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CURRENT PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES[1]

July 17–August 13, 1932

The prevalence of certain important communicable diseases, as indicated by weekly telegraphic reports from State health departments to the United States Public Health Service, is summarized in this report. The underlying statistical data are published weekly in the Public Health Reports, under the section entitled "Prevalence of Disease."

Poliomyelitis.—During the current 4-week period the number of reported cases of poliomyelitis (395) was more than twice the number reported for the preceding 4-week period—about the usual seasonal increase. The States along the Atlantic coast and the North Central groups seemed to be mostly responsible for the increased incidence. In New York the cases rose from 23 to 39, in Pennsylvania from 8 to 112; in Illinois from 12 to 32, in Michigan from 3 to 15, in Iowa from 1 to 8, and in Minnesota from 8 to 17.

The total number of cases was slightly below the average for a period of years preceding the year 1930, was about 13 per cent of the number of cases reported for the same period in 1931, and was less than half the number reported in 1930—both epidemic years.

The most appreciable increases this year have been reported from the same regions in which the disease first appeared in epidemic-like form last year at this season. The far West and Mississippi Valley areas have reported no unusual rise. In 1930 those regions were the first to report a more than normal increase in the number of cases at this season of the year.

Meningococcus meningitis.—A slight increase over the preceding 4-week period in the incidence of meningococcus meningitis was reported for the country as a whole during the four weeks ended August 13. Out of 157 cases reported, New York reported 10, Pennsylvania 23, Indiana 23, Illinois 13, Kentucky 8, California 7, and Wisconsin and Missouri 5 each. The remaining cases were widely scattered over the

[1] From the Office of Statistical Investigations, U. S. Public Health Service. The numbers of States included for the various diseases are as follows: Typhoid fever, 47; poliomyelitis, 48; meningococcus meningitis, 48; smallpox, 48; measles, 45; diphtheria, 47; scarlet fever, 47; influenza, 39 States and New York City. The District of Columbia is counted as a State in these reports.

various geographic areas. As compared with previous years, the incidence maintained the same low level through the current period that has characterized it throughout the present year. Each geographic area, except the South Atlantic, reported the smallest number of cases for this period in four years.

Typhoid fever.—For typhoid fever the number of cases increased from 2,814 for the preceding four weeks to 4,852 for the current period. In relation to previous years the current incidence was the highest in four years for this period. The numbers of cases reported for the corresponding four weeks in 1931, 1930, and 1929 were 3,620, 3,510, and 3,198, respectively. Each geographic area except the Mountain and Pacific contributed to the increase. More than twice the number of cases were reported from the East North Central group of States than occurred at this time last year. In other groups the increases ranged from 17 to 35 per cent. The Mountain and Pacific group reported a 16 per cent decrease. For only one 4-week period during 1932 have there been fewer cases reported for the country as a whole than were reported for a corresponding period last year.

Scarlet fever.—The number of reported cases of scarlet fever for the 4-week period under report was 3,983, as against 3,362, 2,962, and 4,118 for the corresponding period in 1931, 1930, and 1929, respectively. With one exception, the South Central, all geographic regions reported an increase as compared with last year. In the New England and Middle Atlantic States, where the disease has been unusually prevalent, the number of cases for the current period was less than 50 per cent of the number for the preceding 4-week period, but it was still the highest for that group for this period in 4 years. In other areas the incidence was considerably above that of 1931 and 1930, but not as high as in 1929. The South Central States reported approximately the same number of cases as was reported for the same period last year.

Measles.—The incidence of measles dropped more than 70 per cent during the current 4-week period as compared with the preceding four weeks. The decline was a little slower than during the same period in preceding years. The number of cases (7,626) was about 20 per cent in excess of last year's figure and was slightly above the incidence in 1930 and 1929 for the corresponding period. Of the six geographic areas reporting, only two, the South Central and Mountain and Pacific, reported fewer cases than were reported last year. In both of those regions the incidence was the lowest for this period in four years. In the other areas the increases ranged from 4 per cent in the West North Central to 88 per cent in the South Atlantic.

Influenza.—While reports indicate that influenza was slightly more prevalent during the current period than it was at this time in the three preceding years, the tendency was toward the usual summer

low level. For the four weeks ended August 13 the number of cases totaled 1,160, which was 1.4 times the number reported for this period in 1931 and 1929 and 2.2 times the number in 1930. No group of States reported an exceptionally large number of cases, but the South Atlantic reported 519 for the current period as against 278 last year and the Mountain and Pacific group reported 261 as against 83 last year.

Diphtheria.—Diphtheria was slightly more prevalent during the current period than it was during the same period last year, but it was considerably below the average for preceding years. A comparison of geographic areas shows that the incidence was the highest in four years in the South Central and far-western groups of States, while in the New England and Middle Atlantic and East North Central groups the incidence was the lowest in four years. For the country as a whole 2,170 cases were reported.

Smallpox.—The smallpox incidence (307 cases) for the current period was less than 50 per cent of last year's incidence for the same period and only 22 per cent of the incidence for this period in each of the years 1930 and 1929. No further cases were reported from Vermont or Connecticut, but New York reported 18 cases, as compared with 15 for the preceding period. Each geographic area reported fewer cases than during the same period last year, and in each one, except the New England and Middle Atlantic, the incidence was the lowest in four years.

Mortality, all causes.—The mortality rate from all causes in a group of large cities as reported by the Bureau of the Census averaged 9.7 per 1,000 inhabitants (annual basis) for the 4-week period ended August 13. For the same period last year the average rate was 10.3 and in 1930 the rate was 11. The average rate for this same period for the six preceding years was 10.7.

THE INCIDENCE AND TIME DISTRIBUTION OF COMMON COLDS IN SEVERAL GROUPS KEPT UNDER CONTINUOUS OBSERVATION [1]

By W. H. Frost, *Consultant*, and Mary Gover, *Associate Statistician, United States Public Health Service*

INTRODUCTION

In the autumn of 1923 the United States Public Health Service undertook a systematic inquiry into the prevalence, crude symptomatology, and certain broad epidemiological features of so-called common colds, or, more precisely, of the whole group of minor respiratory

[1] From the Office of Statistical Investigations, U. S. Public Health Service, in cooperation with the Department of Epidemiology of the Johns Hopkins University School of Hygiene and Public Health.

affections which includes common colds. Since there appeared to be no practicable method of obtaining the desired information except by direct reports from intelligent and interested observers, Surg. J. G. Townsend, who was in charge of the study, enlisted for this purpose two large groups of volunteers, namely, (1) students at a number of universities and colleges, together with a relatively small number of employees in certain offices of the Government in Washington; and (2) medical officers of the Army, Navy, and Public Health Service and members of university faculties.

The members of both groups reported by mail directly to the Public Health Service at regular semimonthly intervals, using simple forms provided for the purpose. The students reported only for themselves individually, while each medical officer and faculty member reported for his entire household. Further details concerning the scope and methods of the inquiry, including descriptions of the record forms used, are given in a previous publication (Townsend, 1924).

The student groups, organized in different localities at various dates, mostly in September, October, and November, 1923, continued to report until June 15, 1925, a period of something more than 18 months. During this time the number of reporters varied from a maximum of 7,050 in the early months of the investigation to 3,194 at the close. The family group, built up gradually during the first six months to about 3,700, numbered approximately 3,000 when the investigation was discontinued. The reports from this group, begun in September, 1923, simultaneously with the earliest reports from students, continued a year longer than the latter, that is, to June 15, 1926, thus affording a continuous record for more than two and one-half years.

Two progress reports on the study of these two groups have been issued. The first of these (Townsend, 1924) describes the procedure followed in collecting the data and presents a brief summary of incidence rates, by semimonthly periods, in the students reporting from seven different localities; it also includes a provisional tabulation of symptom frequencies in each diagnostic class. The second report (Townsend and Sydenstricker, 1927) presents a statistical description of the cases reported in families with respect to the symptoms recorded under various diagnostic classifications, the incidence of cases in relation to sex and age, and seasonal distributions during the calendar year 1924.

The present report deals with gross incidence and seasonal distribution of the cases reported by the student and family groups throughout the full periods of observation.

GROSS INCIDENCE RATES IN STUDENT AND FAMILY GROUPS

Considering only those groups of sufficient size which reported continuously (as groups, not as individuals) throughout the designated periods, the recorded incidence of colds and other minor respiratory disorders in three successive 26-week periods was as shown in Table 1.

TABLE 1.—*Incidence of respiratory diseases* [1] *in successive 26-week periods in student and family groups*

CASE RATES [2] PER 1,000 PERSONS OBSERVED

City	Mean number of persons in each group	26-week period			52-week period, June 1, 1924, to May 30, 1925
		Dec. 2, 1923, to Mar. 31, 1924	June 1, 1924, to Nov. 29, 1924	Nov. 30, 1924, to May 30, 1925	
Boston (Harvard University)	668	1,905	1,429	1,731	3,160
South Hadley (Mount Holyoke College)	617	----------	1,563	1,773	3,336
Baltimore (Johns Hopkins University)	485	2,014	1,399	1,545	2,944
Washington (Georgetown University) [3]	485	1,735	1,174	1,191	2,365
New Orleans (Tulane University)	393	1,652	1,383	1,357	2,740
Chicago (University of Chicago)	575	2,081	1,321	1,649	2,970
Columbus (Ohio State University)	1,208	1,804	1,213	1,446	2,659
Salt Lake City (University of Utah)	227	----------	1,752	1,479	3,231
Tucson (University of Arizona)	106	----------	1,378	1,508	2,886
Berkeley (University of California)	1,746	1,491	1,661	1,518	3,179
Mean [4] for students	----------	1,812	1,427	1,520	2,947
Families [5]	3,194	1,143	774	953	1,727

[1] All respiratory affections exclusive of hay fever.
[2] Rates are sums of actual rates for the weeks included in the respective 26 and 52 week periods.
[3] Also includes a group of Government employees.
[4] Arithmetic mean of rates, giving the same weight to each group, irrespective of its size.
[5] Case rates for the second year for which the families were observed were in 26-week periods: May 31, 1925–Nov. 28, 1925, 607 per 1,000 persons; Nov. 29, 1925–May 29, 1926, 867 per 1,000 persons.

One of the most striking of the facts presented in this table is that, in each period, incidence was materially less among families than among the students. This difference is not satisfactorily accounted for by the special age distribution of the students, for Townsend and Sydenstricker (1927) have shown that, in these families, in 1924, the incidence at ages 15 to 34 was approximately the same as for all ages; nor does any difference in geographic distribution seem to be a sufficient explanation. A more probable assumption is that the higher incidence in students is due, at least in part, to the fact that their reports refer, in each instance, to the personal experience of the reporter, while the family records, except for the head of the household who made the report, refer to attacks suffered by persons other than the reporters, and, therefore, are perhaps less likely to include trivial attacks. However, the possibility is not excluded that conditions of student life, as aggregation for example, may be wholly or in part responsible for this high attack ratio.

Comparing the 10 student groups included in Table 1, the attack rates in each 26-week period are seen to be remarkably uniform, there being only two instances (Salt Lake City group, June 1 to November

29, 1924, and Washington group, November 30, 1924, to May 30, 1925) in which the attack rate in any group deviates by as much as 20 per cent from the mean rate for all groups in the same period. Considering the wide geographic dispersion of the localities represented, and their corresponding differences in climate, this uniformity of attack rate is one of the most interesting and significant facts brought out by these records, indicating that, in the prevalence of this group of disorders, climate is a factor of much less importance than would be supposed. Compared with this general fact of relatively uniform attack rates, the variations of incidence as between different localities are of much less clear significance, but are not altogether devoid of interest.

For the 52-week period June 1, 1924, to May 30, 1925, the highest attack rate is found in the South Hadley group and the lowest in the Washington group. Both of these groups are exceptional in their composition, that at South Hadley consisting entirely of female students, while the Washington group is made up chiefly of employees of Government offices, predominantly women, but of higher average age than university students. The higher incidence in the South Hadley group than in the students in other localities is consistent with the observation by Townsend and Sydenstricker (1927, their Table 11), that in the families reporting during 1924, the attack rate, in the age group 15–24 was slightly higher in females than in males. The lower attack rate in the Washington group is not accounted for by their higher age, according to the experience of Townsend and Sydenstricker. It may be, however, that it is related to conditions of life materially different from those of college students.

Among the remaining groups of students the highest attack rates for the year June, 1924–May, 1925, are at Salt Lake City, Berkeley, and Boston, and the lowest at Columbus and New Orleans, a geographic distribution which suggests no consistent relation of incidence to latitude or longitude. Moreover, the array of groups in order of attack rates is not closely similar in any two of the three 26-week periods which are recorded. Some suggestion of a consistent relationship to latitude is found in the fact that for both winter periods the attack rates in Boston and Chicago are higher than in the southernmost localities, New Orleans and Berkeley; but doubt is cast upon the significance of this fact when it is noted that similar differences in attack rates are observed between Chicago and Columbus, or between Baltimore and Washington, where the differences in latitude are small. On the whole, there is surprisingly little evidence of consistent differences between the several localities with respect to incidence rates.

Among the families for which the data cover two and a half years, the tendency is toward a declining rate for the same 6-month periods

of successive years. This is quite generally true for the student material also, Berkeley being the only exception. Possibly, however, this tendency is brought about by a slackening of interest in reporting the incidence of "colds," rather than by really lower attack rates in successive years.

Data for comparison with respect to attack rates in the student groups may be found in such studies as that reported by Howe (1924), who undertook a census of "colds" occurring during the major part of a college term in a group of students at Wellesley College. He reports 849 "colds" in a class of 367 persons during the period from October, 1919, to April, 1920. Reckoning the period as about 30 weeks, this corresponds to an average weekly rate of 77 per 1,000. This is somewhat higher than the mean weekly incidence rates of 69 and 59, observed in our student group during the winter periods of 1923–24 and 1924–25, respectively; but the differences are not very great, and it is to be noted that Howe's observations extend through the rather severe influenza epidemic of 1920. There are, moreover, a considerable number of other observations which indicate that annual attack rates ranging from 2,000 to 3,000 per 1,000 persons are not unusual in college and school populations.

For comparison with the records of our family group, data are available from a report by van Loghem (1928). His data, obtained by questionnaires sent weekly to more than 1,500 families in various localities in Holland, cover a period of 37 weeks, from September 14, 1925, to June 5, 1926. The attack rate for this period was 4,280 per 1,000, as compared with a rate of 1,260 per 1,000 in our families for precisely the same period. It is quite possible that the higher attack rate reported by van Loghem may be due in some measure to more zealous reporting and to inclusion in his records of more trivial attacks; but it is our opinion that such differences are not sufficient to account for so great a disparity in attack rates.[2]

TIME DISTRIBUTION IN BROAD AREAS

The distribution by weeks of reported cases, without distinction as to clinical type, is shown in Tables 2 and 3, which refer to students and families, respectively.[3] Figure 1, based on these tables, shows

[2] Recently an intensive study of the respiratory disorders occurring in a group of about 100 families residing in Baltimore has been conducted in the department of epidemiology of the Johns Hopkins University School of Hygiene under the direction of one of us (W. H. F.) under conditions peculiarly favorable for obtaining prompt record of all attacks, even those of trivial character. During the 32 weeks from Oct. 21, 1928, to June 2, 1929, the total attack rate in this group was 2,408 per 1,000. It is reasonably certain that there is little, if any, deficiency in these records; but notwithstanding that they refer to the season of high prevalence, and include the period of a quite severe influenza epidemic, the mean weekly rate (91 per 1,000) is less than that reported by van Loghem. From this and various other facts noted in the collection of our records, we believe that the true "normal" morbidity rate in a representative family group in this country is decidedly less than that observed by van Loghem in Holland.

[3] These and later tables include all the student groups which reported throughout the 78 weeks, excepting the group in Baltimore.

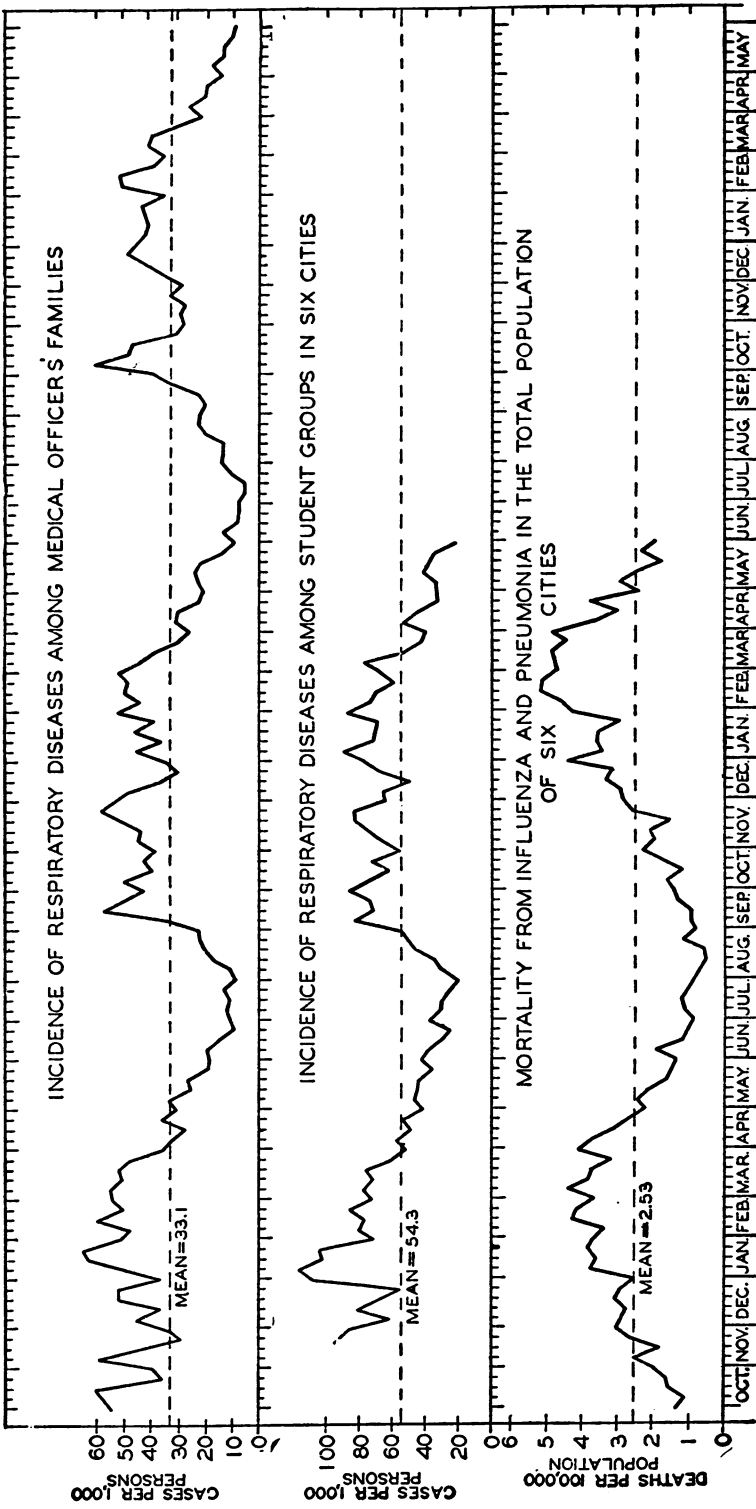

FIGURE 1.—Case incidence (weekly rates) of all respiratory affections, exclusive of hay fever, among the family and student groups, and mortality (weekly rates) from influenza and pneumonia in the total population of the six cities in or near which the student groups were located. (Means are for year ending June 6, 1925)

incidence rates in the student group as a whole and the family group during the respective periods of observation. If the mean rate of incidence for the year ending June 6, 1925, be taken as an axis, it is seen that in each group, in each year, the incidence rate is consistently below this mean from about April 1 to September 1, and consistently above this level from about September 1 to April 1.

TABLE 2.—*Incidence of respiratory diseases*[1] *among student groups, by weeks, October, 1923–June, 1925*

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED

Week ended—	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average of 6 groups[2]
1923							
Oct. 6	----	----	----	118.1	----	84.5	----
Oct. 13	----	----	----	116.6	----	160.5	----
Oct. 20	131.0	----	----	167.7	----	157.1	----
Oct. 27	86.3	----	----	98.8	----	91.7	----
Nov. 3	147.3	----	----	101.4	----	121.1	----
Nov. 10	137.7	----	178.7	73.9	----	131.1	----
Nov. 17	104.8	94.3	108.8	83.3	----	119.7	----
Nov. 24	102.1	119.5	95.6	59.6	109.3	67.2	92.2
Dec. 1	112.9	120.9	99.2	56.2	68.3	55.7	85.5
Dec. 8	64.1	81.0	58.2	68.0	48.1	41.5	60.1
Dec. 15	117.4	131.9	50.2	69.8	41.3	74.8	80.9
Dec. 22	68.8	81.6	69.7	59.2	57.2	62.8	66.5
Dec. 29	65.8	65.3	47.1	57.4	49.3	47.5	55.4
1924							
Jan. 5	118.1	89.5	117.0	88.9	116.4	110.7	10[illegible].8
Jan. 12	116.1	92.5	147.7	116.4	81.3	143.1	116.2
Jan. 19	64.2	103.6	125.1	90.0	96.2	132.1	101.9
Jan. 26	96.7	107.9	135.8	99.6	67.8	118.4	104.4
Feb. 2	81.5	71.9	56.6	61.9	65.0	87.5	70.7
Feb. 9	100.1	89.4	66.7	82.2	59.8	82.5	80.1
Feb. 16	86.8	89.4	67.8	84.9	76.4	57.9	77.2
Feb. 23	102.1	98.1	85.2	91.3	61.9	68.8	84.[illegible]
Mar. 1	80.4	78.7	72.3	80.6	67.1	54.3	72.2
Mar. 8	65.1	99.8	78.0	78.5	53.6	85.9	76.[illegible]
Mar. 15	63.0	74.8	88.5	52.3	56.2	91.4	71.0
Mar. 22	77.3	83.1	79.4	74.5	62.3	74.6	75.2
Mar. 29	65.7	62.3	62.7	68.5	44.5	52.2	59.3
Apr. 5	51.1	65.7	51.7	47.4	48.5	42.2	51.1
Apr. 12	69.6	80.2	51.1	66.2	36.3	38.4	57.0
Apr. 19	59.3	89.2	37.9	31.5	49.1	22.0	48.2
Apr. 26	63.7	67.9	46.0	50.6	57.5	31.9	52.9
May 3	40.7	62.6	28.4	45.2	44.6	24.0	40.9
May 10	45.0	67.8	45.2	52.8	41.2	22.3	45.7
May 17	48.4	54.2	43.8	34.6	40.7	40.6	43.7
May 24	54.7	52.3	40.8	41.2	40.3	32.0	43.5
May 31	39.2	39.9	51.0	41.1	28.7	[3]12.8	35.5
June 7	46.0	49.3	52.1	30.2	46.1	26.4	41.7
June 14	43.5	38.8	44.1	35.9	40.3	24.0	37.8
June 21	[3]24.5	23.5	18.4	28.1	42.6	36.7	29.0
June 28	30.0	19.6	21.5	23.9	22.0	28.8	24.3
July 5	31.1	36.6	26.3	21.7	45.4	62.5	37.3
July 12	[3]19.8	22.4	21.4	26.1	57.2	35.3	30.4
July 19	[3]19.8	[3]16.8	20.4	31.6	41.8	44.9	29.2
July 26	[3]25.5	[3]18.9	23.6	[3]16.4	39.8	[3]25.3	24.9
Aug. 2	[3]11.3	[3]16.9	20.3	[3]14.3	41.8	[3]16.9	20.3
Aug. 9	[3]16.9	23.0	25.1	25.1	44.4	39.5	29.0
Aug. 16	[3]25.4	31.4	41.1	37.4	58.7	[3]11.3	34.2
Aug. 23	38.7	40.0	35.4	25.3	71.8	59.5	45.1
Aug. 30	60.8	31.6	50.1	40.0	85.4	32.7	50.1
Sept. 6	36.8	53.2	31.2	44.0	89.3	74.2	54.8
Sept. 13	64.4	119.2	75.5	73.9	97.8	62.3	82.2
Sept. 20	88.7	82.6	72.1	61.6	76.4	47.3	71.5
Sept. 27	142.6	75.2	40.2	74.9	58.8	47.4	73.2
Oct. 4	117.3	73.3	65.4	93.1	62.4	96.1	84.6
Oct. 11	61.9	80.6	64.5	76.9	69.0	84.1	72.8
Oct. 18	50.5	71.4	49.8	46.6	66.6	81.1	61.0
Oct. 25	57.5	87.2	60.0	52.0	72.9	105.0	72.1
Nov. 1	46.3	46.4	65.7	56.1	58.8	58.6	55.3

[1] All respiratory affections exclusive of hay fever.
[2] Arithmetic mean of rates, giving the same weight to each group, irrespective of its size.
[3] Rates are based on less than 10 cases.

TABLE 2.—*Incidence of respiratory diseases among student groups, by weeks, October, 1923–June, 1925*—Continued

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED—Continued

Week ended—	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average of 6 groups [3]
1924							
Nov. 8	58.2	58.3	58.5	59.7	104.1	53.1	65.3
Nov. 15	98.5	52.6	64.4	72.5	90.9	56.3	72.5
Nov. 22	110.6	76.3	96.1	42.8	95.6	72.8	82.4
Nov. 29	102.4	76.3	69.6	64.2	81.5	101.3	82.5
Dec. 6	49.3	75.2	71.4	45.1	52.7	90.6	64.1
Dec. 13	77.3	92.5	63.3	47.5	59.2	48.5	64.7
Dec. 20	53.2	48.8	51.1	45.3	58.6	33.2	48.4
Dec. 27	63.1	78.1	48.0	58.8	76.3	73.1	66.2
1925							
Jan. 3	88.0	68.4	55.1	63.2	79.0	99.7	75.6
Jan. 10	108.3	98.0	67.1	86.1	81.8	89.7	88.5
Jan. 17	83.3	72.5	78.2	68.4	68.4	53.2	70.7
Jan. 24	72.3	55.1	106.7	55.9	70.3	61.9	70.4
Jan. 31	75.6	53.1	68.1	69.4	60.5	82.5	68.2
Feb. 7	78.6	80.6	84.6	68.3	67.3	140.4	86.6
Feb. 14	90.6	54.4	56.8	54.7	76.4	102.7	72.6
Feb. 21	77.1	71.0	66.8	59.5	70.9	66.9	68.7
Feb. 28	94.2	71.0	73.2	34.8	49.2	[2] 24.6	57.8
Mar. 7	72.0	80.4	85.1	61.0	65.5	[2] 32.5	66.1
Mar. 14	96.1	109.3	67.9	61.0	80.0	39.7	75.7
Mar. 21	72.7	48.6	44.4	37.6	68.6	42.5	52.4
Mar. 28	57.1	35.9	42.2	23.7	56.7	39.0	42.4
Apr. 4	57.9	58.2	20.2	26.1	55.5	[2] 14.3	38.7
Apr. 11	56.1	64.7	32.5	43.4	61.6	57.1	52.6
Apr. 18	52.6	75.4	33.7	24.1	36.5	42.9	44.2
Apr. 25	40.8	34.6	26.1	24.3	41.4	[2] 25.3	32.1
May 2	37.2	62.6	19.3	24.2	29.6	[2] 21.7	32.4
May 9	34.2	46.8	34.7	27.8	33.6	[2] 18.4	32.6
May 16	52.2	49.0	49.7	37.9	34.4	[2] 14.7	39.7
May 23	44.7	37.3	54.6	[2] 16.1	43.2	[2] 26.9	37.1
May 30	46.5	28.0	44.9	26.9	40.5	[2] 15.4	33.7
June 6	29.8	[2] 23.1	21.2	[2] 5.4	30.3	[2] 14.0	20.6
Number of persons under observation:							
Maximum	1,019	802	1,800	620	2,681	618	----------
Minimum [4]	353	429	824	326	1,111	260	----------
Mean	668	575	1,208	485	1,746	393	----------

[2] Rates are based on less than 10 cases.
[4] The minimum number of persons under observation is for the summer vacation weeks.

TABLE 3.—*Incidence of respiratory diseases among members of medical officers' families, by weeks, October 1923–June 1926*

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED [1]

Week ended—	Total respiratory [2]	Coryza [3]	Influenza [4]	All other	Week ended—	Total respiratory [2]	Coryza [3]	Influenza [4]	All other
1923					1923				
Oct. 6	54.8	30.6	4.8	19.4	Dec. 8	45.6	33.1	.9	11.6
Oct. 13	57.9	33.1	1.4	23.4	Dec. 15	36.6	21.4	2.7	12.5
Oct. 20	60.8	31.1	1.2	28.5	Dec. 22	52.4	28.3	5.8	18.3
Oct. 27	35.8	16.7	1.2	17.9	Dec. 29	52.4	30.0	4.2	18.2
Nov. 3	39.0	19.5	3.4	16.1					
Nov. 10	60.2	35.0	4.4	20.8	1924				
Nov. 17	45.3	25.9	4.3	15.1	Jan. 5	36.4	12.1	3.6	20.7
Nov. 24	29.1	14.5	1.0	13.6	Jan. 12	50.6	30.3	5.4	14.9
Dec. 1	33.5	15.2	4.1	14.2	Jan. 19	63.2	25.7	6.4	31.1

[1] The number of total respiratory cases was above 20, and the number of coryza cases above 10, throughout the period. The rates for influenza are based on less than 10 cases from approximately May to December of each year. After the first 3 months, when enrollment was practically completed, the number of persons under observation each week varied from a maximum of 3,919 to a minimum of 2,951, the mean number of persons being, 3,194.
[2] All respiratory affections exclusive of hay fever.
[3] "Coryza" refers to cases reported as coryza or head cold as the sole diagnosis, cases reported as coryza and bronchitis, coryza and sore throat or coryza and any other diagnosis except influenza are included in "all other."
[4] "Influenza" includes all cases in which the diagnosis of influenza was reported regardless of other diagnoses reported for the same attack.

TABLE 3.—*Incidence of respiratory diseases among members of medical officers' families, by weeks, October 1923–June 1926*—Continued

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED—Continued

Week ended—	Total respiratory	Coryza	Influenza	All other	Week ended—	Total respiratory	Coryza	Influenza	All other
1924					1925				
Jan. 26	65.5	32.2	2.6	30.7	Apr. 4	26.2	10.1	7.1	9.0
Feb. 2	52.0	29.4	2.9	19.7	Apr. 11	31.5	13.7	6.7	11.1
Feb. 9	47.9	22.6	3.0	22.3	Apr. 18	31.2	14.1	4.0	13.1
Feb. 16	60.5	29.7	5.0	25.8	Apr. 25	22.5	10.7	2.3	9.5
Feb. 23	50.2	29.9	3.5	16.8	May 2	21.5	10.4	2.0	9.1
Mar. 1	54.8	26.6	6.3	21.9	May 9	23.1	11.4	2.0	9.7
Mar. 8	55.7	31.1	4.7	19.9	May 16	24.4	14.4	.7	9.3
Mar. 15	51.3	25.8	5.0	20.5	May 23	22.4	9.7	1.0	11.7
Mar. 22	52.1	23.1	6.5	22.5	May 30	13.7	6.7	.3	6.7
Mar. 29	47.8	22.5	4.0	21.3	June 6	10.0	3.3	.3	6.4
Apr. 5	35.2	19.0	3.2	13.0	June 13	14.3	6.3	.7	7.3
Apr. 12	32.3	17.4	1.1	13.8	June 20	8.3	5.0	.7	2.6
Apr. 19	27.1	11.9	2.2	13.0	June 27	7.7	4.3	.3	3.1
Apr. 26	36.7	15.6	5.5	15.6	July 4	7.7	4.0	.7	3.0
May 3	30.8	13.1	2.7	15.0	July 11	6.3	2.3	.3	3.7
May 10	34.1	15.7	2.7	15.7	July 18	6.0	4.0	---	2.0
May 17	25.7	15.1	.5	10.1	July 25	11.3	7.0	---	4.3
May 24	26.9	16.2	.5	10.2	Aug. 1	14.6	8.3	1.0	5.3
May 31	19.7	10.2	.5	9.0	Aug. 8	13.9	6.0	2.6	5.3
June 7	18.8	7.8	1.1	9.9	Aug. 15	14.2	6.6	2.3	5.3
June 14	19.3	9.4	1.1	8.8	Aug. 22	20.5	9.9	.3	10.3
June 21	15.2	7.7	1.6	5.9	Aug. 29	23.1	14.2	1.7	7.2
June 28	9.9	5.9	.5	3.5	Sept. 5	22.7	15.8	2.0	4.9
July 5	10.9	7.5	.8	2.6	Sept. 12	20.7	12.8	2.0	5.9
July 12	12.0	7.7	---	4.3	Sept. 19	22.9	13.1	2.0	7.8
July 19	11.7	5.3	.3	6.1	Sept. 26	32.6	22.5	2.3	7.8
July 26	13.6	6.4	.8	6.4	Oct. 3	39.7	23.4	2.6	13.7
Aug. 2	8.8	5.0	---	3.8	Oct. 10	62.1	38.5	2.3	21.3
Aug. 9	11.1	5.8	.3	5.0	Oct. 17	49.0	31.0	4.2	13.8
Aug. 16	16.9	10.6	.5	5.8	Oct. 24	47.9	29.6	2.2	16.1
Aug. 23	20.7	12.1	.8	7.8	Oct. 31	31.5	17.4	1.6	12.5
Aug. 30	22.6	11.5	.8	10.3	Nov. 7	28.5	15.7	2.2	10.6
Sept. 6	23.2	12.5	1.0	9.7	Nov. 14	30.1	17.9	2.2	10.0
Sept. 13	34.5	19.6	---	14.9	Nov. 21	27.8	15.7	1.9	10.2
Sept. 20	58.3	34.1	1.8	22.4	Nov. 28	33.6	15.7	3.8	14.1
Sept. 27	50.4	30.4	2.6	17.4	Dec. 5	29.0	12.7	2.9	13.4
Oct. 4	43.3	24.6	2.6	16.1	Dec. 12	35.7	17.5	2.2	16.0
Oct. 11	50.7	31.8	3.6	15.3	Dec. 19	41.6	21.9	4.1	15.6
Oct. 18	40.0	21.2	3.1	15.7	Dec. 26	50.1	23.2	6.3	20.6
Oct. 25	43.5	24.5	4.1	14.9					
Nov. 1	39.1	19.1	4.6	15.4	1926				
Nov. 8	45.7	22.6	7.7	15.4	Jan. 2	46.6	21.5	6.7	18.4
Nov. 15	44.2	22.6	7.2	14.4	Jan. 9	43.5	21.5	8.5	13.5
Nov. 22	51.3	25.9	8.2	17.2	Jan. 16	41.7	17.6	7.5	16.6
Nov. 29	58.7	28.7	7.9	22.1	Jan. 23	43.5	18.8	7.6	17.1
Dec. 6	53.7	26.6	11.0	16.1	Jan. 30	44.5	18.1	10.2	16.2
Dec. 13	48.6	25.8	7.9	14.9	Feb. 6	35.2	10.2	16.1	8.9
Dec. 20	36.5	20.2	4.3	12.0	Feb. 13	51.7	14.8	19.1	17.8
Dec. 27	30.1	13.0	5.9	11.2	Feb. 20	53.0	17.4	18.1	17.5
					Feb. 27	39.8	17.1	12.2	10.5
1925					Mar. 6	36.2	13.8	14.5	7.9
Jan. 3	34.7	16.6	6.6	11.5	Mar. 13	42.1	14.5	15.5	12.1
Jan. 10	46.2	18.9	7.1	20.2	Mar. 20	40.8	11.2	17.4	12.2
Jan. 17	36.5	12.6	8.0	15.9	Mar. 27	30.3	14.5	7.6	8.2
Jan. 24	46.8	23.0	7.5	16.3	Apr. 3	21.7	9.5	6.6	5.6
Jan. 31	39.0	21.0	5.8	12.2	Apr. 10	26.7	10.2	6.6	9.9
Feb. 7	53.0	17.9	14.5	20.6	Apr. 17	20.7	10.5	2.3	7.9
Feb. 14	44.6	17.2	11.8	15.6	Apr. 24	20.4	11.5	2.3	6.6
Feb. 21	50.3	18.6	12.2	19.5	May 1	14.8	7.6	.7	6.5
Feb. 28	49.0	19.9	9.1	20.0	May 8	18.1	7.6	.7	9.8
Mar. 7	52.5	18.9	14.1	19.5	May 15	14.2	7.9	.7	5.6
Mar. 14	45.1	17.8	12.4	14.9	May 22	14.2	6.6	.3	7.3
Mar. 21	39.7	15.8	11.4	12.5	May 29	11.2	7.9	---	3.3
Mar. 28	30.6	14.8	6.7	9.1	June 5	9.5	5.3	.7	3.5

During the season of low prevalence, April to August, inclusive, the incidence rates decline rather regularly to a minimum about the middle of July or the 1st of August, then increase as regularly. During the period of high prevalence, September to April, no such regularity of trend is seen. On the contrary, what is shown in the figure

is a series of peaks and depressions, quite irregular in their spacing and magnitude. Considering the numbers under observation and the fact that each "peak" represents an incidence rate which has been increasing consistently through several weeks, the major irregularities in the curves during the season of high prevalence clearly are not due to simple chance fluctuations.

Agreement is closer between data for the two groups during the same year than it is between different years in the same group. Thus, for the winter of 1923–24 both curves show a high incidence in January and a gradual decline during the remainder of the winter and spring, while in the following winter there are, in both curves, several high points followed by a decline in incidence, dropping as low as the yearly mean during the latter half of December.

In each year the respiratory illness rates in September, October, or November are high—in fact they are almost or quite as high as in the later months of the winter. It is noted, in passing, that this does not conform to the seasonal distribution of mortality from influenza and pneumonia (which constitutes about 85 per cent of the total respiratory mortality), which is low during the autumn months and rises gradually to a peak in January and February, with a gradual decline in the spring.

CORRESPONDENCE OF TIME DISTRIBUTION IN DIFFERENT LOCALITIES

The incidence rates shown in Figure 1 are based on surveys of groups made up of individuals widely dispersed throughout the United States. Hence it might be that the irregular peaks represent epidemics occurring at different times in different localities, obscuring a more regular trend for each more narrowly limited area. That this is not the case is shown by Figure 2 (based on Table 2), which gives weekly incidence rates in student groups in each of six localities—Boston, Chicago, Columbus, Washington, Berkeley, and New Orleans.

The characteristics of each of the curves are essentially the same as already described for the average curve. The tendency is, in each locality, to a series of epidemics, with a certain degree of underlying regularity both for different years for the same locality and among separate groups for the same year. All the curves are at a minimum in July, then rise gradually through August, and at some time in late August or early September reach a level above the yearly mean. From this time onward, the prevalence continues almost invariably above the yearly mean until some time in March. Generally, the season of high prevalence in each one of the six localities is from the middle of September to the middle of March, though it begins a week or two earlier in New Orleans and Berkeley, and ends earlier in

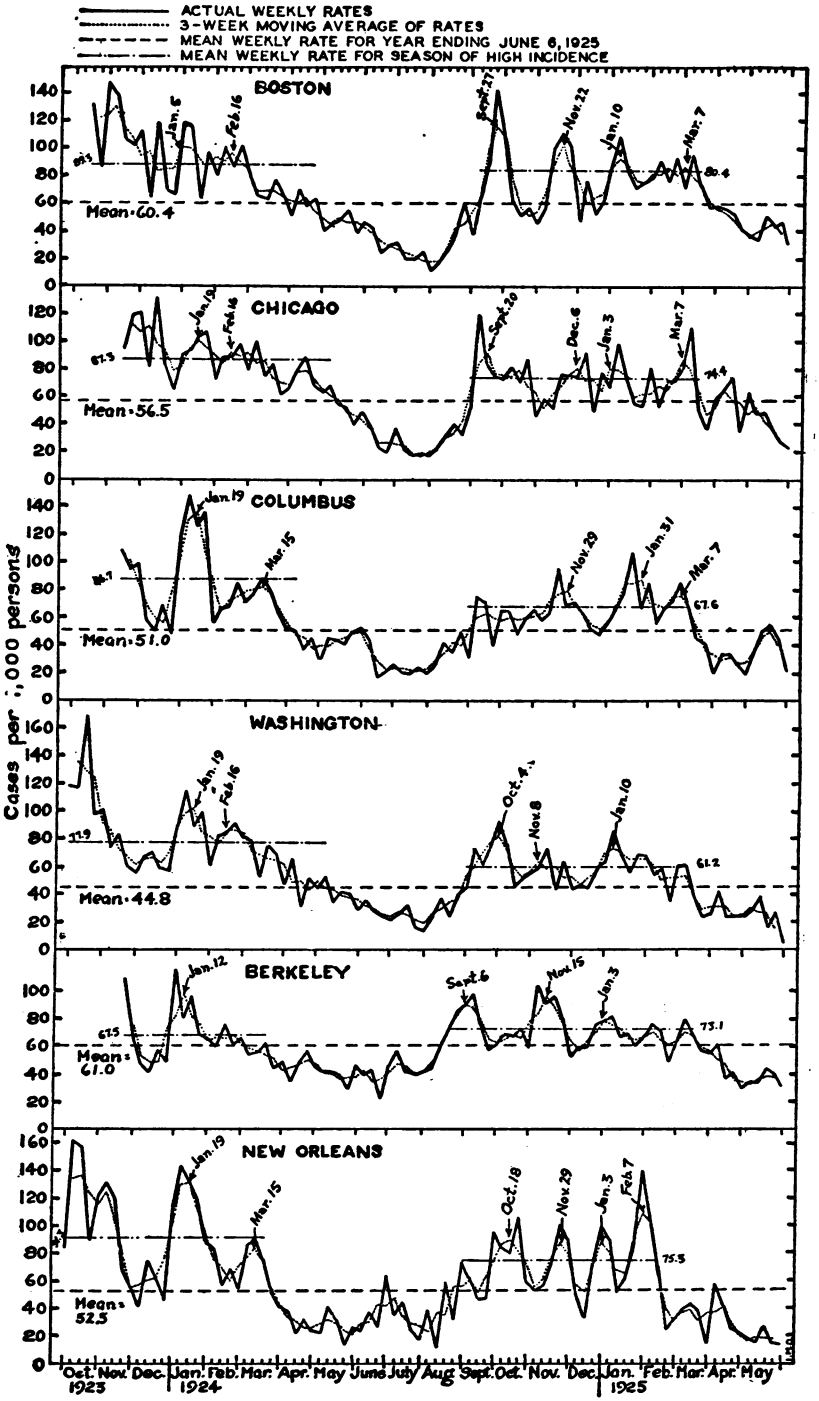

FIGURE 2.—Case incidence (weekly rates) of all respiratory affections, exclusive of hay fever, among college student groups reporting semimonthly to the United States Public Health Service, October, 1923, to May, 1925, in six cities. (Dates are ends of peak weeks)

New Orleans, about the middle of February. Considering that weather conditions in corresponding weeks vary widely as between these localities, the correspondence in seasonal distribution of respiratory disorders is remarkable.

TABLE 4.—*Periods during which incidence rates for all respiratory diseases were respectively above and below the yearly mean, for student and family groups*

City	Last week in spring of 1924 that weekly rate was above yearly mean	First week in autumn of 1924 that weekly rate was above yearly mean	Last week in spring of 1925 that weekly rate was above yearly mean	Number of weeks in summer of 1924 that weekly rate was generally below yearly mean	Number of weeks in winter of 1924–25 that weekly rate was generally above yearly mean
	Week ended—				
Boston	Apr. 26, 1924	Sept. 13, 1924	Mar. 21, 1925	19	28
Chicago	May 10, 1924	Sept. 13, 1924	Mar. 14, 1925	17	27
Columbus	Apr. 12, 1924	Sept. 13, 1924	Mar. 14, 1925	21	27
Washington	May 10, 1924	Sept. 13, 1924	Mar. 14, 1925	17	27
Berkeley	Mar. 22, 1924	Aug. 23, 1924	Mar. 21, 1925	21	31
New Orleans	Mar. 22, 1924	Sept. 6, 1924	Feb. 21, 1925	23	25
Family	May 10, 1924	Sept. 13, 1924	Mar. 21, 1925	17	28
Do.[1]		Oct. 3, 1925	Mar. 20, 1926	27	25

[1] Reports from this group continued a year longer than those from the student groups.

Within the season of generally high prevalence, September to March, there is no well-defined tendency in any city to a smooth unimodal distribution of incidence rates. Rather, there is seen, in each city, the same series of irregularly alternating periods of increased and diminished prevalence which were noted in Figure 1. If an "epidemic" be broadly defined as a period of increased prevalence, then it may be said that the characteristic time distribution in the general season of high prevalence is a series of epidemics, each of several weeks' duration, and marked off by intervening periods of lowered prevalence.

Inspection of Figure 2 gives the impression that there is a considerable degree of correspondence between the different cities with respect to the time of occurrence of these epidemics—that they tend to be general rather than local. Thus, in each city there are more or less well-defined peaks in January, 1924; September or October, 1924; and November or December, 1924. As to other "epidemic periods," a time correspondence between the different cities is suggested, but is less obvious from the figure.

For a more exact comparison, freed from subjective impression, it is necessary to adopt some objective definition of an epidemic, and some procedure whereby its peak may be located. For the purposes of this determination an epidemic period is defined as "the time during which the attack rate, measured by a 3-week moving average, remains

above the mean attack rate for the high-prevalence season." The peak is taken as the highest point in this moving average. The seasons of high prevalence are defined in each locality in Table 4. For 1923–24 the high season as used starts with the beginning of the record in October or November, 1923.

In each locality the 3-week moving average of incidence rates during the high prevalence season oscillates about the mean seasonal level, usually remaining above it for several weeks, then falling below for somewhat shorter periods, so that, by the definition given above, we have a succession of epidemics objectively determined. With some exceptions, these epidemics are failry symmetrical, so that the peak or mode in the moving average corresponds approximately to the midpoint in time.

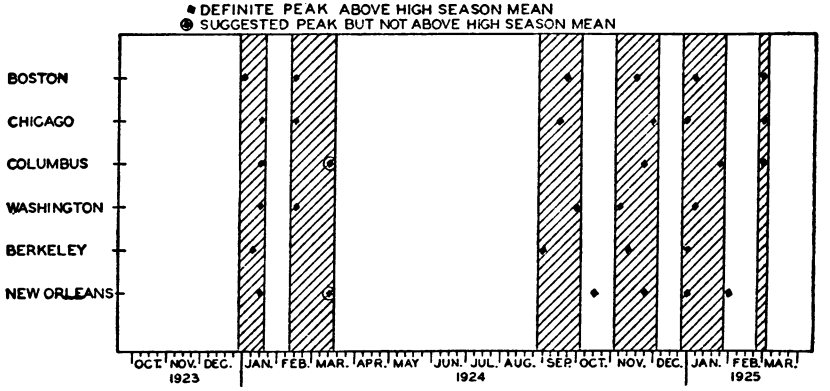

FIGURE 3.—Dates of occurrence of successive peaks in the incidence of respiratory affections in the six student groups, 1924–25. (See text and fig. 2 for method of determining dates)

The dates of occurrence of epidemic peaks as thus defined are shown in Figure 2, and are summarized in Table 5. A more compact graphic representation is given in Figure 3, which shows, for each city, the date (week) of each of the peaks recorded in Table 5.

TABLE 5.—*Weeks* [1] *of occurrence of successive peaks in the incidence of respiratory diseases among student groups*

Boston	Chicago	Columbus	Washington	Berkeley	New Orleans
Week ended—					
Jan. 5, 1924	Jan. 19, 1924	Jan. 19, 1924	Jan. 19, 1924	Jan. 12, 1924	Jan. 19, 1924
Feb. 16, 1924	Feb. 16, 1924	Mar. 15, 1924 [2]	Feb. 16, 1924	----------	Mar. 15, 1924 [2]
Sept. 27, 1924	Sept. 20, 1924	----------	Oct. 4, 1924	Sept. 6, 1924	Oct. 18, 1924
Nov. 22, 1924	Dec. 6, 1924	Nov. 29, 1924	Nov. 8, 1924	Nov. 15, 1924	Nov. 29, 1924
Jan. 10, 1925	Jan. 3, 1925	Jan. 31, 1925	Jan. 10, 1925	Jan. 3, 1925	Jan. 3, 1925
Mar. 7, 1925	Mar. 7, 1925	Mar. 7, 1925	----------	----------	Feb. 7, 1925

[1] See text for method of determining dates of peaks.
[2] This peak does not meet all the requirements as defined in the text, but at this date a peak is definitely suggested.

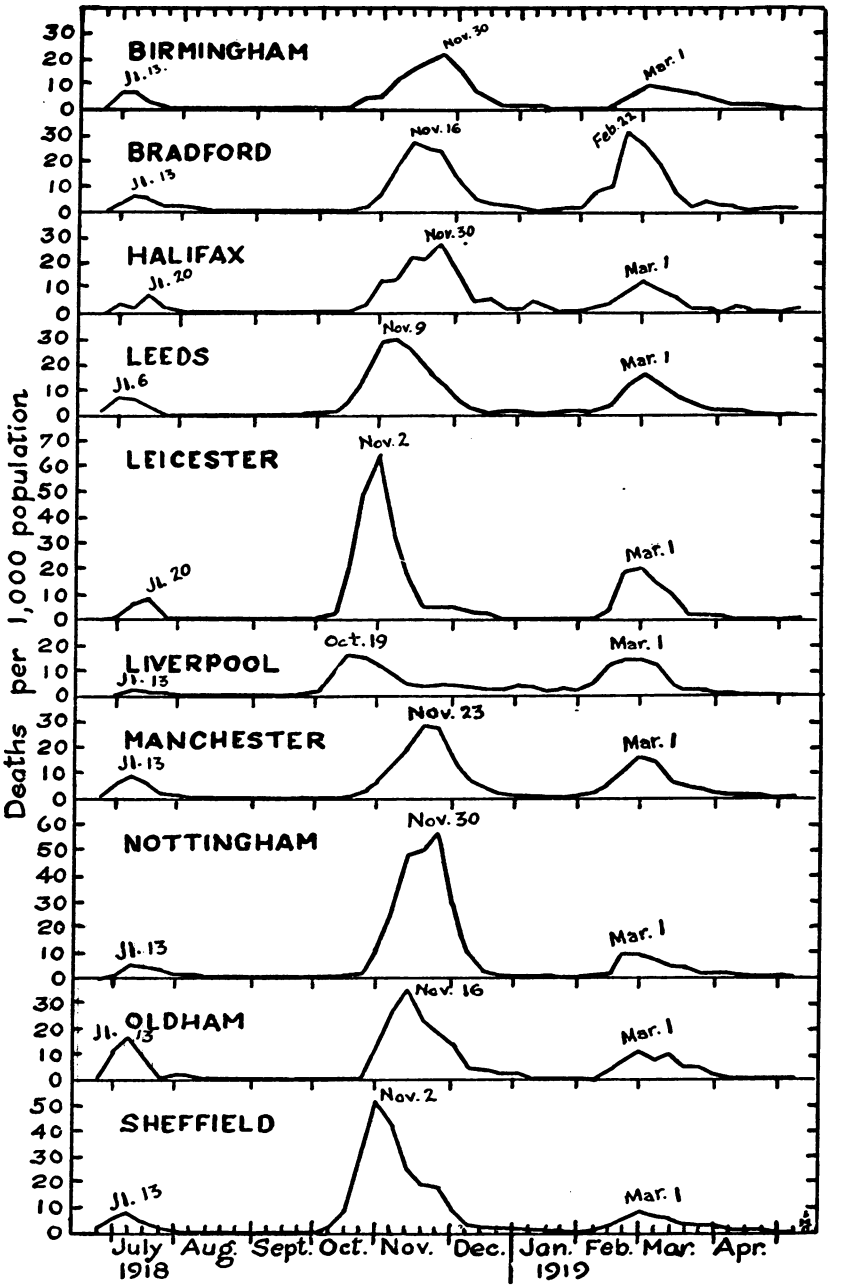

FIGURE 4.—Weekly death rates (annual basis) from influenza in several English cities during the three successive waves of the 1918–19 epidemic. (Dates are ends of peak weeks)

It is clear, from this figure, that the epidemics in the different cities occurred almost exclusively in six periods or time zones, which are indicated in the figure by shaded areas. There are 4 periods, of 3 to 5 weeks' duration, in each of which distinct "epidemic peaks" occurred in 4 or more of the 6 cities. There is a fifth period of 5 weeks (February 10 to March 16, 1924) when distinct "epidemics" occurred in 3 cities, while 2 of the remaining 3 showed fairly definite peaks which failed, however, to rise above the high-season mean, and consequently do not fall within the definition of "epidemic" which has been adopted. In the sixth period of a single week (week ended March 7, 1925) distinct epidemics occurred in Chicago and Columbus, with a minor peak in Boston. Only two distinct peaks, both in New Orleans, occur outside of the six time zones indicated on Figure 3.

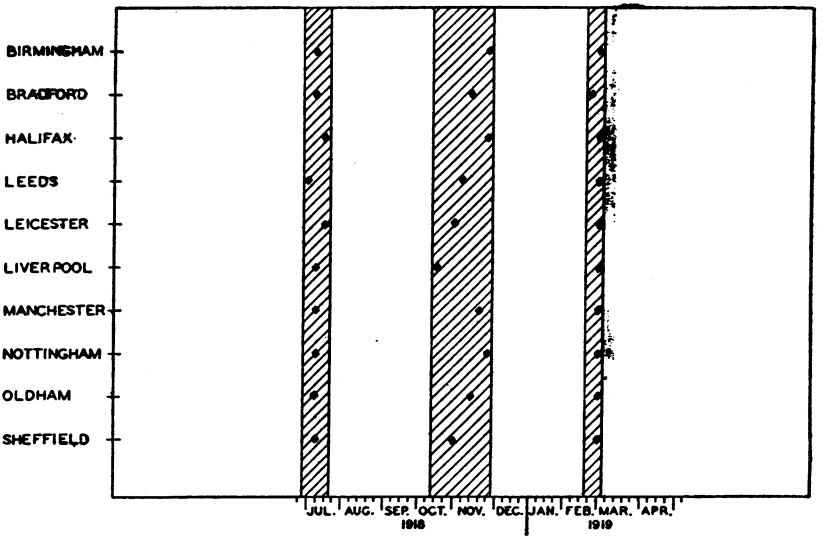

FIGURE 5.—Dates of occurrence of successive peaks in the mortality from influenza in several English cities during the three waves of the 1918–19 epidemic

The six cities under observation are widely separated, they differ greatly in climate, and, in each city, the epidemics are somewhat irregularly spaced. It is truly remarkable that in the presence of all these variables there should be such close correspondence between the cities with respect to the time of occurrence of the epidemics.

The analogy which suggests itself is with epidemic influenza, which characteristically occurs over a wide area at nearly the same time. For comparison with the record of common colds, Figures 4 and 5 are exhibited, showing the time correspondence between various English cities in the occurrence of successive peaks of epidemic influenza between June, 1918, and March, 1919, as indicated by weekly records of mortality. (Report of the Registrar General for England and Wales, 1918.)

As a further illustration of the similarity of the time relations observed in common colds to those observed in epidemic influenza, Figure 6 is introduced, showing, for the six cities which are included in this study, the dates of successive peaks in excess mortality from influenza and pneumonia from October, 1918, to March, 1920.

PREVALENCE AND TIME DISTRIBUTION OF DIFFERENT CLINICAL GROUPS OF RESPIRATORY DISEASE

The discussion, to this point, has referred to attack rates from all forms of respiratory disorders, without regard to any clinical subdivision. The cases included were reported, however, under several different diagnoses, chiefly "cold in head" with or without complications, "influenza," "bronchitis," and "sore throat." It is well understood that the various designations under which cases were reported make a very crude basis for clinical differentiation, yet Townsend and Sydenstricker (1927) have shown that cases classified in this way actually show certain consistent differences as regards symptomatology, age selection, and seasonal distribution. It has seemed worth while, therefore, to ascertain, from this larger material, the characteristic seasonal distribution of the more prominent clinical groups of cases.

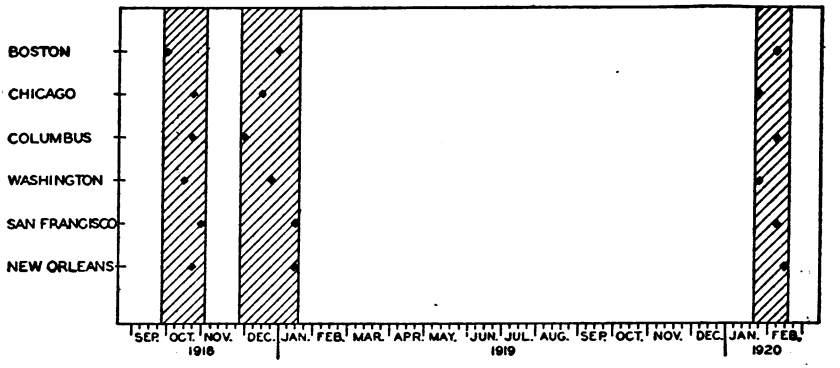

FIGURE 6.—Dates of occurrence of successive peaks in the excess mortality from influenza and pneumonia during the epidemics of 1918–1920 in the six cities in or near which the student groups were located

Table 6 shows, for each of the six student groups, the incidence, week by week, of cases reported as influenza. Table 3 gives corresponding weekly incidence rates of influenza in the family group, with a subdivision of the remaining cases into "coryza" and "all other."

TABLE 6.—*Incidence of influenza* [1] *among student groups, by weeks, October, 1923–June, 1925*

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED [2]

Week ended—	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average of 6 cities [3]
1923							
Oct. 6				7.1			
Oct. 13						1.7	
Oct. 20	1.5					3.2	
Oct. 27				4.1		3.3	
Nov. 3	1.5						
Nov. 10	1.0		1.6	4.0		3.2	
Nov. 17	2.0	2.2	1.5			6.5	
Nov. 24	2.0	3.0	1.4	2.0	1.1		1.6
Dec. 1	2.0	5.9	.7	5.8	2.3		2.8
Dec. 8			.8	1.9	2.2		.8
Dec. 15	6.9	4.5	2.4			3.3	2.9
Dec. 22	1.0	5.9	.9	3.9	2.3	1.7	2.6
Dec. 29	1.0		1.8	2.0	1.1		1.0
1924							
Jan. 5	1.0	1.5	3.1		4.5	1.7	2.0
Jan. 12	1.0	4.5	3.8	3.9	3.0	5.1	3.5
Jan. 19	1.0	5.8	2.2	5.9	1.6	3.4	3.3
Jan. 26	2.0	2.9	5.7	6.2	.8	3.4	3.5
Feb. 2		5.8	1.7	3.9	3.2	6.9	3.6
Feb. 9	3.1	8.4	2.2	5.9	2.5	3.5	4.3
Feb. 16	1.0	9.8	1.7		1.7	5.3	3.3
Feb. 23	4.1	7.7	3.5	4.0	1.6	1.8	3.8
Mar. 1	2.1	5.2	.6		3.6	3.6	2.5
Mar. 8	4.2	8.7	.7	2.0	3.8	3.6	3.8
Mar. 15	2.1	1.2	3.7	2.0	.9	3.7	2.3
Mar. 22	3.2	3.9	3.1	2.1	4.0	1.8	3.0
Mar. 29	1.1	5.2	1.3		1.8	3.7	2.2
Apr. 5	1.1	1.3	2.6	1.7	3.6	7.7	3.0
Apr. 12	5.4			5.2	2.6		2.2
Apr. 19	3.3	2.6		3.3	.5		1.6
Apr. 26		2.6	1.3	1.7	2.5		1.3
May 3		1.3		1.6	.5		.6
May 10							
May 17		2.7	.7	1.6	1.8	2.0	1.5
May 24			.7	5.1	1.0	2.1	1.5
May 31		1.4		1.7	.5		.6
June 7		3.5	.7		1.9		1.0
June 14		3.5	1.4		.5		.9
June 21	2.7				1.4		.7
June 28				2.0		2.6	.8
July 5	2.8		.8	2.0	.5		1.0
July 12				2.0	3.0		.8
July 19					1.5	2.8	.7
July 26	2.8		.8		1.0		.8
Aug. 2			.8		1.5		.4
Aug. 9					1.1	2.8	.7
Aug. 16			.8		1.7		.4
Aug. 23					2.7		.5
Aug. 30	2.8		1.7		.5		.8
Sept. 6	2.3		1.7	2.1	4.0	3.0	2.2
Sept. 13	2.3	2.1	.9	2.1	.5	3.0	1.8
Sept. 20		1.9	4.5		1.8	3.0	1.9
Sept. 27	5.2	7.3	.9		3.5		2.8
Oct. 4	3.3	1.9	1.8	2.0	.6		1.6
Oct. 11		7.3			3.6	3.0	2.3
Oct. 18	1.6	3.7	.9		3.6	3.0	2.1
Oct. 25	1.6	3.7	.9	2.1	1.8	9.3	3.2
Nov. 1	3.2	1.8	1.9		2.5	3.1	2.1
Nov. 8	9.7	3.7	2.9	10.7	4.6	6.2	6.3
Nov. 15	11.3		2.0	6.4	2.0	3.1	4.1
Nov. 22	14.6	7.6	6.9	2.1	5.1	3.2	6.6
Nov. 29	13.0	1.9	2.0	8.5	1.3		4.5
Dec. 6	8.2	1.9	4.0	6.4	3.3		4.0
Dec. 13	9.9	1.9	2.0				2.3
Dec. 20	6.7	5.9	2.0	2.2	1.4	3.3	3.6
Dec. 27		5.9	2.0	2.2	4.1	3.3	2.9
1925							
Jan. 3	3.3		1.0	2.2	2.7	6.7	2.7
Jan. 10	8.3	3.9	4.0	6.6	4.0		4.5

[1] All cases in which the diagnosis of influenza was reported regardless of other diagnoses reported for the same attack.

[2] Practically all rates for individual cities are based on less than 10 persons. See Table 2 for number of persons under observation.

[3] Arithmetic mean of rates, giving the same weight to each group, irrespective of ts size.

TABLE 6.—*Incidence of influenza among student groups, by weeks, October, 1923–June, 1925*—Continued

WEEKLY CASE RATES PER 1,000 PERSONS OBSERVED—Continued

Week ended—	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average of 6 cities
1925							
Jan. 17	6.7	7.8	4.0	2.2	4.0	----	4.1
Jan. 24	11.8	2.0	7.1	2.2	8.5	10.3	7.0
Jan. 31	15.1	----	2.0	2.2	8.5	30.9	9.8
Feb. 7	3.4	16.1	5.1	4.6	9.8	58.2	16.2
Feb. 14	12.0	----	3.1	2.3	9.1	41.1	11.3
Feb. 21	18.9	16.2	8.5	6.9	18.1	35.2	17.3
Feb. 28	10.3	14.2	11.7	----	7.2	10.5	9.0
Mar. 7	3.4	12.4	23.7	2.3	11.5	10.8	10.7
Mar. 14	8.6	10.3	21.6	2.3	10.1	14.4	11.2
Mar. 21	3.5	8.4	12.2	----	4.0	3.5	5.3
Mar. 28	3.5	----	7.8	----	4.0	----	2.5
Apr. 4	7.0	8.6	3.4	7.1	6.1	----	5.4
Apr. 11	14.0	8.6	4.5	----	2.3	----	4.9
Apr. 18	3.5	6.5	----	4.8	1.5	----	2.7
Apr. 25	1.8	----	1.1	----	3.1	7.2	2.2
May 2	----	2.2	----	----	1.5	3.6	1.2
May 9	----	4.5	2.3	----	5.7	----	2.1
May 16	----	2.2	1.1	2.5	----	3.7	1.6
May 23	1.9	----	1.2	----	.9	----	.7
May 30	1.9	2.3	1.2	----	.9	3.9	1.7
June 6	2.3	----	1.5	2.7	1.8	----	1.4

It is evident, from inspection of the original records, that the clinical groups distinguished in Tables 3 and 6 overlap quite broadly, and that the assignment of two or more cases to different groups may often be determined by the reporter's choice of different words to describe similar phenomena rather than by any clearly defined clinical differences. For instance, a case exhibiting the symptoms of rhinitis, cough, sore throat, fever, and aching might be recorded by one reporter as a "cold," without other designation (but with a record of symptoms), and by another as "cold, bronchitis, and sore throat," and by a third as "influenza," so that it might fall into any one of the three classes. Nevertheless, according to Townsend and Sydenstricker's analysis, these classes, taken as groups, differ from each other materially. The cases designated coryza consist chiefly of those in which the most prominent symptom is acute rhinitis, with relatively rare occurrence of cough, sore throat, fever, and other toxic symptoms. The influenza group comprises chiefly cases marked by toxic symptoms—fever, prostration and aching—along with coryza, cough, and sore throat. The group of "all other" cases is more heterogeneous, and differs less sharply from coryza on one side and influenza on the other. Consequently, for epidemiological study, interest centers chiefly on influenza, as representing the most severe cases, and on comparisons of this class with the most strongly contrasting group, coryza.

Table 7 shows the reported incidence of so-called influenza in successive 26-week periods in the student group in each of six cities, in the student group as a whole, and in the family group. The lower

section of the table shows, for each period and each group, the percentage which the influenza cases are of all the reported respiratory diseases.

TABLE 7.—*Actual and proportionate incidence of influenza*[1] *in student and family groups in successive 26-week periods*

CASE RATES[2] PER 1,000 PERSONS OBSERVED

26-week period	Students							Families
	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average[3] 6 groups	
Dec. 2, 1923–May 31, 1924	44.6	92.9	44.5	65.6	51.6	64.3	60.7	91.4
June 1, 1924–Nov. 29, 1924	79.2	49.9	34.3	42.0	52.2	48.1	51.0	63.0
Nov. 30, 1924–May 30, 1925	163.7	141.8	136.6	59.0	132.3	246.6	146.9	182.4
May 31, 1925–Nov. 28, 1925								42 2
Nov. 29, 1925–May 29, 1926								196.7
PER CENT OF ALL RESPIRATORY CASES THAT WERE DESIGNATED AS INFLUENZA								
Dec. 2, 1923–May 31, 1924	2.3	4.5	2.5	3.8	3.5	3.9	3.3	8.0
June 1, 1924–Nov. 29, 1924	5.5	3.8	2.8	3.6	3.1	3.5	3.6	8.1
Nov. 30, 1924–May 30, 1925	9.5	8.6	9.4	4.9	8.7	18.2	9.7	19.1
May 31, 1925–Nov. 28, 1925								7.0
Nov. 29, 1925–May 29, 1926								22.7

[1] All cases in which the diagnosis of influenza was reported regardless of other diagnoses reported for the same attack.
[2] Rates are sums of actual rates for the weeks included in the respective 26-week periods.
[3] Arithmetic mean of rates, giving the same weight to each group, irrespective of its size.

It is noted in this table that, in each period, the incidence of influenza is higher in the family group than in the student group as a whole, whereas the reported incidence of all respiratory diseases (see Table 1) is materially higher in the student than in the family group. It follows that influenza furnishes a larger proportion of all reported cases in families than in students, and this is seen to be the case in every period covered by records for both groups.

The higher absolute and relative incidence of so-called influenza in the family group than in students might be taken to represent merely a greater inclination toward this diagnosis on the part of those who reported for the families—mostly physicians. However, Townsend and Sydenstricker (1927) found that in families reporting during 1924 the absolute and proportionate incidence of influenza was materially lower in the age group 15–24 than at all ages. The pertinent data, from their Table 11, are as follows:

Age group	Incidence per 1,000		Per cent which influenza cases are of total
	All respiratory diseases	Influenza	
All ages	2,009	183.3	9.1
15–24	1,377	81.8	5.9

The fact that in the present study the incidence of influenza is absolutely and relatively lower in students than in the family group appears, then, to be at least in part an expression of the special age selection of influenza, and to be not inconsistent with a higher total incidence of respiratory diseases in the students.

It was noted, in the discussion of Table 1, that, in any given period, the total incidence of respiratory diseases varied remarkably little as between the six student groups. This can not be said of influenza. In each period the highest of the six attack rates is more than double the lowest rate. Also, comparing the two corresponding seasonal periods, December–May, 1923–24, and December–May, 1924–25,

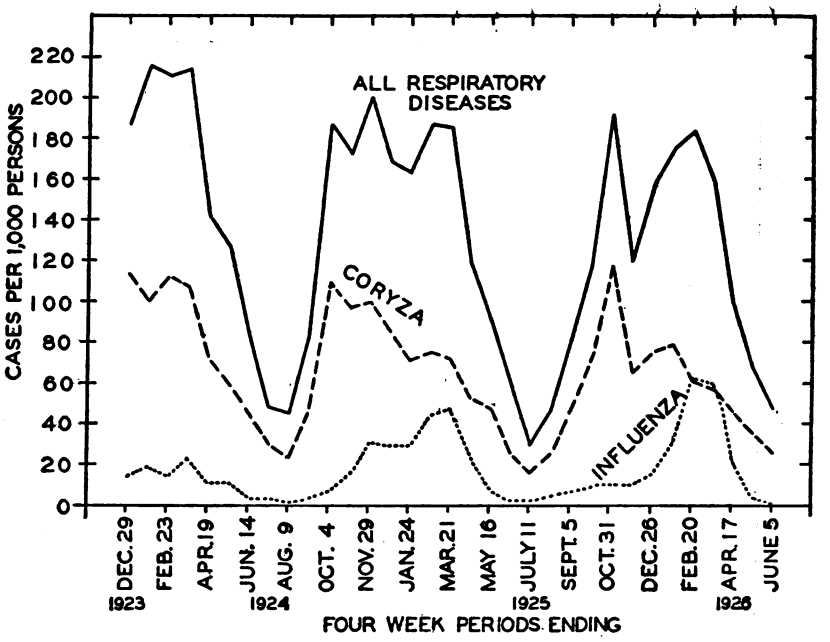

FIGURE 7.—Case incidence, in 4-week periods, of all respiratory affections, of coryza, and of influenza, among the families of medical officers, 1923–1926

the incidence of influenza is much greater in the second than in the first period. Hence influenza is distinctly more variable in its occurrence than is the broad group comprising all respiratory diseases.

It was also shown in Table 1 that in the successive winter and spring seasons (December–May) covered by the records the reported incidence of respiratory disorders progressively declined, both in the students and in the families. In contrast to this, the recorded incidence of influenza was twice as high in the period December–May 1924–25, as in the corresponding period of 1923–24. In the family group, for which the record extends through another year, the incidence of inflenza was still further increased in the winter and spring of 1925–26. Thus, from the winter of 1923–24 to that of 1925–26,

while the total incidence of respiratory diseases tended to become progressively less, the severity of the disorders tended to increase, as indicated by an increasing proportion of the more severe type of cases, reported as influenza.

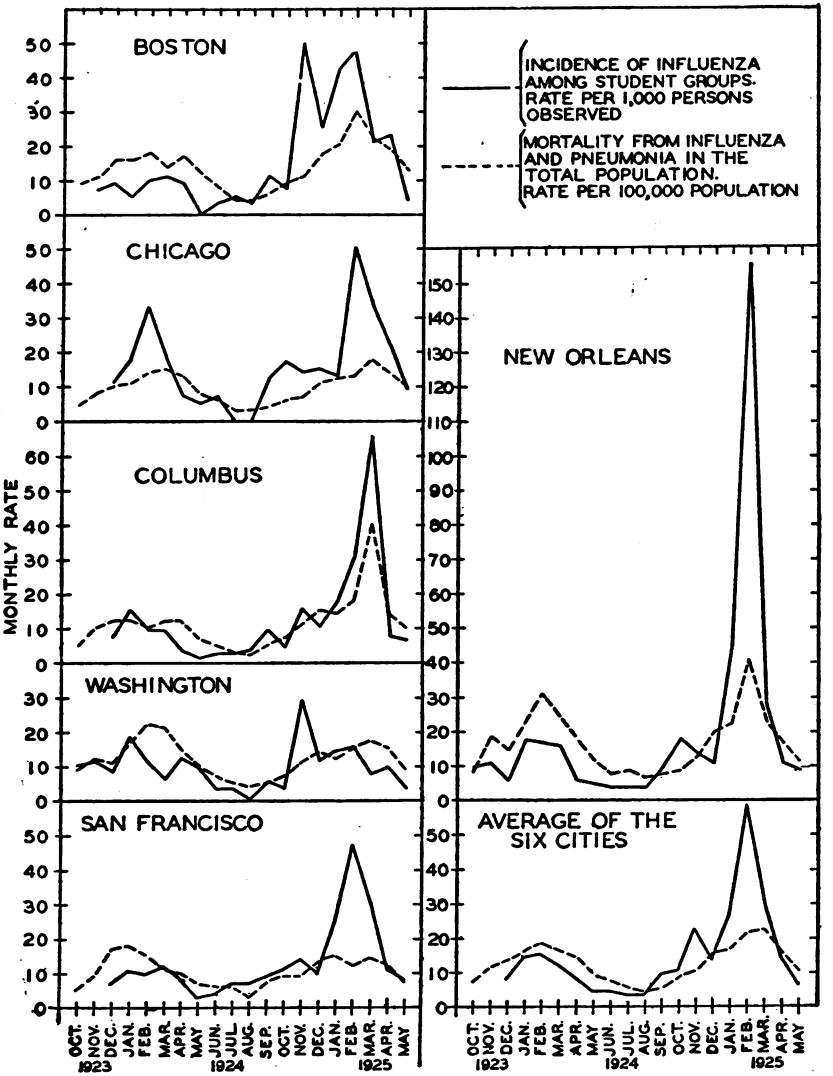

FIGURE 8.—Monthly case incidence of "influenza" among the six student groups and monthly mortality from influenza and pneumonia in the total population of the cities in or near which the student groups were located, 1923–1925. (Rates for all months reduced to 30-day base)

Figure 7 shows, by 4-week intervals, from December 1, 1923, to May 15, 1926, the incidence, in families, of "all respiratory diseases," "coryza," and "influenza," respectively. From this graph it is apparent that in each year for which there is a full record (1924–25 and 1925–26) coryza reached the height of its prevalence in September,

or October, and declined with fair regularity through the winter, while influenza followed a quite different course, increasing steadily through the autumn and early winter to a peak in February or March. In the winter of 1923–24, when the reported prevalence of influenza was low, the time distributions of both influenza and coryza were more irregular, and the two were not in sharp contrast. However, in this year records are lacking for September and October.

For 1924–25 and 1925–26 the autumnal epidemics shown in the curve for all respiratory diseases correspond to the peaks in the incidence of coryza, while the late winter epidemics coincide with the peaks in the incidence of influenza. A peak in the curve for all respiratory diseases in the four weeks ended November 29, 1924, corresponds to a less well-defined increase in the incidence of both coryza and influenza. Thus, to the extent that they comprise different proportions of crudely differentiated clinical types, the successive epidemics of respiratory diseases observed in the course of each year differ from each other in a qualitative way.

Figure 8 shows, for each of the six student groups, the incidence, in monthly periods, of reported influenza, and, in the same periods, the mortality from influenza and pneumonia in the population of the large city in or near which the student group is located. The rates are shown in Tables 8 and 9.

TABLE 8.—*Incidence of influenza* [1] *among student groups, by months, October, 1923–May, 1925*

CASE RATES[2] PER 1,000 PERSONS OBSERVED

Month	Boston	Chicago	Columbus	Washington	Berkeley	New Orleans	Average of 6 groups [3]
1923							
October				9.9		9.4	
November	7.4			11.0		9.7	
December	9.2	11.3	6.7	8.3	7.0	5.3	8.0
1924							
January	4.5	17.8	14.6	18.2	10.5	17.4	13.8
February	10.3	33.1	8.7	11.4	10.1	16.2	15.1
March	10.8	19.5	9.3	6.4	11.6	15.0	12.1
April	9.5	6.9	3.2	12.3	8.5	5.5	7.6
May		4.5	1.4	8.8	3.4	4.0	3.8
June	3.5	7.0	2.3	2.6	3.9	2.6	3.7
July	4.6		1.8	3.3	6.7	2.7	3.2
August	3.0		2.9	.3	6.8	3.1	2.7
September	10.9	12.1	8.5	4.8	9.5	8.6	9.1
October	7.5	16.7	4.4	3.1	11.1	17.4	10.0
November	50.2	13.7	14.6	28.6	13.8	12.9	22.4
December	24.7	14.8	9.7	10.7	9.6	10.1	13.4
1925							
January	41.9	13.3	16.9	13.6	25.4	42.7	25.7
February	47.8	49.8	30.4	14.8	47.4	155.4	57.6
March	21.3	33.7	64.6	7.4	31.2	27.8	31.0
April	23.3	21.6	7.5	8.9	11.5	9.8	13.7
May	4.0	9.3	5.8	2.8	7.9	8.3	6.4

[1] All cases in which the diagnosis of influenza was reported regardless of other diagnoses reported for the same attack.
[2] Rates reduced to 30-day base for all months.
[3] Arithmetic mean of rates, giving the same weight to each group, irrespective of size.

TABLE 9.—*Mortality* [1] *from influenza and pneumonia in the total population of 6 cities, by months, October, 1923–May, 1925*

DEATH RATES [2] PER 100,000 POPULATION

Month	Boston	Chicago	Columbus	Washington	San Francisco	New Orleans	Average of 6 cities [3]
1923							
October	8.5	5.1	5.2	8.7	4.8	7.9	6.7
November	10.7	8.1	9.6	11.9	8.7	18.1	11.2
December	15.9	9.6	12.2	11.3	16.5	14.4	13.3
1924							
January	16.0	11.5	11.9	16.5	17.7	22.0	15.9
February	18.3	13.9	10.4	21.7	15.0	30.4	18.3
March	14.4	14.9	12.3	20.7	10.6	24.2	16.2
April	17.2	12.6	12.3	15.5	10.3	17.2	14.2
May	11.8	8.2	6.5	10.4	6.7	11.1	9.1
June	8.3	6.2	4.8	7.4	5.8	7.2	6.7
July	3.9	3.0	2.9	4.7	5.7	8.1	4.7
August	4.3	3.2	1.8	3.8	3.5	5.9	3.8
September	5.6	4.1	4.5	5.4	7.0	6.6	5.5
October	9.3	5.6	6.9	7.4	9.0	7.6	7.6
November	11.4	6.5	10.8	10.7	8.8	11.8	10.0
December	16.7	11.5	15.5	13.6	13.1	18.7	14.9
1925							
January	19.9	12.2	14.2	11.7	15.3	22.2	15.9
February	30.1	13.4	17.6	15.0	12.3	39.8	21.4
March	21.7	18.4	39.8	17.3	13.6	22.7	22.3
April	18.6	14.4	13.6	15.1	11.7	16.2	14.9
May	13.3	10.0	10.0	9.0	7.3	10.5	10.0

[1] Data from Mortality Statistics, U. S. Bureau of the Census.
[2] Rates reduced to 30-day base for all months.
[3] Arithmetic mean of rates giving the same weight to each city, irrespective of size.

During the winter and spring of 1923–24, the incidence of influenza was comparatively low in every one of the groups, the highest attack rate being 33.1 per 1,000 in Chicago in February (rate expressed on 30-day basis.) In the other five cities the maximum attack rates in any month are all less than 20 per 1,000, and in different cities the peaks of incidence fall at different times, namely, in Washington, New Orleans, and Columbus, in January; in Chicago, in February; in Boston and Berkeley, in March.

In the second winter of the record, the prevalence of influenza was materially higher in all six groups [4]. As was found in the records for the families, so in the student groups, there were two distinct periods of increased or epidemic prevalence of influenza. The incidence curve for the Boston group shows both these epidemics as two distinct and approximately equal peaks, one occurring in November, 1924, and the other in February, 1925. Peaks corresponding to the November epidemic in Boston are shown distinctly in October and November, respectively, in the curves for the New Orleans and Washington groups with suggested but not clearly defined epidemics during one or both of these months in Chicago, Columbus, and Berkeley.

[4] In the Washington group the attack rate for the 6 months December–May, 1924–25 was *less* than in the corresponding period of 1923–24, but a high incidence of influenza occurred in November, 1924, making the incidence for the entire season, November–May, higher than in 1923–24.

The epidemic shown in Boston in February is clearly indicated, in either February or March, in all the other cities except Washington, where it is, at most, quite trivial.

As determined by 3-week moving averages computed from Table 6, the peaks of the autumn and winter epidemics of reported influenza, respectively, fell as follows in the several cities.

City	Week ended—	
Boston	Nov. 22	Feb. 21.
Chicago	Ill-defined	Feb. 28.
Columbus	----do	Mar. 14.
Washington	Nov. 15	Ill-defined.
Berkeley	Ill-defined	Feb. 28.
New Orleans	Nov. 1	Feb. 14.

In each of these epidemics there is a spread of four weeks between the times of occurrence of the earliest and the latest peaks. This represents about the same degree of time correspondence as has been shown (Table 5 and fig. 3) with respect to epidemics determined from the incidence of all respiratory diseases considered as a single composite group.

REPORTED PREVALENCE OF INFLUENZA IN RELATION TO MORTALITY FROM INFLUENZA AND PNEUMONIA

Analysis of statistics of mortality for numerous cities of the United States [5] shows that, corresponding to the increased prevalence of influenza reported from the six student groups for the winter of 1924–25, there was, during this winter, a quite general increase in mortality from influenza and pneumonia as compared with the winter of 1923–24. While this increase in mortality was quite general for the country, it was slight, and only in the West South Central States did the rates rise above the normal sufficiently to indicate an epidemic.

TABLE 10.—*Mortality from influenza and pneumonia and reported cases of influenza in six cities, for 6-month periods, December, 1923–May, 1925*

DEATH RATES FROM INFLUENZA AND PNEUMONIA PER 100,000 POPULATION [1]

Period	Boston	Chicago	Columbus	Washington	San Francisco	New Orleans	Average [2] of six cities
December, 1923–May, 1924	94.9	71.7	66.7	97.4	77.8	120.9	88.3
June, 1924–November, 1924	43.3	28.9	32.2	39.9	40.4	47.7	38.8
December, 1924–May, 1925	121.9	81.1	112.2	82.8	74.2	131.9	100.7

REPORTED INFLUENZA CASE RATES, PER 100,000 POPULATION [3]

Dec. 2, 1923–May 31, 1924	10.9	17.6	(4)	8.9	15.3	28.6	16.3
June 1, 1924–Nov. 29, 1924	5.6	3.5	(4)	2.2	6.7	12.2	6.0
Nov. 30, 1924–May 30, 1925	43.6	32.2	(4)	6.8	36.7	79.9	39.9

[1] Data from Mortality Statistics, U. S. Bureau of the Census.
[2] Arithmetic mean of rates, giving the same weight to each group, irrespective of its size.
[3] Cases reported by attending physicians to the city health departments and published in the Public Health Reports.
[4] No data.
[5] Collins (1930); Collins, Frost, Gover, and Sydenstricker (1930).

Table 10 shows, in half yearly periods, the death rate from influenza and pneumonia in the total population of each of the six large cities containing or near to the six student groups. Of the six cities, two—Washington and San Francisco—showed no increase in influenza-pneumonia mortality in the six months December–May, 1924–25, as compared with the corresponding period of the preceding year. Each of the remaining four showed a slight but definite increase; but, as shown in the following summary, the extent of the increase in mortality in the several cities seems to bear no close relation to the increase in incidence of influenza among the student groups.

	Boston	Chicago	Columbus	New Orleans
Increase in incidence of influenza, December–May, 1924–25, as compared with same period, 1923–24—Cases per 1,000	119	49	92	182
Increase in mortality from influenza and pneumonia, December–May, 1924–25, as compared with same period 1923–24—Deaths per 100,000	27	9	46	11

Moreover, inspection of Figure 8 shows no striking parallelism between the curve of influenza incidence in the several student groups and mortality in the total population of the six cities in or near which the student groups are located.

SUMMARY

Data are presented on the incidence and certain epidemiological features of the minor respiratory diseases, as indicated by regular semimonthly reports rendered by rather large groups of students at several American universities in widely separated localities, and by similar reports from some 1,500 families. The students' reports cover 18 months, and the family reports extend through 2½ years.

For the year ended May 30, 1925, the mean attack rate in the 10 groups of student reporters was 2,947 per 1,000, an average of approximately three attacks per person. For the entire period, and for each of its major seasonal subdivisions, the attack rates in the several student groups were remarkably uniform, showing no consistent relation to latitude, longitude, or climate.

In the family group, the attack rates in corresponding periods were consistently lower than in the student groups, but it is possible that this may have been due wholly or in part to more complete reporting by the students.

Both in the student and the family groups, the attack rates in corresponding seasons of successive years (1923–1926) showed a declining trend. This may have been due, however, to progressive slackening of interest in reporting.

Taking the mean weekly attack rate throughout the year as an axis, the weekly attack rates in each group and in each year were

quite consistently below this level from about the first of April to the first of September, and generally above this level from September to March, inclusive. The minimum attack rates were observed usually in the latter half of July or the first half of August.

During the season of high prevalence, from September to March, inclusive, the incidence curve in each locality exhibited a series of oscillations, constituting a succession of epidemics, each of several weeks' duration, rather irregular in sequence and magnitude, but clearly not attributable to mere chance fluctuation.

These epidemics in six student groups in widely separated localities showed a striking time correspondence of about the same order as was observed in the influenza epidemics of 1918, 1919, and 1920.

Cases reported as influenza constituted about 5.6 per cent of the total reported from the student groups from December, 1923, to May, 1925, and about 11.7 of those recorded in the family group for the same period of 18 months.

While the gross attack rates from all the minor respiratory disorders tended generally to decrease throughout the period of observation, the reported incidence of so-called influenza tended to increase, being highest in the winter of 1925–26.

The seasonal distribution of cases reported as influenza differed from that of cases classed (clinically) as coryza, in that the latter reached their highest prevalence in the autumn, while the highest incidence of influenza occurred each year in the winter or spring months. Hence, the autumn epidemics observed each year differed from those observed in the late winter and spring in that the latter comprised larger proportions of cases classed as influenza.

The increased prevalence of so-called influenza observed in most of the student groups in the winter and spring of 1924–25 coincided generally with an increase in mortality from influenza-pneumonia in the cities represented. However, in individual cities the extent of the increase in mortality bore no obvious relation to that of the increase in prevalence of influenza.

ACKNOWLEDGMENTS

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COURT DECISION RELATING TO PUBLIC HEALTH

Revocation by city board of health of permission to conduct a place for the keeping and slaughter of fowl upheld.—(Massachusetts Supreme Judicial Court; City of Revere *v.* Riseman et al., 181 N. E. 716; decided July 2, 1932.) On August 6, 1931, the board of health of the city of Revere prohibited the maintenance, on certain specified premises in the city, of a place for the keeping and slaughter of fowl. A month before the board had approved plans and specifications for a new modern building to replace a condemned building on such premises and construction had begun on the day of approval. The new building was completed on September 1, 1931, and one Riseman, who had since 1910 held a license to conduct a slaughterhouse on the said premises, continued to conduct a slaughterhouse there, notwithstanding the action of the board taken on August 6. In a suit brought by the city to enjoin the maintenance of a slaughterhouse on the premises specified, the supreme court, in affirming a decree for the city, stated in part as follows:

* * * the board of health of both city and town, by the provisions of R. L. c. 75, sec. 91, now G. L. c. 111, sec. 143, has express authority to revoke a permit to exercise, in a particular place, building, or otherwise, a trade or employment such as is described in G. L. c. 111, sec. 143. [Case cited.] It is manifest that an assignment of a place to exercise a trade or employment, such as is described in R. L. c. 75, sec. 91 (G. L. c. 111, sec. 143), does not create a vested right in the donee of the privilege granted and that a revocation of such a privilege does not deprive such a person of any constitutional rights. A donee of a privilege to exercise a trade or employment of the character described in R. L. c. 75, sec. 91 (G. L. c. 111, sec. 143) may rightfully be deprived of the enjoyment of such a

privilege whenever, in the opinion of the board of health, the continuance of such a trade or employment has become hurtful to the inhabitants, injurious to their estates, dangerous to the public health, or is attended by noisome and injurious odors. [Cases cited.] This is but an exercise of the police power, and the privilege granted may be assumed to have been accepted by the donee upon the understanding that such reserved power of revocation may be exercised by the board of health. The case at bar does not fall within the rule that a license once granted is not revocable unless the right to revoke is expressly or impliedly reserved. [Cases cited.]

DEATHS DURING WEEK ENDED AUGUST 13, 1932[a]

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

	Week ended Aug. 13, 1932	Corresponding week, 1931
Data from industrial insurance companies:		
Policies in force	71,360,353	74,988,817
Number of death claims	11,543	12,927
Death claims per 1,000 policies in force, annual rate	8.5	9.0
Death claims per 1,000 policies, first 32 weeks of year, annual rate	9.9	10.2
Data from 85 large cities of the United States:		
Total deaths	6,589	6,763
Deaths per 1,000 population, annual basis	9.4	9.8
Deaths under 1 year of age	542	654
Deaths under 1 year of age per 1,000 estimated live births [1]	44	51
Deaths per 1,000 population, annual basis, first 32 weeks of year	11.5	12.4

[a] The figures for the insurance companies and large cities published as for the week ended Aug. 8, 1932, on page 1782 of the public Health Reports for Aug. 26, 1932, were for the week ended Aug. 6, 1932.

[1] 1932, 81 cities; 1931, 77 cities.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended August 20, 1932, and August 22, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 20, 1932, and August 22, 1931

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931
New England States:								
Maine [3]	3	5	----	----	3	5	1	0
New Hampshire	----	1	----	----	----	2	0	0
Vermont	----	3	----	----	2	2	0	0
Massachusetts	32	31	1	1	55	29	1	2
Rhode Island	1	1	----	----	1	16	0	0
Connecticut	4	2	----	3	17	6	0	0
Middle Atlantic States:								
New York	33	39	[1] 4	----	120	158	3	7
New Jersey	20	13	5	----	49	16	2	3
Pennsylvania	28	49	----	----	50	69	3	18
East North Central States:								
Ohio	16	19	3	2	19	13	0	0
Indiana	22	8	12	4	5	1	8	3
Illinois	39	36	11	4	22	39	5	6
Michigan	13	14	----	----	101	22	2	15
Wisconsin	7	12	13	7	21	32	2	1
West North Central States:								
Minnesota	1	8	4	1	4	5	1	0
Iowa	6	4	----	----	----	2	0	0
Missouri	11	16	----	----	3	5	1	2
North Dakota	3	1	----	----	----	9	1	0
South Dakota	5	6	----	----	4	2	0	0
Nebraska	7	3	----	----	----	4	1	0
Kansas	6	5	----	----	16	2	2	1
South Atlantic States:								
Delaware	----	----	----	----	1	----	0	0
Maryland [2] [3]	13	11	3	2	5	3	0	0
District of Columbia	----	1	1	----	----	1	0	0
Virginia [3]	33	----	----	----	12	----	1	----
West Virginia	17	7	----	2	61	21	1	0
North Carolina	26	31	11	----	35	9	0	1
South Carolina	9	6	89	100	7	12	0	6
Georgia [3]	22	8	31	9	20	----	1	1
Florida [3]	8	----	----	1	4	----	0	0

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 20, 1932, and August 22, 1931—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931
East South Central States:								
Kentucky	24	16	----	----	----	12	1	1
Tennessee	9	19	20	18	2	3	3	3
Alabama [3]	29	17	8	2	----	12	2	2
Mississippi	14	31	----	----	----	----	0	1
West South Central States:								
Arkansas	12	1	----	----	4	1	0	0
Louisiana	18	21	9	2	1	----	1	1
Oklahoma [4]	27	25	19	3	2	1	2	0
Texas [3]	39	15	10	2	7	----	0	1
Mountain States:								
Montana	1	1	----	----	33	6	0	1
Idaho	----	1	----	----	----	2	0	0
Wyoming	1	----	----	----	2	2	0	2
Colorado	6	5	----	----	----	2	0	0
New Mexico	3	1	----	----	----	----	0	0
Arizona	1	2	----	----	----	----	0	1
Utah [3]	----	----	----	6	3	8	0	0
Pacific States:								
Washington	3	8	----	----	10	6	0	3
Oregon	1	7	12	6	24	5	0	0
California	27	49	70	8	24	29	1	6
Total	600	559	336	183	749	574	46	88

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 23, 1931
New England States:								
Maine [3]	3	7	1	7	0	0	9	4
New Hampshire	0	7	4	1	0	0	1	1
Vermont	0	7	5	4	0	8	0	0
Massachusetts	4	115	67	74	0	0	6	3
Rhode Island	0	22	4	9	0	0	1	0
Connecticut	2	115	17	10	0	0	3	0
Middle Atlantic States:								
New York [1]	27	555	117	86	1	1	50	38
New Jersey	19	78	20	18	0	0	10	13
Pennsylvania	88	10	80	78	0	0	68	37
East North Central States:								
Ohio	1	2	62	61	1	6	58	34
Indiana	0	3	16	15	2	11	34	18
Illinois	5	36	51	60	2	8	53	26
Michigan	3	68	48	55	3	2	14	10
Wisconsin	2	26	8	17	0	0	1	5
West North Central States:								
Minnesota	8	31	10	22	1	3	1	7
Iowa	1	8	9	10	1	5	7	4
Missouri	0	3	11	11	1	1	23	18
North Dakota	1	2	1	0	1	2	4	6
South Dakota	1	0	2	8	0	4	2	1
Nebraska	1	0	13	2	1	3	0	1
Kansas	1	1	17	17	1	3	15	10
South Atlantic States:								
Delaware	0	0	1	1	0	0	3	3
Maryland [2] [3]	0	2	10	9	0	0	47	40
District of Columbia	0	2	2	6	0	0	1	2
Virginia [3]	3	----	26	----	0	----	40	----
West Virginia	1	5	15	16	0	0	67	26
North Carolina	0	8	24	25	0	0	42	40
South Carolina	1	1	1	4	0	0	51	77
Georgia [3]	0	0	15	15	0	7	74	49
Florida [3]	0	0	2	1	0	0	4	5

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 20, 1932, and August 22, 1931—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931	Week ended Aug. 20, 1932	Week ended Aug. 22, 1931
East South Central States:								
Kentucky	2	4	54	6	0	0	120	47
Tennessee	1	1	20	34	1	5	81	112
Alabama [3]	0	4	22	11	0	0	36	47
Mississippi	0	0	12	14	0	7	20	41
West South Central States:								
Arkansas	1	0	6	0	0	3	24	45
Louisiana	1	0	9	12	1	0	35	69
Oklahoma [4]	0	0	6	13	1	1	83	49
Texas [3]	2	0	17	13	2	3	28	23
Mountain States;								
Montana	0	3	4	4	3	0	2	3
Idaho	0	1	1	3	1	0	0	1
Wyoming	2	0	1	2	1	0	0	0
Colorado	0	1	3	4	1	0	3	7
New Mexico	0	1	2	4	0	0	6	0
Arizona	0	0	1	2	0	0	1	5
Utah [2]	0	0	0	1	0	0	1	1
Pacific States:								
Washington	0	3	5	15	6	3	3	7
Oregon	0	0	3	6	8	9	3	7
California	6	3	42	36	5	8	12	18
Total	187	1,135	867	822	45	103	1,147	960

[1] New York City only.
[2] Week ended Friday.
[3] Typhus fever, week ended Aug. 20, 1932, 33 cases: 1 case in Maine, 1 case in Maryland, 1 case in Virginia, 7 cases in Georgia, 4 cases in Florida, 7 cases in Alabama, and 12 cases in Texas.
[4] Figures for 1932 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
July, 1932										
California	12	139	116	6	318	5	17	178	28	45
Georgia	4	44	103	308	53	88	2	21	3	355
Maine	-------	11	-------	-------	236	-------	4	49	0	16
Minnesota	2	25	9	-------	106	-------	10	120	13	7
Missouri	5	107	2	43	91	2	6	121	-------	143
New Jersey	5	66	8	1	1,017	-------	12	217	0	28
New Mexico	2	25	-------	12	2	4	0	12	0	26
New York	16	228	-------	7	3,547	-------	19	884	31	95
North Carolina	3	67	73	-------	741	283	4	86	5	200
Ohio	6	92	26	4	733	1	14	327	19	153
Rhode Island	-------	11	2	-------	46	-------	1	60	0	2
West Virginia	2	36	11	-------	546	1	3	17	0	196
Wisconsin	7	30	50	-------	662	-------	7	66	1	18

July, 1932

	Cases
Chicken pox:	
California	521
Georgia	25
Maine	100
Minnesota	100
Missouri	45
New Jersey	171
New Mexico	12
New York	968
North Carolina	58
Ohio	248
Rhode Island	18
West Virginia	17
Wisconsin	285
Conjunctivitis:	
Georgia	2
Diarrhea and enteritis:	
Ohio	49
Dysentery:	
California (amebic)	10
California (bacillary)	26
Georgia	51
Minnesota (amebic)	3
Minnesota	2
New Mexico	1
New York	15
Ohio	16
West Virginia	15
Food poisoning:	
California	46
Ohio	18
German measles:	
California	27
New Jersey	36
New Mexico	1
New York	65
North Carolina	8
Ohio	5
Wisconsin	3
Granuloma, coccidioidal:	
California	1
Lead poisoning:	
New Jersey	2
Ohio	15
Leprosy:	
California	1
Lethargic encephalitis:	
California	6
Georgia	2
Minnesota	1
New Jersey	6
New York	6
Ohio	2
Wisconsin	1
Milk sickness:	
Ohio	4
Mumps:	
California	303
Georgia	32
Maine	5
Missouri	63
New Jersey	354
New Mexico	13
New York	858
Mumps—Continued.	**Cases**
Ohio	109
Rhode Island	18
West Virginia	1
Wisconsin	165
Ophthalmia neonatorum:	
California	2
New Jersey	2
New York	7
North Carolina	1
Ohio	111
Wisconsin	3
Paratyphoid fever:	
California	3
Georgia	4
New Jersey	1
New York	2
North Carolina	7
Ohio	6
Puerperal septicemia:	
New York	8
Ohio	3
Rabies in animals:	
California	25
Missouri	4
New Jersey	27
New York [1]	1
Rhode Island	1
Relapsing fever:	
California	1
Rocky Mountain spotted or tick fever:	
California	3
Septic sore throat:	
California	5
Georgia	18
Missouri	17
New York	16
North Carolina	12
Ohio	71
Rhode Island	1
Tetanus:	
California	4
Georgia	2
Maine	1
Minnesota	1
New Jersey	2
New York	6
Ohio	3
Rhode Island	1
Trachoma:	
California	21
Minnesota	2
New Jersey	7
New York	6
Ohio	1
Trichinosis:	
California	14
Maine	1
New Jersey	6
New York	6
Tularaemia:	
California	1
Georgia	1
Minnesota	5
Missouri	3
Wisconsin	154

[1] Exclusive of New York City.

Typhus fever:	Cases
Georgia	26
North Carolina	2
Undulant fever:	
California	14
Georgia	2
Maine	1
Minnesota	11
Missouri	35
New Jersey	1
New York	22
Ohio	21
Wisconsin	2
Vincent's angina:	
Maine	2
New York [1]	97

Whooping cough:	Cases
California	1,350
Georgia	89
Maine	59
Minnesota	206
Missouri	393
New Jersey	580
New Mexico	37
New York	1,549
North Carolina	1,020
Ohio	1,094
Rhode Island	49
West Virginia	211
Wisconsin	906

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 93 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 33,465,000. The estimated population of the 86 cities reporting deaths is more than 31,900,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended August 13, 1932, and August 15, 1931

	1932	1931	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	600	553	----------
93 cities	159	205	348
Measles:			
45 States	902	884	----------
93 cities	316	232	----------
Meningococcus meningitis:			
46 States	36	69	----------
93 cities	18	32	----------
Poliomyelitis:			
46 States	161	1,040	----------
Scarlet fever:			
46 States	939	721	----------
93 cities	309	211	241
Smallpox:			
46 States	56	111	----------
93 cities	10	8	12
Typhoid fever:			
46 States	1,179	965	----------
93 cities	167	130	140
Deaths reported			
Influenza and pneumonia:			
86 cities	255	284	----------
Smallpox:			
86 cities	0	0	----------

[1] Exclusive of New York City.

City reports for week ended August 13, 1932

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1923 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland	0	0	0		0	0	0	1
New Hampshire:								
Concord	0	0	0		0	0	0	0
Manchester	0	0	0		0	0	0	0
Nashua	0	0	0		0	0	0	0
Vermont:								
Barre	0	0	0		0	0	0	0
Massachusetts:								
Boston	9	13	16		0	22	17	11
Fall River	0	1	0		0	0	0	0
Springfield	6	0	0		0	6	0	0
Worcester	5	2	0		0	5	1	4
Rhode Island:								
Pawtucket	0	0	0		0	0	0	0
Providence		3						
Connecticut:								
Bridgeport	3	1	1		0	6	0	0
Hartford	0	1	0		0	1	0	1
New Haven	1	0	0		0	0	0	0
MIDDLE ATLANTIC								
New York:								
Buffalo	2	6	0		0	7	0	9
New York	32	87	47	1	1	77	37	50
Rochester	3	1	1		0	1	3	1
Syracuse	2	1	0		0	0	0	3
New Jersey:								
Camden	0	1	5		0	0	0	1
Newark	3	7	1	1	0	15	7	5
Trenton	0	1	0		0	7	1	3
Pennsylvania:								
Philadelphia	8	27	1	2	1	6	10	13
Pittsburgh	2	9	1		0	4	1	10
Reading	1	0	0		0	2	0	1
Scranton	1		3			0	1	
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	0	2	2		0	0	0	5
Cleveland	6	14	3	2	0	4	2	6
Columbus	0	2	4		0	0	0	0
Toledo	2	2	1	2	0	4	0	3
Indiana:								
Fort Wayne		1						
Indianapolis	0	2	1		0	0	6	2
South Bend	0	1	0		0	0	0	0
Terre Haute	0	0	0		0	0	0	0
Illinois:								
Chicago	27	44	5	1	0	18	4	18
Springfield		0						

City reports for week ended August 13, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued								
Michigan:								
Detroit	0	21	5		0	85	3	10
Flint	0	1	0		0	0	0	1
Grand Rapids	1	0	0		0	0	5	0
Wisconsin:								
Kenosha	0	0	0		0	0	0	0
Madison	1	0	0			0	2	
Milwaukee	13	6	1		0	1	1	0
Racine	1	1	0		0	1	2	0
Superior	2	0	0		0	0	0	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth	5	0	0		0	2	4	2
Minneapolis	2	7	0		2	1	1	1
St. Paul	1	3	0		0	1	1	3
Iowa:								
Des Moines	0	0	8	0		0	0	
Sioux City	0	0	0			0	0	
Waterloo	0	0	0			0	0	
Missouri:								
Kansas City	0	1	0		0	2	4	1
St. Joseph	0	0	0		0	0	1	2
St. Louis	3	11	7			1	0	2
North Dakota:								
Fargo	2	0	0		0	0	0	0
Grand Forks	0	0	0			0	0	
South Dakota:								
Aberdeen	0	0	0			0	0	
Nebraska:								
Omaha	0	2	2		0	0	0	1
Kansas:								
Topeka	3	1	1		0	1	0	0
Wichita	0	0	0		0	0	0	1
SOUTH ATLANTIC								
Delaware:								
Wilmington	0	0	0		0	1	0	1
Maryland:								
Baltimore	6	7	3	1	0	3	12	11
Cumberland	0	0	0		0	0	0	2
Frederick	0	0	0		0	0	0	0
District of Columbia:								
Washington	3	5	2	1	1	1	0	5
Virginia:								
Lynchburg	0	0	0		0	0	0	1
Richmond	0	3	0		1	0	0	1
Roanoke	0	1	5		0	0	0	0
West Virginia:								
Charleston	0	0	1		0	0	0	0
Huntington	0		0		0	1	0	0
Wheeling	3	0	1		0	11	1	0
North Carolina:								
Raleigh	0	1	0		0	0	0	0
Wilmington	0	0	0		0	1	0	0
Winston-Salem	1	1	0		0	5	2	0
South Carolina:								
Charleston	0	0	0	2	0	0	0	3
Columbia	0	0	0		0	0	0	0
Greenville	0	0	0		0	0	0	0
Georgia:								
Atlanta	0	3	2		0	0	0	1
Brunswick	0	0	0		0	0	0	0
Savannah	0	0	0	3	0	2	0	0
Florida:								
Miami	0	0	0	1	0	0	0	1
Tampa	0	1	4		0	0	1	0

City reports for week ended August 13, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL								
Kentucky:								
Covington		0						
Lexington	0		0		0	0	0	0
Tennessee:								
Memphis	0	1	0		0	0	0	0
Nashville	0	1	0		1	0	0	2
Alabama:								
Birmingham	0	2	1		0	0	0	6
Mobile	0	0	0		0	0	0	1
Montgomery	0	0	0			0	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	0			0	0	
Little Rock	0	0	0		0	0	0	2
Louisiana:								
New Orleans	0	5	2	2	2	0	0	9
Shreveport	0	0	0		0	0	0	1
Oklahoma:								
Muskogee	0		0		0	0	0	0
Texas:								
Dallas	0	3	12		0	2	0	4
Fort Worth	0	2	0		0	0	0	2
Galveston	0	0	0		0	0	0	0
Houston	0	2	6		0	0	0	2
San Antonio	0	1	2		0	1	0	2
MOUNTAIN								
Montana:								
Billings	0	0	0		0	1	0	0
Great Falls	0	0	0		0	1	0	1
Helena	0	0	0		0	0	0	0
Missoula	0	0	0		0	0	0	0
Idaho:								
Boise	0	0	0		0	0	0	0
Colorado:								
Denver	2	6	1		0	1	7	6
Pueblo	0	1	0		0	0	0	0
New Mexico:								
Albuquerque	0	0	0		0	0	0	0
Utah:								
Salt Lake City	1	1	0		1	0	7	0
Nevada:								
Reno	0	0	0		0	0	0	0
PACIFIC								
Washington:								
Seattle	3	1	0			0	5	
Spokane	3	1	0			0	3	
Tacoma	0	2	0		0	1	0	0
Oregon:								
Portland	1	3	0		0	5	0	2
Salem	1	0	0			2	0	
California:								
Los Angeles	13	17	11	29	0	5	8	9
Sacramento	1	0	0		0	0	0	3
San Francisco	7	5	2	1	0	4	4	4

City reports for week ended August 13, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	0	1	0	0	0	0	0	0	0	7	25
New Hampshire:											
Concord	0	2	0	0	0	0	0	0	0	0	8
Manchester	0	3	0	0	0	0	0	0	0	0	10
Nashua	0	0	0	0	0	0	0	0	0	0	----
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	3
Massachusetts:											
Boston	15	25	0	0	0	6	2	2	0	56	165
Fall River	1	0	0	0	0	0	1	0	0	1	12
Springfield	1	1	0	0	0	0	0	0	0	1	21
Worcester	2	4	0	0	0	3	0	1	0	6	31
Rhode Island:											
Pawtucket	0	0	0	0	0	0	0	0	0	0	17
Providence	3	----	0	----	----	----	1	----	----	----	----
Connecticut:											
Bridgeport	1	4	0	0	0	0	1	0	0	7	17
Hartford	1	1	0	0	0	0	1	0	0	0	30
New Haven	0	1	0	0	0	0	1	0	0	9	27
MIDDLE ATLANTIC											
New York:											
Buffalo	5	11	0	0	0	6	1	0	0	0	100
New York	25	40	0	0	0	85	26	49	2	101	1,119
Rochester	2	4	0	0	0	0	1	0	0	8	62
Syracuse	1	4	0	0	0	1	0	0	0	38	38
New Jersey:											
Camden	1	0	0	0	0	1	1	0	0	0	31
Newark	3	2	0	0	0	4	1	6	0	22	84
Trenton	1	2	0	0	0	0	1	1	0	7	32
Pennsylvania:											
Philadelphia	14	23	0	0	0	17	6	16	3	27	392
Pittsburgh	7	9	0	0	0	11	1	0	0	17	132
Reading	0	1	0	0	0	1	0	0	0	7	22
Scranton	----	3	----	0	----	----	----	0	----	4	----
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	4	4	1	0	0	5	2	2	1	6	101
Cleveland	9	16	0	0	0	16	3	2	0	40	148
Columbus	2	6	0	0	0	5	0	0	0	3	79
Toledo	2	2	0	0	0	6	2	2	0	23	66
Indiana:											
Fort Wayne	1	----	0	----	----	----	0	----	----	----	----
Indianapolis	2	0	1	0	0	6	0	1	0	6	----
South Bend	0	1	0	0	0	1	0	0	0	2	13
Terre Haute	0	0	0	0	0	1	1	0	0	0	11
Illinois:											
Chicago	27	49	0	0	0	30	5	4	0	70	502
Springfield	0	----	0	----	----	----	0	----	----	----	----
Michigan:											
Detroit	20	22	0	0	0	11	4	1	1	121	218
Flint	3	1	0	0	0	1	0	0	1	1	20
Grand Rapids	2	2	0	0	0	0	0	0	0	33	23
Wisconsin:											
Kenosha	1	0	0	0	0	0	0	0	0	6	6
Madison	1	0	0	0	----	----	0	0	----	11	----
Milwaukee	5	2	0	0	0	7	0	1	0	36	81
Racine	1	0	0	0	0	0	0	0	0	0	7
Superior	2	0	0	0	0	0	0	1	0	2	11

City reports for week ended August 13, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL											
Minnesota:											
Duluth	3	0	0	0	0	1	0	0	0	0	17
Minneapolis	9	4	0	0	0	3	1	1	0	1	72
St. Paul	6	0	0	0	0	3	1	0	0	24	49
Iowa:											
Des Moines	2	3	0	0	----	----	0	0	----	0	20
Sioux City	0	0	0	0	----	----	0	0	----	1	----
Waterloo	1	0	0	0	----	----	0	0	----	0	----
Missouri:											
Kansas City	2	4	0	0	0	2	1	0	0	8	77
St. Joseph	1	0	0	0	0	0	0	0	0	0	27
St. Louis	7	2	0	0	0	8	6	6	3	3	166
North Dakota:											
Fargo	1	0	0	0	0	0	0	0	0	1	4
Grand Forks	1	0	0	0	----	----	0	0	----	0	----
South Dakota:											
Aberdeen	0	0	0	0	----	----	0	0	----	1	----
Nebraska:											
Omaha	1	4	0	0	0	7	0	0	0	0	46
Kansas:											
Topeka	1	0	0	0	0	0	0	0	0	5	----
Wichita	1	0	0	0	0	0	0	0	0	0	26
SOUTH ATLANTIC											
Delaware:											
Wilmington	0	0	0	0	0	1	0	0	0	1	33
Maryland:											
Baltimore	4	7	0	0	0	12	6	18	1	25	166
Cumberland	0	0	0	0	0	2	1	1	0	5	11
Frederick	0	0	0	0	0	0	0	0	0	0	5
District of Col.:											
Washington	4	6	0	0	0	10	2	5	0	3	137
Virginia:											
Lynchburg	0	0	0	0	0	1	1	2	0	28	12
Richmond	2	6	0	0	0	2	2	0	0	0	41
Roanoke	1	1	0	0	0	0	1	0	0	3	13
West Virginia:											
Charleston	0	3	0	0	0	0	2	4	1	1	17
Huntington	----	1	----	0	0	0	----	2	0	0	----
Wheeling	0	0	0	0	0	0	0	0	0	1	13
North Carolina:											
Raleigh	0	0	0	0	0	1	0	0	0	3	10
Wilmington	0	0	0	0	0	1	0	0	1	0	7
Winston-Salem	1	1	0	0	0	2	2	0	0	4	12
South Carolina:											
Charleston	0	0	0	0	0	2	1	3	0	0	23
Columbia	0	0	0	0	0	0	1	0	0	0	3
Greenville	----	0	----	0	0	0	----	0	0	0	----
Georgia:											
Atlanta	2	0	1	0	0	4	4	5	1	3	52
Brunswick	0	0	0	0	0	0	1	0	0	0	----
Savannah	0	0	0	0	0	1	0	1	0	1	22
Florida:											
Miami	0	0	0	0	0	3	0	1	0	0	23
Tampa	0	1	0	0	0	0	1	0	0	0	24
EAST SOUTH CENTRAL											
Kentucky:											
Covington	0	----	0	----	----	----	0	----	----	----	----
Lexington	----	0	----	0	0	0	----	2	0	5	17
Tennessee:											
Memphis	1	2	0	0	0	9	10	6	1	9	73
Nashville	0	1	1	0	0	1	5	0	1	7	46
Alabama:											
Birmingham	1	0	0	0	0	3	5	1	0	4	46
Mobile	0	0	0	0	0	0	1	0	0	0	19
Montgomery	0	0	0	0	----	----	1	1	----	0	----

City reports for week ended August 13, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	0	0	0	0	----	----	0	0	----	2	----
Little Rock	0	0	0	0	0	0	1	2	0	0	2
Louisiana:											
New Orleans	3	2	1	1	0	10	5	4	3	1	141
Shreveport	0	0	0	0	0	1	2	3	0	4	24
Oklahoma:											
Muskogee	1	0	----	0	0	0	----	2	0	0	----
Texas:											
Dallas	3	2	0	0	0	4	4	4	0	2	64
Fort Worth	1	4	0	0	0	2	2	0	0	0	31
Galveston	0	0	0	0	0	0	1	1	0	0	11
Houston	1	0	0	0	0	6	2	0	0	0	74
San Antonio	1	1	0	0	0	2	1	2	0	0	40
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	0	3
Great Falls	0	1	0	0	0	0	0	0	0	0	5
Helena	0	0	0	0	0	0	0	0	0	0	3
Missoula	0	0	0	0	0	1	0	0	0	0	8
Idaho:											
Boise	0	0	1	0	0	0	0	0	0	0	7
Colorado:											
Denver	2	4	0	0	0	5	1	0	0	20	66
Pueblo	1	0	0	0	0	0	0	0	0	6	6
New Mexico:											
Albuquerque	0	0	0	0	0	5	0	0	0	2	11
Utah:											
Salt Lake City	1	1	0	0	0	0	2	0	0	7	25
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	5
PACIFIC											
Washington:											
Seattle	3	2	0	0	----	----	1	0	----	0	----
Spokane	1	0	1	2	----	----	0	1	----	0	----
Tacoma	2	1	2	2	0	0	0	4	1	0	30
Oregon:											
Portland	2	1	3	0	0	1	1	0	0	10	49
Salem	0	0	0	0	----	----	0	0	----	7	----
California:											
Los Angeles	10	12	2	5	0	19	2	2	0	79	276
Sacramento	1	1	1	0	0	2	1	3	0	5	23
San Francisco	5	2	0	0	0	7	2	0	0	10	150

City reports for week ended August 13, 1932—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland	0	0	0	0	0	0	0	2	0
Massachusetts:									
Worcester	0	0	1	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York [1]	2	4	3	1	0	0	16	11	2
New Jersey:									
Newark	2	0	0	0	0	0	0	1	0
Trenton	0	0	0	0	0	0	0	1	0
Pennsylvania:									
Philadelphia	3	1	0	0	0	0	1	45	3
EAST NORTH CENTRAL									
Ohio:									
Cleveland	2	0	0	0	0	0	1	1	0
Columbus	0	0	0	0	0	0	0	1	1
Indiana:									
Indianapolis	3	0	0	0	0	0	0	0	0
Illinois:									
Chicago	2	1	0	0	0	0	2	2	1
Michigan:									
Detroit	1	0	1	0	0	0	2	0	0
Wisconsin:									
Milwaukee	0	0	1	1	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	1	0	0	0	0	0	0	0	0
St. Paul	0	0	0	0	0	0	0	1	0
Iowa:									
Des Moines	0	0	0	0	0	0	0	1	0
SOUTH ATLANTIC									
Maryland:									
Baltimore [1]	0	0	1	1	0	0	1	1	0
District of Columbia:									
Washington	0	0	1	1	0	0	1	2	0
West Virginia:									
Charleston	0	0	0	0	0	1	0	0	0
Huntington	0	0	0	0	1	0	--------	0	0
North Carolina:									
Raleigh	0	0	0	0	2	0	0	0	0
South Carolina:									
Charleston	0	0	0	0	4	0	0	1	0
Georgia:									
Atlanta [1]	2	0	1	1	2	0	0	0	0
Brunswick	0	0	0	0	3	0	0	0	0
Savannah [1]	0	0	0	0	2	1	0	0	0
Florida:									
Miami	0	0	0	0	1	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	0	0	0	0	0	0	0	1	0
Nashville	0	1	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans [1]	0	0	0	0	1	1	0	3	0
Shreveport	0	0	0	0	0	1	0	0	0
Texas:									
San Antonio	0	0	0	0	0	0	0	1	0
PACIFIC									
Washington:									
Seattle	0	0	0	0	0	0	1	1	0
California:									
Los Angeles	0	1	1	0	1	0	1	3	1

[1] Typhus fever, 9 cases: 2 cases at New York City, N. Y.; 1 case at Baltimore, Md.; 2 cases at Atlanta, Ga.; 3 cases at Savannah, Ga.; and 1 case at New Orleans, La.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended August 6, 1932.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended August 6, 1932, as shown in the following table. Provinces not given in the table did not report, during the week, any case of any disease included in the table.

Province	Cerebro-spinal fever	Influenza	Lethargic encepha-litis	Polio-myeli-tis	Small-pox	Typhoid fever
Nova Scotia	2	8		1		
Quebec				18		7
Ontario		1			3	[1] 19
Manitoba						3
Saskatchewan						1
Alberta			1			1
British Columbia		3				1
Total	2	12	1	19	3	[1] 32

[1] Including 5 cases of paratyphoid fever.

Quebec Province—Communicable diseases—Week ended August 6, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended August 6, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken pox	5	Puerperal septicemia	1
Diphtheria	11	Scarlet fever	29
Erysipelas	1	Tuberculosis	31
German measles	1	Typhoid fever	7
Measles	15	Whooping cough	30
Poliomyelitis	18		

CZECHOSLOVAKIA

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

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	1		Puerperal fever	38	21
Cerebrospinal meningitis	11	3	Scarlet fever	1,373	25
Diphtheria	1,541	70	Trachoma	163	
Dysentery	10		Typhoid fever	290	27
Malaria	124		Typhus fever	1	
Paratyphoid fever	15	2			

ITALY

Communicable diseases—Four weeks ended January 10, 1932.—During the four weeks ended January 10, 1932, cases of certain communicable diseases were reported in Italy as follows:

Disease	Dec. 14-20		Dec. 21-27		Dec. 28-Jan. 3		Jan. 4-10	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax	13	11	25	24	21	17	42	37
Cerebrospinal meningitis	12	11	8	7	9	9	8	8
Chicken pox	222	91	368	106	197	73	376	132
Diphtheria and croup	456	238	681	334	464	249	612	315
Dysentery	9	7	4	3	2	2	8	7
Lethargic encephalitis			3	3	1	1		
Measles	1,169	159	1,588	216	1,089	165	1,679	215
Poliomyelitis	13	10	8	6	9	6	11	8
Rabies			1	1				
Scarlet fever	326	129	423	163	315	116	430	151
Smallpox							1	1
Typhoid fever	295	169	452	225	261	146	357	203

LATVIA

Communicable diseases—June, 1932.—During the month of June, 1932, cases of certain communicable diseases were reported in the Republic of Latvia, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	7	Poliomyelitis	3
Diphtheria	43	Puerperal fever	14
Erysipelas	22	Scarlet fever	32
Influenza	65	Trachoma	96
Leprosy	1	Typhoid fever	48
Measles	16	Typhus fever	5
Mumps	66	Whooping cough	191
Paratyphoid fever	21		

VIRGIN ISLANDS

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

Disease	Cases	Disease	Cases
Chancroid	1	Syphilis	7
Gonorrhea	4	Tetanus	1
Leprosy	1	Tuberculosis	4
Malaria	26	Uncinariasis	1
Pellagra	2		

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

(NOTE.—Current information regarding the world-wide prevalence of the quarantinable diseases and data covering the preceding six months have heretofore been published in tabular form at this place in the Public Health Reports. Owing to the necessity for drastic economies resulting from a reduction in printing funds, the full table will be published. at least for the time being, only in the last issue of each month. In the intervening weekly issues there will be printed in this space brief notes regarding new foci of quarantinable diseases and other important data considered of especial interest to quarantine officers.)

Cholera

Baluchistan.—During the week ended August 6, 1932, 18 cases of cholera with 6 deaths were reported in Baluchistan.

China.—Cholera has been reported in Chinese cities as follows: Week ended July 30, 1932—Kwantung, District of Port Arthur, 2 cases, 2 deaths; Hankow, 6 cases and 3 deaths. Week ended August 6, 1932: Amoy, 110 cases, 48 deaths; Macao, 18 cases, 18 deaths; Nanking, 112 cases, 24 deaths; Shanghai, 454 cases, 39 deaths. Week ended August 13, 1932: Canton, 8 cases, 4 deaths; Hong Kong, 11 cases, 9 deaths. On August 23, 1932, 22 cases of cholera with 8 deaths were reported at Tsingtao, China.

Philippine Islands.—One fatal case of cholera was reported August 15, 1932, at Malolos, Bulacan Province, Philippine Islands.

Plague

Hawaii Territory.—Three plague-infected rats have been reported at Makawao, Island of Maui, Hawaii Territory. One rat was captured August 9, 1932, and two rats August 11.

Senegal.—Twelve fatal cases of plague were reported at Thies, Senegal, during July, 1932.

Yellow Fever

Bolivia.—The disease previously reported [1] in southern Bolivia has been proved to be yellow fever. The principal focus is the city of Santa Cruz and surrounding territory. About 30 deaths have occurred. Under date of July 26 it was said that two or three sporadic cases a month were occurring.

[1] Public Health Reports, Aug. 26, 1932, p. 1811.

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