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TYPHUS FEVER

THE MULTIPLICATION OF THE VIRUS OF ENDEMIC TYPHUS IN THE RAT FLEA *Xenopsylla cheopis*

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In previous studies we have shown that—the virus of endemic typhus is present in rat fleas taken from wild rats caught at typhus foci; the rat flea *Xenopsylla cheopis* readily becomes infected with the virus of endemic typhus when allowed to feed on typhus infected rats; infected fleas readily transmit typhus from rat to rat; the virus of typhus is present in the feces of infected fleas; typhus may be transmitted by rubbing macerated infected fleas or the feces of infected fleas into the abraded skin of guinea pigs; and that infected fleas may retain the infection for 52 days. In repeated attempts we have failed to transmit typhus by the bite of infected fleas when the feces are not allowed to come in contact with the skin of the experimental animals and we have not secured any evidence to indicate that the virus of typhus may be transmitted to the offspring of infected fleas through the egg.

If the foregoing evidence is coupled with the epidemiological evidence which shows that endemic typhus is not louse-borne, that it is associated with contact with rats, and that it has its greatest prevalence in the late summer and fall, there can be little doubt that the rat flea *X. cheopis* is the important vector of endemic typhus of the United States.

The evidence gathered to date indicates that rat fleas acquire typhus virus from rats in nature and that the virus multiplies in them.

Mooser and Castaneda have noted the absence of rickettsia in normal fleas and their presence in fleas subsequent to feeding on typhus (Mexican) infected rats, indicating to them that "an extraordinary multiplication of the virus" had taken place in the fleas.

The following experiment was designed to determine whether a multiplication of typhus virus takes place in fleas infected with endemic typhus virus or whether the flea only hoards the virus and is in reality merely a mechanical vector.

Approximately 100 young *X. cheopis* hatched from eggs of typhus-infected fleas were placed in box X 9. Eighteen of these fleas were

collected and emulsified in salt solution, and the emulsion was injected intraperitoneally into four guinea pigs. On the succeeding day 27 fleas were collected from box X 9 and, after emulsification, injected into a second group of four guinea pigs. None of the guinea pigs injected with either group of fleas developed signs of typhus.

Approximately two months later two or three hundred fleas were removed from box X 9 and placed in fresh box X 17. Three white rats in the seventh day after their intraperitoneal inoculation with endemic typhus virus (testicular washings) were then placed in box X 17 for 24 hours. These rats were then killed and placed in fresh box X 17A. As only the fleas that were on the rats at the time when the rats were killed were placed in box X 17A, it was presumed that they had all had equal chance of becoming infected. Sixteen of these fleas were then emulsified in salt solution and this entire emulsion was used in inoculating four guinea pigs intraperitoneally. A fresh rat was then placed in box X 17A to attract the fleas from the dead rats and to furnish food for these fleas. On the following day this fresh rat was killed, 16 fleas were removed and inoculated into 4 guinea pigs, and a fresh rat was placed in box X 17A. This procedure was carried out on each of eight days. The results of this test are shown in Table 1.

TABLE 1.—*Results of inoculations of fleas into guinea pigs at daily intervals after the fleas had fed on typhus-infected rats for 24 hours*

Reference Nos.	Days after infective feeding of fleas	Incubation period in the guinea pig, in days[1]	Result
Guinea pigs inoculated with four fleas each			
1	1	7	Typhus.[2]
2	1	----------	Negative.[3]
3	1	10	Typhus.
4	1	----------	Died.
5	2	----------	Negative.[3]
6	2	5	Typhus.
7	2	8	Do.
8	2	9	Do.
9	3	8	Do.
10	3	----------	Died.
11	3	7	Typhus.
12	3	----------	Died.
13	4	7	Typhus.
14	4	7	Do.
15	4	7	Do.
16	4	5	Do.
17	5	7	Do.
18	5	7	Do.
19	5	9	Do.
20	5	7	Do.
21	6	4	Do.
22	6	2	Do.
23	6	2	Do.
24	6	4	Do.
25	7	4	Do.
26	7	5	Do.
27	7	4	Do.
28	7	5	Do.
29	8	4	Do.
30	8	----------	Died.
31	8	2	Typhus.
32	8	4	Do.

[1] The number of whole days of normal temperature succeeding the day of inoculation was considered the incubation period.
[2] The diagnosis of typhus was based on the occurrence of typical febrile and scrotal reactions.
[3] Subsequently tested for immunity to guinea pig passage virus (endemic typhus) and found immune.

The results shown in Table 1 indicate that for the purpose of the experiment too many fleas were used in the inoculations. The shortening of the incubation period noted in the guinea pigs, as the time lengthens between the infecting feeding of the fleas and their emulsification, is somewhat suggestive of a multiplication of virus in the flea, but the possibility of a simple hoarding of the virus can not be ruled out.

To secure data on the number of fleas or fractions of a flea which might be expected to contain sufficient virus to infect a guinea pig a preliminary titration was next made, using a group of known infected fleas without regard to the length of time they had been infected. It was found in this titration that an amount of emulsion containing one-fiftieth of a flea was sufficient to cause in a guinea pig the typical febrile reaction and scrotal involvement of endemic typhus.

Fleas from box X 18A were then chosen for a repetition of the experiment to determine the multiplication of typhus virus in fleas.

Box X 18A had originally contained infected fleas. All fleas were carefully removed from this box by introducing white rats into the box to collect the fleas and then removing the rats. The box was then left without a rat for two weeks, at the end of which time a fresh white rat was placed in the box to furnish food for newly developed fleas. Five days after the rat had been introduced into this box a few fleas were noted, and a few days later they were present in great numbers. Five fleas were then removed from box X 18A and emulsified in saline, and half of the emulsion was injected intraperitoneally into each of 2 guinea pigs. One month later 5 fleas were again taken from box X 18A and injected into 2 guinea pigs. This was repeated 2 weeks later, and at the end of another period of 2 weeks 25 fleas from the same box were emulsified and injected into 2 guinea pigs. None of the guinea pigs inoculated with fleas from this box showed any signs of typhus. One guinea pig from each pair of those injected with fleas from box X 18A was later tested for immunity to endemic typhus virus and found nonimmune.

From our failure to recover typhus virus from fleas in box X 18A after these repeated trials it was concluded that none of the fleas in this box were infected. Three white rats (5579, 5633, and 5653) were then inoculated with endemic typhus virus (testicular washings) on the 17th, 19th, and 20th of the month, respectively. On the 24th the normal rat in box X 18A was killed and a few dozen fleas were removed to a fresh box to renew our colony of noninfected fleas. Box X 18A was left without a rat until the morning of the 26th. The three white rats (5579, 5633, and 5653) previously inoculated with endemic typhus were then placed in box X 18A and allowed to remain for 24 hours. At the end of this time the three rats were removed to a fresh box (X 18E) and killed. It was presumed that all

the fleas then on the rats had fed at some time during the preceding 24 hours. Twelve fleas were then removed. Four of these fleas were smeared and stained with Giemsa. The remaining eight fleas were emulsified in 4 c c of physiological saline. From this emulsion three dilutions were made. One c c of the original emulsion and 1 c c of each of the dilutions were then inoculated intraperitoneally into two guinea pigs. This same titration was carried out on each of the following nine days, using fleas freshly collected on each day from box X 18E. On the eleventh day four additional dilutions were made and also inoculated into guinea pigs. To furnish food for the infected fleas in box X 18E and to furnish an easy means of catching fleas, a fresh rat was placed in the box each afternoon and killed the following morning. In the guinea pig inoculations made on the first 10 days of the experiment the following number of fleas or fractions of a flea were injected into the guinea pigs, 2 fleas, ½, ⅛, and $\frac{1}{32}$ of a flea. On the eleventh day, in addition to the above, guinea pigs were also inoculated with $\frac{1}{128}$, $\frac{1}{500}$, $\frac{1}{2000}$, and $\frac{1}{8000}$ of a flea. Nine days later, being 20 days from the time that the fleas had been fed on the typhus-infected rats, the above amounts and also smaller fractions of a flea were inoculated into guinea pigs. The smaller fractions given on this day were $\frac{1}{16000}$, $\frac{1}{32000}$, and $\frac{1}{64000}$ of a flea. Forty days from the time that the fleas had fed on the typhus-infected rats there were only four fleas left. These were emulsified in salt solution, titrated in various dilutions and inoculated into guinea pigs. In this titration the same fractions of a flea were injected as in the titration made 20 days earlier, with the exception that the dilution containing $\frac{1}{16000}$ flea per c c was discarded and an additional dilution containing $\frac{1}{128000}$ flea per c c was added.

The results of these titrations are shown in Table 2. In this table, as in Table 1, the diagnosis of typhus was based on the occurrence of a typical febrile reaction and typical involvement of the genitalia. With two exceptions, all the guinea pigs were males of about 500 grams each.

TABLE 2.—*Results of inoculations of fleas into guinea pigs at stated intervals after the fleas had fed on typhus-infected rats for 24 hours*

Reference Nos.	Days after infective feeding of fleas	Incubation period in the guinea pig, in days [1]	Result
Guinea pigs inoculated with 2 fleas each			
32	1		Died.
33	1	9	Typhus.[2]
34	2	8	Do.
35	2		Died.
36	3	11	Typhus.
37	3	7	Do.
38	4	4	Do.
39	4	4	Do.
40	5	6	Do.
41	5	2	Do.
42	6	2	Do.
43	6	2	Do.
44	7	5	Do.
45	7	5	Do.
46	8	5	Do.
47	8	5	Do.
48	9	2	Do.
49	9	3	Do.
50	10	2	Do.
51	10	2	Do.
52	11	2	Do.
53	11	2	Do.
54	20	3	Do.
55	20	3	Do.
56	40	5	Do.
Guinea pigs inoculated with 1/2 flea each			
57	1		Negative.[3]
58	1	6	Typhus.
59	2		Negative.[3]
60	2		Do.[3]
61	3	13	Typhus.
62	3	8	Do.
63	4	4	Do.
64	4	4	Do.
65	5	6	Do.
66	5	6	Do.
67	6	5	Do.
68	6	4	Do.
69	7	3	Do.
70	7	4	Do.
71	8	4	Do.
72	8	3	Do.
73	9	4	Do.
74	9	4	Do.
75	10	5	Do.
76	10	4	Do.
77	11		Died.
78	11	2	Typhus.
79	20	3	Do.
80	20	3	Do.
81	40	5	Do.
82	40	8	Do.
Guinea pigs inoculated with 1/8 flea each			
83	1		Died.
84	1	2	Fever.[3]
85	2		Negative.[3]
86	2		Do.[3]
87	3	12	Typhus.
88	3		Died.
89	4	6	Typhus.
90	4	6	Do.
91	5	5	Do.
92	5	5	Do.
93	6	5	Do.
94	6	4	Do.
95	7	3	Do.
96	7	4	Do.
97	8	4	Do.
98	8	4	Do.
99	9	5	Do.
100	9	4	Do.
101	10	5	Do.

See footnotes at end of table.

TABLE 2.—*Results of inoculations of fleas into guinea pigs at stated intervals after the fleas had fed on typhus-infected rats for 24 hours*—Continued

Reference Nos.	Days after infective feeding of fleas	Incubation period in the guinea pig, in days [1]	Result
Guinea pigs inoculated with 1/8 flea each—Continued			
102	10	4	Typhus.
103	11	3	Do.
104	11	4	Do.
105	20	3	Do.
106	20	5	Do.
107	40	8	Do.
108	40	9	Do.
Guinea pigs inoculated with 1/32 flea each			
109	1	----------	Negative.[3]
110	1	----------	Do.[3]
111	2	----------	Died.
112	2	----------	Negative.[3]
113	3	----------	Do.[3]
114	3	----------	Do.[3]
115	4	7	Typhus.
116	4	7	Do.
117	5	----------	Died.
118	5	6	Typhus.
119	6	3	Do.
120	6	5	Do.
121	7	5	Do.
122	7	4	Do.
123	8	----------	Died.
124	8	----------	Do.
125	9	5	Typhus.
126	9	5	Do.
127	10	5	Do.
128	10	4	Do.
129	11	5	Do.
130	11	5	Do.
131	20	3	Do.
132	20	5	Do.
133	40	5	Do.
134	40	11	Do.
Guinea pigs inoculated with 1/128 flea			
135	11	7	Do.
136	11	4	Do.
137	20	7	Do.[4]
138	20	6	Do.
139	40	6	Do.
140	40	6	Do.
Guinea pigs inoculated with 1/500 flea			
141	11	5	Do.
142	11	10	Fever (female).
143	20	7	Typhus.
144	20	5	Do.
145	40	9	Do.
146	40	11	Do.
Guinea pigs inoculated with 1/2000 flea			
147	11	8	Do.
148	11	10	Do.
149	20	8	Fever only.[4]
150	20	8	Typhus.[4]
151	40	8	Do.
152	40	9	Do.
Guinea pigs inoculated with 1/8000 flea			
153	11	5	Do.[5]
154	11	7	Do.[5]
155	20	----------	Negative.[6]
156	20	7	Typhus.[4]
157	40	11	Fever only.
158	40	14	Typhus.
Guinea pigs inoculated with 1/16000 flea			
159	20	6	Do.[4]
160	20	7	Do.

See footnotes at end of table.

TABLE 2.—*Results of inoculations of fleas into guinea pigs at stated intervals after the fleas had fed on typhus-infected rats for 24 hours*—Continued

Reference Nos.	Days after infective feeding of fleas	Incubation period in the guinea pig, in days [1]	Result
Guinea pigs inoculated with 1/32000 flea			
161	20	5	Typhus.
162	20	5	Do.
163	40	8	Do.
164	40	11	Do.
Guinea pigs inoculated with 1/64000 flea			
165	20	7	Do.[3]
166	20	7	Fever (female).[4]
167	40	11	Typhus.
168	40	11	Do.
Guinea pigs inoculated with 1/128000 flea			
169	40	8	Do.
170	40	11	Do.
171	40	11	Do.

[1] The number of whole days of normal temperature succeeding the day of inoculation was considered the incubation period.
[2] The diagnosis of typhus was based on the occurrence of typical febrile and scrotal reactions.
[3] Subsequently tested for immunity and found non-immune.
[4] Subsequently tested for immunity to guinea pig passage virus (endemic typhus) and found immune.
[5] Sacrificed for transfer of virus. Strain established and identified as endemic typhus.
[6] Immunity test valueless.

The results given in Table 2 show an enormous multiplication of endemic typhus virus in infected fleas. While ½ flea did not contain enough virus surely to infect a guinea pig until three days after feeding on infected rats, $\frac{1}{32}$ of a flea was sufficient to infect a guinea pig after that time. As no end point was reached in the titrations after the third day, no conclusion can be drawn as to the time at which the concentration of the virus in the flea reaches its height. As there is no definite shortening of the incubation period in the guinea pig after the fifth or sixth day from the infective feeding of the fleas, it is possible that the virus reaches its highest concentration about that time.

The guinea pigs which failed to develop typical endemic typhus and did not die and occasional animals chosen at random from those developing typical reactions were subsequently tested for immunity to known endemic typhus virus.

In order surely to identify the virus recovered from the fleas, two of the guinea pigs reacting to $\frac{1}{8000}$ of a flea and one reacting to $\frac{1}{64000}$ of a flea were sacrificed, and strains of virus were established in fresh animals. These strains were identified as endemic typhus strains by the following six criteria on which we have come to rely for diagnosis:

1. Typical febrile reaction and typical scrotal involvement in guinea pigs.

2. Negative blood cultures from guinea pigs at the height of their reaction.

3. Intracellular rickettsia in smears made from the tunica vaginalis of guinea pigs reacting typically.

4. The development in rabbits of agglutinins for *B. proteus* X_{19}, type O.

5. Typical histologic lesions in the brains of guinea pigs.

6. Clear-cut cross-immunity between the unknown strain and known strains of typhus.

It will be noted that some of the guinea pigs inoculated with the flea emulsion made 40 days after the infective feeding of the fleas show a lengthened incubation period, suggesting somewhat that the concentration of virus in the flea or its infectivity reaches a maximum and then diminishes.

In the examination of smears made from fleas at the time when the daily emulsions were prepared, no rickettsia were found in smears of fleas made in the first two days after the day of the infective feeding of the fleas, while rickettsia were readily found in fleas smeared after that time.

CONCLUSION

Endemic typhus virus multiplies enormously in the rat flea *Xenopsylla cheopis*.

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REFERENCES

Dyer, R. E., Rumreich, A., and Badger, L. F.: Pub. Health Rep., 46:334 (Feb. 13) 1931.

Dyer, R. E., Ceder, E. T., Rumreich, A., and Badger, L. F.: Pub. Health Rep., 46:1869 (Aug. 7) 1931.

Dyer, R. E., Rumreich, A., and Badger, L. F.: Jour. Am. Med. Assoc., 97:589 (Aug. 29) 1931.

Dyer, R. E., Ceder, E. T., Rumreich, A., and Badger, L. F.: Pub. Health Rep., 46:2415 (Oct. 9) 1931.

Dyer, R. E., Ceder, E. T., Lillie, R. D., Rumreich, A., and Badger, L. F.: Pub. Health Rep., 46:2481 (Oct. 16) 1931.

Ceder, E. T., Dyer, R. E., Rumreich, A., and Badger, L. F.: Pub. Health Rep., 46:3103 (Dec. 25) 1931.

Dyer, R. E., Ceder, E. T., Workman, W. G., Rumreich, A. and Badger, L. F.: Pub. Health Rep., 47:131 (Jan. 15) 1932.

Mooser, H. and Castaneda, M. R.: Jour. Exp. Med., 55:307 (Feb. 1) 1932.

SICKNESS AMONG MALE INDUSTRIAL EMPLOYEES DURING THE LAST THREE MONTHS OF 1931, AND A SUMMARY OF SICKNESS FREQUENCY BY YEARS SINCE 1920

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FINAL QUARTER OF 1931

There was no increase in the frequency of disabling sickness among a large group of male industrial employees during the last three months of 1931 as compared with the corresponding period either of 1930 or of 1929; in fact, a small decrease was recorded from the rate in the fourth quarter of 1930, and a substantial decrease (17 per cent) from the frequency in the last quarter of 1929.

These sickness rates are based on cases of illness causing absence from work for a period longer than one week among the members of 27 industrial sick-benefit associations or company relief departments reporting periodically to the United States Public Health Service. The records covered about 144,000 men in the final quarter of 1931, about 154,000 in the corresponding period of 1930, and approximately 160,000 in the same period of 1929. For 1930 and 1931 the sickness rates apply to the same industrial companies, and for 1929, to 23 of the 27 companies included in 1930 and 1931.

These sickness data in the main apply to employed men, although many of them work only on a part-time basis. A small proportion are unemployed; the by-laws applicable to about one-seventh of the population under consideration state that membership may be retained during furlough or lay-off if dues are paid.

During the last three months of 1931, as in the two preceding quarter years of 1931, the frequency of nonindustrial accidents was greater than in the corresponding period of either of the two earlier years.

The respiratory-disease rate was slightly lower than in the last quarter of 1930, and considerably below the 1929 incidence. Since the beginning of 1932, however, reports of illness of a respiratory nature have become more numerous, and so it seems doubtful whether, after adjusting for seasonal variation in sickness frequency, the health of the industrial group under consideration will present such a favorable picture in the first quarter of 1932 as in the closing months of 1931.

Respiratory diseases which decreased in frequency as compared with the rate in the fourth quarter of either of the two preceding years include influenza or grippe, bronchitis (acute and chronic), pneumonia (all forms), and tuberculosis of the lungs. Each of the three periods under review is regarded as free from epidemics of a respiratory nature.

TABLE 1.—*Frequency of disability lasting 8 calendar days or longer in the fourth quarter of 1931, compared with the same quarter of 1930 and 1929. Male morbidity experience of 27 industrial establishments which reported their cases to the United States Public Health Service during all three years* [1]

Diseases and disease groups which caused disability. (Numbers in parentheses are disease title numbers from the International List of the Causes of Death, third revision, Paris, 1920)	Annual number of disabilities per 1,000 men in fourth quarter of—		
	1931	1930	1929
Sickness and nonindustrial injuries [2]	82.5	87.2	96.6
Nonindustrial injuries	13.6	13.0	13.1
Sickness [2]	68.9	74.2	83.5
Respiratory diseases	24.8	27.6	37.0
Influenza and grippe (11)	11.1	11.6	15.1
Bronchitis, acute and chronic (99)	3.1	4.2	6.2
Pneumonia, all forms (100, 101)	1.6	2.5	3.1
Diseases of the pharynx and tonsils (109)	4.7	4.3	6.8
Tuberculosis of the respiratory system (31)	.6	.8	1.0
Other respiratory diseases (97, 98, 102–107)	3.7	4.2	4.8
Nonrespiratory diseases	44.0	46.6	46.4
Diseases of the stomach, cancer excepted (111, 112)	3.8	3.9	3.8
Diarrhea and enteritis (114)	1.3	1.5	1.4
Appendicitis (117)	3.5	3.4	3.8
Hernia (118a)	1.4	2.1	1.3
Other digestive diseases (108, 110, 115, 116, 118b–127)	2.6	2.9	2.5
Rheumatic group, total	10.1	10.4	12.1
Rheumatism, acute and chronic (51, 52)	4.2	4.9	5.0
Diseases of the organs of locomotion (158)	3.7	3.3	4.0
Neuralgia, neuritis, sciatica (82)	2.2	2.2	3.1
Neurasthenia (part of 84)	1.3	1.2	1.1
Other diseases of the nervous system (70–81, 83, part of 84)	1.0	1.0	1.1
Diseases of the heart and arteries, and nephritis (87–92, 96, 128, 129)	3.4	3.5	3.6
Other genito-urinary diseases (130–136)	2.2	2.3	2.1
Diseases of the skin (151–154)	3.0	3.7	3.5
Epidemic and endemic diseases except influenza (1–10, 12–25)	1.6	1.6	1.8
Ill-defined and unknown causes (205)	2.2	1.6	1.7
All other diseases [2] (26–30, 32–37, 41–50, 53–69, 85, 86, 93–95, 155–157, 159, 164)	6.6	7.5	6.6
Average number of males covered in the record	143,891	154,165	160,023

[1] Except that the rates for 1929 cover 23 of the 27 establishments included in 1930 and 1931.
[2] Exclusive of disability from the venereal diseases.

For nonrespiratory diseases as a whole a decrease of about 5 per cent is indicated when the computation is based on the rate for either one of the two earlier periods.

No significant decrease appears to have occurred of late in the frequency of the numerically important diseases of the digestive system. For rheumatism (acute and chronic), and for diseases of the skin, dwindling incidence rates have appeared, not only in the final period of 1931, but also in the earlier quarters of 1931 under comparison with the corresponding periods of 1930 and 1929.

The only disease category (with the exception of ill-defined and unknown causes) which shows a higher rate in the last three months of 1931 than in the same quarter of either 1929 or 1930 is neurasthenia, the rate for which has been consistently, although moderately, higher since April, 1931, than in either of the two immediately preceding years. Mention was made in earlier reports of a relatively high rate of neurasthenia in 1921. Further analyses of that rate revealed an error in the grouping of diseases of the nervous system

which unduly enhanced the neurasthenia rate. The corrected rate was not high as compared with its subsequent frequency.

YEAR 1931 AS A WHOLE COMPARED WITH PRECEDING YEARS

In 1931 as a whole the frequency of cases of disabling sickness of eight days and longer was slightly higher than in 1930, but still 5 or 10 per cent below the average rate for the 10 preceding years, the percentage decrease depending upon which group of establishments is considered, i. e., whether all reporting establishments, or only those which reported throughout the 11 years. Respiratory diseases as a whole decreased from the 10-year average relatively more than did total sickness. Of particular interest is the rate of sickness exclusive of influenza, because the latter caused from 14 to 28 per cent of all the cases of sickness exclusive of nonindustrial accidents during the years under review, and has not been amenable to the control measures thus far instituted. It may be observed in Table 2 that no year of record shows a lower rate of sickness exclusive of influenza than occurred in 1931. For nonrespiratory diseases as a group, the rate was slightly below the average for the preceding 10 years.

TABLE 2.—*Frequency of specified causes of disability lasting eight consecutive calendar days or longer per 1,000 male industrial workers representing various industries, by years, from 1921 to 1931, inclusive*

Year in which disability began	Sickness and nonindustrial injuries [1]		Sickness		Respiratory diseases [2]		Sickness exclusive of influenza		Nonrespiratory diseases		Average number of men covered in the record from all reporting establishments
	All reporting establishments	Establishments which reported throughout	All reporting establishments	Establishments which reported throughout	All reporting establishments	Establishments which reported throughout	All reporting establishments	Establishments which reported throughout	All reporting establishments	Establishments which reported throughout	
1921	90.9	86.9	82.8	79.5	34.1	32.5	69.9	68.3	48.7	47.0	66,084
1922	96.4	101.1	88.6	93.5	44.0	46.7	67.7	71.9	44.6	46.8	66,466
1923	95.1	99.5	86.1	90.9	44.3	47.7	63.4	65.7	41.8	43.2	89,910
1924	96.0	92.8	86.4	83.1	38.2	35.9	60.5	66.9	48.2	47.2	114,065
1925	105.9	95.3	95.0	86.4	44.1	39.5	73.7	67.4	50.9	45.9	114,631
1926	111.9	103.6	100.7	93.2	50.4	48.2	73.6	67.7	50.3	45.0	118,886
1927	103.7	89.5	92.3	79.2	40.2	34.4	74.6	64.7	52.1	44.8	165,465
1928	113.4	102.7	102.5	93.4	50.6	45.9	73.4	69.3	51.9	47.5	163,557
1929	112.4	101.4	99.9	89.2	47.8	41.7	73.9	68.1	52.1	47.5	194,451
1930	94.1	88.7	81.8	75.8	32.0	30.2	68.5	64.4	49.8	45.6	188,714
1931	94.6	93.7	82.2	82.4	34.9	36.9	63.3	61.2	47.3	45.5	171,694
Ten preceding years [3]	102.0	96.1	91.6	86.3	42.6	40.3	70.8	67.4	49.0	46.0	128,223

[1] Industrial accidents and the venereal diseases are not reported.
[2] Title numbers 11, 31, 97 to 107, and 109 in the International List of the Causes of Death, third revision, Paris, 1920.
[3] 1921-1930, inclusive.

During the last 11 years, the lowest influenza rates occurred in 1921 and in 1930, when this disease accounted for only 14 to 16 per cent of total illness cases exclusive of nonindustrial injuries. In 1931 the

influenza rate was considerably above this minimum, causing nearly one-fourth of all the sickness cases under consideration. A widespread influenza epidemic, it will be recalled, occurred during the first quarter of the year. It was not severe enough, however, to increase appreciably the frequency of pneumonia, and the year as a whole recorded one of the most favorable pneumonia rates experienced by the industrial population of the country since 1917.

The lowest frequency of new cases of tuberculosis of the respiratory system is shown for 1931. However, the indicated rate may be enhanced somewhat if a number of cases at present ill-defined or regarded as bronchitis are diagnosed later as tuberculosis of the lungs. But even after allowing for such a contingency, the rate would probably remain relatively low.

A remarkable decrease is indicated in 1931 for diseases of the upper respiratory tract, especially for bronchitis and for diseases of the pharynx and tonsils (chiefly tonsillitis), the rates for these diseases as well as for "other diseases of the respiratory system" being below the frequency shown for any of the preceding 10 years.

TABLE 3.—*Frequency of specified respiratory diseases which caused disability for 8 consecutive calendar days or longer per 1,000 male industrial workers representing various industries, by years, from 1921 to 1931 inclusive*

Year in which disability began	Diseases causing disability (numbers in parentheses are disease title numbers from the International List of the Causes of Death, third revision, Paris, 1920)											
	Influenza, grippe (11)		Bronchitis, acute and chronic (99)		Diseases of the pharynx and tonsils (109)		Pneumonia, all forms (100, 101)		Tuberculosis of the respiratory system (31)		Other diseases of the respiratory system (97, 98, 102–107)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	12.9	11.2	5.8	5.5	5.9	6.1	2.6	2.4	1.9	2.0	5.0	5.3
1922	20.9	21.6	5.4	6.6	5.3	5.7	3.8	3.6	1.9	1.9	6.7	7.3
1923	22.7	25.2	5.3	5.4	5.7	5.6	3.8	3.3	1.2	1.1	5.6	7.1
1924	16.9	16.2	5.0	4.5	6.4	5.3	3.1	3.1	1.3	1.3	5.5	5.5
1925	21.3	18.0	5.7	5.5	7.0	6.3	3.5	3.2	1.2	1.1	5.4	5.4
1926	27.1	25.5	6.6	7.1	7.1	6.7	3.1	3.2	1.6	1.4	4.9	4.3
1927	17.7	14.5	6.0	5.3	6.4	6.4	3.3	2.7	1.6	1.1	5.2	4.4
1928	29.1	24.1	5.7	6.0	5.9	6.1	3.4	3.4	1.1	1.2	5.4	5.1
1929	26.0	21.1	5.3	5.1	7.2	6.8	3.1	2.7	1.2	1.2	5.0	4.8
1930	13.3	11.4	4.6	4.4	6.0	6.1	2.5	2.3	1.1	1.2	4.5	4.8
1931	18.9	21.2	3.6	3.6	5.2	4.7	2.1	2.3	1.0	.9	4.1	4.2
Ten preceding years [1]	20.8	18.9	5.6	5.5	6.3	6.1	3.2	3.0	1.4	1.4	5.3	5.4

*A = all reporting establishments; B = establishments which reported throughout.
[1] 1921–1930, inclusive.

The rate for digestive diseases as a whole was below the average rate for the preceding 10 years, but certain numerically important diseases of the digestive system failed to pursue a declining trend line. The most notable decrease as compared either with 1930 or with the 10-year average was recorded for diseases of the stomach (except cancer). A favorable rate, also, was shown for diarrhea and enteritis.

Appendicitis, however, was reported at exactly the average incidence exhibited during the preceding 10 years, and cases of hernia were more numerous than in the preceding year or in the 10-year period. For other diseases of the digestive system the 1931 rate was also relatively high.

TABLE 4.—*Frequency of specified diseases of the digestive system which caused disability for eight consecutive calendar days or longer per 1,000 male industrial workers representing various industries, by years, from 1921 to 1931, inclusive*

Year in which disability began	Diseases causing disability (numbers in parentheses are disease title numbers from the International List of the Causes of Death, third revision, Paris, 1920)											
	Digestive diseases, total (108, 110–127)		Diseases of the stomach except cancer (111, 112)		Diarrhea and enteritis (114)		Appendicitis (117)		Hernia (118a)		Other diseases of the digestive system (108, 110, 115, 116, 118b–127)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	13.9	14.0	4.2	4.1	2.2	2.0	3.3	3.6	2.1	2.2	2.1	2.1
1922	12.2	13.7	4.1	4.7	1.8	1.9	2.9	3.4	1.5	1.6	1.9	2.1
1923	11.4	12.5	3.9	4.0	1.8	1.8	2.9	3.5	1.2	1.5	1.6	1.7
1924	13.3	13.2	4.6	4.5	1.9	1.5	3.3	3.3	1.3	1.6	2.2	2.3
1925	14.8	14.0	5.2	5.0	1.8	1.4	3.9	3.6	1.4	1.6	2.5	2.4
1926	14.5	13.0	5.2	3.9	1.5	1.4	3.6	3.3	1.6	2.0	2.6	2.4
1927	15.1	13.6	5.0	4.1	1.4	1.2	4.5	4.3	1.6	1.5	2.6	2.5
1928	14.6	14.5	4.7	3.7	1.3	1.5	4.2	4.7	1.8	2.0	2.6	2.6
1929	15.6	15.8	4.7	4.7	1.5	1.7	4.5	4.5	1.8	2.0	3.1	2.9
1930	14.8	14.4	4.7	4.4	1.5	1.4	4.0	3.7	1.7	2.1	2.9	2.8
1931	13.4	13.5	4.0	3.0	1.2	1.5	3.7	3.8	1.8	2.2	2.7	3.0
10 preceding years [1]	14.0	13.9	4.6	4.3	1.7	1.6	3.7	3.8	1.6	1.8	2.4	2.4

* A=all reporting establishments; B=establishments which reported throughout.
[1] 1921–1930, inclusive.

The incidence rate of nonrespiratory, nondigestive diseases was below the annual average frequency from 1921 to 1930. Within this very broad class of diseases, however, certain subgroups showed rates in 1931 which were in excess of the 10-year average. Among these were certain diseases of the circulatory system, especially diseases of the heart, diseases of the genito-urinary system and annexa (except nephritis), and diseases of the nervous system.

On the favorable side, attention should be called to the decrease in the frequency of rheumatism (acute and chronic), diseases of the skin, and the epidemic and endemic disease group exclusive of influenza. In the last-named group are typhoid, smallpox, measles, whooping cough, diphtheria, mumps, erysipelas, and other important epidemic and endemic diseases which as a group decreased in frequency in 1931 in the population under consideration.

TABLE 5.—*Frequency of specified nonrespiratory, nondigestive diseases which caused disability for eight consecutive calendar days or longer per 1,000 male industrial workers representing various industries, by years, from 1921 to 1931, inclusive*

Year in which disability began	Diseases causing disability (numbers in parentheses are disease title numbers from the International List of the Causes of Death, third revision, Paris, 1920)									
	Nonrespiratory, nondigestive total		Diseases of the circulatory system except diseases of the veins (87–92, 94–96)		Diseases of of the veins (93)		Diseases of the heart (87–90)		Nephritis, acute and chronic (128, 129)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	34.8	33.0	2.4	1.8	1.7	2.1	1.6	1.5	0.7	0.6
1922	32.4	33.1	2.0	1.9	1.8	2.1	1.3	1.2	.8	.8
1923	30.4	30.7	1.8	1.7	1.3	1.5	1.2	1.0	.8	.8
1924	34.9	34.0	2.3	2.4	1.3	1.4	1.5	1.5	.7	.9
1925	36.1	31.9	2.8	2.7	1.7	1.6	1.7	1.5	.7	.7
1926	35.8	32.0	2.8	2.4	1.5	1.6	1.9	1.7	.8	.5
1927	37.0	31.2	3.2	2.9	1.5	1.2	2.1	1.9	.8	.7
1928	37.3	33.0	3.4	3.3	1.7	1.8	2.1	2.2	.8	.7
1929	36.5	31.7	3.4	3.4	1.7	1.6	2.2	2.3	.8	.7
1930	35.0	31.2	3.4	3.3	1.6	1.8	2.1	2.0	.7	.6
1931	33.9	32.0	3.2	3.5	1.8	1.4	2.0	2.4	.7	.6
Ten preceding years [1]	35.0	32.1	2.8	2.6	1.6	1.7	1.8	1.7	.8	.7

Year in which disability began	Other diseases of the genito-urinary system and annexa (130–136)		Neuralgia, neuritis, sciatica (82)		Neurasthenia and the like (part of 84)		Other diseases of the nervous system (70–81, 83, part of 84)		Diseases of the eye (85)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	1.8	1.8	1.6	1.5	1.3	1.3	1.2	1.1	0.8	0.7
1922	1.8	1.8	2.3	2.5	1.5	1.7	.8	.7	.9	.9
1923	1.5	2.0	1.6	1.8	1.2	1.3	.7	.6	.9	.8
1924	2.0	1.8	2.3	2.1	1.6	1.9	.7	.8	1.2	1.0
1925	1.9	1.8	2.0	1.6	1.8	1.9	.8	.8	1.0	.9
1926	2.1	2.0	2.1	1.8	1.6	1.8	.8	.6	1.3	1.1
1927	2.2	1.7	2.3	1.6	1.4	1.7	1.0	.8	1.4	1.0
1928	2.2	2.1	2.2	1.6	1.4	1.6	1.0	1.0	1.1	1.0
1929	2.2	2.1	2.5	2.0	1.3	1.7	1.1	.9	1.0	.8
1930	2.4	2.2	2.3	1.6	1.2	1.5	1.0	1.0	1.1	1.0
1931	2.3	2.5	2.1	2.0	1.5	1.9	1.1	1.0	1.0	1.1
Ten preceding years [1]	2.0	1.9	2.1	1.8	1.4	1.7	.9	.8	1.1	.9

Year in which disability began	Diseases of the ear and of the mastoid process (86)		Rheumatism, acute and chronic (51, 52)		Lumbago and other diseases of the organs of locomotion (158)		Diseases of the skin (151–154)		Epidemic and endemic diseases except influenza (1–10, 12–25)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	0.6	0.5	5.6	4.6	3.0	2.3	3.6	3.6	2.6	2.7
1922	.5	.5	4.6	4.2	3.4	3.3	3.6	3.6	2.1	2.2
1923	.4	.5	4.7	4.4	2.7	2.8	3.3	2.8	2.4	2.7
1924	.5	.5	6.5	6.5	3.2	2.7	3.5	2.8	3.4	3.4
1925	.8	.8	6.4	5.2	3.3	2.1	3.5	2.9	3.4	3.0
1926	.7	.7	5.8	4.9	3.8	2.8	3.8	3.0	2.5	2.0
1927	.5	.6	6.3	5.1	3.5	2.7	4.7	3.1	2.4	2.3
1928	.7	.8	6.4	5.4	4.0	2.8	4.4	3.2	2.7	1.8
1929	.7	.6	5.6	4.8	3.9	2.8	4.2	3.0	2.6	1.6
1930	.5	.4	5.6	4.8	3.5	2.3	3.8	3.0	2.6	1.8
1931	.7	.8	5.4	4.7	3.3	2.2	3.2	2.7	2.2	1.9
Ten preceding years [1]	.6	.6	5.7	5.0	3.4	2.7	3.8	3.1	2.7	2.3

* A=all reporting establishments; B=establishments which reported throughout.
[1] 1921–1930, inclusive.

TABLE 5.—*Frequency of specified nonrespiratory, nondigestive diseases which caused disability for eight consecutive calendar days or longer per 1,000 male industrial workers representing various industries, by years, from 1921 to 1931, inclusive*—Continued

Year in which disability began	Diseases causing disability (numbers in parentheses are disease title numbers from the International List of the Causes of Death, third revision, Paris, 1920)									
	Cancer—all forms (43-49)		Other general diseases (26-30, 32-37, 41, 42, 50, 53-69)		Diseases of the bones and joints (155, 155)		Ill-defined and unknown causes of disability (205)		Nonindustrial injuries (165-203)	
	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
1921	0.6	0.6	3.5	3.7	2.0	2.1	1.8	2.0	8.1	7.4
1922	.6	.6	2.2	2.0	1.5	1.8	2.0	2.5	7.8	7.6
1923	.5	.4	2.0	2.2	1.5	1.6	3.1	2.8	9.0	8.6
1924	.6	.7	2.3	2.0	.6	.5	2.2	2.6	9.6	9.7
1925	.6	.6	2.5	2.4	.6	.6	2.3	2.3	10.9	9.9
1926	.8	.9	2.5	2.7	.6	.7	2.3	2.5	11.2	10.4
1927	.7	.7	2.6	2.5	1.0	.5	1.5	2.1	11.4	10.3
1928	.4	.4	2.5	3.2	.7	.6	1.7	1.7	10.9	9.3
1929	.4	.4	2.5	2.8	.8	.4	1.8	2.1	12.5	12.2
1930	.5	.5	2.4	3.0	.7	.6	1.7	1.8	12.3	12.9
1931	.6	.5	2.3	3.0	.6	.7	1.9	1.5	12.4	11.3
Ten preceding years [1]	.6	.6	2.5	2.6	1.0	.9	2.0	2.2	10.4	9.8

* A=all reporting establishments; B=establishments which reported throughout.
[1] 1921-1930, inclusive.

DEATH RATES IN A GROUP OF INSURED PERSONS

Rates for Principal Causes of Death for February, 1932

The accompanying table is taken from the Statistical Bulletin for March, 1932, issued by the Metropolitan Life Insurance Co., and presents the mortality record of the industrial insurance department of the company for February, 1932, as compared with that for the preceding month and for February, 1931. It also presents a comparison of the cumulative death rates for January-February for the two years. The rates in this group of insured persons in recent years are based on numbers varying between 17,000,000 and 19,000,000. The annual general death rate for this group in the past few years has averaged about 72 per cent of the death rate for the registration area of the United States.

The Bulletin states:

The unprecedentedly favorable health conditions which prevailed in January continued throughout February. In the former month the death rate was 7.6 per cent below the previous low point; in February it was 7.8 per cent under the former February minimum. In Canada and in the far western section of the United States, the cumulative death rates of insured wage earners at the end of February were also lower than ever before, at this time of the year. Such reports as are available for the general population of the United States supplement those for this group of policyholders and show that depression and unemployment have not yet seriously affected the public health. Nowhere in the United States or Canada has there been, this year, widespread prevalence of any epidemic

disease. There has been much sickness from influenza, it is true; but in only a few instances has the disease been of the type which runs quickly into pneumonia and causes death. In fact, we have never before experienced in January and February as low pneumonia mortality rates as those which have prevailed during these months in 1932.

With respect to the more important causes of death, the situation is, for the most part, impressively favorable. The principal epidemic diseases of childhood, with the exception of diphtheria, show lower death rates than at this time last year; and diphtheria has registered the same figure as at this time in 1931—which was the lowest ever recorded for this disease. The tuberculosis mortality rate has improved by nearly 14 per cent. With this favorable start, we may confidently look forward to the attainment of another new minimum in tuberculosis mortality this year. With diabetes, for the first time since 1924, there appears to be reason to expect a break in the series of continuously increasing mortality rates. The death rate from cardiac diseases has dropped 9.4 per cent as compared with that for the January-February period of 1931; that for cerebral hemorrhage, 8.7 per cent; that for pneumonia 37.4 per cent; for diarrhea and enteritis, 19.8 per cent; for chronic nephritis, 6 per cent; and for accidents, 11.1 per cent.

The unfavorable items are cancer and automobile fatalities. For the former, the year-to-date death rate is nearly 3 per cent higher than at this time in 1931, during which year cancer mortality increased sharply to a new maximum. There have been more automobile fatalities than ever before during the like period of any year.

Death rates (annual basis) per 100,000 for principal causes of death

[Industrial insurance department, Metropolitan Life Insurance Co.]

Cause of death	Annual rate per 100,000 lives exposed [1]				
	February, 1932	January, 1932	February, 1931	Cumulative, January-February	
				1932	1931
Total, all causes	878.6	870.0	1,034.4	874.2	1,010.9
Typhoid fever	1.5	1.5	1.3	1.5	1.4
Measles	2.4	2.2	3.0	2.3	2.8
Scarlet fever	3.6	2.3	4.1	3.0	3.7
Whooping cough	3.4	2.7	4.6	3.1	4.3
Diphtheria	6.5	6.1	5.7	6.3	6.3
Influenza	22.5	15.5	58.6	18.9	43.8
Tuberculosis (all forms)	70.0	67.7	81.9	68.8	79.8
Tuberculosis of respiratory system	63.0	60.1	72.2	61.5	71.0
Cancer	86.9	83.4	84.0	85.1	82.7
Diabetes mellitus	22.3	22.1	25.3	22.2	24.3
Cerebral hemorrhage	61.7	65.7	64.2	63.8	69.9
Organic diseases of heart	158.1	156.7	171.9	157.4	173.8
Pneumonia (all forms)	84.3	83.6	146.7	84.0	134.2
Other respiratory diseases	12.3	10.6	15.1	11.4	14.4
Diarrhea and enteritis	7.8	8.5	9.1	8.1	10.1
Bright's disease (chronic nephritis)	68.0	72.6	75.1	70.4	74.9
Puerperal state	11.4	9.9	10.9	10.6	11.0
Suicides	10.4	8.7	9.3	9.5	8.5
Homicides	6.3	6.2	5.6	6.2	6.2
Other external causes (excluding suicides and homicides)	44.6	53.0	51.5	49.0	55.1
Traumatism by automobiles	15.7	23.3	15.3	19.6	18.7
All other causes	194.5	190.7	206.5	192.5	203.6

[1] All figures in this table include insured infants under 1 year of age. The rates for 1931 and 1932 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

COURT DECISION RELATING TO PUBLIC HEALTH

Tularæmia held compensable under workmen's compensation act.—(Kentucky Court of Appeals; Great Atlantic and Pacific Tea Co. *v.* Sexton, 46 S. W. (2d) 87; decided Feb. 2, 1932.) In a negligence action brought to recover damages, it was alleged that the plaintiff, while an employee of a meat market, contracted tularæmia in the course of his work of skinning and dressing rabbits. At the time the plaintiff dressed the rabbits, he had a small abrasion or scratch on one of his fingers. A jury returned a verdict in plaintiff's favor and, from the judgment based thereon, the company operating the meat market appealed.

The court of appeals, in passing on the matter, said that there was for determination the question of whether or not the injury was compensable under the workmen's compensation act. The pertinent portion of such act read as follows:

> This act * * * shall affect the liability of the employers subject thereto to their employees for personal injuries sustained by the employee by accident arising out of and in the course of his employment or for death resulting from such accidental injury: *Provided, however,* That personal injury by accident, as herein defined, shall not include diseases, except where the disease is the natural and direct result of a traumatic injury by accident. * * *

The court, after considering the meaning of the word "accident," reached the conclusion that the injury in the instant case "was sustained by accident" within the meaning of the compensation law, and then turned to the question of whether the disease was the "natural and direct result of traumatic injury" within the meaning of the compensation statute. In this connection there was quoted a definition of "trauma" by Webster as being "a wound or injury directly produced by causes external to the body," and concerning this the court said:

> It will be noted that this does not include within its scope and meaning only physical force in the sense of a blow, a current of electricity, or like terms implying power, vigor, violence, or energy in the commonly accepted meaning of its terms, but may be as consistently construed to include any independent influence or cause external to the body coming into direct contact with and causing injury to the physical structures thereof.

It was pointed out that the injury in the present case could be traced directly to the employee's coming in contact with meats laden with tularæmia germs; that the time, place, and cause of the injury were determinable with reasonable certainty; that, as an immediate result of the contact, symptoms peculiar to the disease manifested themselves; and that it was not a gradual development arising out of natural dangers incident to the employment but was sudden, unexpected, and unusual, without any of the distinctive features of an occupational disease. The conclusion reached by the court was that

the employee's disease was "the natural and direct result of traumatic injury by accident sustained while in the course of his employment."

The judgment of the lower court was reversed and the cause remanded for another trial and proceedings consistent with the opinion.

DEATHS DURING WEEK ENDED APRIL 9, 1932

Summary of information received by telegraph from industrial insurance companies for the week ended April 9, 1932, and corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Apr. 9, 1932	Corresponding week, 1931
Policies in force	73, 744, 524	75, 140, 465
Number of death claims	15, 945	17, 335
Death claims per 1,000 policies in force, annual rate	11. 3	12. 0
Death claims per 1,000 policies, first 14 weeks of year, annual rate	10. 5	11. 2

Deaths [1] from all causes in certain large cities of the United States during the week ended April 9, 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 furnished in this summary are based upon mid-year population estimates derived from the 1930 census]

City	Week ended Apr. 9, 1932				Corresponding week, 1931		Death rate [2] for the first 14 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)	8, 927	12. 7	643	[4] 54	13. 2	793	12. 7	13. 9
Akron	34	6. 7	1	12	11. 1	7	7. 7	8. 6
Albany [5]	36	14. 4	2	41	18. 6	3	15. 0	15. 6
Atlanta [6]	98	18. 1	6	58	15. 6	14	14. 5	16. 3
White	55	15. 3	6	88	11. 3	8	11. 4	13. 0
Colored	43	23. 5	0	0	24. 1	6	20. 5	22. 7
Baltimore [5 6]	226	14. 4	12	42	16. 0	21	14. 9	17. 4
White	174	13. 6	5	23	14. 9	17	13. 9	16. 0
Colored	52	18. 1	7	113	20. 6	4	19. 8	23. 6
Birmingham [6]	59	11. 1	3	31	15. 9	8	12. 2	15. 8
White	28	8. 5	2	33	11. 9	1	10. 0	12. 2
Colored	31	15. 4	1	27	22. 4	7	15. 8	21. 7
Boston	244	16. 2	22	66	14. 8	19	15. 7	16. 4
Bridgeport	34	12. 1	4	71	12. 4	4	12. 2	13. 1
Buffalo	188	16. 7	19	91	14. 6	15	14. 3	15. 5
Cambridge	31	14. 2	3	62	16. 0	3	14. 2	14. 0
Camden	48	21. 1	6	106	16. 7	3	16. 4	18. 1
Canton	22	10. 6	1	25	11. 2	2	10. 8	11. 4
Chicago [5]	692	10. 3	44	43	11. 5	70	11. 0	12. 0
Cincinnati	147	16. 6	17	109	19. 3	9	16. 9	18. 3
Cleveland	242	13. 7	18	58	12. 8	15	12. 1	12. 8
Columbus	102	17. 8	3	30	15. 7	6	14. 9	15. 3
Dallas [6]	64	11. 8	6	-------	12. 6	9	11. 7	12. 7
White	46	10. 3	5	-------	12. 5	7	10. 9	11. 2
Colored	18	19. 3	1	-------	13. 2	2	16. 0	20. 0
Dayton	54	11. 9	4	57	11. 7	5	11. 9	12. 6
Denver	85	15. 1	7	69	14. 7	5	16. 8	16. 8
Des Moines	38	13. 6	3	51	9. 4	3	12. 7	12. 2
Detroit	270	8. 2	20	36	9. 3	26	8. 7	9. 8
Duluth	20	10. 3	1	29	16. 9	3	10. 3	12. 0
El Paso	38	18. 6	3	-------	14. 9	6	15. 3	17. 9
Erie	36	15. 8	3	64	12. 8	3	12. 4	11. 8
Evansville	24	11. 8	2	100	12. 0	1	10. 3	12. 1
Fall River [5 7]	33	15. 0	3	80	13. 6	2	13. 2	14. 0

See footnotes at end of table.

Deaths [1] from all causes in certain large cities of the United States during the week ended April 9, 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)—Continued

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

City	Week ended Apr. 9, 1932				Corresponding week, 1931		Death rate [2] for the first 14 weeks	
	Total deaths	Death rate [2]	Deaths under 1 year	Infant mortality rate [3]	Death rate [2]	Deaths under 1 year	1932	1931
Flint	32	9.8	6	88	6.4	3	9.1	7.8
Fort Wayne	30	12.9	2	52	14.9	0	11.2	12.2
Fort Worth [6]	24	7.4	1	-------	14.3	7	10.7	12.2
White	21	7.6	1	-------	14.5	7	10.3	11.8
Colored	3	5.9	0	-------	13.4	0	13.1	14.0
Grand Rapids	24	7.2	1	17	9.4	4	9.7	9.7
Houston [6]	68	11.0	5	-------	10.3	3	11.2	11.7
White	46	10.1	5	-------	10.1	3	10.6	10.8
Colored	22	13.4	0	-------	10.7	0	13.1	14.3
Indianapolis [6]	101	14.1	6	49	15.4	4	14.1	15.5
White	88	14.0	5	46	14.8	4	13.6	14.9
Colored	13	14.7	1	69	19.6	0	17.5	19.9
Jersey City	73	11.9	5	41	13.4	10	12.1	14.0
Kansas City, Kans. [6]	28	11.8	2	44	12.7	0	13.5	15.8
White	19	9.9	1	27	11.0	0	13.0	14.5
Colored	9	19.9	1	128	20.0	0	15.4	21.2
Kansas City, Mo	110	13.8	4	45	13.8	10	13.5	15.4
Knoxville [6]	23	10.7	0	0	12.9	4	12.9	14.6
White	18	10.1	0	0	10.8	3	11.8	13.5
Colored	5	14.3	0	0	23.4	1	18.8	20.1
Long Beach	25	8.1	3	79	14.4	0	10.1	10.8
Los Angeles	239	9.0	15	44	11.4	33	11.7	11.6
Louisville [6]	75	12.7	1	9	17.8	5	14.7	17.8
White	62	12.4	1	10	16.6	5	13.2	16.0
Colored	13	14.2	0	0	24.0	0	23.1	27.8
Lowell [7]	27	14.1	1	26	10.4	1	14.9	14.9
Lynn	35	17.8	3	85	7.1	3	12.4	12.5
Memphis [6]	86	17.1	7	76	15.9	5	17.2	18.1
White	39	12.5	2	34	15.7	1	13.0	15.5
Colored	47	24.4	5	151	16.3	4	23.9	22.4
Miami [6]	29	13.3	3	84	16.2	3	12.8	14.5
White	18	10.6	1	39	13.2	2	12.0	13.6
Colored	11	22.7	2	201	26.8	1	15.8	17.8
Milwaukee	100	8.7	12	57	9.6	9	9.5	10.8
Minneapolis	99	10.7	7	46	11.7	18	11.6	12.3
Nashville [6]	57	19.0	5	75	18.4	5	15.4	18.8
White	34	15.6	3	59	18.5	3	14.5	16.2
Colored	23	28.0	2	125	18.3	2	17.9	25.7
New Bedford [7]	22	10.2	4	115	14.4	6	13.5	13.4
New Haven	42	13.5	5	100	16.7	3	13.8	13.8
New Orleans [6]	149	16.4	12	68	17.8	20	16.0	19.3
White	97	15.0	6	32	13.0	9	13.6	15.8
Colored	52	19.8	6	98	29.8	11	21.9	28.0
New York	1,607	11.6	128	57	11.9	130	12.0	13.5
Bronx Borough	210	7.9	14	40	8.5	9	8.9	9.7
Brooklyn Borough	540	10.5	35	39	10.9	62	11.2	12.6
Manhattan Borough	630	18.5	57	81	18.6	48	18.3	20.6
Queens Borough	186	8.0	20	83	7.5	9	7.7	8.7
Richmond Borough	41	12.8	2	39	11.8	2	14.9	14.4
Newark, N. J	97	11.3	6	33	13.9	5	12.1	13.8
Oakland	54	9.4	5	63	10.0	2	11.6	11.9
Oklahoma City	39	9.9	2	27	15.6	10	10.4	12.4
Omaha	53	12.7	4	45	12.3	6	15.2	14.6
Paterson	59	22.2	5	91	12.8	5	14.3	16.0
Peoria	21	9.9	1	28	13.0	2	12.6	14.0
Philadelphia	632	16.7	41	63	16.3	47	14.1	16.2
Pittsburgh	192	14.7	14	64	17.4	23	15.0	18.0
Portland, Oreg	62	10.4	1	13	10.2	5	12.5	12.8
Providence	78	15.9	9	87	13.7	3	15.7	15.3
Richmond [6]	51	14.4	3	45	19.5	6	14.9	18.1
White	34	13.4	2	45	17.9	1	12.4	15.4
Colored	17	16.8	1	46	23.7	5	21.3	24.8
Rochester	96	15.0	6	57	13.7	9	12.8	14.0
St. Louis	272	17.1	15	54	16.4	21	15.0	18.4
St. Paul	59	11.0	7	75	10.2	2	11.2	11.8
Salt Lake City [6]	24	8.6	1	16	16.8	0	11.6	13.0

See footnotes at end of table.

Deaths [1] from all causes in certain large cities of the United States during the week ended April 9, 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)—Continued

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

City	Week ended Apr. 9, 1932				Corresponding week, 1931		Death rate [2] for the first 14 weeks	
	Total deaths	Death rate [2]	Deaths under 1 year	Infant mortality rate [3]	Death rate [2]	Deaths under 1 year	1932	1931
San Antonio	77	16.3	11		13.0	7	15.0	15.0
San Diego	40	12.8	2	43	13.3	4	16.4	15.6
San Francisco	163	12.9	9	62	14.4	9	13.8	14.5
Schenectady	25	13.5	2	58	14.1	6	11.6	12.3
Seattle	89	12.4	0	0	11.2	2	12.3	13.3
Somerville	26	12.8	0	0	8.4	0	10.6	11.2
South Bend	18	8.5	1	29	8.7	4	8.1	9.4
Spokane	23	10.3	1	27	10.8	2	12.8	13.1
Springfield, Mass	44	14.9	3	51	12.0	2	12.1	13.8
Syracuse	63	15.2	4	52	11.7	5	12.5	12.8
Tacoma	25	12.0	1	28	12.6	0	12.4	14.8
Tampa [6]	33	16.0	2	57	12.9	1	12.8	14.8
White	23	14.1	0	0	12.0	0	12.3	13.5
Colored	10	22.9	2	317	16.4	1	14.4	19.6
Toledo	75	13.0	6	65	12.6	6	13.0	13.8
Trenton	58	24.4	5	99	18.5	8	18.0	19.5
Utica	49	24.9	2	57	18.9	0	16.7	16.9
Washington, D. C. [6]	172	18.2	14	79	18.8	22	17.6	18.6
White	123	18.0	9	74	15.1	9	16.0	16.0
Colored	49	18.7	5	89	28.6	13	21.8	25.4
Waterbury	20	10.3	3	99	11.4	1	10.5	11.3
Wilmington, Del. [7]	35	17.2	0	0	22.5	4	18.4	17.2
Worcester	49	12.9	5	70	15.9	7	13.6	15.2
Yonkers	49	18.0	4	103	9.4	5	8.6	10.4
Youngstown	35	10.4	1	16	10.6	4	11.2	11.8

[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 arithmetical 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 80 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 April 16, 1932, and April 18, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Apr. 16, 1932, and Apr. 18, 1931

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931
New England States:								
Maine	2	4	22	5	208	9	0	0
New Hampshire	2	----	----	----	15	21	0	0
Vermont	----	1	----	----	39	1	0	0
Massachusetts	36	52	9	7	611	522	3	2
Rhode Island	3	6	3	----	161	40	0	0
Connecticut	8	7	17	5	156	671	1	2
Middle Atlantic States:								
New York	99	126	[1] 35	[1] 13	2,066	2,577	9	15
New Jersey	30	62	48	12	529	909	1	2
Pennsylvania	73	63	----	----	1,648	4,374	10	8
East North Central States:								
Ohio	64	39	193	43	2,818	673	9	1
Indiana	27	16	43	33	72	855	8	6
Illinois	80	138	69	13	957	1,586	11	20
Michigan	26	45	32	5	1,754	105	9	11
Wisconsin	10	17	113	49	1,672	790	1	1
West North Central States:								
Minnesota	8	5	5	----	38	71	2	1
Iowa	6	6	----	----	2	56	0	1
Missouri	25	30	15	22	47	620	1	3
North Dakota	2	1	----	----	60	77	0	0
South Dakota	1	11	----	----	14	119	1	0
Nebraska	----	6	13	----	1	5	1	2
Kansas	9	13	6	16	460	48	3	1
South Atlantic States:								
Delaware	1	1	1	1	1	265	0	0
Maryland [2]	14	14	152	23	40	1,612	2	4
District of Columbia	5	18	2	4	2	287	0	5
Virginia	----	----	----	----	----	----	2	----
West Virginia	11	13	278	40	314	99	3	0
North Carolina	12	30	88	17	710	940	1	3
South Carolina [3]	8	7	1,871	702	127	138	0	2
Georgia [3]	12	7	188	215	34	123	0	0
Florida	3	7	6	14	6	206	0	1
East South Central States:								
Kentucky	8	----	330	----	72	341	3	5
Tennessee	10	4	1,040	96	104	91	3	2
Alabama [3]	12	23	157	346	45	367	3	19
Mississippi	8	3	----	----	----	----	3	6

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Apr. 16, 1932, and Apr. 18, 1931—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931
West South Central States:								
Arkansas	5	6	71	207	2	32	0	2
Louisiana	31	14	13	33	103	3	0	1
Oklahoma [4]	12	19	152	143	43	23	0	5
Texas [3]	21	36	133	69	328	57	1	0
Mountain States:								
Montana	2	2	2		166	8	0	1
Idaho	1	1	3	2			0	0
Wyoming		1	2		6	4	0	0
Colorado	3	7			166	274	1	2
New Mexico	11	2	54	2	89	28	1	1
Arizona		1	18	43	3	36	0	1
Utah [3]	5	1		14	1	5	0	2
Pacific States:								
Washington	9	10	3	48	341	55	1	1
Oregon	2	5	65	55	250	150	0	0
California	80	49	88	77	627	1,461	0	3
Total	797	929	5,340	2,374	16,908	20,734	94	147

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931
New England States:								
Maine	0	1	41	5	0	0	0	0
New Hampshire	1	0	30	1	0	0	0	0
Vermont	0	0	9	2	4	0	0	0
Massachusetts	3	1	585	374	0	0	3	2
Rhode Island	0	0	68	57	0	0	0	0
Connecticut	0	0	93	41	0	0	3	0
Middle Atlantic States:								
New York	1	2	1,662	897	12	4	2	11
New Jersey	0	0	315	340	0	0	1	3
Pennsylvania	3	1	881	483	0	1	14	14
East North Central States:								
Ohio	1	1	490	380	17	83	7	3
Indiana	0	1	101	276	18	109	1	0
Illinois	3	1	399	553	9	58	17	7
Michigan	1	3	415	333	6	14	4	10
Wisconsin	0	1	82	216	1	29	1	1
West North Central States:								
Minnesota	0	0	133	92	0	3	0	1
Iowa	0	0	66	78	44	81	5	0
Missouri	0	0	85	283	4	56	1	2
North Dakota	1	0	23	25	9	12	2	5
South Dakota	0	1	3	23	1	14	3	0
Nebraska	0	0	24	28	3	21	0	1
Kansas	0	0	46	59	5	93	4	1
South Atlantic States:								
Delaware	0	0	17	34	0	0	0	0
Maryland [3]	0	1	134	65	0	0	4	5
District of Columbia	0	0	21	27	0	0	0	0
Virginia								
West Virginia	0	1	24	50	0	4	2	4
North Carolina	1	0	48	50	4	0	5	1
South Carolina [3]	0	1	8	8	0	4	7	7
Georgia [3]	0	0	5	71	2	0	9	1
Florida	0	1	1	5	0	0	2	4

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Apr. 16, 1932, and Apr. 18, 1931—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931	Week ended Apr. 16, 1932	Week ended Apr. 18, 1931
East South Central States:								
Kentucky	0	0	92	87	16	2	4	2
Tennessee	0	0	32	19	10	8	7	11
Alabama [3]	1	0	13	38	15	25	8	6
Mississippi	0	0	9	18	19	66	3	3
West South Central States:								
Arkansas	0	2	7	20	25	33	1	3
Louisiana	1	0	9	14	3	33	12	6
Oklahoma [4]	0	0	6	31	16	152	2	1
Texas [3]	1	0	27	41	29	37	5	6
Mountain States:								
Montana	0	0	20	36	1	3	3	1
Idaho	0	0	1	4	1	2	0	1
Wyoming	0	0	11	16	3	7	0	0
Colorado	0	0	35	40	0	2	0	0
New Mexico	0	1	10	7	0	4	3	3
Arizona	0	0	7	4	0	3	0	0
Utah [2]	0	0	5	9	0	0	0	0
Pacific States:								
Washington	0	0	37	41	86	0	1	1
Oregon	0	0	12	19	28	20	4	1
California	3	4	168	155	22	53	7	9
	21	24	6,310	5,455	413	1,036	157	137

[1] New York City only.
[2] Week ended Friday.
[3] Typhus fever, week ended Apr. 16, 1932, 8 cases: 1 case in South Carolina, 2 cases in Georgia, 4 cases in Alabama, and 1 case 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	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellegra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
February, 1932										
Arkansas	1	48	274	19	13	8	0	93	93	12
New Hampshire	----	6	----	----	----	----	----	151	----	2
March, 1932										
Indiana	42	169	880	----	241	----	1	594	40	11
Maine	2	13	267	----	1,403	----	0	109	0	1
Massachusetts	9	176	91	1	2,418	2	3	2,335	0	9
New Jersey	6	152	864	----	1,219	----	4	1,459	0	11
North Dakota	5	8	509	----	201	----	0	74	12	----
Pennsylvania	22	566	----	----	9,524	----	2	3,707	7	44
Vermont	----	5	----	----	495	----	0	65	22	1
Wyoming	6	3	2	----	18	----	0	34	5	6

February, 1932

Arkansas:	Cases
Chicken pox	97
Mumps	39
Trachoma	9
Tularaemia	2
Whooping cough	67

March, 1932

	Cases
Actinomycosis:	
Pennsylvania	1
Anthrax:	
New Jersey	1
Chicken pox:	
Indiana	357
Maine	110
Massachusetts	1,020
New Jersey	1,256
North Dakota	38
Pennsylvania	3,916
Vermont	112
Wyoming	15
Conjunctivitis:	
Maine	1
Wyoming	30
Dysentery:	
Massachusetts	1
German measles:	
Maine	269
Massachusetts	77
New Jersey	54
Pennsylvania	222
Lead poisoning:	
Massachusetts	4
Lethargic encephalitis:	
Indiana	1
Massachusetts	2
New Jersey	4
Pennsylvania	6
Mumps:	
Indiana	437
Maine	46
Massachusetts	1,411
New Jersey	846
North Dakota	65
Pennsylvania	3,993
Mumps—Continued.	
Vermont	331
Wyoming	93
Ophthalmia neonatorum:	
Massachusetts	65
New Jersey	1
Pennsylvania	13
Paratyphoid fever:	
Maine	1
Puerperal fever:	
Pennsylvania	23
Rabies in man:	
Pennsylvania	1
Septic sore throat:	
Maine	1
Massachusetts	31
Wyoming	1
Tetanus:	
New Jersey	1
Pennsylvania	2
Trachoma:	
Indiana	3
Massachusetts	5
New Jersey	1
Pennsylvania	2
Trichinosis:	
North Dakota	11
Pennsylvania	1
Undulant fever:	
Indiana	1
Maine	1
Massachusetts	2
Pennsylvania	1
Vincent's angina:	
Indiana	3
Maine	2
North Dakota	11
Whooping cough:	
Indiana	462
Maine	121
Massachusetts	1,062
New Jersey	1,259
North Dakota	21
Pennsylvania	3,593
Vermont	150
Wyoming	6

Cases of Certain Communicable Diseases Reported for the Month of February, 1932, by State Health Officers

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid and paratyphoid fever	Whooping cough
Maine	164	18	2,338	77	108	0	35	5	143
New Hampshire	-------	6	-------	-------	151	-------	-------	2	-------
Vermont	168	-------	526	267	61	78	11	7	169
Massachusetts	919	226	1,566	1,168	2,070	5	403	13	853
Rhode Island	104	22	3,783	161	212	0	48	0	64
Connecticut	523	26	971	333	413	26	114	8	482
New York	2,763	597	7,553	1,503	5,600	11	1,616	43	2,723
New Jersey	1,409	185	576	448	1,062	0	359	8	1,700
Pennsylvania	4,240	570	7,509	3,363	3,066	0	655	75	3,987
Ohio	1,813	272	2,856	1,126	1,817	188	664	29	2,512
Indiana	542	237	408	377	541	76	196	14	471
Illinois	1,618	425	709	319	1,778	26	809	34	1,527
Michigan	1,412	193	1,803	1,378	1,939	11	541	30	1,167
Wisconsin	1,463	76	988	1,342	449	27	156	3	880
Minnesota	234	46	183	-------	543	8	209	12	74
Iowa	196	50	24	75	223	141	28	4	97

Cases of Certain Communicable Diseases Reported for the Month of February, 1932, by State Health Officers—Continued

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid and paratyphoid fever	Whooping cough
Missouri	479	161	116	84	373	67	150	11	845
North Dakota	88	20	257	124	93	54	9	2	10
South Dakota	39	20	243	68	50	47	7	5	21
Nebraska	150	32	147	132	138	38	10	2	94
Kansas	571	81	520	440	245	10	203	7	275
Delaware	44	12	3	53	53	0	12	4	54
Maryland	643	130	111	552	511	0	[1] 167	20	839
District of Columbia	150	61	11	----	95	0	95	2	83
Virginia	543	223	310	----	300	0	124	49	1,671
West Virginia	184	85	1,738	86	189	3	78	24	312
North Carolina	612	113	1,139	----	207	16	----	21	1,536
South Carolina	175	123	204	277	31	1	88	28	142
Georgia	99	43	24	73	59	----	136	44	85
Florida	12	60	22	15	25	1	35	28	35
Kentucky [3]	----	----	----	----	----	----	----	----	----
Tennessee	163	115	213	127	173	67	149	35	304
Alabama	150	114	8	101	89	11	319	40	93
Mississippi	628	71	24	179	43	119	[1] 116	32	700
Arkansas	97	48	13	39	93	93	11	12	67
Louisiana	23	117	140	5	73	22	[1] 106	67	40
Oklahoma [3]	54	101	72	48	125	42	92	14	86
Texas	----	242	----	----	266	----	----	27	----
Montana	73	8	295	21	183	5	32	3	50
Idaho	32	9	6	39	38	9	[1] 9	16	9
Wyoming	27	----	5	58	27	0	----	----	----
Colorado	355	36	202	251	139	6	31	3	87
New Mexico	100	100	261	30	52	9	64	13	92
Arizona	163	18	4	11	22	1	95	----	46
Utah [3]	----	----	----	----	----	----	----	----	----
Nevada	5	1	2	----	12	0	[1] 2	----	2
Washington	359	15	2,425	97	161	76	113	3	141
Oregon	167	15	383	107	82	44	35	8	52
California	3,283	278	1,642	562	584	50	926	27	701

Case Rates per 100,000 Population (Annual Basis) for the Month of February, 1932

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid and paratyphoid fever	Whooping cough
Maine	258	28	3,679	121	170	0	55	8	225
New Hampshire	----	16	----	----	407	0	----	5	----
Vermont	589	----	1,844	936	214	273	39	25	592
Massachusetts	270	66	460	343	607	1	118	4	250
Rhode Island	188	40	6,840	291	383	0	87	0	116
Connecticut	403	20	749	257	319	20	88	6	372
New York	271	59	741	147	549	1	158	4	267
New Jersey	428	56	175	136	323	0	109	2	516
Pennsylvania	549	74	972	435	397	0	85	10	516
Ohio	338	51	533	210	339	35	124	5	469
Indiana	209	91	157	145	208	29	75	5	181
Illinois	263	69	115	52	289	4	131	6	248
Michigan	357	49	456	348	490	3	137	8	295
Wisconsin	620	32	419	569	190	11	66	1	373
Minnesota	114	22	89	----	265	4	102	6	36
Iowa	100	25	12	38	114	72	14	2	49
Missouri	165	56	40	29	129	23	52	4	292
North Dakota	162	37	474	229	172	63	17	4	18
South Dakota	70	36	438	123	90	85	13	9	38
Nebraska	136	29	134	120	125	35	9	2	85
Kansas	380	54	347	293	163	7	135	5	183
Delaware	230	63	16	278	278	0	63	21	283
Maryland	491	99	85	421	390	0	[1] 127	15	640
District of Columbia	383	156	28	----	243	0	243	5	212
Virginia	281	118	161	----	155	0	64	25	866
West Virginia	132	61	1,245	62	135	2	56	17	223
North Carolina	238	44	442	----	80	6	----	8	597

[1] Pulmonary.
[2] Reports received weekly.
[3] Exclusive of Oklahoma City and Tulsa.

Case Rates per 100,000 Population (Annual Basis) for the Month of February 1932—Continued

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid and paratyphoid fever	Whooping cough
South Carolina	126	89	147	200	22	1	64	20	103
Georgia	43	19	10	32	26	----	59	19	37
Florida	10	49	18	12	21	1	29	23	29
Kentucky [2]									
Tennessee	78	55	101	60	82	32	71	17	145
Alabama	71	54	4	47	42	5	150	19	44
Mississippi	389	44	15	111	27	74	72	20	434
Arkansas	66	32	9	26	63	63	[1] 7	8	45
Louisiana	14	69	83	3	43	13	[1] 62	39	24
Oklahoma [3]	33	61	44	29	76	25	56	8	52
Texas		51			56			6	
Montana	171	19	693	49	430	12	75	7	117
Idaho	90	25	17	110	107	25	[1] 25	45	25
Wyoming	148	----	27	318	148	0			
Colorado	428	43	243	302	167	7	37	4	105
New Mexico	293	293	764	88	152	26	187	38	269
Arizona	459	51	11	31	62	3	268	----	130
Utah [2]									
Nevada	68	14	27	----	163	0	[1] 27	----	27
Washington	285	12	1,925	77	128	60	90	2	112
Oregon	216	19	495	138	106	57	45	10	67
California	695	59	347	119	124	11	196	6	148

[1] Pulmonary.
[2] Reports received weekly.
[3] Exclusive of Oklahoma City and Tulsa.

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of March, 1932, by departments of health of States named to other State health departments

Disease	California	Connecticut	Illinois	Massachusetts	Minnesota	New York
Chicken pox	----	1	----	----	----	----
Diphtheria	----	----	----	----	1	1
Dysentery	----	----	----	----	----	1
Measles	----	----	----	----	----	2
Meningitis	----	----	----	1	1	1
Pneumonia	----	----	----	3	----	----
Septic sore throat	----	----	----	----	----	1
Scarlet fever	----	2	----	3	----	1
Tuberculosis	8	----	7	----	22	1

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 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 34,050,000. The estimated population of the 91 cities reporting deaths is more than 32,490,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended April 9, 1932, and April 11, 1931

	1932	1931	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	799	898	----
98 cities	333	419	733
Measles:			
45 States	13,701	20,884	----
98 cities	5,598	8,516	----
Meningococcus meningitis:			
46 States	65	168	----
98 cities	34	85	----
Poliomyelitis:			
46 States	20	20	----
Scarlet fever:			
46 States	5,676	5,545	----
98 cities	2,758	2,322	1,556
Smallpox:			
46 States	392	1,051	----
98 cities	40	125	63
Typhoid fever:			
46 States	157	124	----
98 cities	21	32	28
Deaths reported			
Influenza and pneumonia:			
91 cities	1,098	1,064	----
Smallpox:			
91 cities	0	1	----
New Orleans, La	0	1	----

City reports for week ended April 9, 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	0	0	1	0	40	1	3
New Hampshire:								
Concord	0	0	0	----	0	4	0	2
Manchester	0	0	0	----	0	0	0	2
Nashua	0	0	0	----	0	0	0	0
Vermont:								
Barre	0	0	0	----	0	0	0	0
Burlington	1	0	2	----	0	0	1	0
Massachusetts:								
Boston	69	27	20	----	0	64	74	42
Fall River	4	3	1	1	0	80	7	3
Springfield	28	2	1	----	0	31	14	1
Worcester	14	3	0	----	0	0	35	8
Rhode Island:								
Pawtucket	0	0	0	----	0	0	0	0
Providence	4	7	3	----	2	61	2	10
Connecticut:								
Bridgeport	1	4	0	1	0	5	0	1
Hartford	7	3	1	----	0	2	7	8
New Haven	13	1	0	1	0	4	23	2
MIDDLE ATLANTIC								
New York:								
Buffalo	39	9	2	----	2	13	1	34
New York	293	214	98	60	28	242	203	221
Rochester	7	5	1	2	0	148	15	7
Syracuse	9	3	0	----	0	450	6	6
New Jersey:								
Camden	10	6	1	3	0	1	0	6
Newark	49	14	5	4	2	39	143	11
Trenton	3	2	0	1	2	1	3	9
Pennsylvania:								
Philadelphia	139	58	6	24	12	14	76	96
Pittsburgh	45	14	5	4	4	349	43	26
Reading	32	1	1	----	1	1	1	5
Scranton	8	----	0	----	0	1	0	----
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	3	7	3	1	4	0	2	16
Cleveland	82	22	8	67	15	858	65	24
Columbus	2	2	2	1	1	6	5	3
Toledo	10	3	0	2	2	25	0	10
Indiana:								
Fort Wayne	1	2	4	----	1	1	0	0
Indianapolis	22	3	1	----	1	8	156	9
South Bend	4	0	0	----	0	4	0	0
Terre Haute	7	0	0	----	0	1	0	4
Illinois:								
Chicago	105	89	35	7	4	430	14	35
Springfield	5	1	1	1	0	0	5	5

City reports for week ended April 9, 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			
EAST NORTH CENTRAL—Continued								
Michigan:								
Detroit	108	38	22	12	5	330	60	23
Flint	10	2	0	18	2	255	89	5
Grand Rapids	9	0	0		2	140	21	0
Wisconsin:								
Kenosha	0	0	0		0	2	0	0
Madison	10	0	0			0	0	
Milwaukee	119	11	1	1	1	593	28	6
Racine	30	1	0		0	207	48	1
Superior	4	0	0		1	0	30	1
WEST NORTH CENTRAL								
Minnesota:								
Duluth	4	0	0		1	1	0	1
Minneapolis	16	10	0		0	7	30	7
St. Paul	1	4	1	1	1	9	9	4
Iowa:								
Davenport	1	0	0			0	2	
Des Moines	0	1	3			0	0	
Sioux City	3	1	0			0	2	
Waterloo	7	0	0			1	0	
Missouri:								
Kansas City	25	3	3		0	1	3	20
St. Joseph	0	1	3		1	0	0	6
St. Louis	29	31	6	5	5	4	6	10
North Dakota:								
Fargo	2	0	0		0	37	0	0
Grand Forks	0	0	0			0	0	
South Dakota:								
Aberdeen	2	0	0			8	0	
Sioux Falls	0	0	0			1	0	
Nebraska:								
Omaha	8	2	1		0	0	3	13
Kansas:								
Topeka	22	1	0	2	0	2	10	1
Wichita	12	1	0		0	143	2	3
SOUTH ATLANTIC								
Delaware:								
Wilmington	2	2	0		0	0	3	8
Maryland:								
Baltimore	130	19	4	22	6	2	110	33
Cumberland	0	0	0	2	0	8	0	1
Frederick	0	0	1	1	0	0	0	1
District of Columbia:								
Washington	58	11	4	3	3	9	0	17
Virginia:								
Lynchburg	18	0	1		4	2	2	4
Norfolk	12	0	0	1	0	0	0	9
Richmond	2	2	0		3	0	0	6
Roanoke	1	1	0		5	0	0	1
West Virginia:								
Charleston	1	0	0	2	1	75	0	0
Huntington	0		3		0	4	0	0
Wheeling	0	0	0		0	6	0	2
North Carolina:								
Raleigh	1	1	1		0	10	0	1
Wilmington	0	0	0		0	0	0	0
Winston-Salem	9	0	0		1	1	11	0
South Carolina:								
Charleston	2	0	0	121	1	0	0	9
Columbia	3	0	1		1	60	0	8
Greenville	1	0	0		0	2	0	0
Georgia:								
Atlanta	6	3	3	11	2	2	0	8
Brunswick	5	0	0		0	0	0	0
Savannah	12	1	1	18	2	0	0	0
Florida:								
Miami	7	2	1		0	0	0	1
Tampa	28	1	3	2	2	0	0	5

City reports for week ended April 9, 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			
EAST SOUTH CENTRAL								
Kentucky:								
Covington	0	0	0	----	0	0	0	3
Tennessee:								
Memphis	7	2	1	----	8	----	0	14
Nashville	0	1	0	----	3	1	0	7
Alabama:								
Birmingham	10	1	2	26	1	3	4	8
Mobile	0	0	2	----	0	0	1	0
Montgomery	10	0	2	1	----	0	9	----
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	1	----	----	0	0	----
Little Rock	1	0	0	----	0	0	5	7
Louisiana:								
New Orleans	0	11	14	3	2	2	0	15
Shreveport	2	0	0	----	0	8	7	7
Oklahoma:								
Oklahoma City	0	1	2	----	2	12	8	5
Tulsa	5	1	0	----	----	7	0	----
Texas:								
Dallas	8	5	3	2	2	----	1	4
Fort Worth	18	1	0	----	0	0	0	2
Galveston	0	0	1	----	0	0	0	5
Houston	1	4	8	----	4	5	0	15
San Antonio	1	3	1	----	4	0	0	8
MOUNTAIN								
Montana:								
Billings	0	1	0	----	0	0	0	0
Great Falls	7	0	0	----	1	0	0	2
Helena	0	0	1	----	0	13	0	0
Missoula	0	0	0	----	0	0	0	0
Idaho:								
Boise	0	0	0	----	0	0	1	0
Colorado:								
Denver	27	7	3	----	3	103	33	11
Pueblo	25	0	0	----	0	0	1	1
New Mexico:								
Albuquerque	2	0	0	----	0	49	5	2
Utah:								
Salt Lake City	32	2	2	----	0	1	1	0
Nevada:								
Reno	0	0	0	----	0	0	0	1
PACIFIC								
Washington:								
Seattle	19	2	1	----	----	387	5	----
Spokane	5	0	0	----	----	0	0	----
Tacoma	0	1	2	----	0	25	1	2
Oregon:								
Portland	13	7	2	2	2	189	12	4
Salem	10	0	0	2	0	1	8	0
California:								
Los Angeles	174	31	32	40	0	9	14	17
Sacramento	41	2	1	----	0	51	2	6
San Francisco	86	11	1	2	0	217	7	6

City reports for week ended April 9, 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		
NEW ENGLAND											
Maine:											
Portland	3	4	0	0	0	1	0	0	0	23	27
New Hampshire:											
Concord	0	3	0	0	0	0	0	0	0	0	10
Manchester	2	0	0	0	0	2	0	0	0	0	18
Nashua	1	0	0	0	0	0	0	0	0	0	----
Vermont:											
Barre	0	0	0	0	0	1	0	0	0	1	5
Burlington	0	0	0	0	0	0	0	0	0	0	9
Massachusetts:											
Boston	91	186	0	0	0	16	1	0	0	35	244
Fall River	5	11	0	0	0	2	0	0	0	5	35
Springfield	12	6	0	0	0	5	0	0	0	7	44
Worcester	10	42	0	0	0	5	0	0	0	17	49
Rhode Island:											
Pawtucket	3	0	0	0	0	0	0	0	0	0	18
Providence	14	38	0	0	0	6	0	0	0	3	78
Connecticut:											
Bridgeport	12	3	0	0	0	0	0	0	0	6	34
Hartford	6	12	0	0	0	4	0	0	0	14	53
New Haven	6	18	0	0	0	0	0	1	0	15	42
MIDDLE ATLANTIC											
New York:											
Buffalo	28	89	1	0	0	13	0	0	0	19	184
New York	330	826	0	0	0	85	9	1	1	213	1,607
Rochester	11	71	0	0	0	2	0	0	0	7	92
Syracuse	12	29	0	0	0	2	0	0	0	32	63
New Jersey:											
Camden	6	28	0	0	0	1	0	0	0	4	48
Newark	36	32	0	0	0	2	1	0	0	43	89
Trenton	3	5	0	0	0	3	0	0	0	2	58
Pennsylvania:											
Philadelphia	105	260	0	0	0	28	2	1	0	179	632
Pittsburgh	31	48	0	0	0	9	0	0	0	42	192
Reading	5	26	0	0	0	1	0	0	0	22	40
Scranton	----	23	----	0	----	----	----	0	----	1	----
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	25	44	1	0	0	13	0	0	0	8	147
Cleveland	40	95	0	0	0	15	0	0	0	160	242
Columbus	12	5	1	4	0	5	0	0	0	36	102
Toledo	15	4	0	0	0	2	0	0	0	95	75
Indiana:											
Fort Wayne	5	2	3	0	0	1	0	0	0	6	31
Indianapolis	13	10	8	0	0	5	0	0	0	43	----
South Bend	4	2	0	0	0	3	0	0	0	7	18
Terre Haute	2	1	0	0	0	1	0	0	0	1	19
Illinois:											
Chicago	134	214	1	0	0	42	1	0	1	152	692
Springfield	4	3	0	2	0	1	0	1	0	8	28
Michigan:											
Detroit	119	187	1	0	0	21	1	1	0	197	270
Flint	14	6	2	0	0	0	0	0	0	30	32
Grand Rapids	12	7	0	0	0	1	1	0	0	3	24
Wisconsin:											
Kenosha	1	2	0	0	0	0	0	1	0	4	3
Madison	4	1	1	0	----	----	----	0	----	14	----
Milwaukee	29	24	0	0	0	3	1	0	0	132	100
Racine	3	1	0	0	0	2	0	0	0	0	19
Superior	4	1	0	0	0	2	0	0	0	0	10

City reports for week ended April 9, 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		
WEST NORTH CENTRAL											
Minnesota:											
Duluth	8	3	0	0	0	0	0	0	0	0	20
Minneapolis	36	51	0	0	0	2	0	0	0	32	99
St. Paul	30	15	0	0	0	2	0	0	0	9	65
Iowa:											
Davenport	2	4	2	0	----	----	0	0	----	0	----
Des Moines	9	9	3	0	----	----	0	0	----	0	38
Sioux City	2	5	1	4	----	----	0	0	----	3	----
Waterloo	2	0	1	0	----	----	1	0	----	3	----
Missouri:											
Kansas City	25	20	1	0	0	9	0	0	0	23	110
St. Joseph	4	1	0	0	0	1	0	0	0	0	14
St. Louis	57	16	3	0	0	13	1	0	0	46	272
North Dakota:											
Fargo	1	3	0	0	0	1	0	0	0	0	3
Grand Forks	1	0	0	0	----	----	----	0	----	0	----
South Dakota:											
Aberdeen	0	0	1	2	----	----	0	0	----	0	----
Sioux Falls	3	1	1	0	----	----	0	0	----	0	9
Nebraska:											
Omaha	4	5	4	1	0	1	0	0	0	2	53
Kansas:											
Topeka	4	0	1	0	0	0	0	0	0	35	8
Wichita	5	0	4	0	0	2	0	0	0	1	26
SOUTH ATLANTIC											
Delaware:											
Wilmington	6	5	0	0	0	2	0	0	0	7	35
Maryland:											
Baltimore	46	87	0	0	0	17	2	4	0	152	226
Cumberland	0	1	0	0	0	0	0	0	0	0	10
Frederick	0	1	0	0	0	0	0	0	0	0	2
District of Col.:											
Washington	25	23	0	0	0	8	0	0	0	23	172
Virginia:											
Lynchburg	0	3	0	0	0	0	0	0	0	26	16
Norfolk	1	1	0	0	0	4	0	0	0	3	34
Richmond	4	6	0	0	0	2	0	0	0	2	55
Roanoke	1	6	1	0	0	0	0	0	0	1	19
West Virginia:											
Charleston	1	0	0	0	0	1	0	0	0	7	12
Huntington	----	8	----	0	0	0	----	0	0	0	----
Wheeling	2	2	0	0	0	0	0	1	1	18	9
North Carolina:											
Raleigh	0	0	1	0	0	1	0	0	0	1	3
Wilmington	0	0	0	0	0	0	0	0	0	11	9
Winston-Salem	1	23	0	0	0	0	0	0	0	35	18
South Carolina:											
Charleston	0	0	0	0	0	0	0	0	0	0	26
Columbia	0	0	0	4	0	10	0	0	1	3	70
Greenville	----	1	0	0	0	0	----	0	0	0	----
Georgia:											
Atlanta	6	5	2	0	0	5	0	0	0	8	98
Brunswick	0	0	0	0	0	0	0	0	0	0	0
Savannah	0	0	0	0	0	2	0	2	1	2	33
Florida:											
Miami	0	1	0	0	0	6	1	0	0	2	20
Tampa	0	0	0	0	0	3	1	1	1	0	34
EAST SOUTH CENTRAL											
Kentucky:											
Covington	3	0	0	0	0	2	0	0	0	0	28
Tennessee:											
Memphis	12	10	2	4	0	5	0	0	0	27	86
Nashville	3	4	1	0	0	4	0	0	0	24	57
Alabama:											
Birmingham	3	0	0	0	0	3	0	2	0	19	59
Mobile	1	0	0	5	0	0	0	2	0	0	15
Montgomery	0	1	0	0	----	----	0	0	----	0	----

City reports for week ended April 9, 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		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0	----	----	0	0	----	1	----
Little Rock	2	0	0	0	0	1	0	0	0	0	8
Louisiana:											
New Orleans	11	11	0	1	0	15	2	0	0	1	149
Shreveport	0	1	0	0	0	3	0	0	0	3	39
Oklahoma:											
Oklahoma City	4	5	3	1	0	2	0	0	0	0	39
Tulsa	3	0	1	5	----	----	0	0	----	1	----
Texas:											
Dallas	5	0	1	0	0	4	0	0	0	12	64
Fort Worth	3	3	6	8	0	0	0	1	0	0	24
Galveston	0	0	0	0	0	1	0	0	0	0	14
Houston	3	3	2	0	0	2	1	0	0	0	68
San Antonio	2	1	0	2	0	9	0	0	0	0	77
MOUNTAIN											
Montana:											
Billings	1	0	0	0	0	0	0	0	0	0	7
Great Falls	2	0	0	0	0	0	0	0	0	0	13
Helena	0	0	0	0	0	0	0	0	0	0	9
Missoula	0	2	0	0	0	0	0	0	0	0	0
Idaho:											
Boise	0	0	0	1	0	0	0	0	0	0	6
Colorado:											
Denver	13	19	0	0	0	5	0	0	0	53	85
Pueblo	0	1	0	0	0	0	0	0	0	6	8
New Mexico:											
Albuquerque	1	4	0	0	0	3	0	0	0	0	15
Utah:											
Salt Lake City	2	7	1	0	0	0	0	0	0	4	24
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle	8	10	2	0	0	----	0	0	----	5	----
Spokane	6	1	8	0	0	----	0	0	----	0	----
Tacoma	2	2	4	5	0	0	0	0	0	1	25
Oregon:											
Portland	4	1	9	5	0	0	0	0	0	16	62
Salem	1	1	1	0	0	0	0	0	0	3	----
California:											
Los Angeles	37	58	4	5	0	17	1	0	0	31	239
Sacramento	3	2	0	0	0	0	1	1	0	5	29
San Francisco	22	3	1	2	0	6	1	2	0	14	163

City reports for week ended April 9, 1932—Continued

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:									
Fall River	1	1	0	0	0	0	0	0	0
Connecticut:									
Hartford	0	0	0	1	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York	5	3	2	0	0	0	1	1	0
Pennsylvania:									
Philadelphia	5	1	1	2	0	0	0	1	0
Pittsburgh	3	2	0	0	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cleveland	2	1	0	0	0	0	0	0	0
Indiana:									
Fort Wayne	1	1	0	0	0	0	0	0	0
Indianapolis	4	5	0	0	0	0	0	0	0
Illinois:									
Chicago	0	1	1	1	0	0	0	0	0
Michigan:									
Detroit	2	0	1	1	0	0	0	0	0
Wisconsin:									
Milwaukee	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Missouri:									
St. Louis	1	0	1	1	0	0	0	0	0
Kansas:									
Whichita	1	1	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore	1	0	0	0	0	0	0	0	0
District of Columbia:									
Washington	2	0	0	0	0	0	0	1	0
North Carolina:									
Wilmington	0	0	0	0	1	0	0	0	0
Winston-Salem	0	0	0	0	1	0	0	0	0
South Carolina:									
Charleston	0	0	0	0	2	0	0	0	0
Columbia	0	1	0	0	0	3	0	0	0
Georgia:									
Atlanta	1	1	0	0	0	0	0	0	0
Savannah [1]	0	0	0	0	3	3	0	0	0
EAST SOUTH CENTRAL [1]									
Kentucky:									
Covington	0	0	0	1	0	0	0	0	0
Tennessee:									
Memphis	1	1	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans	1	1	0	0	0	0	0	0	0
Texas:									
Fort Worth	0	0	0	0	0	1	0	0	0
Houston	1	0	0	0	0	0	0	0	0
San Antonio [1]	0	1	0	0	0	0	0	0	0
PACIFIC									
California:									
Los Angeles [2]	1	1	0	0	0	0	0	0	0
San Francisco	1	1	0	0	0	0	0	0	0

[1] Typhus fever, 3 cases: 1 case in Savannah, Ga.; 1 case in Mobile, Ala.; and 1 case in San Antonio, Tex.
[2] Dengue, 1 case in Los Angeles, Calif.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended April 9, 1932, compared with those for a like period ended April 11, 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, March 6 to April 9, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Mar. 12, 1932	Mar. 14, 1931	Mar. 19, 1932	Mar. 21, 1931	Mar. 26, 1932	Mar. 28, 1931	Apr. 2, 1932	Apr. 4, 1931	Apr. 9, 1932	Apr. 11, 1931
98 cities	59	65	62	65	[2] 52	78	47	53	51	65
New England	53	79	65	67	65	70	38	46	62	84
Middle Atlantic	56	67	54	64	56	63	44	48	53	59
East North Central	54	72	48	72	31	82	29	64	46	86
West North Central	74	63	95	73	55	163	78	42	27	63
South Atlantic	59	53	49	73	[3] 60	61	37	47	37	49
East South Central	46	35	12	23	[4] 6	76	6	29	40	18
West South Central	135	68	162	71	112	64	158	85	92	54
Mountain	26	26	43	17	9	87	17	44	52	35
Pacific	44	55	89	51	70	69	57	53	70	57

MEASLES CASE RATES

98 cities	171	947	732	1,041	[2] 727	1,208	846	1,122	860	1,327
New England	901	1,346	860	1,527	599	1,479	777	1,106	697	1,503
Middle Atlantic	644	1,026	578	1,158	598	1,321	621	1,250	560	1,422
East North Central	936	582	1,167	558	1,203	722	1,573	726	1,688	830
West North Central	165	535	316	412	186	651	398	532	388	704
South Atlantic	286	2,758	302	3,448	[3] 232	3,885	245	3,814	343	4,554
East South Central	58	1,157	23	1,004	[4] 19	1,650	6	1,515	23	1,768
West South Central	99	37	40	51	158	47	208	88	49	68
Mountain	509	1,462	388	1,288	603	1,140	664	661	1,008	844
Pacific	1,205	357	1,443	394	1,449	519	1,262	359	1,312	500

SCARLET FEVER CASE RATES

98 cities	481	375	488	389	[2] 478	403	413	371	423	362
New England	709	589	724	676	731	697	683	577	774	474
Middle Atlantic	799	389	786	392	755	454	632	404	625	413
East North Central	382	399	394	395	397	378	345	377	360	337
West North Central	178	518	195	589	197	580	205	585	226	538
South Atlantic	327	311	371	342	[3] 382	311	345	291	318	356
East South Central	81	482	110	487	[4] 100	564	92	399	87	470
West South Central	79	95	89	102	49	78	46	95	53	105
Mountain	172	400	215	305	233	209	129	157	250	174
Pacific	135	96	147	110	133	104	122	92	145	104

See footnotes at end of table.

Summary of weekly reports from cities, March 6 to April 9, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931 [1]—Continued

SMALLPOX CASE RATES

	Week ended—									
	Mar. 12, 1932	Mar. 14, 1931	Mar. 19, 1932	Mar. 21, 1931	Mar. 26, 1932	Mar. 28, 1931	Apr. 2, 1932	Apr. 4, 1931	Apr. 9, 1932	Apr. 11, 1931
98 cities	5	19	5	22	[2] 4	17	4	14	6	19
New England	0	0	0	0	0	0	2	0	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	1
East North Central	5	9	4	8	2	7	4	9	4	6
West North Central	11	132	17	130	17	99	2	78	9	96
South Atlantic	0	0	0	0	[3] 0	4	0	2	8	18
East South Central	46	0	12	12	[4] 38	12	35	12	52	0
West South Central	0	61	13	95	0	78	3	71	10	81
Mountain	17	17	17	9	0	44	26	0	9	17
Pacific	13	41	11	43	15	22	13	16	23	53

TYPHOID FEVER CASE RATES

98 cities	5	3	4	4	[2] 5	4	5	4	3	5
New England	0	0	2	2	5	2	0	2	2	2
Middle Atlantic	3	2	1	2	3	2	3	3	1	5
East North Central	1	2	2	2	3	2	4	2	2	3
West North Central	2	0	2	8	4	2	2	4	0	0
South Atlantic	25	6	2	16	[3] 12	12	8	14	16	16
East South Central	6	18	29	0	[4] 19	0	6	0	23	6
West South Central	10	14	23	10	20	7	13	10	0	3
Mountain	9	0	17	0	9	0	0	9	0	0
Pacific	8	4	2	8	6	10	17	2	6	8

INFLUENZA DEATH RATES

91 cities	37	34	37	32	[2] 36	29	29	23	25	18
New England	19	36	10	19	17	14	17	2	5	19
Middle Atlantic	47	23	39	23	36	20	34	17	23	12
East North Central	39	28	40	28	41	25	24	18	22	14
West North Central	15	50	32	47	23	35	17	12	23	15
South Atlantic	39	57	49	49	[3] 36	32	39	40	61	30
East South Central	25	102	50	115	44	127	56	127	75	70
West South Central	37	55	61	35	84	55	40	69	40	45
Mountain	26	35	43	35	43	61	69	26	34	17
Pacific	7	36	12	34	5	41	2	14	0	19

PNEUMONIA DEATH RATES

91 cities	193	191	188	184	[2] 193	180	167	171	151	155
New England	194	147	156	183	225	156	165	127	192	173
Middle Atlantic	250	214	238	216	243	220	203	223	186	168
East North Central	131	139	133	132	119	125	113	120	79	118
West North Central	215	159	192	215	239	178	204	150	189	253
South Atlantic	224	332	233	269	[3] 272	263	235	222	204	200
East South Central	182	242	201	210	201	191	194	172	201	178
West South Central	148	211	205	180	199	211	172	238	205	169
Mountain	207	235	233	122	138	131	121	157	129	191
Pacific	118	125	93	101	72	98	88	53	72	60

[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] Columbia, S. C., and Montgomery, Ala., not included.
[3] Columbia, S. C., not included.
[4] Montgomery, Ala., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended April 2, 1932.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended April 2, 1932, as follows:

Province	Cerebro-spinal fever	Influenza	Poliomyelitis	Smallpox	Typhoid fever
Prince Edward Island [1]					
Nova Scotia		54			
New Brunswick					4
Quebec		4	1		6
Ontario	2	375		3	1
Manitoba [1]					
Saskatchewan				1	
Alberta [1]					
British Columbia			1	1	2
Total	2	433	2	5	13

[1] No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended April 2, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended April 2, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken pox	74	Poliomyelitis	1
Diphtheria	26	Scarlet fever	84
Erysipelas	9	Tuberculosis, pulmonary	48
German measles	16	Tuberculosis, other forms	1
Influenza	4	Typhoid fever	6
Measles	268	Whooping cough	31

Yukon Territory—Influenza.—According to information dated April 12, 1932, newspaper dispatches reported a mild form of influenza at Dawson, Yukon Territory. Public schools were said to have been closed because of the prevalence of the disease, which was thought to have originated among the Indians.

CZECHOSLOVAKIA

Communicable diseases—February, 1932.—During the month of February, 1932, certain communicable diseases were reported in Czechoslovakia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	6	1	Paratyphoid fever	9	----
Cerebrospinal meningitis	7	----	Puerperal fever	60	36
Diphtheria	2,179	131	Scarlet fever	1,440	22
Dysentery	7	----	Trachoma	123	----
Malaria	1	----	Typhoid fever	268	42

MEXICO

Tampico — Communicable diseases — March, 1932.— During the month of March, 1932, certain communicable diseases were reported in Tampico, Mexico, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	4	----	Malaria	487	17
Enteritis, various	53	56	Tuberculosis	39	37
Influenza	133	4	Whooping cough	18	1

PORTO RICO

San Juan—Communicable diseases—Four weeks ended March 26, 1932.—During the four weeks ended March 26, 1932, cases of certain communicable diseases were reported in San Juan, Porto Rico, as follows:

Disease	Cases	Disease	Cases
Chicken pox	4	Measles	52
Diphtheria	6	Mumps	3
Filariasis	2	Ophthalmia neonatorum	1
Influenza	1	Tetanus, infantile	1
Malaria	40		

VIRGIN ISLANDS

Notifiable diseases—March, 1932.—During the month of March, 1932, cases of certain diseases were reported in the Virgin Islands as follows:

St. Thomas and St. John:	Cases	St. Croix—Continued:	Cases
Gonorrhea	1	Leprosy	2
Syphilis	3	Syphilis	3
St. Croix:		Tetanus	1
Chancroid	1	Tuberculosis	4
Chicken pox	3	Uncinariasis	2
Filariasis	1	Whooping cough	5

YUGOSLAVIA

Communicable diseases—December, 1931.—During the month of December, 1931, certain communicable diseases were reported in Yugoslavia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	34	7	Paratyphoid fever	4	1
Cerebrospinal meningitis	5	2	Scarlet fever	648	77
Diphtheria and croup	1,083	193	Sepsis	8	6
Dysentery	26	6	Tetanus	11	3
Erysipelas	217	18	Typhoid fever	295	52
Leprosy	1	----	Typhus fever	14	1
Measles	723	16			

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

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

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

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended— January, 1932			February, 1932				March, 1932				Apr. 2, 1932
						16	23	30	6	13	20	27	5	12	19	26	
Ceylon: Colombo	C			3													
	D			3													
China:																	
Canton	C			3										1			1
Hankow	C	8	23	14	2	1							1				
	D	6	1	6	1												
Shanghai	C	88	8														
	D	13	4														
Swatow	C				1												
India	C	26,705	15,722	14,314	14,889	2,953	2,958	2,078	2,012	1,627	1,565						
	D	13,257	8,801	7,467	7,684	1,590	1,508	1,137	1,032	856	823						
Bombay	C	4	5	4	1							1					
	D	3	1	6	1							1					
Calcutta	C	51	74	74	58	25	26	41	41	37	21	19	41	32	47	31	52
	D	23	37	42	25	13	14	23	20	18	12	9	15	15	21	9	28
Chittagong	C	1				1			5		1				1		1
	D								1	1	1						1
Madras	C									1	1	1			6		
	D									1	1	1			2	1	
Rangoon	C	1	1		1												
	D	1	1		1												
India (French):																	
Chandernagor	C	1	1		3												
	D	1	1		3												
Karikal	C	1				12	11	12		2							
	D					5	7	5									
Pondicherry Territory	C	1				4	11									1	
	D					4	11									1	
Pondicherry	C																1
	D																1

India (Portuguese)	C	75	48	3	1												
	D	26	11	3	1												
Indo-China (see also table below):																	
Pnompenh	C	1	4				1	1									
	D	1					1	1									
Saigon and Cholon	C	1		P	2		1					1					1
	D	1															
Iraq:																	
Amara	C	4	5	3	2												
	D	1	3	4	2												
Amara Province	C	95	35	3													
	D	83	24	2													
Basra	C	157	78														
	D	84	36														
Basra Province	C	42	10														
	D	19	5														
Dinwaniyah	C	1															
Dinwaniyah Province	C	61	23														
	D	44	15														
Iwaniyah	C	23															
	D	15															
Kut Province	C		20														
	D		14														
Muntafiq Province	C	209	68	2													
	D	160	51	3													
Nasiriyah	C	33	24	8													
	D	28	18	7													
Japan: Taiwan—Kelung	C		2														
Persia:																	
Abadan	C	1	3	1													
Ahwaz	C	12	103	47													
	D	7	98	39													
Khorramabad	C			159	3												
	D			115	10												
Mohammerah	C	1															
Philippine Islands: [1] Capiz Province	C	79	12	27	26			13	9	13	10						
	D	59	9	19	19			10	8	12	8						
Siam:																	
Ayudhaya Province	C			1		1											
	D			1		1											
Bangkok	C			1		1								1	1		
	D			1		1									1		
On vessel: S. S. Angora at Rangoon from Calcutta	C																1

[1] Figures for cholera in the Philippine Islands are subject to correction.

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

CHOLERA—Continued

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

Place		September, 1931	October, 1931	November, 1931	December, 1931			January, 1932			February, 1932			March, 1932	
					1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29	1-10	11-20
Indo-China (French) (see also table above):															
Annam [1]	C										4				
	D										4				
Cambodia [1]	C	14	19	4		2	1	1	9	2	3	2		6	1
	D	7	18			1	1	2	2	2	2	2		3	1
Cochin-China [1]	C	18	14	6	8	3	3	2	1	2	7		P	3	2
	D	13	13	4	5	2		1	1	2	5			2	1

[1] Reports incomplete.

PLAGUE

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended—										
						January, 1932			February, 1932				March, 1932				Apr. 2, 1932
						16	23	30	6	13	20	27	5	12	19	26	
Argentina: Cordoba Province [1]	C				1				1								
Azores:																	
San Miguel Island	C			5													
	D			1													
Terceira Island	C			16													
	D			6													
Belgian Congo	C				1												
British East Africa (see also table below):																	
Tanganyika	C	13				10											
	D	5				10											
Uganda	C	276	218	145	63		14	10	7	7	1						
	D	270	211	138	62		14	6	6	5	1						
Canary Islands: Palma Island—Los Lanos	C					8											
	D					5	3										

Ceylon: Colombo	C	4		1	4	1	2		1		1	1	2	1	1		1
	D	3		1	4	1	2				1	1	1	1	1		1
Plague-infected rats				1	1	1											
Chile: Santiago	C		1														
	D		1														
Plague-infected rats			1														
China:																	
Kwang Chow Wan	C														8		
	D														8		
Shansi Province [2]	C		P														
Shensi Province	C		P									P					
Dutch East Indies:																	
Java—																	
Surabaya	C					1	1										
	D					1	1										
Tegal	C										1						
Java and Madura	D	325	512	702	587	102	127	126	144	118							
West Java	C	113	139	198	203	34	48	54	65	60	14	18	49				
	D	113	139	198	203	34	48	54	64	59	14	17	49				
Ecuador (see table below).																	
Egypt:																	
Alexandria	C	1	6	3		1	1					1	1				
	D		2	3													
Assiout	C			1	2			1									
	D			1	2			1									
Beheira	C						1	10									
	D						1	1									
Girga	C			2	1												
	D			2	1												
Kena	C			4	2												
	D			3	2												
Minieh	C		4	2	7			1								3	
	D		2		7			1								2	1
Port Said	C		2	4	1												
	D			2	1												
Tanta	C			2				1									
	D			2				1									
France: Rouen—Devilleles	C		P														
Hawaii Territory:																	
Hawaii Island—																	
Hamakua—Honokaa	C									1	1						
	D									1	1						
Plague-infected rats											1						
Paauilo section—Kukaiau—Plague-infected rats			1														
Maui Island—																	
Makawao	C												1				
	D												1				
Plague-infected rats										4							
Paia—Plague-infected rats		1															

[1] 10 cases of bubonic plague were reported in Cordoba Province, Argentina, in January, 1932. They were distant from railroad and 500 kilometers from ports.

[2] On Oct. 17, 1931, plague epidemic was reported in western Shansi Province, China, with 2,000 deaths in Hsinghsien.

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

PLAGUE—Continued

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

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended— January, 1932			February, 1932				March, 1932				Apr. 2, 1932
						16	23	30	6	13	20	27	5	12	19	26	
India	C	2,550	2,493	4,235	6,998	1,731	2,122	1,956	2,083	2,293	2,033						
	D	1,147	1,170	1,739	2,912	840	1,047	1,005	1,079	1,343	1,230						
Bassein	C	1	1					1		1	1	1	1	1	3	3	2
	D	1	1							1	1	1	1	1	2	1	3
Bombay	C	1	1	1						1		2	2	1	1	2	4
	D	1		1						1		2	2		1	1	4
Plague-infected rats		42	22	56	42	8	18	14	17	21	27	30	31	31	26	17	43
Madras Presidency	C	185	91	57	169	87	99	87	22	66			10				
	D	105	40	24	59	58	44	35	14	42			5				
Moulmein	D	2															
Rangoon	C		5	1	1	1	2	2		1	4	3	1	2		1	1
	D		1	1	1		1				4	3	1	1	1	1	1
Plague-infected rats		4	1	2	1							1	1	3	1	1	3
Indo-China (see table below).																	
Iraq:																	
Baghdad	C		2	7	2	2	1	1	1	1	1		1				
	D			2									1				
Maudhan	C		3	2													
	D		1	1													
Madagascar (see also table below): Tamatave	C	1			1												
Morocco	C	18	2	11													
	D	8	6														
Peru (see table below).																	
Senegal (see table below).																	
Siam	C	4	5	5	1	1							1	4	1	1	
	D	3	2	2	1	1								2			
Spain: Hospitalet—Barcelona Province	C	2	7														
	D	1	1														
Syria: Beirut	C	3	1													1	
Tunisia: Tunis	C	1															
Union of South Africa: Orange Free State	C	P		P	P	P	P		2								

Place		September, 1931	October, 1931	November, 1931	December, 1931	January, 1932	February, 1932	March, 1932
British East Africa (see also table above): Kenya	C	14	64	44	41	17	33	
Ecuador:								
Province—								
Chimborazo	C	13	2	8		8	13	
Loja	C	4	11	2		11		
Indo-China	C	4	3		9	16	1	12
	D	4	1		5	9	1	6
Madagascar (see also table above):								
Ambatolampy Province	C					23		
	D					23		
Ambositra Province	C	1	8	39	142	166		
	D	1	5	37	121	152		
Antisirabe Province	C	19	17	27	56	53		
	D	19	17	27	51	51		
Maevatanana Province	C			4				
	D			4				
Miarinarivo Province	C	14	18	10	14	15		
	D	12	16	9	14	15		
Moramanga Province	C	12	13	25	30	13		
	D	11	11	25	29	13		
Tananarive Province	C	65	120	186	248	203		
	D	63	117	178	241	196		
Peru	C	2	8	27	21	11		
	D	2	7	11	9			
Departments—								
Canete	C					3		
Cajamarca	C			14				
	D			5				

Place		September, 1931	October, 1931	November, 1931	December, 1931	January, 1932	February, 1932	March, 1932
Peru—Continued.								
Departments—Continued.								
Lambayeque	C	1						
	D	1						
Libertad	C			2		1		
Lima	C	1		9		6		
	D	1		4				
Plague-infected rats			1					
Lima	C			1				
	D			1				
Piura	C		8			1		
	D		7					
Senegal:								
Baol [1]	C	13	6	2				
	D	8	2					
Dakar [1]	C	45	4					
	D	31	4					
Diourbel [1]	C	13		10				
	D	5		5				
Louga [1]	C	10	1	19				
	D	4	2	10				
Rufisque [1]	C	1	7	12				
	D		1	2				
Thies [1]	C	12	7	16	1			
	D	8	5	7	1			
Yombel [1]	C							9
	D							4

[1] Reports incomplete.

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

SMALLPOX

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

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended— January, 1932			February, 1932				March, 1932				April, 1932	
						16	23	30	6	13	20	27	5	12	19	26	2	9
Aden	C								2						1			
Algeria:																		
Algiers	C		1		1													
Southern Territories	C									2								
Brazil:																		
Porto Alegre (alastrim)	C	46	57	51	35	7	4	17	6	12								
	D	2	3	1	2													
Rio de Janeiro	C				1													
Santos	C			1		2												
British East Africa: Tanganyika	C	1,184	18	2	55	4		8	12		4							
	D	97	2		4			5	2		1	1						
British South Africa:																		
Northern Rhodesia	C	1			7		5											
Southern Rhodesia	C				1													
Canada:																		
Alberta	C	12	6	3	11													
British Columbia [1]	C		2		2	1	4	8	5	8	10	4	3	7		2	1	
Manitoba	C			2			5		5									
Nova Scotia	C			1								1						
Ontario	C	17	15	11	14	3	2		1	4	16		1	1				8
North Bay	C					1												
Ottawa	C	8	12															
Toronto	C			1														
Quebec	C				3		1						8					
Saskatchewan	C	11	33	34	11	21	7		7		23		7	5			1	
Regina	C	2																
Chile:																		
Santiago	C		3															
	D		2															
Tocopilla	C				2													
China:																		
Amoy	C	2	8	46	218	37	60	54	32	35	34	30	22	15	12	8	10	
	D	1	6	36	79	14	28	20	29	11	14	12	7	5	7	3	10	
Canton	C		2	14	18	3	11	5	8	18	6	5	15	21	18	29	11	
	D												1	7				

Foochow	C	P	P	P	P		P		P				P					
Hankow	C	1	18	29	47	11	32	15	1		2	1	1					
	D			6	12	1		2	2		1							
Hong Kong	C				1	1		4	6	7	19	19	6	12	7	17	9	
	D					1		1	4	2	9	9	3	7	6	7	8	
Manchuria—Dairen	C			1					1	1				3	1	7		
Nanking	C			2														
	D			1														
Shanghai—																		
Foreigners only	C	98	21	77	115	43	48	40	32	48	30	44	45	30	29	13		
Including natives	D	13	2	31	41	11	21	17	13	24	18	17	8	15	17	6		
Swatow	C				2					1								
Tientsin	C			1					1		2			1				
Chosen (see table below).																		
Colombia: Cali	C				1													
Dutch East Indies: Batavia	C				1				1									
	D								1									
Egypt:																		
Alexandria	C																1	
Cairo	C					1												
Suez	C												2	3	5	7	5	1
	D														1	1	1	
France (see table below).																		
Germany: Aix-la-Chapelle	C						1											
Great Britain:																		
England and Wales	C	161	220	216	198	68	55	55	49	70	73	73	42	76	61	41		
London	C	58	129	118	100	24	36	22	18	44	38	32	22	28	23	23		
London and Great Towns	C	128	179	191	152	60	45	37	46	59	57	53	34	57	56			
Guatemala (see table below).																		
Honduras:[2]																		
Ceiba	C	14											1		1	1		
Puerto Castilla	C	1	1					1			1	2	1					
Tegucigalpa	C			8														
Trujillo	C	1	1															
India	C	1,451	1,152	2,298	2,361	795	1,184	1,276	1,331	1,628	2,397							
	D	224	246	1,066	464	180	293	268	229	293	493							
Bassein	C						1		2									
Bombay	C			1	3	3	1	3	1	3	2	5	13	8	8	4	7	
	D			1	2			2		2	1	1	6	4	3	1	4	
Calcutta	C	1	1	1	7	7	3	7	10	9	25	35	33	22	44	50	43	
	D	1	1	1	3	3	1	3	8	6	7	18	23	14	30	36	35	
Cochin	C	8	5				1			1	1	4	3	2		1		
Karachi	C		1	5	3	2	2	12	2	9	11	3		4	3	3	9	
	D					2	1	2	1		5	3		1	1	3	2	
Madras	C	13	5	7	7	1	3	3	2	4	2	2	7	15	9	15	13	
	D	2		2	2		2	1			3		1	6	4	1	5	
Moulmein	C					1			3	2			2	4	2	1		

[1] 23 cases of smallpox with 8 deaths were reported at Vancouver, British Columbia, from Jan. 1 to Feb. 18, 1932.
[2] 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		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended— January, 1932			February, 1932				March, 1932				April, 1932	
						16	23	30	6	13	20	27	5	12	19	26	2	9
India—Continued.																		
Negapatam	C	2	1	1								1				1		
	D	1	1	1														
Rangoon	C	3	3	9	39	15	35	58	39	141		104	173	172	128	163	143	
	D	2	1	7	10	7	8	15	10	18	46	29	34	61	37	50	31	
Tuticorin	C	4	5	8	6		19	9		9	5	15	7	9	4		1	
	D	1	1				2			2	1		5	4	4		1	
Vizagapatam	C	6			2						1	1	1			2		
	D	1																
India (French):																		
Karikal	C	8	4	7	4			1				1	3	3				
	D	4	3	7	2			1				1	3					
Pondicherry Territory	C	23	38	26	22	4	11	4	13	8	4	4	4	11	10	1	7	
	D	21	36	25	22	4	6	4	13	8	4	4	4	7	10	4	5	
Indo-China (see also table below):																		
Pnompenh	C						1			2						1		
Saigon and Cholon	C	6	7	26	32	23	28	43	23	38	46	33	28	54	45	71	42	
	D	3	5	12	24	18	22	35	17	24	23	23	15	48	35	60	31	
Iraq:																		
Baghdad	C			11	15	5	2	2	1	2	1	1		1	1	12	6	
	D			5	8	9	2	2		2	1	1		1		5	4	
Basra	C				1		1	1		1	1					4	7	1
	D				2													
Mosul Liwa	C	5																
Ivory Coast (see table below).																		
Jamaica	C			1														
Japan:																		
Kobe	C												1	1		1		
	D													1				
Taiwan	C							20	15		55							
Yokohama	C			1	1	2												
Mexico (see also table below).																		
Chihuahua	D									1		1	1				1	
Jalisco (State)—Guadalajara	D	4	2	1	1	2			1					1				
Mexico City and surrounding territory	C	7	5	10	8		3	6	5	7	9	11	6					
	D	4	1								1							

Monterrey	C		2			1					1	2	5	1					
San Luis Potosi	D				2	2	1	2			1		1	2	1				
Torreon	C	1		7	2	2		3	1				2		1	1			
	D				2	1			1	1			2		1	1			
Morocco (see table below).																			
Netherlands: Friesland—Opsterland	C		[1]1																
Nigeria	C	454	69	15		181	36												
	D	141	15	1		107	13												
Panama: Chiriqui	C			3															
Poland	C		2	1	1														
Portugal:																			
Lisbon	C	48	78	91	108	38	22	31	7	21	5	17	7	10	14	8			
Oporto	C			2	2	2			1	4	1	1	8	4	4	4	2		
Siam	C				13		1							2					
Straits Settlements	C				2				4	3	1		2	1					
	D								1					2					
Sudan (Anglo-Egyptian)	C			2	2			3				3	5	1		3			
	D								1				1						
Sweden: Malmo	C							9											
Syria (see table below).																			
Tunisia: Tunis	C				1									1					
Turkey: (see also table below) Istanbul	C									1									
Union of South Africa:																			
Cape Province	C		P	P	P														
Orange Free State	C	P																	
Transvaal	C		P	P															
On vessels:																			
Brazilian ship Jaboatao at New Orleans from Brazil	C				1														
S. S. Tacoma at Manila from Shanghai	C				1														
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. Bellasco at Mobile from Habana, Cuba, and Hull, England	C				1														
S. S. Frauenfels at Suez from Calcutta	C													1					
S. S. Uwajima Maru at Osaka from Shanghai	C								1										
S. S. President Jackson at Yokohama from San Francisco via Honolulu	C				1														
S. S. Hong Kheng at Singapore from Amoy, via Swatow and Hong Kong	C							[1]											
S. S. Hai Ning and S. S. Solviken at Hong Kong	C							P											
S. S. Merkara at Aden from Columbo	C								2										
S. S. Tjisadane at Hong Kong from Shanghai and Amoy	C							P											
S. S. Poafung at Shanghai	C					1													
S. S. Rajula at Penang from Negaptatam	C								P										
S. S. Mac Gillivary at Suez from Rangoon	C													[2]1					
S. S. Tainui at Southampton from New Zealand	C																1		

[1] Imported case.

[2] A suspected case.

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

SMALLPOX—Continued

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

Place		September, 1931	October, 1931	November, 1931	December, 1931	January, 1932	February, 1932
Chosen	C	9	7	2	1	1	6
	D	1	1				3
France	C	4		6	1		
Guatemala	C					5	
Mexico (see also table above)	D	565	427				
Morocco	C	59	91	152	279	488	368
	D					31	22
Turkey (see also table above)	C						
	D					1	1

Place		September, 1931	October, 1931	November, 1931	December, 1931			January, 1932			February, 1932			March, 1932	
					1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-29	1-10	11-20
Indo-China (see also table above)	C	39	47	120	144	41	324	11	107	191	145	206	309	230	275
	D	13	16	22	17	21	55	11	52	85	47	98	86	109	113
Ivory Coast	C			1											
	D			1											
Syria: Beirut	C							2	3						

TYPHUS FEVER

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Week ended— December, 1931		January, 1932					February, 1932				March, 1932				Apr. 2, 1932
					19	26	2	9	16	23	30	6	13	20	27	5	12	19	26	
Algeria:																				
Algiers	C	1	2		1		3		1						3				7	
Constantine Department	C	1	38	3	1		3	1	2		3	2						7		
Geryville	C								5		2		1							
Oran	C		1	1													1			
Bulgaria	C		2	4	1	14	1	6	16	12	13	3	1	29	36					
	D				1	1	1			2	3	1		3	3					
Chile:																				
Antofagasta	C		1			1					1									
Santiago	C		34	3																
China:																				
Hankow	C				4															
Shanghai	C	1																		
Chosen (see table below).																				
Colombia: Cali	D												1							
Czechoslovakia (see table below).																				
Egypt:																				
Alexandria	C				3		1	1					1							
Beheira	C		1			7								63	7					
Cairo	C			1																
Gharbieh	C		1			1							12							
	D		1																	
Provinces	C						11		4		13	26	26	11	104	192	148	164		
	D						2				2	1	1	2	3	17	15	17		
Greece (see table below).																				
Irish Free State:																				
Donegal County—Stranorlar	C			2																
Limerick County—																				
Croom	C	1																		
Glin	C	1																		
Limerick	C			1																
Rathkeale	C	1																		
Waterford County—Lismore	C						1													
Latvia (see table below).																				
Lithuania (see table below).																				

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

TYPHUS FEVER—Continued

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

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Week ended— December, 1931		January, 1932					February, 1932				March, 1932				Apr. 2, 1932
					19	26	2	9	16	23	30	6	13	20	27	5	12	19	26	
Mexico:																				
Guadalajara	D					1														
Mexico City, including municipalities in Federal District	C	14	16	22	4	3	3	1	5	10	4	6	7	8	3	2				
	D	8	4	4	2	1	1	2	1	4	2	2	1	4	3	4				
San Luis Potosi	D					1										1		1		
Torreon	C	2	3																	
	D	2	6																	
Morocco	C	4	1	17	4	1	1	3		2	1	3	7	19	19	14	3	21		5
	D			2	1											6	2	4		
Palestine	C	6	3	1	2	1		1	1	1		1		1						
Paraguay: Asuncion	D												1							
Peru. [1]																				
Poland	C	14	20	106	68	30	46	49	69	61	74	61	49	41	58	67	74	65	52	
	D	1	3	10	5	5	3	1	4		4	2	2	3	7	9	5	5	4	
Portugal: Oporto	C		3								1		1							
Rumania	C	18	38	68	25	41		42	62	83	68	51	79							
	D	3	9	6	4	5		1	3	1	3	1	7							
Tunisia: Tunis	C		3	26		1		1				1	13		11		14	26	10	31
	D			2									1		2		2		3	3
Turkey (see table below).																				
Union of South Africa:																				
Cape Province	C	P	P	P	P	P	P	P	P	P		P	P	P	P					
Municipality of East London	C	1																		
Natal	C	P		P	P		P						P	P	P					
Orange Free State	C	P	P	P	P	P	P	P	P	P		P	P	P	P					
Transvaal	C	1	P	P	P	P	P	P	P	P		P	P	P	P					
Venezuela: Caracas (see table below).																				
Yugoslavia (see table below).																				
On vessel: At Antofagasta, from Iquique and points north	C					1														

[1] Typhus fever was reported in Peru from May to November, 1931, 153 new cases being reported during the months of October and November. The disease did not spread to the coastal regions.

Place		September, 1931	October, 1931	November, 1931	December, 1931	January, 1932	February, 1932
Chosen: Seoul	C	12	24	4			5
	D		1	1			1
Czechoslovakia	C		18		10	1	
	D		1		3		
Greece	C	9	12	4	6	4	4
	D	1			1		
Latvia	C				12		

Place		September, 1931	October, 1931	November, 1931	December, 1931	January, 1932	February, 1932
Lithuania	C		5	9			10
	D		1				3
Turkey	C	16	11	14	21	14	5
	D				2	3	
Venezuela: Caracas	C				1	2	
Yugoslavia	C					11	26
	D						2

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

YELLOW FEVER

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

Place		Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Nov. 15–Dec. 12, 1931	Dec. 13, 1931–Jan. 9, 1932	Week ended— January, 1932			February, 1932				March, 1932				April, 1932	
						16	23	30	6	13	20	27	5	12	19	26	2	9
Brazil:																		
Alagoas State—																		
Maceio	D		1															
Utinga	C		3															
	D		2															
Bahia State	C				2													
Sobral	C		1															
	D		1															
Espirito Santo State	C														2			1
	D														2			1
Santa Teresa (about 56 miles from Victoria)	D												1					
Pernambuco State—																		
Pau d'Alho	C		1															
	D		1															
Recife	C	1																
	D	1																
Dahomey: Porto Novo	C																1	
	D																1	
Gold Coast:																		
Avudua	C																1	
Cape Coast	C													P				
Dagomba District	C			1														
Kete Krachi	C	1																
Salaga	C			1														
	D			1														
Tamale	C	2	1	3														
	D	2																
Yapei	C														1			
Ivory Coast: Tehini	C		1															
Nigeria	C		2	2							1							
	D		1	2														

Senegal:																				
St. Louis	C	1																		
Thies	C	1																		
	D	1																		
Sudan (French): Macina—Kayo Circle	C		2																	
	D		2																	
Togo (French): Atakpame—Anie Circle	C		1																	
	D		1	1																
Upper Volta:																				
Banfora	C	2																		
	D	1																		
Dedougou	C		2																	
Diarabakoko	C	2																		
	D	1																		
Ouagadougou	C	2																		

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