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NOTES ON EXPERIMENTAL MENINGITIS IN RABBITS

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During January, 1931, a study of the possibility of producing meningococcus meningitis in rabbits was undertaken. Recently Zdrodowski and Voronine (1) reported the production of such meningitis in 90 per cent of their rabbits, using a technique almost identical with our own.

We have obtained this condition with certainty in a smaller proportion of rabbits injected. The most recently isolated strains available were used. Newly isolated meningococci varied so in virulence that a preliminary titration for virulence was done in mice, after the method of Murray (2). A strain with a minimum fatal dose for mice over 200,000,000 microorganisms seldom produced symptoms in rabbits.

Under light ether anaesthesia, rabbits weighing 1.5 to 2 kg were given intracisternal injections of 0.2 cc containing usually $\frac{1}{2}$ billion cocci suspended in Ringer's solution of pH 7 to 7.4. The suspensions were made from 18-hour growth on "EDB/v" agar or rabbit's blood agar.

According to the symptoms that developed after these injections, the 49 rabbits given young living cultures fall into 4 general groups:

(1) In 12 rabbits the symptoms resemble "forme (b)" of Zdrodowski and Voronine. The course of the disease was too rapid to follow easily. Rapid breathing and extreme prostration developed within a few hours after injection, and death followed in 12 to 18 hours, sometimes earlier.

(2) In 4 rabbits the course of the disease was characterized by dyspnea and marked prostration, followed by marked rigidity of the neck. Bending the animal's neck slightly was likely to cause it to cry out. The rabbits became very sensitive, and even a touch caused tetanic spasms or convulsions. The course of the disease was afebrile and was fatal in 2 to 4 days. This clinical picture resembles that described by Zdrodowski and Voronine as "forme (a)."

(3) This group of 7 rabbits showed slowly developing paralysis, usually beginning in the hind limbs. Respiratory difficulty was frequent. All these animals except one showed a definite fever

(40.0° to 41.5°C.) on the second or third day after injection, usually coincidental with the onset of paralysis. In 5 rabbits paralysis was slight and recovery complete within 5 or 6 days after injection; in 2 paralysis involved practically the whole body and resulted in death. This group apparently corresponds to "forme (c)" of Zdrodowski and Voronine.

(4) Twenty-seven rabbits showed no definite symptoms. All except three showed fever of 40° to 41.5°C. on the second day. A few developed some stiffness but no definite paralysis.

All of the rabbits that died were carefully autopsied. Cerebrospinal fluid was withdrawn by cisternal puncture before the brain was exposed. The meninges were often adherent. Three or four showed an increased amount of cerebrospinal fluid.

Stained smears of the cisternal fluid and meningeal exudate showed single and paired Gram-negative cocci free and in leucocytes in 11 of the rapidly fatal group, in all of the group showing characteristic symptoms of meningitis, and in 1 of the progressive paralysis group.

Cultures of Gram-negative cocci resembling the meningococcus were obtained from six—five times from cisternal fluid, twice from meninges, and twice from the heart. Their identity with the meningococcus could not be proved by any of the means available, and definitely successful animal passage was not accomplished. These bacteriological findings are at variance with those of Zdrodowski and Voronine.

Histopathologic study was made of the brains of the 7 rabbits of group 1, 3 in group 2, and the 2 fatal cases of group 3.

Fibrinopurulent to purulent meningitis, generally more marked basally, in the cerebellopontine angles and around the mid-brain and thalamus, was the major significant histological finding. It was more marked in the animals showing spasticity and rigidity which came to autopsy 1 or 2 days after injection, and was replaced by round-cell infiltration, fibroblast proliferation, and encapsulating meningeal abscesses in 6 to 16 days, both in the spastic and paralytic groups.

Purulent infiltration of the sheaths of perforating vessels and of the margins of the brain substance, miliary intracerebral abscesses, meningeal and intracerebral hemorrhages, and ventricular exudates containing serum, blood, pus, and round cells, were less constant findings.

Of the rabbits presenting no symptoms after inoculation with living meningococci, one (G1) was killed 24 hours after injection and showed the "spontaneous" encephalitis of rabbits, with scattered foci and slight diffuse admixture of polymorphonuclear leucocytes in the predominantly lymphoid exudate in the pia, chorioid plexi, and ventricles. It appears probable that the relatively scanty polymorphonuclear response was assignable to the meningococcus.

Failure to recover meningococci, together with the findings in rabbit G1, led to the examination of the brains of several rabbits which had received cultures boiled for 5 minutes before they were injected. Most of these animals showed some fever the next morning, but were otherwise normal and lively. They were killed 24 hours after injection and examined as above indicated.

Cultures from these rabbits were negative, but smears from cisternal fluid showed cocci within the abundant polymorphonuclear leucocytes.

Histologically these three animals showed purulent meningitis similar to the foregoing. Fibrin, hemorrhage, marginal purulent infiltration of brain substance, and chorioid plexitis of variable grade were seen in two rabbits.

These findings suggested that intact living meningococci might not be necessary to produce clinical symptoms. Thirty-eight rabbits were injected intracisternally with 0.2cc of filtered meningococcus suspensions prepared as for the Schwartzman reaction (3), except that no preservative was added and Berkefeld N filters were used.

Twenty-six rabbits, or 68 per cent, showed symptoms of intoxication, and only 2 recovered. These rabbits, as well as those receiving the living virulent cultures, fell into three groups: (1) Sixteen dying in 5 to 18 hours, corresponding to the group 1 rabbits receiving living virulent cultures; (2) three corresponding to group 2 receiving living cultures, and showing general spasticity and rigidity of the neck; (3) seven showing progressive paralysis indistinguishable from that seen in the rabbits of the group 3 that were given living cultures. Cultures from the meninges of all of these animals were negative. Smears from cisternal fluid withdrawn before autopsy showed numbers of polymorphonuclear leucocytes and lymphocytes in all except those rabbits that had died within 6 to 8 hours. In these the cells were relatively few.

Histologically no meningeal exudate was present in these animals dying eight hours after injection, but purulent meningitis and chorioid plexitis appeared after 16 hours and were most marked in the animal surviving for 48 hours.

SUMMARY

Clinical and histopathologic meningitis can be produced in rabbits by intracisternal injection of sufficiently virulent meningococci. A histopathological picture identical with the above, without clinical reaction, was found in animals which had received boiled suspensions of meningococci. A clinical and pathologic picture essentially identical to that produced by living meningococci was produced by inoculation with filtered suspensions.

These findings suggest that experimental meningitis in rabbits may not be purely an infection, and that intoxication may play an important part.

REFERENCES

- (1) Zdrodowski, P., and Voronine, E.: Ann. l'Inst. Pasteur, 1932, 48, (5), 617.
- (2) Murray, E. G. D.: Med. Res. Council, Special Rep., Series, No. 124, 1929.
- (3) Shwartzman, G.: J. Inf. Dis., 1929, 45, 232.

REPORT OF COMMITTEE ON MILK**CONFERENCE OF STATE AND PROVINCIAL HEALTH AUTHORITIES
JUNE 2, 1932**

The Committee on Milk of the Conference of State and Provincial Health Authorities has this year included the following subjects in its deliberations:

(1) Shall health authorities permit the use of the term "natural milk" to denote what has hitherto been termed "raw milk"?

(2) Shall health authorities approve the process of short time-high temperature pasteurization, and, if so, under what specifications?

(3) What requirements should be made in case a milk distributor desires to distribute two grades of milk, or both raw and pasteurized milk?

(4) Shall health authorities approve the practice of recombining surplus skimmed milk and cream, and, if so, under what restrictions?

(5) In what manner can State health and agricultural departments cooperate with each other in connection with the public health and economic phases of the milk problem?

(6) What practical methods can be devised and recommended to increase the percentage of pasteurized milk for sale in the smaller cities and towns of the country?

(1) Shall health authorities permit the use of the term "natural milk" to denote what has hitherto been termed "raw milk"?

The committee believes that the only truly natural milk for human babies is human milk. Nature intended cows' milk for calves, and cows' milk is used for babies only as the next best thing to human milk. Raw milk which has been cooled is not more natural than raw milk which has been heated or pasteurized. Both cooling and heating retard the growth of certain kinds of bacteria. Heating, however, also devitalizes all disease bacteria which can be conveyed through milk. This is not true of cooling. Therefore, while cooling is an important public health measure, heating is an even more important one.

For these reasons the committee considers dangerous to the public health any movement or policy the result of which would be to mislead the milk consumer into thinking that Grade A Raw Milk is more natural and therefore better for babies than Grade A Pasteurized Milk. Public health authorities should therefore not

permit the use of the word "natural" in the labeling of either raw or pasteurized milk or cream.

(2) *Shall health authorities approve the process of short time-high temperature pasteurization, and, if so, under what specifications?*

The process of short time-high temperature pasteurization has been studied and approved by the New York State Health Department and the Pennsylvania State Health Department. The Committee on Milk Sanitation of the engineering section of the American Public Health Association, the Committee on Milk Supply of the Conference of State Sanitary Engineers, and the Public Health Service have intensively studied the process and have outlined specifications for short time-high temperature pasteurization upon which the approval of health authorities should be based. Therefore, it is the opinion of the Committee on Milk of the Conference of State and Provincial Health Authorities that the process has been sufficiently intensively studied by expert milk sanitarians to justify its general approval by health authorities under the restrictions recommended in a memorandum of the United States Public Health Service dated February, 1932.

(3) *What requirements should be made in case a milk distributor desires to distribute two grades of milk, or both raw and pasteurized milk?*

The Public Health Service Milk Ordinance makes the following requirements: "If more than one grade of milk is sold by any distributor, separate receiving, pasteurizing, cooling, and bottling equipment shall be provided for each grade, and the equipment for each grade shall be located in separate buildings or in separate rooms of the same building."

The committee believes that these precautions are necessary in order to minimize the danger of lower grades of milk finding their way into Grade A bottles, or, in fact, of raw milk being bottled as pasteurized milk.

(4) *Shall health authorities approve the practice of recombining surplus skimmed milk and cream, and, if so, under what restrictions?*

The committee is informed by the State health officer of Delaware that it is the practice in certain cities for pasteurization plants to add cheap cream from one source to cheap surplus skimmed milk from another source, and then sell the mixture as sweet fluid milk in competition with ordinary sweet milk.

The committee believes that this practice should be forbidden by health authorities unless both skimmed milk and cream come from inspected sources which comply with the legal requirements for sweet milk and cream and unless the resulting product is so labeled as to show its true character. The committee bases this conclusion upon the belief that improperly produced milk and cream are not as

safe as properly produced milk and cream, even though the process of pasteurization is later applied in both cases.

(5) *In what manner can State health and agricultural departments cooperate with each other in connection with the public health and economic phases of the milk problem?*

The committee believes that the primary functions of State health departments with reference to milk supplies should be—

(a) The encouragement of the adoption of the Public Health Service Milk Ordinance by municipal, county, and district health departments, and advisory assistance in the enforcement thereof.

(b) The rating at least once each year of the excellence of the public health supervision exercised by the various local health units.

(c) The encouragement from the public health point of view of the optimum consumption of properly produced and properly pasteurized milk.

The committee further believes that the primary functions of State agricultural departments with reference to milk supplies should be—

(d) The education of the dairy farmer as to the most sanitary and economical method of breeding, feeding, and housing cattle;

(e) The education of the dairy industry as to the most sanitary and economical method of producing, transporting, processing, and delivering milk supplies; and

(f) The promotion from the economic point of view of the dairy industry of optimum pasteurized milk consumption.

The committee believes that State health departments can effectively cooperate with State agricultural departments with reference to items (d) and (e) by making no requirements which are not justified from the public health point of view, and by interpreting justified requirements in a manner which will permit the most economic methods of compliance, consistent with effectiveness.

On the other hand, State agricultural departments can cooperate with State health departments with reference to item (a) by encouraging and educating the dairy industry, through county agents and other channels, to support the local adoption of the Public Health Service milk ordinance, and to comply with the ordinance after it has been adopted. The county agents can do much to insure that the dairy industry understands that compliance with the health department requirements is an important factor in promoting the welfare of the dairy industry, in that compliance with health department requirements increases the prestige and therefore the salability of the milk supply, as well as the amount consumed. Advice given by the county agents should, of course, be consistent with the instructions and advice given by the local milk inspector, unless the local milk inspector gives

improper advice, in which case the matter should be referred to the local health officer.

State health and agricultural departments can effectively combine forces with respect to items (c) and (f), namely, the encouragement of optimum pasteurized milk consumption from the public health and economic points of view. In encouraging milk consumption both health and agricultural agencies should insure that the educational approach to the consumer is consistent with sound public health advice.

(6) *What practical methods can be devised and recommended to increase the percentage of pasteurized milk for sale in the smaller cities and towns of the country?*

The committee believes that this is a very important problem, since the milk-borne outbreak reports of the Public Health Service and the American Child Health Association clearly indicate that the vast majority of milk-borne outbreaks of disease occur in small communities in connection with raw milk supplies. It is believed that the solution of this problem should be largely through educational means and that compulsory pasteurization ordinances should be passed only after the educational program has reached and convinced an unmistakable majority of the population. The local health officers of communities in which any considerable percentage of the market milk is still sold raw are urged to use an educational approach similar to that recommended in the Public Health Service Milk Sanitation Program under the chapter heading *What Policy Should the Health Officer Adopt with Reference to Pasteurization and with Reference to Increasing to the Optimum the Per Capita Consumption of Milk?*

Furthermore, the dairy industry, through the agency of such an organization as the National Dairy Council, could with advantage inaugurate a persistent radio program which would combine a campaign for adequate milk consumption with one for the encouragement of the use of pasteurized milk only. If the National Dairy Council or other dairy organization undertakes such a radio program, the United States Public Health Service and the various State and city health departments should assist in furnishing the necessary educational material.

Earle G. Brown, *Chairman*

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COURT DECISION RELATING TO PUBLIC HEALTH

Death of hospital interne from epidemic meningitis held compensable under workmen's compensation act.—(Illinois Supreme Court; *Arquin v. Industrial Commission*, 181 N. E. 613; decided June 24, 1932.) In an action under the workmen's compensation act, brought by a widow to recover compensation for the death of her husband, it appeared that the deceased was an interne in the contagious ward of the Cook County Hospital. From December 1 until December 6, 1928, the deceased was continuously engaged in the treatment of patients suffering from epidemic meningitis and made spinal punctures upon such patients. He became ill with the disease on December 6 and died two days later. The contention was made that epidemic meningitis was not an accidental injury for which compensation could be allowed, but the supreme court held that the deceased "died as a result of an accidental injury arising out of and in the course of his employment."

DEATHS DURING WEEK ENDED JULY 23, 1932

Summary of information received by telegraph from industrial insurance companies for the week ended July 23, 1932, and corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended July 23, 1932	Corresponding week, 1931
Policies in force.....	71, 774, 641	75, 023, 856
Number of death claims.....	11, 998	13, 054
Death claims per 1,000 policies in force, annual rate.....	8. 7	9. 1
Death claims per 1,000 policies, first 29 weeks of year, annual rate.....	10. 0	10. 3

Deaths¹ from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census]

City	Week ended July 23, 1932				Corresponding week, 1931		Death rate ² for the first 29 weeks	
	Total deaths	Death rate ²	Deaths under 1 year	Infant mortality rate ³	Death rate ²	Deaths under 1 year	1932	1931
Total (85 cities).....	7, 559	10. 8	593	4. 49	10. 2	585	11. 8	12. 7
Akron.....	34	6. 7	7	87	6. 1	3	7. 6	8. 0
Albany ⁴	31	12. 4	1	20	9. 3	6	14. 2	14. 5
Atlanta ⁵	71	13. 1	2	19	18. 0	12	13. 7	15. 8
White.....	39	10. 9	1	15	10. 5	6	10. 8	12. 4
Colored.....	32	17. 5	1	29	26. 9	6	19. 4	22. 5
Baltimore ⁶	203	12. 9	17	60	12. 0	12	13. 8	15. 2
White.....	142	11. 1	11	50	11. 7	10	12. 8	13. 9
Colored.....	61	21. 2	6	96	13. 1	2	18. 3	21. 2
Birmingham ⁶	70	13. 2	8	83	9. 5	9	11. 5	14. 3
White.....	33	10. 0	2	33	6. 9	2	9. 0	11. 1
Colored.....	37	18. 4	6	162	13. 7	7	15. 7	19. 6

See footnotes at end of table.

Deaths¹ from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931—Continued

City	Week ended July 23, 1932				Corresponding week, 1931		Death rate for the first 29 weeks	
	Total deaths	Death rate	Deaths under 1 year	Infant mortality rate	Death rate	Deaths under 1 year	1932	1931
Boston.....	194	12.9	22	66	11.6	19	14.8	14.8
Bridgeport.....	21	7.4	2	36	9.2	2	11.1	11.7
Buffalo.....	112	10.0	7	34	10.9	10	13.1	13.9
Cambridge.....	26	11.9	0	0	8.7	1	13.1	12.7
Camden.....	26	11.4	2	35	7.4	4	15.0	14.8
Canton.....	21	10.1	2	50	8.3	3	9.8	10.6
Chicago ¹	671	10.0	53	52	9.4	65	10.3	11.4
Cincinnati.....	180	20.4	6	39	14.3	6	15.5	16.8
Cleveland.....	153	8.7	9	29	10.1	20	11.3	11.8
Columbus.....	88	15.4	7	70	12.7	2	14.0	14.4
Dallas ²	73	13.5	9	.....	12.0	13	10.9	12.0
White.....	55	12.3	8	.....	11.3	12	10.0	10.6
Colored.....	18	19.3	1	.....	15.4	1	15.1	18.5
Dayton.....	51	12.8	6	86	12.0	6	12.2	12.7
Denver.....	63	11.2	5	49	16.1	7	14.8	14.6
Des Moines.....	35	12.5	2	34	11.5	1	11.6	11.7
Detroit.....	218	6.6	20	36	6.6	19	8.0	8.9
Duluth.....	18	9.2	1	29	11.8	0	10.9	11.0
El Paso.....	32	15.6	5	.....	14.4	11	14.0	16.5
Erie.....	18	7.9	0	0	6.2	1	11.9	10.9
Evansville.....	29	14.3	3	100	5.5	1	10.4	11.9
Fall River ³	22	10.0	1	27	5.4	1	12.4	12.1
Flint.....	21	6.5	4	59	5.7	4	7.9	7.6
Fort Wayne.....	21	9.1	2	52	10.6	2	10.5	11.2
Fort Worth ⁴	41	12.6	1	.....	10.0	6	10.4	11.4
White.....	31	11.3	1	.....	8.6	4	9.9	10.9
Colored.....	10	19.6	0	.....	17.3	2	13.4	13.7
Grand Rapids.....	27	8.1	1	17	7.9	1	9.1	9.6
Hartford.....	41	12.6	3	40	.....	.....	.....	.....
Houston ⁵	77	12.4	7	.....	10.1	6	11.1	11.5
White.....	49	10.7	5	.....	7.8	4	10.3	10.7
Colored.....	28	17.1	2	.....	16.3	2	13.4	13.8
Indianapolis ⁶	92	12.8	8	65	13.7	9	13.0	14.4
White.....	76	12.1	6	55	13.2	6	12.6	13.9
Colored.....	16	18.1	2	137	17.3	3	15.8	17.7
Jersey City.....	62	10.1	4	33	11.0	9	11.6	12.3
Kansas City, Kans. ⁷	22	9.3	2	44	6.4	0	12.5	13.6
White.....	16	8.4	1	27	4.7	0	12.1	12.6
Colored.....	6	13.2	1	128	13.3	0	14.1	17.9
Kansas City, Mo.....	95	11.9	9	102	11.5	7	12.5	14.0
Knorrville ⁸	24	11.2	2	51	7.2	3	12.2	13.2
White.....	15	8.4	0	0	5.1	2	11.2	12.1
Colored.....	9	25.7	2	539	17.6	1	17.3	18.9
Long Beach.....	29	9.4	0	6	8.9	3	9.1	10.0
Los Angeles.....	270	10.2	18	53	9.4	17	10.7	11.1
Louisville ⁹	74	12.5	8	73	11.7	4	13.7	15.1
White.....	60	12.0	8	83	10.6	4	12.4	13.6
Colored.....	14	15.3	0	0	17.5	0	20.7	23.7
Lowell ¹⁰	21	11.0	0	0	10.9	3	14.1	13.2
Lynn.....	11	5.6	0	0	10.7	0	11.1	10.5
Memphis ¹¹	98	19.4	6	65	16.1	5	16.8	16.9
White.....	53	17.0	4	68	14.0	4	13.2	13.9
Colored.....	45	23.4	2	60	19.5	1	22.6	21.7
Miami ¹²	24	11.5	2	56	10.7	1	12.3	12.3
White.....	18	11.1	2	78	9.6	1	11.0	11.2
Colored.....	6	13.0	0	0	14.4	0	16.2	16.3
Milwaukee.....	121	10.5	13	62	8.4	10	9.0	10.0
Minneapolis.....	122	13.2	15	98	11.8	5	10.7	12.0
Nashville ¹³	71	23.7	11	164	15.4	7	15.5	17.4
White.....	45	20.6	5	98	13.0	3	14.1	14.9
Colored.....	26	31.7	6	374	21.9	4	19.4	23.9
New Bedford ¹⁴	20	9.3	2	53	11.6	4	11.8	13.1
New Haven.....	40	12.9	0	0	13.8	5	12.5	12.6
New Orleans ¹⁵	179	19.7	16	91	15.4	13	16.1	17.5
White.....	109	16.9	10	87	11.4	6	13.6	14.2
Colored.....	70	26.6	6	98	25.2	7	22.0	25.7

See footnotes at end of table.

Deaths¹ from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931—Continued

City	Week ended July 23, 1932				Corresponding week, 1931		Death rate for the first 29 weeks	
	Total deaths	Death rate	Deaths under 1 year	Infant mortality rate	Death rate	Deaths under 1 year	1932	1931
New York.....	1,225	8.9	82	37	9.3	81	11.1	11.9
Bronx Borough.....	178	6.7	9	26	6.7	9	8.2	8.7
Brooklyn Borough.....	391	7.6	35	39	8.6	35	10.3	11.0
Manhattan Borough.....	477	14.0	32	46	13.6	32	17.0	18.1
Queens Borough.....	136	5.9	6	25	6.6	4	7.1	7.7
Richmond Borough.....	43	13.4	0	0	14.4	1	14.2	14.2
Newark, N. J.....	71	8.3	4	22	9.6	5	11.0	12.4
Oakland.....	41	7.2	3	38	9.8	2	10.6	10.8
Oklahoma City.....	42	10.7	7	96	9.5	3	10.3	11.6
Omaha.....	60	14.3	0	0	11.8	5	13.2	14.3
Paterson.....	30	11.3	1	18	13.5	6	13.2	14.3
Peoria.....	24	11.3	5	138	11.1	0	11.3	13.4
Philadelphia.....	382	10.1	28	43	10.6	28	13.0	14.1
Pittsburgh.....	152	11.7	16	73	11.1	18	13.2	13.6
Portland, Oreg.....	61	10.3	2	26	14.3	3	11.3	12.0
Providence.....	54	11.0	2	19	11.0	6	13.7	13.5
Richmond ⁴	49	13.8	8	121	17.0	5	14.1	16.5
White.....	28	11.0	6	185	17.1	4	11.7	14.1
Colored.....	21	20.8	2	92	16.8	1	20.4	22.4
Rochester.....	70	10.9	4	38	7.5	2	12.5	12.6
St. Louis.....	274	17.2	17	61	12.7	8	13.9	16.5
St. Paul.....	67	12.5	4	43	7.7	0	10.4	11.4
Salt Lake City ⁴	39	14.0	4	63	6.6	0	11.0	12.2
San Antonio.....	61	12.9	11	—	10.0	4	14.1	15.5
San Diego.....	26	8.3	1	22	13.3	1	14.3	14.1
San Francisco.....	141	11.1	4	28	10.8	7	12.6	13.2
Schenectady.....	13	7.0	2	58	10.3	2	10.5	10.9
Seattle.....	71	9.9	4	40	10.8	1	11.8	11.8
Somerville.....	9	4.4	1	40	5.0	0	9.5	9.8
South Bend.....	18	8.5	2	58	10.1	1	7.8	8.6
Spokane.....	21	9.4	4	107	10.8	2	12.3	12.5
Springfield, Mass.....	37	12.5	3	51	11.0	1	11.7	12.5
Syracuse.....	36	8.7	3	39	10.5	3	12.0	12.1
Tacoma.....	31	14.9	4	110	10.2	1	12.4	12.5
Tampa ⁴	21	10.2	2	57	10.4	1	11.8	12.6
White.....	15	9.2	2	70	10.1	1	11.1	11.6
Colored.....	6	13.8	0	0	11.7	0	14.4	16.1
Toledo.....	83	14.4	6	65	9.8	6	12.1	12.5
Trenton.....	37	15.6	6	119	13.5	2	16.3	17.3
Utica.....	25	12.7	1	28	8.2	1	15.8	14.6
Washington, D. C. ⁴	143	15.1	15	84	12.5	12	16.9	16.5
White.....	95	13.9	8	66	10.4	4	15.0	14.1
Colored.....	48	18.4	7	125	18.2	8	21.9	22.7
Waterbury.....	12	6.2	1	33	6.7	2	9.6	10.1
Wilmington, Del. ⁷	32	15.7	1	23	12.2	4	15.7	14.7
Worcester.....	36	9.5	3	42	10.6	4	12.7	13.0
Yonkers.....	15	5.5	1	26	5.3	0	8.0	9.0
Youngstown.....	28	8.4	3	49	9.0	1	10.0	11.0

¹ Deaths of nonresidents are included. Stillbirths are excluded.

² These rates represent annual rates per 1,000 population, as estimated for 1932 and 1931 by the arithmetic method.

³ Deaths under 1 year of age per 1,000 estimated live births. Cities left blank are not in the registration area for births.

⁴ Data for 81 cities.

⁵ Deaths for week ended Friday.

⁶ For the cities for which deaths are shown by color, the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Fort Worth, 16; Houston, 27; Indianapolis, 12; Kansas City, Kans., 19; Knoxville, 16; Louisville, 15; Memphis, 38; Miami, 23; Nashville, 28; New Orleans, 29; Richmond, 29; Tampa, 21; and Washington, D. C., 27.

⁷ Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

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 July 30, 1932, and August 1, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931
New England States:								
Maine.....	1	3		1	22	11	0	0
New Hampshire.....					3	4	0	0
Vermont.....	2				7	1	0	0
Massachusetts.....	37	25		2	147	93	1	3
Rhode Island.....	1	5	2	1	7	35	0	0
Connecticut.....	3	8	1	2	34	28	0	0
Middle Atlantic States:								
New York.....	39	69	14	14	445	389	3	9
New Jersey.....	15	12	1		141	65	0	0
Pennsylvania.....	31	42			184	214	5	5
East North Central States:								
Ohio.....	24	27	6	3	87	263	1	1
Indiana.....	26	13	19	7	7	14	8	2
Illinois.....	26	54	16	133	73	200	2	8
Michigan.....	16	22			293	62	1	3
Wisconsin.....	4	12	12	8	101	83	2	1
West North Central States:								
Minnesota.....	3	3	4	2	17	17	2	2
Iowa.....	6	4			3	5	0	0
Missouri.....	12	8	2		13	4	1	5
North Dakota.....	6	4			5	10	1	0
South Dakota.....		1				1	0	0
Nebraska.....	3	2			4	2	0	0
Kansas.....	6	5			16	6	0	0
South Atlantic States:								
Delaware.....		2				3	0	0
Maryland.....	6	12		1	7	19	0	1
District of Columbia.....	9	9	2		2	9	0	1
Virginia.....	9				37		0	
West Virginia.....	7	3		6	51	59	2	3
North Carolina.....	22	17	26		79	18	0	2
South Carolina.....	8	6	74	47	24	29	2	2
Georgia.....	8	4	10	6			0	0
Florida.....	5	6			2	5	0	1

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931
East South Central States:								
Kentucky.....	8					42	0	2
Tennessee.....	3	1	2	2	2	2	1	1
Alabama ¹	19	7	4	2	1	9	1	1
Mississippi.....	7	14					0	1
West South Central States:								
Arkansas.....	5	1	2			5	0	0
Louisiana.....	13	15	1	4	31		0	0
Oklahoma ⁴	17	6	7	9	5	1	0	0
Texas ¹	36	4	38	5	5	6	1	0
Mountain States:								
Montana.....	1				56	22	0	0
Idaho.....	3	1				2	0	2
Wyoming.....					3	3	0	0
Colorado.....	6	7			2	23	0	0
New Mexico.....	9	2			1		1	0
Arizona.....	2	2	2			4	0	0
Utah ²	1	1		7	2	6	0	1
Pacific States:								
Washington.....	1	1			8	14	0	2
Oregon.....			7	4	14	13	0	1
California.....	26	45	32	8	54	90	2	0
Total.....	491	485	274	264	1,995	1,898	37	60

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931
New England States:								
Maine.....	1	4	5		0	0	3	0
New Hampshire.....	0	1	6	0	0	0	0	6
Vermont.....	0	0	2	1	0	3	0	0
Massachusetts.....	1	25	105	81	0	0	5	8
Rhode Island.....	1	8	9	5	0	0	1	2
Connecticut.....	0	37	19	7	0	0	1	4
Middle Atlantic States:								
New York.....	6	433	122	108	4	2	31	24
New Jersey.....	2	16	43	49	0	0	7	6
Pennsylvania.....	19	1	116	75	0	0	30	16
East North Central States:								
Ohio.....	5	1	96	92	0	17	56	32
Indiana.....	0	0	20	18	3	19	28	12
Illinois.....	10	15	73	68	14	15	36	25
Michigan.....	2	13	75	66	1	6	11	5
Wisconsin.....	4	11	12	16	0	1	9	3
West North Central States:								
Minnesota.....	3	10	22	20	0	1	1	3
Iowa.....	3	1	10	9	4	11	4	1
Missouri.....	0	2	29	13	2	1	40	38
North Dakota.....	1	0	2	6	9	13	5	3
South Dakota.....	0	0	1	1	2	1	3	4
Nebraska.....	0	0	1	13	3	4	1	5
Kansas.....	1	0	13	19	2	21	19	12
South Atlantic States:								
Delaware.....	0	0	0	2	0	0	3	0
Maryland ¹	0	0	16	17	0	0	23	28
District of Columbia.....	0	1	7	4	0	0	4	2
Virginia.....	2		11		0		55	
West Virginia.....	1	1	4	8	0	1	50	36
North Carolina ¹	2	1	35	22	2	1	59	47
South Carolina ¹	0	3	1	1	0	0	56	94
Georgia ¹	0	1	5	6	0	7	77	60
Florida.....	0	1	2	6	0	0	5	6

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931—Continued

Division and state	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931
East South Central States:								
Kentucky.....	2	0	20	21	6	0	108	13
Tennessee.....	1	1	7	6	3	3	141	89
Alabama ¹	0	0	7	12	0	1	29	58
Mississippi.....	1	1	5	4	2	7	39	55
West South Central States:								
Arkansas.....	2	0	0	6	4	11	29	46
Louisiana.....	0	1	4	1	0	0	71	76
Oklahoma ¹	0	1	8	14	1	7	48	33
Texas ¹	5	2	23	15	8	1	40	15
Mountain States:								
Montana.....	0	1	2	2	4	0	4	3
Idaho.....	0	0	1	3	0	3	6	1
Wyoming.....	0	0	2	2	0	2	0	1
Colorado.....	0	1	8	9	0	7	5	4
New Mexico.....	0	1	3	0	0	1	16	0
Arizona.....	0	0	1	0	2	0	2	5
Utah ¹	0	0	0	1	0	0	1	0
Pacific States:								
Washington.....	1	0	14	5	5	5	4	4
Oregon.....	1	0	6	2	4	8	3	6
California.....	6	3	39	42	9	7	10	16
Total.....	83	598	1,012	878	94	187	1,179	912

¹ New York City only.

² Week ended Friday.

³ Typhus fever, week ended July 30, 1932, 17 cases: 2 cases in North Carolina, 1 case in South Carolina, 1 case in Georgia, 5 cases in Alabama, and 8 cases in Texas.

⁴ Figures for 1932 are exclusive of Oklahoma City and Tulsa and for 1931 are exclusive of Tulsa only.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Meas- les	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>June, 1932</i>										
Arkansas.....		8	45	99	2	211	1	9	11	68
Idaho.....		4	2		13		0	5	4	13
Kansas.....	3	20	6	2	632		2	54	36	22
Louisiana.....	1	67	28	86	34	41	2	33	6	102
Montana.....		5	14		379		0	24	33	7
Nevada.....			1		179		0	4	1	
Oklahoma ¹	1	22	31	80	257	20	4	34	50	60
Oregon.....	2	18	62	3	598		0	31	28	11
South Dakota.....		17	20		25		1	19	5	9
Texas.....	1	83	87	695		4	12	71		48
Virginia.....	5	34	535	45	374	103	2	73	0	81
Washington.....	3	44	5		705		14	63	46	23
Wisconsin.....	6		52		5,066		6	229	4	8

¹ Exclusive of Oklahoma City and Tulsa.

<i>June, 1932</i>		Cases			Cases
Anthrax:			Rocky Mountain spotted or tick fever—Con.		
Arkansas		2	Nevada		5
Botulism:			Oregon		10
Washington		2	South Dakota		3
Chicken pox:			Virginia		2
Arkansas		14	Scabies:		
Idaho		12	Montana		1
Kansas		111	Oregon		19
Louisiana		10	Septic sore throat:		
Montana		51	Louisiana		1
Nevada		13	Montana		1
Oklahoma ¹		18	Oklahoma ¹		8
Oregon		54	Oregon		1
South Dakota		37	Silicosis:		
Virginia		222	Montana		1
Washington		248	Tetanus:		
Wisconsin		1,086	Kansas		3
Dengue:			Louisiana		5
Louisiana		3	Oklahoma ¹		1
Dysentery:			South Dakota		1
Louisiana		2	Tick paralysis:		
Oklahoma ¹		26	Montana		1
Oregon		1	Trachoma:		
Dysentery and diarrhea:			Arkansas		3
Virginia		1,566	Oklahoma ¹		3
German measles:			South Dakota		8
Kansas		2	Trench mouth:		
Montana		3	Oklahoma ¹		2
Washington		12	Trichinosis:		
Hookworm disease:			South Dakota		1
Arkansas		1	Tularæmia:		
Louisiana		23	Louisiana		4
Impetigo contagiosa:			Montana		3
Montana		9	Oregon		3
Oklahoma ¹		3	Wisconsin		1
Oregon		19	Typhus fever:		
Leprosy:			Virginia		2
Louisiana		1	Undulant fever:		
Lethargic encephalitis:			Kansas		10
Louisiana		2	Louisiana		4
Wisconsin		2	Montana		3
Mumps:			South Dakota		1
Arkansas		20	Virginia		2
Idaho		25	Washington		1
Kansas		154	Wisconsin		3
Louisiana		4	Vincent's angina:		
Montana		30	Kansas		10
Oklahoma ¹		14	Nevada		5
Oregon		65	Oklahoma ¹		2
South Dakota		18	Oregon		3
Washington		58	Whooping cough:		
Wisconsin		382	Arkansas		56
Ophthalmia neonatorum:			Idaho		1
Oklahoma ¹		1	Kansas		496
Paratyphoid fever:			Louisiana		36
Kansas		1	Montana		52
Louisiana		3	Nevada		20
Texas		2	Oklahoma ¹		56
Virginia		2	Oregon		73
Rabies in animals:			South Dakota		40
Louisiana		10	Virginia		1,012
Washington		1	Washington		48
Rocky Mountain spotted or tick fever:			Wisconsin		1,079
Idaho		9			
Montana		27			

¹ Exclusive of Oklahoma City and Tulsa.

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 33,980,000. The estimated population of the 90 cities reporting deaths is more than 32,420,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended July 23, 1932, and July 25, 1931

	1932	1931	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	490	487	-----
97 cities.....	176	215	407
Measles:			
45 States.....	3,282	2,411	-----
97 cities.....	934	854	-----
Meningococcus meningitis:			
46 States.....	40	59	-----
97 cities.....	17	29	-----
Poliomyelitis:			
46 States.....	48	307	-----
Scarlet fever:			
46 States.....	1,086	951	-----
97 cities.....	409	338	343
Smallpox:			
46 States.....	102	204	-----
97 cities.....	7	19	26
Typhoid fever:			
46 States.....	1,247	758	-----
97 cities.....	138	101	80
<i>Deaths reported</i>			
Influenza and pneumonia:			
90 cities.....	319	278	-----
Smallpox:			
90 cities.....	0	0	-----

City reports for week ended July 23, 1932

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 1923 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	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland.....	2	1	0	-----	0	0	0	0
New Hampshire:								
Concord.....	0	0	0	-----	0	0	0	0
Manchester.....	0	1	0	-----	0	0	0	1
Nashua.....	0	0	0	-----	0	0	0	0

City reports for week ended July 23, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND—CON.								
Vermont:								
Barre.....	1	0	0	-----	0	0	0	0
Burlington.....	0	0	0	-----	0	0	0	0
Massachusetts:								
Boston.....	12	17	9	-----	0	53	31	15
Fall River.....	0	1	0	-----	1	9	0	3
Springfield.....	0	1	0	-----	0	15	4	0
Worcester.....	8	0	1	-----	0	4	0	1
Rhode Island:								
Pawtucket.....	0	1	0	-----	0	0	0	0
Providence.....	3	3	2	-----	0	6	0	3
Connecticut:								
Bridgeport.....	1	1	0	-----	1	15	0	2
Hartford.....	0	1	0	-----	2	1	2	1
New Haven.....	4	0	0	-----	2	0	3	1
MIDDLE ATLANTIC								
New York:								
Buffalo.....	9	6	0	-----	0	9	0	8
New York.....	87	124	43	-----	3	6	218	107
Rochester.....	2	2	0	-----	0	0	1	2
Syracuse.....	9	2	0	-----	0	0	6	1
New Jersey:								
Camden.....	0	2	1	-----	0	0	0	0
Newark.....	9	8	1	-----	0	51	42	3
Trenton.....	0	0	0	-----	1	0	5	0
Pennsylvania:								
Philadelphia.....	16	30	1	-----	1	2	8	21
Pittsburgh.....	12	10	2	-----	2	0	20	2
Reading.....	2	2	0	-----	0	0	5	0
EAST NORTH CENTRAL								
Ohio:								
Cincinnati.....	2	3	2	-----	1	0	0	6
Cleveland.....	20	13	3	-----	1	0	21	8
Columbus.....	0	2	5	-----	0	0	15	0
Toledo.....	7	2	0	-----	0	0	17	0
Indiana:								
Fort Wayne.....	0	1	3	-----	0	0	0	0
Indianapolis.....	1	2	0	-----	0	1	16	3
South Bend.....	0	0	0	-----	0	0	0	2
Terre Haute.....	0	0	0	-----	0	1	0	1
Illinois:								
Chicago.....	42	54	14	-----	0	65	4	26
Springfield.....	1	0	0	-----	0	1	0	2
Michigan:								
Detroit.....	18	24	5	-----	0	240	5	10
Flint.....	7	1	0	-----	0	4	8	1
Grand Rapids.....	6	0	0	-----	0	3	2	0
Wisconsin:								
Kenosha.....	1	0	0	-----	0	21	0	0
Madison.....	3	0	1	-----	0	6	1	-----
Milwaukee.....	15	7	2	-----	1	29	4	6
Racine.....	16	0	0	-----	0	1	3	0
Superior.....	1	0	0	-----	0	0	0	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth.....	4	0	0	-----	0	0	0	0
Minneapolis.....	13	8	2	-----	0	7	2	5
St. Paul.....	4	2	0	-----	1	0	7	3
Iowa:								
Des Moines.....	0	0	0	-----	0	0	0	-----
Sioux City.....	5	0	1	-----	0	1	0	-----
Waterloo.....	0	0	1	-----	0	0	1	-----
Missouri:								
Kansas City.....	1	1	2	-----	0	5	3	2
St. Joseph.....	0	0	0	-----	0	0	0	4
St. Louis.....	5	15	6	-----	0	2	4	4
North Dakota:								
Fargo.....	0	0	0	-----	0	1	0	0
Grand Forks.....	0	0	0	-----	0	0	0	-----

City reports for week ended July 23, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
WEST NORTH CENTRAL—continued								
South Dakota:								
Aberdeen.....	4	0	0			0	0	
Sioux Falls.....	0	0	0			0	0	
Nebraska:								
Omaha.....	0	1	3		0	2	0	5
Kansas:								
Topeka.....	1	0	1		0	11	3	0
Wichita.....	0	0	0		0	0	0	1
SOUTH ATLANTIC								
Delaware:								
Wilmington.....	0	1	0		0	0	0	2
Maryland:								
Baltimore.....	8	8	2		0	0	27	9
Cumberland.....	0	0	0		0	0	0	2
Frederick.....	0	0	0		0	0	0	0
District of Columbia:								
Washington.....	7	4	4	1	1	4	0	6
Virginia:								
Lynchburg.....	0	0	0		0	0	0	0
Norfolk.....	0	0	0		0	1	0	1
Richmond.....	1	1	0		0	0	0	1
Roanoke.....	0	0	0		0	0	0	1
West Virginia:								
Charleston.....	0	0	0		0	0	0	0
Huntington.....	0	0	2		0	1	0	
Wheeling.....	3	0	1		0	6	0	1
North Carolina:								
Raleigh.....	1	0	0		0	0	0	0
Wilmington.....	3	0	0		0	0	0	1
Winston-Salem.....	0	0	0		0	3	0	4
South Carolina:								
Charleston.....	0	0	0	14	0	0	0	1
Columbia.....	0	0	0		0	1	0	2
Georgia:								
Atlanta.....	0	2	1	3	0	0	0	6
Brunswick.....	0	0	0		0	0	0	1
Savannah.....	0	0	2		0	1	0	0
Florida:								
Miami.....	0	3	1		0	0	0	0
Tampa.....	0	1	1		0	0	0	0
EAST SOUTH CENTRAL								
Kentucky:								
Covington.....		0						
Lexington.....	1		0		0	0	0	2
Tennessee:								
Memphis.....	5	0	0		0	0	0	5
Nashville.....	0	0	0		0	0	0	0
Alabama:								
Birmingham.....	0	1	1		0	0	0	0
Mobile.....	0	0	2		0	0	0	0
Montgomery.....	0	0	1			0	1	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith.....	0	0	1			0	0	
Little Rock.....	0	0	0		0	0	0	2
Louisiana:								
New Orleans.....	0	5	0	1	1	0	0	8
Shreveport.....	0	0	0		0	0	1	0
Oklahoma:								
Muskogee.....	0	0	2			0	0	
Oklahoma City.....	0	1	0		1	5	0	2
Tulsa.....	0	1	1			1	0	
Texas:								
Dallas.....	0	2	8	1	1	2	0	5
Fort Worth.....	0	0	1		1	0	0	2
Galveston.....	0	0	0		0	0	0	1
Houston.....	0	2	1		2	5	0	3
San Antonio.....	0	1	4		0	0	0	1

City reports for week ended July 23, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths reported	Typhoid fever			Whoop- ing cough, cases reported	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		
MIDDLE ATLANTIC—continued											
New Jersey:											
Camden.....	1	3	0	0	0	2	0	1	0	10	26
Newark.....	6	3	0	0	0	0	1	0	0	12	
Trenton.....	0	1	0	0	0	4	0	0	0	11	37
Pennsylvania:											
Philadelphia...	24	27	0	0	0	19	4	1	0	47	362
Pittsburgh.....	12	14	0	0	0	6	1	3	0	51	152
Reading.....	0	3	0	0	0	0	0	0	0	11	20
EAST NORTH CENTRAL											
Ohio:											
Cincinnati.....	6	5	1	0	0	7	1	3	1	10	180
Cleveland.....	11	20	1	0	0	16	2	2	0	53	153
Columbus.....	2	5	1	0	0	2	0	2	1	24	88
Toledo.....	3	5	1	0	0	4	1	3	1	21	81
Indiana:											
Fort Wayne.....	1	0	0	0	0	2	0	0	1	0	22
Indianapolis.....	2	1	3	0	0	5	0	5	0	12	
South Bend.....	0	0	0	0	0	1	0	0	0	2	18
Terre Haute.....	1	1	0	0	0	1	0	0	0	0	31
Illinois:											
Chicago.....	48	37	1	0	0	32	4	4	1	87	671
Springfield.....	0	1	0	0	0	1	0	2	0	1	24
Michigan:											
Detroit.....	31	32	1	0	0	19	2	1	0	150	218
Flint.....	5	1	0	0	0	1	0	1	1	21	21
Grand Rapids.....	4	1	0	0	0	0	0	0	0	27	27
Wisconsin:											
Kenosha.....	1	0	0	0	0	0	0	0	0	6	7
Madison.....	1	1	0	0	0	0	0	0	0	15	
Milwaukee.....	8	7	1	0	0	3	1	0	0	70	121
Racine.....	1	0	0	0	0	0	0	0	0	0	15
Superior.....	1	0	0	0	0	0	0	1	0	1	8
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	4	0	0	0	0	1	0	0	0	0	18
Minneapolis.....	10	5	0	0	0	3	0	1	0	9	122
St. Paul.....	6	4	0	0	0	3	0	0	0	31	73
Iowa:											
Des Moines.....	1	0	0	0	0	0	1	0	0	0	35
Sioux City.....	0	1	1	0	0	0	0	0	0	1	
Waterloo.....	1	0	0	0	0	0	0	0	0	0	
Missouri:											
Kansas City.....	2	18	0	0	0	6	1	5	0	56	95
St. Joseph.....	0	0	1	0	0	1	0	2	0	4	38
St. Louis.....	8	2	1	0	0	17	3	8	1	14	
North Dakota:											
Fargo.....	0	0	0	0	0	1	0	0	0	0	5
Grand Forks.....	1	0	0	0	0	0	0	0	0	0	
South Dakota:											
Aberdeen.....	0	0	0	0	0	0	0	0	0	0	
Sioux Falls.....	0	0	0	0	0	0	0	0	0	0	5
Nebraska:											
Omaha.....	1	1	0	1	0	1	0	0	1	3	60
Kansas:											
Topeka.....	1	0	0	0	0	0	0	0	0	33	10
Wichita.....	0	0	0	0	0	0	0	0	0	2	24
SOUTH ATLANTIC											
Delaware:											
Wilmington...	1	4	0	0	0	0	0	0	0	2	32
Maryland:											
Baltimore.....	7	9	0	0	0	17	4	1	0	40	203
Cumberland.....	0	0	0	0	0	0	0	1	0	2	11
Frederick.....	0	0	0	0	0	0	0	0	0	0	3
District of Col.:											
Washington.....	6	3	0	0	0	15	2	4	0	5	143

City reports for week ended July 23, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox		Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported		Deaths reported	Deaths reported	Deaths reported		
SOUTH ATLANTIC—continued										
Virginia:										
Lynchburg.....	0	2	0	0	0	1	1	0	33	13
Norfolk.....	0	1	0	0	0	3	1	0	3	41
Richmond.....	2	5	0	0	0	6	1	0	0	57
Roanoke.....	1	0	0	0	0	1	0	0	0	7
West Virginia:										
Charleston.....	0	1	0	0	0	1	0	0	0	16
Huntington.....	0	0	0	0	0	0	2	0	0	0
Wheeling.....	0	0	0	0	0	0	1	0	5	17
North Carolina:										
Raleigh.....	0	0	0	0	0	2	1	1	3	25
Wilmington.....	0	0	0	0	0	0	0	0	0	16
Winston-Salem.....	0	1	1	0	0	1	0	0	20	19
South Carolina:										
Charleston.....	0	0	0	0	0	5	1	0	0	26
Columbia.....	0	0	0	0	0	1	2	1	1	19
Georgia:										
Atlanta.....	2	1	0	0	0	3	3	6	0	3
Brunswick.....	0	0	0	0	0	0	0	0	0	1
Savannah.....	0	0	0	0	0	2	1	5	0	1
Florida:										
Miami.....	1	0	0	0	0	3	0	0	0	24
Tampa.....	0	1	0	0	0	1	0	0	0	24
EAST SOUTH CENTRAL										
Kentucky:										
Covington.....	0	0	0	0	0	0	2	1	2	15
Lexington.....	0	0	0	0	0	0	0	0	0	0
Tennessee:										
Memphis.....	1	0	1	0	0	5	8	4	0	98
Nashville.....	0	0	0	0	0	2	4	2	1	3
Alabama:										
Birmingham.....	0	3	0	0	0	7	4	4	0	10
Mobile.....	0	1	0	0	0	0	1	1	0	1
Montgomery.....	0	0	0	0	0	0	2	0	0	14
WEST SOUTH CENTRAL										
Arkansas:										
Fort Smith.....	0	0	0	0	0	0	0	0	0	0
Little Rock.....	0	1	0	0	0	2	0	0	1	0
Louisiana:										
New Orleans.....	4	3	0	0	0	13	5	28	1	0
Shreveport.....	0	0	0	0	0	4	2	1	3	2
Oklahoma:										
Muskogee.....	0	1	0	0	0	0	0	0	0	0
Oklahoma City.....	1	2	1	0	0	3	3	0	1	5
Tulsa.....	1	0	1	0	0	0	2	0	18	42
Texas:										
Dallas.....	2	3	0	0	0	4	2	4	2	2
Fort Worth.....	1	0	0	0	0	0	1	1	0	0
Galveston.....	0	0	0	0	0	1	0	0	0	0
Houston.....	1	3	1	0	0	6	1	3	0	0
San Antonio.....	1	3	0	0	0	3	1	2	1	0
MOUNTAIN										
Montana:										
Billings.....	0	0	0	0	0	0	0	0	0	7
Great Falls.....	1	0	1	0	0	0	0	0	0	1
Helena.....	0	0	0	0	0	0	0	0	0	9
Missoula.....	0	0	1	0	0	0	0	0	0	5
Idaho:										
Boise.....	0	0	0	0	0	0	0	0	0	0
Colorado:										
Denver.....	4	8	0	0	0	3	0	0	23	60
Pueblo.....	0	0	1	0	0	1	0	0	1	10

1 Includes 24 nonresidents.

City reports for week ended July 23, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MOUNTAIN—CON.											
New Mexico:											
Albuquerque.....	0	0	0	0	0	1	0	0	0	0	10
Arizona:											
Phoenix.....	0	0	0	0	0	1	0	0	0	1	-----
Utah:											
Salt Lake City.....	1	1	1	0	0	0	0	0	0	11	39
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	2
PACIFIC											
Washington:											
Seattle.....	3	0	1	4	-----	-----	1	0	-----	2	-----
Spokane.....	0	0	2	1	-----	-----	0	1	-----	1	-----
Tacama.....	1	3	2	0	0	0	0	0	0	0	31
Oregon:											
Salem.....	0	0	1	0	-----	-----	0	0	-----	12	-----
California:											
Los Angeles.....	12	14	2	1	0	24	3	3	0	96	270
Sacramento.....	1	1	0	0	0	2	2	2	0	5	20
San Francisco.....	6	2	0	0	0	14	1	0	0	16	141

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths	
NEW ENGLAND										
Massachusetts:										
Boston.....	0	0	0	0	2	0	1	0	0	0
Connecticut:										
Hartford.....	1	0	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC										
New York:										
New York ¹	1	0	0	0	0	0	8	1	0	0
Pennsylvania:										
Philadelphia.....	1	0	0	0	1	0	1	5	0	0
Pittsburgh.....	0	1	0	0	0	0	1	0	0	0
EAST NORTH CENTRAL										
Indiana:										
Indianapolis.....	7	4	0	0	0	0	0	0	0	0
Illinois:										
Chicago.....	2	1	0	0	6	0	1	0	0	0
Springfield.....	0	0	0	0	0	0	0	0	1	0
Michigan:										
Detroit.....	1	2	1	0	0	0	0	2	0	0
Wisconsin:										
Racine.....	1	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL										
Minnesota:										
Minneapolis.....	0	0	0	0	0	0	0	1	0	0
St. Paul.....	0	0	0	0	0	0	0	1	0	0
Iowa:										
Des Moines.....	0	0	0	0	0	0	0	1	0	0
Missouri:										
Kansas City.....	1	0	0	0	1	1	0	0	0	0

¹ Nonresidents.² Typhus fever, 4 cases: 1 case at New York City, N. Y.; 2 cases at Savannah, Ga.; and 1 case at Miami, Fla.

City reports for week ended July 23, 1932—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Pollomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	1	1	1	0	0	0	1	0	0
District of Columbia:									
Washington.....	0	0	1	1	1	1	0	0	0
Virginia:									
Lynchburg.....	0	0	0	0	0	0	0	1	0
West Virginia:									
Charleston.....	0	0	0	0	0	0	0	1	0
South Carolina:									
Charleston.....	0	0	0	0	3	0	0	1	0
Columbia.....	0	0	0	0	0	1	0	0	0
Georgia:									
Brunswick.....	0	0	0	0	1	0	0	0	0
Savannah ¹	0	0	0	0	1	0	0	0	1
Florida: ²									
Tampa.....	0	0	1	1	0	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	0	0	0	0	1	0	0	0	0
Alabama:									
Birmingham.....	0	0	0	0	0	0	0	1	0
Mobile.....	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	0	0	0	0	0	0	0	1	0
Louisiana:									
New Orleans.....	1	0	0	0	0	1	0	0	0
Shreveport.....	0	0	0	0	1	1	0	0	0
Texas:									
Houston.....	0	1	0	0	0	0	0	0	0
San Antonio.....	0	0	0	0	0	0	0	1	0
MOUNTAIN									
New Mexico:									
Albuquerque.....	0	0	0	0	0	1	0	0	0
PACIFIC									
California:									
San Francisco.....	0	1	0	0	0	0	0	1	0

¹ Typhus fever, 4 cases: 1 case at New York City, N. Y.; 2 cases at Savannah, Ga.; and 1 case at Miami, Fla.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended July 23, 1932, compared with those for a like period ended July 25, 1931. The population figures used in computing the rates are estimated mid-year populations for 1931 and 1932, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 34,000,000. The 91 cities reporting deaths have more than 32,400,000 estimated population.

Summary of weekly reports from cities, June 19 to July 23, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931¹

DIPHTHERIA CASE RATES

	Week ended—									
	June 25, 1932	June 27, 1931	July 2, 1932	July 4, 1931	July 9, 1932	July 11, 1931	July 16, 1932	July 18, 1931	July 23, 1932	July 25, 1931
98 cities.....	38	54	44	47	31	43	32	42	27	33
New England.....	31	67	204	96	46	60	60	65	29	60
Middle Atlantic.....	38	47	27	53	28	50	28	37	21	34
East North Central.....	30	72	25	49	23	41	25	50	20	39
West North Central.....	61	42	59	33	40	31	51	31	30	33
South Atlantic.....	27	45	38	12	31	18	31	24	22	28
East South Central.....	25	23	12	12	6	23	12	29	25	12
West South Central.....	69	68	89	27	106	61	75	47	46	24
Mountain.....	17	9	26	19	17	17	17	61	34	35
Pacific.....	44	51	34	51	13	41	25	51	63	16

MEASLES CASE RATES

	517	563	371	384	241	316	240	181	144	133
98 cities.....	517	563	371	384	241	316	240	181	144	133
New England.....	1,001	438	630	402	561	351	395	317	247	209
Middle Atlantic.....	376	511	345	284	188	311	214	144	143	111
East North Central.....	972	920	641	768	409	527	419	316	239	214
West North Central.....	104	297	57	140	74	103	86	61	55	34
South Atlantic.....	294	591	154	311	104	259	43	107	29	83
East South Central.....	12	593	0	352	7	117	6	117	0	106
West South Central.....	96	47	53	24	33	27	24	17	23	14
Mountain.....	543	479	431	215	267	122	155	122	112	174
Pacific.....	343	363	227	149	156	182	135	123	80	125

SCARLET FEVER CASE RATES

	172	163	136	105	84	79	86	70	63	53
98 cities.....	172	163	136	105	84	79	86	70	63	53
New England.....	343	233	280	188	202	142	165	149	156	111
Middle Atlantic.....	211	195	168	135	82	89	98	68	57	56
East North Central.....	208	240	167	122	110	90	91	106	66	69
West North Central.....	61	78	63	31	45	44	72	42	59	29
South Atlantic.....	90	93	58	55	43	49	41	34	53	38
East South Central.....	19	65	29	47	0	53	37	23	25	6
West South Central.....	53	30	36	41	10	34	28	34	43	44
Mountain.....	155	96	52	36	86	52	9	26	78	0
Pacific.....	70	57	53	47	50	49	60	12	38	12

SMALLPOX CASE RATES

	2	8	2	6	1	2	1	3	1	3
98 cities.....	2	8	2	6	1	2	1	3	1	3
New England.....	0	0	0	0	0	2	0	0	0	0
Middle Atlantic.....	0	1	0	0	0	0	0	0	0	0
East North Central.....	1	5	1	8	0	1	0	4	0	2
West North Central.....	6	19	2	10	2	4	10	4	2	10
South Atlantic.....	0	12	0	0	0	4	11	0	0	0
East South Central.....	12	18	6	23	6	6	7	0	0	6
West South Central.....	0	30	3	24	0	10	12	7	0	0
Mountain.....	0	70	17	0	43	0	26	0	0	0
Pacific.....	15	6	10	14	15	8	13	22	11	20

See footnotes at end of table.

Summary of weekly reports from cities, June 19 to July 23, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931¹—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	June 25, 1932	June 27, 1931	July 2, 1932	July 4, 1931	July 9, 1932	July 11, 1931	July 16, 1932	July 18, 1931	July 23, 1932	July 25, 1931
98 cities.....	10	10	13	10	12	14	13	13	21	16
New England.....	18	0	5	19	5	2	7	12	5	10
Middle Atlantic.....	4	4	4	5	5	8	8	8	10	8
East North Central.....	5	6	10	3	10	5	13	5	13	5
West North Central.....	11	10	6	10	11	19	15	2	30	19
South Atlantic.....	37	16	42	10	24	26	18	47	43	69
East South Central.....	44	35	75	41	69	59	69	35	69	47
West South Central.....	20	54	56	71	46	81	38	58	125	10
Mountain.....	9	52	9	36	17	35	9	26	0	0
Pacific.....	4	14	4	4	5	6	10	6	11	27

INFLUENZA DEATH RATES

91 cities.....	6	4	3	3	2	3	2	2	3	1
New England.....	3	2	0	0	0	2	7	0	2	0
Middle Atlantic.....	7	2	4	1	2	4	1	0	4	1
East North Central.....	3	6	4	1	3	2	2	4	1	2
West North Central.....	9	0	0	9	0	0	10	3	3	0
South Atlantic.....	6	6	2	4	0	4	16	4	2	2
East South Central.....	7	6	13	19	7	6	7	0	0	0
West South Central.....	13	7	0	10	3	7	0	3	13	3
Mountain.....	9	0	0	9	9	0	9	0	0	0
Pacific.....	7	2	2	5	10	0	10	0	0	2

PNEUMONIA DEATH RATES

91 cities.....	56	67	53	64	50	59	46	47	49	44
New England.....	65	60	62	36	53	79	74	50	62	31
Middle Atlantic.....	61	76	61	67	63	59	46	63	49	55
East North Central.....	43	51	35	61	32	47	31	29	33	32
West North Central.....	52	38	64	77	35	88	48	71	70	53
South Atlantic.....	73	103	52	67	67	71	58	40	73	44
East South Central.....	55	140	31	83	27	51	20	45	34	45
West South Central.....	61	90	91	90	57	86	91	45	67	52
Mountain.....	60	35	60	72	43	61	52	35	78	17
Pacific.....	51	41	44	46	36	31	33	24	37	43

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1932 and 1931, respectively.

² Hartford, Conn., and Covington, Ky., not included.

³ Columbia, S. C., not included.

⁴ Columbia, S. C., and Billings, Mont., not included.

⁵ Barre, Vt., Covington, Ky., and San Francisco, Calif., not included.

⁶ St. Paul, Minn., Raleigh and Winston-Salem, N. C., Covington, Ky., New Orleans, La., and San Francisco, Calif., not included.

⁷ Covington, Ky., not included.

⁸ Hartford, Conn., not included.

⁹ Barre, Vt., not included.

¹⁰ St. Paul, Minn., not included.

¹¹ Raleigh and Winston-Salem, N. C., not included.

¹² New Orleans, La., not included.

¹³ Billings, Mont., not included.

¹⁴ San Francisco, Calif., not included.

FOREIGN AND INSULAR

CANADA

Quebec Province—Communicable diseases—Week ended July 16, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended July 16, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	31	Poliomyelitis.....	10
Diphtheria.....	21	Scarlet fever.....	40
Erysipelas.....	3	Tuberculosis.....	72
German measles.....	1	Typhoid fever.....	31
Measles.....	49	Whooping cough.....	62
Ophthalmia neonatorum.....	1		

CUBA

Habana—Communicable diseases—Four weeks ended July 16, 1932.—During the four weeks ended July 16, 1932, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chicken pox.....	1		Measles.....	4	
Diphtheria.....	2	2	Scarlet fever.....	4	
Leprosy.....	1	1	Tuberculosis.....	17	2
Malaria.....	11		Typhoid fever.....	12	4

JAMAICA

Communicable diseases—Four weeks ended July 16, 1932.—During the four weeks ended July 16, 1932, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the island of Jamaica, outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....		1	Lethargic encephalitis.....		2
Chicken pox.....	2	12	Puerperal fever.....	1	1
Diphtheria.....	1		Scarlet fever.....		1
Dysentery.....	2	2	Tuberculosis.....	36	67
Leprosy.....		1	Typhoid fever.....	4	42

PUERTO RICO

San Juan—Communicable diseases—Four weeks ended July 16, 1932.—During the four weeks ended July 16, 1932, cases of certain communicable diseases were reported in San Juan, P. R., as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	3	Measles.....	26
Diphtheria.....	6	Mumps.....	3
Influenza.....	18	Typhoid fever.....	1
Malaria.....	17	Whooping cough.....	4

Madras.....																						
Rangoon.....		3	3																			
India (French):																						
Chandernagor.....																						
Karikal.....		35																				
Pondicherry Territory.....		17	2																			
Pondicherry.....		16																				
		15																				
Indo-China (see also table below):																						
Pnompenh.....		2			1		1		1													
Saigon and Cholon.....		2	1				1		2													
Japan:																						
Kobe.....																						
Tokyo.....																						
Persia: Kouh Bezman.....																						
Philippine Islands:																						
Capiz Province.....																						
Laguna Province.....		22	23																			
		20	20																			
Siam.....		1																				
		1																				
		1																				
Bangkok.....		1																				
On vessels:																						
S. S. Angora at Rangoon from Calcutta.....																						
S. S. Narbada at Rangoon from Calcutta.....																						
S. S. Shanghai Maru at Kobe from Shanghai.....																						
S. S. President Wilson en route to Manila from Honolulu via Shanghai and Hong Kong.....																						

1 Local unofficial reports included 159 deaths from cholera in Swatow, China, from June 10 to 30, 1932.
 2 Later information indicates that the case in San Pedro, Honduras, reported as cholera in the Public Health Reports, vo. 47, No. 32, p. 1670, was probably food poisoning.
 3 A suspected case.

Ceylon: Colombo.....	C	5	4	3	3	2	2	3	3	3	2	2	3	3	2	5	1	-----
Plague-infected rats.....	D	3	3	3	3	2	2	2	2	2	2	2	2	2	2	5	1	-----
China:		1																-----
Kwang Chow Wan.....	C																	-----
Shensi Province.....	C		P															-----
Dutch East Indies:																		-----
Java—																		-----
Surabaya.....	C	2																-----
Tegal.....	D	2																-----
Java and Madura.....	D	499	1	362	365	70	62	70	71	72								-----
West Java.....	D	201	459	141	239				41	44	45	63						-----
Dutch East Indies.....	D	200	139	213	237				41	43	45	63						-----
Ecuador (see table below).																		-----
Egypt:																		-----
Alexandria.....	C	2		2		1	2	1	8	1	2	1	2	1	3	1	1	-----
Assiout.....	D	1					2		1	2	1	1	1	1	1	1	1	-----
Behira.....	D	11			1	2							1	1				-----
Beni Suef.....	D	2			3	1	3		1	1	1		1	1				-----
Gharbieh.....	D				8	3	3		37	2			2	2	1			-----
Minteh.....	D	1					3		8				2	1				-----
Tanta.....	D	1					3		3									-----
Hawaii Territory:																		-----
Hawaii Island—	D	1																-----
Hamakua.....	D	1																-----
Honokaa.....	D	1																-----
Maui Island—	C	2																-----
Honokaa.....	D	1																-----
Makawao ¹	D	1																-----
Plague-infected rats.....																		-----
Kukalau—Plague-infected rats.....																		-----
Makawao ¹	D	1																-----
India:																		-----
Plague-infected rats.....	C	7,892	4	9,724	5,197	684	474	286	250	133								-----
Bassein.....	D	3,971	4,970	5,543	3,219	505	360	203	192	91								-----
Bombay.....	D	1	4	9	6	2	2	2	2	2	2	2	2	2	1	1	1	-----
Plague-infected rats.....	D	57	109	117	122	25	21	1	11	3								-----

¹ Including plague in the United States and its possessions.
² 10 cases of bubonic plague were reported in Cordoba Province, Argentina, in January, 1932. They were distant from railroad and 500 kilometers from ports.
³ 1 death from plague Aug. 1, 1932 was reported in Makawao District, Maui Island, Hawaii Territory.

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

PLAGUE¹—Continued

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

Place	Week ended—																				
	Jan. 10-1932	Feb. 7-Mar. 5, 1932	Mar. 6-Apr. 2, 1932	Apr. 3-30, 1932	May, 1932			June, 1932			July, 1932										
					7	14	21	28	4	11	18	25	2	9	16	23					
India—Continued.																					
Madras.....	C			41																	
Madras Presidency.....	D			1																	
".....	D	2,951	138	69	18	5	6	14	13												
".....	D	155	47	80	24	4	1	2	8												
Rangoon.....	D		9	4	7			1													
Plague-infected rats.....	D	1	8	4	6																
".....	D		2	8	6			2													
Indo-China (see table below).				6				1													
Iraq: Baghdad.....	C	5	3																		
Madagascar (see table below).	D		1																		
Morocco.....	C																				
Peru (see table below).																					
Senegal (see table below).																					
Siam.....	C	1	1	7																	
".....	D	1		3																	
Southwest Africa, ¹																					
Syria: Beirut.....	C																				
Union of South Africa: Orange Free State.....	C																				
United States: California—Los Angeles—Plague-infected rats.....	C		P	P	2																
On vessel: Steamship Columbia, at Naples from Barcelona—Plague-infected rats.....	D			10	1																
".....																					

¹ An imported case. ² 80 cases of plague with 15 deaths were reported in Ovamboland, Southwest Africa, up to Apr. 30, 1932. Antiplague measures have been taken.

Place	Janu- ary, 1932	Febru- ary, 1932	March, 1932	April, 1932	May, 1932	June, 1932	Place	Janu- ary, 1932	Febru- ary, 1932	March, 1932	April, 1932	May, 1932	June, 1932
British East Africa (see also table above): Kenya.....	17	33	22	18	11	30	Peru.....	11	2				
Ecuador: Province—							Department—	8	2				
Chimborazo.....	8	13		6	10	2	Cañete.....	3					
Iloja.....	11						Lambayeque.....	1			28	33	2
Indo-China.....	17	P	P	9	2	1	Libertad.....	1				1	
	9			6	1	1	Otuzco.....	6					
Madagascar: Province—							Lima.....		1		1		
Ambatolampy.....	23	40	25				Lima.....		1		1		
Ambositra.....	23	38	25				Piura.....	1					
Antsirabe.....	166	90	81	19			Senegal:						
Meavatanana.....	132	81	67	17			Dakar.....			10			
	53	45	54	21			Louga.....			5			
	51	45	53	21			Rufisque.....					2	3
			4				Yombel.....					3	6
Miarinarivo.....	15	13	9	6						9			
Moramanga.....	18	12	9	6						8			
Tananarive.....	13	9	3										
	203	148	71	42									
	196	140	70	40									

* Reports incomplete.

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

SMALLPOX

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

Place	Jan. 10- Feb. 6, 1932	Feb. 7- Mar. 5, 1932	Mar. 6- Apr. 2, 1932	Apr. 3-30, 1932	Week ended—														
					May, 1932			June, 1932			July, 1932								
					7	14	21	28	4	11	18	25	2	9	16	23			
Aden.....	C	2																	
Algeria.....	C			1															
Algiers.....	C																		
Constantine Department.....	C				2														
Philippville.....	C				1														
Southern Territories.....	C				1														
Brazil:																			
Porto Alegre (alustrim).....	C	34	19	5	8	2	2												
Santos.....	D	2		1															
British East Africa: Tanganyika.....	C	24	5	P															
British South Africa:	D	7	2																
Northern Rhodesia.....	C																		
Southern Rhodesia.....	C	5																	
Canada:																			
British Columbia.....	C	25	17	9															
Manitoba.....	D	4	4	9	3														
Nova Scotia.....	C	10																	
Ontario.....	C	6	1	1															
North Bay.....	C	1		4	6	1													
Quebec.....	C	1																	
Saskatchewan.....	C	35	30	6	8	3	1	3	6	1	1	2	3						
China:																			
Amoy.....	C	183	121	45	17	3	2	2	3	1	1	1	1						
Canton.....	D	91	44	25	11	2	2	2	2	2	1	1	1						
Foochow.....	D	27	44	79	81	19	9	5	9	1	3	3	3	1					
Hankow.....	D	P	P	P	P	1	P	P	P	P	P	P	P						
Hong Kong.....	D	5	59	4	5	3	1	1	3	1	1	1	1						
	D	11	51	45	55	7	9	7	1	4	5	2	1	1					
	D	6	23	28	20	7	6	2	2	4	6	1	1	1					

Manchuria: Dairen.....	C	1	1	16	8	1	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1
Shanghai.....	D	163	107	102	92	16	0	5	6	3	3	3	3	3	1	1	1	1	1	1	1	1
Swatow.....	D	62	67	43	35	6	5	1	2	1	2	2	2	2	1	1	1	1	1	1	1	1
Tientsin.....	D	1	2	8	2	1																
Chosen (see table below).	C																					
Dahomey.....	D					2																
Dutch East Indies.....	D	1				1																
Egypt:	C																					
Alexandria.....	C	1																				
Cairo.....	C	1																				
Suez.....	C	1																				
Finland.....	D																					
France (see table below).	C																					
Germany: Aix-la-Chapelle.	C																					
Gold Coast (see table below).	C																					
Great Britain:	C																					
England and Wales.....	C	227	268	273	315	68	76	56	68	49	31	25	30	22	35	37	31	37	23	21	32	32
London.....	C	100	136	120	137	41	30	25	29	29	18	15	18	19	28	27						
London and Great Towns.....	C	188	203	236	257	59	60	47	52	37	31	37	23	21	32							
Greece (see table below).	C																					
Guatemala (see table below).	C																					
Honduras: ¹	C																					
Ceiba.....	D	1																				
Puerto Castilla.....	D	1																				
Tecucigalpa.....	C	5																				
Tela.....	C																					
Trujillo.....	C	35																				
India:	D																					
Bassein.....	D	4,576	9,709	12,040	13,716	4,230	3,388	2,771	2,870	3,418												
Bombay.....	D	970	1,896	2,234	2,805	896	796	676	815	812												
Calcutta.....	D	3																				
Chittagong.....	D	6	23	27	25	10	12	2	12	7	4	5	6	5	3							
Cochin.....	D	2	10	12	10	2	4	1	4	5	4	3	4	3	3							
Karachi.....	D	27	102	150	133	17	35	22	19	15	16	21	12	12	12							
Madras.....	D	15	54	115	99	12	29	16	10	17	14	8	8	9	10							
Chittagong.....	D	2						2	2	2	2											
Cochin.....	D	1																				
Karachi.....	D	18	23	19	20	4	5	3	4	7	5	3	5	1	1							
Madras.....	D	6	8	8	9	9	10	10	10	10	8	5	6	8	8							
Madras.....	D	9	15	51	63	17	10	10	10	10	8	5	6	8	8							
Madras.....	D	3	4	16	11	2	4	2	3	3	3	2	3	3	3							

¹ 590 cases of smallpox with 15 deaths were reported in Honduras from July, 1931, to Feb. 16, 1932.

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

SMALLPOX—Continued

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

Place	Week ended—												
	May, 1932			June, 1932			July, 1932						
	7	14	21	28	4	11	18	25	2	9	16	23	
India—Continued.													
Moulmein.....	C	4	7	1									
Negapatam.....	D	1	1				2			5			
Rangoon.....	D	418	606	260	18	9	5	8	8	10	7		
	D	147	179	88	9	11	6	2	4	4	2	1	
Tuticorin.....	D	28	36	14	6	4							
	D	2	8	0	3	5							
Vizagapatam.....	C	3	2								1		
India (French):													
Karikal.....	C	1	4	10	21	4	4	2		2			
	D	1	4	0	12	1	2	1		1			
Pondicherry Territory.....	D	32	20	20	22	3	5	26	11	4	2	1	3
	D	27	20	20	19	3	5	26	11	4	2	1	3
Indo-China (see also table below):													
Pnompenh.....	C	1	2	1									
Salgon and Cholom.....	D	117	145	212	12	8	5	3	3	3	9	2	
	D	92	85	174	101	7	7	5	3	3	2	9	2
Iraq:													
Baghdad.....	C	10	4	20	27	4	7	10		14	9	3	1
	D	13	4	10	13	2	3	3		6	4	2	2
Basra.....	D	2	2	11	4	1	1	4	2	2	4	2	4
	D			4	4	1	1	1	1	1	1	1	1
Ivory Coast (see table below).													
Japan:													
Kobe.....	C	1	2	1				7	2				
	D	1	1					1	1				
Nagasaki.....	C												
Osaka Prefecture:	C				1	4	4	4	1	1	1		
	C				34	46							
Osaka.....	C					1							
Taiwan.....	C	35	55	1									
Yokohama.....	C	2											
Mexico (see also table below):													
Chihuahua.....	D	3	1	1				1			5		
Durango.....	D												
Jalisco (State)—Guadalajara.....	D	3	1	1				1	1	1			
Mexico City and surrounding territory.....	C	14	33	6	3	2	0	3	0	4	7	2	5
	D		1	2	2	1							
Monterrey.....	C	1	3	1	2		1						

Saltillo.....	D	5	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1
San Luis Potosi.....	D	6	2	2	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1
Torreón.....	D	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Morocco (see table below).....	C	217	46	750	116	116	116	116	116	939	104	104	104	104	104	104	104	104	104	104
Nigeria.....	D	120	2	111	19	19	19	19	19	316	17	17	17	17	17	17	17	17	17	17
Palestine.....	C									1										
Portugal.....	C									1										
Lisbon.....	C	98	50	38	26	26	26	26	26	10	6	6	6	6	6	6	6	6	6	6
Oporto.....	C	3	14	14	21	21	21	21	21	3	8	8	8	8	8	8	8	8	8	8
Salvador.....	C									3										
Sarawak.....	C									10										
Siam.....	C																			
Sierra Leone ¹	D	1		2							1									
Straits Settlements.....	D	4	6	1	1	1	1	1	1											
Sudan (Anglo-Egyptian).....	D	1	8	4	3	3	3	3	3											
Sweden: Malmö.....	D	1	1	1																
Syria (see table below).....	D	1	1	1																
Tunisia: Tunis.....	C																			
Turkey (see also table below): Istanbul.....	C		1	1	1	1	1	1	1	1										
Union of South Africa.....	C																			
Cape Province.....	C																			
Orange Free State.....	C																			
Transvaal.....	C																			
On vessels.....	C																			
S. S. Cressington Court at Yokohama from Shanghai.....	C	1																		
S. S. Bollington Court at Yokohama from Shanghai.....	C	1																		
S. S. Victoria City at Brisbane from Shanghai.....	C	1																		
S. S. Frauentals at Suez from Calcutta.....	C	1		1																
S. S. Uwalima Maru at Osaka from Shanghai.....	C	1																		
S. S. Hong Kheng at Singapore from Amoy, via Swatow and Hong Kong.....	C	1																		
S. S. Hai Ning at S. S. Solvitken at Hong Kong.....	C	1																		
S. S. Meekara at Aden from Colombo.....	C	2																		
S. S. Tjisadane at Hong Kong from Shanghai and Amoy.....	C																			
S. S. Floating at Shanghai.....	C	1																		
S. S. Rajah at Penang from Negapatam.....	C	1																		
S. S. MacGillivray at Suez from Rangoon.....	C	1																		
S. S. Tainui at Southampton from New Zealand.....	C			1																
S. S. Glenbank at Suez from Aden.....	C			1																
S. S. Tuscania at Suez from Bombay.....	C																			

¹ 264 cases of smallpox were reported in Osaka Prefecture, Japan, from Mar. 1 to May 28, 1932.
² From Mar. 6 to June 11, 1932, 814 cases of smallpox with 11 deaths, were reported in Sierra Leone.
³ A suspected case.

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

SMALLPOX—Continued

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

Place	January, 1932		February, 1932		March, 1932		April, 1932			May, 1932			June, 1932	
							1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20
Gold Coast.....	C	2										2		
Indo-China (see also table above).....	D	1												
	C	309	660	727	175	247	145			211	78		41	130
	D	148	231	342	80	97	64			46	37		27	41
Ivory Coast.....	C													
	D													
Syria; Beirut.....	C	6			1				1					1

Place	December, 1931		January, 1932		February, 1932		March, April, 1932		May, 1932		June, 1932	
Chosen.....	C	1	1	6	30	55			D	422		
	D			3	9	5			C	279		
France.....	C	1								C		
Greece.....	C				1	8				C		
Guatemala.....	C											
	D											
	D								D			

Place	December, 1931		January, 1932		February, 1932		March, April, 1932		May, 1932		June, 1932	
Chosen.....	C	1	1	6	30	55			D	422		
	D			3	9	5			C	279		
France.....	C	1								C		
Greece.....	C				1	8				C		
Guatemala.....	C											
	D											
	D								D			

Place	December, 1931		January, 1932		February, 1932		March, April, 1932		May, 1932		June, 1932	
Chosen.....	C	1	1	6	30	55			D	422		
	D			3	9	5			C	279		
France.....	C	1								C		
Greece.....	C				1	8				C		
Guatemala.....	C											
	D											
	D								D			

Place	December, 1931		January, 1932		February, 1932		March, April, 1932		May, 1932		June, 1932	
Chosen.....	C	1	1	6	30	55			D	422		
	D			3	9	5			C	279		
France.....	C	1								C		
Greece.....	C				1	8				C		
Guatemala.....	C											
	D											
	D								D			

TYPHUS FEVER

Place	Week ended—													
	April, 1932			May, 1932			June, 1932			July, 1932				
	9	10	23	30	7	14	21	28	4	11	18	25	2	9
Algeria:														
Alkiers.....														
Constantine Department.....	C	1	8	7	7	23	31		8	5	5	12	33	
Geryville.....	C	7	7	7					1				9	
Oran.....	C	1						4	10					
Bulgaria.....	C	44	66	44	15	9	10	7	16	4	5	3	3	
Chile:	D	6	6	2	3	4	2	2	1	1				
Antofagasta.....	C	1												
Iquique.....	C													
Santiago.....	C			1				1	1					
China:														
Hankow.....	C													
Swatow.....	C			5				1	1					
Tientsin.....	C			2				1						
Chosen (see table below).....	D			1										
Colombia: Cali.....														
Czechoslovakia (see table below).....														
Egypt:														
Alexandria.....	C			1	5	2	7							1
Ifeheira.....	D			70	46									
Dakahlia.....	D			16			1							
Gharbich.....	C			12					69					
Port Said.....	C													
Provinces.....	D	43	333	676	112	49	41	20	38	38	60	139		
Greece (see table below).....	D	3	25	49	18	9	12	4	6	1	1	10		
Irish Free State:														
Roscommon County—														
Lettrim.....	C													
Roscommon.....	D													
Latvia (see table below).....	C													
Lithuania (see table below).....	C													
Mexico:														
Mexico City, including municipalities in Federal District.....	C	25	20	7	3	2	3	3	2	5	1	2	4	1
San Luis Potosi.....	D	9	12	4	1	1	2	2	4	1	1	1	1	1

YELLOW FEVER

Place	Jan. 10- Feb. 6, 1932	Feb. 7- Mar. 5, 1932	Mar. 6- Apr. 2, 1932	Week ended—												
				April, 1932			May, 1932			June, 1932			July, 1932			
				9	16	23	30	7	14	21	28	4	11	18	25	2	9	16
Bolivia ¹																
Brazil:																
Bahia State—Espian-da																
Ceara State																
Espirito Santo State																
Santa Teresa (about 56 miles from Victoria)																
Parahyba State																
Pernambuco State																
Dahomey: Porto Novo																
Gold Coast:																
Avudua																
Cape Coast																
Tamale																
Yapel																
Nigeria:																
Upper Volta																

¹ Indirect reports show cases suspected to have been yellow fever in Southern Bolivia during April, 1932.