B. Lafferty	Borough clerk.
Chambersburg	*Frank J. Croft	City health officer.
Charlottesville	*J. M. Hill	Health officer.
Chester	*Timothy McCarey	Do.
Clairemont	*W. F. Connolly	Do.
Coatesville	Charles V. Peace, V. M. D.	Do.

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Pennsylvania—Continued.</b>		
Columbia	J. W. Goldsmith	Health officer.
Connellsville	Thomas S. White	Health officer and secretary.
Conshohocken	*D. K. Clever, M. D.	Health officer.
Coraopolis	Joseph Malinoski	Secretary, board of health.
Dickson City	*Herman Lang	Health officer.
Donora	Fred W. Frank	Do.
Dormont	J. I. Brockbank, M. D.	Do.
Du Bois	*William Ferrese	Do.
Dunmore	*Francis P. Long	Sanitary police officer.
Duquesne	R. S. Raub, M. D.	Health officer.
Easton	*Lewis Young	Do.
Ellwood City	*James R. Smith, M. D.	Do.
Erie	*Benjamin Davis	Do.
Farrell		
Franklin		
Greensburg	*Joseph B. Cherry	Health officer-secretary.
Hanover	Nevin H. Seltz, M. D.	Secretary, board of health.
Harrisburg	John M. J. Raunick, M. D.	Health officer.
Hazleton	*William Pfaff	Do.
Homestead		
Jeannette	*Chas. E. Walter	Chief health officer.
Johnstown	L. W. Jones, M. D.	City health officer.
Kingston	*J. F. Seward	Health officer.
Lancaster	*Benj. F. Charles	Do.
Latrobe	W. T. Osborne	Do.
Lebanon	C. Ray Bell, Jr., M. D.	Do.
Lewistown	*Floyd H. Reinecker	County health officer.
McKeesport	*Daniel F. Marsh	Health officer.
McKees Rocks	*John Driscoll	Do.
Mahanoy City	*Wm. L. Walker	Do.
Meadville	*John Laley	City health officer.
Monessen	*Francis C. Duvall, M. D.	Do.
Mount Carmel	*Howard Zieger	Health officer.
Munhall	*Charles Watt	Do.
Nanticoke	*H. Judd Abbott	Do.
New Castle	William L. Steen, M. D.	Do.
New Kensington	*John H. Evans	Do.
Norristown	*J. Cleve Cassel	Secretary and health officer.
North Braddock	*Michael J. Pastor	Health officer.
Oil City	*William J. Lewis	Do.
Old Forge	Primo Cesere	Chief of police.
Olyphant		
Philadelphia:		
Department of public health.	*Wm. C. Hunsicker, M. D.	Director, department of public health.
	*Alfred F. Allman, M. D.	Assistant director, department of public health.
Bureau of health.	*William J. Wolf	Secretary.
Bureau of hospitals:		
Philadelphia General Hospital, 34th and Pine Streets.	*William G. Turnbull, M. D.	Superintendent.
Philadelphia Hospital for Contagious Diseases, 2d and Luzerne Streets.	*Pascal F. Lucchesi, M. D.	Acting superintendent.
Philadelphia Hospital for Mental Diseases, Byberry.	*Wilbur P. Rickert, M. D.	Superintendent.
Phoenixville	*Russell E. Deery	Health officer.
Pittsburgh:		
Bureau of infectious diseases (including municipal and tuberculosis hospitals).	*Ray P. Moyer, Ph. G., M. D.	Director.
	*P. E. Marks, M. D.	Superintendent.
Bureau of sanitation	*George W. Schusler, C. E.	Do.
Bureau of child welfare	*H. J. Benz, M. D.	Do.
Bureau of food inspection	*Howard Patton	Do.
Bureau of smoke regulation.	H. B. Meller, C. E.	Do.
Pittston	*Michael A. McHale	Health officer.
Plymouth	H. G. Templeton, M. D.	Do.
Pottstown	*A. John André	Do.
Pottsville	*A. C. Huntzinger	Do.
Reading	*Ira J. Hain, M. D.	Do.
Scranton	Arthur E. Davis, M. D.	Director, department of health.
Shamokin	*Frederick Zeiser	Health officer.
Sharon	*J. S. Hildebrand	Sanitary officer.
Shenandoah	*Claud R. D., Ph. G.	Health officer.
Steelton	*E. G. Butler	Do.
Sunbury	*Carl P. Inkrote	City health officer.
Swissvale	*Samuel L. Glasgow	Health officer.



## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Pennsylvania—Continued.</b>		
Tamaqua.....	Lamont Perrine.....	Health officer.
Taylor.....	E. E. Edwards, M. D.....	Do.
Turtle Creek.....	*Manuel Emmanuel.....	Do.
Uniontown.....	*W. C. Hall.....	City health officer.
Vandergrift.....	J. D. Remaley.....	Health officer.
Warren.....	*R. N. Brown.....	Do.
Washington.....	*C. E. Houston.....	Do.
Waynesboro.....	Mrs. Verne L. Snowberger.....	Do.
West Chester.....	Warren T. Garrett.....	Do.
Wilkes-Barre.....	*Charles B. Crittenden, M. D.....	City health officer.
Wilkinsburg.....	*J. M. Snyder.....	Health officer.
Williamsport.....	*William J. Mollenkopf.....	Do.
York.....	John D. Yeagley, M. D.....	Director of public health.
<b>Rhode Island:</b>		
Bristol.....	John Cardoza.....	Health officer.
Central Falls.....	Charles H. Boucher, M. D.....	Do.
Cranston.....	Daniel S. Latham, M. D.....	Superintendent of health.
East Providence.....	William H. T. Hamill, M. D.....	Health officer.
Newport.....	Edward V. Murphy, M. D.....	Commissioner of health.
North Providence.....	Mario Lorenzo Palmieri, M. D.....	Health officer.
Pawtucket.....	Albert L. Vandale, M. D.....	Superintendent of health.
Providence.....	*Michael J. Nestor, M. D.....	Do.
Warwick.....	*William H. Dyer, M. D.....	Do.
West Warwick.....	Daniel S. Harrop, M. D.....	Health officer.
Westerly.....	Samuel C. Webster, Ph. G., M. D.....	Do.
Woonsocket.....	James P. O'Brien, M. D.....	Do.
<b>South Carolina:</b>		
Anderson.....	E. E. Epting, M. D.....	City health officer.
Charleston.....	*Leon Banov, M. D.....	Health officer.
Columbia.....	P. E. Payne, M. D.....	City health officer.
Florence.....	*George D. Heath, M. D., Dr. F. H.....	Health commissioner.
Greenville.....	*Irving Sydnor Barksdale, M. D.....	Do.
Greenwood.....	*Joseph E. Brodie, M. D.....	County health officer.
Rock Hill.....	Roy D. Sumner, M. D.....	City physician.
Spartanburg.....		
Sumter.....	*G. R. Kitchen, D. V. M.....	City health officer.
<b>South Dakota:</b>		
Aberdeen.....	J. F. Adams, M. D.....	Health officer.
Huron.....	T. J. Wood, M. D.....	City health officer.
Mitchell.....	E. M. Young, M. D.....	Do.
Rapid City.....	Ray E. Lemley, M. D.....	Health officer and county physician.
Sioux Falls.....	Emil G. Ericksen, M. D.....	Health officer.
Watertown.....	W. G. Magee, M. D.....	Do.
<b>Tennessee:</b>		
Bristol.....	*F. L. Moore, M. D., C. P. H.....	County health officer.
Chattanooga.....	*John W. L. Cooper, M. D.....	Director of health.
Jackson.....	Herman Hawkins, M. D.....	City physician.
Johnson City.....	*Wallace L. Poole, M. D., M. P. H.....	Director, city and county health departments.
Kingsport.....	*F. L. Moore, M. D., C. P. H.....	Director, county health department.
Knoxville.....	*William H. Enneis, M. D., M. P. H.....	Health officer.
Memphis.....	*Lloyd M. Graves, M. D.....	Superintendent of health.
Nashville.....	*John Overton, M. D.....	City health officer.
<b>Texas:</b>		
Abilene.....	Scott W. Hollis, M. D.....	County and city health officer.
Amarillo.....	*B. M. Primer, M. D., M. P. H.....	Director of health unit.
Austin.....	*Eugene O. Chimene, M. D.....	Director of public health.
Beaumont.....	W. W. Dunn, M. D.....	Health officer.
Big Spring.....	M. H. Bennett, M. D.....	City health officer.
Brownsville.....	Thurman Archer Kinder, Jr., M. D.....	Do.
Brownwood.....	J. M. Horn, M. D.....	Do.
Cleburn.....	Joseph M. Stallcup, M. D.....	Do.
Corpus Christi.....	E. T. Bickley, M. D.....	Do.
Corsicana.....	William Thomas Shell, Jr., M. D.....	Do.
Dallas.....	*J. W. Bass, M. D.....	Director of public health.
Del Rio.....	D. A. York, M. D.....	City health officer.
Denison.....	W. A. Lee, M. D.....	Do.
El Paso.....	*T. J. McCamant, M. D.....	Director, city-county health unit.
Fort Worth.....	*Arthur Heath Flickwir, M. D.....	Director, public health and welfare.
Galveston.....	Walter Kleberg, M. D.....	City health officer.
Greenville.....	John Saunders Cooper, M. E., M. D.....	Do.
Harlingen.....	V. M. Bass, M. D.....	Do.
Houston.....	*George Washington Larendon, M. D.....	Director of public health.
Laredo.....		
Lubbock.....	J. W. Rollo, M. D.....	Health officer.
Marshall.....	W. H. Bennett, M. D.....	City health officer and food inspector.
Palestine.....	J. M. Colley, M. D.....	City health officer.
Pampa.....		

## City health officers, 1936—Continued

City	Name of health officer	Official title
<b>Texas—Continued.</b>		
Paris.....	J. A. Stephens, M. D.....	Health officer.
Port Arthur.....	Frank Joseph Beyt, M. D.....	City health officer.
San Angelo.....	B. T. Brown, M. D.....	Do.
San Antonio.....	*W. A. King, M. D.....	Do.
San Benito.....	Neal D. Monger, M. D.....	Do.
Sherman.....	Arthur Gleckler, M. D.....	City physician.
Sweetwater.....	*Ernest W. Prothro, M. D.....	Director of health.
Temple.....		
Texarkana.....	Charles Adna Smith, M. D.....	City health officer.
Tyler.....	Albert Woldert, Phg. G., M. D.....	Do.
Waco.....	*George M. Liddell, M. D.....	Do.
Wichita Falls.....	*John H. Fletcher, M. D.....	Do.
<b>Utah:</b>		
Ogden.....	W. J. Wilson, M. D.....	Health commissioner.
Provo.....	Charles M. Smith, M. D.....	City physician.
Salt Lake City.....	T. J. Howells, M. D.....	Health commissioner.
<b>Vermont:</b>		
Barre.....	J. J. Tomasi, M. D.....	Health officer.
Bennington.....		
Burlington.....	E. F. Foster, M. D.....	City health officer.
Rutland.....	*C. M. Cole.....	Health officer.
<b>Virginia:</b>		
Alexandria.....	W. Lewis Schafer, M. D.....	Health officer and clinician.
Charlottesville.....	*Robert Dewey Hollowell, M. D.....	City-county health departments.
Danville.....	*R. W. Garnett, M. D.....	Health officer and director of public welfare.
Hopewell.....	L. A. Sims, C. E.....	City engineer.
Lynchburg.....	*Mosby G. Perrow, Ph. D.....	Director of public welfare.
Newport News.....	*G. Colbert Tyler, M. D.....	Health officer.
Norfolk.....	*John Carey Sleet, M. D.....	Health commissioner.
Petersburg.....	Mason Romaine, M. D.....	Health officer.
Portsmouth.....	*Lonsdale J. Roper, M. D.....	Director of Public welfare.
Richmond.....	*W. Brownley Foster, M. D.....	Do.
Roanoke.....	*Coleman Bernard Ransone, M. D.....	Health officer.
Staunton.....	T. M. Parkins, M. D.....	Do.
Suffolk.....	*William F. Wild, M. D., C. P. H.....	Director of health.
Winchester.....	L. M. Allen, M. D.....	Health officer.
<b>Washington:</b>		
Aberdeen.....	B. O. Swinehart, M. D.....	City health officer.
Bellingham.....		
Bremerton.....	D. H. Polk, M. D.....	Do.
Everett.....	J. Walton Darrough, M. D.....	Do.
Hoquiam.....	Harry C. Watkins, M. D.....	Do.
Longview.....	J. S. McCarthy, M. D.....	Do.
Olympia.....	*B. D. Holland, M. D.....	County health officer.
Port Angeles.....	Wm. H. Taylor, M. D.....	City health officer.
Seattle.....	*Frank M. Carroll, M. D.....	Commissioner of health.
Spokane.....	*Ralph Hendricks, M. D.....	Commissioner of public affairs and health officer.
Tacoma.....	S. M. Creswell, M. D.....	Director of health.
Vancouver.....	*Clyde B. Hutt, M. D.....	City and county health officer.
Walla Walla.....	J. E. Vanderpool, M. D.....	County-city health officer.
Wenatchee.....	*C. R. Fargher, M. D.....	City-county health officer.
Yakima.....	*Lloyd Moffitt, M. D.....	Health officer.
<b>West Virginia:</b>		
Bluefield.....	*David B. Lepper, M. D., C. P. H.....	City health director.
Charleston.....	*Hugh B. Robins, M. D.....	Health commissioner.
Clarksburg.....	*Robert Linn Osborn, M. D.....	City physician.
Fairmont.....	L. N. Yost, Ph. G., M. D.....	County health officer.
Huntington.....	Gilbert A. Ratcliff, M. D.....	Public health director.
Martinsburg.....	*Claude A. Thomas, M. D.....	City and county health officer.
Morgantown.....	*R. C. Farrier, M. D.....	City and county health officer.
Moundsville.....	*Wm. G. C. Hill, Ph. G., M. D.....	Health director.
Parkersburg.....	*Arthur D. Knott, M. D., D. P. H.....	City and county health officer.
Wheeling.....	*Reece M. Pedicord, M. D.....	City-county health commissioner.
<b>Wisconsin:</b>		
Appleton.....	John C. Troxel, M. D.....	Health commissioner.
Ashland.....	C. O. Hertsmann, M. D.....	Do.
Beloit.....	R. S. Vivian, M. D.....	Health officer.
Cudahy.....	C. D. Partridge, B. S. in Chem., M. D.....	Commissioner of health.
Eau Claire.....	L. H. Flynn, M. D.....	Health officer.
Fon du Lac.....	*Ewald H. Pawsat, M. D.....	Health commissioner.
Green Bay.....	Henry S. Atkinson, M. D.....	City physician and health commissioner.
Janesville.....	*Fred B. Welch, M. D.....	City health officer.
Kenosha.....	*G. Windesheim, M. D.....	Director of health.
La Crosse.....	*Anthony M. Murphy.....	Health officer.
Madison.....	*F. F. Bowman, B. L., M. D.....	Health officer.

## City health officers, 1936—Continued

City	Name of health officer	Official title
Wisconsin—Continued.		
Manitowoc.....	George M. Hoffman, Ph. G., M. D.	Health officer.
Marinette.....	J. William Boren, M. D.	Health commissioner.
Milwaukee.....	*John P. Koehler, M. D.	Commissioner of health.
	E. V. Brumbaugh, M. D.	Deputy commissioner of health.
School hygiene division.....	*George P. Barth, M. D.	Director.
Division of venereal diseases.....	*William J. McKillip, M. D.	Do.
Vital statistics.....	*George E. Adams.....	Deputy register.
Division of tuberculosis.....	*George R. Ernst, M. D.	Director.
Contagious disease division.....	*Robert E. Hickey, M. D.	Do.
Division of food and sanitary inspection.....	*Stanley L. Pilgrim, M. D. C.	Do.
Bureau of laboratories.....	*R. W. Cunliffe.....	Do.
Division of child welfare.....	*E. V. Brumbaugh, M. D.	Do.
Division of nurses.....	*Alma H. Brunk, R. N.	Do.
Oshkosh.....	*Irvin A. Ihrke, M. D.	Health commissioner.
Racine.....	*I. F. Thompson, M. D., M. P. H.	Do.
Sheboygan.....	*Gustav J. Hildebrand, M. D.	Do.
Shorewood.....	Jerome M. Jekel, M. D.	Do.
South Milwaukee.....		
Stevens Point.....	Ferdinand R. Krembs, M. D.	Health officer.
Superior.....	*Charles H. Mason, M. D.	Do.
Two Rivers.....	Alfred P. Zlatnik, M. D.	Commissioner of health.
Watertown.....	Emmett W. Bowen, M. D.	Do.
Waukesha.....	Frank M. Scheele, M. D.	Do.
Wausau.....	*L. F. Bugbee.....	City health officer.
Wauwatosa.....	Roy T. Hansen, M. D.	Health commissioner.
West Allis.....	*Frank H. Russell, M. D.	Do.
Wyoming:		
Casper.....	J. C. Kamp, M. D.	County health officer.
Cheyenne.....	W. R. Day, M. D.	Do.

## COURT DECISION ON PUBLIC HEALTH

*City ordinance regulating manufacture and sale of mattresses upheld.*—(Michigan Supreme Court; *People v. Dushkin*, 268 N. W. 765; decided Sept. 2, 1936.) An ordinance of the city of Detroit relating to mattresses defined "secondhand material" as "(1) Any material which has been used in the manufacture of another article or used for any other purpose; (2) Any material made into thread, yarn, fabric, matting padding, or scraps of the same, and subsequently torn, shredded, picked apart, or otherwise disintegrated." It was also provided by the ordinance that "No person within the corporate limits of the city of Detroit, in making or manufacturing a mattress shall use any secondhand material which, since last used or manufactured, shall not have been previously sterilized by a process approved by the Board of Health of the City of Detroit."

The defendant was charged with violating the ordinance and, on appeal from a conviction, claimed that the ordinance was void in prohibiting, without sterilization, the manufacture of mattresses which were not for sale in the city.

The court stated that the general power of the city to preserve public health and regulate trades was granted by the Home Rule Act and the city charter adopted thereunder, that the ordinance was a health measure, and that it was a legitimate, municipal purpose to

prevent the spread of infectious, contagious, or other diseases among workers in the factory as well as the public at large. Proceeding, the court said:

The place of sale of the mattresses has no connection with danger to the workmen manufacturing them, nor does it prevent a workman carrying infection contracted in the factory to the public. Consequently, it is not an unreasonable exercise of the granted or police powers of the city to require sterilization of all goods manufactured. Moreover, such requirement is not unreasonable because of the inability of the officers to trace individual sales.

We think the ordinance in this respect is a valid exercise of municipal power.

As to one mattress, the defendant contended that it was not made of secondhand materials. There was testimony that the mattress was filled with "shoddy", which might be old or new but which was apparently old, and, on the other hand, there was evidence that the filling was known as "smak" and consisted of the waste of clippings from bolts of cloth in the cutting out and manufacturing of clothing and which was shredded by a process which also sterilized it. Regarding this, it was stated in the opinion as follows:

The definition of "secondhand material" in the ordinance is not objectionable, even though there may be instances of harmless and substantially new material coming within its scope. The council has the power to adopt a reasonable classification which would obviate the necessity of tracing materials to their source and to define as secondhand a class which might be, and frequently is, secondhand. Moreover, shoddy or smak, being a species of waste, may be thrown about on the floor or otherwise and become a source of infection. The definition is not unreasonable.

It was held that the evidence justified the conviction, which was affirmed.

## DEATHS DURING WEEK ENDED OCTOBER 24, 1936

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Oct. 24, 1936	Correspond- ing week, 1935
<b>Data from 66 large cities of the United States:</b>		
Total deaths.....	8,099	7,692
Deaths per 1,000 population, annual basis.....	11.3	10.7
Deaths under 1 year of age.....	561	498
Deaths under 1 year of age per 1,000 estimated live births.....	51	45
Deaths per 1,000 population, annual basis, first 43 weeks of year.....	12.1	11.4
<b>Data from industrial insurance companies:</b>		
Policies in force.....	68,683,645	67,538,503
Number of death claims.....	12,084	11,320
Death claims per 1,000 policies in force, annual rate.....	9.7	8.7
Death claims per 1,000 policies, first 43 weeks of year, annual rate.....	9.8	9.6

# PREVALENCE OF DISEASE

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

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

#### Reports for Weeks Ended Oct. 31, 1936, and Nov. 2, 1935

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Oct. 31, 1936, and Nov. 2, 1935*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935
<b>New England States:</b>								
Maine.....	1			17	13	54	1	0
New Hampshire.....					2		1	0
Vermont.....	3	2			3	65	0	0
Massachusetts.....	2	12			66	58	1	1
Rhode Island.....	1	2			27	36	0	0
Connecticut.....	2	5		9	12	66	0	0
<b>Middle Atlantic States:</b>								
New York.....	22	38	10	18	60	331	8	5
New Jersey.....	8	24	12	1	25	10	4	1
Pennsylvania.....	36	47			32	97	2	6
<b>East North Central States:</b>								
Ohio.....	48	138	19	48	10	79	3	9
Indiana.....	31	86	28	28	4	15	5	0
Illinois.....	35	92	6	12	10	20	5	2
Michigan.....	24	8	2	3	17	14	0	2
Wisconsin.....	3	4	15	34	29	57	4	1
<b>West North Central States:</b>								
Minnesota.....	19	9		1	16	16	0	0
Iowa.....	4	22	2		3	2	0	1
Missouri.....	21	83	56	39	3	8	0	5
North Dakota.....	1	2			1	3	1	0
South Dakota.....		7			1	7	0	3
Nebraska.....		13	1		3	22	0	1
Kansas.....	10	16			2	3	0	0
<b>South Atlantic States:</b>								
Delaware.....			4		1	53	0	0
Maryland.....	10	17	6	1	17	19	5	3
District of Columbia.....	9	24		2			4	2
Virginia.....	58	60			6	38	4	2
West Virginia.....	21	49	14	9	8	8	2	1
North Carolina.....	164	102	7	5	15	7	3	4
South Carolina.....	25	34	192	141	5		1	0
Georgia.....	44	44				3	1	1
Florida.....	15	19	5			1	1	0
<b>East South Central States:</b>								
Kentucky.....	37	52	17	14	20	53	6	0
Tennessee.....	94	55	70	5	1	3	0	3
Alabama.....	64	51	26	27	2	4	0	1
Mississippi.....	15	21					2	0

See footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers  
for weeks ended Oct. 31, 1936, and Nov. 2, 1936—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935
<b>West South Central States:</b>								
Arkansas.....	12	25	48	14	-----	2	1	1
Louisiana.....	15	20	5	2	1	3	1	1
Oklahoma <sup>1</sup> .....	7	16	47	16	6	2	0	2
Texas <sup>2</sup> .....	63	136	102	103	18	3	0	3
<b>Mountain States:</b>								
Montana.....	2	-----	4	-----	1	-----	1	1
Idaho.....	3	-----	3	-----	9	2	0	0
Wyoming.....	1	-----	-----	-----	2	8	0	2
Colorado.....	6	15	-----	-----	1	4	1	0
New Mexico.....	5	4	1	-----	4	8	1	0
Arizona.....	2	3	33	13	23	-----	0	0
Utah <sup>3</sup> .....	1	-----	-----	-----	13	-----	1	0
<b>Pacific States:</b>								
Washington.....	2	3	-----	3	8	67	1	4
Oregon.....	2	3	34	17	6	129	0	0
California <sup>4</sup> .....	49	59	26	21	24	114	2	6
<b>Total.....</b>	<b>997</b>	<b>1,428</b>	<b>795</b>	<b>593</b>	<b>534</b>	<b>1,494</b>	<b>73</b>	<b>74</b>
<b>First 44 weeks of year.....</b>	<b>21,944</b>	<b>29,609</b>	<b>146,188</b>	<b>103,521</b>	<b>274,513</b>	<b>704,194</b>	<b>6,609</b>	<b>4,867</b>

Division and State	Polkymyelitis		Scarlet fever		Smallpox <sup>5</sup>		Typhoid fever	
	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935
<b>New England States:</b>								
Maine.....	2	1	2	21	0	0	1	2
New Hampshire.....	0	0	3	7	0	0	0	0
Vermont.....	0	1	4	9	0	0	1	1
Massachusetts.....	3	28	103	147	0	0	0	1
Rhode Island.....	0	2	12	15	0	0	0	0
Connecticut.....	0	7	33	30	0	0	0	2
<b>Middle Atlantic States:</b>								
New York.....	6	23	238	323	0	0	22	13
New Jersey.....	0	12	37	81	0	0	2	0
Pennsylvania.....	9	19	230	298	0	0	35	18
<b>East North Central States:</b>								
Ohio.....	22	1	226	406	0	2	21	13
Indiana.....	4	2	88	193	1	1	2	0
Illinois.....	39	5	243	485	1	2	27	22
Michigan.....	13	12	187	130	0	0	5	10
Wisconsin.....	3	1	163	392	6	1	5	5
<b>West North Central States:</b>								
Minnesota.....	0	1	95	230	4	1	0	0
Iowa.....	6	0	70	106	10	7	1	1
Missouri.....	2	2	77	113	1	1	14	4
North Dakota.....	1	1	33	43	15	2	5	1
South Dakota.....	0	1	39	31	7	8	0	1
Nebraska.....	0	0	17	35	4	9	0	0
Kansas.....	8	2	99	79	0	6	2	6
<b>South Atlantic States:</b>								
Delaware.....	0	0	4	10	0	0	3	0
Maryland <sup>1</sup> .....	2	2	51	86	0	0	8	8
District of Columbia.....	0	1	15	6	0	0	0	0
Virginia.....	2	2	36	82	0	0	13	7
West Virginia.....	2	0	79	117	0	1	25	10
North Carolina <sup>2</sup> .....	1	2	83	85	0	0	8	12
South Carolina <sup>3</sup> .....	0	0	7	11	0	0	8	7
Georgia <sup>4</sup> .....	5	0	17	23	0	0	28	9
Florida.....	1	0	6	6	0	0	0	2
<b>East South Central States:</b>								
Kentucky.....	2	4	82	95	0	0	40	22
Tennessee <sup>4</sup> .....	2	2	46	104	1	0	9	18
Alabama <sup>2</sup> .....	10	1	23	28	1	0	13	60
Mississippi <sup>2</sup> .....	2	0	12	18	0	0	8	1

See footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Oct. 31, 1936, and Nov. 2, 1935—Continued*

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935	Week ended Oct. 31, 1936	Week ended Nov. 2, 1935
<b>West South Central States:</b>								
Arkansas.....	4	1	11	18	0	1	9	6
Louisiana.....	0	0	7	15	0	0	11	7
Oklahoma <sup>1</sup> .....	6	0	22	15	2	2	7	14
Texas <sup>2</sup> .....	6	2	41	66	0	2	23	34
<b>Mountain States:</b>								
Montana.....	0	0	33	77	7	3	4	1
Idaho.....	0	0	29	51	0	0	2	6
Wyoming.....	0	0	9	31	0	0	0	0
Colorado.....	1	0	17	144	0	7	4	6
New Mexico.....	3	0	17	30	0	0	11	19
Arizona.....	0	1	8	13	0	0	0	1
Utah <sup>3</sup> .....	0	1	19	53	1	0	0	0
<b>Pacific States:</b>								
Washington.....	1	0	40	46	3	16	2	6
Oregon.....	2	2	27	42	1	0	4	3
California <sup>4</sup> .....	4	11	176	198	0	0	5	5
<b>Total.....</b>	<b>195</b>	<b>153</b>	<b>2,916</b>	<b>4,554</b>	<b>65</b>	<b>72</b>	<b>388</b>	<b>327</b>
<b>First 44 weeks of year.....</b>	<b>3,750</b>	<b>9,991</b>	<b>201,619</b>	<b>207,417</b>	<b>6,490</b>	<b>5,758</b>	<b>12,693</b>	<b>15,678</b>

<sup>1</sup> New York City only.

<sup>2</sup> Week ended earlier than Saturday.

<sup>3</sup> Typhoid fever cases, week ended Oct. 31, 1936, 53 cases, as follows: North Carolina, 2; South Carolina, 2; Georgia, 26; Alabama, 8; Texas, 14; California, 1.

<sup>4</sup> Rocky Mountain spotted fever, week ended Oct. 31, 1936, Tennessee, 1 case.

<sup>5</sup> Five nonparalytic cases included.

<sup>6</sup> Exclusive of Oklahoma City and Tulsa.

## SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>July 1936</i>										
North Carolina.....	14	51	2	-----	31	125	6	57	1	84
Wisconsin.....	2	9	48	-----	318	-----	0	436	45	11
<i>August 1936</i>										
Arizona.....	3	10	53	6	60	-----	1	6	0	15
Georgia.....	3	61	12	1,141	7	41	21	37	0	138
Massachusetts.....	6	19	-----	1	230	1	7	155	0	13
<i>September 1936</i>										
California.....	9	157	113	45	163	15	95	483	0	78
Georgia.....	3	130	43	1,492	2	55	37	43	0	121
Kentucky.....	25	78	6	15	70	-----	10	133	6	177
Montana.....	3	11	23	-----	5	-----	3	82	29	34
Nevada.....	-----	-----	2	-----	-----	-----	1	19	0	0
Virginia.....	13	109	138	150	23	6	15	58	0	91
West Virginia.....	11	45	23	3	4	-----	22	136	0	89

## July 1936

North Carolina:	Cases
Chicken pox.....	57
German measles.....	49
Ophthalmia neonatorum.....	1
Paratyphoid fever.....	4
Rabies in man.....	1
Rocky Mountain spotted fever.....	10
Septic sore throat.....	8
Tularaemia.....	1
Typhus fever.....	4
Undulant fever.....	1
Whooping cough.....	160
Wisconsin:	
Chicken pox.....	742
Epidemic encephalitis.....	2
German measles.....	32
Mumps.....	525
Septic sore throat.....	3
Trachoma.....	2
Tularaemia.....	2
Undulant fever.....	9
Whooping cough.....	601

## August 1936

Anthrax:	
Georgia.....	1
Chicken pox:	
Arizona.....	5
Georgia.....	9
Massachusetts.....	119
Dysentery:	
Arizona (bacillary).....	17
Georgia (amoebic).....	10
Georgia (bacillary).....	19
Massachusetts (bacillary).....	1
Epidemic encephalitis:	
Arizona.....	1
Massachusetts.....	1
German measles:	
Arizona.....	8
Massachusetts.....	44
Hookworm disease:	
Georgia.....	205
Leprosy:	
Arizona.....	1
Mumps:	
Arizona.....	46
Georgia.....	72
Massachusetts.....	207
Ophthalmia neonatorum:	
Massachusetts.....	88
Paratyphoid fever:	
Georgia.....	3
Massachusetts.....	1
Rabies in animals:	
Massachusetts.....	5
Rabies in man:	
Georgia.....	1

## August 1936—Continued

Septic sore throat:	Cases
Georgia.....	27
Massachusetts.....	4
Tetanus:	
Georgia.....	6
Massachusetts.....	1
Trachoma:	
Arizona.....	34
Georgia.....	3
Massachusetts.....	5
Trichinosis:	
Massachusetts.....	5
Tularaemia:	
Georgia.....	2
Typhus fever:	
Georgia.....	144
Undulant fever:	
Arizona.....	4
Georgia.....	7
Massachusetts.....	11
Whooping cough:	
Arizona.....	23
Georgia.....	57
Massachusetts.....	533

## September 1936

Anthrax:	
California.....	2
Botulism:	
California.....	2
Chicken pox:	
California.....	251
Georgia.....	6
Montana.....	70
Nevada.....	26
Virginia.....	6
West Virginia.....	8
Conjunctivitis:	
Georgia.....	6
Dengue:	
Georgia.....	16
Dysentery:	
California (amoebic).....	23
California (bacillary).....	53
Georgia (amoebic).....	20
Georgia (bacillary).....	17
Montana.....	3
Virginia (amoebic).....	1
Virginia (diarrhea included).....	697
West Virginia.....	4
Epidemic encephalitis:	
California.....	11
Montana.....	3
Virginia.....	1
Food poisoning:	
California.....	81
German measles:	
California.....	91
Montana.....	1
Granuloma, coccidioidal:	
California.....	5
Hookworm disease:	
Georgia.....	592

## September 1936—Continued

Jaundice (epidemic):	Cases
California.....	1
Leprosy:	
California.....	1
Mumps:	
California.....	993
Georgia.....	43
Kentucky.....	23
Montana.....	46
Nevada.....	3
Virginia.....	34
West Virginia.....	2
Ophthalmia neonatorum:	
California.....	1
Virginia.....	2
Paratyphoid fever:	
California.....	12
Georgia.....	4
Virginia.....	4
West Virginia.....	1
Rabies in animals:	
California.....	81
Relapsing fever:	
California.....	11
Rocky Mountain spotted fever:	
Georgia.....	1
Virginia.....	1
Septic sore throat:	
California.....	11
Georgia.....	43
Montana.....	2
Virginia.....	2
Tetanus:	
California.....	5
Georgia.....	1
Virginia.....	3
Trachoma:	
California.....	12
Montana.....	3
Trichinosis:	
California.....	1
Georgia.....	1
Tularaemia:	
California.....	3
Georgia.....	2
Virginia.....	1
Typhus fever:	
California.....	4
Georgia.....	130
Undulant fever:	
California.....	20
Georgia.....	11
Kentucky.....	3
Montana.....	2
Virginia.....	7
Whooping cough:	
California.....	1,048
Georgia.....	52
Kentucky.....	174
Montana.....	56
Nevada.....	3
Virginia.....	122
West Virginia.....	20



## WEEKLY REPORTS FROM CITIES

*City reports for week ended Oct. 24, 1936*

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
<b>Maine:</b>											
Portland.....	0	-----	0	0	2	0	0	1	1	8	29
<b>New Hampshire:</b>											
Concord.....	0	-----	0	0	2	0	0	0	0	0	7
Manchester.....	0	-----	0	0	0	0	0	0	0	0	9
Nashua.....	0	-----	-----	0	-----	0	0	-----	0	0	-----
<b>Vermont:</b>											
Barre.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Burlington.....	0	-----	0	0	0	0	0	0	0	1	9
Rutland.....	0	-----	0	0	2	0	0	0	0	0	9
<b>Massachusetts:</b>											
Boston.....	1	-----	1	5	19	21	0	7	0	103	187
Fall River.....	0	-----	0	0	1	0	0	3	0	0	32
Springfield.....	0	-----	0	0	2	5	0	1	0	5	31
Worcester.....	0	-----	0	6	6	4	0	0	0	16	52
<b>Rhode Island:</b>											
Pawtucket.....	0	-----	0	0	0	0	0	0	0	0	14
Providence.....	0	-----	0	0	6	13	0	1	0	4	58
<b>Connecticut:</b>											
Bridgeport.....	0	-----	0	4	1	0	0	1	0	0	33
Hartford.....	0	-----	0	0	2	15	0	2	4	6	45
New Haven.....	0	-----	1	0	1	0	0	0	0	5	34
<b>New York:</b>											
Buffalo.....	0	-----	1	1	12	11	0	10	4	7	143
New York.....	14	7	4	17	87	60	0	95	15	90	1,452
Rochester.....	0	-----	0	0	6	3	0	0	0	4	52
Syracuse.....	0	-----	0	0	0	4	0	0	0	21	34
<b>New Jersey:</b>											
Camden.....	2	-----	1	0	2	1	0	0	0	1	26
Newark.....	0	-----	0	0	6	1	0	7	0	32	96
Trenton.....	0	-----	0	0	3	0	0	2	1	0	32
<b>Pennsylvania:</b>											
Philadelphia.....	1	3	1	2	34	28	0	33	3	122	446
Pittsburgh.....	3	1	1	1	13	28	0	9	3	13	147
Reading.....	0	-----	0	1	1	1	0	1	0	19	28
Scranton.....	1	-----	-----	0	0	1	0	-----	0	0	-----
<b>Ohio:</b>											
Cincinnati.....	6	-----	1	4	6	8	0	11	2	6	124
Cleveland.....	3	11	3	1	12	16	0	8	1	30	192
Columbus.....	2	-----	0	0	4	8	0	3	0	3	75
Toledo.....	2	-----	0	0	6	6	0	2	0	15	64
<b>Indiana:</b>											
Anderson.....	0	-----	0	0	2	1	0	0	1	9	7
Fort Wayne.....	0	-----	0	0	0	0	0	0	0	0	18
Indianapolis.....	0	-----	1	0	12	16	0	0	0	0	96
Muncie.....	0	-----	0	0	2	4	0	0	0	0	15
South Bend.....	0	-----	0	0	2	1	0	1	0	1	15
Terre Haute.....	1	-----	0	0	0	4	0	0	2	0	18
<b>Illinois:</b>											
Alton.....	0	-----	0	0	0	5	0	0	0	1	5
Chicago.....	4	4	2	12	37	68	0	23	3	65	610
Elgin.....	0	-----	0	1	0	0	0	0	0	0	8
Moline.....	0	-----	0	0	0	1	0	0	0	4	6
Springfield.....	0	-----	0	1	1	0	0	1	0	0	27
<b>Michigan:</b>											
Detroit.....	26	2	0	3	22	52	0	11	5	65	263
Flint.....	1	-----	0	0	2	6	0	2	0	0	30
Grand Rapids.....	0	-----	0	5	1	8	0	2	0	6	25
<b>Wisconsin:</b>											
Kenosha.....	0	-----	0	0	1	5	0	0	0	0	9
Madison.....	0	-----	0	2	0	5	0	1	0	3	16
Milwaukee.....	0	-----	0	5	7	22	0	5	1	39	100
Racine.....	0	-----	0	0	0	11	0	1	0	3	14
Superior.....	0	-----	0	1	0	2	0	0	0	2	10
<b>Minnesota:</b>											
Duluth.....	0	-----	0	0	3	7	0	0	0	2	18
Minneapolis.....	6	-----	1	0	4	10	0	0	0	14	101
St. Paul.....	0	-----	0	1	4	8	0	4	0	9	68
<b>Iowa:</b>											
Cedar Rapids.....	0	-----	-----	0	-----	0	0	-----	0	0	-----
Davenport.....	0	-----	-----	0	-----	3	0	-----	0	0	-----
Des Moines.....	0	-----	-----	0	-----	4	0	-----	0	0	36
Sioux City.....	0	-----	-----	0	-----	8	1	-----	0	1	-----
Waterloo.....	1	-----	-----	1	-----	2	0	-----	0	17	-----

## City reports for week ended Oct. 24, 1936—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
<b>Missouri:</b>											
Kansas City...	1	-----	1	0	10	26	0	4	1	4	96
St. Joseph.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
St. Louis.....	12	-----	0	0	6	21	0	11	6	13	211
<b>North Dakota:</b>											
Fargo.....	0	-----	0	0	1	0	0	0	0	0	8
Grand Forks.....	0	-----	0	0	-----	0	0	0	0	0	-----
Minot.....	0	-----	0	0	0	0	0	0	0	0	4
<b>South Dakota:</b>											
Aberdeen.....	0	-----	-----	0	-----	9	0	-----	0	0	-----
<b>Nebraska:</b>											
Omaha.....	1	-----	0	1	7	4	0	1	0	1	57
<b>Kansas:</b>											
Lawrence.....	0	-----	0	0	0	0	0	0	0	0	3
Topeka.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wichita.....	0	1	1	0	3	4	0	1	0	4	34
<b>Delaware:</b>											
Wilmington.....	0	-----	0	8	5	0	0	0	0	1	33
<b>Maryland:</b>											
Baltimore.....	5	4	0	6	19	17	0	14	0	86	228
Cumberland.....	0	-----	0	0	1	2	0	0	0	0	8
Frederick.....	0	-----	0	0	0	1	0	0	0	0	5
<b>District of Colum- bia: Washington</b>	7	3	2	8	16	11	0	10	3	13	187
<b>Virginia:</b>											
Lynchburg.....	1	-----	0	0	2	1	0	1	0	4	15
Richmond.....	1	-----	1	0	4	2	0	2	0	1	55
Roanoke.....	7	-----	0	0	0	3	0	2	0	2	22
<b>West Virginia:</b>											
Charleston.....	-----	-----	-----	0	-----	8	0	1	0	0	-----
Huntington.....	3	-----	0	1	2	5	0	0	0	0	19
Wheeling.....	0	-----	0	-----	-----	-----	-----	-----	-----	-----	-----
<b>North Carolina:</b>											
Gastonia.....	3	-----	-----	0	-----	1	0	-----	0	0	-----
Raleigh.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wilmington.....	2	0	0	0	1	2	0	0	0	0	8
Winston Salem	1	0	0	0	2	0	0	1	0	0	15
<b>South Carolina:</b>											
Charleston.....	0	-----	0	0	5	3	0	0	1	0	20
Columbia.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Florence.....	0	-----	0	0	0	2	0	0	0	0	7
Greenville.....	1	-----	0	2	2	0	0	1	0	0	-----
<b>Georgia:</b>											
Atlanta.....	7	20	0	0	8	5	0	6	2	0	82
Brunswick.....	0	-----	0	0	0	1	0	0	0	0	5
Savannah.....	3	6	0	0	1	2	0	3	0	1	28
<b>Florida:</b>											
Miami.....	0	3	0	1	2	1	0	1	0	0	28
Tampa.....	4	1	1	0	0	0	0	0	0	0	20
<b>Kentucky:</b>											
Ashland.....	1	-----	-----	0	-----	4	0	3	1	0	30
Covington.....	0	-----	0	0	3	4	0	0	0	0	12
Lexington.....	0	-----	0	0	0	1	0	0	0	0	21
<b>Tennessee:</b>											
Knoxville.....	5	2	1	0	0	3	0	1	0	0	22
Memphis.....	2	-----	1	0	8	8	0	1	0	8	94
Nashville.....	2	-----	0	1	5	0	0	1	2	0	72
<b>Alabama:</b>											
Birmingham.....	3	-----	0	0	5	7	0	7	0	4	89
Mobile.....	1	-----	0	0	1	0	0	0	0	0	24
Montgomery.....	3	-----	-----	0	-----	0	0	-----	0	0	-----
<b>Arkansas:</b>											
Fort Smith.....	1	-----	-----	0	-----	2	0	-----	0	0	-----
Little Rock.....	0	-----	0	0	4	0	0	2	0	0	6
<b>Louisiana:</b>											
Lake Charles.....	1	0	0	0	0	0	0	0	0	0	4
New Orleans.....	0	17	2	0	15	9	0	11	2	0	150
Shreveport.....	0	-----	0	0	4	0	0	0	0	0	49
<b>Oklahoma:</b>											
Muskogee.....	0	-----	0	0	0	0	0	0	0	0	-----
Oklahoma City.....	2	12	0	0	10	3	0	1	0	0	51
Tulsa.....	1	-----	-----	0	-----	5	0	-----	0	0	-----
<b>Texas:</b>											
Dallas.....	8	-----	0	0	6	6	0	2	0	5	60
Fort Worth.....	1	-----	0	3	4	4	0	3	5	0	24
Galveston.....	0	-----	0	0	4	0	0	0	1	0	15
Houston.....	8	-----	1	0	9	4	0	5	1	0	82
San Antonio.....	2	-----	0	0	12	1	0	4	0	0	60

## City reports for week ended Oct. 24, 1936—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Montana:											
Billings.....	0	0	0	0	1	0	0	0	0	0	7
Great Falls.....	0	0	0	1	0	0	2	0	1	0	4
Helena.....	0	0	0	0	0	0	0	0	0	0	0
Missoula.....	0	0	0	0	2	0	0	0	0	0	7
Idaho:											
Boise.....	0	0	0	0	0	2	0	0	0	0	9
Colorado:											
Colorado.....	0	0	0	0	0	5	0	2	0	0	18
Springs.....	2	0	1	7	14	0	5	0	22	0	79
Denver.....	0	0	1	2	2	0	0	1	0	0	10
Pueblo.....	0	0	0	0	0	0	0	0	0	0	0
New Mexico:											
Albuquerque.....	0	0	0	0	0	0	0	0	0	0	0
Arizona:											
Phoenix.....	2	0	1	0	0	0	0	0	0	0	0
Utah:											
Salt Lake City.....	0	0	1	1	4	7	0	2	0	5	32
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	0
Washington:											
Seattle.....	0	0	0	2	1	7	0	4	1	4	88
Spokane.....	0	0	0	0	6	18	0	0	0	2	32
Tacoma.....	0	0	0	0	3	1	0	2	0	1	24
Oregon:											
Portland.....	2	1	0	2	4	6	0	3	0	8	88
Salem.....	0	0	0	0	1	0	0	0	0	0	0
California:											
Los Angeles.....	16	12	0	3	20	12	0	19	1	34	324
Sacramento.....	1	0	0	2	1	22	0	2	0	15	21
San Francisco.....	3	2	1	2	7	11	0	11	0	14	154

State and city	Meningococcus meningitis		Poli- mye- litis cases	State and city	Meningococcus meningitis		Poli- mye- litis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:				District of Columbia:			
Boston.....	2	0	0	Washington.....	1	1	0
Worcester.....	0	0	2	Virginia:			
Connecticut:				Lynchburg.....	0	0	1
New Haven.....	0	0	1	Richmond.....	1	0	0
New York:				West Virginia:			
Buffalo.....	1	1	0	Wheeling.....	0	1	0
New York.....	5	1	2	Florida:			
Rochester.....	0	0	1	Miami.....	1	1	1
Pennsylvania:				Kentucky:			
Philadelphia.....	0	0	2	Ashland.....	1	0	0
Pittsburgh.....	1	0	0	Tennessee:			
Reading.....	1	1	0	Knoxville.....	0	0	1
Ohio:				Memphis.....	0	0	2
Cincinnati.....	0	0	1	Nashville.....	0	0	2
Cleveland.....	1	0	1	Arkansas:			
Toledo.....	0	0	4	Fort Smith.....	0	0	1
Indiana:				Oklahoma:			
Indianapolis.....	1	0	0	Oklahoma City.....	1	0	2
Illinois:				Tulsa.....	0	0	11
Chicago.....	1	1	15	Texas:			
Elgin.....	0	0	1	Houston.....	0	1	0
Michigan:				Colorado:			
Detroit.....	0	0	4	Denver.....	2	1	0
Wisconsin:				Utah:			
Milwaukee.....	0	0	1	Salt Lake City.....	1	0	0
Minnesota:				Washington:			
Minneapolis.....	1	0	0	Seattle.....	0	0	1
Missouri:				Spokane.....	0	0	1
St. Louis.....	0	1	3	Oregon:			
Nebraska:				Portland.....	1	0	0
Omaha.....	1	0	0	California:			
				Los Angeles.....	1	1	3

*Epidemic encephalitis*.—Cases: New York, 1; Kansas City, 2; Baltimore, 1.

*Pelagra*.—Cases: Wilmington, N. C., 2; Atlanta, 2; Savannah, 4; Birmingham, 1; New Orleans, 1; Sacramento, 1.

*Typhus fever*.—Cases: Charleston, S. C., 6; Atlanta, 2; Savannah, 2; Montgomery, 1.

## FOREIGN AND INSULAR

### CANADA

**Manitoba—Poliomyelitis.**—During the week ended October 24, 1936, 19 cases of poliomyelitis were reported in the Province of Manitoba, Canada. During the same week 4 cases of poliomyelitis were reported in Winnipeg.

**Provinces—Communicable diseases—2 weeks ended October 17, 1936.**—During the 2 weeks ended October 17, 1936, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada, as follows:

Disease	Prince Ed- ward Island	Nova Scotia	New Brun- swick	Quebec	Ontario	Mani- toba	Sas- katche- wan	Alber- ta	British Co- lumbia	Total
Cerebrospinal men- ingitis					2	1				3
Chicken pox		1	1	169	318	80	99	28	162	858
Diphtheria		5	1	45	15	3	4	2	1	76
Dysentery				1	4					5
Erysipelas				10	8	5	3	2	7	35
Influenza		2			24					26
Measles				115	650	67	195	67	130	1,224
Mumps			10		139	14	14	11	57	245
Paratyphoid fever					2					2
Pneumonia	3	2			25				9	39
Poliomyelitis				15	38	91	17	3	5	169
Scarlet fever		4	8	149	195	106	42	183	60	747
Trachoma							1			1
Tuberculosis	6	17	13	77	60	8	30	4	20	235
Typhoid fever	1		8	36	23	4	21	4	4	101
Undulant fever				1	4					6
Whooping cough	1	2		127	237	10	17	23	34	451

### CUBA

**Habana—Communicable diseases—4 weeks ended October 24, 1936.**—During the 4 weeks ended October 24, 1936, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	12		Poliomyelitis	16	
Dysentery (bacillary)	2		Tuberculosis	14	6
Leprosy	1		Typhoid fever	155	15
Malaria	134	1			

<sup>1</sup> Includes imported cases.

## ITALY

*Communicable diseases—4 weeks ended September 13, 1936.*—During the 4 weeks ended September 13, 1936, cases of certain communicable diseases were reported in Italy as follows:

Disease	Aug. 17-23		Aug. 24-30		Aug. 31-Sept. 6		Sept. 7-13	
	Cases	Com-munes affected	Cases	Com-munes affected	Cases	Com-munes affected	Cases	Com-munes affected
Anthrax.....	54	45	40	33	36	32	20	26
Cerebrospinal meningitis.....	8	6	7	6	12	12	9	8
Chicken pox.....	86	59	71	51	77	53	57	37
Diphtheria and croup.....	458	232	440	237	430	237	523	294
Dysentery.....	41	19	47	21	32	19	31	26
Hookworm disease.....	12	7	20	9	10	6	18	11
Lethargic encephalitis.....	8	6	4	3	1	1	1	1
Measles.....	422	126	367	129	320	119	328	111
Mumps.....	108	63	126	71	90	50	57	36
Paratyphoid fever.....	177	112	136	104	158	93	147	90
Poliomyelitis.....	74	59	59	46	61	48	69	53
Puerperal fever.....	29	26	27	27	34	23	23	23
Scarlet fever.....	225	122	213	114	227	115	232	116
Typhoid fever.....	1,057	529	837	441	913	495	892	470
Undulant fever.....	54	39	36	20	47	35	34	29
Whooping cough.....	353	146	398	146	346	127	323	122

## PANAMA CANAL ZONE

*Communicable diseases—July–September 1936.*—During the months of July, August, and September 1936, certain communicable diseases, including imported cases, were reported in the Panama Canal Zone and terminal cities as follows:

Disease	July		August		September	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chicken pox.....	6	—	3	—	—	—
Diphtheria.....	6	—	18	—	27	—
Dysentery (amoebic).....	34	1	19	—	12	1
Dysentery (bacillary).....	2	2	—	2	9	1
Leprosy.....	1	—	—	—	—	—
Malaria.....	218	2	133	4	91	3
Measles.....	5	1	2	—	15	—
Mumps.....	2	—	—	—	3	—
Paratyphoid fever.....	—	—	1	—	—	—
Pneumonia.....	—	27	—	19	—	19
Relapsing fever.....	—	—	1	—	—	—
Tuberculosis.....	—	25	—	24	—	26
Typhoid fever.....	3	—	2	1	—	—
Whooping cough.....	6	—	10	—	6	—

## YUGOSLAVIA

*Communicable diseases—September 1936.*—During the month of September 1936, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	100	13	Poliomyelitis.....	10	-----
Cerebrospinal meningitis.....	4	1	Scarlet fever.....	644	13
Diphtheria and croup.....	1, 071	92	Sepsis.....	9	3
Dysentery.....	270	34	Tetanus.....	48	15
Erysipelas.....	261	14	Typhoid fever.....	1, 288	91
Measles.....	181	-----	Typhus fever.....	6	1
Paratyphoid fever.....	68	7			

### CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for October 30, 1936, pages 1518-1531. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued November 27, 1936, and thereafter, at least for the time being, in the issue published on the last Friday of each month.

#### Plague

*Ecuador*.—During the period October 7-25, 1936, 2 cases of plague with 1 death were reported at Guayaquil, and 3 cases at Bajada del Morro, in the vicinity of Guayaquil, Ecuador.

*Hawaii Territory*.—Plague infection has been proved in rats in Hawaii Territory as follows: On the island of Hawaii—Hamakua District: In Hamakua Mill sector, 1 rat found October 29, 1936; in Paauhau sector, 1 rat found October 30 and 1 rat found November 2. On the island of Maui, 1 rat found October 20 in Keahau region, Wailuku district.

#### Smallpox

*Mexico*.—During the month of August 1936 smallpox has been reported in Mexico as follows: Chihuahua, Chihuahua State, 1 case; Guadalajara, Jalisco State, 3 cases, 1 death; Mexico, D. F., 5 cases, 3 deaths.

#### Typhus Fever

*Irish Free State—Kerry County—Dingle*.—A report dated October 12, 1936, states that 2 cases of typhus fever had been reported in Dingle, Kerry County, Irish Free State.

*Mexico*.—During the month of August 1936, typhus fever was reported in Mexico as follows: Aguascalientes, Aguascalientes State, 8 cases, 1 death; Guadalajara, Jalisco State, 1 case; Durango State, 1 death; Guanajuato State, 7 cases, 3 deaths; Mexico State, 10 cases, 2 deaths; Mexico, D. F., 19 cases, 8 deaths; Oaxaca State, 4 cases; Puebla, Puebla State, 10 cases, 2 deaths; Queretaro State, 1 case; San Luis Potosi, San Luis Potosi State, 4 cases.

#### Yellow Fever

*Senegal—Khombole*.—On October 26, 1936, 1 case of yellow fever was reported in Khombole, Senegal.

*Sierra Leone—Daru*.—On October 14, 1936, 1 suspected case of yellow fever was reported at Daru, Sierra Leone.