

# PUBLIC HEALTH REPORTS

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NO. 1

## INFLUENZA PREVALENCE IN THE UNITED STATES

The reports for the week ended December 22, 1928, indicate that the prevalence of influenza is decreasing in those States which were first attacked, but that the number of cases is increasing generally elsewhere in the United States. (See table on p. 19.)

The total number of cases reported to the Public Health Service during the seven weeks ended December 22, 1928, were as follows:

Week ended—	Cases	Week ended—	Cases
Nov. 10, 1928.....	4, 200	Dec. 8, 1928.....	40, 000
Nov. 17, 1928.....	5, 000	Dec. 15, 1928.....	145, 000
Nov. 24, 1928.....	8, 400	Dec. 22, 1928.....	250, 000
Dec. 1, 1928.....	16, 000		

Apparently the disease reached the "peak" in California during the week ended December 8, and in Oregon one week later. The number of cases reported by the Mountain States for the week ended December 22 was smaller than the number for the week ended December 15, but Arkansas, Oklahoma, and Texas reported an increase in the prevalence of the disease for the later week.

The reports from North Dakota and Minnesota indicated increased prevalence of influenza for the week ended December 22, and the State health officer of Iowa estimated that there were 85,000 cases in the State, but South Dakota, Nebraska, Kansas, and Missouri reported fewer cases than were reported for the preceding week.

Wisconsin, Michigan, Illinois, and Ohio all reported increased prevalence as compared with the earlier week, but the report from Indiana indicated improved conditions.

The South Atlantic States reported a greater number of cases than was reported for the preceding week.

In New Jersey, New York City, and the New England States the number of cases of influenza reported was small as compared with reports from other sections, but the figures were generally higher than they have been during recent weeks.

The Weekly Bulletin of the State Bureau of Public Health of New Mexico, dated December 18, 1928, says: "The disease has been so mild in this State as compared with 1918 and 1920, for example, that there seemed to be room for doubt as to the diagnosis. \* \* \* Reporting of cases has almost completely broken down. \* \* \* It is useless to attempt to make cards when not more than one-tenth of the cases are seen by a physician or reported."

## SUMMARY OF INFLUENZA EPIDEMIC<sup>1</sup>

Telegraphic reports from State health officers to the United States Public Health Service suggest that for the country as a whole the current wave of influenza may be nearing its peak in the latter part of December. However, the picture varies from one State to another. In certain States of the far West, the decline was well advanced by December 22 (the latest date for which reports are available at this writing), whereas in New England, the outbreak had scarcely begun.

### ACCUMULATED PREVALENCE BY STATES

The heaviest prevalence thus far has been reported from the Middle West, the far West, and from certain South Atlantic States. Figure 1 shows that from October 14 to December 15, 1928, according to the reported cases, 4.5 per cent of the population were attacked in Kansas, 2.1 per cent in Montana, 1.2 per cent in South Carolina and in North Dakota, and 0.9 per cent in California.

The six lowest cumulative rates are seen to be from Vermont, Delaware, Massachusetts, Rhode Island, Connecticut, and New Jersey, all in the North Atlantic region.

It is to be emphasized in this connection that as a rule the cases are seriously underreported, so that the rates indicated in Figure 1 are in all cases deficient. Moreover, the completeness of reporting doubtless varies from State to State, and also with the phase of the epidemic.

Figure 2 shows the cumulated case rates, since the beginning of the epidemic, in eight regions of the United States, indicating again that the highest rates to December 15 were from the western regions.<sup>2</sup>

### CHRONOLOGY OF THE EPIDEMIC IN DIFFERENT REGIONS

Figure 3 shows the progress week by week, from September 1 to December 15 in each of the eight geographical regions referred to. (Note that the heights of the several curves are not comparable as,

<sup>1</sup> From the Office of Statistical Investigations, United States Public Health Service.

<sup>2</sup> Figure 1 includes every State from which any reports were received up to Dec. 15. In Figure 2, however, only States were included which had reported more or less regularly since Jan. 1, 1925.

for graphical expediency, different vertical scales were employed in plotting the rates.)

The graph suggests that the first pronounced rise in reported cases took place on the Pacific coast during the week ending October 20. Comparable rises in other regions seem to have begun a number of weeks later. Definite conclusions upon this point, however, should be reserved until a later date when, it is hoped, more detailed and more precise information will be available.

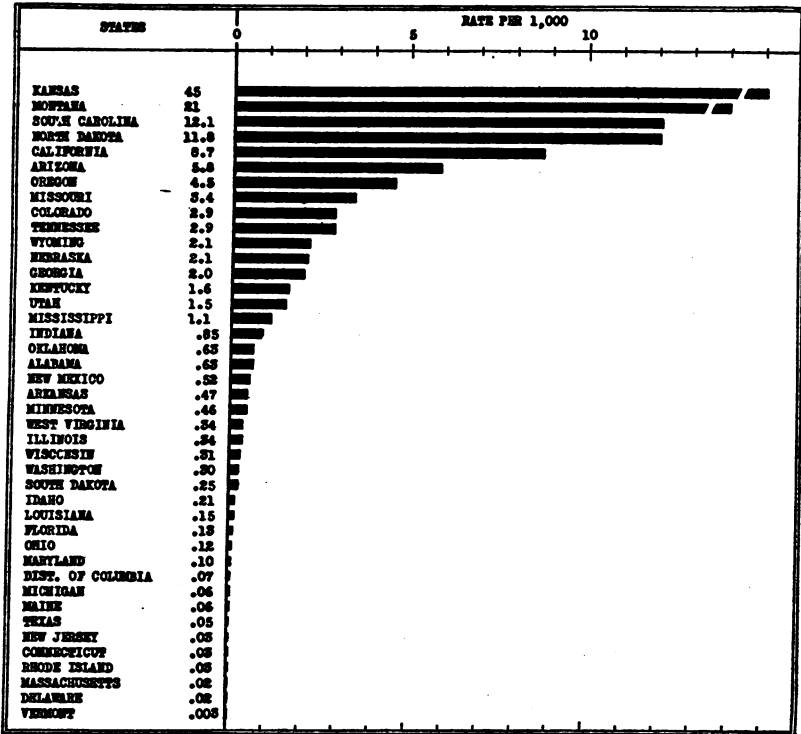


FIG. 1.—Reported cases of influenza per 1,000 population in each of 42 States (including District of Columbia), October 14 to December 15, 1928

Up to December 15 the first region to have entered a decline from the influenza peak was, again, the Pacific coast.

Data for the week ending December 22, received since Figure 3 was prepared, indicate that the case curve had probably turned downward also in the Mountain and possibly in the West North Central States.

#### EXCESS MORTALITY

It is very difficult at this time to make a quantitative statement concerning influenza mortality. Because of the varying practice in diagnosing influenza small differences in the mortality attributed to that cause are not significant.

An inspection of the mortality rates from all causes, as published by the United States Census Bureau for the week ending December 22, 1928, shows an excess of 3.4 per 1,000 for 65 largest cities over the corresponding week of the preceding year, the annual rate in 1927 for this week being 12.8 and that in 1928 for the same week 16.2. This is an excess of about 25 per cent in these cities over the rate for the corresponding week in 1927. Thirty-five cities show rates greater for this week than for the corresponding week in 1927; in 18 cities the rates are less.

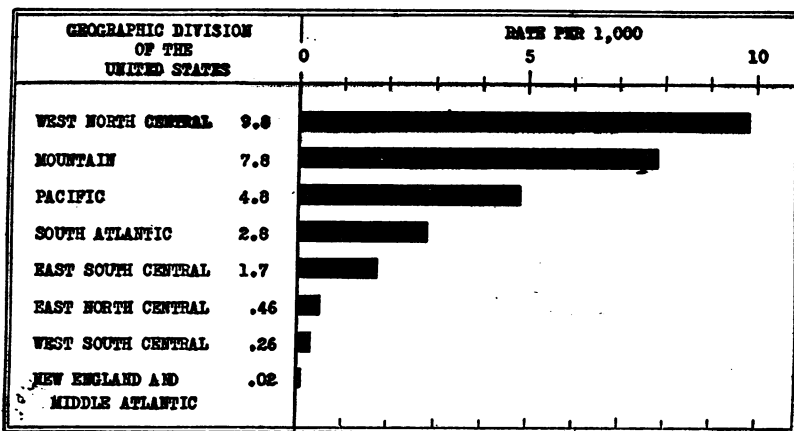


FIG. 2.—Reported cases of influenza per 1,000 population in each geographic division of the United States, October 14 to December 15, 1928. <sup>1</sup>

The following cities have an excess annual rate of 5 per 1,000 or more for the week ending December 22, 1928:

	Excess		Excess
Pittsburgh.....	14.4	Omaha.....	6.9
Kansas City, Mo.....	13.8	Spokane.....	6.7
Denver, Colo.....	12.5	Salt Lake City.....	6.6
El Paso.....	11.5	Duluth.....	6.1
Des Moines.....	11.1	Chicago.....	6.0
Grand Rapids.....	11.0	Indianapolis.....	5.9
Canton, Ohio.....	10.1	New Orleans.....	5.7
Toledo.....	8.6	Dayton.....	5.5
Minneapolis.....	8.4	Atlanta.....	5.3
Knoxville.....	8.0	Philadelphia.....	5.0

<sup>1</sup> Figures 2 and 3 are based on 33 States and 2 cities that have made weekly telegraphic reports to the Public Health Service since Jan. 1, 1925, as follows: *Pacific*—Oregon, California; *Mountain*—Montana, Wyoming, New Mexico, Arizona, Utah; *West South Central*—Arkansas, Louisiana, Oklahoma, Texas; *East South Central*—Tennessee, Alabama; *South Atlantic*—Delaware, Maryland, District of Columbia, West Virginia, South Carolina, Georgia, Florida; *West North Central*—Minnesota, Missouri, North Dakota, South Dakota, Nebraska, Kansas; *East North Central*—Indiana, Illinois, Wisconsin; *New England and Middle Atlantic*—Maine, Massachusetts, Rhode Island, Connecticut, New Jersey, and New York City.

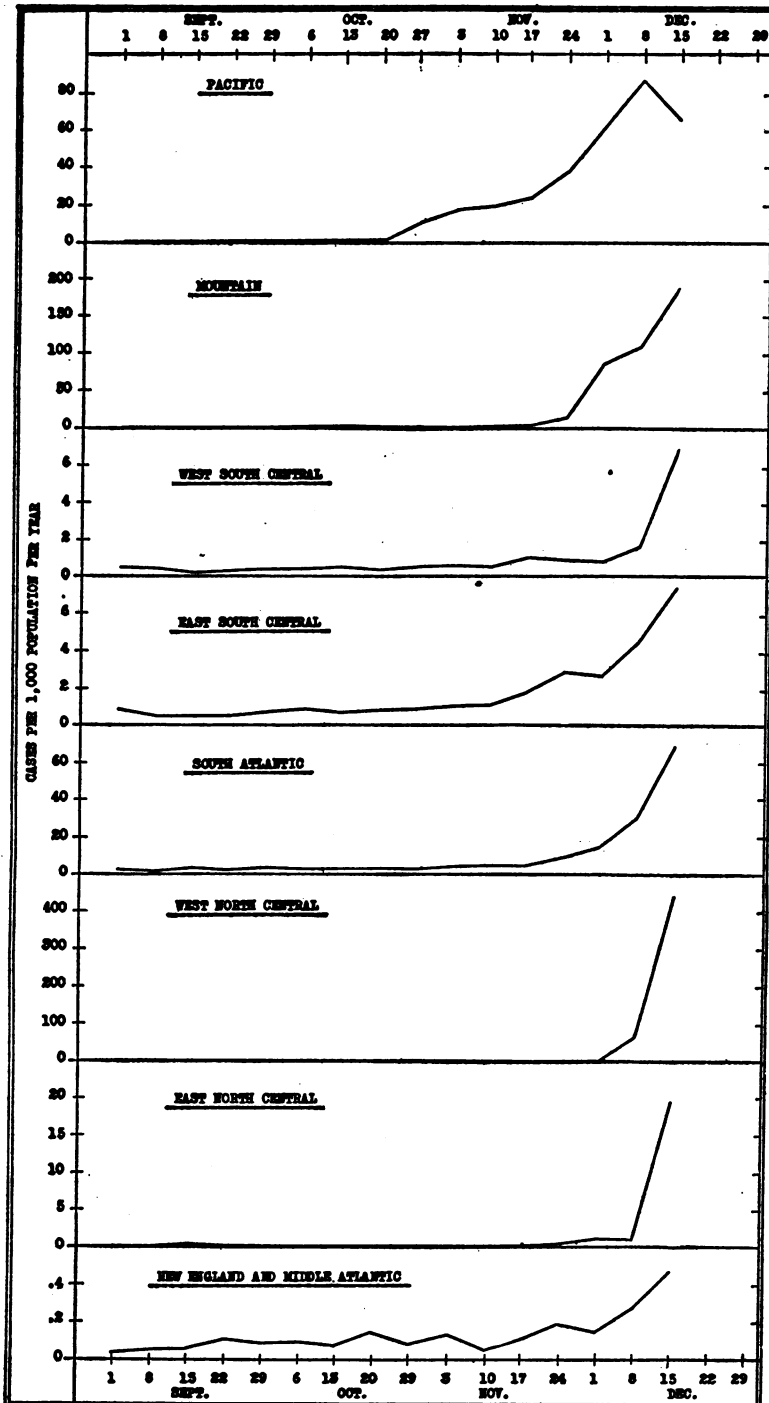


FIG. 3.—Weekly reported incidence of influenza in each geographic division of the United States, September to December, 1928.<sup>1</sup> (See note 1, page 4.)



Deaths from influenza and pneumonia in 78 large cities during eight weeks ended  
December 22, 1928—Continued

INFLUENZA DEATHS—Continued

City	Week Ended—							
	Nov. 3	Nov. 10	Nov. 17	Nov. 24	Dec. 1	Dec. 8	Dec. 15	Dec. 22
Spokane.....	0	1	0	1	0	6	8	11
Springfield, Mass.....	0	0	0	0	0	0	1	1
Syracuse.....	0	0	1	0	0	0	0	3
Tacoma.....	0	0	0	0	0	0	1	3
Toledo.....	4	0	1	4	2	5	21	27
Trenton.....	0	0	1	0	1	1	1	2
Utica.....	0	0	0	0	1	0	1	0
Washington, D. C.....	1	0	1	1	1	4	7	3
Waterbury.....	0	0	0	0	1	0	0	0
Wilmington, Del.....	0	0	0	0	0	0	0	1
Worcester.....	0	0	0	0	0	0	1	0
Yonkers.....	0	0	0	0	0	0	1	0
Youngstown.....	0	0	0	0	0	0	1	0

PNEUMONIA DEATHS

Total.....	567	587	687	791	853	1,009	1,226	1,556
Akron.....	4	3	1	4	5	8	8	65
Albany.....	5	3	3	7	8	8	4	9
Atlanta.....	6	6	4	5	10	8	14	26
Baltimore.....	15	17	24	32	25	35	37	27
Birmingham.....	6	6	6	6	10	9	9	4
Boston.....	17	12	20	22	17	24	24	36
Bridgeport.....	2	5	4	6	1	3	3	2
Buffalo.....	8	13	15	11	15	15	24	33
Cambridge.....	2	0	2	2	2	1	3	2
Camden.....	0	1	3	5	4	5	12	8
Canton.....	2	2	2	2	5	3	6	15
Chicago.....	54	38	49	71	70	85	129	179
Cincinnati.....	10	13	10	15	14	13	11	13
Cleveland.....	12	16	7	13	14	17	19	35
Columbus.....	2	6	5	4	4	6	5	12
Dallas.....	0	2	1	2	4	2	1	4
Dayton.....	2	1	9	2	0	7	3	9
Denver.....	6	6	4	9	12	22	51	28
Des Moines.....	1	1	1	0	0	4	2	25
Detroit.....	19	24	31	25	38	39	35	57
Duluth.....	0	1	2	1	1	5	1	2
El Paso.....	2	4	2	3	2	5	6	0
Erie.....	0	0	7	2	4	2	3	5
Fall River.....	1	0	1	2	0	3	1	4
Flint.....	3	6	4	5	9	11	2	4
Fort Worth.....	1	2	3	6	1	3	3	7
Grand Rapids.....	2	0	1	5	2	5	5	8
Houston.....	6	3	2	11	4	8	12	17
Indianapolis.....	6	4	11	18	14	19	33	43
Jersey City.....	6	4	11	12	6	8	12	18
Kansas City, Kans.....	1	2	5	1	5	5	31	12
Kansas City, Mo.....	9	5	3	5	15	15	29	52
Knoxville.....	2	4	3	6	1	4	1	0
Los Angeles.....	16	25	18	41	57	69	44	36
Louisville.....	10	6	10	3	7	14	10	9
Lowell.....	4	2	2	3	1	2	4	4
Lynn.....	3	1	0	1	2	0	3	2
Memphis.....	3	4	8	7	3	17	5	0
Milwaukee.....	8	8	5	3	8	8	4	22
Minneapolis.....	8	9	16	4	6	15	8	14
Nashville.....	5	6	3	2	5	10	3	0
New Bedford.....	0	1	3	1	2	4	3	1
New Haven.....	6	3	5	2	3	1	6	6
New Orleans.....	14	14	12	9	12	15	16	22
New York.....	111	137	137	150	157	173	202	212
Newark, N. J.....	8	5	7	10	8	14	10	12
Oakland.....	3	5	6	4	11	6	8	6
Oklahoma City.....	2	4	7	6	2	6	8	0
Omaha.....	2	5	7	5	7	10	34	38
Paterson.....	2	5	3	2	2	3	3	4
Philadelphia.....	25	30	46	43	54	70	83	132
Pittsburgh.....	12	17	27	27	30	16	40	95
Portland, Ore.....	4	2	7	5	3	4	11	11
Providence.....	2	4	8	3	8	7	6	7
Richmond.....	3	0	2	6	5	4	4	4

*Deaths from influenza and pneumonia in 78 large cities during eight weeks ended December 22, 1928—Continued*

PNEUMONIA DEATHS—Continued

City	Week ended—							
	Nov. 3	Nov. 10	Nov. 17	Nov. 24	Dec. 1	Dec. 8	Dec. 15	Dec. 22
Rochester.....	3	2	8	6	7	3	7	5
St. Louis.....	14	8	19	22	23	22	35	33
St. Paul.....	9	4	5	5	6	5	10	20
Salt Lake City.....	3	1	4	3	5	6	10	4
San Antonio.....	3	3	0	6	10	5	10	4
San Diego.....	3	4	3	6	5	4	8	4
San Francisco.....	11	12	8	12	19	12	18	14
Schenectady.....	0	2	2	1	1	2	2	2
Seattle.....	6	4	2	7	5	10	2	13
Somerville.....	2	1	2	1	2	2	3	1
Spokane.....	3	0	2	3	4	4	12	4
Springfield, Mass.....	4	3	0	8	5	6	3	3
Syracuse.....	3	8	7	8	7	9	4	3
Tacoma.....	3	2	1	1	1	3	6	7
Talco.....	5	2	3	6	8	8	7	17
Trenton.....	2	3	0	3	2	1	4	8
Utica.....	2	1	5	7	4	3	3	8
Washington, D. C.....	15	6	13	12	8	11	10	19
Waterbury.....	3	0	0	5	3	3	1	2
Wilmington, Del.....	2	3	3	6	0	4	3	4
Worcester.....	1	4	0	4	2	3	0	0
Yonkers.....	2	6	2	4	6	5	4	2
Youngstown.....	6	3	2	3	5	3	6	4

Blank spaces indicate that no report has been received.

**DEATHS AND DEATH RATES IN THE UNITED STATES, 1926 AND 1927**

The Department of Commerce announces that the mortality rate in 1927 for the registration area was 11.4 per 1,000 population, against 12.2 in 1926.

Of the 41 States which show for both years, all but five (Arizona, California, Colorado, Oregon, and Wyoming) had lower rates in 1927. The highest rate in 1927 (13.9) was for California, New Hampshire, and Vermont, and the lowest (7.1) was for Idaho.

Of the 11 States shown by color in 1927, the highest rate for whites (11.8 per 1,000 population) was for Maryland, and the highest for colored (21) was for Kentucky. The lowest rates for both white and colored were for Arkansas (8.4 and 12.8, respectively).

The estimated population of the area in 1927 was 108,327,000 and constituted 91.3 per cent of the total population of the United States; in 1926 the population was 105,167,000 and constituted 89.8 per cent of the total.



## Deaths from all causes (exclusive of stillbirths) and death rates per 1,000 population

Area	Deaths from all causes (exclusive of stillbirths)			
	Number		Rate per 1,000 estimated population	
	1927	1926	1927	1926
The registration area in continental United States.....	1,236,949	1,285,927	11.4	12.2
Registration States <sup>1</sup> .....	1,211,627	1,257,256	11.4	12.2
Cities in registration States <sup>1</sup> .....	621,605	649,819	12.5	13.4
Rural part of registration States.....	590,022	607,437	10.4	11.1
Registration cities in nonregistration States.....	25,322	28,671	13.9	15.2
All registration cities <sup>1</sup> .....	646,927	678,490	12.5	13.4
Alabama.....	27,032	29,692	10.6	11.8
White.....	14,273	15,416	8.6	9.4
Colored.....	12,759	14,276	14.3	16.0
Arizona.....	5,881	5,572	12.8	12.5
Arkansas.....	18,311	(?)	9.5	(?)
White.....	11,926	(?)	8.4	(?)
Colored.....	6,385	(?)	12.8	(?)
California.....	61,540	58,914	13.9	13.7
Colorado.....	13,082	12,273	12.2	11.6
Connecticut.....	16,757	13,318	10.2	11.4
Delaware.....	3,007	3,447	12.4	14.4
Florida.....	18,151	20,044	13.3	15.2
White.....	10,887	12,173	11.7	13.5
Colored.....	7,264	7,871	16.9	18.8
Idaho.....	3,787	3,871	7.1	7.4
Illinois.....	82,849	85,351	11.4	11.8
Indiana.....	37,677	40,016	12.0	12.8
Iowa.....	24,532	25,468	10.1	10.5
Kansas.....	18,582	19,190	10.2	10.5
Kentucky.....	27,209	29,952	10.7	11.9
White.....	22,786	25,145	9.8	10.9
Colored.....	4,423	4,807	21.0	22.5
Louisiana.....	23,875	24,230	12.3	12.6
White.....	11,878	12,272	9.5	10.0
Colored.....	11,997	11,958	17.4	17.2
Maine.....	10,958	11,355	13.8	14.4
Maryland.....	21,102	22,649	13.2	14.2
White.....	15,827	17,170	11.8	13.0
Colored.....	5,275	5,479	20.6	21.5
Massachusetts.....	49,285	52,638	11.6	12.5
Michigan.....	50,643	54,084	11.3	12.2
Minnesota.....	24,688	25,803	9.2	9.7
Mississippi.....	23,203	23,766	13.0	13.3
White.....	8,847	9,191	10.4	10.8
Colored.....	14,356	14,575	15.3	15.6
Missouri.....	40,753	42,752	11.6	12.2
Montana.....	5,242	5,395	7.5	7.8
Nebraska.....	12,869	12,648	8.9	9.1
New Hampshire.....	6,329	6,793	13.9	14.8
New Jersey.....	42,128	44,876	11.2	12.2
New York.....	140,899	151,345	12.3	13.4
North Carolina.....	32,917	34,562	11.4	12.1
White.....	19,844	20,957	9.7	10.4
Colored.....	13,073	13,605	15.5	16.3
North Dakota.....	5,211	5,313	8.1	8.3
Ohio.....	73,515	78,695	11.0	11.9
Oregon.....	10,206	9,857	11.5	11.2
Pennsylvania.....	111,252	120,537	11.4	12.5
Rhode Island.....	7,897	8,791	11.2	12.7
South Carolina.....	21,740	23,403	11.8	12.8
White.....	8,961	9,219	9.4	9.8
Colored.....	12,779	14,184	14.3	15.9
Tennessee.....	29,029	31,395	11.7	12.7
White.....	20,549	22,163	10.0	10.9
Colored.....	8,480	9,232	19.6	21.3
Utah.....	4,737	5,136	9.1	10.0
Vermont.....	4,882	5,215	13.9	14.8
Virginia.....	28,772	30,818	11.3	12.2
White.....	17,503	18,866	9.5	10.4
Colored.....	11,269	11,952	15.9	16.9
Washington.....	15,950	15,670	10.2	10.2
West Virginia.....	16,986	18,143	10.0	10.9
Wisconsin.....	29,567	30,191	10.1	10.5
Wyoming.....	1,976	1,902	8.2	8.1
District of Columbia.....	6,986	7,366	12.9	14.0
White.....	4,306	4,583	10.4	11.3
Colored.....	2,680	2,805	21.2	22.6

<sup>1</sup> Includes District of Columbia.<sup>2</sup> Not added to the area until 1927.

## COURT DECISIONS RELATING TO PUBLIC HEALTH

*City ordinance, prohibiting sale of milk or cream as pasteurized unless pasteurized within city, upheld.*—(New York Supreme Court, Appellate Division; Lang's Creamery, Inc., v. City of Niagara Falls et al., 231 N. Y. S. 368; decided November 9, 1928.) The milk ordinance of the city of Niagara Falls contained the following provision:

No milk or cream shall be sold or offered for sale as "pasteurized" milk or cream unless the same shall have been "pasteurized" within the limits of the city of Niagara Falls.

By a State law, every city, subject to the constitution and general laws of the State, was empowered "To \* \* \* preserve and care for the \* \* \* health \* \* \* of the inhabitants of the city and visitors thereto; and for any of said purposes to regulate and license occupations and businesses."

The sanitary code of the State department of health, in the chapter dealing with milk and cream, provided:

The health authorities of any municipality may in their discretion increase the stringency of these regulations or add to them in any way not inconsistent with the provisions hereof.

The plaintiff corporation, which owned and operated a milk and cream pasteurizing plant in the city of Buffalo, brought an action in equity and obtained in the trial court a judgment declaring the above-quoted provision requiring pasteurization within the city to be unjust, arbitrary, discriminatory, and unconstitutional, and enjoining the defendants from enforcing it. The defendants appealed, and the appellate court reversed the judgment and dismissed the complaint. In holding the said provision valid, the appellate court stated, in part, as follows:

\* \* \* The ordinance attacked does not prohibit plaintiff from selling wholesome milk within the city of Niagara Falls, nor even from selling pasteurized milk. It prevents him from selling *as pasteurized* milk which is not pasteurized within the city limits of Niagara Falls. Is this ordinance reasonable? Or is it capricious, arbitrary, and discriminatory?

The right in general of a municipality to regulate the preparation, care, custody, and delivery of milk to its inhabitants for their use is not, and can not be, disputed. That question is fully discussed in *People ex rel. Lodes v. Department of Health of City of New York*, supra. Nor should the courts unreasonably hamper governmental units in their efforts to conserve the health of their citizens. An ordinance which impedes the usual course of business, trade, or contract making, as to details which have no material bearing upon the public health, morals, or welfare in any important aspect, is unreasonable, and in restraint of trade and lawful business intercourse. But the right of the individual citizen to acquire property and utilize it, and his right to make contracts and do business freely, must always yield to appropriate governmental regulation in the interest of public health.

Whatever may be said of other methods of insuring wholesomeness in milk, pasteurization in these days concededly tends to render milk wholesome. If any person desires to sell pasteurized milk, as such, in the city of Niagara Falls, the city, in the interest of the health of its citizens and visitors, has a right to know that the pasteurization comes up to all reasonable standards of perfection. It has a right to be assured that slovenliness, unsanitation, or unscientific workmanship do not result in unwholesomeness. If a milk vendor in the city of Niagara Falls may pasteurize 100 feet outside the city limits, he may do so in the city of Syracuse, or at any far-distant point. As to milk pasteurized outside the city and shipped in for consumption, the authorities in Niagara Falls could not be assured of wholesomeness without thoroughly examining and testing the milk in every bottle or other vessel brought into the city. The only adequate way of insuring proper pasteurization outside the city would be by inspection under the control of these defendants, through scrutiny, not only of the character of the plant as to sanitation, etc., but of the work done up to and including inclosing in containers for shipment.

The argument that the city might thus inspect pasteurizing plants and charge the expense to the milk dealers is hardly reasonable; for the record does not indicate that there is any way in which the city could require milk dealers to pay such expense. The ordinance is a general one, and must be considered in its general application. It applies to dealers whose pasteurization plants are located at long distances from the city of Niagara Falls, as well as to any who may operate near to the city line.

\* \* \* \* \*

There is no validity in the claim of discrimination. [Case cited.] Every one alike is required to pasteurize within the same city. Inconvenience can not be made a basis for a claim of favoritism. If the ordinance adds to the expenses of the foreign dealer, its absence would do the same thing to these defendants.

Our conclusion is that the section of the Ordinances attacked is not discriminatory, unreasonable, or unconstitutional; that its enforcement does not unlawfully interfere with property rights nor hinder lawful trade; and that the judgment appealed from should be reversed on the law and facts, with costs, and the complaint dismissed, with costs.

*Section of bovine tuberculosis eradication law held constitutional.*—(Nebraska Supreme Court; State ex rel. Spillman, Atty. Gen., v. Wallace et al. 221 N. W. 712; decided November 10, 1928.) An original action was instituted in the supreme court, by the State on the relation of the attorney general, to enjoin the defendant cattle owners from interfering with the State department of agriculture and its agents in the performance of bovine tuberculosis eradication work. The State based its right to apply the tuberculin test to defendants' cattle on the provisions of section 10, article 2, chapter 12, Laws of 1927, which read as follows:

Where any county has been declared an area for the inspection, examination, and testing of cattle for tuberculosis under the provisions of any preexisting legislation of this State, or where, prior to the passage of this act, a systematic inspection, examination, and testing of cattle for tuberculosis has been undertaken in any county on a cooperative basis by the United States Bureau of Animal Industry and the Nebraska Department of Agriculture, and more than 5,000 cattle have been tested in such county prior to the passage of this act, the inspection, examination, and testing of cattle for tuberculosis in such county or

counties may be continued by the department under the provisions of this act without petition or hearing in all respects as if such petition had been filed and hearing had and the county declared an area hereunder.

The defendants contended that this section violated the State constitution (art. 3, sec. 18) and the Federal Constitution (14th amendment, sec. 1). Said section 18 of article 3 of the State constitution provided that "In all other cases where a general law can be made applicable, no special law shall be enacted." A referee was appointed to take evidence and to report findings of fact and conclusions of law, and such referee's report was confirmed by the supreme court. It was held that the section attacked violated no constitutional provisions, and the report of the referee stated that "under section 10, the legislature merely defines when and under what conditions the department of agriculture is vested with jurisdiction to commence or continue its work of eradication." An injunction was granted.

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## PUBLIC HEALTH ENGINEERING ABSTRACTS

**Report of Sanitary Engineering Division.** L. F. Warrick. Quarterly Progress Report, Second Quarter, 1928, State Department of Engineering, Wisconsin, July, 1928, pp. 35-39. (Abstract by L. F. Warrick.)

Public water supplies in Wisconsin are reported as being in general quite satisfactory on the basis of routine inspections made by the sanitary engineering division of the State board of health. A new water filtration plant has been completed and placed in operation at Menasha, Wis.

Sewage treatment plant operation studies have demonstrated the need of improvements in design, construction, and operation of many plants. The necessity of adequate financial provision for operation and maintenance of sewage treatment works is emphasized. Eleven chemical treatment plants and two filtration systems for cannery wastes have been placed in operation, students desiring summer employment being trained by the sanitary engineering division as operating personnel and to assist with research being conducted in cooperation with the Wisconsin and National Cannery Associations. Cooperative waste utilization and stream improvement activities of the Wisconsin pulp and paper industry are mentioned. The services of 24 chemists have been furnished by the industry in the extension of the State stream pollution survey program. Following up laboratory tests at the University of Wisconsin, experiments are being conducted on a practical operating basis at De Forest in the treatment of creamery wastes. The report concludes with a tabulation of work completed during the quarter.

**Use of Liquefied Gases for the Disinfection and Eradication of Infesting Insects.** H. Pick. Chem. obzor 3, 8-11, 40-1, 73-9 (1928). *Chemical Abstracts*, vol. 22, No. 19, October 10, 1928, pp. 3716-17. (Abstracted by Jar. Kucera.)

After a brief and comparative description of the physical, chemical, and physiological properties of liquid Cl, SO<sub>2</sub>, and HCN, the application of the first gas for sterilization of water for drinking, bathing, and sewage in Germany and North America is described and its economy and advantages are stressed. Liquid SO<sub>2</sub> is used not only for destroying bacteria, but also for killing insects and other organisms, e. g., in apartments and ships. For this

purpose  $\text{SO}_2$  becomes more and more replaced by HCN, which can be applied in the liquified state as well. It is transported either in thick-walled steel vessels or, preferably, as "cyclone." This consists of liquid HCN absorbed in a porous granular material with addition of stabilizing substances, and is transported in tin cans.

**A Statistical Summary of the Oyster Findings in the Chesapeake Bay and its Tributaries.** Abel Wolman. *Bulletin Maryland State Department of Health*, vol. 1, No. 3, April, 1928, pp. 6-15. (Abstract by A. H. Wieters.)

This paper is a summary of the results of oyster-bed investigations from March, 1925, to January, 1927, by the Maryland State Board of Health. The author points out that Chesapeake Bay receives a relatively small amount of untreated sewage compared to the dilution available and consequently Chesapeake Bay is relatively unpolluted.

Tables are given showing the results of analyses, as are plats showing the location of the beds.

The bacterial results both as regards oysters and water are expressed in terms of "score" which in turn can be reduced to "*B. coli* index."

The author concludes that the currently accepted liminary value for oyster score of 50 is not a fair basis upon which to judge the safety of oyster beds. These conclusions are based upon the fact that the findings indicate that temperature rather than sanitary conditions determine the score. He points out that in warm weather, high scores are obtained from oysters in unpolluted waters, whereas in cold weather the scores are low in highly polluted waters.

**Municipal Work in Stafford.** W. Plant. *Surveyor*, vol. 73, No. 1893, May 4, 1928, pp. 481-486. (Abstract by Rudolph E. Thompson.)

*Sewage disposal.*—The town is drained on the entirely separate system. The sewage gravitates to the outfall works, where it passes through mechanically operated coarse screens, and is then pumped to the disposal works, a distance of  $1\frac{1}{4}$  miles, where it is treated in chemical precipitation tanks and irrigated over 50 acres of land. Since 1925 a demonstration activated sludge unit has been operated to determine the effect of spent liquor from sulfate of ammonia works on the process. This waste, which constitutes 0.5 per cent of the total sewage flow, has an average 4-hour oxygen-absorption value of 750 parts per 100,000, individual samples varying from 450 to 1,500 parts. The information obtained indicated that six similar units would be required to treat the whole flow, including the spent ammonia liquor, and that four would be sufficient for the town sewage alone. The five additional units are under construction, detritus tanks being also installed to provide preliminary settlement. The surplus sludge averages about 10 per cent of the sewage flow. Installation of sludge concentration tanks will, it is believed, reduce this to 3 per cent. The sludge will be discharged into lagoons or ploughed into the land. The experimental plant reduced the 4-hour absorption value from 11.5 to about 1.2 parts per 100,000, the air requirement without preliminary settlement, being  $2\frac{1}{2}$  cubic feet per gallon. The cost of operation, exclusive of capital charges and depreciation, averaged about £9 per million gallons. For the sewage alone, without the gas liquor, the cost was £7 15s. per million gallons. With the new larger installation, permitting more effluent, employment of labor and equipment, the cost of treatment is expected to be in the neighborhood of £5 10s. per million gallons. The installation cost of the new units will be about £27,000. The d. w. f. is approximately 900,000 gallons per day, or rather more than 30 gallons per capita daily. During storms, due to inflow of surface water, the volume is increased to as much as 1.5 million gallons.

**The Pollution of Streams and Other Natural Waters of Australia.** F. F. Longley. Commonwealth of Australia, Dept. of Health, Service Publication No. 24. 85

pp. *Bulletin of Hygiene*, vol. 3, No. 4, April, 1928, p. 282. (Abstract by Guy T. P. Tatham.)

Population along the river banks is rapidly growing in Australia and it is desirable to formulate early measures to preserve the amenities of water courses which are likely to become polluted by industrial or other developments. Control at present is subject to common law and the basic rule is, in effect, that riparian proprietors must not unreasonably pollute or abstract water from the stream to the prejudice of proprietors lower down. There is bound to be some pollution as development proceeds and it is important to keep it under control from the outset; where pollution has become firmly established by long-continued custom it is very difficult to deal with, as witness the condition of many rivers in Europe and America. The importance of a pure water supply, the dangers and possible sources of pollution, and the difficulties of control are lucidly set forth in an educative pamphlet with six appendices giving reference to work in England and America, where the problem presented itself at an earlier date. The regular records which should be made of the condition of natural waters, the necessary laboratory and other staff, and a code of rules which should be given legal force are suggested.

**Activated Sludge Purification Plant at Worcester Sewage Disposal Works.** T. Caink. *Surveyor*, vol. 73, No. 1893, May 4, 1928, pp. 495-496. (Abstract by R. E. Tarbett.)

The city of Worcester is sewered largely on the combined plant. The works are designed to purify a d. w. f. of 2 m. g. d., or three times that quantity when diluted with rain water, and to treat upon storm water filters or by settlement on additional 6 m. g. d. The plant consists of screens, a pumping well providing one and one-half hours settlement, aeration tanks, settlement tanks, and sludge reaeration tanks. The air consumed varies from 1.25 to 1.6 cubic feet per gallon d. w. f., delivered under pressure of 12.5 pounds per square inch. The proportion of sludge in the aeration tanks is maintained at about 15 per cent, the excess being conveyed to prepared drying beds covering a total area of about 5 acres. The covering of sludge drying beds is advocated by the author.

**The Diurnal Variation of the Gaseous Constituents of River Waters.** R. W. Butcher, F. T. K. Pentelaw, and J. W. A. Woodley. *Biochem. J.* 1927, v. 21, 945-57. *Bulletin of Hygiene*, vol. 3, No. 5, May, 1928, pp. 431-433. (Abstract by William L. Havens.)

The authors summarize their results as follows: (1) During the day photosynthesis by plants causes assimilation of carbon dioxide and liberation of oxygen, while decay of organic matter produces ammonia, which is removed by the high concentration of oxygen, and (2) during the night photosynthetic production of oxygen ceases and ammonia produced by organic matter is not removed. Animal and plant respiration continues taking up oxygen and producing carbon dioxide.

**The Diurnal Variation of the Gaseous Constituents of River Waters.** R. W. Butcher, F. T. K. Pentelaw and J. W. A. Woodley. *Biochem. J.* 1927, v. 21, 1923-35. *Bulletin of Hygiene*, vol. 3, No. 5, May, 1928, pp. 433-434. (Abstract by William L. Havens.)

The authors give further results of tests and studies in the diurnal variation of dissolved gases in small rivers. Tables and graphs are given showing values of oxygen and nitrogen, together with the types of plants and their relative dominance.

**Sewage Sludge as a Fertilizer.** Jack W. Jareo. *The American City*, vol. 39, No. 2, August, 1928, pp. 111-112. (Abstract by J. B. Harrington.)

The sewage disposal plant at Madison, Wis., consists of six Imhoff tanks, two sets of primary and secondary sedimentation tanks, a colloidal settling tank,

and a sludge digestion tank. Between three and four hours are required for the sewage to complete its course through the sewage disposal plant. After six months' digestion in the tanks the sludge is pumped to the sludge-drying beds, where it remains from one to three weeks and is then sold as fertilizer.

Experiments to determine the value of the sewage sludge have been made at the Madison plant for a number of years by Dr. Bernard P. Domogalla, with the following results: The sludge in its marketable form is odorless and has the appearance of dried peat. The present sludge output of the plant is 5 cubic yards per day, which is being sold at 50 cents per cubic yard. Experiments by Doctor Domogalla place the value of the sludge at \$6.25 per cubic yard, based on the nitrogen, phosphorus, and potash content. The sludge contains about 50 per cent organic matter and therefore has a further value for conditioning soil. The analyses for the year show the sludge to average  $2\frac{1}{2}$  to  $3\frac{1}{2}$  per cent nitrogen, 2 to 3 per cent phosphorus, and one-tenth to five-tenths per cent potassium. During the year a number of field tests conducted to determine the value of sludge as a fertilizer in comparison with other fertilizers. These tests show that Madison sludge is equal to if not better than the commonly used fertilizers. Corn, tobacco, celery, potatoes, etc., showed marked increases in the yield when sludge was used.

**Sewage Works Designed to Meet Needs of Automobile Town.** Walter R. Drury. *Engineering News-Record*, vol. 101, No. 10, September 6, 1928, pp. 357-358. (Abstract by C. K. Calvert.)

The sewage of Flint, Mich., contains at times considerable oil, but aside from this is strong domestic sewage from a town served with separate sewer system. A connected population of 120,000 delivers  $10\frac{1}{2}$  m. g. d. The sewage contains 250 p. p. m. suspended solids and the 5-day b. o. d. is 290 p. p. m.

Downward opening 12 by 12 inch sluice gates are provided in the Imhoff tanks for the removal of oil to sludge pits. The design of Imhoff tanks is unusual, being built radially from a center feeding compartment. A detention period of three hours is provided with a sludge capacity of 2.75 cubic feet per capita. Gas vent area is  $2\frac{1}{2}$  per cent of total tank area. The sludge compartments near the center collect the heavier solids, which are pumped to the outside compartments at intervals.

The radial design is said to guarantee uniformity of flow in each tank, to obviate necessity for reversal of flow, and by gradually reducing the velocity results in the sedimentation of finer particles. A sludge-drying area of 0.75 square foot per capita is provided. The plant is designed so that its size may be doubled and trickling filters added without interruption of plant operation.

The article is quite condensed and includes a layout of the plant.

**Fourth Sewage Works Completed at Madison, Wis.** Anon. *Engineering News-Record*, vol. 100, No. 19, May 10, 1928, pp. 741-742. (Abstract by G. H. Hazlehurst.)

The Nine Springs plant, located south of the city, comprises: (1) Grit chamber and grease extractor, (2) Imhoff tanks, (3) dosing chambers, (4) sprinkling filters, (5) chlorination, (6) secondary sedimentation, (7) sludge beds, (8) sludge pumping station, also office and chemical laboratory. Sewage comes to the plant through a 30-inch cast-iron force main  $3\frac{1}{2}$  miles long, from the Greenbush pumping station. The plant effluent flows through a concrete outfall sewer  $4\frac{1}{2}$  by 3 feet and 1,500 feet long to a drainage ditch discharging into the Yahara River just above Lake Waubesa. Later this sewer will be extended 6,800 feet to the river.

Although the city has the separate sewer system, the sewers receive considerable grit from street inlets and roof drains, so that a grit chamber is needed to keep this material out of the sewage works. This chamber is so designed that

grease and floating scum can be removed by raising the head by means of a butterfly valve, partly closing the outlet. Two hopper-bottom channels with baffles give a detention period of  $5\frac{3}{4}$  minutes. Grit removed with a clamshell bucket will be placed on an 18-inch coke drying bed with tile underdrains. Six 2-hopper Imhoff tanks, designed for reversible flow, give a capacity of 5 m. g. d. for raw sewage, with a detention period of  $2\frac{1}{2}$  hours. The sludge storage is 2.75 cubic feet per capita for 40,000 population; the gas vent area is 24 per cent of the total tank area. Skimming compartments at one end of each gas vent permit the scum to be flushed into the sludge channel beneath the influent and effluent channels. To equalize flow to the tanks, each tank has an inlet valve and Venturi meter, so that the flow can be checked at various heads.

A diversion manhole with weir chamber insures uniform flow to the twin dosing tanks, each of which has a capacity of 26,000 gallons, or 15-minute flow, discharging through a 24-inch automatic siphon in  $5\frac{1}{2}$  minutes to the sprinkling filters. The two filters, 272 by 178 feet each, are 10 feet deep, filled with crushed dolomite limestone. At the bottom is a 12-inch layer of 3 to 5 inch stone, then 7 feet of  $1\frac{1}{2}$  to 3 inch stone, and 2 feet of  $\frac{1}{2}$  to 1 inch. The maximum effective head on the nozzles is 8.6 feet. There are 286 nozzles on each filter, spaced 14 feet center to center. The principal distribution main supplies a series of laterals, each of which carries 13 nozzles and is provided with a shut-off valve and a blow-off valve which discharges into the effluent channels in the pipe gallery.

A chlorination unit for use in summer or during the bathing season will be placed between the filters and the clarifiers, which give a 1-hour detention period. The final treatment is the secondary sedimentation in two Dorr clarifiers, from which the sludge will be pumped to the sludge compartments of the Imhoff tanks. Sludge beds having  $2\frac{1}{2}$  feet of gravel covered with 6 inches of sand and having tile underdrains have an area of 1 acre, or 1 square foot per capita. Concrete planks and posts divide them into 20-foot sections, each with industrial track for sludge removal.

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## DEATHS DURING WEEK ENDED DECEMBER 22, 1928

*Summary of information received by telegraph from industrial insurance companies for the week ended December 22, 1928, and corresponding week of 1927. (From the Weekly Health Index, December 28, 1928, issued by the Bureau of the Census, Department of Commerce)*

	Week ended Dec. 22, 1928	Corresponding week, 1927
Policies in force.....	72, 917, 294	69, 620, 546
Number of death claims.....	14, 536	12, 481
Death claims per 1,000 policies in force, annual rate..	10. 4	9. 3



Deaths from all causes in certain large cities of the United States during the week ended December 22, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, December 28, 1928, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Dec. 22, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Dec. 22, 1928 <sup>2</sup>
	Total deaths	Death rate <sup>1</sup>		Week ended Dec. 22, 1928	Corresponding week, 1927	
Total (65 cities).....	9,205	16.2	12.8	820	737	169
Akron.....	146			12	6	128
Albany <sup>4</sup> .....	40	17.4	19.2	2	3	42
Atlanta.....	120	24.6	19.3	13	9	.....
White.....	69		16.7	8	4	.....
Colored.....	51	( <sup>5</sup> )	25.4	5	5	.....
Baltimore <sup>4</sup> .....	252	15.9	14.5	23	30	74
White.....	183		13.1	10	26	40
Colored.....	69	( <sup>5</sup> )	22.5	13	4	202
Birmingham.....	67	15.8	15.8	11	11	94
White.....	26		11.0	4	3	55
Colored.....	41	( <sup>5</sup> )	23.4	7	8	157
Boston.....	183	12.0	13.3	17	20	47
Bridgeport.....	25			4	2	67
Buffalo.....	156	14.7	13.0	9	15	39
Cambridge.....	26	10.8	14.3	3	2	54
Camden.....	36	13.9	12.5	9	4	144
Canton.....	40	17.9	7.8	4	1	93
Chicago <sup>4</sup> .....	1,114	18.4	12.4	100	71	86
Cincinnati.....	161			17	14	101
Cleveland.....	227	11.7	10.6	17	19	46
Columbus.....	81	14.2	15.0	7	5	65
Dallas.....	67	16.1	13.6	8	6	.....
White.....	52		13.0	6	5	.....
Colored.....	15	( <sup>5</sup> )	17.1	2	1	.....
Dayton.....	60	17.0	11.5	6	2	95
Denver.....	169	30.0	17.5	12	9	.....
Des Moines.....	66	22.7	11.6	4	2	71
Detroit.....	371	14.1	10.5	55	45	86
Duluth.....	36	16.1	10.0	0	2	0
El Paso.....	57	25.3	13.8	13	1	.....
Erie.....	30			3	2	64
Fall River <sup>4</sup> .....	23	9.0	7.5	4	3	73
Flint.....	27	9.5	10.6	6	7	78
Fort Worth.....	34	10.4	10.8	3	2	.....
White.....	23		9.1	2	1	.....
Colored.....	11	( <sup>5</sup> )	23.9	1	1	.....
Grand Rapids.....	60	19.1	8.1	8	3	116
Houston.....	70			10	10	.....
White.....	54			9	8	.....
Colored.....	16	( <sup>5</sup> )		1	2	.....
Indianapolis.....	154	21.1	15.2	12	5	93
White.....	133		14.2	10	5	90
Colored.....	21	( <sup>5</sup> )	22.1	2	0	111
Jersey City.....	81	13.0	13.5	14	13	109
Kansas City, Kans.....	48	21.2	18.6	4	4	89
White.....	37		16.8	4	4	101
Colored.....	11	( <sup>5</sup> )	27.1	0	0	0
Kansas City, Mo.....	206	27.5	13.7	19	10	154
Knoxville.....	43	21.3	13.3	6	7	131
White.....	37		13.3	5	7	122
Colored.....	6	( <sup>5</sup> )	12.8	1	0	212
Los Angeles.....	373			21	19	60
Louisville.....	87	13.8	13.7	2	1	16
White.....	76		12.7	2	1	19
Colored.....	11	( <sup>5</sup> )	19.2	0	0	0
Lowell.....	29			5	2	109
Lynn.....	22	10.9	13.4	3	2	82
Memphis.....	74	20.3	23.3	9	7	106
White.....	35		14.4	4	2	76
Colored.....	39	( <sup>5</sup> )	39.5	5	5	157

<sup>1</sup> Annual rate per 1,000 population.

<sup>2</sup> Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

<sup>3</sup> Data for 69 cities.

<sup>4</sup> Deaths for week ended Friday.

<sup>5</sup> In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 28; Richmond, 32; and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended December 22, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, December 28, 1928, issued by the Bureau of the Census, Department of Commerce)—Contd.

City	Week ended Dec. 22, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Dec. 22, 1928
	Total deaths	Death rate		Week ended Dec. 22, 1928	Corresponding week, 1927	
Milwaukee.....	151	14.5	11.3	16	14	72
Minneapolis.....	147	16.9	8.5	11	8	67
Nashville.....	57	21.3	18.2	7	7	117
White.....	27		12.1	6	3	135
Colored.....	30	( <sup>5</sup> )	33.5	1	4	65
New Bedford.....	25			3	2	64
New Haven.....	53	14.7	12.1	2	5	29
New Orleans.....	216	26.3	20.6	19	20	95
White.....	149		15.4	14	11	104
Colored.....	67	( <sup>5</sup> )	35.5	5	9	76
New York.....	1,597	13.9	11.7	125	135	51
Bronx Borough.....	214	11.8	10.0	19	14	57
Brooklyn Borough.....	518	11.7	10.7	39	52	39
Manhattan Borough.....	648	19.3	15.7	50	56	60
Queens Borough.....	162	9.9	7.3	14	7	57
Richmond Borough.....	55	19.1	12.4	3	6	53
Newark, N. J.....	100	11.0	11.6	11	4	57
Oakland.....	77	14.7	10.9	5	6	54
Omaha.....	75	17.6	10.7	4	4	47
Paterson.....	40	14.4	13.8	4	1	70
Philadelphia.....	696	17.6	12.6	57	66	77
Pittsburgh.....	366	28.4	14.0	24	21	81
Portland, Oreg.....	100			4	0	44
Providence.....	87	15.9	13.8	8	5	69
Richmond.....	49	13.2	16.2	7	4	96
White.....	30		10.7	4	2	85
Colored.....	19	( <sup>5</sup> )	30.0	3	2	117
Rochester.....	78	12.4	15.4	9	12	73
St. Louis.....	262	16.2	13.0	27	27	91
St. Paul.....	70			6	4	87
Salt Lake City <sup>4</sup> .....	52	19.7	13.1	2	3	32
San Antonio.....	73	17.5	14.3	8	11	
San Diego.....	55	21.0	23.1	3	3	57
San Francisco.....	197	17.6	16.9	6	8	38
Schenectady.....	27	15.1	11.7	1	4	31
Seattle.....	98	13.4	10.4	3	1	32
Somerville.....	20	10.2	5.6	5	1	141
Spokane.....	43	20.6	13.9	2	0	52
Springfield, Mass.....	27	9.4	11.3	1	7	17
Syracuse.....	50	13.1	16.4	4	5	49
Tacoma.....	33	15.6	13.1	1	2	26
Toledo.....	134	22.4	13.8	15	5	144
Trenton.....	42	15.8	16.0	7	7	120
Utica.....	30	15.1	14.6	1	2	24
Washington, D. C.....	147	13.9	12.5	12	9	69
White.....	96		10.1	6	4	51
Colored.....	51	( <sup>5</sup> )	19.5	6	5	111
Waterbury.....	19			2	1	50
Wilmington, Del.....	29	11.8	12.8	4	0	99
Worcester.....	46	12.2	12.2	4	2	49
Yonkers.....	24	10.8	12.6	2	7	45

<sup>4</sup> Deaths for week ended Friday.

<sup>5</sup> In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 33; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

# 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 December 22, 1928, and December 24, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 22, 1928, and December 24, 1927

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927
<b>New England States:</b>								
Maine.....	3	12	46	6	203	72	0	0
New Hampshire.....	3				27	6	0	0
Vermont.....	3		3		12		0	0
Massachusetts.....	106	138	73	11	617	535	1	4
Rhode Island.....	17	31	14		49	10	0	0
Connecticut.....	34	41	144	15	226	35	3	0
<b>Middle Atlantic States:</b>								
New York.....	242	380	1,271	121	823	318	21	4
New Jersey.....	114	133	219	7	83	54	6	2
Pennsylvania.....	135	166			433	256	1	3
<b>East North Central States:</b>								
Ohio.....	63	77	1,872	10	170	109	3	1
Indiana.....	30	35	1,716	19	114	42	0	0
Illinois.....	160	219	2,408	43	311	33	10	9
Michigan.....	78	73	5,777	6	64	174	4	1
Wisconsin.....	36	49	14,724	70	162	106	3	1
<b>West North Central States:</b>								
Minnesota.....	31	17	1,749	1	121	3	1	1
Iowa.....	11	22	285,000			6	0	0
Missouri <sup>1</sup> .....	51	51	1,184	4	28	18	0	3
North Dakota.....	6	6	21,346		5	5	3	0
South Dakota.....		1	103	2	10	13	0	1
Nebraska.....	16	20	1,704	2	24	2	0	0
Kansas.....	28	31	17,617	8	16	24	4	1
<b>South Atlantic States:</b>								
Delaware.....	1	4	10			2	0	0
Maryland.....	54	38	627	23	37	105	1	0
District of Columbia.....	14	12	187	1		2	0	0
Virginia.....			240,000					
West Virginia.....	21	26	2,642	14	77	48	0	0
North Carolina.....	71				26		2	1
South Carolina.....	26	25	9,662	339	29	520	0	0
Georgia.....	16	15	6,852	86	84	63	1	1
Florida.....	14	14	228	4	5	5	0	2
<b>South Central States:</b>								
Kentucky.....	17		10,100				0	
Tennessee.....	13	11	4,101	49		55	0	0
Alabama.....	66	18	1,518	49	212	43	1	0
Mississippi.....	22	25	2,689					

<sup>1</sup> New York City only.  
<sup>2</sup> Estimated.

<sup>3</sup> Figures for 1928 are exclusive of Kansas City.  
<sup>4</sup> Week ended Friday.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 22, 1928, and December 24, 1927—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927
<b>West South Central States:</b>								
Arkansas.....	23	33	1,145	61	76	16	3	0
Louisiana.....	10	57	121	30	170	53	3	0
Oklahoma <sup>6</sup> .....	39	37	3,574	80	3	31	1	2
Texas.....	56	104	992	83	15	55	1	0
<b>Mountain States:</b>								
Montana.....	12	2	4,031	-----	53	1	10	1
Idaho.....	3	5	11	-----	-----	1	0	1
Wyoming.....	1	-----	320	-----	-----	-----	0	2
Colorado.....	-----	21	-----	1	-----	16	-----	1
New Mexico.....	24	5	1,161	1	2	25	1	0
Arizona.....	4	3	933	-----	3	2	0	0
Utah <sup>4</sup> .....	1	7	63	-----	1	2	5	0
<b>Pacific States:</b>								
Washington.....	5	11	766	-----	37	138	4	5
Oregon.....	11	11	1,605	18	41	7	3	2
California.....	72	114	2,708	13	18	17	14	0
Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927
<b>New England States:</b>								
Maine.....	0	2	43	36	2	0	1	15
New Hampshire.....	1	0	11	2	0	0	0	0
Vermont.....	0	0	5	6	0	0	0	0
Massachusetts.....	2	11	202	227	0	0	2	6
Rhode Island.....	0	0	24	38	0	0	0	1
Connecticut.....	0	0	52	65	1	0	0	2
<b>Middle Atlantic States:</b>								
New York.....	5	5	386	382	0	10	11	17
New Jersey.....	0	1	115	106	0	2	5	4
Pennsylvania.....	3	4	234	289	0	0	10	10
<b>East North Central States:</b>								
Ohio.....	0	3	183	165	14	15	2	12
Indiana.....	0	1	76	45	43	48	5	3
Illinois.....	0	3	313	267	46	12	13	18
Michigan.....	0	5	0	140	46	27	2	7
Wisconsin.....	2	0	183	144	28	30	2	1
<b>West North Central States:</b>								
Minnesota.....	0	1	154	135	3	2	0	1
Iowa.....	0	3	82	60	42	100	2	3
Missouri <sup>3</sup> .....	0	2	43	104	20	41	1	8
North Dakota.....	2	1	12	53	3	0	0	0
South Dakota.....	0	2	10	54	7	1	0	1
Nebraska.....	0	1	41	28	26	6	1	3
Kansas.....	0	1	90	145	12	30	2	10
<b>South Atlantic States:</b>								
Delaware.....	0	0	5	4	0	0	0	0
Maryland <sup>4</sup> .....	1	0	70	26	0	0	3	9
District of Columbia.....	0	0	20	27	0	0	2	0
Virginia.....	-----	-----	-----	-----	-----	-----	-----	-----
West Virginia.....	5	0	57	53	18	23	18	19
North Carolina.....	0	1	74	0	5	0	1	0
South Carolina.....	0	3	14	20	0	3	10	13
Georgia.....	1	0	20	10	0	0	5	15
Florida.....	0	0	12	8	0	2	1	1
<b>East South Central States:</b>								
Kentucky.....	0	-----	46	-----	5	-----	5	-----
Tennessee.....	0	0	27	16	3	3	7	10
Alabama.....	2	1	49	16	1	4	20	6
Mississippi.....	0	0	12	14	2	0	4	1

<sup>3</sup> Figures for 1928 are exclusive of Kansas City.

<sup>4</sup> Week ended Friday.

<sup>5</sup> Exclusive of Orleans Parish.

<sup>6</sup> Figures for 1928 are exclusive of Oklahoma City and Tulsa and for 1927 are exclusive of Tulsa.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 22, 1928, and December 24, 1927—Continued*

Division and State	Polio-myelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927	Week ended Dec. 22, 1928	Week ended Dec. 24, 1927
<b>West South Central States:</b>								
Arkansas.....	0	0	30	22	5	1	4	9
Louisiana.....	2	1	14	16	22	0	2	9
Oklahoma <sup>1</sup> .....	0	0	31	27	37	54	13	11
Texas.....	0	6	60	93	26	7	5	26
<b>Mountain States:</b>								
Montana.....	0	1	29	13	11	16	0	0
Idaho.....	0	0	1	9	14	1	0	1
Wyoming.....	0	0	15	15	1	3	0	0
Colorado.....	1	1	94	94	12	12	5	5
New Mexico.....	0	2	11	15	1	0	3	0
Arizona.....	0	1	6	3	6	2	0	0
Utah <sup>4</sup> .....	0	0	17	6	6	18	0	0
<b>Pacific States:</b>								
Washington.....	4	7	43	50	14	23	1	2
Oregon.....	0	10	23	22	27	34	1	3
California.....	4	7	159	132	14	11	4	10

<sup>4</sup> Week ended Friday.

<sup>5</sup> Exclusive of Orleans Parish.

<sup>6</sup> Figures for 1928 are exclusive of Oklahoma City and Tulsa and for 1927 are exclusive of Tulsa.

### SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Men- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>October, 1928</i>										
Delaware.....	0	6		1	7		1	12	0	21
<i>November, 1928</i>										
Delaware.....	0	4			9		1	17	0	9
Louisiana.....	0	127	97	172	169	32	1	110	53	53
Maryland.....	1	171	53		137	1	6	224	0	54
Minnesota.....	9	132	3		53		24	472	8	9
New York.....	81	842		6	1,935		41	1,124	1	162

<i>October, 1928</i>		<i>November, 1928—Continued</i>	
Delaware:	Cases	Dysentery:	Cases
Chicken pox.....	3	Louisiana.....	2
Mumps.....	3	Maryland.....	5
Whooping cough.....	28	Maryland (amebic).....	1
		New York.....	11
<i>November, 1928</i>		German measles:	
Anthrax:		New York.....	79
Louisiana.....	1	Hookworm disease:	
Chicken pox:		Louisiana.....	18
Delaware.....	7	Impetigo contagiosa:	
Louisiana.....	14	Maryland.....	14
Maryland.....	436	Leprosy:	
Minnesota.....	1,517	Louisiana.....	1
New York.....	2,254		

November, 1928—Continued

November, 1928—Continued

November, 1928—Continued		November, 1928—Continued	
Lethargic encephalitis:	Cases	Tetanus:	Cases
Louisiana.....	2	Louisiana.....	5
New York.....	11	Maryland.....	4
Mumps:		New York.....	4
Delaware.....	7	Trachoma:	
Louisiana.....	2	Maryland.....	1
Maryland.....	125	New York.....	1
New York.....	757	Tularaemia:	
Ophthalmia neonatorum:		Minnesota.....	1
Louisiana.....	1	Undulant fever:	
New York.....	3	Minnesota.....	2
Paratyphoid fever:		New York.....	3
New York.....	3	Vincent's angina:	
Puerperal fever:		Maryland.....	11
New York.....	19	New York.....	85
Rabies in animals:		Whooping cough:	
Maryland.....	1	Delaware.....	20
Minnesota.....	1	Louisiana.....	11
New York.....	21	Maryland.....	289
Septic sore throat:		Minnesota.....	264
Louisiana.....	6	New York.....	1,269
Maryland.....	10		
New York.....	6		

**GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES**

The 97 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,850,000. The estimated population of the 92 cities reporting deaths is more than 30,445,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

*Weeks ended December 15, 1928, and December 17, 1927*

	1928	1927	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
45 States.....	2,213	2,402	
97 cities.....	941	1,206	1,209
Measles:			
44 States.....	4,720	4,912	
97 cities.....	1,087	1,464	
Poliomyelitis, 43 States.....	32	109	
Scarlet fever:			
45 States.....	4,103	3,834	
97 cities.....	1,185	1,236	1,188
Smallpox:			
45 States.....	676	806	
97 cities.....	45	112	53
Typhoid fever:			
45 States.....	233	379	
97 cities.....	29	44	52
<i>Deaths reported</i>			
Influenza and pneumonia, 92 cities.....	1,586	755	
Smallpox, 92 cities.....	0	0	

## City reports for week ended December 15, 1928

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1919 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population July 1, 1928, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Meas-les, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated ex-pectancy	Cases re-ported	Cases re-ported	Deaths re-ported			
<b>NEW ENGLAND</b>									
<b>Maine:</b>									
Portland	76,400	8	2	0	4	0	43	1	2
<b>New Hampshire:</b>									
Concord	22,546	0	0	0	0	0	0	0	0
Manchester	84,000	0	3	0	0	1	0	0	2
<b>Vermont:</b>									
Barre	10,008	0	0	0	0	0	0	7	0
<b>Massachusetts:</b>									
Boston	787,000	129	56	49	11	2	10	17	24
Fall River	131,000	4	5	3	0	0	117	1	1
Springfield	145,000	18	5	11	1	0	172	0	1
Worcester	193,000	21	6	8	4	0	4	1	0
<b>Rhode Island:</b>									
Pawtucket	71,000		2						
Providence	275,000	0	12	9	1	0	8	0	6
<b>Connecticut:</b>									
Bridgeport	(?)	4	9	3	1	0	5	2	3
Hartford	164,000	7	8	8	0	0	1	10	2
New Haven	182,000	47	3	2	5	2	2	1	6
<b>MIDDLE ATLANTIC</b>									
<b>New York:</b>									
Buffalo	544,000	39	25	11	16	1	2	1	24
New York	5,924,000	298	203	163	68	16	97	48	202
Rochester	321,000	18	12	6	4	0	14	22	6
Syracuse	185,000	27	5	2		0	3	5	4
<b>New Jersey:</b>									
Camden	131,000	11	6	6	7	4	0	2	12
Newark	459,000	64	17	42	12	2	5	27	12
Trenton	134,000	3	6	3	8	0	0	0	4
<b>Pennsylvania:</b>									
Philadelphia	2,008,000	125	85	34	117	16	6	4	83
Pittsburgh	637,000	99	31	16		17	34	12	40
Reading	114,000	31	5	2		0	25	2	2
<b>EAST NORTH CENTRAL</b>									
<b>Ohio:</b>									
Cincinnati	411,000	31	16	17	31	6	0	2	12
Cleveland	960,000	214	53	36	469	2	105	9	19
Columbus	285,000	25	11	6	38	0	1	0	5
Toledo	295,000	133	15	5	42	21	3	2	8
<b>Indiana:</b>									
Fort Wayne	99,900	8	6	3		0	0	0	0
Indianapolis	367,000	120	13	4		6	3	4	33
South Bend	81,700	5	1	4		0	0	0	3
Terre Haute	71,900	1	2	0	69	2	0	0	1
<b>Illinois:</b>									
Chicago	3,048,000	202	95	175	1,428	33	48	9	129
Springfield	64,700	1	2	0	2	1	0	0	0

<sup>1</sup> Estimated, July 1, 1925.

<sup>2</sup> No estimate made.

## City reports for week ended December 15, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	Chicken por, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
<b>EAST NORTH CENTRAL—continued</b>									
<b>Michigan:</b>									
Detroit.....	1,242,044	210	73	56	57	4	7	29	35
Flint.....	136,000	37	9	0	0	0	0	1	2
Grand Rapids.....	156,000	10	5	1	1	11	6	0	5
<b>Wisconsin:</b>									
Kenosha.....	52,700	12	1	0	33	0	4	0	1
Milwaukee.....	517,000	208	29	9	42	3	121	22	13
Racine.....	69,400	16	4	6	1	0	2	0	0
Superior.....	139,671	0	1	2	0	0	0	0	3
<b>WEST NORTH CENTRAL</b>									
<b>Minnesota:</b>									
Duluth.....	113,000	7	1	0	72	5	0	23	1
Minneapolis.....	434,000	282	26	4	2	2	60	35	8
St. Paul.....	248,000	68	17	5	2	2	1	23	12
<b>Iowa:</b>									
Davenport.....	152,469	0	1	0	919	2	0	0	0
Des Moines.....	146,000	0	5	1	0	0	0	0	0
Sioux City.....	78,000	13	3	0	0	0	0	3	0
Waterloo.....	36,900	10	0	1	3	1	1	50	0
<b>Missouri:</b>									
Kansas City.....	375,000	39	13	2	50	35	50	1	29
St. Joseph.....	78,400	10	2	3	1,557	0	0	0	5
St. Louis.....	830,000	73	47	48	23	0	9	7	0
<b>North Dakota:</b>									
Fargo.....	126,403	5	0	0	0	0	0	0	0
Grand Forks.....	114,811	0	0	0	62	0	0	0	0
<b>South Dakota:</b>									
Aberdeen.....	115,036	2	0	0	0	0	0	0	0
Sioux Falls.....	130,127	0	1	0	0	0	0	0	0
<b>Nebraska:</b>									
Lincoln.....	62,000	10	0	0	95	0	1	0	0
Omaha.....	216,000	1	5	10	0	0	0	0	34
<b>Kansas:</b>									
Topeka.....	56,500	30	3	0	0	6	18	0	6
Wichita.....	92,500	2	6	3	0	7	0	0	9
<b>SOUTH ATLANTIC</b>									
<b>Delaware:</b>									
Wilmington.....	124,000	1	3	0	2	0	26	0	3
<b>Maryland:</b>									
Baltimore.....	808,000	150	39	13	53	6	4	76	37
Cumberland.....	133,741	1	1	0	6	0	10	0	2
Frederick.....	112,035	0	0	0	11	0	0	0	1
<b>District of Columbia:</b>									
Washington.....	528,000	28	20	19	29	7	1	0	10
<b>Virginia:</b>									
Lynchburg.....	138,493	6	3	5	0	0	0	6	2
Norfolk.....	174,000	8	3	1	74	1	1	5	4
Richmond.....	189,000	0	11	11	157	3	0	2	5
Roanoke.....	61,900	9	3	3	0	6	1	0	0
<b>West Virginia:</b>									
Charleston.....	50,700	7	2	2	40	14	1	0	13
Wheeling.....	156,208	3	2	0	3	0	3	56	0
<b>North Carolina:</b>									
Raleigh.....	130,371	1	1	3	0	0	0	0	4
Wilmington.....	37,700	5	1	2	0	0	0	0	7
Winston-Salem.....	71,800	4	2	4	2	2	0	2	11
<b>South Carolina:</b>									
Charleston.....	74,100	1	1	0	1,082	4	0	0	10
Columbia.....	41,800	2	1	0	0	0	0	1	6
Greenville.....	127,311	0	0	0	0	0	1	1	0
<b>Georgia:</b>									
Atlanta.....	( <sup>2</sup> )	1	5	1	1,314	10	0	0	14
Brunswick.....	116,809	0	0	0	0	0	0	0	0
Savannah.....	94,900	0	2	3	372	1	0	0	4
<b>Florida:</b>									
Miami.....	131,286	0	2	1	8	0	2	0	2
St. Petersburg.....	47,629	0	0	0	7	1	0	0	1
Tampa.....	102,000	0	2	2	13	0	0	0	2

<sup>1</sup> Estimated, July 1, 1925.<sup>2</sup> No estimate made.<sup>3</sup> Special census.



## City reports for week ended December 15, 1928—Continued

Division, State, and city	Population July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
<b>EAST SOUTH CENTRAL</b>									
<b>Kentucky:</b>									
Covington.....	58,500	0	1	1		1	0	0	6
Louisville.....	311,000		9						
<b>Tennessee:</b>									
Memphis.....	177,000	9	7	6	105	2	0	0	5
Nashville.....	137,000	2	3	3		2	0	0	3
<b>Alabama:</b>									
Birmingham.....	211,000	12	6	3	22	4	0	3	9
Mobile.....	66,800	0	1	1	2	4	0	1	3
Montgomery.....	47,000	10	2	0	17		0	0	
<b>WEST SOUTH CENTRAL</b>									
<b>Arkansas:</b>									
Fort Smith.....	<sup>1</sup> 31,643	4	2	2			0	0	
Little Rock.....	75,900	1	1	0	15	1	0	6	0
<b>Louisiana:</b>									
New Orleans.....	419,000	3	12	25	39	<del>32</del>	1	0	16
Shreveport.....	59,500	8	1	1	2	<del>1</del>	0	0	3
<b>Oklahoma:</b>									
Tulsa.....	133,000	24	4	10	0		1	3	
<b>Texas:</b>									
Dallas.....	203,000	8	16	13	1	0	1	0	1
Forth Worth.....	159,000	8	5	9	635	<del>2</del>	0	0	3
Galveston.....	49,100	1	2	3	1	<del>0</del>	0	0	2
Houston.....	<sup>1</sup> 164,954	0	8	10	55	2	0	0	12
San Antonio.....	205,000	0	4	8		7	1	1	10
<b>MOUNTAIN</b>									
<b>Montana:</b>									
Billings.....	<sup>1</sup> 17,971	5	0	0		3	0	0	2
Great Falls.....	<sup>1</sup> 29,883	28	0	0	<sup>4</sup> 5,900	5	26	6	2
Helena.....	<sup>1</sup> 12,037	0	0	0		2	0	0	2
Missoula.....	<sup>1</sup> 12,668	0	0	0	94	0	0	0	2
<b>Idaho:</b>									
Boise.....	<sup>1</sup> 23,042	1	0	0		0	0	0	0
<b>Colorado:</b>									
Denver.....	285,000		13			58			51
Pueblo.....	43,900	8	2	0	74	1	0	0	4
<b>New Mexico:</b>									
Albuquerque.....	<sup>1</sup> 21,000	0	1	1	2	0	0	0	2
<b>Utah:</b>									
Salt Lake City.....	133,000	48	4	0		13	1	35	7
<b>Nevada:</b>									
Reno.....	<sup>1</sup> 12,665	0	0	0	5	1	0	0	1
<b>PACIFIC</b>									
<b>Washington:</b>									
Seattle.....	( <sup>2</sup> )	47	7	0	81		1	4	
Spokane.....	109,000	5	3	0			21	0	
Tacoma.....	106,000		3						
<b>Oregon:</b>									
Portland.....	<sup>1</sup> 282,383	21	11	8	298	9	52	2	11
<b>California:</b>									
Los Angeles.....	( <sup>2</sup> )	31	46	16	2,263	85	1	10	44
Sacramento.....	73,400	1	2	3	66	7	0	6	8
San Francisco.....	567,000	16	19	4	88	1	2	2	8

<sup>1</sup> Estimated, July 1, 1928.<sup>2</sup> No estimate made.<sup>3</sup> Special census.<sup>4</sup> Estimated.

## City reports for week ended December 15, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated, expect- ancy	Cases re- ported	Deaths re- ported		
<b>NEW ENGLAND</b>											
<b>Maine:</b>											
Portland.....	2	1	0	0	0	0	1	0	0	0	22
<b>New Hampshire:</b>											
Concord.....	0	0	0	0	0	1	0	0	0	0	10
Manchester.....	1	0	0	0	0	2	0	0	0	0	18
<b>Vermont:</b>											
Barre.....	0	0	0	0	0	1	0	0	0	1	3
<b>Massachusetts:</b>											
Boston.....	68	62	0	0	0	16	1	3	0	18	211
Fall River.....	3	2	0	0	0	3	0	0	1	0	30
Springfield.....	9	2	0	0	0	1	0	0	0	0	26
Worcester.....	12	8	0	0	0	1	0	0	0	0	43
<b>Rhode Island</b>											
Pawtucket.....	1		0				0				
Providence.....	8	13	0	0	0	0	0	0	0	0	75
<b>Connecticut:</b>											
Bridgeport.....	9	0	0	0	0	0	0	0	0	6	30
Hartford.....	7	6	0	0	0	2	0	0	0	4	35
New Haven.....	7	2	0	0	0	4	1	0	0	3	46
<b>MIDDLE ATLANTIC</b>											
<b>New York:</b>											
Buffalo.....	25	32	0	0	0	11	0	0	0	67	169
New York.....	176	128	0	0	0	85	13	5	1	62	1,508
Rochester.....	11	1	0	0	0	0	1	0	0	27	95
Syracuse.....	13	12	0	1	0	1	0	0	0	55	54
<b>New Jersey:</b>											
Camden.....	4	9	0	0	0	2	0	0	1	7	50
Newark.....	19	12	0	0	0	3	1	2	0	31	118
Trenton.....	4	2	0	0	0	1	0	0	0	0	43
<b>Pennsylvania:</b>											
Philadelphia.....	76	56	1	0	0	32	3	1	0	71	582
Pittsburgh.....	35	41	0	0	0	10	1	0	0	29	273
Reading.....	2	0	0	0	0	0	0	0	0	6	21
<b>EAST NORTH CENTRAL</b>											
<b>Ohio:</b>											
Cincinnati.....	15	29	0	0	0	13	0	0	0	18	154
Cleveland.....	36	26	0	0	0	14	1	0	0	75	203
Columbus.....	12	12	1	0	0	6	1	0	0	0	78
Toledo.....	14	10	0	0	0	6	1	0	0	32	98
<b>Indiana:</b>											
Fort Wayne.....	3	0	1	8	0	0	0	0	0	1	14
Indianapolis.....	12	16	5	3	0	5	0	0	0	6	148
South Bend.....	4	3	0	0	0	1	0	0	0	2	14
Terre Haute.....	3	0	1	0	0	1	0	0	0	0	23
<b>Illinois:</b>											
Chicago.....	117	119	2	6	0	41	4	1	1	47	945
Springfield.....	2	13	0	1	0	0	0	0	0	0	15
<b>Michigan:</b>											
Detroit.....	89	129	2	1	0	25	2	1	0	126	309
Flint.....	12	10	0	4	0	0	0	0	0	3	22
Grand Rapids.....	10	11	0	0	0	1	0	0	0	12	69
<b>Wisconsin:</b>											
Kenosha.....	1	1	0	0	0	0	0	0	0	6	9
Milwaukee.....	24	66	0	1	0	4	0	0	0	78	127
Racine.....	5	7	0	0	0	0	0	0	0	6	13
Superior.....	2	2	0	0	0	0	0	0	0	0	12
<b>WEST NORTH CENTRAL</b>											
<b>Minnesota:</b>											
Duluth.....	8	17	0	0	0	0	0	0	0	1	33
Minneapolis.....	50	21	5	0	0	2	1	0	0	30	104
St. Paul.....	25	14	5	0	0	2	1	0	0	9	62
<b>Iowa:</b>											
Davenport.....	1	0	0	0			0	0		0	
Des Moines.....	7	28	0	0			0	0		0	51
Sioux City.....	3	1	1	0			0	0		3	
Waterloo.....	1	19	0	0			0	0		17	

## City reports for week ended December 15, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes	
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	Tuber- culosis, deaths re- ported	Cases, esti- mated expect- ancy	Cases re- ported			Deaths re- ported
WEST NORTH CENTRAL—continued											
Missouri:											
Kansas City.....	13	25	1	0	0	8	0	0	0	5	179
St. Joseph.....	2	2	1	0	0	0	0	0	0	3	30
St. Louis.....	37	20	6	0	0	0	11	2	1	0	263
North Dakota:											
Fargo.....	3	0	0	0	0	0	0	0	0	1	4
Grand Forks.....	0	0	0	0	0	0	0	0	0	0	0
South Dakota:											
Aberdeen.....	1	1	1	0	0	0	0	0	0	0	0
Sioux Falls.....	3	0	0	0	0	0	0	0	0	0	8
Nebraska:											
Lincoln.....	2	0	0	0	0	0	0	0	0	1	25
Omaha.....	7	6	2	0	0	1	0	1	3	2	104
Kansas:											
Topeka.....	2	4	1	0	0	0	0	0	0	0	29
Wichita.....	4	0	0	0	0	1	0	0	0	3	49
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	4	2	0	0	0	0	1	0	0	3	38
Maryland:											
Baltimore.....	26	28	0	0	0	12	3	2	1	79	254
Cumberland.....	1	7	0	0	0	0	0	0	0	0	13
Frederick.....	1	0	0	0	0	0	0	0	0	0	5
District of Col.:											
Washington.....	21	14	0	0	0	8	2	1	0	15	151
Virginia:											
Lynchburg.....	1	1	0	0	0	0	0	0	0	0	12
Norfolk.....	2	0	0	0	0	1	0	0	0	0	0
Richmond.....	6	3	0	0	0	5	0	0	0	2	57
Roanoke.....	2	4	1	0	0	0	0	0	0	0	20
West Virginia:											
Charleston.....	2	2	0	0	0	1	0	0	0	2	51
Wheeling.....	2	1	0	0	0	0	1	0	0	0	11
North Carolina:											
Raleigh.....	1	0	0	0	0	1	0	0	0	0	9
Wilmington.....	1	0	1	0	0	0	0	0	0	0	13
Winston-Salem.....	2	8	1	0	0	1	0	0	0	0	30
South Carolina:											
Charleston.....	1	0	0	0	0	0	0	0	0	1	20
Columbia.....	0	1	0	1	0	1	0	0	0	0	24
Greenville.....	0	0	1	0	0	2	0	0	0	5	7
Georgia:											
Atlanta.....	5	11	1	0	0	0	0	0	0	0	90
Brunswick.....	0	0	0	0	0	1	0	0	0	0	4
Savannah.....	0	2	0	0	0	2	1	0	0	1	37
Florida:											
Miami.....	1	6	0	0	0	2	0	0	0	0	23
St. Petersburg.....	0	0	0	0	0	0	0	0	0	0	11
Tampa.....	1	1	0	0	0	0	0	0	0	5	27
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	2	8	0	1	0	0	0	0	0	0	24
Louisville.....	6	0	1	0	0	0	0	0	0	0	0
Tennessee:											
Memphis.....	6	5	0	0	0	3	0	3	0	0	72
Nashville.....	3	4	1	0	0	6	0	0	0	0	53
Alabama:											
Birmingham.....	3	6	1	0	0	2	1	0	0	3	72
Mobile.....	0	1	1	0	0	0	0	0	0	0	27
Montgomery.....	0	0	0	0	0	0	0	0	0	0	0
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	1	1	0	0	0	0	0	0	0	0	0
Little Rock.....	2	11	0	0	0	2	1	0	0	5	0

City reports for week ended December 15, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
<b>WEST SOUTH CENTRAL—contd.</b>											
Louisiana:											
New Orleans.....	7	11	0	0	0	13	2	1	0	0	169
Shreveport.....	2	3	0	0	0	0	1	0	1	0	22
Oklahoma:											
Tulsa.....	2	10	0	0			0	0		1	
Texas:											
Dallas.....	4	9	0	2	0	1	0	0	0	9	50
Fort Worth.....	2	15	1	4	0	1	0	0	0	1	
Galveston.....	0	1	0	0	0	0	0	1	0	0	15
Houston.....	2	2	1	0	0	4	0	1	0	0	78
San Antonio.....	1	5	0	4	0	3	0	1	0	0	69
<b>MOUNTAIN</b>											
Montana:											
Billings.....	1	0	1	0	0	1	0	1	0	0	13
Great Falls.....	2	0	1	0	0	0	0	0	0	1	11
Helena.....	0	1	0	1	0	0	0	0	0	0	13
Missoula.....	0	0	0	0	0	0	0	0	0	0	6
Idaho:											
Boise.....	1	0	0	0	0	0	0	0	0	0	4
Colorado:											
Denver.....	13		1			7	1				190
Pueblo.....	2	0	0	0	0	1	0	0	0	0	13
New Mexico:											
Albuquerque.....	1	1	0	0	0	7	0	0	0	5	20
Utah:											
Salt Lake City.....	2	1	1	3	0	1	1	0	0	0	56
Nevada:											
Reno.....	0	1	0	0	0	0	0	0	0	0	3
<b>PACIFIC</b>											
Washington:											
Seattle.....	8	0	2	2			1	1		12	
Spokane.....	9	7	5	5			0	0		0	
Tacoma.....	4		4				0	0			
Oregon:											
Portland.....	8	7	7	30	0	2	0	0	1	1	105
California:											
Los Angeles.....	27	23	4	0	0	29	2	1	0	26	442
Sacramento.....	2	22	1	1	0	2	0	1	0	0	49
San Francisco.....	15	16	0	0	0	6	1	0	0	17	184

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, esti- mated expect- ancy	Cases	Deaths
<b>NEW ENGLAND</b>									
Massachusetts:									
Boston.....	1	0	1	0	1	0	0	1	0
Fall River.....	1	0	0	0	0	0	0	0	0
Connecticut:									
New Haven.....	0	0	0	0	0	0	0	1	0
<b>MIDDLE ATLANTIC</b>									
New York:									
Buffalo.....	0	1	0	0	0	0	0	0	0
New York City <sup>1</sup> .....	16	6	6	2	0	0	2	2	0
Rochester.....	0	0	0	0	0	0	0	1	0
New Jersey:									
Newark.....	1	1	0	0	0	0	0	1	0
Pennsylvania:									
Pittsburgh.....	0	0	0	1	0	0	0	0	1

<sup>1</sup> Rabies (in man); 2 deaths at New York City, N. Y.

## City reports for week ended December 15, 1928—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
<b>EAST NORTH CENTRAL</b>									
Ohio:									
Cincinnati.....	1	0	0	0	0	0	0	0	0
Cleveland.....	1	2	0	0	0	0	1	0	0
Toledo.....	0	1	0	0	0	0	0	0	0
Illinois:									
Chicago.....	7	4	1	0	1	1	0	0	0
Michigan:									
Detroit.....	2	6	1	0	0	0	0	0	0
Flint.....	1	0	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee.....	1	0	0	0	0	0	0	0	0
<b>WEST NORTH CENTRAL</b>									
Minnesota:									
Minneapolis.....	0	0	0	0	0	0	0	1	0
St. Paul.....	1	0	0	0	0	0	0	0	0
Missouri:									
Kansas City.....	1	1	0	0	0	0	0	0	0
St. Louis.....	4	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	1	0	0	0	0	0	0	1	0
<b>SOUTH ATLANTIC</b>									
Maryland:									
Baltimore.....	0	0	1	1	0	0	0	0	0
Virginia:									
Richmond.....	0	0	0	0	0	0	0	0	1
West Virginia:									
Wheeling.....	0	0	0	0	0	0	0	2	0
North Carolina: <sup>1</sup>									
Winston-Salem.....	0	0	0	0	2	0	0	0	0
South Carolina:									
Charleston <sup>2</sup> .....	0	0	0	0	2	0	0	0	0
Columbia.....	0	0	0	0	0	2	0	0	0
Greenville.....	0	0	0	0	0	1	0	0	0
Georgia:									
Savannah.....	0	0	0	0	1	1	0	0	0
<b>EAST SOUTH CENTRAL</b>									
Tennessee:									
Memphis.....	0	1	0	0	1	0	0	0	0
Nashville.....	1	0	0	0	0	1	0	0	0
<b>WEST SOUTH CENTRAL</b>									
Arkansas:									
Little Rock.....	0	0	0	0	0	1	0	0	0
Louisiana:									
New Orleans.....	1	1	1	1	3	0	0	0	0
Oklahoma:									
Tulsa.....	1	0	0	0	0	0	0	0	0
Texas:									
Dallas.....	0	1	0	0	2	2	0	0	0
Fort Worth.....	0	0	0	0	0	2	0	0	0
Galveston.....	0	0	0	0	0	1	0	0	0
Houston.....	0	0	0	0	0	1	0	1	0
<b>MOUNTAIN</b>									
Montana:									
Great Falls.....	4	2	0	0	0	0	0	0	0
Colorado:									
Denver.....		4		1		0			0
Utah:									
Salt Lake City.....	2	2	0	0	0	0	0	0	0
<b>PACIFIC</b>									
Washington:									
Seattle.....	0	0	0	0	0	0	0	3	0
Oregon:									
Portland.....	0	1	0	0	0	0	1	0	0
California:									
Los Angeles.....	8	2	0	0	0	0	1	0	0
Sacramento.....	1	0	0	0	0	0	0	1	0
San Francisco.....	3	3	0	0	0	0	0	0	0

<sup>1</sup> Dengue; 1 death at Raleigh, N. C., and 2 cases at Charleston, S. C.

The following table gives the rates per 100,000 population for 101 cities for the 5-week period ended December 15, 1928, compared with those for a like period ended December 17, 1927. The population figures used in computing the rates are approximate estimates as of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

*Summary of weekly reports from cities, November 11 to December 15, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927<sup>1</sup>*

## DIPHTHERIA CASE RATES

	Week ended—									
	Nov. 17, 1928	Nov. 19, 1927	Nov. 24, 1928	Nov. 26, 1927	Dec. 1, 1928	Dec. 3, 1927	Dec. 8, 1928	Dec. 10, 1927	Dec. 15, 1928	Dec. 17, 1927
101 cities.....	159	228	<sup>2</sup> 164	203	<sup>3</sup> 151	232	<sup>4</sup> 164	204	<sup>5</sup> 159	204
New England.....	159	163	140	170	195	267	<sup>4</sup> 213	216	<sup>6</sup> 221	200
Middle Atlantic.....	134	233	137	212	131	251	159	228	139	225
East North Central.....	166	251	183	219	185	220	190	227	209	247
West North Central.....	197	152	185	178	164	178	148	129	148	129
South Atlantic.....	207	216	<sup>2</sup> 223	195	121	224	139	189	121	139
East South Central.....	100	238	130	122	140	167	125	71	<sup>7</sup> 102	127
West South Central.....	240	343	268	302	220	269	256	215	248	215
Mountain.....	239	206	124	170	<sup>3</sup> 53	143	35	143	<sup>3</sup> 0	161
Pacific.....	97	222	105	162	72	259	100	167	<sup>8</sup> 62	167

## MEASLES CASE RATES

101 cities.....	94	124	<sup>2</sup> 108	136	<sup>3</sup> 115	189	<sup>4</sup> 143	225	<sup>5</sup> 184	247
New England.....	382	391	582	500	605	539	<sup>4</sup> 757	539	<sup>6</sup> 860	140
Middle Atlantic.....	69	93	59	128	46	180	46	199	91	205
East North Central.....	86	54	105	60	132	121	187	140	194	117
West North Central.....	62	22	101	24	66	24	193	49	271	46
South Atlantic.....	84	281	<sup>2</sup> 60	200	63	307	53	525	84	604
East South Central.....	15	147	5	162	0	20	15	365	7 0	527
West South Central.....	12	70	4	87	16	120	40	132	12	248
Mountain.....	203	72	239	27	<sup>3</sup> 441	27	186	36	<sup>7</sup> 476	27
Pacific.....	51	212	15	175	72	227	43	178	<sup>8</sup> 67	238

<sup>1</sup> The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1928, and 1927, respectively.

<sup>2</sup> Greenville, S. C., not included.

<sup>3</sup> Denver, Colo., not included.

<sup>4</sup> Barre, Vt., not included.

<sup>5</sup> Pawtucket, R. I.; Louisville, Ky.; Denver, Colo.; and Tacoma, Wash., not included.

<sup>6</sup> Pawtucket, R. I., not included.

<sup>7</sup> Louisville, Ky., not included.

<sup>8</sup> Tacoma, Wash., not included.

Summary of weekly reports from cities, November 11 to December 15, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

## SCARLET FEVER CASE RATES

	Week ended—									
	Nov. 17, 1928	Nov. 19, 1927	Nov. 24, 1928	Nov. 26, 1927	Dec. 1, 1928	Dec. 3, 1927	Dec. 8, 1928	Dec. 10, 1927	Dec. 15, 1928	Dec. 17, 1927
101 cities.....	169	177	176	158	171	164	200	184	201	211
New England.....	193	249	211	181	186	277	238	321	228	326
Middle Atlantic.....	108	182	109	122	102	155	141	156	143	188
East North Central.....	245	201	227	195	238	192	260	216	290	243
West North Central.....	224	232	283	204	220	249	263	206	251	204
South Atlantic.....	105	155	143	171	137	173	165	133	149	162
East South Central.....	249	112	244	86	145	147	259	81	175	142
West South Central.....	196	103	144	165	184	141	216	116	172	170
Mountain.....	97	233	106	179	123	359	80	305	53	242
Pacific.....	143	154	194	131	261	128	197	151	183	154

## SMALLPOX CASE RATES

101 cities.....	3	19	7	22	6	17	4	13	8	19
New England.....	0	0	0	0	5	0	3	0	0	0
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	4	6	21	1	12	10	10	4	16	17
West North Central.....	2	160	2	202	8	115	2	75	0	115
South Atlantic.....	2	9	0	2	5	5	0	7	2	5
East South Central.....	5	5	15	0	0	10	20	5	7	5
West South Central.....	0	4	8	4	12	8	4	8	24	0
Mountain.....	88	27	0	54	71	45	0	99	71	117
Pacific.....	3	29	18	44	8	39	8	39	22	31

## TYPHOID FEVER CASE RATES

101 cities.....	10	15	9	10	7	9	9	11	5	8
New England.....	16	23	7	14	5	7	5	12	7	0
Middle Atlantic.....	10	14	9	10	7	10	7	8	4	8
East North Central.....	6	7	5	6	5	5	7	9	1	3
West North Central.....	14	20	16	14	8	12	4	14	4	6
South Atlantic.....	11	25	11	9	9	16	7	9	5	9
East South Central.....	10	15	25	15	5	15	20	30	22	35
West South Central.....	20	29	12	12	16	21	48	21	16	17
Mountain.....	18	18	9	27	18	9	0	9	18	18
Pacific.....	5	13	13	5	3	5	5	13	8	16

## INFLUENZA DEATH RATES

95 cities.....	15	9	16	10	30	12	48	12	77	14
New England.....	9	5	9	2	9	5	10	9	10	12
Middle Atlantic.....	9	7	15	10	10	11	17	7	27	9
East North Central.....	10	2	3	5	14	9	18	9	44	11
West North Central.....	6	10	6	6	12	4	43	6	116	6
South Atlantic.....	14	20	12	13	29	13	51	16	95	14
East South Central.....	16	21	21	48	21	48	58	58	101	64
West South Central.....	33	34	33	34	53	42	53	47	94	55
Mountain.....	53	36	44	18	353	27	513	9	734	9
Pacific.....	64	3	95	7	240	14	294	3	333	17

<sup>1</sup> Greenville, S. C., not included.

<sup>2</sup> Denver, Colo., not included.

<sup>3</sup> Barre, Vt., not included.

<sup>4</sup> Pawtucket, R. I.; Louisville, Ky.; Denver, Colo.; and Tacoma, Wash., not included.

<sup>5</sup> Pawtucket, R. I., not included.

<sup>6</sup> Louisville, Ky., not included.

<sup>7</sup> Tacoma, Wash., not included.

Summary of weekly reports from cities, November 11 to December 15, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

## PNEUMONIA DEATH RATES

	Week ended—									
	Nov. 17, 1928	Nov. 19, 1927	Nov. 24, 1928	Nov. 26, 1927	Dec. 1, 1928	Dec. 3, 1927	Dec. 8, 1928	Dec. 10, 1927	Dec. 15, 1928	Dec. 17, 1927
95 cities.....	102	112	<sup>2</sup> 122	95	<sup>3</sup> 134	113	<sup>4</sup> 157	110	<sup>5</sup> 195	118
New England.....	57	102	106	60	85	100	<sup>4</sup> 83	51	<sup>6</sup> 107	102
Middle Atlantic.....	124	119	128	97	141	123	149	119	190	117
East North Central.....	82	96	106	89	120	103	135	97	171	97
West North Central.....	73	81	<sup>6</sup> 89	87	100	70	126	<sup>9</sup> 99	<sup>2</sup> 212	91
South Atlantic.....	124	157	<sup>1</sup> 161	144	140	146	165	135	<sup>7</sup> 237	161
East South Central.....	162	154	131	133	162	207	282	154	<sup>7</sup> 203	149
West South Central.....	70	140	127	110	140	106	176	102	181	191
Mountain.....	115	99	159	99	<sup>3</sup> 159	54	336	215	<sup>6</sup> 628	134
Pacific.....	98	76	169	38	240	103	294	110	<sup>8</sup> 218	131

<sup>1</sup> Greenville, S. C., not included.

<sup>2</sup> Denver, Colo., not included.

<sup>4</sup> Barre, Vt., not included.

<sup>6</sup> Pawtucket, R. I., not included.

<sup>7</sup> Louisville, Ky., not included.

<sup>8</sup> Tacoma, Wash., not included.

<sup>9</sup> Pawtucket, R. I.; Louisville, Ky.; and Tacoma, Wash., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities of each group, approximated as of July 1, 1928 and 1927, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1928	1927	1928	1927
Total.....	101	95	31,657,000	31,050,300	30,960,700	30,369,500
New England.....	12	12	2,274,400	2,242,700	2,274,400	2,242,700
Middle Atlantic.....	10	10	10,732,400	10,594,700	10,732,400	10,594,700
East North Central.....	16	16	7,991,400	7,820,700	7,991,400	7,820,700
West North Central.....	12	10	2,683,500	2,634,500	2,566,400	2,518,500
South Atlantic.....	21	21	2,981,900	2,890,700	2,981,900	2,890,700
East South Central.....	7	6	1,048,300	1,028,300	1,000,100	980,700
West South Central.....	8	7	1,307,600	1,260,700	1,274,100	1,227,800
Mountain.....	9	9	591,100	581,600	591,100	581,600
Pacific.....	6	4	2,046,400	1,996,400	1,548,900	1,512,100



# FOREIGN AND INSULAR

## CANADA

*Provinces—Communicable diseases—Week ended December 15, 1928.*—The Department of Pensions and National Health reports cases of certain communicable diseases from seven provinces of Canada for the week ended December 15, 1928, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever.....			2	1		1		4
Influenza.....	93			65	3			161
Poliomyelitis.....							1	1
Smallpox.....			8	5	7	18	3	41
Typhoid fever.....		3	2	12	3	1	1	22

*Quebec Province—Communicable diseases—Week ended December 15, 1928.*—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended December 15, 1928, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	2	Scarlet fever.....	123
Chicken pox.....	77	Smallpox.....	8
Diphtheria.....	82	Tuberculosis.....	52
German measles.....	6	Typhoid fever.....	2
Influenza.....	1,082	Whooping cough.....	13
Measles.....	59		

## JAMAICA

*Communicable diseases—Four weeks ended December 8, 1928.*—During the four weeks from November 11 to December 8, 1928, cases of certain communicable diseases were reported from Kingston, Jamaica, and from the island of Jamaica outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....		1	Smallpox (alastrim).....	1	
Chicken pox.....		5	Tuberculosis (pulmonary).....	49	61
Dysentery.....	4	11	Typhoid fever.....	32	78
Leprosy.....		2			

## NEW ZEALAND

Notifiable diseases—Four weeks October 15–November 11, 1928.—The Department of Health of New Zealand reports cases of notifiable diseases in New Zealand for the four weeks from October 15 to November 11, 1928, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis.....	1	.....	Ophthalmis neonatorum.....	4	.....
Diphtheria.....	104	3	Pneumonia.....	145	21
Eciampsia.....	12	1	Polio-myelitis.....	4	.....
Erysipelas.....	35	1	Puerperal fever.....	17	3
Food poisoning.....	5	.....	Scarlet fever.....	435	8
Hydatids.....	9	.....	Tetanus.....	2	3
Influenza.....	32	4	Trachoma.....	1	.....
Lead poisoning.....	4	.....	Tuberculosis.....	106	46
Lethargic encephalitis.....	2	.....	Typhoid fever.....	23	1

## VIRGIN ISLANDS

*Communicable diseases—November, 1928.*—During the month of November, 1928, communicable diseases were reported in the Virgin Islands as follows:

St. Thomas and St. John:	Cases	St. Thomas and St. John—Continued.	Cases
Dongue.....	2	Tuberculosis.....	2
Pellagra.....	1	Uncinariasis.....	1
Syphilis.....	3		







**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued**

**PLAGUE**

[C indicates cases; D, deaths; P, present]

Place	Apr. 8- May 5, 1928	May 6- June 2, 1928	June 2-30, 1928	July 1-28, 1928	July 29- Aug. 25, 1928	Aug. 26- Sept. 22, 1928	Sept. 23, 1928	Week ended—											
								October, 1928			November, 1928				December, 1928				
								6	13	20	27	3	10	17	24	1	8	15	
Algeria (see also table below):																			
Algiers.....	C	1									2								
Oran.....	C		2																
Philippeville.....	C	7	1					1											
Arabia: Aden.....	D	9	1					2											
Argentina: 1																			
Avelaneda.....	D	1																	
Buenos Aires: 1		6	1																
.....	D	3	2																9
Catamarca Province: Retreo.....	D																		
Cordoba Province.....	C	5																	
Canada Honda.....	C																		
Entre Rios.....	C		5																
Loreto.....	C	3																	
Rosario.....	C	1		1															
Santa Fe.....	C	1	9																
Santiago del Estero.....	C		10	1			7												
Suazul.....	C	2																	
Tucuman Province: El Mollar.....	C	5	1	1															
Azores: St. Michaels Island.....	D	2	1	1					2	2	1	1	2	1	2	1	1		5
Belgian Congo:																			
Djugu.....	C																		
Lenza.....	C																		
Bolivia: Valle Grande.....	C																		
Brazil: Bahia.....	C	6	3																
British East Africa (see also table below):	D	6	3																
Mombasa.....	D																1	1	1
.....	D																1	1	1

**Plague-infected rats.**

Tanganyika.....	C	10										6		1		8													
Uganda.....	D		84	105					1			29		1		8													
Canary Islands:.....	D		70	85											102	18	26		38	24						40			
Arrecife.....	D									64						17	16		33	20						29			
Lanarote Village.....	C		1																										
Les Palmas.....	C		1												2			1											
Palma Island.....	C								7						1														
Tenerife.....	C								3						5			2										1	
Leguna.....	C														3				4										
Ceylon:.....	C	1	4	2											3					2	1						1		
Colombo.....	D	1	2	2											3					1	1						1		
Jaffna.....	D																										1		
China:.....	D																												
Amoy.....	C		5				P																						
Hong Kong.....	C	2		1	1																								
Mongolia—.....	D			1																									
Chien Chia Tien.....	C														P	P		70	13	11	6	2							
Tungliao.....	C														220	57	53												
Urga.....	C														P														
Shansi.....	C																			P									
Fengchow.....	C																												
Dutch East Indies:.....	C																												
Celebes—Makassar.....	C																				1								
Plague-infected rats.....	D													4							1						2		
Jave—.....	C	47	65	61	32	46			46	49	12	10								7	12								
Batavia and West Java.....	D	47	65	61	32	46			46	49	12	10								7	11								
Plague-infected rats.....	D	7	9	4	2	2			2																		1		
East Java and Meadura.....	C	4	4		1	2			2	1	2								14										
Kedoe Residency.....	C	4			1	1			2	1	2								14										
Surabaya Residency.....	C	4			P																								
Surabaya Residency.....	D	1													1														

<sup>1</sup> During the period from Nov. 10 to Dec. 11, 1928, 13 cases of plague were reported at El Mollar, Tucuman Province, Argentina. During the same period 1 case of plague was reported at Chipion and 1 at Ucacha, both in Cordoba Province, Argentina.

<sup>2</sup> 11 plague-infected rats were reported at Buenos Aires, Argentina, from July 1 to Oct. 25, 1928.







**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued**

**PLAGUE—Continued**

[C indicates cases; D, deaths; P, present]

Place	Apr. 8- May 5, 1928	May 6- June 2, 1928	June 3-30, 1928	July 1-28, 1928	July 29- Aug. 25 1928	Aug. 26- Sept. 22, 1928	Week ended—											
							Sept. 29, 1928		October, 1928			November, 1928			December, 1928			
							6	13	20	27	3	10	17	24	1	8	15	
Senegal (see also table below): This and vicinity.....																		
Siam.....	72 40	15 6	7 10	10 8														
Ayudhaya.....	13 11		2 2	2 2														
Bangkok.....	4		1	2								1	1					
Nagers.....	2		1	2														
Panknampo.....																		
Straits Settlements:																		
Ipoh.....							2	2										8
Penang.....											1							7
Syria (see table below). Turkey:																		
Adalia.....				1					1						1			
Constantinople.....																		
Union of South Africa: Orange Free State.....																		
Union of Socialist Soviet Republics: Astrakhan— Araxay District.....			3															
Kirghiz District.....			2															
Krasnodarsk District.....						64												
Chita District.....						1												
Kalmouks District.....															10			
Ural Government.....															7			
															7			







**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued**

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Apr. 8- May 5, 1928	May 6- June 2, 1928	June 3-30, 1928	July 1-28, 1928	July 29- Aug. 25, 1928	Aug. 26- Sept. 22, 1928	Week ended—													
							October, 1928			November, 1928			December, 1928							
							6	13	20	27	3	10	17	24	1	8	15			
Ecuador (see table below).	12	1																		
Egypt.....	7	1																		
Behaira Province.....					1															1
Suez.....																				
France (see table below).																				
Gold Coast (see table below).																				
Great Britain:																				
England and Wales.....	1,344	1,199	1,146	681	482	430	94	130	162	128	148	122	149	162	199	189				
Birmingham.....	1	1	2	1		1				1										
Bradford.....	14	17	10	2																
Exeter.....	17	10	2		2															
Cardiff.....	3	2																		
Castleford.....	69	24	18	14	10	5	4	1	1	2	1	5	1	1	1	1	1	1	4	
Hull.....	1		1	24	15	13	2	3	1	1	1	1	1	1	1	1	1	1	1	4
Leeds.....	1		8	1	1	6	4	5	3	4	4	4	4	9	5	4				
London.....	42	25	96	19	9	8	1													
Manchester.....	8	5	1	1		3	1													
Newcastle-on-Tyne.....	4	12	6	28	2	2	1	1	1	1	1	1	1	2	2	2				
Nottingham.....	17	20	3	6	10	15	1	1	2	1	1	6	8	1	2	2				
Plymouth.....	14	4	2	2	6	3	2													
Sheffield.....	32	24	14	5	8	4														
Stoke-on-Trent.....				1																
Weymouth.....																				
Scotland—																				
Arbroath.....					4	3														
Dundee.....						1						1	1							1
Greece (see table below).																				
Hedjaz.....																				
India.....	30,436	21,489	13,497	9,981	6,218	4,553	880	708	637	617										
Bassein.....	6,672	5,046	3,700	2,758	1,733	1,116	243	157	157											
Bombay.....	1																			
	200	139	71	67	28	14	7	2	12	3	5	2	1	1	1	2				
	118	78	46	33	21	11	7	4	1	2	2	2	1	1	1	2				

Calcutta.....	171	130	61	52	22	13	4	3	1	1	1	3	2
Karachi.....	130	101	50	35	17	17	3	1	1	1	1	2	1
Madras.....	109	59	85	39	43	90	21	18	25	9	11	20	18
Moulmein.....	38	18	10	18	10	21	6	7	5	8	8	6	6
Nagapatam.....	7	8	1	6	4	4	1	2	2	6	6	2	2
Rangoon.....	167	36	19	26	35	46	19	7	23	13	12	6	5
Tuticorin.....	79	13	4	7	4	10	4	1	5	3	1	2	2
Vishapatam.....	2	3	3	3	1	14	1	2	1	1	1	1	1
India (French):			5	3	1	3	1	1	1				
Chandernagor.....	5	1	1	1	2	9		2	2	3	3		
Pondichery Provinces.....	36	32	13	12	62	92	23	30	32	34	23	15	18
Indo-China (see also table below):	36	23	13	12	45	87	17	18	18	20	17	12	16
Pnompenh.....					2	19	4	8	6	10	12	6	5
Salgon.....					2	15	1	5	2	2	2	2	4
Iraq:						1	1	1	1	1	1	2	
Baghdad.....	5	16	16	24	7	34	9	9	8	12	10	14	9
Basra.....	3	6	10	15	2	17	3	3	3	8	1	4	10
Mosoul.....	2	3	2	2	2	1	2	1	9	7	3	9	14
Italy.....						1	2	1	7	4	7	8	14
Faerno.....	10	6	6	4	6						6	22	31
Ivory Coast (see table below).	4	2	3	1	1	3	2				2	17	19
Japan (outside Kingston) (alastrim)	4	2	3	1	1	3	2				2	6	17
Japan:													
Kobe.....	11												
Nagoya.....	6	2		1									1
Osaka.....	8	2	4										
Tokyo City.....	1	1											
Tokyo Prefecture (outside city).....	2	3											
Yokohama.....	2	1											
Latvia (see table below).													
Malta: Valetta.....	1						1						

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

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Apr. 8- May 5, 1928	May 6- June 2, 1928	June 3-30, 1928	July 1-28, 1928	July 29- Aug. 26, 1928	Aug. 26- Sept. 22, 1928	Week ended—												
							October, 1928			November, 1928			December, 1928						
							6	13	20	27	3	10	17	24	1	8	15		
Mexico (see also table below):																			
Acapulco.....		2																	
Jalisco (State).....	C		21	1															
Guadalajara.....	C	P	13	9	7	3													
Masatlan.....	D	3	2	3	3														
Mexico City and surrounding territory.....	D	1	2	3	2	1													
Barranca.....	D	2	1	1	1														
Saltillo.....	D	2	2	1															
San Luis Potosi.....	D					1					1								
Tampico.....	C					2					1								
Torreon.....	D										1								
Morocco (see table below).																			
Nigeria (see also table below):																			
Lagos.....	C		1																
Southern Provinces.....	C		51																
Lagos.....	D		12																
Persia (see table below).																			
Poland.....	C	9	1	3	2														
Portugal (see also table below):	D	1																	
Lisbon.....	C	6	7	7	8	1													
Lisbon.....	D	1		1	1														
Oporto.....	C	1																	
Senegal (see also table below):																			
Dakar.....	C	16	29	8															
Dakar.....	D	8	7																
Siam.....	C	10	8	3	1	3	1												
Bangkok.....	D	3	1	1	2														
Bangkok.....	C	1																	
Bangkok.....	D	1																	
Straits Settlements: Singapore.....	C	3				1													
Sudan (Anglo-Egyptian).....	C	160	168	206	144	252	152	30	19	38	2	37	14	4	24	58	14	148	
Sudan (Anglo-Egyptian).....	D	32	20	37	35	34	34	6	6	7	5	6	7	1	7	7	13	9	



Place	Janu- ary- March, 1928	April- June, 1928	July, 1928	August, 1928			September, 1928			October, 1928			November, 1928			Dec. 1-10, 1928	
				1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-31		
																	1-10
Indo-China (see also table above).....	C	428	197	28	44	21	6	27	29	17	38	19	43	55	57	32	23
Ivory Coast.....	D		7	9				2				2					
Senegal (see also table above).....	D		110					4									
Dakar.....	D		16														
Sudan (French).....	D		43														
Syria.....	D		15														
Aleppo.....	C	1	3			4											
Beirut.....	C	75	26	5										1			
Damascus.....	D		2														
	C	14															
Sudan (French) (see table below).....	C		6	3	1	8	5	1									
Syria (see table below).....	C				2												
Taiwan: Keelung.....	C																
Taiwan: Keelung.....	C																
Tunisia: Tunis.....	C																
Union of South Africa: Cape Province.....	C																
Natal.....	C																
Orange Free State.....	C																
Transvaal.....	C																
Union of Socialist Soviet Republics (see table below).....	C																
Upper Volta.....	C		9				50	P		10		5					
Venezuela: Maracalbo.....	D						8										
On vessel: S. S. Ballarat, en route to Cape Town, South Africa.....	C																
S. S. Kashgar at Kobe, from Shanghai.....	C																
S. S. Ronna at Penang, from Negapatam.....	C																
S. S. Theseus, from Jeddah to Penang.....	C																
S. S. Tjiliboet at Hong Kong, from Shanghai.....	C																
S. S. Victoria at Nome, Alaska.....	C																









**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued**  
**YELLOW FEVER**

[C indicates cases; D, deaths; P, present]

Place	Apr. 8- May 5, 1928	May 6- June 2, 1928	June 3-30, 1928	July 1-28, 1928	July 29-Aug. 25, 1928	Aug. 26- Sept. 22, 1928	Sept. 23, 1928	Week ended—												
								October, 1928			November, 1928			December, 1928						
								6	13	20	27	3	10	17	24	1	8			
Belgian Congo: Matadi.....	C	2																		
Brazil:																				
Aracaju.....	D	2																		
Bahia.....	D		4																	
Fernambuco (Recife).....	C		1																	
Rio de Janeiro.....	C	2	48	14	9	3	3													
Sao Felix.....	D	2	22	26	4	8	2													
Dahomey:			P																	
Grand Popo.....	C		3																	
Ouidah Military Camp.....	D		2																	
Gambia: Bathurst.....	C																			
Gold Coast:																				
Ivory Coast.....	C	2	1																	
Abidjan.....	C		1																	
Feres-Bedougon.....	C																			
On vessel: S. S. Bernini, at Santos, Brazil.....	D																			