PUBLIC HEALTH REPORTS

VOL. 34 JULY 11, 1919 No. 28

INFLUENZA MORTALITY IN THE PROVINCE OF SASKATCHEWAN, CANADA.

While the final report covering the influenza epidemic in the Province of Saskatchewan, Canada, has not yet been completed by the registrar of vital statistics of that Province, some interesting preliminary mortality figures are given covering the epidemic period, September, 1918–March, 1919. (The population of this Province is roughly estimated to be 675,000.)

The deaths as reported by months were as follows: September, 1; October, 352; November, 1,561; December, 1,110; January, 638; February, 340; March, 320; making a total of 4,322, which is a higher figure than that representing Saskatchewan's loss in the war.

In tabulating the deaths by age periods, the period showing the greatest number of deaths is that from 20 to 29 years, in which 1,360 deaths occurred, 31.4 per cent of the total deaths; in the next highest age period, 30–39 years, 1,180 deaths occurred, or 27.3 per cent of the total.

Considering the deaths from the standpoint of occupations, in this Province most deaths occurred among the farmers, the number of deaths being 999. The next highest figure in this classification is that representing the deaths among domestics and housewives, which reached 989.

An interesting series of tables classifies influenza in two divisions: First, cases where the epidemic was primary, that is, where death occurred owing to complications following influenza; and second, cases where influenza followed some other disease. Where influenza was primary, 3,263 deaths occurred—75 per cent of the total deaths. In this connection pneumonia was by far the most fatal complication, 2,479 deaths being recorded. When influenza was secondary there were only 183 deaths, and of these 67 followed pneumonia, showing clearly that pneumonia was the most dangerous complication, whether primary or secondary.

It is noted that in spite of a quite general alarm on this account there were only 14 cases of death in pregnancy from influenza, although in cases where pregnancy was primary there were 35 deaths from influenza.

There were 876 deaths where influenza was given as the only cause.

The deaths in cities were 1,159; in 75 towns, 496; in 300 villages, 426; making a total of 2,081 of urban fatalities. In the remainder of the Province there were 2,241 deaths. Of the towns there were only 14 which reported no deaths, indicative of the widespread prevalence of the disease. It was least fatal in villages, of which 201 reported no deaths, while out of 315 rural municipalities 24 escaped.

A chart prepared to show the duration of the cases, on which the record of 3,061 cases is given, indicates that the disease was particularly fatal up to the fourteenth day, and that the crisis occurred on the seventh and tenth days, on which days the greatest number of deaths took place. After the fourteenth day the number of deaths decreased very rapidly. It may be mentioned that the registrar learns only of the fatal cases, and that "duration of a case" means the time from the date of the first attack until the date of death.

INFLUENZA IN THREE CHICAGO GROUPS.[1]

By EDWIN O. JORDAN, Consultant Bacteriologist, United States Public Health Service, and DUDLEY B. REED and E. B. FINK.

Opportunity was afforded the authors for the study of influenza prevalence in three different population groups in the city of Chicago: (1) The Student Army Training Corps at the University of Chicago; (2) the high and elementary schools of the University of Chicago; (3) the Chicago Telephone Co. These several groups are quite distinct as regards age, degree and nature of association of the individuals within each group, and general opportunities for exposure to infection. So far as known there was no point of contact between the groups.

I. THE STUDENT ARMY TRAINING CORPS.[2]

In October, 1918, influenza broke out in a group of the Student Army Training Corps at the University of Chicago. This group, known as section B, comprised 234 men, nearly all about 20 to 22 years of age, coming mostly from small cities, towns, and rural districts in Illinois. They were housed in five different places—remodeled houses and apartment buildings. The number of occupants to a room varied somewhat, being usually about four to eight. Although sleeping in five separate buildings, they were all closely associated in their technical class work and at meals. The men for the most part came directly from their homes, arriving in Chicago October 15 and 16. Three of the men were ill on their arrival, in two cases with

[1] Influenza investigations, United States Public Health Service.
[2] By Edwin O. Jordan and Dudley B. Reed.

symptoms that as described seemed influenza-like. On the evenings of October 16 and 17 all men in the group were brought into especially close contact in the locker room of the university gymnasium while waiting for their physical examination.

The date of onset was determined by individual questioning in each case and could usually be fixed by the patient within a few hours, as is characteristic of influenza. The cases developed as follows:

Date of onset.	Number of cases.	Date of onset.	Number of cases.
Oct. 15–16	[1] 3	Oct. 20	22
Oct. 17	10	Oct. 21	13
Oct. 18	14	Oct. 22	4
Oct. 19	29	Nov. 4	1

[1] Ill on arrival in Chicago.

NOTE.—No definite information, 9.

The situation became known to the university authorities on October 20, and all the affected men were removed to an emergency hospital.

Daily temperatures were taken of the rest of the group for one week. Isolation followed any sign of fever. The number of men in each building at the beginning of the outbreak and the corresponding number of cases were as follows:

Building.	Number of men.	Number of cases.	Building.	Number of men.	Number of cases.
A	15	5	C	19	4
B Upper	61	29	E	40	17
B Lower	30	11	F	51	16

In each of three buildings (lower B, E, and F—121 men) 1 man was ill on arrival; in these houses 8 cases developed on October 17; in the remainder (A, upper B, and C—95 men), with no known cases of illness before October 17, 2 cases developed on the 17th. In the later cases the time and place distribution did not give any indication that infection occurred principally in sleeping quarters.

The chief symptoms accompanying onset were (100 cases):

Headache	66
Muscle pains	56
Sore throat	37
Cough	34
Nosebleed	8

Fever, ranging from 100° to 104° was present in all these cases. The face was usually deeply flushed and the conjunctiva more or less injected.

Information was obtained about previous illness in 87 cases. In eight instances there had been definite illness within a year: Malaria, 3; measles, 2; rubella, 1; mumps, 1; bronchitis, 1. Prior to January, 1918, there had been, in addition to the usual diseases of childhood, typhoid, 5; scarlet fever, 4; diphtheria, 2; pneumonia, 6; "grippe," 3. In two cases tonsils had been removed. Two men gave a history of frequent colds in winter. In the group as a whole there was no evidence of respiratory tract ailments just prior to the outbreak.

Meals were served to these men in a separate building located several blocks away from their dormitories. Mess kits were not used. The food and general supervision were the same as for the rest of the student community, including Section A of the Student Army Training Corps. The men had nothing to do with the washing of dishes and tableware, which are known to have been thoroughly cleansed in boiling water.

During the epidemic period another group (Section A) of the Student Army Training Corps were likewise under observation. The majority of this group (685) were housed in dormitories and fraternity buildings under conditions very similar to those obtaining in Section B. Their classrooms and eating places were entirely apart from those of Section B, and the men of the two groups came into no sort of formal contact with one another. The cases of influenza among 685 men in Section A occurred as follows:

Week ended—	Cases in Section A.
Oct. 5	7
Oct. 12	10
Oct. 19 [1]	7
Oct. 24	4
Nov. 2	2
Nov. 9	3

The number affected in the different dormitories used by Section A is as follows:

	Approximate number of men.	Number of cases of influenza.
H	215	[2]14
S	120	6
M D	50	4
N D	100	4
S D	100	3
P	100	2
	685	[3]33

[1] Week of maximum prevalence in Chicago.
[2] These cases developed on well-scattered dates between Oct. 6 and Nov. 8, never more than 2 in one day.
[3] Two of these cases developed pneumonia; there were no deaths.

In addition to this number, there were 271 men of Section A living in barracks—half of this number after October 20, the other half after October 29. But two cases of influenza developed in this group, both on the same day (Nov. 8). At the time these men entered the barracks, influenza in Chicago had decreased considerably from the maximum. Beginning with the assembling of the students, October 1, and continuing throughout the epidemic period, special care was taken to detect cases of incipient illness. Frequent talks were given to men and officers, and all men of Section A with any sign of illness, objective or subjective, were instructed to report to the medical officer and, whether cases of "simple colds" or suspected influenza, they were at once isolated in the hospitals or sent to their homes. During the whole period, lectures and other classes were held as usual, one group of 350 men meeting three times a week.

The groups may be compared as follows:

	Section A.	Section B.
Number of men	665	234
Cases of influenza developing Oct. 17–22	2	92
Total cases of influenza developing Oct. 17–Nov. 8	26	[1] 93
Cases of pneumonia	2	12
Deaths		2

[1] In 9 others the exact date of onset could not be ascertained.

The mode of housing was similar in the two groups; the food supply was under central supervision and the men themselves had nothing to do with its preparation or serving; neither group received any specific or mixed influenza vaccines. The cases of illness that developed in Section A were quickly isolated, whereas in Section B isolation was less early and much less complete.

Cessation of influenza in Section B followed immediately after the isolation of all cases and the inauguration of daily inspection. The natural immunity of the men of Section B, who had not become infected before October 21, was undoubtedly relatively high.

A third group of students, men and women, not living in barracks nor for the most part in dormitories, but at their own homes or in boarding houses, gave the following record:

Number of students	82
Cases of influenza	7
Cases of pneumonia	1

The case incidence is here somewhat higher than in Section A where the greater restrictions placed upon individual movement unquestionably decreased the amount of contact with the civilian community. The general degree of health supervision was also less than in the Student Army Training Corps unit.

Comparison of these two groups (Section A and civilian students) with the heavily affected Section B, in which the case incidence was about six times as great as in the civilian students' group and 13 times as great as in Section A, indicates the importance of early detection and isolation of influenza cases as a preventive measure.

II. THE UNIVERSITY HIGH AND ELEMENTARY SCHOOLS.[1]

The University of Chicago through its school of education maintains an elementary and a high school. In the office of the director of physical education careful records of all illnesses among students are kept. Whenever a student is absent from class the teacher fills out a form slip and reports to the school physician. Each day the office secretary makes telephone inquiries as to the causes of absences. This information obtained from the family and the attending physician is recorded on the same form. Students returning after absences are required to report to the office of the school physician for examination. Cases of illness developing during school hours are always examined for the detection of contagious diseases, a woman physician being in attendance for girls. A permanent daily record of all illnesses, by classes and causes of illness, is kept on file.

The data contained in these records have furnished an opportunity for an epidemiologic study of influenza during the autumn quarter, 1918, as it affected a select group of individuals. The student body consists of boys and girls in the immediate neighborhood of the university, many of them from the families of members of the university faculties. The clientèle of the school is such that physicians are more likely to be consulted for minor illnesses than is the case with children in public schools.

Elementary school.—The autumn quarter began October 1 and ended December 20, 1918, covering a period of approximately 12 weeks. At the beginning of the quarter there were registered 391 pupils, of whom 199 were boys and 192 girls, the youngest being 4 years and the oldest 13 years old. Ninety-seven cases of influenza were reported, a morbidity rate of 24.8 per cent. There were 50 cases among boys and 47 among girls.

[1] By Edwin O. Jordan and E. B. Fink. The authors acknowledge their indebtedness to Dr. W. J. Monilaw, physical director, for the opportunity to use his admirable records.

TABLE 1.—*Cases of illness developing in elementary school, by months and grades, from specified causes during autumn quarter, 1918.*[1]

Class.	Number of pupils.[1]	Ages.	Influenza.			Colds.			Nonrespiratory.		
			October.	November.	December.	October.	November.	December.	October.	November.	December.
Kind'garten	32	4-6	2	2	6	8	12	5	7	2	1
1	24	6-7	3	4	9	5	33	4	5	6	6
2	51	8	6	2	3	19	11	6	12	1	7
3	30	8-9	1	2	2	11	8	6	3	1	4
4	57	9-10	2	10	4	16	13	11	2	7	1
5	58	10-11	4	4	5	10	10	8	15	6	4
6	58	11-12	8	8		19	10	10	5	10	9
7	56	12-13	5	3	2	16	15	5	11	8	6
Total	366	4-13	31	35	31	104	112	55	60	41	38

[1] Blank space indicates no cases. "Colds" includes respiratory infections other than influenza, such as pharyngitis, laryngitis, and bronchitis. "Nonrespiratory" includes headaches, accidents, intestinal disturbances, etc., "Number of pupils" are those on the rolls in the middle of the autumn quarter.

Table 1 shows the distribution of illness by months according to grades together with the number and ages of the pupils in each grade. Under the heading "colds," are included "pharyngitis" and "laryngitis" (9 of pharyngitis and 26 of laryngitis). Combined in age groups 4–9 (137 pupils) and 9–14 (229 pupils), the former had 42 and the latter 55 influenza cases, making the attack rate higher in the younger children (307 against 240). Compared by months, November showed the largest number of cases, and of these there were more in the kindergarten and grade 6B than in the other classes. The month of highest incidence of colds corresponds with the month of greatest prevalence of influenza, and the age and class distribution are about the same; the seventh grade pupils, varying in age from 12–13, had as many colds as the fourth grade, both being highest, with 44 cases each.

A comparison of the number of days of illness due to influenza and colds shows that in October, 31 cases of influenza caused 555 days of illness as against 78 cases of colds with an illness of 520 days; in November the ratio was 35 cases of influenza with 502 days of illness and 78 colds with an illness of 499 days; in December, 31 cases of influenza resulted in 494 days of illness compared with 60 cases of colds and 360 days of illness. The average period of illness was more than twice as long in influenza as in colds. The number of days of illness caused by influenza is 555 as compared with 825 days from all other causes during October, 502 to 816 in November, and 494 to 502 in December. There were 12 instances in which 2 children and 1 instance in which 3 children in the same family were reported ill with influenza. One girl 7 years old had 3 attacks of so-called influenza, and 1 boy 5 years old had 2.

TABLE II.—*Date of development of influenza by weeks, autumn quarter, 1918, as compared with colds, autumn quarter, 1918 and 1917, elementary schools.*[1]

Class.	Week ended, 1918—													Total.
	October.				November.					December.				
	5	12	19	26	2	9	16	23	30	7	14	21	28	
K. G. Influenza	1	....	1	....	....	1	1	....	....	3	2	1	....	10
Colds	1	2	2	2	1	2	5	3	1	3	2	....	....	24
1. Influenza	....	....	2	1	1	....	1	....	2	3	1	5	....	16
Colds	....	1	2	2	....	4	6	1	2	1	2	1	....	22
2. Influenza	3	2	1	....	....	....	....	....	2	3	....	....	....	11
Colds	4	6	4	4	2	....	1	3	....	3	3	....	....	30
3. Influenza	....	....	1	....	1	1	....	....	....	1	....	1	....	5
Colds	2	5	3	....	....	1	3	2	2	4	1	1	....	24
4. Influenza	....	2	....	....	....	1	....	2	7	2	....	2	....	16
Colds	3	7	3	1	....	....	3	6	3	5	4	2	....	37
5. Influenza	2	....	1	1	....	....	2	1	1	2	2	1	....	13
Colds	3	3	2	2	1	....	5	2	4	2	4	2	....	30
6. Influenza	4	3	....	1	1	....	....	3	4	....	....	....	....	16
Colds	5	6	3	3	....	....	2	4	3	5	5	....	....	36
7. Influenza	3	1	1	....	....	....	....	....	3	1	1	....	....	10
Colds	2	4	....	1	3	....	2	2	....	4	....	1	....	19
Total:														
Influenza	13	8	7	3	3	3	4	6	19	15	6	10	....	97
Colds	20	34	19	15	7	7	27	23	15	27	21	7	....	222
Colds, 1917	15	23	17	12	12	15	21	10	6	15	19	5	1	171

[1] During the autumn quarter, 1917, there were 2 cases of "grippe" reported in the elementary school—1 with an illness of 6 days, the other 11 days.

Table II and Charts 1 to 3 show the development of cases of influenza by weeks during the autumn quarter, 1918, and of colds for the same period and for the corresponding quarter, 1917. During the first week of school in 1918, 13 cases of influenza were reported. Following this there was a gradual decline, extending over a period of 3 weeks, to the level of 3 cases, where it remained for 2 weeks; then in the 2 weeks following it went up to 4 and 6, respectively, and suddenly, during the week ended November 30, jumped to 19 cases, followed by a decline extending over 3 weeks to 10 cases during the last week of the quarter. The epidemic was characterized by a moderate outbreak during the first week of school, followed by a decline extending over 2 weeks to a low level, which was maintained for 5 weeks, and then a sudden peak, reaching the highest point in the epidemic during the week ending November 30, followed by a decline extending over 3 weeks. While the height of the epidemic of influenza in the city at large was reached during the week ending October 26, as shown by the mortality from influenza and pneumonia, the epidemic among this particular school population did not reach its highest level until the week ending November 30. During the week of maximum mortality in Chicago, the number of cases developing among the school children was low, the maximum being reached 5 weeks later. Whether, as is probable, this has any relation to the prevalence of influenza in the portion of the city where the school is located is not certainly known; it was noted, in general, that the

epidemic did not develop in certain districts of the city until after it had subsided in others.

Chart 2 shows that colds in 1918 rose to a high point during the first week, reaching their highest level during the second week, followed by a sharp decline to the lowest level at the fifth week, where they remained 1 week to rise sharply to a second peak at a lower level than the first one, followed by another sharp decline over 2 weeks to about one-half the lowest level, and in the next week a third peak to about the level of the second, followed by a rapid decline in the last two weeks of school.

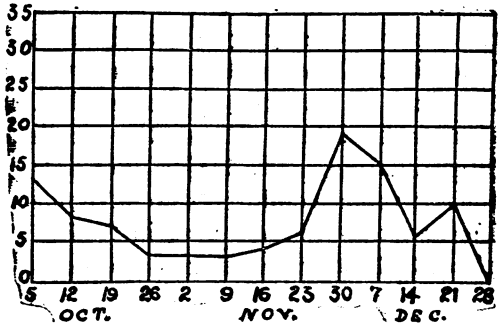


CHART 1.—Development of influenza, by weeks, elementary school, autumn quarter, 1918.

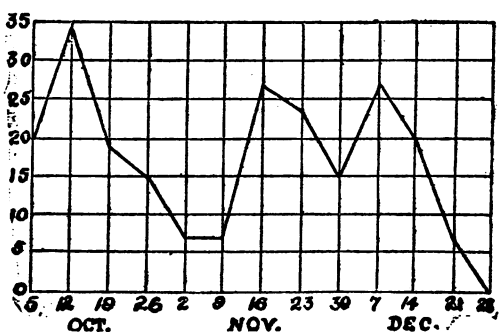


CHART 2.—Development of colds (including other respiratory infections), by weeks, elementary school, autumn quarter, 1918.

A comparison of the curves for influenza and colds shows that the period of highest incidence of colds was in the second week of school and preceded the corresponding period for influenza by 7 weeks. There are 3 peaks in the curve for colds and only 2 in that for influenza. The period of highest incidence of colds follows the first peak in the influenza curve by 1 week, while during the week of greatest prevalence of influenza there is a sharp fall in the number of cases of colds. The third peak in the curve for colds occurs just 1 week after the height of the influenza curve. The curve for colds as a whole runs at a higher level than that for influenza. A striking thing is that the portion of the curve for influenza contained within the period November 23 to December 7 is almost the exact opposite of the corresponding portion in the curve for colds. How much of this is due to the factor of diagnosis is difficult to say.

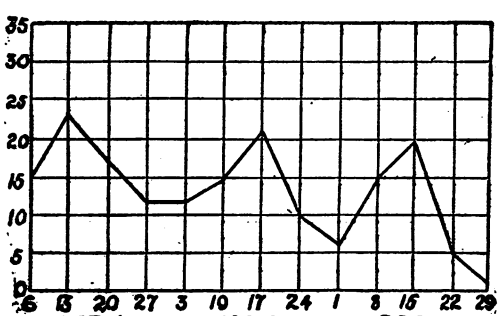


CHART 3.—Development of colds (including other respiratory infections), by weeks, elementary school, autumn quarter, 1917.

The curve for colds in the autumn quarter, 1917, has in general the same outline as the one for 1918. It, too, contains three peaks, the first two occurring at exactly the same time, the last a week later. Colds in 1918 were at a higher level than in 1917. The figures for 1917 and 1918 are closely comparable, since they deal largely with the same individuals. About 100 pupils leave school annually, about 50 graduating. The majority of new pupils enter the kindergarten; the rest replace children who have moved or leave for various reasons. The exact number of pupils in 1917 is 380 compared with 391 in 1918, about 300 being the same in both groups.

There are 21 teachers in the elementary school, and among these 5 cases of influenza were reported. Two occurred in the second week of October, 2 in the second week of December, and 1 in the fourth week of December, with a total illness of 61 days. Two were second-grade teachers, one was a substitute, one special, and one a teacher of physical culture. There were no complications and no deaths. As far as could be determined, there seemed to be no evidence that any of the teachers acted as a focus of infection.

Of the 97 cases of influenza reported among the grade-school pupils, none developed pneumonia and there were no deaths.

High school.—At the beginning of the autumn quarter, 1918, there were 427 students registered in the high school, of whom 199 were boys and 228 girls. In age they varied from 14 to 18 years. Many of the children graduating from the elementary school continue in the high school. Ninety-one cases of influenza were reported, a case incidence of 21.3 per cent. A slightly larger number occurred among girls, the exact ratio being 41 for boys and 50 for girls, making the attack rate approximately the same for the two sexes.

During the same period there were 189 cases of colds as against 118 for the corresponding period in 1917.

TABLE III.—*Comparative number of cases of influenza and colds, autumn quarter, 1918 and 1917, by weeks and sex, in high school.*

	Week ended—													Total.
	October.				November.					December.				
	5	12	19	26	2	9	16	23	30	7	14	21	28	
Influenza:														
Boys	6	5	....	1	....	1	2	1	8	4	6	5	2	41
Girls	17	3	4	4	1	1	2	....	8	1	5	3	1	50
Total	23	8	4	5	1	2	4	1	16	5	11	8	3	91
Colds, 1918:														
Boys	8	6	10	7	3	1	1	1	2	13	11	7	6	76
Girls	7	7	10	6	4	3	4	6	13	21	17	10	3	111
Total	15	13	20	13	7	4	5	7	15	34	28	17	9	187
Colds, 1917:[1]														
Boys	....	....	2	4	13	5	....	9	5	8	3	10	3	62
Girls	1	5	1	5	4	4	6	5	6	8	6	5	....	56
Total	1	5	3	9	17	9	6	14	11	16	9	15	3	118

[1] In 1917, 2 cases of "grippe" were reported, 1 with an absence of 4 days, the other 1 day.

Chart 4 illustrates graphically the curve of influenza by weeks. The week of highest incidence was the first week of school with 23 cases. This was followed by a sharp drop over a period of 2 weeks to a low level. A second peak occurred during the week ended November 30 with 16 cases, after which the epidemic rapidly subsided. A comparison with the course of influenza in the elementary school shows that in the high school the epidemic was most marked in the beginning, the secondary outbreak being less severe. The reverse was true of the elementary school—both peaks occurred at the same time. The curve for influenza in the high school is at a slightly higher level than in the elementary school. The curve for colds is irregular. There are two peaks, the first occurring during the week when influenza had subsided after the first outbreak, the second a week following the second outbreak of influenza. Both correspond with sharp falls in the influenza curve. Colds in 1917 followed a much more irregular course, never reaching the maximum height shown during 1918.

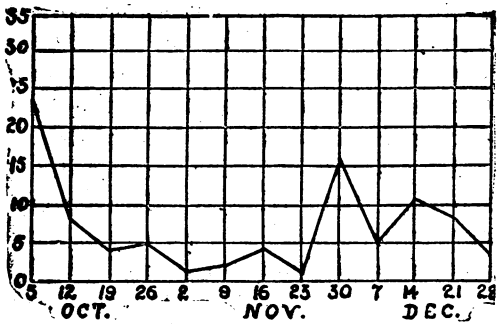


CHART 4.—Development of influenza, by weeks, high school, autumn quarter, 1918.

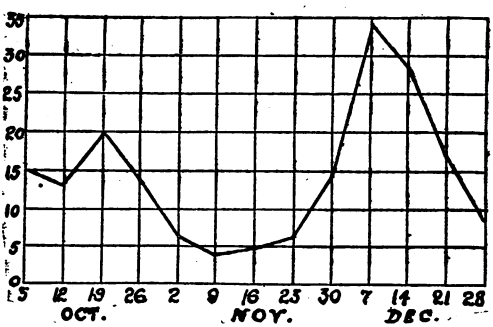


CHART 5.—Development of colds (including other respiratory infections), by weeks, high school, autumn quarter, 1918.

In October, 40 cases of influenza resulted in a loss of 331 school days as compared with 76 cases of other respiratory infections, including colds, which caused a loss of 236 school days, and 72 cases, including all nonrespiratory illnesses, with an absence of 118 days.

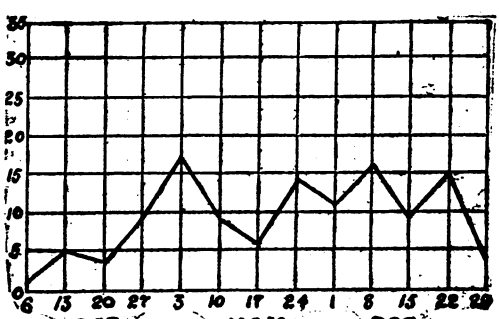


CHART 6.—Development of colds (including other respiratory infections), by weeks, high school, autumn quarter, 1917.

In November, 24 cases of influenza resulted in a loss of 118 school days, 46 cases of other respiratory diseases, 163 days, and all others

combined totaled 59 cases and 112 days absence. In December, 27 cases of influenza resulted in an absence of 188 school days, other respiratory diseases 94 cases with a loss of 187 school days, while all other illnesses were 66 cases and 90 days lost. Almost as many school days were lost in October through influenza as from all other causes combined; during November the ratio was less than one-half, and during December about two-thirds.

All cases of influenza recovered. Two cases of pneumonia were reported, both in girls. These were carefully investigated. One apparently started as a bronchitis, while the other undoubtedly began as a severe influenza with chills, high temperature, prostration, and general muscle pains. On account of its severity this case was diagnosed as pneumonia from the beginning.

Out of a total of 42 teachers in the high school, 6 developed influenza and all recovered.

An interesting feature of the figures given above is the rise in influenza cases in both the high and elementary schools about November 30, following the Thanksgiving recess from Wednesday to Monday. The parties and family gatherings at that time apparently afforded a better opportunity for influenza infection than the routine school life before and after the holiday period.

All the facts gathered afford no evidence that the schools served as distributing points for influenza infection.

III. THE CHICAGO TELEPHONE CO.[1]

The Chicago Telephone Co. maintains a sickness benefit system, to which all employees who have been with the company for a period of two years or more are eligible. For administrative purposes complete records of all cases of illness developing among employees entitled to benefits are kept in the company's health department. Examination of these records has enabled us to determine the course of the influenza epidemic in Chicago in an occupational group of the adult population.[2]

The figures cover the period from September 1, 1918, to the middle of March, 1919, or 26 weeks. In January, 1919, which represents about the middle of the period covered, the Chicago Telephone Co. had in its employ 14,208 individuals—3,927 males and 10,281 females. Of the total number of employees, 53 per cent, or 7,530, were eligible to sickness benefits. Approximately 80 per cent of the men, or 3,141, are entitled to disability benefits; and 40 per cent, or 4,112, of the women. This difference is the natural result of the type of work in

[1] By Edwin O. Jordan and E. B. Fink.

[2] The authors are greatly indebted to Mr. S. J. Larned for opportunity to examine these records and to Mr. H. W. Bang, Miss K. O'Rourke, and Miss K. Ryan for valuable aid in assembling the data.

which the two sexes are engaged. The work done by the men is a specialized type of skilled labor, and the turnover is small. Shifting of the women workers is much more frequent.

The data include approximately 7,500 individuals of working age. Among these there developed a total of 1,448 cases of influenza (including "la grippe") during the period under consideration, an

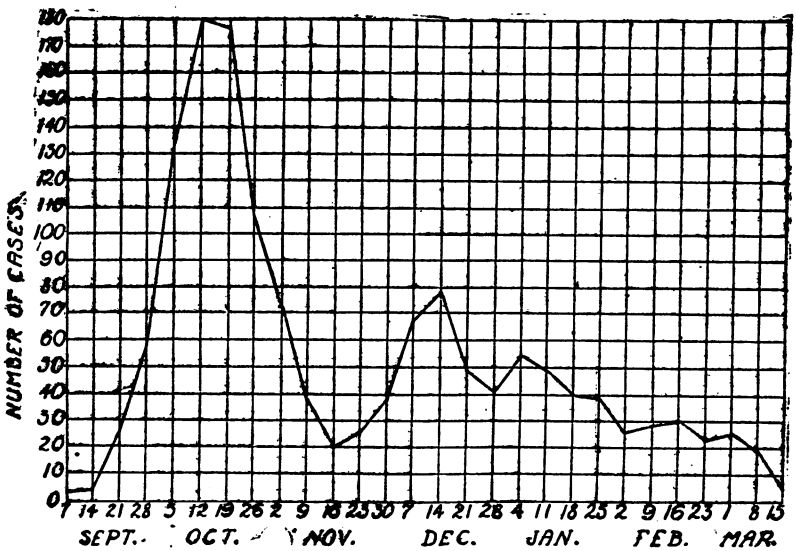


CHART 7.—Development of inuflenza, by weeks, Chicago Telephone Co., Sept. 1, 1918, to Mar. 15, 1919.

attack rate of 19.2 per cent. There were 22 deaths attributed to influenza and influenza-pneumonia, a mortality of 1.5 per cent.

Table IV and Chart 7 illustrate the development of influenza cases by weeks. The epidemic was characterized by two distinct peaks. The first and higher began the third week in September and shot up

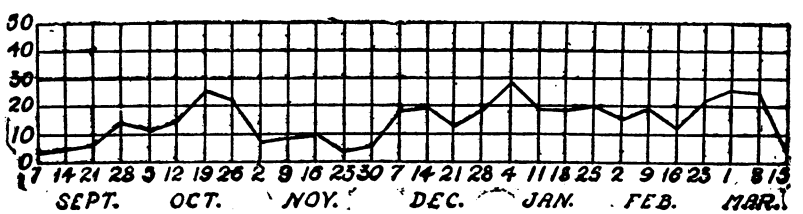


CHART 8.—Development of colds (including other respiratory infections) by weeks, Chicago Telephone Co., Sept. 1, 1918, to Mar. 15, 1919.

to a maximum of 180 cases for the week ending October 12, approximately four weeks after the beginning of the epidemic. The decline of the first wave was almost as sharp as its beginning and extended over a period of five weeks, reaching its lowest level during the week ended November 16. The rise of the second wave also covered a

period of four weeks, reaching its maximum in the week ended December 14. The maximum number of cases developed during this week was 78, or less than one-half the height of the first peak. Following the second peak there was an irregular, but gradual decline, extending over a period of 12 weeks.

During the same period there was a total of 402 colds (including all other acute respiratory infections except influenza). Chart 8 shows the development of these cases by weeks. The curve follows an irregular course at a low level with only two distinct peaks—the first, one week after the maximum week of influenza, and the second, three weeks after a similar peak in the curve for influenza. During the corresponding period in the preceding year, 1917–18, a non-epidemic year, there was a total reported of 300 cases of influenza and "la grippe" and 219 colds.

TABLE IV.—*Date of development of cases of influenza and colds (including all other respiratory infections) during the period Sept. 1, 1918, to Mar. 15, 1919, by weeks, Chicago Telephone Co.*

Week ended—	Influenza.	Colds.	Week ended—	Influenza.	Colds.
Sept. 7	2	2	Dec. 14	78	19
Sept. 14	3	3	Dec. 21	49	13
Sept. 21	26	5	Dec. 28	41	18
Sept. 28	58	13	Jan. 4	54	28
Oct. 5	134	11	Jan. 11	49	18
Oct. 12	180	14	Jan. 18	40	18
Oct. 19	176	25	Jan. 25	39	20
Oct. 26	105	22	Feb. 2	26	15
Nov. 2	71	7	Feb. 9	29	19
Nov. 9	38	9	Feb. 16	30	12
Nov. 16	20	10	Feb. 23	23	22
Nov. 23	25	4	Mar. 1	25	25
Nov. 30	38	6	Mar. 8	19	24
Dec. 7	66	17	Mar. 15	4	3

RECAPITULATION.

	Influenza.	Colds.
Total	1,448	402
Minimum	2	2
Maximum	180	28

A comparison of the number of days lost on account of influenza and colds indicates that in 1,177 cases of influenza about which we were able to obtain a record of the period of disability, a total of 27,154 working days was lost, while 346 colds resulted in a loss of 7,374 days. The average number of days lost per case of influenza was 23, and per case of colds, 21. During the six months September, 1918, to February, 1919, inclusive, there was a total loss of 79,253 working days from illness of all kinds; influenza was responsible for 34 per cent of the total loss. A comparison of the total number of days' disability in 1917 and 1918 by months shows that during October, 1918, the month during which the influenza epidemic was at its

maximum, there were more than twice as many days lost as in October, 1917. The effect of the entire epidemic is reflected in the sudden rise in disability for the corresponding months. During March and April, 1918, there was an epidemic of "la grippe" (a total of 409 cases), and during these months the total sickness disability reached very nearly the high level of the recent influenza epidemic.

Table V presents the result of an analysis of 1,432 cases of influenza as to age and sex distribution. About 80 per cent of the male employees of the company were between the ages 20 and 35; 80 per cent of the women were between the ages 17 and 25, both inclusive. The majority of cases among women occurred within the age groups 16 to 30; among men, 26 to 40. Considering the age distribution of all the employees of the company, the figures indicate that the cases of influenza were fairly evenly distributed in proportion to the number of people exposed at the different age groups. A total of 957 cases occurred among females; 475 among males—making the attack rate among the women 23 per cent; among the men, 15 per cent.

TABLE V.—*Age and sex distribution of influenza cases, Chicago Telephone Co.*

Age group.	Males.	Females.	Age group.	Males.	Females.
16–20	8	208	41–45	41	8
21–25	37	447	46–50	11	5
26–30	128	229	51–55	3	1
31–35	150	56	56–60 and over	8	2
36–40	89	18			

The histories of 218 cases of influenza were examined to determine the most common symptoms and complications. Each record contained the certificate of a physician as to the diagnosis, complications, and prognosis, the report of the visiting nurse, including pulse, temperature, respiration, and general symptoms at the time visits were made, usually at three-day intervals, and a report of the findings of the company physician when the patient was ready to return to work.

The most frequent symptoms were high temperature, 101°–103°, weakness and prostration, pain in the back, headache, aches "all over." Occasionally epistaxis and profuse bleeding from the mouth were mentioned. Neuralgia of the face was complained of in one or two cases. The onset in some cases was characterized by chills, fever, and cough; others began as a cold, sore throat, and watering of the eyes and nose. In one case there was a note that the patient attempted to get up and fell on account of weakness. In some cases the patients fainted while at work. Upon examination by the company physicians after recovery, inflamed tonsils were frequently found.

TABLE VI.—*Complications in 218 cases of influenza, Chicago Telephone Co.*

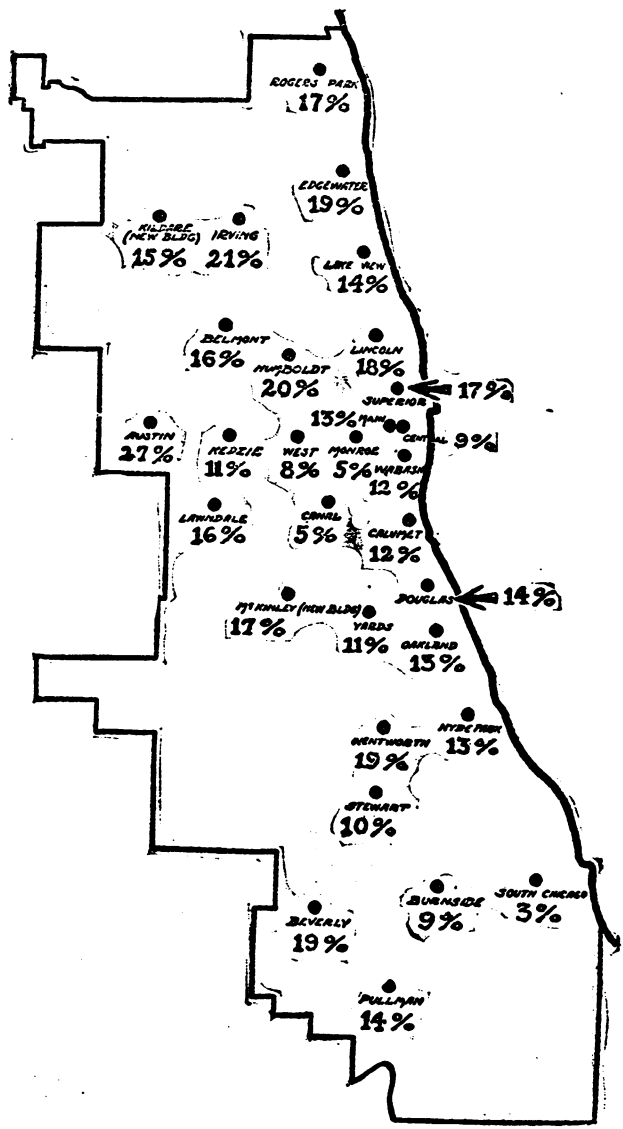
No recorded complications	157
Bronchitis	45
Pneumonia	17
Relapses	9
Neurasthenia	5
Sinus infection	5
Tonsilitis	4
Gastritis	4
Pleurisy	3
Otitis media	3
Miscellaneous	12

Table VI shows the complications developing in the course of 218 cases of influenza. One hundred and fifty-seven, or 72 per cent, were uncomplicated. The most frequent complication was bronchitis. A distressing complication occurring in 5 cases was a prolonged convalescence, or post-influenzal neurasthenia. Sinus infections occurred in about 2 per cent of cases and otitis media in 1 per cent. Pneumonia was diagnosed in 17 cases, or 7.8 per cent. There were 2 deaths, a mortality of less than 1 per cent.

An analysis of the records of the social service department has enabled us to determine the proportion of girls at the different telephone exchanges who were attacked with influenza. The data include all the employees at the same exchange—those entitled to disability benefits as well as those not entitled. In the case of those entitled to benefits the diagnoses and complications were based upon physicians' certificates as well as upon visiting nurses' records; the remainder were based upon nurses' records alone where no physician was in attendance. The nurses' records included general symptoms as well as observations on temperature, pulse, and respiration.

Table VII shows the number of employees at each exchange, the number who had influenza during the period, September, 1918, to February, 1919, inclusive, and the attack rate. The total number of cases at all exchanges was 1,072, the total number of employees concerned was 7,804 (as of January, 1919), giving an attack rate of 13.7 per cent. The highest percentage attacked by influenza at any exchange was 27, the lowest 3. It was noted by the administrators of the social service department that the largest number of cases developed first on the Northwest side, and it was not until about one month later that the epidemic reached the South side of the city. There were 71 cases of pneumonia recorded among the 1,072 cases of influenza, or a rate for this complication of 6.6 per cent. Only 10 deaths were reported, a mortality rate of less than 1 per cent. An interesting fact bearing upon the source of infection noted in this series of cases, as well as among those entitled to disability benefits,

was that in a great many cases the record was made by the nurse that several or all other members of the family were ill with influenza. Frequently one or more deaths were reported among other



Map showing location of telephone exchanges of the Chicago Telephone Co., and proportion of girls at each exchange attacked by influenza.

members of the family. It is not considered worth while to record the exact number of times such an observation was made because the record of such family infection is manifestly incomplete.

TABLE VII.—*Proportion of telephone operators at the different exchanges, Chicago Telephone Co., coming down with influenza during the period, September, 1918, to February, 1919, inclusive.*

Exchange.	Number of girls at exchange (January, 1919).	Rate of attack.		Exchange.	Number of girls at exchange (January, 1919).	Rate of attack.	
		Number.	Per cent.			Number.	Per cent.
Austin	170	46	27	Oakland	487	66	13
Belmont	178	28	16	Pullman	91	13	14
Beverly	111	21	19	Rogers Park	108	18	17
Burnside	11	1	9	South Chicago	126	4	3
Calumet	205	26	12	Stewart	140	14	10
Canal	126	7	5	Superior	186	31	17
Central	549	52	9	Wabash	598	72	12
Douglas	153	22	14	Wentworth	335	63	19
Edgewater	312	59	19	West	171	14	8
Humboldt	248	49	20	Yards	274	31	11
Hyde Park	348	46	13	Toll	416	61	14
Irving	177	36	20	Operators' training	40	5	12
Kedzie	265	31	11	Pay station	110	10	9
Kildare	67	10	15	Traffic department	100	9	9
Lake View	352	52	14				
Lawndale	221	35	16	Total	7,804	1,072	13.7
Lincoln	180	32	18				
Main	586	80	13	Total pneumonia cases		71	6.6
McKinley	86	15	17	Total deaths		10	1
Monroe	276	13	5				

SUMMARY.

The data for the several groups may be brought together as follows:

TABLE VIII.

Group.	Number of individuals.	Influenza attack rate per 1,000.	Case fatality rate.	Clinically diagnosed pneumonia to 100 influenza cases.
1. Student Army Training Corps, section A	685	39	0	7.7
2. Student Army Training Corps, section B	234	398	2	13
3. Pupils, elementary school, University of Chicago	391	248	0	0
4. Pupils, high school, University of Chicago	427	213	0	2.2
5. Teachers, elementary and high schools	63	175	0	0
6. Chicago Telephone Co., employees eligible for disability benefits	[1] 7,530	192	1.5	[2] 7.8
7. Chicago Telephone Co., women employees at exchanges	7,804	137	1	6.6

[1] Includes about 40 per cent of group 7.

[2] Based on 218 cases.

With respect to age the figures show a higher attack rate among the pupils of the university elementary school (ages 4–13) than among those of the high school (ages 14–18); the teachers in these schools had a lower attack rate than the pupils. Apparently a definite selective age incidence is manifested, since the pupils in these schools are from the same section of the city and to a large extent from the same families, and were presumably exposed in similar degree.

With respect to sex there was no noteworthy difference among the pupils in the high and elementary schools (attack rates, 230 for boys,

231 for girls). It is fair to assume that the chances for acquiring infection were substantially the same for these children and that one sex was as much exposed to infection as the other. Among the employees of the Chicago Telephone Co., on the other hand, the men were affected in considerably lower proportion than the women (151 per 1,000 for men, 233 for women). Probably the age factor was largely responsible for this difference, since the women employees are of a much lower average age than the men.

Illness reported under the heading of "Colds," etc., seems to have been at a considerably higher level during the autumn of 1918 than during the corresponding period of 1917. This was particularly the case among the pupils of the university schools and to a somewhat lesser degree among the employees of the Chicago Telephone Co. Comparison of the reported cases of influenza and colds in the latter group for the months September–November suggests that some cases of influenza were reported under the former heading.

The differing degrees of incidence in the various groups here considered are especially striking. The attack rate among the employees at the various Chicago telephone exchanges ranged from 30 to 270 per 1,000, although the working conditions in the several exchanges were not materially different. The highest attack rate recorded for any group occurred among members of one section of the Student Army Training Corps at the University of Chicago (398 per 1,000), while the lowest (39 per 1,000) was among the members of the other section of the same corps. The former group was particularly exposed to infection, while the latter, although composed of men of similar ages, living under substantially similar conditions with those of the first group, were guarded to a considerable extent against contact with beginning cases.

The data obtained in regard to the schools apparently indicate that the schools were not important distributing centers for the infection. No explosive outbreak occurred in any one grade, and the four days of the Thanksgiving holiday evidently afforded more favorable opportunities for infection than did the days of regular schoool attendance. The low pneumonia incidence and the absence of deaths among the pupils of these schools (188 cases) is noteworthy.

The influence of careful supervision of a somewhat segregated group of individuals is shown by the low attack rate in section A of the Student Army Training Corps.

A NEW HANDBOOK ON VITAL STATISTICS.[1]

For some time there has been a very real and widely recognized need for a practical handbook on vital statistics which would deal especially with the facts of American experience and which would include the more recent methodology of statistics, so far as it is applicable to vital data. Such a need has been met by Prof. Whipple's new volume, Vital Statistics. It can be said that the work has been done extremely well, both from the point of view of scientific treatment and from that of its scope and practical utility. Written "for students who are preparing themselves to be public-health officials and for public-health officials who are willing to be students" it will no doubt prove to be a valuable part of the equipment of every health department.

The general plan of the book is a simple exposition of statistical principles and methods, illustrated by and applied to data drawn from American experience. The chapter headings will suggest briefly its scope: Demography (a general introduction to the subject); Statistical arithmetic; Statistical graphics; Enumeration and registration; Population; General death rates, birth rates, marriage rates; Specific death rates; Causes of death; Analysis of death rates; Statistics of particular diseases; Studies of deaths by age periods; Probability; Correlation; Life tables; A commencement chapter; and four appendixes containing a good bibliography, a model State law for morbidity reports, a model State law for the registration of births and deaths, and a table of logarithms of numbers.

The statistical exposition is sufficient to equip the health officer and the student with practically all of the methods used for tabulation, analysis, and presentation of the vital statistics that form the material usually recorded or collected by health departments. While the book does not claim to be an exhaustive compendium of facts the variety of facts that are used as illustrations is large and well chosen, and covers practically all of the conditions ordinarily met with in the experience of the vital statistician in American health departments. It doubtless will also be a valuable introduction to the use of those statistical methods which properly should be employed in epidemiological studies, but which are often conspicuous by their absence or by their faulty application. The author's experience has enabled him to recognize many of the common errors in statistical methods, and to point out the pitfalls in a manner which renders the book extremely helpful.

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[1] Vital Statistics: An introduction to the Science of Demography. By George Chandler Whipple, professor of sanitary engineering in Harvard University, member of the public health council, Massachusetts State department of health. xii+517 pp. John Wiley & Sons (Inc.), New York, 1919.

INSPECTION OF LAUNDRIES.

CALIFORNIA SUPREME COURT DECLARES ORDINANCE INVALID BECAUSE OF DISCRIMINATION BETWEEN LOCAL AND NONRESIDENT LAUNDRIES.

An ordinance of the city of Palo Alto requiring the inspection of laundries has been declared invalid by the California Supreme Court[1] because it discriminated between local and nonresident establishments.

The ordinance provided for monthly inspections, and a fee of $3 was charged for each inspection. In addition there was a mileage fee of 30 cents per mile each way. No license was to be issued until all fees for inspection and mileage had been paid.

The case arose under a petition for habeas corpus. The petitioner, who conducted a laundry in San Jose, 20 miles from Palo Alto, was convicted for soliciting laundry work in Palo Alto without first securing a license. He petitioned for a writ of habeas corpus, alleging that the ordinance was invalid in that the mileage fees were unreasonable.

It was shown that the petitioner would have to pay $12 mileage fees each month, exclusive of the $3 inspection fee, thus making the cost of the license to him $15 monthly, as against $3 for local laundries. It was also shown that the cost of travel between the two cities did not exceed $1.20, and that the mileage fee of 30 cents greatly exceeded the fees allowed by State laws to other public officers.

In declaring the ordinance invalid and granting the petitioner his discharge, the court said:

> The petitioner, as the representative of a laundry establishment located at San Jose, is required to pay for the permit to solicit washing for his laundry a sum five times as great as that charged the solicitor for a local establishment. This increase over the local charge is made up of mileage fees which are to be charged at a rate not only tenfold greater than the known cost of travel by the usual modes of transportation between the two cities, but * * * also more than four times the official mileage fees permitted to be charged by State, county, and township officers.
>
> The conclusion is irresistible that the mileage fees to be exacted for the inspection of laundries outside the limits of Palo Alto are unreasonable in amount, measured by any of the known standards for determining the reasonableness of charges of like character, and that since they are to be incurred, charged and collected regularly and at least once a month from the representatives of laundries located elsewhere than within the municipality, but seeking to collect and distribute washing within its limits, the imposition of an exorbitant charge works a substantial discrimination as between nonresident and local establishments, each entitled to solicit and do business within said municipality upon an equal basis, such as is forbidden by the express terms of the Constitution, to which reference has above been made.
>
> These provisions of the ordinance, being inseparable from the main body thereof, it follows that the ordinance is invalid and hence that the petitioner is entitled to his discharge.

[1] Ex parte Blois, 176 Pac., 449.

VACCINATION AGAINST SMALLPOX.

NORTH DAKOTA SUPREME COURT DECIDES THAT UNVACCINATED CHILDREN CAN NOT BE EXCLUDED FROM SCHOOL WHEN SMALLPOX IS NOT PRESENT.

The right to exclude children from school on the ground of nonvaccination, when smallpox is not present or "reasonably to be apprehended" in a community, is denied by the Supreme Court of North Dakota.[1]

The State board of health ordered that all children should be vaccinated before being allowed to attend school. Acting under this order, the board of education of Devils Lake Special School District made a similar order refusing admission to unvaccinated children. Smallpox was not present and the court assumed that it was not "reasonably to be apprehended" when the order was made. Under the law the State board of health had power to make and enforce regulations for the prevention of communicable diseases. It was also made the duty of parents or guardians to have minors vaccinated. Another provision of the statutes enumerated the causes for exclusion from school, but nonvaccination was not one of the causes.

Construing these various provisions, the court held, in a proceeding against the board of education, that the State board of health was not authorized to make such an order and that the board of education could not exclude children solely on the ground of nonvaccination. In the opinion it was said:

* * * Bearing in mind the rule that statutory boards possess only the authority vested in them, the maxim "Expressio unius est exclusio alterius," applies with peculiar force where a statute, while clearly defining a duty to exclude pupils from schools on the ground of the danger of spreading contagious and infectious diseases, does not include nonvaccination as a ground for exclusion. This statute (sec. 426, C. L. 1913) predicates the exclusion either upon the ground that the pupil is infected, or that he comes from an infected habitation. It would seem, if it were intended that nonvaccination should be considered a reason for withholding permission to attend schools, that it would be included in any enumeration of the grounds for exclusion in a statute such as section 426, supra. This applies with peculiar force here as the compulsory vaccination statute is the immediately preceding section of the same chapter, both being adopted at the same time. (See Session Laws of 1893, c. 90, secs. 13, 14.) We are of the opinion that the failure to include nonvaccination as a ground for excluding a pupil from attendance at school, in section 426, Compiled Laws of 1913, is a strong indication that such a power was not intended to be given, either to the board of health or a board of education.

But it is contended that, since section 425 of the Compiled Laws of 1913 requires the vaccination of minors generally, it was proper for the State board of health to promulgate an order which would not affect adversely anyone who had complied with the statute. The failure to comply with the compulsory vaccination statute results in making the one who thus fails guilty of a misdemeanor, and subjects him to the prescribed punishment. It is not particularly the function of the board of health to compel

[1] Rhea *v.* Board of Education of Devils Lake Special School Dist., 171 N. W., 103.

compliance with this statute. The board is not the public prosecutor. Even the public prosecutor could not compel vaccination. He can only punish for violations of the statutes, and to exclude one from school on the same ground would be to add a penalty not included in the statute. The powers of the board of health are limited to such needful rules and regulations as may be required for the prevention [of the] spread of contagious and infectious diseases, and the fact that the legislature has purported to make vaccination compulsory does not add to or subtract from the scientific data upon which the board of health may determine whether or not a proposed rule or regulation is "needful." The authorities uniformly hold that a board of health, constituted as our board of health is, possessing requisite general powers for the prevention [of the] spread of contagious diseases, can not promulgate and enforce rules which merely have a tendency in that direction, but which are not founded upon any existing condition or upon a danger not reasonably to be apprehended. * * *

The authorities principally relied upon by counsel for the respondent will be found to sustain one of two general propositions with which we are not concerned in the instant case. They either support the right of a board of education or a board of health to make vaccination a condition of attendance at school where there is an express statute or ordinance to that effect, * * * or they support the right of such boards to exercise the power to compel vaccination or exclusion as a means of controlling and preventing the spread of the disease during an actual or reasonably imminent epidemic. * * *

DEATHS DURING WEEK ENDED JUNE 28, 1919, IN CITIES.

The table following shows the registered deaths from all causes and from penumonia (all forms) and influenza combined in certain large cities of the United States during the week ended June 28, 1919.

The data are taken from the "Weekly Health Index," July 1, 1919, issued by the Bureau of the Census, Department of Commerce.

Registered deaths and annual death rates per 1,000 population in certain large cities of the United States, week ended June 28, 1919—Deaths from all causes, and from pneumonia (all forms) and influenza combined.

City.	Population July 1, 1918, estimated.	Total deaths, all causes.	Annual death rate per 1,000.	Annual death rate for preceding years.[1]	Influenza and pneumonia (all forms).	
					Number of deaths.	Annual death rate per 1,000.
Albany, N. Y.	112,565	30	13.9	C. 17.6	.....	.....
Atlanta, Ga.	201,732	52	13.4	C. 13.4	.....	.....
Baltimore, Md.	[2] 669,981	206	16.0	A. 16.5	.....	.....
Boston, Mass.	785,245	181	12.0	A. 15.7	.....	.....
Buffalo, N. Y.	473,229	104	11.5	C. 14.3	.....	.....
Cambridge, Mass.	111,432	20	9.4	A. 11.7	.....	.....
Chicago, Ill.	2,596,681	473	9.5	A. 11.7	.....	.....
Cincinnati, Ohio.	418,022	93	11.6	C. 14.0	.....	.....
Cleveland, Ohio.	810,306	155	10.0	C. 8.8	9	0.6
Columbus, Ohio.	225,296	60	13.9	C. 12.3	4	.9
Dayton, Ohio.	130,655	20	8.0	C. 14.4	.....	.....
Denver, Colo.	.....	69	.....	.....	.....	.....
Fall River, Mass.	128,392	28	11.4	C. 11.4	.....	.....
Grand Rapids, Mich.	135,450	18	6.9	C. 11.9	.....	.....
Indianapolis, Ind.	290,389	60	10.8	C. 12.4	.....	.....
Jersey City, N. J.	318,770	48	7.9	C. 12.6	.....	.....
Kansas City, Mo.	313,785	76	12.6	C. 14.5	5	.8
Los Angeles, Calif.	568,495	110	10.1	A. 12.3	3	.3
Louisville, Ky.	242,707	53	11.4	C. 13.7	3	.6
Lowell, Mass.	109,081	36	17.2	A. 11.9	.....	.....
Memphis, Tenn.	154,759	60	20.2	C. 22.6	0	.....
Milwaukee, Wis.	453,481	71	8.2	A. 10.6	3	.3
Minneapolis, Minn.	383,442	78	10.6	C. 10.5	.....	.....
Nashville, Tenn.	119,215	55	24.1	C. 21.4	.....	.....
Newark, N. J.	428,684	88	10.7	C. 13.4	.....	.....
New Haven, Conn.	154,865	30	10.1	C. 13.1	.....	.....
New Orleans, La.	382,273	125	17.1	A. 20.1	.....	.....
New York, N. Y.	5,215,879	1,115	11.1	C. 12.9	.....	.....
Oakland, Calif.	214,206	39	9.5	A. 9.8	.....	.....
Omaha, Nebr.	180,264	34	9.8	C. 11.3	.....	.....
Philadelphia, Pa.	1,761,371	390	11.5	[3] 13.5	.....	.....
Pittsburgh, Pa.	593,303	137	12.0	C. 14.0	13	1.1
Providence, R. I.	263,613	59	11.7	C. 12.9	.....	.....
Richmond, Va.	160,719	40	13.0	C. 17.8	0	.....
Rochester, N. Y.	264,856	56	11.0	C. 11.0	3	.6
St. Louis, Mo.	779,951	176	11.8	C. 11.0	11	.7
St. Paul, Minn.	257,699	38	7.7	C. 10.1	.....	.....
San Francisco, Calif.	478,530	133	14.5	C. 12.9	15	1.6
Seattle, Wash.	.....	55	.....	.....	2	.....
Spokane, Wash.	.....	19	.....	.....	.....	.....
Syracuse, N. Y.	161,404	31	10.0	C. 11.6	2	.6
Toledo, Ohio.	262,234	48	9.5	A. 12.7	.....	.....
Washington, D. C.	401,681	93	12.1	A. 14.9	7	.9
Worcester, Mass.	173,650	43	12.9	C. 16.2	.....	.....

[1] "A" indicates that the rate given is the average annual death rate per 1,000 population for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates that the rate is the annual death rate per 1,000 population for the corresponding week of 1918.
[2] Population estimated as of July 1, 1919.
[3] Rate is based on statistics of 1915, 1916, and 1917.

Summary of information received by telegraph from industrial insurance companies, for week ending June 28, 1919.

Policies in force	40,401,950
Number of death claims	6,873
Number of death claims per 1,000 policies in force, annual rate	8.9

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 STATE SUMMARIES.[1]

Telegraphic Reports for Week Ended July 5, 1919.

ALABAMA.

State:	Cases.
Infantile paralysis	2
Malaria	10
Measles	3
Mumps	7
Pellagra	6
Scarlet fever	2
Trachoma	2
Tuberculosis (pulmonary)	33
Typhoid fever	14
Venereal diseases	145
Whooping cough	2

ARKANSAS.

State:	
Chicken pox	2
Malaria	90
Pellagra	7
Poliomyelitis	3
Smallpox	2
Tuberculosis	8
Typhoid fever	8
Whooping cough	18

CONNECTICUT.

No outbreak or unusual prevalence.

DELAWARE.

Chancroid:	
State	1
Chicken pox:	
State	1
Diphtheria:	
Claymont	1
Gonorrhea:	
State	19
Measles:	
Harbeson	1
Wilmington	1

DELAWARE—continued.

Mumps:	Cases.
State	5
Tuberculosis:	
Delmar	1
Dover	1
Millsboro	1
Christiana	1
Typhoid fever:	
Wilmington	1
Whooping cough:	
State	2

FLORIDA.

Diphtheria:	
State	1
Dysentery:	
State	2
Malaria:	
State	4
Meningitis (epidemic):	
Palm Beach County	1
Poliomyelitis:	
Gadsden County	1
Scarlet fever:	
State	1
Typhoid fever:	
State	6

GEORGIA.

State:	
Actinomycosis	5
Cerebrospinal meningitis	1
Chicken pox	9
Dengue	2
Diphtheria	8
Dysentery (amebic)	5
Dysentery (bacillary)	28
Gonorrhea	52
Hookworm	3

[1] These telegraphic reports are preliminary, and are subject to change when later returns are received by the State health officers.

GEORGIA—continued.

State—Continued.	Cases.
Influenza	8
Malaria	67
Measles	8
Mumps	7
Paratyphoid fever	3
Pneumonia (acute lobar)	5
Scarlet fever	4
Septic sore throat	1
Smallpox	17
Syphilis	19
Trichinosis	6
Tuberculosis (pulmonary)	6
Tuberculosis (other than pulmonary)	1
Typhoid fever	59
Whooping cough	19

ILLINOIS.

Diphtheria:	
Chicago	57
Chicago Heights	6
Aurora	4
Lemont	3
State	18
Gonorrhea:	
State	140
Scarlet fever:	
Chicago	22
State	8
Smallpox:	
Sullivan	4
State	24
Poliomyelitis:	
Eden Township, La Salle County	1
Syphilis:	
State	62

INDIANA.

Chancroid:	
State	1
Diphtheria:	
Delaware County	3
Orange County	3
Vigo County	1
Grant County	1
Kosciusko County	1
Gonorrhea:	
State	43
Measles:	
Prevalent in—	
Elkhart County.	
Delaware County.	
Porter County.	
Lake County.	
Shelby County.	
Scarlet fever:	
Prevalent in Hendricks County.	
Smallpox:	
Prevalent in—	
Delaware County.	
Vermilion County.	
Syphilis:	
State	46
Typhoid fever:	
Prevalent in—	
Tippecanoe County.	
Howard County.	

IOWA.

Chicken pox:	Cases.
Wellsburg	1
Diphtheria:	
Council Bluffs	3
Davenport	1
Des Moines	1
Mason City	1
Gonorrhea:	
State	32
Scarlet fever:	
Burlington	1
Davenport	1
Des Moines	2
Goodell	1
Mason City	2
Smallpox:	
Boone	1
Cedar Falls	1
Cedar Rapids	1
Davenport	9
Des Moines	3
Fort Dodge	1
Calhoun County	3
Cedar County	1
Harrison County	1
Henry County	1
Pocahontas County	1
Syphilis:	
Davenport	2
Dubuque	1
Muscatine	1
Newton	1

KANSAS.

State:	
Diphtheria	18
Influenza	2
Scarlet fever	10
Smallpox	46

LOUISIANA.

State:	
Chancroid	19
Diphtheria	6
Gonorrhea	131
Meningitis	1
Pellagra	8
Scarlet fever	5
Smallpox	21
Syphilis	65
Typhoid fever	35

MAINE.

Chicken pox:	
State	4
Diphtheria:	
Monmouth	1
Limestone	1
Gonorrhea:	
State	26
Mumps:	
Sanford	2
Auburn	2
Scarlet fever:	
Mechanic Falls	1
Farmington	1
Portland	7

MAINE—continued.

	Cases.
Smallpox:	
Augusta	1
Portland	1
Bath	4
Lewiston	3
Syphilis:	
State	16
Tuberculosis:	
State	10
Typhoid fever:	
Augusta	1
Belfast	1
Portland	4
Whooping cough:	
Portland	1
South Berwick	3

MASSACHUSETTS.

Whooping cough:	
Pittsfield	23

MINNESOTA.

Chancroid:	
State	1
Gonorrhea:	
State	52
Smallpox (new foci):	
Dakota County—South St. Paul	1
Douglas County—Evansville Township	1
Fillmore County—Harmony Village	1
Goodhue County—Central Point Township	1
Ramsey County—White Bear Township	1
Scott County—Louisville Township	1
Stearns County—Sartell Village	1
Traverse County—Walls Township	1
Syphilis:	
State	34

NEW JERSEY.

Influenza:	
State	1
Pneumonia:	
State	25

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis:	
Scipio	1
Islip	1
Diphtheria:	
State	113
Gonorrhea:	
State (voluntary reports)	43
Measles:	
State	219
Pneumonia:	
State	12
Scarlet fever:	
State	50
Smallpox:	
State	8
Syphilis:	
State (voluntary reports)	102
Typhoid fever:	
State	19
Whooping cough:	
State	56

NORTH CAROLINA.

	Cases.
State:	
Chancroid	3
Chicken pox	5
Diphtheria	8
Dysentery (bacillary)	6
Gonorrhea	70
Gonorrhea and syphilis	1
Infantile paralysis	1
Measles	74
Meningitis (epidemic)	2
Ophthalmia neonatorum	2
Paratyphoid fever	5
Pneumonia (broncho)	2
Pneumonia (lobar)	1
Scarlet fever	6
Septic sore throat	3
Smallpox	24
Syphilis	35
Typhoid fever	117
Whooping cough	127

OHIO.

Diphtheria:	
Cincinnati	12
Barberton	6
Scarlet fever:	
Cincinnati	11
Smallpox:	
Youngstown	7
Steubenville	5
Uhrichsville	4

VIRGINIA.

Poliomyelitis:	
Hanover County	1
Smallpox:	
Bedford County	4
Bath County—several.	

WASHINGTON.

Measles:	
Spokane	21
Rockford	2
Bremerton	3
Scarlet fever:	
Seattle	12
Spokane	16
Tacoma	4
Anacortes	8
Bothell	3
Harrington	2

WEST VIRGINIA.

Diphtheria:	
Bluefield	1
New Martinsville	2
Richwood	2
Measles:	
State	17
Scarlet fever:	
Charleston	1
Huntington	2
Martinsburg	4
Wheeling	2
Smallpox:	
Bluefield	6
Grafton	3

WEST VIRGINIA—continued.

Smallpox—continued.	Cases.
Morgantown	2
Wellsburg	1
Weston	1
Typhoid fever:	
Buckhannon	3
Charleston	5

WEST VIRGINIA—continued.

Typhoid fever—continued.	Cases.
Fairmont	1
Huntington	2
New Martinsville	2
Richwood	6
Wellsburg	1
Weston	4

RECIPROCAL NOTIFICATION.

Minnesota.

Cases of communicable diseases referred during May, 1919, to other State health departments by department of health of the State of Minnesota.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Epidemic cerebrospinal meningitis:		
Rochester, Olmsted County	Ellen, Iowa	Patient ill on arrival in Minnesota from Iowa. Sister died a week previously in Iowa.
Smallpox:		
Moorhead, Clay County	Leal, Barnes County, N. Dak.	First sick April 25. Came to Minnesota April 28.
Tuberculosis:		
Mayo clinic, Rochester, Olmsted County.	Boulder, Boulder County, Colo.; Rock Falls, Whiteside County, Ill.; Chicago, Cook County, Ill.; Rake, Winnebago County, Iowa; Guthrie Center, Guthrie County, Iowa; Thomas, Oakland County, Mich.; Laurium, Houghton County, Mich.; North Platte, Lincoln County, Nebr.; Reeder, Adams County, N. Dak.; Clearfield, Tripp County, S. Dak.; Rockton, Vernon County, Wis.; Valders, Manitowoc County, Wis.; Merrill, Lincoln County, Wis.; Pine Bluff, Laramie County, Wyo.	6 advanced, 5 moderately advanced, 1, stage of disease not given, 2 incipient cases left Mayo clinic for homes.
Moorhead, Clay County	Fargo, Cass County, N. Dak.	Specimen of sputum from North Dakota resident examined in this department showed tubercle bacilli.

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

Tables showing by counties the reported cases of cerebrospinal meningitis, malaria, pellagra, poliomyelitis, smallpox, and typhoid fever are published under the names of these diseases. (See names of these and other diseases in the table of contents.)

This issue of the Public Health Reports contains the monthly State reports which were received during one week only. Reports from other States appear each week as received.

State.	Cerebrospinal meningitis.	Diphtheria.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
May, 1919:									
Alabama	2	17	89	81	58	2	30	80	49
Indiana	.....	91	.....	1,238	.....	1	316	500	44
Maine	1	24	.....	2	.....	.....	81	14	13
Minnesota	8	387	.....	1,103	.....	2	275	285	37

CEREBROSPINAL MENINGITIS.

State Reports for May, 1919.

Place.	New cases reported.	Place.	New cases reported.
Alabama:		Minnesota—Continued.	
Marshall County	1	Hennepin County—	
Montgomery County	1	Minneapolis	1
Total	2	Martin County—	
		Fairmont	1
Maine:		Olmsted County—	
York County—		Rochester	1
Standish (town)	1	Ramsey County—	
		St. Paul	1
Minnesota:		St. Louis County—	
Benton County—		Duluth	1
Sauk Rapids Township	1	Stearns County—	
Bigstone County—		Melrose Township	1
Prior Township	1	Total	8

City Reports for Week ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass.	2	1	Madison, Wis.		1
Buffalo, N. Y.	1		New Brunswick, N. J.	1	
Charlotte, N. C.	1	1	New York, N. Y.	4	5
Chicago, Ill.		1	Pittsburgh, Pa.	1	
Cleveland, Ohio	1		Portland, Oreg.	1	
Detroit, Mich.	1	1	Reading, Pa.	1	
Grand Rapids, Mich.	1	1	Richmond, Va.	1	
Kansas City, Mo.	1	2	Riverside, Calif.		1
Los Angeles, Calif.	1		Sacramento, Calif.	1	
Louisville, Ky.	1		Saginaw, Mich.		1

DIPHTHERIA.

See also Summary of cases reported monthly by States, page 1554; and Diphtheria, measles, scarlet fever, and tuberculosis, page 1564.

LEPROSY.

New Orleans, La., and Philadelphia, Pa.

During the week ended June 21, 1919, one case of leprosy was reported at New Orleans, La., and one death from that disease was reported at Philadelphia, Pa.

MALARIA.

Alabama Report for May, 1919.

Place.	New cases reported.	Place.	New cases reported.
Alabama:		Alabama—Continued.	
Autauga County	10	Lamar County	40
Bibb County	2	Lawrence County	1
Calhoun County	2	Marengo County	2
Cleburne County	1	Montgomery County	1
Colbert County	3	Talladega County	1
Geneva County	2	Tuscaloosa County	9
Henry County	4	Winston, County	2
Houston County	1		
Jefferson County	8	Total	89

MALARIA—Continued.

City Reports for Week ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.	3		Pine Bluff, Ark.	2	
Columbus, Ga.	5	2	Richmond, Va.	2	
Mobile, Ala.		1	San Francisco, Calif.		3
Nashville, Tenn.	1		Savannah, Ga.	1	
Newark, N. J.	1		Trenton, N. J.	1	
Norwalk, Conn.	3		Tuscaloosa, Ala.	2	
Orange, N. J.	1		Wilmington, N. C.	1	
Paterson, N. J.	1				

MEASLES.

See also Summary of cases reported monthly by States, page 1554; and Diphtheria, measles, scarlet fever, and tuberculosis, page 1564.

PELLAGRA.

Alabama Report for May, 1919.

Place.	New cases reported.	Place.	New cases reported
Alabama:		Alabama—Continued.	
Autauga County	1	Macon County	1
Butler County	1	Marengo County	3
Calhoun County	2	Marshall County	2
Chilton County	1	Mobile County	15
Conecuh County	1	Monroe County	1
DeKalb County	1	Montgomery County	2
Geneva County	1	Randolph County	1
Greene County	1	Sumter County	1
Jackson County	2	Tuscaloosa County	4
Jefferson County	4	Walker County	6
Lamar County	1	Wilcox County	1
Lawrence County	1	Winston County	1
Lee County	1		
Limestone County	1	Total	58
Lowndes County	1		

City Reports for Week Ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlanta, Ga.		1	Macon, Ga.	1	
Baltimore, Md.		1	Memphis, Tenn.	2	3
Birmingham, Ala.	4	2	Raleigh, N. C.		1
Brunswick, Ga.	1		Richmond, Va.		1
Charleston, S. C.		1	San Diego, Calif.		1
Columbus, Ga.	1	1	Spartanburg, S. C.		1
Dallas, Tex.	1		Wichita, Kans.	1	
Kansas City, Mo.		1	Winston-Salem, N. C.	1	1

PLAGUE.

Record of Plague Infection.

Places in California.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number rodents found infected since May, 1907.
Cities:				
San Francisco	Jan. 30, 1908	Oct. 23, 1908	May 21, 1917	398 rats: 1 squirrel.
Oakland	Aug. 9, 1911	Dec. 1, 1908	None	126 rats.
Berkeley	Aug. 28, 1907	None	do	None.
Los Angeles	Aug. 11, 1908	do	Aug. 21, 1908	1 squirrel.
Counties:				
Alameda (exclusive of Oakland and Berkeley).	Sept. 24, 1909	[1] Oct. 17, 1909	June 13, 1919	388 squirrels: 1 wood rat: 3 plague-like squirrels.
Contra Costa	July 13, 1915	None	do	1,683 squirrels.
Fresno	None	do	Oct. 27, 1911	1 squirrel.
Merced	do	do	May 12, 1916	7 squirrels.
Monterey	do	do	May 27, 1916	38 squirrels.
San Benito	June 4, 1913	do	June 28, 1917	78 squirrels.
San Joaquin	Sept. 18, 1911	do	Aug. 26, 1911	18 squirrels.
Santa Clara	Aug. 31, 1910	do	June 21, 1916	32 squirrels.
San Luis Obispo	None	do	Jan. 29, 1910	1 squirrel.
Santa Cruz	do	do	June 27, 1917	14 squirrels.
Stanislaus	do	do	June 2, 1911	13 squirrels.
San Mateo	do	do	Oct. 29, 1918	15 squirrels.

[1] Wood rat.

Plague-Suppressive Measures in California.

The following is a detailed report of plague-suppressive measures in California for the week ended June 21, 1919:

Squirrels collected and examined for plague.

Counties.	Collected.	Examined.	Found infected.
Alameda	792	742	9
Contra Costa	1,331	1,331	18
San Mateo	365	365	None.
Totals	2,438	2,438	27

Other animals collected and examined for plague.

San Francisco:
17 rats examined ..... Not infected.
San Mateo:
1 rabbit examined ..... Not infected.

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Mateo, and San Francisco.

Plague-Infected Ground Squirrels, Alameda County, Calif.

During the period June 13 to June 18, 1919, eight plague-infected ground squirrels (*Citellus beechyi*) were reported found in Alameda County, Calif. Intensive hunting and poisoning operations are being carried on.

PNEUMONIA.

City Reports for Week Ended June 21, 1919.

Place.	Lobar.		All forms.	
	Cases.	Deaths.	Cases.	Deaths.
Adrian, Mich		1		
Appleton, Wis	1	1		
Atlanta, Ga		4		
Bakersfield, Calif	1	1		
Baltimore, Md	3	3		
Beaumont, Tex		1		
Birmingham, Ala		2		
Boston, Mass	9	5		
Buffalo, N. Y		2		
Burlington, Vt		1		
Butte, Mont	1			
Cadillac, Mich	1			
Cairo, Ill				1
Cambridge, Mass	2			
Charleston, W. Va	1	1		
Charlotte, N. C		3		
Chicago, Ill			87	32
Cincinnati, Ohio		3		
Cleveland, Ohio	6	8		
Clinton, Mass		1		
Cohoes, N. Y				1
Colorado Springs, Colo		1		
Columbus, Ga	2	2		
Dallas, Tex	1			
Denver, Colo		1		2
Detroit, Mich	3	7	7	9
Duluth, Minn	1	1		
East Orange, N. J		1		
East St. Louis, Ill		1		
Elmira, N. Y		1		
Evansville, Ind		1		
Flint, Mich	1	1		
Grand Rapids, Mich	3	1		
Greenfield, Mass				1
Greensboro, N. C		1		
Hackensack, N. J	1			
Haverhill, Mass	1			
Indianapolis, Ind				4
Kansas City, Mo			1	5
Lackawanna, N. Y		1		
Lancaster, Ohio		1		
Lawrence, Mass	1			
Logansport, Ind		1		
Los Angeles, Calif	1	2	1	5
Louisville, Ky		1		
Lowell, Mass	1	1		
Malden, Mass	8	2		
Manitowoc, Wis			2	2
Martins Ferry, Ohio		1		
Memphis, Tenn		3		
Middletown, N. Y	1	1		
Milwaukee, Wis		5		
Minneapolis, Minn		1		
Missoula, Mont		1		
Montclair, N. J			1	
Morristown, N. J	1	1		
Nashville, Tenn		2		
Newark, N. J	3	2		
New Britain, Conn		1		
New Haven, Conn				3
New Orleans, La		2		
New York, N. Y			15	65
North Adams, Mass	1			
Oakland, Calif		3		
Ogden, Utah	1			
Oklahoma City, Okla				3
Omaha, Nebr				1
Oshkosh, Wis				1
Paterson, N. J			11	
Philadelphia, Pa	21	13		
Pittsfield, Mass	2			
Portland, Oreg		1		2
Racine, Wis		1		
Redlands, Calif		1		
Richmond, Va		1		
Rochester, N. Y	3			
Sacramento, Calif		1		2
St. Joseph, Mo		1		
Salem, Mass		1		
San Francisco, Calif	5	3		
Santa Barbara, Calif			2	2
Savannah, Ga		1		
Sioux Falls, S. Dak	1			
Somerville, Mass	1	1		
Springfield, Ill		2		
Toledo, Ohio		2		
Trenton, N. J	1			
Tuscaloosa, Ala	1			
Waltham, Mass	1	1		
Washington, D. C		3		
Westfield, Mass	1			
Wilmington, Del		1		
Winston-Salem, N. C	2	2		
Winthrop, Mass	1			
Worcester, Mass		2		
Yonkers, N. Y		2		

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for May, 1919.

Place.	New cases reported.
Alabama:	
Baldwin County	1
Jefferson County	1
Total	2
Indiana:	
Madison County	1
Minnesota:	
St. Louis County—	
Ely	1
Stuntz Township	1
Total	2

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

City Reports for Week Ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.	3		Pontiac, Mich.		1
Birmingham, Ala.	3		Raleigh, N. C.	1	1
Chicago, Ill.	2		Waco, Tex.	2	
New York, N. Y.	1				

SCARLET FEVER.

See also Summary of cases reported monthly by States, page 1554; and Diphtheria, measles, scarlet fever, and tuberculosis, page 1564.

SMALLPOX.

Minnesota Report for May, 1919—Vaccination Histories.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Minnesota:						
Becker County—						
Detroit	20				19	1
Detroit Township	2				2	
Benton County—						
St. Cloud	1				1	
Blue Earth County—						
Mankato	2				2	
Chippewa County—						
Montevideo	1				1	
Clay County—						
Moorhead	1			1		
Clearwater County—						
Popple Township	1				1	
Dakota County—						
Invergrove Township	1					1
Dodge County—						
Dodge Center	2			2		
Faribault County—						
Blue Earth	4				4	
Fillmore County—						
Holt Township	1			1		
Freeborn County—						
Albert Lea	1				1	
Goodhue County—						
Red Wing	7				7	
Grant County—						
Herman	1				1	
Hennepin County—						
Edina	1				1	
Minneapolis	104		1	9	94	
Minnetonka Township	1			1		
Houston County—						
Spring Grove	1				1	
Hubbard County—						
Park Rapids	1				1	
White Oak Township	1				1	
Kanabec County—						
Peace Township	2				2	
Southfork Township	1				1	
Mower County—						
Austin	3				3	
Nicollet County—						
North Mankato	2				2	
Olmsted County—						
Rochester	1				1	

SMALLPOX—Continued.

Minnesota Report for May, 1919—Vaccination Histories—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Minnesota—Continued.						
Ottertail County—						
Fergus Falls	3				3	
Ramsey County—						
North St. Paul	1				1	
St. Paul	60				60	
Redwood County—						
Paxton Township	1			1		
Rice County—						
Faribault	1		1			
Rock County—						
Luverne	2				2	
St. Louis County						
Duluth	20		3	2	15	
Scott County:						
Shakopee	5				5	
Eagle Creek Township	1				1	
Stearns County—						
St. Cloud	2				2	
Traverse County—						
Dumont	1				1	
Wheaton	8				8	
Clifton Township	1				1	
Wabasha County—						
Lake City	1				1	
Wabasha	7				7	
Washington County—						
Stillwater	3			1	2	
New Scandia Township	2				2	
Wilkin County—						
Bradford Township	1				1	
Winona County—						
Winona	1				1	
Wright County—						
South Haven	1				1	
Total	285		5	18	260	2

State Reports for May, 1919.

Place.	Cases.	Deaths.
Alabama:		
Calhoun County	6	
Jefferson County	14	
Lauderdale County	5	
Limestone County	1	
Marengo County	4	
Marshall County	1	
Mobile County	30	
Monroe County	1	
Montgomery County	2	
Talladega County	9	
Tallapoosa County	6	
Tuscaloosa County	1	
Total	80	
Indiana:		
Allen County	23	
Cass County	56	
Clay County	2	
Dearborn County	3	
Decatur County	1	
Delaware County	8	
Elkhart County	9	
Fayette County	10	

Place.	Cases.	Deaths.
Indiana—Continued.		
Fountain County	2	
Fulton County	1	
Grant County	6	
Hamilton County	4	
Hendricks County	2	
Henry County	2	
Howard County	27	
Huntington County	37	
Jasper County	1	
Jay County	11	
Jennings County	8	
Johnson County	2	
Kosciusko County	2	
Lake County	4	
Laporte County	38	
Lawrence County	3	
Madison County	89	
Marion County	16	
Marshall County	8	
Montgomery County	3	
Morgan County	2	
Ohio County	2	
Parke County	5	
Pike County	1	

SMALLPOX—Continued.

State Reports for May, 1919—Continued.

Place.	Cases.	Deaths.
Indiana—Continued.		
Posey County	1	
Ripley County	5	
Rush County	41	
St. Joseph County	7	
Sullivan County	2	
Tippecanoe County	19	
Tipton County	3	
Union County	1	
Vigo County	25	
Wayne County	1	
Wells County	7	
Total	500	
Maine:		
Aroostook County—		
Van Buren (town)	5	
Cumberland County—		
Brunswick (town)	1	
Kennebec County—		
Winslow (town)	1	
Penobscot County—		
Stacyville	1	
Millinocket (town)	2	
Sagadahoc County—		
Bath	4	
Total	14	

City Reports for Week Ended June 21, 1919.

Place.	Cases.	Deaths.
Aberdeen, S. Dak	1	
Adrian, Mich	2	
Asbury Park, N. J	1	
Atchison, Kans	6	
Atlanta, Ga	6	
Bedford, Ind	1	
Beloit, Wis	1	
Birmingham, Ala	1	
Bluefield, W. Va	1	
Boston, Mass	1	
Camden, N. J	1	
Cape Girardeau, Mo	1	
Cedar Rapids, Iowa	2	
Chanute, Kans	6	
Chester, Pa	1	
Cheyenne, Wyo	1	
Chicago, Ill	1	
Cincinnati, Ohio	1	
Cleveland, Ohio	6	
Colorado Springs, Colo	1	
Columbia, S. C	1	
Columbus, Ga	1	
Covington, Ky	1	
Dallas, Tex	10	
Danville, Ill	1	
Danville, Va	2	
Davenport, Iowa	6	
Denver, Colo	9	
Des Moines, Iowa	4	
Detroit, Mich	13	1
Duluth, Minn	7	
East St. Louis, Ill	1	
El Paso, Tex	2	
Eureka, Calif	1	
Everett, Wash	5	
Fond du Lac, Wis	8	
Fort Wayne, Ind	2	
Fort Worth, Tex	3	
Galesburg, Ill	4	
Great Falls, Mont	3	
Hoquiam, Wash	4	
Hutchinson, Kans	2	
Kansas City, Kans	3	
Kansas City, Mo	3	
Kokomo, Ind	3	
Lexington, Ky	2	
Lincoln, Nebr	14	
Logansport, Ind	2	
Madison, Wis	1	
Mahoney City, Pa	1	
Mason City, Iowa	1	
Memphis, Tenn	1	
Middletown, Ohio	1	
Milwaukee, Wis	11	
Minneapolis, Minn	15	
Muskogee, Okla	1	
New Orleans, La	1	
Newport News, Va	6	
New York, N. Y	1	
Norfolk, Va	2	
Ogden, Utah	10	
Oklahoma City, Okla	8	
Omaha, Nebr	10	
Oshkosh, Wis	7	
Pekin, Ill	2	
Philadelphia, Pa	1	
Portland, Oreg	65	
Portsmouth, Va	1	
Racine, Wis	10	
Rockford, Ill	1	
Rock Island, Ill	4	
Saginaw, Mich	2	
St. Joseph, Mo	5	
St. Paul, Minn	4	
Salt Lake City, Utah	3	
San Diego, Calif	2	
San Francisco, Calif	8	
San Jose, Calif	4	
Seattle, Wash	16	
Sioux City, Iowa	7	
Sioux Falls, S. Dak	1	
Spartanburg, S. C	2	
Spokane, Wash	2	
Steubenville, Ohio	2	
Superior, Wis	3	
Tacoma, Wash	1	
Tiffin, Ohio	2	
Toledo, Ohio	1	
Topeka, Kans	5	
Tulsa, Okla	1	
Walla Walla, Wash	1	
Washington, D. C	1	
Wichita, Kans	19	
Yakima, Wash	12	

TETANUS.

City Reports for Week Ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.		1	Nashville, Tenn.		1
Charleston, S. C.		1	Newark, N. J.	1	
Chicago, Ill.	1	1	New Orleans, La.		1
Columbus, Ohio		1	Toledo, Ohio		1

TUBERCULOSIS.

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1564.

TYPHOID FEVER.

State Reports for May, 1919.

Place.	New cases reported.
Alabama:	
Baldwin County	1
Calhoun County	1
Colbert County	1
Crenshaw County	3
Geneva County	3
Greene County	1
Henry County	2
Houston County	2
Jackson County	1
Jefferson County	12
Lee County	1
Marion County	2
Marshall County	1
Mobile County	3
Montgomery County	1
Morgan County	1
Pickens County	1
Randolph County	1
Sumter County	1
Talladega County	3
Tuscaloosa County	3
Walker County	3
Wilcox County	1
Total	49
Indiana:	
Brown County	1
Clark County	6
Daviess County	2
Delaware County	4
Elkhart County	3
Jackson County	1
Jefferson County	1
Jennings County	1
Johnson County	1
Kosciusko County	2
Lake County	8
La Porte County	4
Lawrence County	1
Marion County	1
Monroe County	2
Noble County	1
Orange County	1
Scott County	2
White County	2
Total	44
Maine:	
Aroostook County—	
Fort Fairfield (town)	1
Maine—Continued.	
Cumberland County—	
Portland	9
Knox County—	
Rockland	1
Piscataquis County—	
Guilford (town)	1
Washington County—	
Milbridge (town)	1
Total	13
Minnesota:	
Beltrami County—	
Bemidji	1
Nymore	1
Cass County—	
Ansel Township	1
Clay County—	
Barnesville	1
Moorhead	1
Crow Wing County—	
Brainerd	1
Hennepin County—	
Minneapolis	1
Minnetonka Township	1
Lincoln County—	
Hendricks	1
Lyon County—	
Stanley Township	1
Olmsted County—	
Quincy Township	1
Ramsey County—	
St. Paul	4
New Brighton	1
Renville County—	
Flora Township	1
St. Louis County—	
Duluth	7
Ely	1
Hibbing	1
Stuntz Township	1
Swift County—	
Appleton	8
Wabasha County—	
Mazeppa	1
Winona County—	
Winona	1
Total	37

TYPHOID FEVER—Continued.

City Reports for Week Ended June 21, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, S. Dak.	2		Minneapolis, Minn.	1	
Adrian, Mich.	1		Mobile, Ala.	1	1
Allentown, Pa.	1		Montgomery, Ala.	3	1
Alliance, Ohio.	1		Morristown, N. J.	4	
Ansonia, Conn.	1		Nashville, Tenn.	1	1
Atlanta, Ga.	2	1	Newark, N. J.	1	
Baltimore, Md.	5	2	Newark, Ohio.	1	
Berkeley, Calif.	1		Newburgh, N. Y.	1	1
Birmingham, Ala.	1		New Haven, Conn.	2	
Brockton, Mass.	1		New Orleans, La.	6	
Brunswick, Ga.	3		New York, N. Y.	14	1
Buffalo, N. Y.	1		Norfolk, Va.	1	
Burlington, Iowa.		2	Oakland, Calif.	3	1
Burlington, Vt.	1		Philadelphia, Pa.	10	4
Charleston, S. C.	2		Pittsburgh, Pa.	1	
Charleston, W. Va.	4	1	Portland, Me.	1	
Charlotte, N. C.	1		Portland, Oreg.	4	1
Chicago, Ill.	2		Portsmouth, Va.	3	
Cleveland, Ohio.	1		Poughkeepsie, N. Y.	1	
Columbia, S. C.	1		Providence, R. I.	2	
Columbus, Ga.	1	1	Pueblo, Colo.	2	
Columbus, Ohio.	1		Reno, Nev.		1
Covington, Ky.	1		Richmond, Va.	2	
Dallas, Tex.	2		Roanoke, Va.	1	
Danbury, Conn.	1		Saginaw, Mich.		1
Danville, Va.	2		St. Cloud, Minn.	1	
Detroit, Mich.	3		St. Louis, Mo.	2	3
Duluth, Minn.	1		St. Paul, Minn.	1	
Durham, N. C.	2		Salt Lake City, Utah.	2	1
Erie, Pa.	1		San Bernardino, Calif.	1	1
Fairmount, W. Va.	2		San Diego, Calif.		1
Fall River, Mass.	2		San Francisco, Calif.	1	
Fort Wayne, Ind.	1		Savannah, Ga.	2	
Fort Worth, Tex.	2		Schenectady, N. Y.	1	
Fostoria, Ohio.	1		Spartanburg, S. C.	1	
Hammond, Ind.	2	1	Springfield, Mass.	1	
Hartford, Conn.	1		Steelton, Pa.	1	
Ironton, Ohio.	3		Toledo, Ohio.	1	
Jamestown, N. Y.	2		Topeka, Kans.	1	
Kankakee, Ill.	1		Trenton, N. J.	1	
Kansas City, Kans.	3		Troy, N. Y.	1	
Kansas City, Mo.	1	1	Tulsa, Okla.	2	
Lackawanna, N. Y.	1		Tuscaloosa, Ala.	1	
Lawrence, Kans.	1		Washington, D. C.	3	
Lawrence, Mass.		1	Washington, Pa.	1	
Little Rock, Ark.	2	1	Waterbury, Conn.	1	
Los Angeles, Calif.	5		West Hoboken, N. J.	1	
Louisville, Ky.	1		Wheeling, W. Va.	3	
Macon, Ga.	1	1	Wilmington, NC.	1	
Marinette, Wiss.	2		Winston-Salem, N. C.	1	
Memphis, Tenn.	2		Yakima, Wash.	1	
Milwaukee, Wis.	3	2	York, Pa.	1	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended June 21, 1919.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Aberdeen, S. Dak	15,926				1		2	1		
Abilene, Tex	14,954						1			
Adams, Mass	14,406	1								
Adrian, Mich	11,570	4			1					
Alameda, Calif	28,433	5					1		1	1
Allentown, Pa	65,109		3		27		1		6	
Alliance, Ohio	19,581	5							2	
Altoona, Pa	59,712		4		1				1	
Anderson, Ind	24,230	6								1
Ann Arbor, Mich	15,041	5			1					
Anniston, Ala	14,326								1	
Ansonia, Conn	16,954	5	1		1					2
Appleton, Wis	18,005	2								
Arlington, Mass	13,073	11								
Asbury Park, N. J	14,629	4	2							
Ashtabula, Ohio	22,008	1	1							
Atchison, Kans	16,785						1			
Atlanta, Ga	196,144	51			5		3		2	3
Atlantic City, N. J	59,515	12			4		1		3	1
Attleboro, Mass	19,776	2								
Bakersfield, Calif	17,543	4					1		3	1
Baltimore, Md	594,637		21	1	12		28	2	25	26
Barre, Vt	12,401	0								
Battle Creek, Mich	30,159	0	1		9					
Bayonne, N. J	72,204		2						5	
Beatrice, Nebr	10,437	5								1
Beaumont, Tex	28,851	19							1	2
Beaver Falls, Pa	13,749				1					
Bedford, Ind	10,613	1								
Beloit, Wis	18,547	1			1				1	
Benton Harbor, Mich	11,099	0			2					
Berkeley, Calif	60,427	6							1	
Berlin, N. H	13,892	2								
Beverly, Mass	22,128	6					1			
Biddeford, Me	17,760	6								
Billings, Mont	15,123		1				1			
Binghamton, N. Y	54,864	17			1		3		3	1
Birmingham, Ala	189,716	67	1		3		2		15	11
Bloomfield, N. J	19,013						2			
Bloomington, Ind	11,661	0								
Bluefield, W. Va	16,123						2			
Boston, Mass	767,813	167	43	3	17		36	1	55	20
Braddock, Pa	22,060		1		2				1	
Bridgeport, Conn	124,724	26	2		15	1	3		3	2
Bristol, Conn	16,318	9			6		5		3	3
Brockton, Mass	69,152	16	7		1		3		2	1
Brookline, Mass	33,526	10			4		2			2
Brunswick, Ga	10,984	0							1	
Buffalo, N. Y	475,781	107	43	3	44	2	8		30	9
Burlington, Iowa	25,144	9								
Burlington, Vt	21,802	4	1				1			
Butler, Pa	28,677								4	
Butte, Mont	44,057						4		1	
Cadillac, Mich	10,158	0	1							
Cairo, Ill	15,995	16			9					1
Cambridge, Mass	114,293	23	1		4		1		4	5
Camden, N. J	108,117		1				2		4	
Canton, Ohio	62,566	22	2		3	1			4	1
Cape Girardeau, Mo	11,146	0								
Carlisle, Pa	10,795				6					
Centralia, Ill	11,838	2			1					
Chambersburg, Pa	12,475				1					
Champaign, Ill	15,052	3								
Chanute, Kans	12,968	3	1		1		1			1
Charleston, S. C	61,041	20			1					3
Charleston, W. Va	31,060	10			2		1			1
Charlotte, N. C	40,759	12								1
Chelsea, Mass	48,405	13							1	1
Chester, Pa	41,857				1		2		7	
Cheyenne, Wyo	[1] 11,320								1	1
Chicago, Ill	2,547,201	560	62	5	641	5	39	4	500	58
Chicopee, Mass	29,950	2								

[1] Population Apr. 15, 1910.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City Reports for Week Ended June 21, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Chillicothe, Ohio	15,625	3								
Cincinnati, Ohio	414,248	95	7	2	37		21		14	11
Cleveland, Ohio	692,259	151	30	1	75		5		48	23
Clinton, Iowa	27,678	0					1			
Clinton, Mass	[1] 13,075	2	1		1		2		1	
Coffeyville, Kans	18,331									1
Cohoes, N. Y	25,292	1	2				1		6	
Colorado Springs, Colo	38,965	13			3		2		14	3
Columbia, S. C	35,165								2	
Columbus, Ga	26,306	17			3					
Columbus, Ohio	220,135	60			19		1		5	6
Concord, N. H	22,858	8					1			2
Connellsville, Pa	15,876				1		1		1	
Corpus Christi, Tex	10,789	0	1							
Council Bluffs, Iowa	31,838	8	1							
Covington, Ky	59,623	18	2				3		2	9
Cumberland, Md	26,686	8					4	1	5	1
Dallas, Tex	120,738	41	1		1		1		5	
Danbury, Conn	22,931	8								
Danvers, Mass	10,037								2	
Danville, Ill	32,969				5					
Davenport, Iowa	49,618		1							
Dayton, Ohio	128,939	24			12				2	
Decatur, Ill	41,483	11	1		1					2
Dedham, Mass	10,618	0	2						1	
Denver, Colo	268,439	50	8	2	32		13			9
Des Moines, Iowa	104,052		2				1			
Detroit, Mich	619,648	175	46	5	107	3	42		30	19
Dover, N. H	13,276	2							1	
Du Bois, Pa	14,994		1				4			
Dubuque, Iowa	40,096		2							2
Duluth, Minn	97,077	18			41				5	2
Durham, N. C	26,160	2							1	
East Chicago, Ind	30,286	3								
East Cleveland, Ohio	13,864						1			
Easton, Pa	30,854		2		2				2	
East Orange, N. J	43,761	10	1							
East Providence, R. I	18,485		1		2					
East St. Louis, Ill	77,312	16			2		2			1
Eau Claire, Wis	18,887		4		6		1		1	
Elgin, Ill	28,362	10			8					2
Elizabeth, N. J	88,830		4		1		8		1	
Elmira, N. Y	33,272	9			2		1		5	
El Paso, Tex	69,149	33					8			9
Englewood, N. J	12,603	1	1							
Erie, Pa	76,592		3				2		3	
Eureka, Calif	15,142	4								
Evanston, Ill	23,304	9			16					
Evansville, Ind	76,981	12	1				1		1	1
Everett, Mass	40,160	7	2		1		1		1	
Everett, Wash	37,205						4			
Fairmount, W. Va	16,111				1		1			
Fall River, Mass	123,823	23	2		21	2	2		7	1
Fargo, N. Dak	17,872				3		1			
Findlay, Ohio	14,858	3			21					2
Flint, Mich	57,386	15			9	1	1			
Fond du Lac, Wis	21,486	1					3			
Fort Dodge, Iowa	21,039	1								1
Fort Scott, Kans	10,564	2								
Fort Wayne, Ind	78,014	18	2		6				2	
Fort Worth, Tex	109,597	17	1		1		1		1	1
Fostoria, Ohio	10,959	4			1					
Framingham, Mass	14,149	4			1					
Fremont, Ohio	11,034	2	1		1					
Fresno, Calif	36,314	10								1
Galesburg, Ill	24,629	7	1		9					
Galveston, Tex	42,650	4								
Geneva, N. Y	13,915	3								
Grand Rapids, Mich	132,861	34	2		17	1	1		4	2
Great Falls, Mont	[1] 13,948	5			1		9		2	

[1] Population April 15, 1910.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City Reports for Week Ended June 21, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Death)	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Green Bay, Wis.	30,017	4	1				2			
Greenfield, Mass.	12,251	4	1		1					
Greensboro, N. C.	20,171	5								
Hackensack, N. J.	17,412	6			2				2	
Hammond, Ind.	27,016				15					
Harrisburg, Pa.	73,276		1		52					
Harrison, N. J.	17,345						1		1	
Hartford, Conn.	112,831	31	2		2		6		2	3
Haverhill, Mass.	49,180	9	2		3				3	1
Hazleton, Pa.	28,981		1		3		1			
Hoboken, N. J.	78,324	10	5	1	1				4	1
Holyoke, Mass.	66,503	10	1				1		1	1
Hudson, N. Y.	12,898	6								1
Indianapolis, Ind.	283,622	69	5	1	33		3		16	10
Iowa City, Iowa.	11,626						1			
Ironton, Ohio.	14,079	5								1
Ironwood, Mich.	15,095	3					1			
Ithaca, N. Y.	16,017	7					3			
Jamestown, N. Y.	37,431		2						1	1
Janesville, Wis.	14,411	4								1
Jersey City, N. J.	312,557		20		10		4		17	
Johnstown, Pa.	70,473		5		33				1	
Joplin, Mo.	33,400	8							1	
Kalamazoo, Mich.	50,408	11	2		23		3		1	
Kankakee, Ill.	14,270				1					
Kansas City, Kans.	102,096		6		5				5	
Kansas City, Mo.	305,816	78	2	2	16		1		1	5
Kearny, N. J.	24,325	3			4		2			
Kenosha, Wis.	32,833	5			28		2			
Knoxville, Tenn.	59,112								2	2
Kokomo, Ind.	21,929	4					1			1
Lackawanna, N. Y.	16,219	3			2				2	
La Fayette, Ind.	21,481	3								
Lancaster, Ohio.	16,086								2	
Lancaster, Pa.	51,437								3	
Lawrence, Kans.	13,477	2			1					
Lawrence, Mass.	102,923	17	1				1		1	2
Leavenworth, Kans.	[1] 19,363		1							
Lexington, Ky.	41,997	18			4					4
Lima, Ohio.	37,145	8			37					
Lincoln, Nebr.	46,957	10	1		1		1	1		
Little Rock, Ark.	58,716	8			1				1	2
Logansport, Ind.	21,338	2			2		3			
Long Beach, Calif.	29,163	11			1				1	2
Lorain, Ohio.	38,266	5	1							
Los Angeles, Calif.	535,485	121	8		6		3		33	20
Louisville, Ky.	240,808	64	5		4		6		5	9
Lowell, Mass.	114,366	24	3		3	1	3		9	2
Ludington, Mich.	10,566	3								
Lynchburg, Va.	33,497	5							3	
Lynn, Mass.	104,534	13	6		21	1	3		3	
McKeesport, Pa.	48,299				12				3	
Macon, Ga.	46,099	17			2					1
Madison, Wis.	31,315	6			5					
Malden, Mass.	52,243	10		1			4		3	1
Manchester, Conn.	15,859	3								
Manchester, N. H.	79,607	12	5						2	
Manitowoc, Wis.	13,931	7			5		2			
Marinette, Wis.	[1] 14,610	3	2							
Marion, Ohio.	24,129				1					
Marlboro, Mass.	15,285	3								
Martinsburg, W. Va.	12,984				1		3			
Martins Ferry, Ohio.	10,135	1	1							
Mason City, Iowa.	14,938	3	1	1						
Meadville, Pa.	13,968				1		1			
Medford, Mass.	26,681	6	1				2		3	
Melrose, Mass.	17,724	6					1			
Memphis, Tenn.	151,877		1				3		8	5
Meriden, Conn.	29,431		1		1		1			1
Methuen, Mass.	14,320	3							1	

[1] Population April 15, 1910.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City Reports for Week Ended June 21, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Middletown, N. Y.	15,890								1	
Middletown, Ohio	16,384	5							1	1
Milford, Mass.	14,280						1		1	
Milwaukee, Wis.	445,008	80	10		2		21		18	8
Minneapolis, Minn.	373,448	80	22	3	52		9	2	21	13
Missoula, Mont.	19,075	4					1			1
Mobile, Ala.	59,201	18								3
Monessen, Pa.	23,070		1				1			
Montclair, N. J.	27,087	0					1		1	
Montgomery, Ala.	44,039	21					1		1	
Morgantown, W. Va.	14,444	2			2					
Morristown, N. J.	13,410	9							1	
Moundsville, W. Va.	11,513	1			1					
Mount Carmel, Pa.	20,709		2		9					
Nanticoke, Pa.	23,811								3	
Nashua, N. H.	27,541	4					3			1
Nashville, Tenn.	118,136	45	1		5		2		3	3
Newark, N. J.	418,789	87	26		15		16		38	16
Newark, Ohio	30,317	3					1			
New Bedford, Mass.	121,622	20	4		5		2		16	6
New Britain, Conn.	55,385	13	1		2		5			1
New Brunswick, N. J.	25,855		3							
Newburgh, N. Y.	29,893	7	4		1				3	2
Newburyport, Mass.	15,291	2								
New Castle, Pa.	41,915		1				4			
New Haven, Conn.	152,275	28	7		4		1		16	4
New London, Conn.	21,199	5	2				1			
New Orleans, La.	377,010	122	4		2		4		23	22
Newport, Ky.	32,133	6					1			
Newport News, Va.	22,622	7			2				1	
Newport, R. I.	30,585	3					3			
Newton, Mass.	44,345	13	2						2	1
New York, N. Y.	5,737,492	1,048	310	24	130	2	61	4	314	143
Niagara Falls, N. Y.	38,466	11	2		8				6	1
Norfolk, Va.	91,148				1		2			
Norristown, Pa.	31,969				14		1		1	
North Adams, Mass.	[1] 22,019	6							1	
Northampton, Mass.	20,006	4			1					
North Tonowanda, N. Y.	14,060	4			4					
Norwalk, Conn.	27,332								1	
Norwich, Conn.	21,923								1	
Norwood, Ohio	23,269	2			4					
Oakland, Calif.	206,405	43	4				8		2	3
Oak Park, Ill.	27,816	7	1		16					
Ogden, Utah	32,343	8	2							
Oil City, Pa.	20,162				16					
Oklahoma City, Okla.	97,588	16	2				4			
Olean, N. Y.	16,927	6								1
Omaha, Nebr.	177,777	19			8		4			1
Orange, N. J.	33,636	12	2		1		1		2	1
Oshkosh, Wis.	36,549	15								3
Parkersburg, W. Va.	21,059	3					5		1	
Parsons, Kans.	15,952	1							1	1
Pasadena, Calif.	49,620	11			1		1			1
Passaic, N. J.	74,478	13	3		1					2
Paterson, N. J.	140,512		5				2		12	
Peekskill, N. Y.	19,034	1								
Pekin, Ill.	10,973						1			
Perth Amboy, N. J.	42,646	9			2		1		1	2
Philadelphia, Pa.	1,735,514	370	69	2	153	1	40	3	116	50
Phillipsburg, N. J.	15,879	1								
Phoenixville, Pa.	11,871		1		2					
Pine Bluff, Ark.	17,777						1			
Piqua, Ohio	14,275	3								
Pittsburgh, Pa.	586,196		18		38		4		24	
Pittsfield, Mass.	39,678	5								1
Plainfield, N. J.	24,330	8							1	1
Plattsburg, N. Y.	13,111	4			1					1
Plymouth, Mass.	14,001	3								
Pomona, Calif.	13,624	1								

[1] Population Apr. 15, 1910.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City Reports for Week Ended June 21, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pontiac, Mich.	18,006	12	4		4				1	
Port Chester, N. Y.	16,727	1					1		1	
Portland, Me.	64,720	14					6			
Portland, Oreg.	303,399	65	2		6		3	1	13	9
Portsmouth, Va.	40,693	18	2		1		1		1	1
Pottstown, Pa.	16,937				3					
Pottsville, Pa.	22,717				2					
Poughkeepsie, N. Y.	30,786	6	2				3			
Providence, R. I.	259,895	46	4				8			2
Pueblo, Colo.	56,034	0					4			
Quincy, Mass.	39,022	7	2		1		2		1	
Racine, Wis.	47,465	17	1				2			2
Rahway, N. J.	10,361	1								
Raleigh, N. C.	20,274	8							1	1
Reading, Pa.	111,607		5		5		1		6	
Redlands, Calif.	14,573	4					1			
Reno, Nev.	15,514	6								
Richmond, Va.	153,702	45	3		10				4	5
Riverside, Calif.	20,496	7	1	1					1	1
Roanoke, Va.	46,232	9			18					
Rochester, N. Y.	264,714	58	15	1	10		6	1	10	5
Rockford, Ill.	56,739	11	1							3
Rock Island, Ill.	29,452	5								
Rocky Mount, N. C.	12,673	2	1							1
Rome, N. Y.	24,259		3		12		1		6	
Rutland, Vt.	15,038	3								1
Sacramento, Calif.	68,934	16	2		1					2
Saginaw, Mich.	56,469	12			3					2
St. Cloud, Minn.	12,013				2				2	
St. Joseph, Mo.	86,498	21	1						3	1
St. Louis, Mo.	763,630	170	52	1	124	5	10	1	28	6
St. Paul, Minn.	252,465	48	21		39		2		10	6
Salem, Mass.	49,346	8	1				1		1	
Salem, Oreg.	21,274	7					3			
Salt Lake City, Utah	121,623	26			7		2			1
San Bernardino, Calif.	17,616	9								1
San Diego, Calif.	56,412	17					1		13	
Sandusky, Ohio	20,226	6			9					
San Francisco, Calif.	471,023	130	10	1	1		7		23	22
San Jose, Calif.	39,810						1		4	
Santa Barbara, Calif.	15,360	10	2							1
Santa Cruz, Calif.	15,150	8								
Saratoga Springs, N. Y.	13,839	5					1		6	1
Saugus, Mass.	10,210	1			5		1			
Sault Ste. Marie, Mich.	14,130	3								
Savannah, Ga.	69,250	26	1				1		5	5
Schenectady, N. Y.	103,774	9			2		5		3	
Scranton, Pa.	149,541		4				3		9	
Seattle, Wash.	366,445		8		7		14			
Shamokin, Pa.	21,274				14					
Sioux Falls, S. Dak.	16,887	4			6		1			
Somerville, Mass.	83,618	13			1		3		6	2
South Bend, Ind.	70,967	10			2		2		1	
Spartanburg, S. C.	21,985	7	2						1	1
Spokane, Wash.	157,655				13		18			
Springfield, Ill.	62,623	19								3
Springfield, Mass.	103,668	21	4				5		9	2
Springfield, Mo.	41,169	14								
Springfield, Ohio	52,296	15			4				4	2
Steubenville, Ohio	28,259	3							1	
Stockton, Calif.	36,209	9								
Sunbury, Pa.	16,661				4					
Superior, Wis.	47,167	9	1		4		1			
Syracuse, N. Y.	153,559	39	1		1	1	7		3	2
Tacoma, Wash.	117,446		1		2		2			
Taunton, Mass.	36,610	13			1		2			1
Tiffin, Ohio	12,962	7								
Toledo, Ohio	202,010	59	5	1	155		28		5	6
Topeka, Kans.	49,538	21	2						2	1
Trenton, N. J.	113,974	25	2		35				2	2

[1] Population Apr. 15, 1910.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended June 21, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Troy, N. Y.	78,094	18	1						3	1
Tulsa, Okla.	32,507								5	
Tuscaloosa, Ala.	10,824	33							2	
Vancouver, Wash.	13,805				1					
Waco, Tex.	34,015	16							1	4
Wakefield, Mass.	12,947	4								
Waltham, Mass.	31,011	6					2		1	1
Washington, D. C.	369,282		9	1	2		17		29	13
Washington, Pa.	22,076		1							
Waterbury, Conn.	89,201		2		7				2	
Watertown, Mass.	15,188	0								2
Wausau, Wis.	19,666	12			1				1	1
West Chester, Pa.	13,403		4		1		3		1	
Westfield, Mass.	18,769	3					1			
West Hoboken, N. J.	44,386	4	3				1		1	
West New York, N. J.	19,613	2					1			
West Orange, N. J.	13,964	4								1
Wheeling, W. Va.	43,657	10					1		1	
Wichita, Kans.	73,597	18			1				2	1
Wilkes-Barre, Pa.	78,334		2		8		1		2	
Wilkinsburg, Pa.	23,899		1							
Williamsport, Pa.	34,123				6		3			
Wilmington, Del.	95,369	23	2		1					2
Wilmington, N. C.	30,400	9	1				1		1	2
Winchester, Mass.	10,812	3	1							
Winona, Minn.	[1] 18,583				5					
Winston-Salem, N. C.	33,136	20			3		1		3	2
Winthrop, Mass.	13,105								1	
Woburn, Mass.	16,076	4								
Worcester, Mass.	166,106	39	6		11	1	5		4	4
Yakima, Wash.	22,058						3			
Yonkers, N. Y.	103,066	13	3		3		5			4
York, Pa.	52,770		1		3				1	
Zanesville, Ohio	31,320	7							4	1

[1] Population Apr. 15, 1910.

FOREIGN.

AUSTRALIA.

Influenza.

Influenza has been reported in Australia as follows:

Brisbane (population in 1912, 143,000), State of Queensland, week ended May 10, 1919, 520 cases; week ended May 17, 1,299 cases; week ended May 24, 1,836 cases.

Newcastle (population in 1912, 66,500), State of New South Wales, week ended March 15, influenza present in pneumonic form with 27 cases, and during the weeks ended March 22 and 29, with 15 and 9 cases, respectively. From March 30 to April 26, 144 cases of pneumonic influenza were reported and from April 27 to May 31, 266 cases.

State of South Australia (population, estimated, 435,640). During the week ended February 1, 1919, 60 cases of influenza were reported and during the week ended February 15, 2 cases. On March 1 the State was said to be free from influenza. During the week ended April 19, 117 cases were reported; two cases of pneumonic influenza were reported, and 6 cases which were stated to be influenza vera; from April 20 to 25, 340 cases were reported; two cases of pneumonic influenza and 8 cases of influenza vera were reported; during the week ended May 3, 589 cases were reported; 10 cases of pneumonic influenza were reported and 22 of influenza vera; week ended May 10, 477 cases and 19 cases of influenza vera; week ended May 17, 465 cases, 28 cases of pneumonic influenza; week ended May 24, 408 cases; 39 cases of pneumonic influenza were reported and 14 cases of influenza vera. During the two weeks ended May 17, 37 fatalities from pneumonic influenza were reported.

State of Victoria (population, quarter ended Dec. 31, 1917, estimated, 1,411,000), week ended February 23, 1919, 731 cases of influenza were reported, and from February 24 to March 23, 3,748 cases. The number of fatalities reported during the period first named was 99, and during the second period, 226.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	May 21-31, 1919.		Remaining under treatment May 31, 1919.	Disease.	May 21-31, 1919.		Remaining under treatment May 31, 1919.
	New cases.	Deaths.			New cases.	Deaths.	
Broncho-pneumonia	.....	1	1	Paratyphoid fever	.....	.....	2
Diphtheria	4	3	4	Scarlet fever	.....	.....	1
Leprosy	.....	.....	17	Typhoid fever	26	5	[2] 67
Malaria	10	.....	[1] 16				

[1] From the interior, 13. [2] From the interior, 20.

ITALY.

Typhus Fever.

Typhus fever has been reported in Italy, occurring chiefly among Austrian prisoners of war. During the week ended May 11, 1919, 858 cases were reported, of which 830 occurred among prisoners of war, 9 among Italian soldiers, and 19 among the civil population. During the week ended May 18, 1919, 1,043 cases were reported, 991 among prisoners of war, 31 among Italian soldiers, 5 among Russian prisoners, and 16 in the civil population.

During the first week under report the cases were distributed in 18 provinces with the greatest prevalence in the province of Caserta, viz, 706 cases occurring among Austrian prisoners of war. During the week ended May 18, 1919, the distribution was in 22 provinces, with the greatest prevalence in the province of Bari with 475 cases occurring among prisoners of war.

NEWFOUNDLAND.

Typhus Fever—St. Johns.

During the week ended June 27, 1919, a case of typhus fever from a vessel was reported at St. Johns, Newfoundland.

SWEDEN.

Influenza—Göteborg—Malmo—Stockholm.

Influenza has been reported in Sweden during the current year as follows: *Göteborg*, four weeks ended January 25, 1919, 1,438 cases; four weeks ended February 22, 717 cases; five weeks ended March 29, 1,567 cases; four weeks ended April 26, 1,844 cases. (Population, estimated, 197,700.) *Malmo*, during the corresponding weekly periods, 585 cases, 252 cases, 584 cases, 1,265 cases. (Population, esti-

mated, 111,000.) *Stockholm*, during three weeks ended January 25, 111 cases; during two weeks ended February 8, 58 cases; during period from February 23 to March 22, 338 cases; during the period from March 30 to April 26, 1,110 cases; and from April 27 to May 10, 92 cases. (Population, estimated, 413,163.)

UNION OF SOUTH AFRICA.

Influenza—October-December, 1918—Port Elizabeth.

According to a statement of the municipal health officer, the period of epidemic prevalence of influenza at Port Elizabeth, Union of South Africa, was from October 5 to December 14, 1918. The period of climax was from October 16 to 26, the prevalence being general. The approximate date of cessation of the epidemic was December 5, 1918. The total number of cases reported was approximately 18,434; Europeans, 8,506; natives and coloreds, 9,298; Asiatics, 630. The total number of deaths reported was approximately 1,123; Europeans, 315, natives and coloreds, 741; Asiatics, 67. The first-known cases were introduced by railway from Cookhouse and Cape Town, South Africa. As regards age and race of those affected the rates were as follows: European, 40 per cent; natives and coloreds, 70; Chinese, 70; Hindus, 90. The age of fatal cases was between 18 and 40 years. The types of the disease were simple febrile attacks lasting four days; pneumonic type; abdominal type. The localities most affected were the poorer quarters of the town. To December 14, 1918, a few cases continued to occur.

Influenza, May, 1919—Cape Town.

During the week ended May 2, 1919, 23 cases of influenza with 14 fatalities were notified at Cape Town, Union of South Africa. Of these, 6 cases were introduced from overseas. The greater number of cases occurred among natives.

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

Reports Received During Week Ended July 11, 1919.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	May 4-10	5	3	
Calcutta	May 4-17	.....	256	
Madras	May 18-24	10	8	
Rangoon	May 4-10	8	8	
Indo-China:				
Cochin-China—				
Saigon	May 5-18	54	41	
Java:				
East Java	.....	.....	.....	Apr. 2-22, 1919: Cases, 301; deaths, 264.
West Java	.....	.....	.....	May 2-8, 1919: Cases, 18; deaths, 3.
Batavia	May 2-8	4	2	
Siam:				
Bangkok	Apr. 27-May 3	.....	179	

PLAGUE.

Egypt	.....	.....	.....	Jan. 1-May 22, 1919: Cases, 387; deaths, 221.
Cities—				
Cairo	May 15	.....	1	
Provinces—				
Assiout	May 17-19	5	1	
Beni-Souef	May 19	1	1	
Fayoum	May 18-19	1	1	
Girgeh	May 15	3	2	
Minieh	May 15-21	13	3	1 septicemic.
India	.....	.....	.....	Apr. 27-May 3, 1919: Cases, 3,719; deaths, 3,126.
Bombay	May 4-10	78	59	
Calcutta	May 4-17	.....	39	
Karachi	....do	92	71	
Madras Presidency	May 18-24	2	3	
Rangoon	May 4-10	8	9	
Indo-China:				
Cochin-China—				
Saigon	May 5-18	6	5	
Java:				
East Java	.....	.....	.....	Apr. 8-22, 1919: Cases, 52; deaths, 52.
Mesopotamia:				
Bagdad	May 3-9	62	45	
Siam:				
Bangkok	Apr. 27-May 3	1	1	

SMALLPOX.

Brazil:				
Bahia	Apr. 20-May 3	2	.....	
Canada:				
Nova Scotia—				
Halifax	June 15-21	36	.....	
Ontario—				
Peterborough	....do	3	.....	
Quebec—				
Montreal	....do	3	.....	
Czechoslovakia:				
Prague	May 18-24	2	.....	
Egypt:				
Alexandria	May 21-27	38	13	
Finland	.....	.....	.....	Apr. 16-30, 1919: Cases, 121.
Provinces—				
Abo Och Björneborg	Apr. 16-30	1	.....	
Kuopio	....do	11	.....	
Nyland	....do	1	.....	
St. Michael	....do	18	.....	
Tavastehus	....do	8	.....	
Vasa	....do	2	.....	
Viborg	....do	80	.....	
France:				
Paris	May 11-17	7	2	

[1] From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received During Week Ended July 11, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	May 4–10	60	41	
Calcutta	May 4–17		173	
Karachi	do	11	6	
Madras	May 18–24	23	11	
Rangoon	May 4–10	38	14	
Indo-China:				
Cochin-China—				
Saigon	May 5–18	3	2	
Italy:				
Naples	May 26–June 1	24	20	
Palermo	May 2–8	3		
Japan:				
Kobe	May 18–31	24	6	
Java:				
East Java				Apr. 9–15, 1919: Cases, 1.
West Java				May 2–8, 1919: Cases, 61; deaths, 9.
Manchuria:				
Dairen	May 27–June 2	1	1	
Mexico:				
Piedras Negras	June 22–28	2	2	
Spain:				
Bilbao	May 1–10		1	

TYPHUS FEVER.

Czechoslovakia:				
Prague	May 18–24	1		
Egypt:				
Alexandria	May 21–27	141	48	
Finland				Apr. 16–30, 1919: Cases, 12.
Provinces:				
Nyland	Apr. 16–30	2		
St. Michael	do	7		
Viborg	do	3		
Italy				May 4–11, 1919: Cases, 858, in 18 provinces. Prisoners of war, 830; Italian soldiers, 9; civil population, 19. May 12–18, 1919: Cases, 1,043, in 22 provinces. Prisoners of war, 996; Italian soldiers, 31; civil population, 16.
Naples	May 12–June 1	24	5	
Venice	Apr. 27–May 18	40	4	
Mesopotamia:				
Bagdad	May 3–9	4	2	
Newfoundland:				
St. Johns	June 21–27	1		From vessel.

YELLOW FEVER.

Brazil:				
Bahia	Apr. 20–May 11	17	9	

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

Reports Received from June 28 to July 4, 1919.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo	Apr. 20–26	10		
India:				
Bombay	Apr. 28–May 3	7	8	
Rangoon	do	29	23	
Indo-China:				
Cochin-China—				
Saigon	Apr. 21–May 4	57	42	City and district.
Philippine Islands:				
Manila	May 4–10	2		
Provinces				May 4–10, 1919: Cases, 122; deaths, 80.
Batangas	May 4–10	12	9	
Bulacan	do	4	2	
Cebu	do	31	13	
Laguna	do	8	7	
Pampanga	do	67	49	
Manila	May 11–17	1	1	
Provinces				May 11–17, 1919: Cases, 108; deaths, 129.
Batangas	May 11–17	8	9	
Bulacan	do	15	5	
Cebu	do	41	15	
Laguna	do	4	2	
Mindoro	do	19	14	
Pampanga	do	47	39	
Tayabas	do	64	45	
Siam:				
Bangkok	Apr. 20–26	121	363	

PLAGUE.

China:				
Hongkong	June 15–28	42	33	
India				Apr. 27–May 3, 1919: Cases, 1,804; deaths, 1,454.
Bombay	Apr. 28–May 3	90	74	
Rangoon	do	21	21	
Indo-China:				
Cochin-China—				
Saigon	Apr. 21–May 3	12	9	City and district.
Mesopotamia:				
Bagdad	Apr. 19–May 2	144	105	

SMALLPOX.

Arabia:				
Aden	May 13–19		1	
Canada:				
Nova Scotia—				
Sydney	June 8–21	3		
Ontario—				
Province				May 1–31, 1919: Cases, 98; deaths, 2.
Harwich	May 1–31	14	2	Township in Kent County.
Ottawa	June 15–21	2		
Walpole Island	May 1–31	42		Kent County. Island in Lake St. Clair. Among Indians.
Ceylon:				
Colombo	May 1–10	1		
China:				
Amoy	Apr. 30–May 19		7	
Chungking	May 4–10			Present.
Hongkong	May 11–12	1		
Chosen (Korea):				
Chemulpo	Apr. 1–30	9	1	
Fusan	do	144	24	
Seoul	do	1	1	

[1] From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 28, 1918, to June 27, 1919, see Public Health Reports for June 27, 1919. The tables of epidemic diseases are terminated semiannually and new tables begun.

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

Reports Received from June 28 to July 4, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria	May 14-20	23	9	
India:				
Bombay	Apr. 28-May 3	65	45	
Rangoon	do	35	16	
Indo-China:				
Cochin-China—				
Saigon	Apr. 21-May 3	8	2	City and district.
Italy:				
Milan	Apr. 1-30	12	2	
Japan:				
Kobe	May 4-10	24	11	
Manchuria:				
Dairen	May 13-26	2	1	
Mexico:				
Mexico City	May 4-31	10	.....	
Newfoundland:				
St. Johns	June 13-19	2	.....	Outports, 9 cases.
Philippine Islands:				
Manila	May 11-17	1	.....	
Spain:				
Barcelona	May 15-21	.....	3	
Cadiz	Apr. 1-30	.....	4	
Valencia	May 11-17	74	3	
Straits Settlements:				
Singapore	Mar. 24-29	1	1	

TYPHUS FEVER.

Canada:				
Ontario—				
Ottawa	June 15-21	3	.....	
China:				
Changsha	May 11-17	1	1	
Chosen (Korea):				
Chemulpo	Apr. 1-30	2	.....	
Seoul	do	22	6	
Egypt:				
Alexandria	May 14-20	120	25	
Mesopotamia:				
Bagdad	Apr. 19-May 2	8	3	
Mexico:				
Mexico City	May 4-31	86	.....	
Palestine:				
Jaffa	.....	.....	.....	Oct. 22-Dec. 22, 1918: Cases, 8; deaths, 3.
Spain:				
Barcelona	May 15-21	.....	1	
Tunis:				
Tunis	May 24-30	2	1	

YELLOW FEVER.

Brazil:				
Bahia	Apr. 12-19	1	3	
Ecuador:				
Guayaquil	May 1-31	1	1	
Naranjito	do	1	.....	
Mexico:				
Merida	June 30-July 1	5	2	State of Yucatan.
Salvador:				
St. Miguel	June 24	2	.....	75 miles from city of San Salvador.
San Salvador	do	1	1	

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