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MORTALITY FROM INFLUENZA AND PNEUMONIA IN 50 LARGE CITIES OF THE UNITED STATES, 1910-1929¹

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DATA FOR GROUP OF CITIES

The course of recorded mortality from influenza and pneumonia² from 1920 to 1929 in a group of 95 American cities and in subgroups corresponding to the major geographic subdivisions of the United States has been considered in a prior paper.³ The purpose of the present study is to give a similar account of mortality from these causes through the two decades from 1910 to 1929, inclusive, a period which is of special interest, since it includes the influenza epidemic of 1918-19 with approximately 10 years preceding and 10 years following.

Continuous records of deaths from influenza and pneumonia by weeks prior to 1920 are not available for all of the 95 cities which furnished material for the previous study; and for the period prior to September, 1918, weekly mortality statistics by specific causes are not available in assembled form for any considerable group of cities. Therefore, the study here presented is necessarily limited to a smaller number of cities than was included in the previous paper, and that part of the study for the period prior to September, 1918, is based upon deaths recorded not by weeks but by months only. The data used and the sources are as follows:

(1) From the Weekly Health Index, issued by the United States Census Bureau, and from weekly reports from cities of cases and deaths from certain causes as published in the Public Health Reports, statistics of deaths from influenza and pneumonia by weeks, from September, 1918, through 1929 in 35 cities, each of which had more than 100,000 inhabitants in 1910.

(2) From the annual volumes of Mortality Statistics, United States Census Bureau records of the deaths from the same causes in these same 35 cities by months from 1910 to 1929.

¹ From the Office of Statistical Investigations, United States Public Health Service.

² In this paper the term "influenza and pneumonia" designates the classifications in the recorded mortality that were used and is not intended to suggest that the various respiratory epidemics were necessarily etiologically the same.

³ Collins, S. D.: Influenza-pneumonia mortality in a group of about 95 cities in the United States, 1920-1929. Pub. Health Rep., vol. 45, No. 8, Feb. 21, 1930. (Reprint No. 1355).

(3) From the same volumes of Mortality Statistics, similar monthly records of deaths from influenza and pneumonia for the same period in the 15 other cities in the United States which had in 1910 a population of 100,000 or more.

Wherever, in this study, mortality in a group of cities is considered, the group referred to is made up of the 35 cities mentioned under (1) and (2), the additional 15 cities which are included in certain tables being used only for the study of mortality in individual cities.

The 35 cities which constitute the principal group for study were chosen for this purpose primarily because they are the only cities in the country for which continuous weekly statistics of deaths from influenza and pneumonia are available from the beginning of the 1918 influenza epidemic. This group includes 25 of the 33 cities of the United States which, in 1920, had populations exceeding 200,000 and comprises more than half of the 68 cities which, in that year, had 100,000 or more inhabitants. The total population of the group, as enumerated in the census of 1920, was 20,440,548, and as estimated⁴ for 1928 was 23,421,000. Nearly 44 per cent of this aggregate is contributed by New York, Philadelphia, Boston, and Baltimore, and a large proportion of the remainder is in other cities located in the northeastern quarter of the country. Thus, in geographic distribution the population represented by this group is unlike that of the United States as a whole, and differs considerably from that of the population resident in the 95 cities which were used for the study of mortality from 1920-1929. However, it is found by numerous comparisons that, in the decade from 1920 to 1929, the course of mortality as exhibited in the 35 cities is not substantially different from that found in the larger group of 95 cities; and it may be inferred that this holds true also for the years 1910 to 1919.

Basic data for the group as a whole are presented for the period September, 1918, through 1929, in Tables 1, 2, and 3, which show, respectively, mortality rates (annual basis) by weeks from (1) influenza, (2) pneumonia, and (3) influenza and pneumonia together. Corresponding mortality rates (also on an annual basis) by months from 1910 to 1919 are shown in the three sections of Table 4.

⁴ Provisional enumerated populations now being announced for 1930 indicate that this estimate is less than 3 per cent in error.

TABLE 1.—*Weekly death rates (annual basis) per 100,000 from influenza in a group of 35 cities¹ in the United States, 1918–1929*

Week of year	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1.	458	14	5	11	19	10	19	22	19	19	19	182
2.	507	18	9	9	30	13	20	23	21	21	21	209
3.	551	115	10	9	41	14	24	21	21	21	26	141
4.	535	417	12	15	44	13	19	29	27	18	130	
5.	422	665	8	35	64	16	28	40	20	20	20	77
6.	302	683	10	56	77	19	25	36	26	16	16	57
7.	228	455	14	67	99	19	31	55	26	21	21	51
8.	220	278	12	98	102	19	33	46	23	23	23	43
9.	227	150	12	83	102	18	30	56	28	20	20	34
10.	221	99	15	69	84	21	33	74	28	22	22	30
11.	217	64	16	65	62	21	41	80	32	23	23	30
12.	182	51	11	48	42	15	35	101	28	28	28	26
13.	154	31	9	33	38	16	34	87	24	24	25	15
14.	110	24	9	21	33	16	27	70	25	25	25	20
15.	91	22	10	22	27	17	28	46	22	22	22	14
16.	86	18	9	16	25	14	31	35	19	28	28	16
17.	54	14	10	11	20	11	21	30	18	32	32	11
18.	50	13	7	11	17	9	14	25	13	35	35	6
19.	33	10	5	9	10	9	16	16	12	35	9	9
20.	25	7	5	4	8	10	14	14	11	30	9	9
21.	19	10	4	5	8	8	13	11	9	25	11	11
22.	16	7	3	3	7	5	12	7	9	19	8	8
23.	13	4	3	2	4	4	6	10	5	16	7	7
24.	7	3	3	4	4	4	5	8	6	12	6	6
25.	6	2	2	2	2	2	6	7	7	7	7	6
26.	3	3	2	1	3	3	4	7	3	9	4	2
27.	3	2	2	2	3	2	2	4	4	4	9	2
28.	2	2	1	2	2	3	2	6	3	3	5	2
29.	2	2	1	1	3	0.2	3	3	2	3	4	2
30.	1	3	1	1	1	1	1	1	3	2	5	2
31.	2	3	1	1	1	1	3	3	2	4	5	2
32.	2	2	1	1	1	2	3	2	3	4	4	4
33.	1	1	2	1	2	2	2	2	2	4	5	3
34.	2	1	2	1	2	1	3	3	3	4	4	4
35.	3	1	2	1	2	1	2	3	5	4	4	3
36.	2	2	1	1	1	1	5	5	4	4	3	3
37.	5	3	2	2	2	3	1	5	5	4	4	2
38.	49	5	2	1	1	1	3	3	5	3	4	2
39.	213	6	2	2	2	3	4	5	6	7	6	5
40.	670	7	3	3	1	2	4	3	4	6	8	7
41.	1,685	8	1	3	2	4	5	6	6	6	7	8
42.	3,037	6	3	3	3	5	5	9	7	11	17	9
43.	3,159	8	3	5	4	5	3	11	10	9	11	11
44.	2,366	5	4	5	6	4	8	12	12	10	10	11
45.	1,253	6	4	4	4	7	7	11	14	7	12	9
46.	674	6	6	5	8	8	8	9	11	9	14	9
47.	475	8	6	4	8	9	9	8	12	11	17	7
48.	400	7	6	5	7	9	11	12	14	13	30	11
49.	472	10	9	6	8	11	13	14	18	11	46	17
50.	603	10	8	5	10	9	17	14	16	14	79	16
51.	656	10	5	6	9	10	16	13	16	17	114	18
52.	548	9	9	7	12	9	16	15	18	20	152	18
53.		9				19						

¹ Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. For list of cities, see footnote to Table 3.

Dates of end (Saturday) of first calendar week of the year

Year	First week ended—	Year	First week ended—	Year	First week ended—
1917	Jan. 6	1922	Jan. 7	1927	Jan. 8
1918	Jan. 5	1923	Jan. 6	1928	Jan. 7
1919	Jan. 4	1924	Jan. 5	1929	Jan. 5
1920	Jan. 10	1925	Jan. 10	1930	Jan. 4
1921	Jan. 8	1926	Jan. 9		

TABLE 2.—*Weekly death rates (annual basis) per 100,000 from pneumonia in a group of 35 cities¹ in the United States, 1918–1929*

Week of year	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1.	335	186	182	159	230	159	202	220	196	179	342	
2.	354	217	173	186	251	202	207	216	189	153	369	
3.	378	327	176	193	245	192	199	203	187	181	367	
4.	427	553	172	198	251	178	200	189	159	161	345	
5.	399	722	178	238	284	206	214	215	175	156	269	
6.	336	819	189	261	310	205	218	214	153	177	243	
7.	323	609	194	269	356	200	211	262	153	176	222	
8.	350	405	199	325	371	214	198	262	172	155	191	
9.	364	287	208	298	374	207	202	249	179	198	229	
10.	341	244	191	290	323	219	209	334	194	199	200	
11.	341	215	184	261	264	210	207	392	168	230	186	
12.	311	199	167	223	231	200	197	388	167	208	166	
13.	275	182	153	185	205	212	202	342	166	226	155	
14.	247	179	150	184	197	218	195	275	172	226	150	
15.	231	183	135	166	202	168	188	236	157	207	138	
16.	203	178	139	147	173	200	207	207	164	196	128	
17.	167	162	110	133	171	185	166	173	144	200	115	
18.	153	141	110	149	163	172	157	164	130	219	121	
19.	153	134	97	131	143	147	126	154	124	212	107	
20.	118	145	100	132	129	137	125	140	108	199	107	
21.	125	121	93	113	119	116	128	124	108	179	116	
22.	109	109	79	92	110	118	133	104	96	155	108	
23.	100	93	71	87	108	106	105	96	97	132	92	
24.	76	85	59	69	79	110	81	89	88	115	88	
25.	59	61	63	56	73	95	69	74	78	90	84	
26.	55	60	48	62	80	82	60	73	75	77	63	
27.	52	49	44	52	67	64	62	68	59	69	63	
28.	61	49	45	56	56	60	54	63	61	60	56	
29.	44	48	39	49	52	60	49	58	59	59	54	
30.	49	48	41	47	58	59	62	49	49	48	50	
31.	54	53	43	47	55	56	58	57	49	55	54	
32.	48	50	48	50	58	48	64	52	57	62	52	
33.	47	49	53	52	55	51	54	56	45	62	54	
34.	48	49	43	55	54	46	51	50	48	61	55	
35.	52	41	58	51	56	59	74	54	57	57	53	
36.	47	50	56	51	63	64	64	51	60	57	61	
37.	65	56	59	52	56	52	50	65	48	60	63	
38.	96	56	58	58	52	71	58	50	67	63	53	
39.	189	56	63	57	57	65	72	60	70	57	67	
40.	471	62	59	59	69	71	80	72	64	66	36	75
41.	1,077	80	72	65	80	73	96	97	80	73	83	78
42.	1,875	72	75	77	81	89	94	96	89	78	106	98
43.	1,756	68	80	87	96	80	88	115	100	92	87	107
44.	1,144	85	82	95	102	99	88	136	102	90	91	110
45.	611	87	92	92	128	118	121	140	107	106	95	109
46.	387	89	101	113	119	119	128	147	123	115	107	97
47.	271	93	121	101	131	129	123	126	80	95	123	97
48.	262	112	133	110	142	122	133	144	131	118	136	106
49.	300	128	125	115	150	128	160	128	136	115	162	137
50.	370	145	144	126	170	144	169	142	137	121	198	151
51.	365	159	142	136	184	146	182	136	146	137	243	153
52.	352	160	177	147	196	143	157	183	169	164	287	144
53.		186					210					

¹ Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. For list of cities, see footnote to Table 3.

TABLE 3.—*Weekly death rates (annual basis) per 100,000 from influenza and pneumonia in a group of 35 cities¹ in the United States, 1918–1929*

Week of year	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1	793	200	187	170	219	169	221	242	215	198	524	
2	861	235	182	195	281	215	227	230	210	174	578	
3	929	442	186	202	286	206	223	224	208	207	503	
4	962	970	184	213	295	191	219	218	186	178	475	
5	821	1,387	186	273	358	222	242	255	195	176	366	
6	638	1,502	199	317	337	224	243	250	179	193	300	
7	561	1,064	208	336	455	218	242	317	179	197	273	
8	570	683	211	423	473	233	231	308	195	178	234	
9	591	446	229	381	476	225	232	305	207	218	263	
10	562	343	206	359	407	240	242	408	222	221	230	
11	558	279	200	326	326	231	248	472	220	233	216	
12	493	250	178	271	273	215	232	489	195	236	192	
13	429	213	162	218	243	228	236	420	190	251	170	
14	357	203	159	205	230	234	222	345	197	259	170	
15	322	205	145	188	229	185	216	282	179	236	152	
16	280	196	148	163	198	214	233	242	183	224	144	
17	221	176	120	144	191	196	187	203	162	232	126	
18	203	154	117	160	180	181	171	189	143	254	127	
19	186	144	102	140	153	156	142	170	136	247	116	
20	143	152	105	136	137	147	139	154	119	229	116	
21	144	131	97	118	125	124	141	135	117	204	127	
22	125	116	82	95	117	123	145	111	105	174	116	
23	113	97	74	89	112	110	111	106	102	148	99	
24	83	88	62	73	83	114	86	97	94	127	94	
25	65	63	65	58	75	99	75	79	85	97	90	
26	58	63	50	63	83	85	64	80	78	86	67	
27	55	51	46	54	70	66	64	72	63	78	65	
28	63	51	46	58	58	63	56	69	64	65	58	
29	46	50	40	50	55	60	52	61	62	63	58	
30	50	51	42	48	59	60	62	51	52	52	52	
31	56	56	49	47	56	59	61	60	51	60	56	
32	50	52	49	51	59	50	67	54	61	67	54	
33	48	50	55	53	57	53	56	59	49	65	58	
34	50	50	45	56	56	47	54	54	53	65	59	
35	55	42	60	52	57	61	77	57	62	61	55	
36	49	52	57	52	64	65	69	55	64	60	64	
37	70	59	61	54	58	55	60	70	53	64	67	55
38	145	61	60	59	53	74	59	53	72	66	71	55
39	402	62	65	59	59	69	76	65	76	64	73	66
40	1,141	69	62	62	70	73	84	75	68	72	94	82
41	2,762	88	73	68	82	77	101	103	88	79	90	86
42	4,912	78	78	80	84	94	99	105	96	89	123	105
43	4,915	78	83	92	100	95	91	126	110	101	98	116
44	3,510	90	86	100	108	103	96	148	114	100	101	121
45	1,804	93	96	96	132	125	128	151	121	113	107	118
46	1,061	95	107	118	127	127	136	156	134	124	121	106
47	746	101	127	105	139	138	132	134	92	106	140	104
48	662	119	139	115	149	131	144	156	145	131	166	117
49	772	138	134	121	158	139	173	142	154	126	208	154
50	973	155	152	131	180	153	186	156	153	135	277	167
51	1,021	169	147	142	193	156	198	149	162	154	357	171
52	900	169	186	154	208	152	173	198	187	184	439	162
53		195					229					

¹ Boston, Fall River, Worcester, Providence, New Haven, Buffalo, New York, Rochester, Syracuse, Newark, Philadelphia, Baltimore, Washington, Richmond, Atlanta, Cincinnati, Cleveland, Columbus, Toledo, Indianapolis, Chicago, Grand Rapids, Louisville, Memphis, Nashville, Birmingham, Minneapolis, St. Paul, Omaha, Kansas City, Mo., New Orleans, Denver, Los Angeles, San Francisco, Portland, Oreg. Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. Provisional results of the population enumeration for 1930 indicate that this estimate is less than 3 per cent in error.

TABLE 4.—*Monthly death rates (annual basis) per 100,000 from influenza and pneumonia in a group of 55 cities¹ in the United States, 1910–1919*

Month	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Influenza										
January.....	19	25	16	24	16	12	79	32	18	412
February.....	22	25	15	17	15	20	35	30	18	264
March.....	24	22	14	16	17	23	20	18	18	162
April.....	14	14	9	8	13	22	12	11	24	66
May.....	7	6	4	4	4	7	6	6	10	24
June.....	3	2	2	2	2	3	3	3	3	9
July.....	1	1	1	1	1	2	2	1	2	5
August.....	1	1	1	1	1	1	1	1	2	4
September.....	1	1	1	1	1	1	1	2	80	6
October.....	2	3	3	3	2	2	3	3	3	7
November.....	7	5	6	5	3	5	5	6	513	7
December.....	16	8	16	6	7	42	14	12	445	10
Pneumonia										
January.....	285	280	253	250	243	218	347	349	262	436
February.....	274	259	256	292	264	234	228	312	283	357
March.....	286	281	253	278	295	274	233	276	365	310
April.....	241	256	206	205	236	265	196	227	344	196
May.....	195	181	168	181	176	143	161	196	160	125
June.....	132	97	109	130	103	113	101	112	83	65
July.....	95	96	82	83	73	76	78	70	68	50
August.....	79	76	77	76	67	66	76	65	51	47
September.....	96	86	79	83	75	76	77	82	187	55
October.....	120	116	128	106	95	105	107	122	1,816	70
November.....	192	166	154	153	145	148	152	169	461	97
December.....	275	208	234	191	193	315	227	217	399	153
Influenza and pneumonia										
January.....	304	306	269	274	259	230	426	381	300	848
February.....	297	284	271	310	279	254	263	342	301	561
March.....	310	303	267	294	312	297	263	294	333	472
April.....	255	270	215	213	249	287	207	238	368	262
May.....	201	187	172	185	180	150	167	102	170	149
June.....	135	99	111	132	105	116	104	114	85	74
July.....	96	87	83	84	74	77	80	72	70	55
August.....	80	77	78	76	68	67	77	66	53	51
September.....	97	88	79	84	76	76	78	84	267	61
October.....	123	119	131	109	96	107	109	125	3,591	77
November.....	199	171	160	157	148	153	157	175	974	104
December.....	291	217	250	197	200	357	241	229	845	162

¹ Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. For list of cities, see footnote to Table 3.

Since one of the principal purposes in view is to identify periods of unusual mortality from influenza or pneumonia and at least roughly to estimate the excess deaths therein, a first requisite is to establish some base line from which to measure deviations. A base line, or norm, to serve this purpose, must be adjusted, in the first instance, to the usual or normal seasonal oscillations of mortality, and must also take account of any changes which may have taken place in the general level of mortality during the two decades which are included.

Considering first the question of a general trend, a preliminary study was made of the death rates in corresponding months of successive years from 1910 to 1929. This showed, for each month of the yearly cycle, a lower level of mortality in the second decade. It was found, however, that this was due not to a gradual and consistent

downward trend, but largely to a rather abrupt drop in the death rate immediately following the major epidemic of 1918-19. Thus, during the eight years immediately preceding this epidemic the graph marking the trend of mortality was approximately horizontal, while throughout the post-pandemic period another distinctly lower level was sustained without material change. It has, therefore, been deemed proper to use two norms of mortality—one for the years 1910 to June, 1919, inclusive, and the other for the remainder of the period; that is, July 1, 1919, to December 31, 1929.

For the first period, 1910 to June, 1919, the procedure in deriving a norm was as follows: Death rates in each of the years 1910 to 1916 were computed separately for each month in the seasonal cycle, all the rates being computed on an annual basis. For each month the median rate for the seven years, 1910 to 1916, inclusive, was taken as the norm. The reasons for using the median rather than the mean are sufficiently obvious. Although this norm is used for 1917, 1918, and the first half of 1919, it was considered preferable in deriving the norm to exclude these years to avoid the distorting effect of their obviously abnormal mortalities.

For the period September 8, 1918, to June 30, 1919, for which mortality records are given by weeks, a norm is needed on a weekly rather than a monthly basis. To derive this, the monthly median mortality rates (annual basis) for 1910-1916 were plotted; then a smooth curve was drawn through the points as an interpolation curve. From this smooth curve ordinates read off at intervals corresponding to weeks were taken as median, or normal, weekly rates.

For the postpandemic period, July 1, 1919, through 1929, the norm used is, for each week, the median of the rates for that week in the years 1921 to 1927, inclusive, the series of 52 median rates being smoothed by a 5-period moving average. Since 1920, 1928, and 1929 are years marked by considerable "epidemics," the rates for those years are not used for the derivation of the norm.

Table 5 shows for the group of 35 cities, from September 8, 1918, to the end of 1929, the direction and extent of deviations of observed rates (annual basis) of mortality from influenza and pneumonia from the weekly medians. It also shows the two sets of weekly norms used respectively for the period September, 1918, to June, 1919, and for the time thereafter. Table 6 shows, for each month, 1910 to 1919, the deviations of observed monthly rates (annual basis) of mortality from influenza and pneumonia in the same group of cities.

TABLE 5.—*Excess¹ weekly death rates (annual basis) per 100,000 from influenza and pneumonia in a group of 35 cities² in the United States, 1918-1929*

Week of year	Median 1910-16 (smoothed) ¹	Median 1921-27 (smoothed) ¹	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1	269	196	+524	+4	-9	-26	+53	-27	+25	+46	+19	+2	+328	
2	272	207	+590	+28	-25	-12	+74	+8	+20	+32	+3	-33	+371	
3	274	219	+655	+223	-33	-17	+67	-13	+4	+5	-11	-12	+289	
4	274	224	+688	+746	-40	-11	+71	-33	+5	-6	-38	-45	+251	
5	276	230	+515	+1,157	-44	-15	+43	+128	-8	+12	+25	-35	-54	+136
6	278	235	+360	+1,267	-36	-12	+52	+152	-11	+6	+15	-56	-42	+65
7	280	238	+281	+326	-30	-9	+217	-20	+4	+79	-53	-41	+35	
8	285	238	+285	+445	-27	+185	+235	-5	-7	+70	-43	-60	-4	
9	291	239	+300	+207	-19	+142	+237	-14	-7	+66	-32	-21	+24	
10	296	237	+266	+106	-31	+122	+170	+3	+5	+171	-15	-16	-7	
11	297	236	+261	+43	-36	+90	+90	-5	+12	+236	-16	+17	-20	
12	293	234	+200	+16	-56	+37	+30	-19	-2	+255	-39	+2	-42	
13	283	224	+146	-11	-62	-6	+19	+4	+12	+205	-34	+27	-51	
14	269	214	+88	-11	-55	-9	+16	+20	+8	+131	-17	-45	-44	
15	254	205	+68	0	-60	-17	+24	-20	+11	+77	-26	-31	-53	
16	239	193	+50	+3	-45	-30	+5	+21	+45	+49	-10	-31	-49	
17	223	177	-2	-1	-57	-33	+14	+19	+10	+26	-15	-55	-51	
18	207	167	-4	-13	-50	-7	+13	+14	+4	+22	-24	-87	-40	
19	191	152	-5	-8	-50	-12	+1	+4	-10	+18	-16	-95	-36	
20	175	137	-32	+15	-32	-1	0	+10	+2	+17	-18	-92	-21	
21	159	124	-15	+7	-27	-6	+1	0	+17	+11	-7	-80	+3	
22	143	113	-18	+3	-31	-18	+4	+10	+32	-2	-8	-61	+3	
23	127	100	-14	-3	-26	-11	+12	+16	+11	+6	+2	+48	-1	
24	112	91	-29	-3	-29	-18	-8	+23	-5	+3	+3	-36	+3	
25	101	82	-36	-19	-17	-24	-7	+17	-7	-3	+3	+15	+8	
26	94	72	-14	-9	-22	-9	+11	+13	-8	+8	+6	-14	-5	
27	89	66	-11	-15	-20	-12	+4	0	-2	+6	-3	+12	-1	
28	84	61	+2	-10	-15	-3	-3	+2	-5	+8	+3	+4	-3	
29	82	57	-11	-7	-17	-7	-2	+3	-5	+4	+5	+6	+1	
30	80	55	-5	-4	-13	-7	+4	+5	+7	-4	-3	-3	-3	
31	78	54	+2	+2	-5	-7	+2	+5	+7	+6	-3	+6	+2	
32	78	54	-4	-2	-5	-3	+5	-4	+13	0	+7	+13	0	
33	77	56	-8	-6	-1	-3	+1	-3	0	+3	-7	+9	+2	
34	76	57	-7	-7	-12	-1	-1	-10	-3	-3	-4	+8	+2	
35	76	58	-3	-16	+2	-6	-1	+3	+19	-1	+4	+3	-3	
36	77	59	-10	-7	-2	-7	+5	+6	+10	-4	+5	+1	+5	
37	79	61	-9	-2	0	-7	-3	-6	-1	+9	-8	+3	+6	-6
38	82	64	+63	-3	-4	-5	-11	+10	-5	-11	+9	-3	+6	-1
39	88	67	+314	-5	-2	-8	-8	+1	+9	-2	+9	-3	+6	
40	96	74	+1,145	-5	-12	-12	-4	-1	+10	+1	-6	-2	+20	+8
41	103	83	+2,659	+5	-10	-15	-1	-6	+18	+20	+3	-4	+7	+3
42	113	90	+4,790	-12	-12	-10	-6	+4	+9	+15	+6	-1	+33	+15
43	123	101	+4,792	-25	-18	-9	-1	-6	-10	+25	+9	0	-3	+15
44	134	110	+3,376	-20	-24	-10	-2	-7	-14	+38	+4	-10	-9	+11
45	145	117	+1,719	-24	-21	-21	+15	+8	+11	+34	+4	-4	-10	+1
46	160	126	+901	-31	-19	-8	+1	+1	+10	+30	+8	-2	-5	-20
47	178	134	+568	-33	-7	-29	+5	+4	-2	0	-42	+6	-39	
48	198	140	+464	-21	-1	-25	+9	-9	+4	+16	+5	-9	+26	-23
49	218	145	+554	-7	-11	-24	+13	-6	+28	-3	+9	-19	+63	+9
50	236	156	+737	-1	-4	-25	+24	-3	+30	0	-3	-21	+121	+11
51	251	170	+770	-1	-23	-28	+23	-14	+28	-21	-8	-16	+187	+1
52	262	185	+638	-16	+1	-31	+23	-33	-19	+13	+2	-1	+254	-23
53		190	+5					+39						

¹ From July 1, 1919, to Jan. 1, 1930, the excesses are computed as deviations from the median death rate for the corresponding week for the period 1921-1927. The series of 52 medians representing "normal" or "expected" rates for the different weeks of the year were smoothed by a 5-period moving average before deviations were computed. The smoothed medians are the values in the third column of the table. For the period prior to July 1, 1919, the excesses are computed as deviations from an estimated median death rate for the corresponding week for the period 1910-1916. As weekly data were not available for this period, monthly rates (annual basis) and medians were computed. The median rates were plotted, and a smooth line passing through each of the 12 monthly medians was drawn to represent the seasonal curve of mortality from influenza and pneumonia. From this graph, the approximate medians for each week of the year were read.

The medians so derived are the values in the second column of the table.

² Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. For list of cities, see footnote to Table 3.

TABLE 6.—*Excess¹ monthly death rates (annual basis) per 100,000 from influenza and pneumonia in a group of 35 cities² in the United States, 1910–1919*

Month	Median 1910– 1916	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
January	273	+31	+33	-4	0	-14	-43	+153	+108	+27	+575
February	279	+18	+5	-8	+30	0	-25	-16	+63	+22	+282
March	297	+13	+6	-30	-3	+15	0	-44	-3	+86	+175
April	249	+6	+21	-34	-36	0	+38	-42	-11	+119	+13
May	180	+21	+7	-8	+5	0	-30	-13	-78	-10	-31
June	111	+24	-12	0	+21	-6	+5	-7	+3	-26	-37
July	83	+13	+4	0	+1	-9	-6	-3	-11	-13	-28
August	77	+3	0	0	-1	-9	-10	0	-11	-24	-26
September	79	+18	+8	0	+5	-3	-3	-1	+4	+188	-18
October	109	+14	+10	+22	0	-13	-2	0	+16	+3,482	-32
November	157	+42	+14	+3	0	-9	-4	0	+18	+817	-53
December	241	+50	-24	+9	-44	-41	+116	0	-12	+604	-79

¹ Excess over the median 1910–1916.

² Aggregate enumerated population in 1920 census, 20,440,548; aggregate estimated 1928 population, 23,421,000. For list of cities, see footnote to Table 3.

The deviations summarized in these two tables are shown graphically in Figure 1. The upper section, corresponding to the data in Table 6, shows deviations by months, from January, 1910, to August, 1918, while the bottom section, corresponding to the data in Table 5, shows deviations by weeks beginning in September, 1918.

With respect to Figure 1 it should be noted that the graphic representation of excess mortalities by months, in the upper section, is not altogether comparable with that by weeks, as given in the lower section. The death rates in both sections are on an annual basis, hence are comparable in that respect; but since a monthly rate is the mean for a period of more than four weeks, it can not equal the maximum rate for a single week, except in the rare case where this exact rate is sustained for *every* week in the period. It follows that in any given period of excess mortality the peak is higher if the rates are given by weeks than if they are stated by months, the extent of the difference depending upon the explosiveness of the epidemic and upon whether it falls largely within a single month or is more evenly divided between two. However, the discrepancies between weekly and monthly rates, which may be very great in a single compact population unit, are not so great when the population is made up of a group of cities widely dispersed over such a large area as that of the United States.

Referring to the upper section of Figure 1, and to Table 6, which corresponds, it is seen that throughout the year 1910, and for the first few months of 1911, mortality is generally above the "norm," but without notable concentration of the excess in any single month or any two or three successive months. From June, 1911, to December, 1915, death rates are generally below the norm, negative deviations being more frequent and usually larger than the positive ones. However, in April, 1915, there is an excess mortality which, though small in an absolute sense, deserves to be noted, because it comes within a period of low death rates and makes a peak which, measured

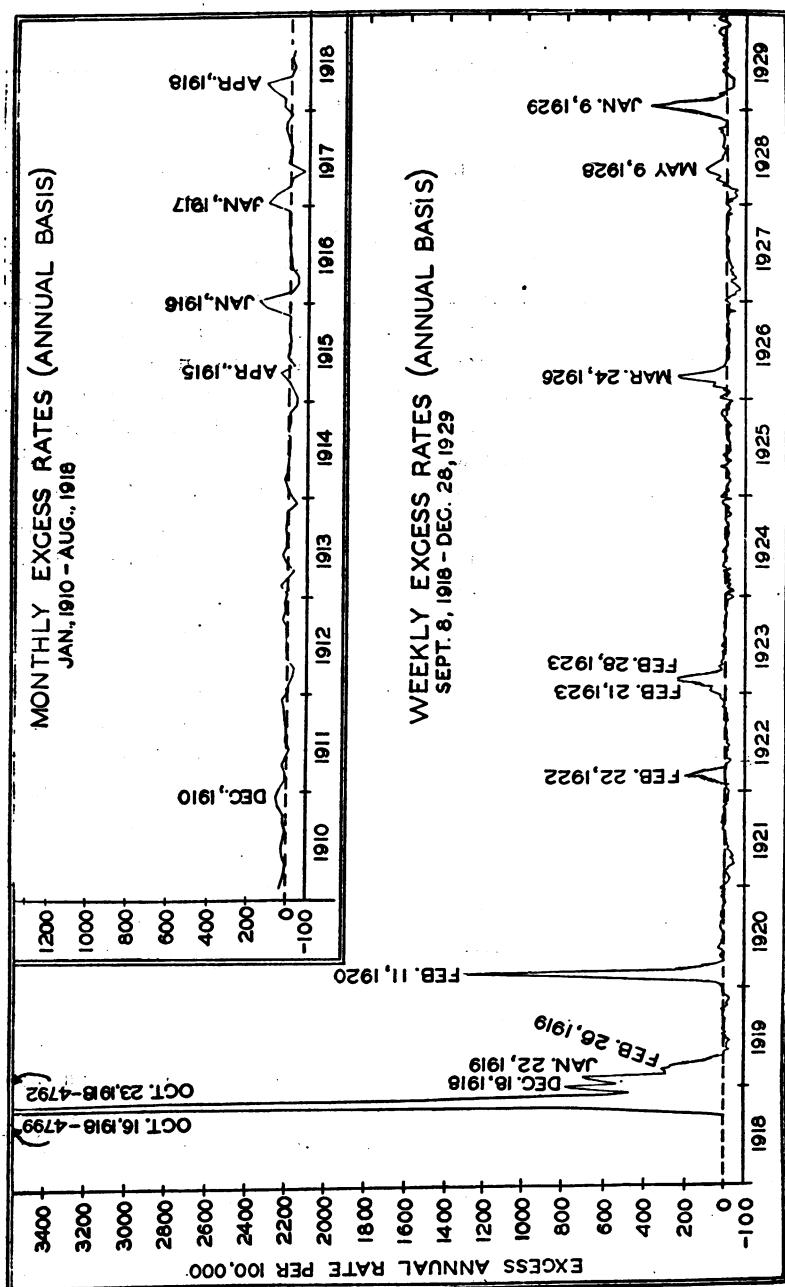


FIGURE 1.—Excess influenza-pneumonia mortality in a group of 35 large cities in the United States, 1910-1929. Dates on graph are middle (Wednesday) of the peak weeks. (Prior to July 1, 1919, excess rates are deviations from the median rates 1910-1916; after that date they are deviations from the median rates 1921-1927. For details of computations see footnotes to Tables 5 and 6. For list of cities see footnote to Table 3.)

from the then current prevailing level, is by no means insignificant. Much larger increases in mortality above the mean level are shown in December, 1915, January, 1916, and January, 1917, and in March and April, 1918. The peak of mortality in the winter of 1915-16 corresponds to an epidemic of acute respiratory disease which was noted at the time in medical literature as "influenza" and was officially reported as such from at least 20 States. Also at that time, December, 1915, and January, 1916, the number of deaths recorded under the diagnosis of "influenza" notably increased. In January, 1917, when mortality from respiratory diseases again sharply increased, no epidemic of so-called influenza seems to have been widely noted in medical journals or in official morbidity reports. Likewise for the next period of high mortality, March and April, 1918, there are no morbidity records indicating any generalized epidemic recognized at the time as "influenza." It has, however, been noted by Frost, Jordan, and Vaughan and others,⁵ that about this time epidemics of "influenza" were reported from a number of military cantonments, especially in Southern States; a rather severe outbreak was reported from San Quentin prison in California; and there were reports from various other places of epidemics which, at the time, seem to have been considered local.

Turning to the graphic record by weeks, from September, 1918, through 1929, the enormous excess mortality shown in the great epidemic of 1918-19, extending over 31 weeks (September 15, 1918, to April 19, 1919), overshadows all prior and subsequent occurrences. Following this, periods of increased mortality sufficiently sharp and definite to justify designation as "epidemics" are seen culminating in the weeks whose midpoint (Wednesday) was February 11, 1920, February 22, 1922, February 21-28, 1923, March 24, 1926, and January 9, 1929. A smaller but quite definite epidemic is shown extending from about the eleventh to the twenty-ninth week of 1928, with its peak in the week having its midpoint (Wednesday) on May 9.

Omitting the slight increase in mortality observed in April, 1915, Figure 1 and Tables 5 and 6 show 10 distinct periods, each of 8 to 31 weeks' duration, in which the mortality from influenza and pneumonia in this group of widely dispersed cities was so greatly increased as to denote an "epidemic" condition. The relative effect of these several epidemics upon the death rate may be judged moderately well by inspection of Figure 1, in which the excess mortality is indicated by the area under the curve of each epidemic; but a better basis for comparison is a numerical statement of the total excess

⁵ Frost, W. H.: The epidemiology of influenza. *Publie Health Rep.*, vol. 34, No. 33, August 15, 1919 (Reprint 550). (Other references are cited on p. 9 of this reprint.)

Jordan, E. O.: Epidemic influenza. *Am. Med. Assoc.*; Chicago, 1927, p. 69.

Vaughan, V. C., Vaughan, H. F., and Palmer, G. T.: Epidemiology and public health. Vol. I, Respiratory Infections. C. V. Mosby Co., St. Louis, 1922, pp. 314-318.

mortality for the entire period of each epidemic. To estimate this excess, it is necessary, in each instance, to assign definite dates for the beginning and ending of the epidemic. No serious question arises as regards the periods to be included in the epidemics of 1918-19, 1920, and 1922, and for 1928-29. In each of these periods the death rate from influenza and pneumonia rises abruptly above the norm, increases progressively week by week until a peak is reached, then declines progressively and regularly to a level which is again below the norm. Each of these epidemics is, therefore, easily defined as beginning in the first week when the mortality begins to exceed the norm, and as terminating in the last week which shows a positive deviation. The epidemics of 1923, 1926, and the spring of 1928 are not so sharply defined at either end, so that any time limits assigned to them are debatable. Actually, however, it makes no great difference in the computed total of mortality whether one includes or excludes at either end one or two weeks when the death rate was only slightly above the normal.

To compute the excess mortality recorded as influenza and pneumonia to be charged against each epidemic, the excess death rates in the several weeks of the period have been added; then, as these rates are on an annual basis, this sum has been divided by the number of weeks in the calendar year. The result is a statement of the excess mortality rate per 100,000 persons for the period of the epidemic. Hence, the figures for the different epidemics are made directly comparable, regardless of differences in duration of the various epidemics. The reliability of the estimates depends, of course, upon the accuracy of the norms from which excess mortality is reckoned.

For epidemics in the period 1910 to July, 1918, when monthly records were used, the procedure followed was comparable, but obviously the durations of epidemics are indicated only in a very rough way by monthly data.

Table 7 shows for each of 10 epidemic periods from December, 1915, to February, 1929, the estimated total excess mortality recorded as influenza or pneumonia; the highest excess rate observed in any single week; the approximate date of the peak of the epidemic, and its duration. As regards durations of these epidemics, varying from 2 months to 31 weeks, it is to be remembered that these periods apply to the epidemics as spread over a large area, and are longer than the durations of the same outbreaks in individual cities.

TABLE 7.—Summary of excess¹ mortality from influenza and pneumonia during epidemics in a group of 35 large cities² in the United States, 1915–1929

Epidemic	Total excess rate per 100,000 during whole epidemic	Maximum weekly excess rate per 100,000		Estimated peak day ³	Total period considered as above normal	
		Actual or weekly basis	Annual basis		Total time	Dates (in calendar weeks) of first and last week
Winter, 1915–16	22.8			January, 1916	2 months	December and January.
1917	14.0			January, 1917	do	January and February.
Spring, 1918	21.1			April, 1918	4 months	January to April, inclusive.
Winter, 1918–19	550.5	92.0	4,799	Oct. 19, 1918	31 weeks	38 to 16, inclusive.
1920	97.2	24.3	1,267	Feb. 9, 1920	12 weeks	1 to 12, inclusive.
1922	20.7	4.0	210	Feb. 23, 1922	14 weeks	2 to 15, inclusive.
1923	32.3	4.5	237	Feb. 25, 1923	20 weeks	48 to 15, inclusive.
1926	28.2	4.9	255	Mar. 22, 1926	17 weeks	5 to 21, inclusive.
Spring, 1928	14.5	1.8	95	May 11, 1928	19 weeks	11 to 29, inclusive.
Winter, 1928–29	40.8	7.1	371	Jan. 8, 1929	12 weeks	48 to 7, inclusive.

¹ Computed from Tables 5 and 6.

Prior to July 1, 1919, excesses are those over median rates for corresponding times of the year during the period 1910–1916; after that date excesses are those over similar median rates during the period 1921–1927.

Because the rates in nonepidemic weeks of 1922 are nearly all lower than the median rate 1921–1927, a correction was made for that epidemic by measuring the excess not over the zero base line representing the median rate (fig. 1) but over a line parallel to the base line but 25 points (in the rate per 100,000) below it.

² For list of cities, see footnote to Table 3.

³ The modal or peak day was estimated by interpolation within the modal or peak week (determined by inspection) of the excess death rates by the method of differences, the following formula being used:

$$\text{Mode} = L + \left[-\frac{\Delta f_{-1}}{\Delta f'_{-1}} \right] \text{ in which}$$

L = lower limit of modal class (first day of peak week).

f_0 = frequency (excess rate) in modal or peak week.

f_{-1} = frequency (excess rate) in week prior to modal or peak week.

f_{+1} = frequency (excess rate) in week following modal or peak week.

First and second differences (Δ and Δ^2 , respectively) for use in the formula are computed as follows:

$$\Delta f_{-1} = f_0 - f_{-1}$$

$$\Delta f'_{-1} = (f_{+1} - f_0) - (f_0 - f_{-1})$$

The expression in the formula which is added to the lower limit of the modal class always comes out in the form of a fraction or decimal less than unity and is in usual frequency distributions multiplied by the deciml internal and added to the lower limit of the class. This was adapted to the weekly intervals by reducing this decimal to sevenths; if it was less than one-seventh, the estimated modal day was the first day of the week; if it was between one-seventh and two-sevenths, the modal day was the second day of the week, etc.

RECORDS OF MORTALITY FROM INFLUENZA AND PNEUMONIA IN INDIVIDUAL CITIES

Since the 35 cities which make up the group that has been considered, include representatives from all parts of the United States, the course of mortality in this group as a whole serves to indicate quite clearly the epidemics which have been relatively widespread. It does not necessarily reveal equally severe epidemics which may have been localized; and as to those which are widespread, it gives no clear information as to details of spatial and time distribution. Hence, it has been thought necessary to add a record of the mortality from influenza and pneumonia in each one of the 35 cities which compose the group that has been considered, and in the 15 other cities that had

100,000 or more population in 1910 and for which comparable data are available.⁶

Table A of the appendix shows, for each of these cities, for each month from 1910 to 1929, the deviation of the observed mortality from a norm which is taken as representing the "average" death rate for that time and place. The seasonal norms used for each city are derived in the manner already described. That is, for the period 1910 to July 1, 1919, the norm used is, for each month, the median of the death rates for this month for the years 1910-1916; and from July 1, 1919, through 1929, the norm is similarly derived from the death rates in the years 1921-1927.

Supplementing this table, which covers 20 years, are appendix Tables B and C which show for each city the excess death rates from influenza and pneumonia by weeks during the epidemics of 1918-19, 1920, and 1928-29.

The monthly deviations given in Table A of the appendix are shown graphically in Figures 2 to 11, inclusive, in which the 50 cities considered are arranged in geographic groups, the order of sequence being generally from north to south and from east to west.

The data included in Table A and these graphs are principally material for reference, with no intention of undertaking at this time any detailed discussion of local variations in the mortality from influenza and pneumonia, but a few prominent facts may be noted in connection with the graphs.

We are more or less accustomed to think of the 1918-19 pandemic as having occurred principally in October and November, 1918, and as having been rather uniform in its severity throughout the United States. It is seen, however, that the epidemic actually continued in most localities well into or beyond March, 1919, and that as regards

⁶ The populations used in computing rates were the estimates made by the Bureau of the Census except in a few instances where no estimate was made by the census. Table D of the appendix shows the enumerated populations of 1910 and 1920 and the 1928 estimated populations.

As this article goes to press, provisional results of the census of 1930 are being announced. A preliminary check of the estimates indicates that for certain cities there is considerable error in the populations used. In 9 of the 50 cities the estimates of 1928 seem to be more than 10 per cent in error even after annexations since 1928 are taken into account. (Prior to 1928, annexations are taken into account in the estimates that were made by the Census Bureau.) The estimated populations of 1928 for Cambridge, Cleveland, Providence, New Haven, Lowell, Fall River, and Washington were 11 to 16 per cent too high; for Bridgeport from 20 to 25 per cent too high, and for Los Angeles about the same percentage too low. In 29 of the other cities the errors in population estimates for 1928 were 5 per cent or less, and in 12 cities were from 6 to 10 per cent.

For years prior to 1928 the extent of the errors in the population estimates would decrease as the year under consideration approached the 1920 census and even the large errors would be negligible in epidemics prior to that of 1926. The chronological changes in the rates would be approximately correct, inasmuch as the error in population increases only gradually from year to year. With excess weekly rates per 100,000 (annual basis) in the 1928-29 epidemic running as high as 3,000 and excess monthly rates (annual basis) of nearly half that amount, and with a range in excess rates of from 100 to considerably more than 500 per cent of the normal or median rates, a correction of 10 or even 20 per cent would not greatly change the picture.

The population estimate used for the group of 35 cities as a whole was approximately correct, the error indicated by provisional returns for 1930 being less than 3 per cent.

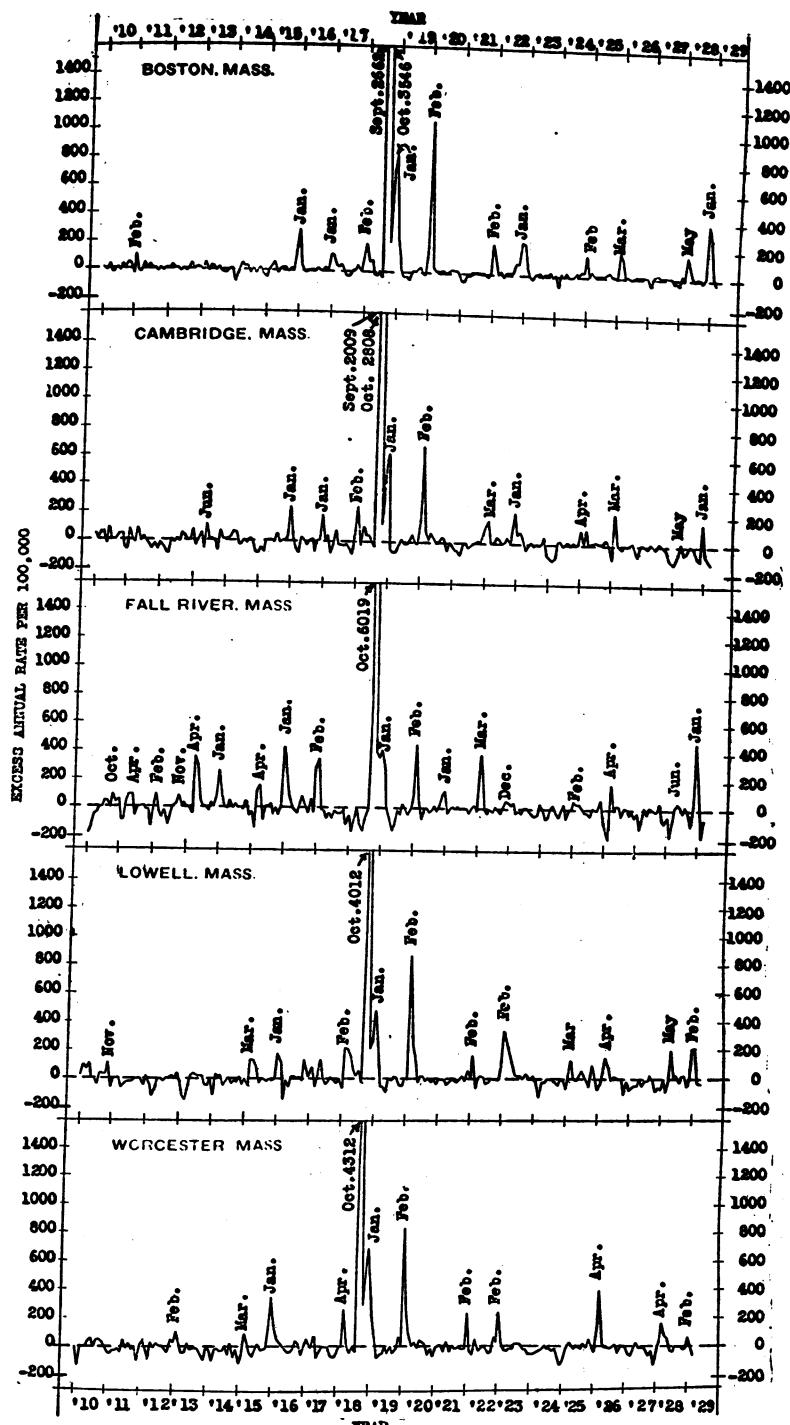


FIGURE 2.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

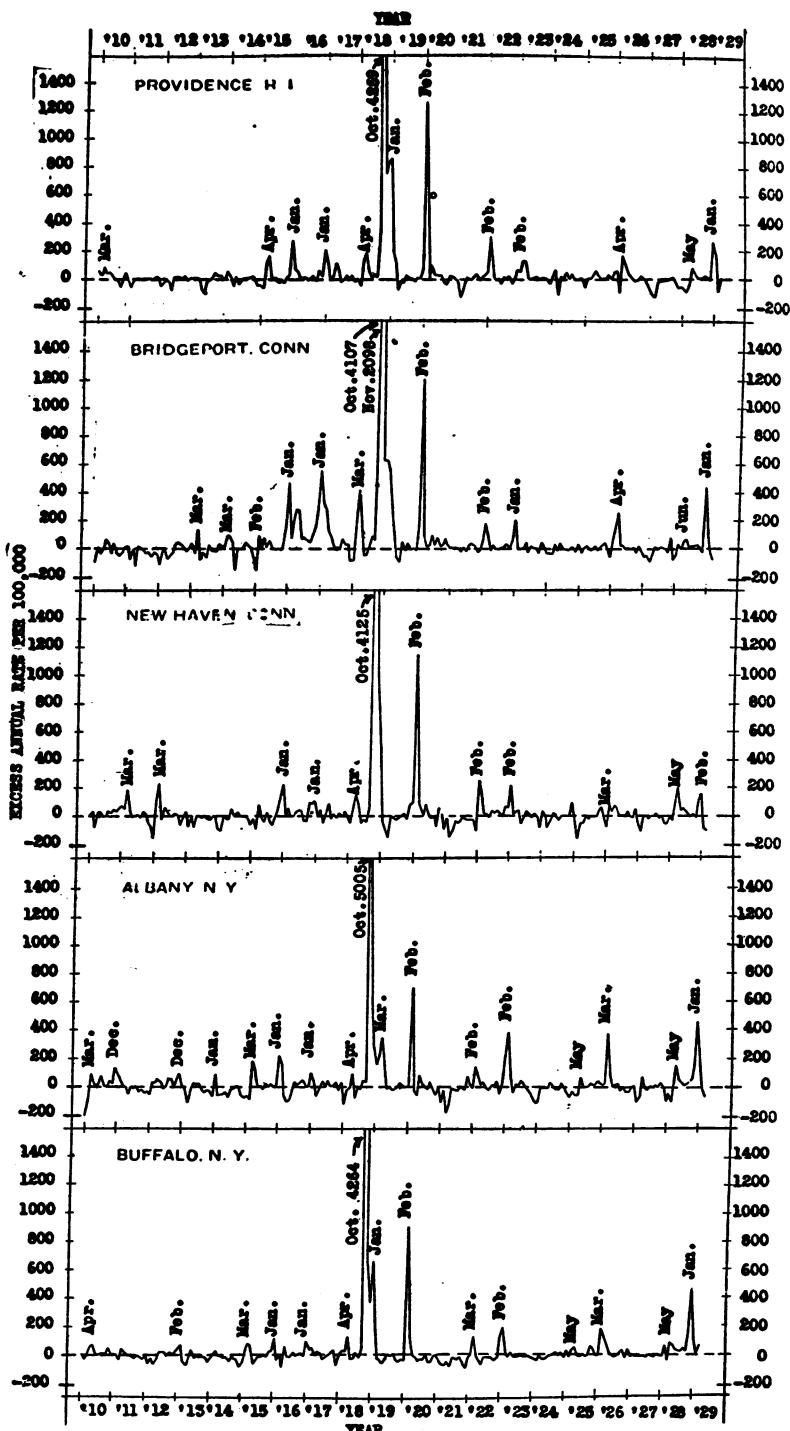


FIGURE 3.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities in the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

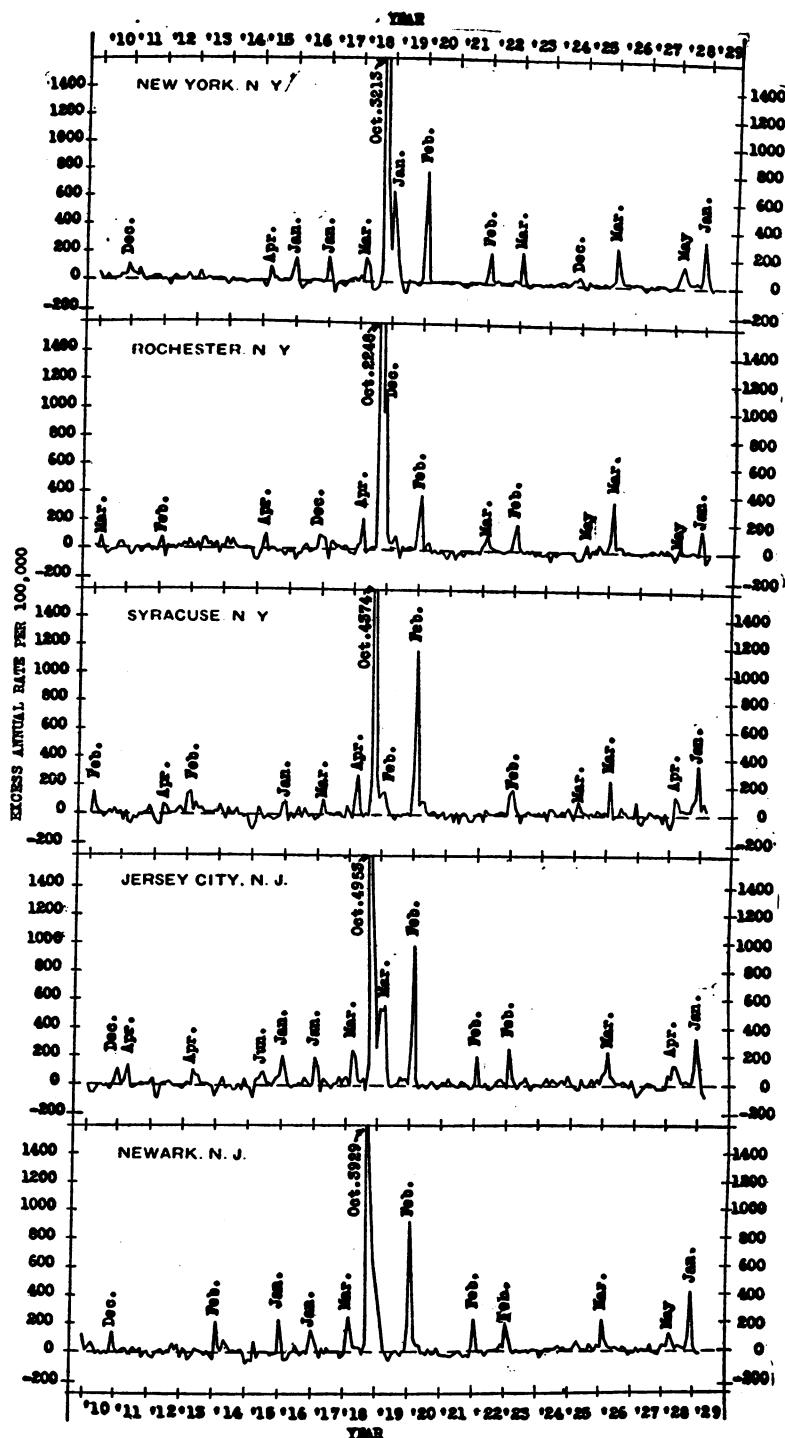


FIGURE 4.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

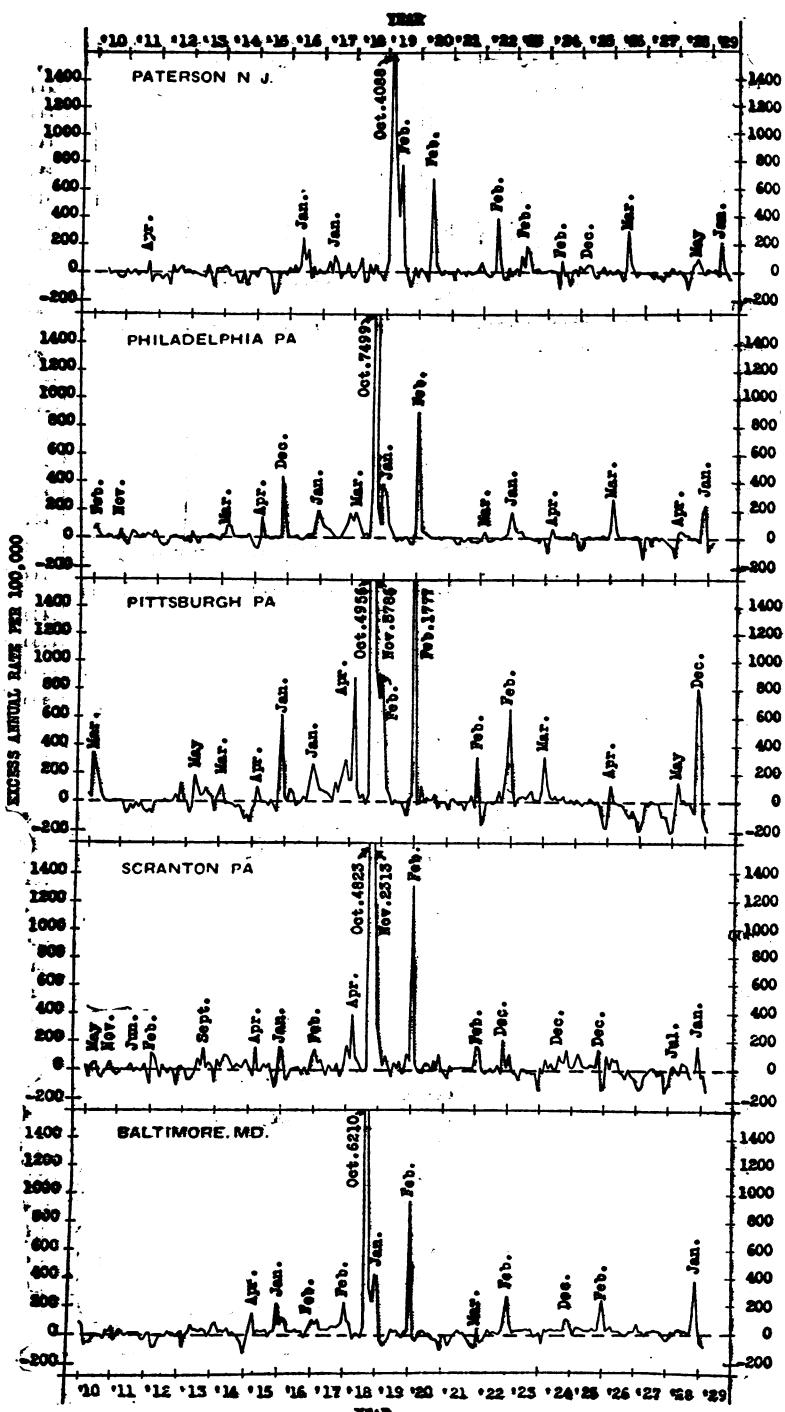


FIGURE 5.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927).

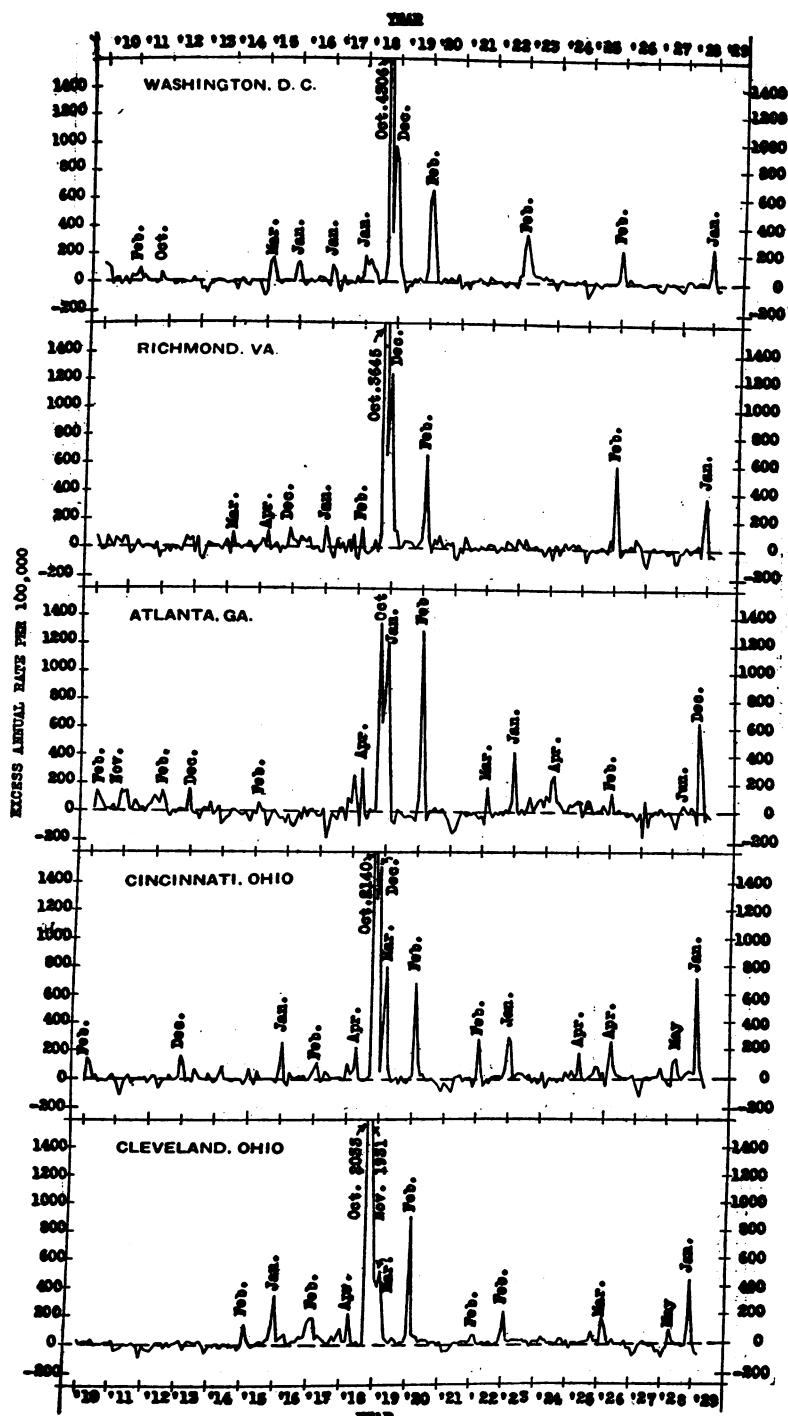


FIGURE 6.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities in the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

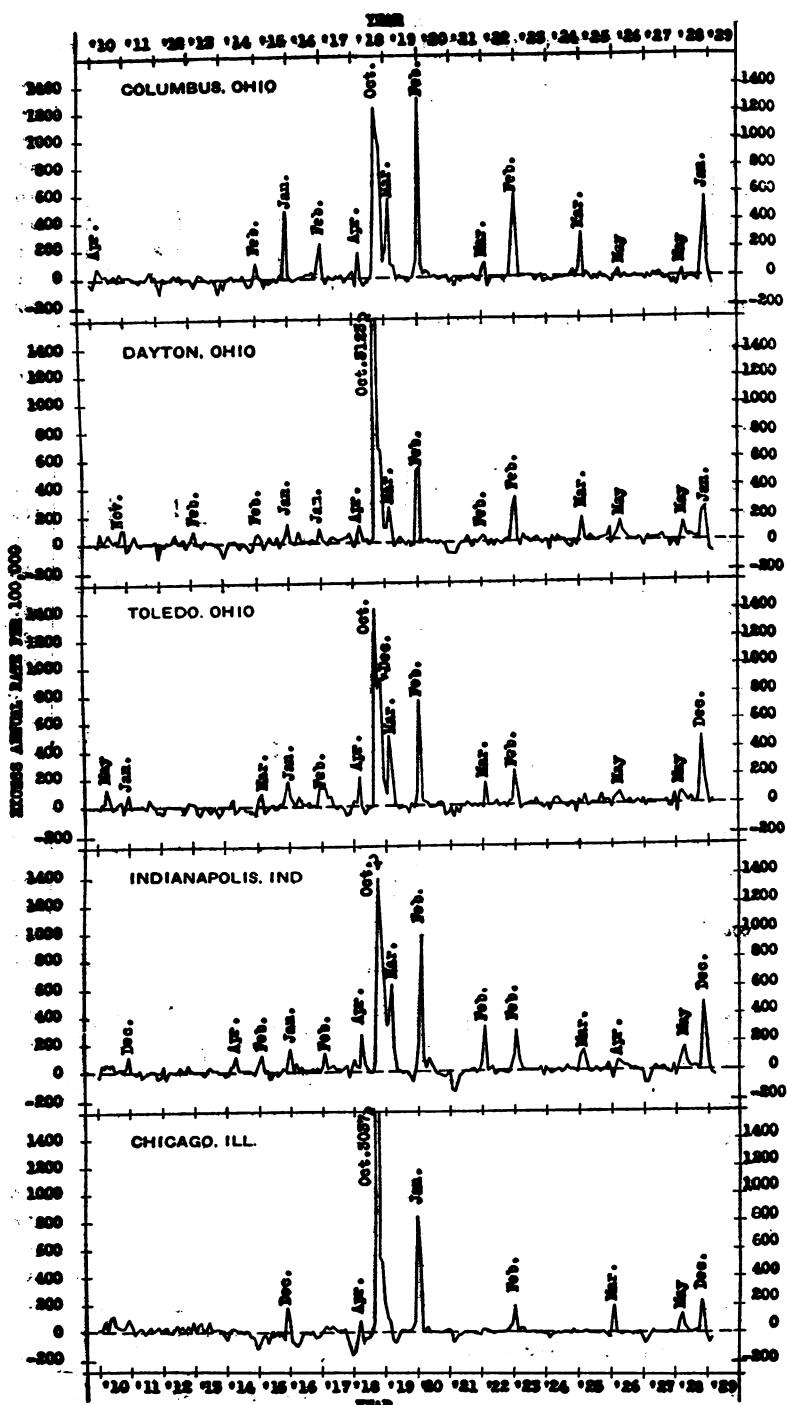


FIGURE 7.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities in the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927) (2296)

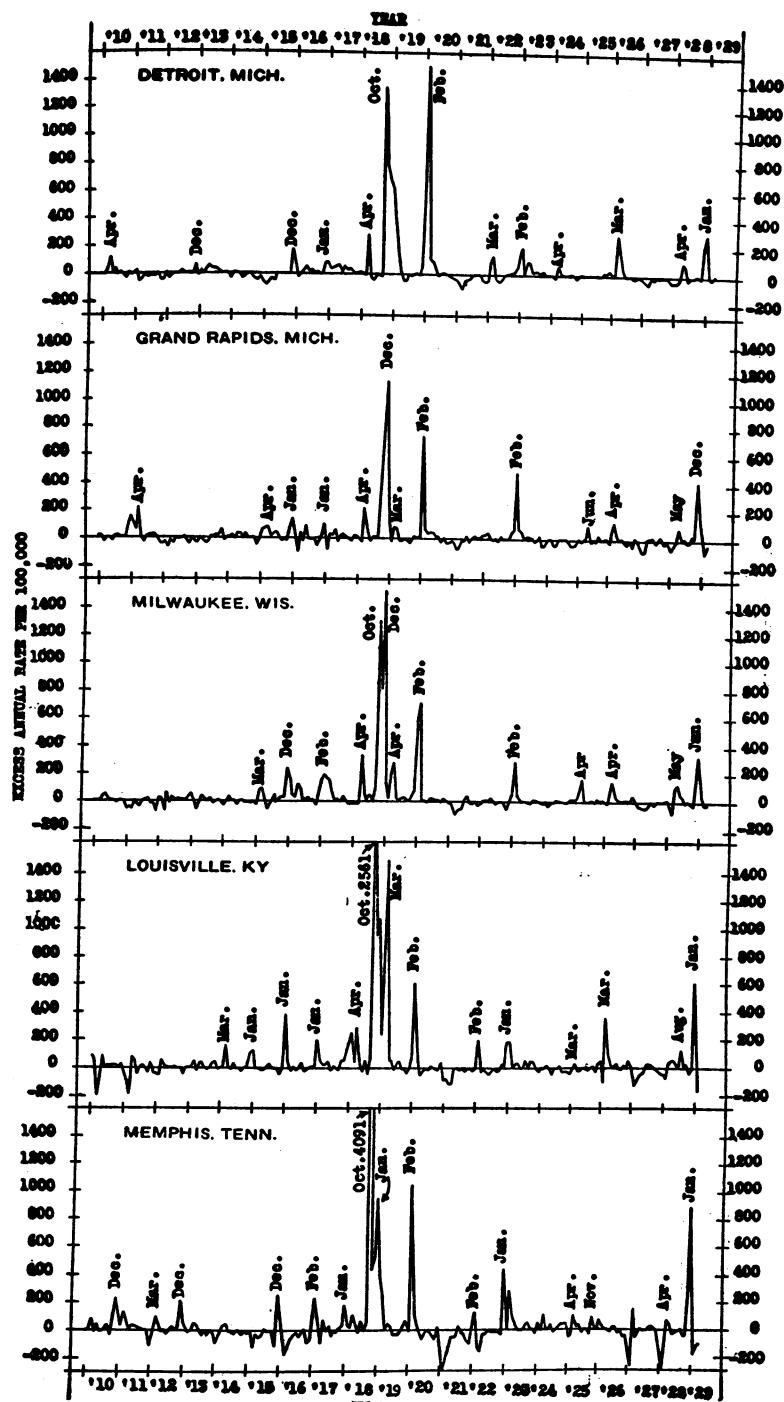


FIGURE 8.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

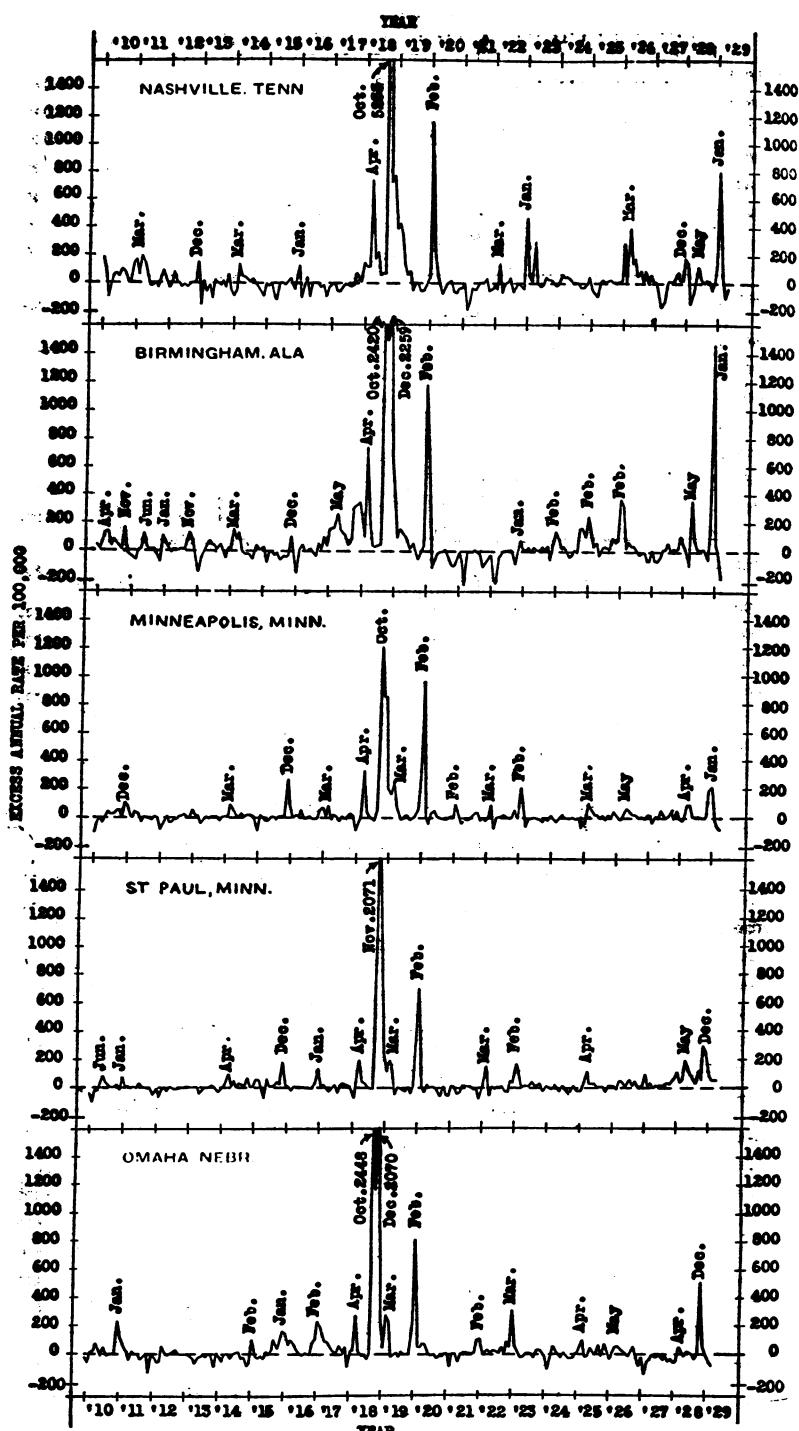


FIGURE 9.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

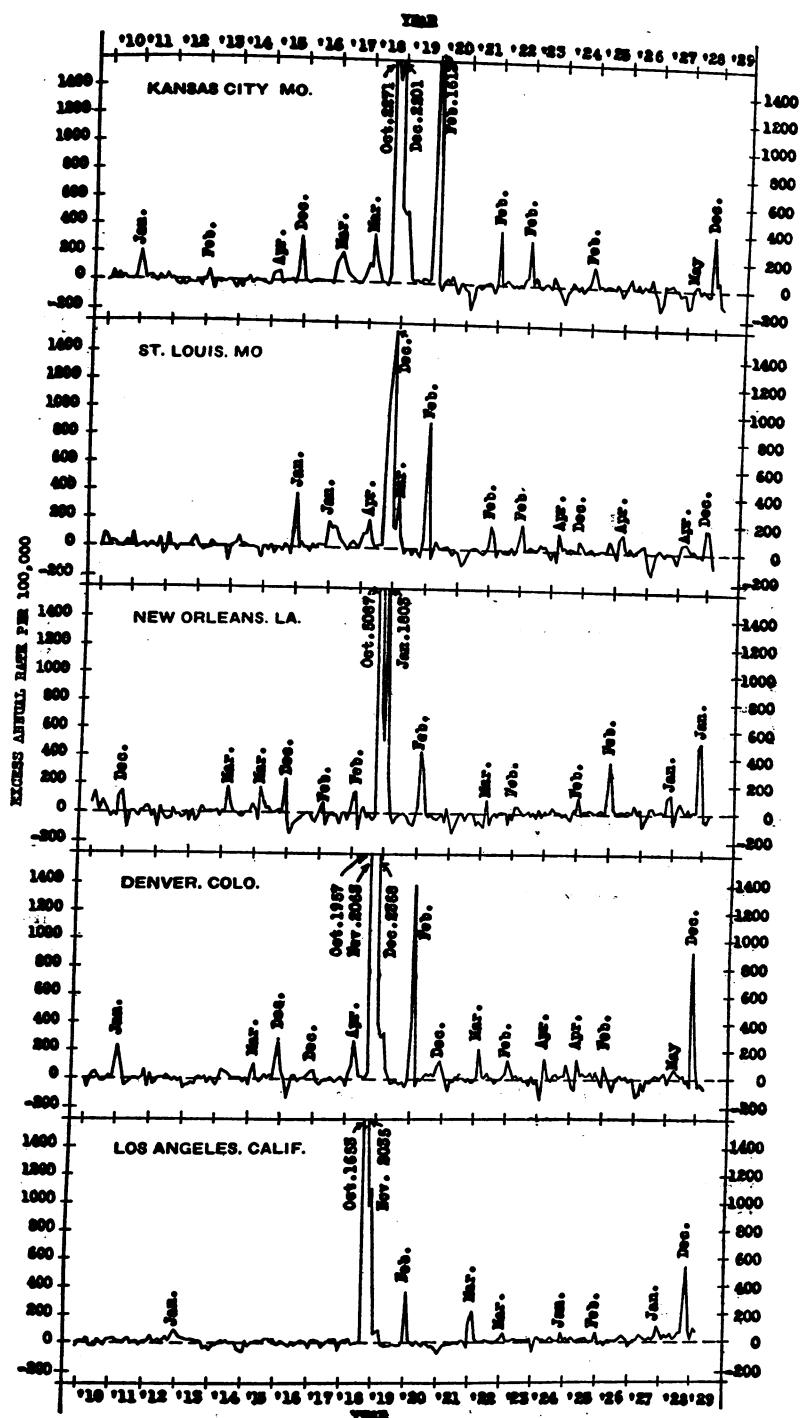


FIGURE 10.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

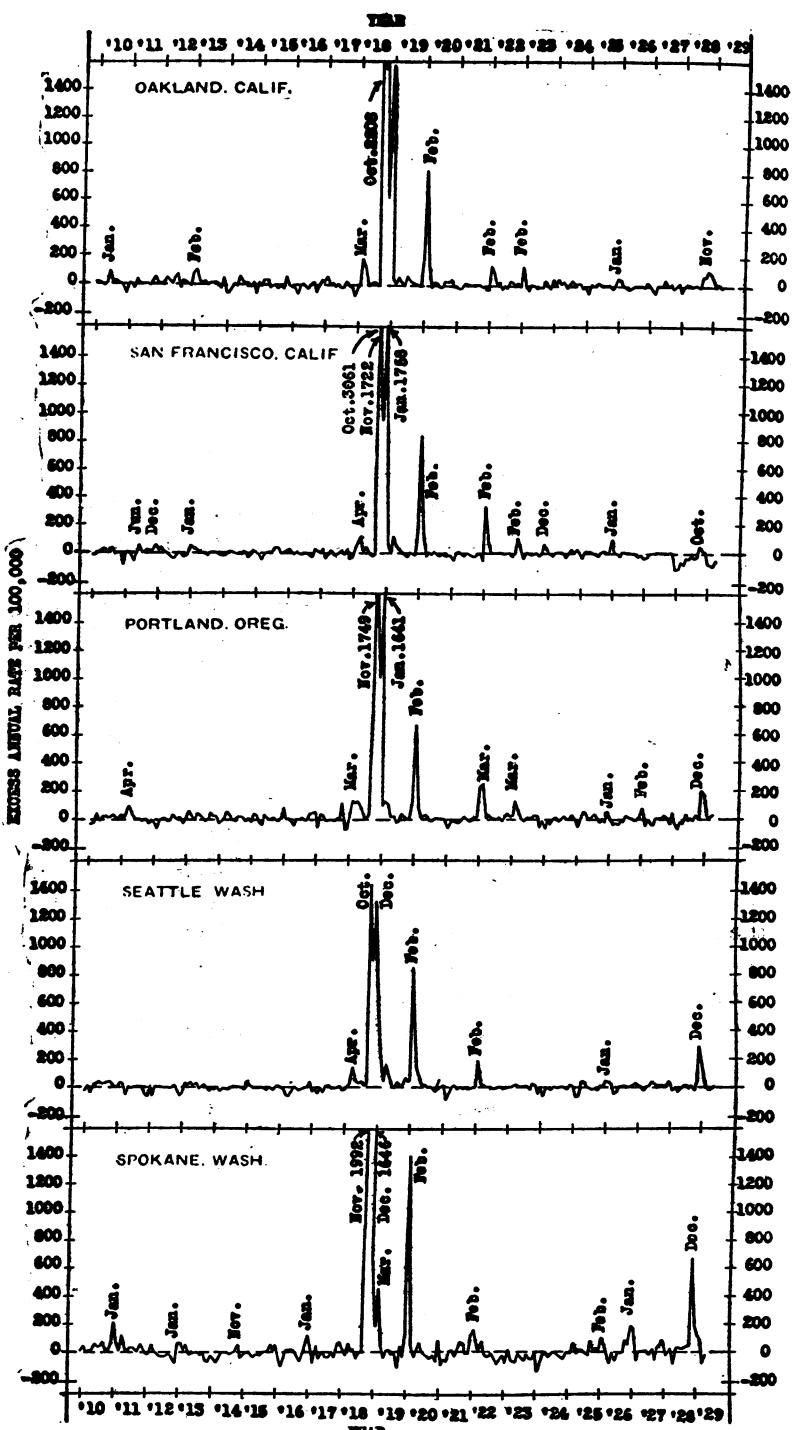


FIGURE 11.—Monthly excess influenza-pneumonia mortality rates (annual basis) in certain large cities of the United States, 1910-1929. (Prior to July 1, 1919, excess rates are deviations from the median rate for the corresponding month for the period 1910-1916; after that date they are deviations from the median rate for the corresponding month for the period 1921-1927)

the time and height of the mortality peak, it varied widely in different cities and also in the relative height of successive peaks in those cities where two or more are well marked.

In every city the epidemic of 1920 contrasts sharply with that of 1918-19 in its much shorter duration; and in most cities the peak of mortality in 1920 is relatively insignificant as compared with the maximum rate in 1918. To this, however, there are several exceptions. In the South, Atlanta shows in the peak month of the 1920 epidemic an excess mortality rate from influenza and pneumonia nearly as high as was attained in the 1918-19 epidemic, and the same is more or less true of several cities in the Middle West; namely, Columbus and Toledo, in Ohio; Indianapolis; Detroit and Grand Rapids, in Michigan; Milwaukee, Minneapolis, and St. Louis. Also, in Portland, Oreg., and Seattle and Spokane, Wash., the 1920 epidemic was relatively severe, while that of 1918-19 was generally less severe than in the country at large.

In order to give a somewhat more concise comparison of different epidemics in individual cities, Table 8 has been prepared. This shows for each city the total excess mortality in each of the more distinct epidemics. This excess as computed from monthly rates is a very crude estimate, but the figures serve in some measure to give at least a rough idea of the relative severity of successive epidemics in the same city and of the same epidemic in different cities.

At the bottom of the table is shown for each epidemic period the mean of the excess mortality rates for all 50 cities, the median of the rates, the rates corresponding to the first and third quartiles, also the standard deviation and the coefficient of variability.

The mean is a simple average of the 50 rates which enter into it. It, therefore, differs from the total excess rate given in Table 7 for the corresponding period, since that rate is weighted according to population.

TABLE 8.—Total excess¹ mortality from influenza and pneumonia per 100,000 population during each of 12 epidemics in each of 50 large cities in the United States, 1910–1929

[Computed from monthly excess rates]

Cities (arranged geographically)	1915	1916	1917	Spring, 1918	Winter, 1918-19	1920	1922	1923	1925	1926	Spring, 1928	Winter, 1928-29
Boston	6.0	36.1	25.3	34.1	686.5	98.8	24.3	53.0	15.0	24.7	20.2	53.1
Cambridge*	0	24.6	18.8	38.6	516.8	74.5	28.3	43.9	15.9	18.4	0	12.2
Fall River	23.3	67.2	51.3	0	696.4	49.7	60.2	16.1	12.2	14.5	6.0	54.4
Lowell*	31.0	26.8	37.4	62.3	525.3	101.9	19.2	81.4	18.6	24.1	17.6	34.3
Worcester	10.0	64.1	20.5	26.5	606.6	103.3	18.8	33.0	6.4	45.9	29.4	5.9
Providence	20.7	33.5	33.7	29.0	618.0	103.2	27.8	29.5	6.9	22.9	9.8	34.7
Bridgeport*	14.3	123.3	155.2	63.5	709.7	112.9	23.5	20.8	0	40.0	11.1	44.4
New Haven	7.8	38.7	25.6	22.5	583.7	122.7	39.1	30.3	7.6	18.3	31.6	22.3
Albany*	27.1	32.5	11.5	8.0	589.0	57.2	32.4	58.7	6.0	41.8	19.2	65.8
Buffalo	14.9	17.1	26.3	21.7	531.1	85.8	13.9	29.8	8.8	34.0	22.0	63.8
New York	8.1	20.0	17.2	23.3	462.6	97.1	23.7	23.1	12.2	36.2	33.5	42.3
Rochester	8.4	0	21.4	23.8	394.3	44.4	20.5	25.7	4.3	44.9	4.2	21.4
Syracuse	8.7	13.3	10.3	37.7	454.1	136.9	0	30.2	12.2	21.8	24.9	59.0
Jersey City*	19.5	34.2	24.0	41.4	604.0	103.3	16.0	22.4	5.4	39.3	33.6	41.4
Newark	5.9	24.2	23.7	45.4	551.4	103.8	20.3	28.8	8.5	30.9	22.2	44.6
Paterson*	0	48.8	24.2	12.4	612.4	70.5	36.6	36.4	10.8	32.3	15.3	35.3
Philadelphia	11.7	52.7	60.0	77.8	768.5	88.5	5.5	41.7	6.9	34.9	11.1	34.3
Pittsburgh	8.7	56.9	88.3	182.0	1,003.7	147.2	21.4	90.0	2.2	9.5	14.4	127.6
Scranton*	12.9	23.8	28.6	64.2	753.5	122.2	28.2	26.4	50.4	26.2	0	14.6
Baltimore	11.3	39.4	24.9	39.2	632.9	73.5	1.6	30.6	13.9	30.6	0	45.9
Washington, D. C.	30.5	21.1	15.1	49.9	572.3	106.7	0	83.2	0	22.7	3.4	27.5
Richmond	12.1	34.9	15.9	9.7	551.3	74.0	4.9	14.5	0	60.9	0	44.0
Atlanta	5.6	0	0	71.7	358.7	128.0	14.6	42.4	38.2	10.5	6.8	88.6
Cincinnati	6.4	27.5	18.0	33.6	534.8	70.2	26.0	47.3	20.3	33.4	23.7	70.5
Cleveland	13.3	61.8	68.8	44.8	568.2	87.3	7.9	23.9	3.6	36.1	9.5	53.6
Columbus	9.9	44.2	34.4	16.0	368.1	139.7	15.1	85.9	40.7	7.9	5.5	79.6
Dayton	10.7	15.2	10.0	14.4	420.3	86.5	5.4	49.2	15.4	26.5	13.7	38.4
Toledo	7.5	40.2	45.2	20.1	350.6	74.1	13.2	28.0	6.3	17.3	20.0	65.8
Indianapolis	16.0	23.5	12.7	38.4	392.8	118.2	29.6	41.2	23.7	17.8	29.0	70.9
Chicago	0	22.0	12.0	6.9	380.5	112.8	0	23.2	0	16.3	23.5	30.5
Detroit*	0	20.4	42.3	24.0	338.0	198.3	7.4	51.7	0	57.0	15.0	45.5
Grand Rapids	22.4	18.0	9.9	22.5	198.5	74.7	6.4	57.4	9.3	19.5	10.4	51.5
Milwaukee*	13.6	57.0	63.4	33.1	368.1	111.1	0	31.4	22.3	21.6	26.7	46.0
Louisville	20.7	37.1	32.7	87.2	611.4	62.0	16.3	34.4	3.7	45.8	28.4	52.0
Memphis	0	20.2	29.1	40.0	565.3	97.9	11.2	76.8	21.9	9.4	9.4	95.0
Nashville	0	10.2	0	124.9	686.6	121.8	10.8	65.8	3.3	93.1	43.1	81.7
Birmingham	0	8.2	100.2	195.0	643.4	135.3	0	6.2	71.2	84.3	48.9	137.4
Minneapolis	0	28.0	16.6	31.9	310.0	103.3	7.9	19.6	15.9	13.8	16.0	38.0
St. Paul	8.7	22.4	14.1	25.3	385.3	94.5	12.4	28.8	13.2	6.8	61.8	69.9
Omaha	7.4	71.5	71.8	29.8	550.8	102.7	16.3	40.3	12.6	14.6	6.7	50.7
Kansas City, Mo.	13.5	37.9	65.2	76.1	652.3	205.3	29.0	38.3	21.0	8.3	5.7	41.6
St. Louis*	0	39.0	59.5	41.0	384.8	113.9	20.0	20.6	8.4	20.9	17.6	30.4
New Orleans	27.5	20.3	7.9	21.9	709.3	62.6	7.8	9.1	8.7	44.1	36.0	85.3
Denver	12.2	42.7	13.8	50.2	629.7	138.4	20.3	18.5	25.3	6.7	12.0	86.5
Los Angeles	0	7.1	0	500.7	29.6	30.9	7.3	4.8	4.5	17.9	7.4	86.5
Oakland*	0	3.9	7.6	25.0	507.3	92.6	18.0	11.0	0	6.8	0	29.2
San Francisco	0	0	5.4	22.7	635.6	93.6	35.4	14.9	3.8	8.9	0	6.8
Portland, Oreg.	0	6.9	9.0	37.0	506.9	67.5	38.3	22.9	6.5	4.3	0	33.7
Seattle*	6.3	0	4.2	27.2	419.9	89.7	17.6	0	7.4	9.0	0	42.7
Spokane*	0	9.5	18.2	12.4	490.4	126.6	39.3	0	5.5	12.0	20.4	89.6
Mean ² of rates	9.89	31.32	30.73	41.88	539.4	100.5	18.73	34.93	12.74	26.86	16.89	52.37
Standard deviation	8.67	23.56	28.96	38.73	145.3	33.22	12.56	21.72	13.39	18.88	13.28	27.34
Coefficient of variability ³ (per cent).	87.7	75.2	94.2	92.5	26.9	33.1	67.1	62.2	105.1	70.3	78.6	52.2
First quartile	0	17.1	12.0	22.5	419.9	74.5	7.9	20.8	4.8	12.0	6.7	34.3
Median	8.7	26.7	22.7	32.5	551.1	100.4	17.8	30.0	8.6	22.3	15.2	45.7
Third quartile	13.6	39.4	37.4	45.4	632.9	118.2	27.8	43.9	15.9	36.2	23.7	69.9
Lowest rate	0	0	0	0	198.5	29.6	0	0	0	4.3	0	5.9
Highest rate	31.0	123.3	155.2	195.0	1,008.7	205.3	60.2	90.0	71.2	93.1	61.8	137.4

¹ Excess over the median monthly rate for the period 1910-1916 for epidemics prior to July 1, 1919, and excess over the median monthly rate for the period 1921-1927 for epidemics after July 1, 1919. The period considered as epidemic varied in the different cities, all positive deviations being included for months when the rate was definitely above the median.

² Simple (unweighted) average of the 50 rates.

³ Per cent that the standard deviation is of the mean.

* Cities marked with asterisk (*) are not included in the group of 35 cities, because continuous weekly data from 1918 to 1930 were not available.

Appendix

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929*

[Prior to July 1, 1919, the excesses are computed as deviations from the median death rate for the corresponding month for the period 1910–1916. After July 1, 1919, the excesses are computed as deviations from the median death rate for the corresponding month for the period 1921–1927]

[Cities marked with asterisk (*) are not included in the group of 35 cities, because continuous weekly data from 1918 to 1930 were not available]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1. Albany, N. Y.*												
1910.....	-188	-80	+98	+27	0	+29	+83	0	+2	+48	+12	+185
1911.....	+88	+71	0	0	-48	+1	-11	0	-34	-11	-37	-81
1912.....	-53	+43	+44	+57	+43	-9	0	+57	+61	0	+80	+105
1913.....	0	0	-97	-17	+28	+25	+34	-12	-35	-24	-16	-58
1914.....	+97	-65	-55	-55	-30	-69	-12	-13	0	-2	-52	-78
1915.....	-62	-92	+186	+137	+2	0	-23	+42	-1	+31	+4	+5
1916.....	+234	+160	-53	-96	-88	-25	+42	+19	+42	+50	0	0
1917.....	+29	+41	-56	-10	+49	+7	+51	+8	-3	+38	-24	+40
1918.....	-106	-21	+4	+97	-69	-5	-13	+49	+51	+5,005	+640	+280
1919.....	+163	+230	+367	+201	-7	+5	-9	-8	+23	+26	+4	-2
1920.....	+15	+705	33	-59	+87	+22	+1	-18	+44	-6	-61	-3
1921.....	-111	-23	-180	-124	-7	-11	-20	8	0	-17	+77	+28
1922.....	0	+145	+85	+23	+44	0	-20	+12	+10	+44	-51	+85
1923.....	+212	+889	+93	-41	+22	+10	+41	+12	-11	-38	-62	-98
1924.....	-113	0	0	0	-8	+30	+10	-19	-22	+32	0	-38
1925.....	-74	-28	-62	-64	+71	-1	-10	+11	+30	+11	+40	+31
1926.....	+14	+26	+383	+89	0	+19	+20	-29	-2	-39	-43	0
1927.....	+12	-107	-85	+67	-10	-22	0	0	+8	0	+28	-1
1928.....	-97	-47	-106	+15	+137	+38	+29	+10	+18	+29	+47	+165
1929.....	+456	+129	-19	-78	+28	.....	.....	.....	.....	.....	.....	.....
Median:												
1910–1916.....	317	313	312	263	184	92	34	35	58	69	145	216
1921–1927.....	224	194	272	188	89	53	30	39	53	89	125	169
2. Atlanta, Ga.												
1910.....	+17	+142	+102	+55	+8	+6	+1	+39	0	+15	+152	+132
1911.....	+141	0	0	+69	+39	+3	+35	-15	+28	+48	+112	+84
1912.....	+53	+143	+76	-20	-38	0	-18	+13	+11	0	+153	-97
1913.....	0	-18	-23	-57	+5	+17	0	+51	-28	-12	+28	0
1914.....	-67	-47	-33	0	0	-14	-23	-32	-15	-49	-75	-80
1915.....	-26	+62	+10	0	-102	-57	-11	0	-31	-51	-45	-26
1916.....	-25	-95	-114	-65	-8	-58	+19	-40	+1	+24	-15	-26
1917.....	-31	+17	-190	-122	-13	-27	-59	+34	+31	-68	+102	+60
1918.....	+268	+117	-97	+321	-17	-48	+19	-4	+22	+1,347	+641	+818
1919.....	+1,217	+351	-62	-85	+9	-1	-20	-42	-31	-35	-51	-55
1920.....	+71	+1,287	+236	-69	+14	+6	+32	-2	+10	+22	-19	-48
1921.....	-131	-154	-124	-85	0	-20	-33	-16	-21	-4	-18	-71
1922.....	-30	-87	+169	+3	-45	-6	-24	+2	-19	+17	0	+71
1923.....	+429	0	-26	+25	-25	+19	+112	+11	+46	+83	+99	+57
1924.....	+122	+71	+209	+257	+75	+59	+25	+8	0	+63	+44	+68
1925.....	+75	+73	-37	0	+79	+70	-8	0	+8	-7	+56	0
1926.....	-12	+137	0	-6	+24	0	0	-27	-20	0	-26	-65
1927.....	0	-191	+81	-110	-18	-22	+3	-15	+32	-13	-7	-4
1928.....	-20	-77	-107	-27	+22	+44	+15	-12	+35	+13	-74	+83
1929.....	+379	-70	-18	-41	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910–1916.....	255	293	389	257	181	111	90	59	78	136	207	276
1921–1927.....	284	374	311	237	131	90	73	95	80	112	217	284

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3. Baltimore, Md.												
1910.....	+79	+75	-70	-47	-56	-17	-14	-24	-6	-40	+31	+7
1911.....	+46	-55	0	+33	0	-8	0	0	-2	+13	0	-41
1912.....	-44	0	+4	-95	-87	-30	-13	-13	-8	+15	-9	0
1913.....	-17	-4	-101	-23	+6	+60	+26	+30	+4	+81	+17	-27
1914.....	0	+64	+69	0	+25	0	+32	-23	0	-13	-24	-36
1915.....	-148	-61	-2	+138	-10	+19	+3	+5	+22	-30	+14	+6
1916.....	+215	+51	+111	+95	+1	+1	-1	+6	+12	0	-38	+5
1917.....	+51	+95	+58	+91	+11	+13	+11	+13	+37	+42	+26	+50
1918.....	+68	+211	+98	+69	-54	-6	-7	-38	+39	+6, 210	+297	+208
1919.....	+413	+327	-51	-101	-74	-55	+11	-7	+6	-17	-48	-2
1920.....	-29	+927	-48	-75	-13	-1	-1	-25	-20	-49	-60	-68
1921.....	-142	-44	-24	-112	-74	-32	-10	+6	-24	-12	-50	-67
1922.....	-110	-125	+19	-88	-71	-41	+10	-22	-8	-23	-27	+6
1923.....	+80	+249	+49	-17	+3	+3	-2	+4	+12	+3	+14	-43
1924.....	-34	-8	-102	+13	-4	+11	+8	0	+9	0	+7	+88
1925.....	+78	+3	-29	+25	+25	+12	-3	-3	0	+19	+2	+7
1926.....	+141	+234	0	+18	+27	0	+2	+3	-16	-34	-36	-10
1927.....	0	+61	0	0	-37	0	-6	+4	+10	0	0	0
1928.....	-29	-58	-49	+8	-22	+16	+18	-1	+23	+5	-10	+100
1929.....	+380	+66	-75	-87								
Median:												
1910–1916.....	362	337	363	290	224	113	81	83	86	126	193	279
1921–1927.....	305	344	359	266	181	110	55	68	81	119	172	207
4. Birmingham, Ala.												
1910.....	+42	+6	+75	+135	+136	+32	+74	+47	+27	0	+157	-17
1911.....	-39	-64	-67	0	+116	+27	0	+6	-4	-48	-63	
1912.....	+92	+48	+23	-22	-3	0	-9	+6	+3	+67	+118	+83
1913.....	-42	-163	-46	-28	+17	+71	+37	+26	0	+37	-8	-56
1914.....	+25	0	+151	+78	+121	-13	-27	-31	-42	-75	+26	0
1915.....	0	+22	-88	-15	-13	-39	-21	-70	-44	-54	-41	+97
1916.....	-74	-180	0	+41	-8	-10	0	-20	-52	+54	0	+88
1917.....	+30	+147	+157	+164	+256	+155	+111	+98	+41	+77	+299	+309
1918.....	+341	+253	+95	+733	+219	+29	+24	+31	+52	+2, 420	+1, 435	+2, 259
1919.....	+714	+332	+82	+152	+117	+101	+37	+2	+54	-17	-70	-16
1920.....	+27	+1, 181	+465	-132	-66	-40	-11	-13	-2	-45	-106	-113
1921.....	-65	-22	-77	-244	0	-17	-20	+4	-11	-28	-117	-93
1922.....	-47	-28	-90	-241	-48	-13	+3	-4	0	0	-95	0
1923.....	+73	0	0	+23	-10	+27	0	0	+36	+2	+33	-68
1924.....	0	+143	+92	+8	+28	0	-37	-31	+9	-13	+160	+157
1925.....	+100	+248	+120	+27	+56	-45	+7	+31	+13	+7	+90	+58
1926.....	+79	+360	+322	0	+56	+28	+32	-11	-30	-24	-10	-73
1927.....	-80	-7	-73	-85	-49	+1	-5	+52	-14	+5	0	+17
1928.....	+101	+25	-15	-118	+351	+80	+4	-4	+6	-14	-63	+101
1929.....	+1, 474	+51	-33	-210								
Median:												
1910–1916.....	328	374	356	184	102	77	58	85	82	106	180	246
1921–1927.....	318	253	349	381	190	128	102	78	76	136	241	308
5. Boston, Mass.												
1910.....	0	+14	-11	+35	-32	-18	+14	-9	+30	+8	+42	+34
1911.....	-42	+92	-17	-31	+53	0	+31	-4	+4	-18	-4	-23
1912.....	+2	-5	+30	0	-1	-25	0	-20	+1	+37	0	+3
1913.....	+12	-9	+49	-24	+22	+25	-6	+7	-22	-33	-30	-10
1914.....	-4	-81	0	+40	+16	+19	-29	0	-30	0	+7	-36
1915.....	-64	0	+17	+56	-35	-3	+10	+14	-17	+6	-5	+110
1916.....	+290	+28	-21	-22	0	0	-12	+6	0	-8	+22	0
1917.....	+110	+102	+29	+23	+45	-9	-44	-36	-4	-2	+33	+3
1918.....	+95	+190	+65	+72	-30	-43	-1	-47	+2, 662	+3, 546	+200	+715
1919.....	+827	+224	+23	-42	-37	-63	-12	-11	+7	+18	-27	-31
1920.....	+151	+1, 042	+36	+5	-8	-1	+1	-15	-8	+11	+10	+7
1921.....	-10	-61	-65	-18	-26	-4	-2	-7	-6	-4	-14	-35
1922.....	-2	+206	+100	-13	+10	-33	0	+3	+3	+18	+79	+70
1923.....	+221	+209	+51	-11	-38	0	+4	+10	-15	0	-6	+16
1924.....	-25	0	-89	+11	-14	+12	-16	-16	-15	+9	+3	+25
1925.....	+22	+143	0	+28	+5	+6	+6	0	+18	+26	0	-3
1926.....	0	-16	+176	+119	0	-2	-14	-13	+2	-4	0	-38
1927.....	-31	-48	+18	-18	+150	+83	+8	-18	-2	-2	-32	-2
1928.....	+30	+234	+4	-41								
Median:												
1910–1916.....	305	306	314	294	220	140	108	96	124	150	176	262
1921–1927.....	220	223	264	198	157	89	63	68	83	104	136	178

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
6. Bridgeport, Conn.*												
1910	-94	0	-40	0	+57	+29	-32	+34	-43	-53	-41	0
1911	+6	-84	-6	-124	+13	0	-22	-36	-33	-56	-34	-54
1912	-122	-30	-6	-85	-59	-38	+19	+37	+20	+15	-16	-8
1913	+32	-31	+134	-81	-45	-73	+26	-18	-15	-21	+32	+12
1914	0	+68	+89	+44	-159	-14	-7	0	+33	+14	+5	-56
1915	-164	+98	0	+33	0	+50	0	-12	0	0	0	+155
1916	+446	+74	+193	+271	+269	+68	+72	+60	+36	+87	+147	+290
1917	+543	+329	+273	+125	+74	+1	+40	+59	+26	+18	-93	-93
1918	-94	-187	+410	+175	-56	-47	+11	+77	+46	+4,107	+2,098	+624
1919	+623	+551	+230	+76	-68	-102	+47	-22	+39	-6	0	-5
1920	+135	+1,179	+88	+7	+10	+85	+21	+67	+12	+25	+64	+17
1921	0	+2	0	-7	-34	0	-20	+17	+27	+23	-30	-11
1922	+48	+174	+72	-19	+17	-2	-5	+1	+9	+28	0	+47
1923	+198	0	-2	0	+36	-26	+23	0	0	-33	+35	-2
1924	-28	-41	-36	+26	-11	+41	0	-15	-8	-4	+10	-19
1925	+24	-33	+2	+13	0	-13	+13	-23	+13	+22	+43	0
1926	-63	+62	+128	+250	+24	+22	-9	-3	-10	0	-31	+18
1927	-25	-62	54	-93	-53	+6	+4	+10	-3	-1	-33	+81
1928	-88	-55	+29	-6	+51	+73	+10	+16	+16	+24	0	-28
1929	+428	+102	-22	-83								
Median:												
1910–1916	334	279	303	200	218	136	66	69	78	133	147	252
1921–1927	173	181	188	169	120	49	36	30	38	48	95	113
7. Buffalo, N. Y.*												
1910	+7	-35	0	+66	+68	+23	0	+12	+15	+7	+49	+8
1911	0	-29	+49	+16	-7	+2	-11	-18	0	-9	-24	
1912	-4	-48	-17	-64	-32	+30	+32	+28	+3	+27	0	+35
1913	+52	+81	-43	-73	-10	+49	-22	0	-15	-14	-1	-44
1914	-12	+16	+38	0	0	-7	-10	-30	0	-16	-17	-67
1915	-44	+26	+88	-66	-46	-22	+3	-3	+7	0	+38	+38
1916	+127	-16	+16	-72	+75	0	-8	+31	-2	+18	+28	0
1917	+113	+47	+74	+15	+36	+31	-24	-5	+21	+28	+50	-50
1918	+31	+52	+37	+146	-15	-6	+40	+1	+54	+4,264	+664	+386
1919	+681	+253	-12	-23	-44	-7	+21	+8	+24	-20	-29	-16
1920	-22	+915	+134	+15	+9	-25	-17	-16	+18	-28	-32	+11
1921	+19	-23	-48	-63	-34	-59	-4	0	-16	-3	-52	-78
1922	-5	+20	+138	+8	-17	-53	+2	+6	0	-11	-24	-11
1923	+123	+204	+45	-1	+31	+5	+4	-6	+9	0	0	+4
1924	-8	-13	-27	0	-25	-26	-5	+3	+13	+26	+6	+23
1925	-9	+34	-14	+41	+63	+7	-6	+11	-1	+5	+64	+41
1926	0	0	+188	+134	+70	+13	+3	-9	-2	+8	+33	-22
1927	+37	-15	0	-8	0	0	0	-14	+5	-12	-8	0
1928	-7	-12	+58	-42	+75	+65	+36	+28	+22	+47	+20	+159
1929	+469	+114	-5	+58								
Median:												
1910–1916	212	222	249	251	187	97	77	63	74	98	141	208
1921–1927	145	160	169	174	116	97	45	46	44	74	99	128
8. Cambridge, Mass.*												
1910	+39	0	+49	+53	-32	+82	+1	0	+13	+36	+39	-50
1911	-63	+85	+2	-18	+79	-11	+23	+11	-45	-65	-32	-74
1912	-19	-47	-87	0	-87	-22	+12	-11	+47	+35	-9	+15
1913	+68	-41	0	+49	-58	+114	0	+10	0	-66	+70	+13
1914	0	+7	+20	+59	+53	-34	-22	-1	-23	+11	0	-76
1915	-89	-55	-90	0	-3	0	-33	-1	+11	-77	0	0
1916	+239	+31	-47	-90	+30	0	-11	-1	+11	-23	-58	-89
1917	+181	+3	+38	-92	-26	+66	-22	-34	-35	-23	-58	+580
1918	+38	+242	-29	+97	+38	+44	-1	-45	+2,009	+2,908	+143	+580
1919	+607	-59	-84	-71	-27	+10	-16	-18	+14	+45	-6	-17
1920	+155	+570	+98	+8	+63	+23	-16	+3	+35	+23	-73	-7
1921	-19	-57	-61	-94	-24	0	-38	-19	-10	0	+13	0
1922	+60	+122	+163	0	+5	+41	+24	+1	+40	0	+121	
1923	+218	+60	+86	+39	-47	-13	+13	-20	0	-12	-2	+46
1924	-87	-103	-127	-99	+12	+18	-18	0	+20	-13	+17	-6
1925	0	+96	0	+103	0	+6	+11	+9	-1	+6	+25	+31
1926	+6	-113	+208	+7	-21	-35	0	-11	-2	+14	-47	-78
1927	-16	0	-16	-25	+16	-16	-19	+17	+7	-16	-29	-108
1928	-122	-141	-93	-66	+14	-65	-48	-12	-13	-17	-88	-108
1929	+144	-78	-104	-135								
Median:												
1910–1916	275	261	288	260	167	57	55	67	91	132	170	241
1921–1927	197	231	187	202	108	65	48	40	42	73	117	146

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9. Chicago, Ill.												
1910.....	0	+13	+66	+15	+86	+111	+41	+32	+23	+24	+64	+94
1911.....	+45	-20	0	+24	+6	-17	0	+30	0	+7	+31	0
1912.....	+9	+31	-9	-17	0	+38	+13	+30	+1	+39	+8	+56
1913.....	-14	+38	+60	0	+11	+60	0	-1	+13	0	0	-44
1914.....	-58	0	+16	+12	-9	9	-17	0	-12	-38	-38	-72
1915.....	-132	-56	-29	-35	-89	-2	-28	-10	-28	-25	-64	+172
1916.....	+87	-71	-88	-102	-72	-8	-21	-6	-21	-3	-39	-40
1917.....	-14	+14	+40	+20	+40	+31	+5	+6	+3	+21	-41	-100
1918.....	-168	-139	+11	+73	-78	-49	-46	-26	+48	+3,037	+531	+995
1919.....	+224	+101	+74	-59	-84	-27	+12	+1	0	-2	+12	+59
1920.....	+826	+540	-5	+15	+34	-3	-6	-1	-3	-9	+6	+8
1921.....	+15	-4	-80	-47	-25	-25	-5	-3	-6	0	-12	-9
1922.....	-22	+18	+11	+15	+1	-10	-4	-1	+1	+6	+4	+33
1923.....	+54	+190	+11	+34	+29	+2	+3	+1	+11	-5	+4	0
1924.....	-9	0	-43	-14	-13	+4	-7	0	+4	+1	-16	+23
1925.....	0	-6	0	+8	+9	0	+5	+7	-4	0	+17	-15
1926.....	-23	+7	+186	0	0	-12	+1	-5	0	-11	0	-8
1927.....	+9	-36	-71	-33	-14	+18	0	+6	-1	+5	-4	+11
1928.....	-6	-6	+93	+136	+41	+12	+4	+13	+17	+7	+7	+233
1929.....	+128	-7	-79	-44								
Median:												
1910-1916.....	344	330	321	281	214	102	93	64	94	121	189	251
1921-1927.....	149	169	224	167	113	71	43	39	46	67	95	117
10. Cincinnati, Ohio												
1910.....	-9	+164	+121	-2	+26	-7	+4	-9	-6	+18	+45	0
1911.....	-40	-111	-17	+15	+28	-32	-4	0	+8	+1	+19	-16
1912.....	0	+32	+22	-58	-24	+3	-8	+33	0	0	+13	+167
1913.....	+120	-14	0	-24	+71	+32	+3	-5	-11	+36	-4	-28
1914.....	-7	+25	+95	0	-5	-21	-21	+4	-20	-3	-39	-5
1915.....	+75	0	-29	+48	-3	-3	0	-2	+4	-4	-27	+60
1916.....	+265	-16	-48	+42	0	0	+12	+1	+19	-13	0	+35
1917.....	+78	+109	-28	-12	+47	+27	-1	0	-3	+13	+5	-10
1918.....	+98	+17	+56	+223	+11	-25	-19	-6	+18	+2,140	+1,285	+1,529
1919.....	+52	+523	+798	+60	-28	-22	-1	-45	+10	-24	-44	-3
1920.....	+6	+675	+130	+2	+32	-17	-19	-4	-18	-39	-56	-100
1921.....	-42	-49	-74	-101	-7	0	+13	-25	0	-10	-5	-72
1922.....	-11	+270	+62	-66	-22	-52	-39	-2	+1	0	+10	-12
1923.....	+290	+248	0	+12	+36	+33	+21	-5	+21	-43	0	-41
1924.....	-32	+30	-84	-19	+1	-15	-5	-31	-3	-25	+39	0
1925.....	+45	0	+24	+177	0	-19	-8	+6	+26	+75	+73	-5
1926.....	+38	-58	+83	+258	+83	+23	+15	0	-7	0	-5	+25
1927.....	0	-49	-129	0	-3	+10	0	+3	+11	+11	+81	0
1928.....	-9	-47	-29	+115	+142	+28	-8	+11	+37	+51	+45	+31
1929.....	+722	+78	+6	-60								
Median:												
1910-1916.....	265	284	274	189	116	77	57	41	70	105	172	194
1921-1927.....	217	236	272	198	106	84	54	66	51	92	132	203
11. Cleveland, Ohio												
1910.....	+26	0	+12	+21	+13	+26	0	-11	-5	-2	+11	+7
1911.....	0	+16	-49	-39	-33	-5	-14	-9	+9	-7	-19	-90
1912.....	-12	-42	-55	-52	-11	+8	0	+14	-27	0	-19	0
1913.....	+2	+19	0	-44	+8	+22	+12	0	+15	+25	0	-57
1914.....	-18	-11	-22	+2	0	-31	-4	-15	0	-23	-15	-44
1915.....	-13	+138	+30	0	-31	-8	-1	+16	-1	+29	+35	+139
1916.....	+345	+18	+39	+62	+66	0	+1	+19	+15	+59	+39	+48
1917.....	+151	+183	+179	+28	+60	+55	+31	+3	+11	+63	+17	+69
1918.....	+115	+18	+14	+220	+19	-15	-6	+19	+16	+2,032	+1,931	+1,132
1919.....	+464	+413	+543	+228	+43	+9	+3	+37	+16	-17	-5	-5
1920.....	+52	+897	+57	+45	+39	+1	+18	+9	+6	-12	-1	-1
1921.....	-24	0	-56	-55	-55	-33	-7	+2	-11	+14	-4	-5
1922.....	0	+49	+48	-12	-21	0	-9	-5	0	-15	-12	0
1923.....	+79	+208	+14	0	+8	+9	+8	+12	+23	0	+12	-30
1924.....	+7	0	0	+36	+6	+12	-9	-3	-7	-13	+25	+18
1925.....	-25	+12	-45	+3	0	-8	0	-1	+6	+15	+82	+6
1926.....	+23	-19	+186	+126	+8	-5	+27	+1	+5	+4	-12	+17
1927.....	-30	-30	-91	-65	-19	+5	+22	0	-9	-17	0	-58
1928.....	-50	-94	-39	-30	+86	+27	+4	0	+2	-16	-13	+169
1929.....	+449	+16	-82	-79								
Median:												
1910-1916.....	172	180	211	192	135	82	54	50	57	87	127	182
1921-1927.....	160	194	219	174	113	68	45	42	51	78	87	141

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 60 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
12. Columbus, Ohio												
1910	-37	-65	+11	+78	+42	+18	+32	-21	-3	+34	0	+39
1911	+8	+7	+23	0	-23	-34	+3	-11	-1	+54	0	+3
1912	+19	-40	-101	+13	-22	0	-10	+26	0	+27	-20	+5
1913	0	0	-52	-4	+39	+34	0	0	-20	0	-18	-113
1914	-17	-69	0	+15	+24	-10	+3	-7	+27	-8	-56	-48
1915	-5	+118	+10	-1	-52	0	-26	-14	+2	-20	+28	+14
1916	+479	+30	-6	-10	-5	+9	+16	+7	+40	+33	+52	-2
1917	+143	+265	+24	-26	+24	-4	-7	+16	-1	+35	-24	-8
1918	+16	+60	-49	+195	+10	-48	-24	-6	+46	+1, 237	+1, 054	+655
1919	+117	+215	+585	+103	+87	-13	+18	+13	+9	-18	-8	+14
1920	+142	+1, 315	+109	+33	+58	+55	+12	+22	+8	-9	0	+1
1921	+27	-22	0	-42	0	-18	-4	-8	+11	+8	+20	-18
1922	-16	+76	+110	-55	-12	0	0	0	0	-18	-12	+34
1923	+287	+601	+145	+3	+23	+22	+22	+9	+18	-15	0	+17
1924	-28	-16	-7	-15	11	-8	-2	-10	+12	+6	+15	+57
1925	0	+71	+327	0	+32	+7	-20	+2	-13	+27	-8	-2
1926	-16	-29	-4	+40	+54	-7	+17	-3	-5	0	+15	0
1927	+1	0	-24	+19	-13	+25	+7	+29	-1	-17	-8	-7
1928	-51	-16	-66	+10	+56	-38	-5	-8	+2	-23	-27	+267
1929	+572	+108	-7	-66								
Median:												
1910-1916	206	208	246	162	119	75	65	47	50	76	133	219
1921-1927	173	143	157	165	90	67	37	32	43	78	117	132
13. Dayton, Ohio *												
1910	+4	-22	+76	0	+23	+65	+31	+11	+29	+23	+106	+101
1911	-52	-28	+19	+64	0	-9	0	0	-4	0	+8	+25
1912	-115	0	-16	-2	-2	0	+56	-2	-5	+35	-45	0
1913	0	+92	-13	+1	-33	-17	-2	+6	+3	-15	-20	-42
1914	-104	-26	0	+5	+10	-21	-39	-22	-7	-44	-60	-36
1915	+39	+64	+29	-37	-2	+41	-4	-14	+27	-45	0	+38
1916	+142	+2	-10	-15	+81	-5	+12	+2	0	+21	+6	+9
1917	+96	+22	0	-20	+26	+36	+2	+9	+15	+34	+35	+80
1918	+17	-38	+19	+124	+31	+1	+17	-25	+22	+8, 123	+676	+655
1919	+97	+96	+256	+58	-34	-1	+35	+11	-24	+5	-35	-23
1920	+515	+538	+4	+2	+11	-5	-13	+3	-24	+3	-12	-25
1921	-83	-91	-91	-21	-14	-14	-13	+39	-10	-43	+2	-6
1922	+3	+44	+23	+43	0	-37	+1	-13	-18	0	0	+20
1923	+245	+324	+18	-38	+48	0	+22	-21	+3	+34	+13	-19
1924	-3	0	-55	+32	-10	+28	0	0	-19	-37	-47	0
1925	-48	+17	+166	0	-5	+26	-1	-14	+1	+3	+8	+23
1926	+77	-31	-2	+52	+140	+73	+39	+12	0	+2	-14	+13
1927	0	-55	0	+14	+5	3	-2	+11	+26	-6	-9	-82
1928	-35	-12	-67	+11	+113	+23	+10	+23	+5	+12	+3	+193
1929	+219	+45	-89	-103								
Median:												
1910-1916	247	233	205	207	97	49	39	49	44	97	143	170
1921-1927	150	149	195	148	73	37	28	28	48	58	83	140
14. Denver, Colo.												
1910	0	-71	0	+34	+42	+10	-19	-22	0	+25	-14	+79
1911	+231	+116	+44	-48	-31	-24	-3	0	-7	-4	+56	-61
1912	-27	-44	-29	+5	0	-3	+17	+15	-24	-1	-24	0
1913	-73	-53	-49	-26	-44	0	+11	-7	+12	-34	0	-10
1914	-46	0	+64	+55	+36	+20	0	+8	0	0	+114	+287
1915	-50	+56	+90	0	-16	-2	+29	+2	+30	+3	+11	+44
1916	+94	+14	-142	-54	+21	+17	-21	-4	+3	+11	+44	+64
1917	+57	-25	-43	-11	-15	-10	+12	-4	-18	-2	+6	-9
1918	-47	-44	+91	+268	+158	+19	+25	0	+39	+1, 937	+2, 063	+2, 268
1919	+394	+206	+326	+69	-4	-26	-20	-16	-31	-23	-56	-19
1920	+326	+1, 399	-53	-3	-7	+10	+34	+20	+39	+21	+93	+123
1921	+68	0	-89	-16	-23	+13	-8	0	+4	-18	0	-26
1922	-18	+8	+215	+17	+1	+39	0	-5	-20	-7	-7	+22
1923	+34	+132	+42	0	+20	-8	+8	-24	-21	-48	+12	-39
1924	-27	-156	+32	+142	0	-22	+24	+44	0	+24	+6	+86
1925	+31	-60	-91	+127	+18	+42	+18	+21	+41	0	+50	-17
1926	-65	+87	0	-32	-88	-12	-3	+16	-8	+6	-22	0
1927	0	-141	-107	-36	-93	0	-16	-2	+25	+16	-3	+16
1928	+28	-47	+7	+30	+67	+28	+11	+17	-31	-18	-63	+916
1929	+105	-73	-38	-76								
Median:												
1910-1916	264	253	225	170	106	69	46	36	68	112	128	201
1921-1927	317	352	322	215	162	84	57	67	93	130	171	264

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
15. Detroit, Mich.*												
1910.....	0	0	+44	+116	+13	+37	0	+10	-12	-26	+8	-5
1911.....	+11	+18	-52	-27	-13	-31	-13	-7	-20	0	-37	-42
1912.....	+15	-32	-11	-3	0	-5	+19	+11	+7	-3	+11	+71
1913.....	-11	+35	+4	+37	+59	+43	+44	+34	+10	+13	0	0
1914.....	-26	+7	0	0	-34	-21	-1	0	-23	-30	-36	-22
1915.....	-55	-71	-51	-27	-46	0	0	-2	0	0	+5	+177
1916.....	+64	-23	+10	+44	+55	+25	+31	-1	+17	0	0	+85
1917.....	+89	+36	+50	+64	+69	+21	+62	+27	+36	+28	+1	+10
1918.....	+25	+9	-15	+282	-17	-32	+4	-12	-11	+1,351	+793	+679
1919.....	+617	+390	+195	+18	-36	-38	+6	0	+1	+8	-8	+55
1920.....	+640	+1,497	+101	+96	+51	-9	+8	+11	-4	-6	-12	-19
1921.....	-46	-62	-103	-57	-28	-37	-9	+3	-12	-5	-5	+45
1922.....	-42	+80	+135	-37	-42	-12	-7	-7	-1	+17	+18	+45
1923.....	+130	+202	+1	+96	+101	+23	+33	+27	+25	+29	0	0
1924.....	0	-17	-17	+72	+18	+7	0	+8	+8	-4	-23	+2
1925.....	+15	0	0	0	0	0	-1	+5	-1	+4	+34	+22
1926.....	+14	+26	+294	+190	+61	+2	+2	+2	-5	-13	-12	+4
1927.....	-24	-36	-45	0	-18	-1	-7	0	0	0	-27	-35
1928.....	-39	-44	-18	+105	+76	+19	-2	-7	+9	+8	-10	+218
1929.....	+207	+12	-16	+7	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910–1916.....	232	244	282	216	165	96	42	52	71	103	145	198
1921–1927.....	185	200	233	173	145	99	49	44	59	76	125	136
16. Fall River, Mass.*												
1910.....	-187	-141	-47	-40	0	+1	+40	+29	-10	+80	+40	+51
1911.....	-98	-86	+31	+92	+88	-71	-9	-1	+10	-19	-21	-127
1912.....	+1	+83	-27	-81	-30	-132	-49	0	+21	+80	0	+31
1913.....	0	-43	+356	+294	+51	0	-1	-31	+30	-1	+76	-58
1914.....	+265	+87	0	-10	+43	0	+20	-1	0	-19	+50	-58
1915.....	-30	-153	+108	+172	-90	+10	0	+29	-51	0	-52	0
1916.....	+422	+313	+79	0	-21	-41	+20	+78	0	-39	+60	-59
1917.....	+292	+346	-11	-22	-30	-41	-69	-20	-41	-39	-22	-118
1918.....	-61	-175	-99	-12	-110	-173	-79	-11	+798	+6,019	+403	+352
1919.....	+408	+279	+8	-63	-159	-112	-9	-43	+32	-12	-50	-17
1920.....	+92	+450	+73	-34	-8	+2	-28	-14	+21	-22	+20	+96
1921.....	+125	-35	0	+13	0	+21	0	+4	+1	-33	+7	+28
1922.....	-20	+360	+394	0	-30	0	-10	+23	0	-24	+15	+55
1923.....	+62	+32	+48	-31	-3	-30	9	+12	-10	-34	-45	-41
1924.....	+49	0	-67	-52	+14	+37	-20	-53	-10	+40	-65	-5
1925.....	0	+56	+49	+41	+13	-21	-20	-44	+9	+2	0	+66
1926.....	-84	-138	-208	+177	-7	+24	+25	-44	+8	+10	-30	0
1927.....	-50	-21	-138	-67	+18	-32	+15	0	-11	0	+42	-73
1928.....	-96	-59	-193	-86	+8	+40	+24	-18	+26	-18	-115	+23
1929.....	+474	+156	-195	-79	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910–1916.....	325	381	432	305	247	193	108	40	112	88	133	255
1921–1927.....	219	247	316	195	115	78	38	53	29	71	151	144
17. Grand Rapids, Mich.*												
1910.....	+13	+11	-32	0	0	-20	+11	+21	+11	0	+1	+97
1911.....	+152	+109	+57	+220	+9	-31	+11	+10	+21	+20	0	-39
1912.....	-44	-32	-67	-24	-43	0	-10	-10	0	-22	-53	0
1913.....	-27	-41	0	-25	-44	-32	0	0	+19	+16	+58	-21
1914.....	0	-1	+26	-7	+33	+27	-10	+28	-11	+5	+5	+52
1915.....	-22	+59	+69	+80	+2	+26	+37	-1	-21	-15	-16	+70
1916.....	+143	0	-101	+29	-17	+52	-11	-10	-11	-62	-26	+12
1917.....	+106	-80	+31	+16	+61	-34	+7	+26	+7	-8	-19	+17
1918.....	-5	-13	-34	+213	+59	-25	+15	-1	+6	+395	+697	+1,131
1919.....	+131	-34	+85	+75	-21	-26	-15	-21	-40	-12	+18	-3
1920.....	+19	+736	+62	+31	+38	+37	+10	+5	-31	+5	-27	-30
1921.....	-17	-26	-84	-75	-23	-16	+18	-30	+3	+20	+7	+1
1922.....	+22	+17	+38	0	-7	0	-16	+19	+2	-5	+5	+49
1923.....	+60	+488	+75	+48	0	+25	+8	+10	-24	-14	+21	-51
1924.....	-37	0	-37	-41	0	+0	+2	0	-6	-38	-43	-43
1925.....	-26	+8	-21	0	+11	+102	-24	0	-25	+31	0	0
1926.....	+12	-36	+52	+130	+40	-2	+14	-8	-33	0	-48	+21
1927.....	0	-39	-94	-82	+7	+13	-2	-16	+11	+27	-26	-12
1928.....	-30	-67	-37	-1	+92	+12	+19	-9	-12	+41	+13	+425
1929.....	+124	-11	-88	-32	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910–1916.....	154	139	157	86	73	52	20	10	21	62	74	90
1921–1927.....	109	128	159	127	73	25	24	38	49	38	71	107

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
18. Indianapolis, Ind.												
1910.....	-43	+50	+30	+60	+36	+56	0	+7	+18	+13	+34	+11
1911.....	0	-12	-17	+13	-41	-23	-16	0	0	0	-52	-44
1912.....	+45	-60	-14	-3	-6	-14	+26	+4	-16	+50	+14	0
1913.....	-2	0	-9	-37	+3	+31	+10	+2	+1	-23	-15	-42
1914.....	-30	+23	+29	+96	0	0	+4	0	-1	-8	-23	+16
1915.....	+71	+112	0	-60	-28	-19	-36	-7	+8	0	+114	
1916.....	+163	-8	+48	-11	+25	+5	0	-3	+8	-13	+25	-12
1917.....	+29	+133	+6	+25	+36	+6	+11	+3	+6	+45	-47	+19
1918.....	+69	+29	+19	+260	+74	+12	-6	-14	+64	+1, 381	+1, 046	+767
1919.....	+319	+338	+623	+156	+5	-5	-22	-11	-12	49	-76	+20
1920.....	+190	+978	+97	+12	+95	+51	+18	-19	-29	-32	-43	-24
1921.....	0	-144	-148	-95	-44	-8	+2	-6	0	+7	-23	+16
1922.....	+47	+316	0	0	+34	-31	-17	0	-13	-17	-19	+4
1923.....	+101	+288	+111	+10	0	0	+3	-1	-3	-15	+17	-38
1924.....	+24	0	-32	-16	-13	+12	-19	-5	+34	0	+14	0
1925.....	-33	+93	+150	+47	-9	-17	0	+10	-20	+4	0	+49
1926.....	-4	-74	+38	+58	+49	+29	+28	+9	+6	+12	+4	-10
1927.....	-14	-102	-94	-44	+8	+30	-5	+14	+24	-9	-22	-29
1928.....	+35	-53	+30	+93	+151	+57	+16	+13	+26	+5	+17	+469
1929.....	+237	+70	-19	-48								
Median:												
1910-1916.....	238	216	245	173	124	68	45	53	60	87	142	165
1921-1927.....	181	248	267	207	124	64	49	49	67	91	139	158
19. Jersey City, N. J.*												
1910.....	-15	-64	-65	-10	0	0	-7	-5	-36	0	+56	+106
1911.....	+12	+10	+76	+140	-19	-19	-12	+7	+4	-2	0	+15
1912.....	+47	-68	-104	0	+10	+16	+21	+10	-11	-7	-24	-26
1913.....	0	+8	0	+97	+62	+58	+11	0	+14	0	-17	-94
1914.....	-28	0	+38	-32	-12	-9	-36	-34	0	-39	+37	-20
1915.....	-31	-105	+26	+43	+79	+88	0	+15	-14	+26	+52	+56
1916.....	+197	+80	-9	-32	-6	-15	0	-11	+36	+13	-9	0
1917.....	+178	+116	-58	+41	+20	-4	-26	0	+5	+51	+1	+44
1918.....	+52	-9	-241	+208	+34	+11	+37	-49	+132	+4, 953	+791	+262
1919.....	+545	+524	+565	+130	-12	-23	-6	+15	+59	+30	+43	+15
1920.....	+268	+989	+46	-34	-5	-7	-27	-5	+17	-10	-27	+1
1921.....	+12	0	+38	0	+1	-20	-19	+17	-4	-12	-29	-32
1922.....	+10	+198	-11	-22	0	-28	-27	-6	0	+30	+26	+9
1923.....	-26	+236	+47	+4	-32	+7	+7	+54	-9	-40	+1	-12
1924.....	-9	-10	0	+45	-2	+33	+17	+1	+22	+31	0	+63
1925.....	0	-25	-44	-39	+30	-11	-21	0	+37	0	+34	0
1926.....	+60	+87	+227	+55	+43	0	+5	0	+25	+2	-6	+21
1927.....	-34	-86	-59	-39	-10	+11	0	0	-6	-32	-34	-32
1928.....	-32	+60	+34	+126	+120	+59	+7	+14	+20	+4	+11	+76
1929.....	+315	+94	-59	-101								
Median:												
1910-1916.....	305	302	297	227	175	113	99	97	104	123	175	280
1921-1927.....	217	232	246	205	131	84	62	37	48	105	117	164
20. Kansas City, Mo.												
1910.....	-10	-1	+59	+11	+47	+19	+35	+1	+1	+3	+15	+90
1911.....	+206	+88	+13	+33	+29	+2	-13	+27	+9	+1	+43	0
1912.....	+12	-23	-42	0	-37	-27	-13	-24	-21	+3	-40	-53
1913.....	-1	+68	0	-64	-4	-19	-1	-7	-4	0	-16	-32
1914.....	0	-52	-15	-2	+31	-20	+10	0	-10	-6	-24	+318
1915.....	-23	+51	+57	+68	-22	0	+1	+3	+14	-25	+53	+56
1916.....	+79	0	-9	-3	0	+7	0	-2	0	-6	0	-20
1917.....	+135	+168	+197	+147	+75	+41	+26	+4	-10	-13	+16	+56
1918.....	+144	+99	+352	+162	+82	+3	+1	-16	+59	+2, 271	+1, 401	+2, 201
1919.....	+546	+439	+518	+268	+22	+9	+19	0	+31	+35	+15	+35
1920.....	+871	+1, 613	+8	-55	+8	+29	0	+46	-8	-66	-7	-5
1921.....	-40	-50	-195	-111	-20	-9	-29	-9	+2	+7	0	-54
1922.....	0	+278	0	+10	+32	+10	-13	0	-7	+11	-7	+36
1923.....	+49	+320	+15	+63	-2	-23	0	+15	-1	-22	+56	+28
1924.....	-6	-61	-128	-55	-17	+27	-1	-29	+8	-37	-15	-2
1925.....	+40	+154	+68	0	+9	-11	+14	+15	0	-13	+28	0
1926.....	-50	0	+28	+72	0	+3	+11	-14	+21	0	+8	+75
1927.....	+5	-62	-159	-119	+37	+18	+30	+28	0	+4	-43	-34
1928.....	-30	-136	-123	+1	+37	+32	-32	+8	-16	-44	-38	+399
1929.....	+31	+65	-111	-133								
Median:												
1910-1916.....	255	251	224	184	99	59	40	46	62	86	136	183
1921-1927.....	229	236	377	252	129	71	47	55	60	116	141	163

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
21. Los Angeles, Calif.												
1910	-30	+3	-3	0	+27	-25	-17	-20	+19	+4	-22	+6
1911	+24	+19	+35	-2	0	0	+7	+27	-11	0	-5	-19
1912	0	0	+12	+53	+11	0	+19	-5	+19	+40	+24	+65
1913	+95	+69	+43	+32	+23	+25	+17	+1	+12	0	-13	-38
1914	-32	-48	-16	-20	-13	+9	-12	+6	-15	-12	0	-50
1915	-61	-67	0	-30	-10	-7	0	-3	+18	+18	+38	-6
1916	+30	-15	-21	0	-6	-23	-34	0	-23	-12	+14	+2
1917	-9	-42	+9	+9	+4	-4	-45	-17	-3	+15	+18	+14
1918	-59	-6	+6	+5	+25	-20	-15	-7	-1	+1,653	+2,035	+88
1919	+1,103	+55	+65	+77	-19	-31	-30	-34	-23	-26	-29	-29
1920	+3	+347	+21	-16	-23	+3	-24	-27	-13	-18	-38	-35
1921	-55	-92	-56	-30	-28	-24	-29	-15	-9	-19	0	-1
1922	-36	+155	+215	+8	-12	-14	-14	0	-9	-11	-14	-8
1923	0	+29	+60	0	+4	0	+12	-2	0	+10	-6	+5
1924	+10	-76	0	+28	+12	+13	-9	+11	+18	0	+5	0
1925	+56	0	+32	0	+26	+14	+2	+9	+7	-22	-2	-3
1926	-8	+59	-29	-9	-26	-12	0	-3	-14	+2	+26	+43
1927	+18	-45	-22	+2	0	+41	+27	+15	+4	+19	+8	+34
1928	+102	+65	+14	+40	+26	+47	+10	+23	+19	+52	+229	+531
1929	+79	+6	+92	+60								
Median:												
1910–1916	190	154	101	90	78	70	61	51	60	58	93	165
1921–1927	165	201	151	112	101	68	64	59	53	81	94	132
22. Louisville, Ky.												
1910	+94	+64	-87	-43	+95	-3	+17	+12	+17	+11	-1	+31
1911	-37	-93	-77	+85	+58	-36	-4	+17	-5	-31	+41	-27
1912	-37	-48	+63	+21	0	+2	-4	+6	+1	0	-45	-1
1913	-4	+13	+48	-20	+45	+43	0	-15	0	+45	+49	-14
1914	0	-5	+174	0	-7	+37	0	-5	-21	+3	0	+113
1915	+131	0	0	-11	-7	0	+36	0	0	-7	-42	0
1916	+391	+51	-21	+10	-12	0	+36	-25	-11	-2	+10	+15
1917	+215	+65	+33	+30	+48	-16	+15	+5	-6	+53	+61	+110
1918	+183	+259	+37	+305	+52	-22	+60	-41	+72	+2,561	+961	+1,092
1919	+247	+763	+1,502	+59	+52	-12	+31	+51	-6	-7	-43	+2
1920	+86	+605	+80	-55	-19	-4	-14	+20	+3	-3	-14	+31
1921	-91	-76	-109	-115	0	+2	-11	0	-14	-1	0	-16
1922	0	+212	-34	0	-21	-41	-18	-3	-15	-13	+29	+17
1923	+188	+189	0	+28	+45	+4	+6	+62	0	+55	+49	0
1924	-27	+3	+6	+17	+1	-44	0	-1	+23	-21	-19	-20
1925	-40	0	+44	-18	-15	0	-5	-10	0	+20	-23	+38
1926	+54	-100	+358	+110	+23	+17	+35	+1	-9	+29	+5	+56
1927	+17	-121	-83	-43	-40	-16	-37	+22	+16	0	-15	-35
1928	-42	-75	+45	+60	+58	+26	+21	+129	-5	+34	-45	-2
1929	+614	-103										
Median:												
1910–1916	235	254	275	216	109	79	56	56	53	104	158	188
1921–1927	200	255	256	203	128	81	44	29	68	77	152	149
23. Lowell, Mass.*												
1910	+21	+99	+68	+111	+2	+1	-42	+36	+35	+26	+115	-59
1911	-3	0	0	-62	-43	-22	-20	-20	0	+3	.0	-38
1912	+18	-34	-122	-73	0	0	-20	+2	0	+24	-1	+38
1913	-18	-112	-145	-64	+21	+44	+34	+23	+22	-42	-47	+3
1914	-106	+31	+16	+25	-45	-23	+12	-31	-12	-21	+19	-42
1915	0	-54	+143	+134	+93	-35	0	-10	-24	0	-15	0
1916	+181	+132	-137	0	-46	+20	+11	0	+9	-11	+139	+21
1917	+60	+84	-54	+9	+133	+9	-43	-21	+9	-12	-28	+8
1918	-59	+222	+219	+160	+78	+19	+62	-21	+988	+4,012	+222	+270
1919	+495	+265	-46	-48	-91	+8	-10	+11	+12	-39	-51	+14
1920	+2	+866	+252	+146	-16	+28	+22	-10	+1	-18	+3	-28
1921	0	0	0	-38	-17	-10	-10	-20	+1	+23	-9	+64
1922	+9	+170	-63	+14	+24	+11	-31	-20	+1	+2	+1	+1
1923	+110	+338	+232	+171	+95	+32	+20	+20	0	+42	+11	0
1924	+28	-8	-126	-19	-28	0	0	0	-21	-40	0	-10
1925	-75	+52	+126	0	-9	+20	+60	+20	0	+103	+9	-63
1926	-76	-27	+44	+155	+91	-12	+9	+9	0	-11	-86	-22
1927	-77	-61	-48	-54	0	-53	-11	-11	+20	-11	-86	-63
1928	-87	-23	-98	-23	+199	+8	+19	-31	+10	+19	-55	-3
1929	+208	+211	-40	-45								
Median:												
1910–1916	322	268	308	232	164	79	64	53	68	118	148	236
1921–1927	217	172	228	188	110	74	41	41	42	91	148	143

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24. Memphis, Tenn.												
1910.....	0	0	+84	-6	+47	-5	-6	+15	+48	-30	+105	+237
1911.....	+118	+34	+121	+72	0	+30	+37	+22	+11	+4	0	0
1912.....	-105	+9	+107	+41	-2	+2	-25	+4	+28	+12	+16	+215
1913.....	+61	+24	-12	0	+55	+36	0	-32	0	-33	+4	-16
1914.....	-88	-46	0	+40	+52	0	-15	0	0	-25	-25	-3
1915.....	-17	-4	-113	-25	-51	-36	+15	0	-1	-2	-105	+259
1916.....	+86	-97	-165	-113	-60	-28	-18	-41	-10	+14	-81	-68
1917.....	+70	+229	+68	-82	+75	-3	+30	-34	+7	-4	+26	+34
1918.....	+184	+45	+29	+113	+48	-12	+69	+6	+47	+4,091	+451	+524
1919.....	+963	+379	+252	+10	+53	+36	-21	-22	-33	-14	+37	+62
1920.....	-19	+1,046	+131	+47	-11	-67	-26	+3	-8	-32	-65	+13
1921.....	-174	-293	-219	-135	-43	-46	-41	+31	-17	-26	-67	-98
1922.....	+27	+116	-123	-159	-31	-33	0	-13	-18	-21	-11	-38
1923.....	+437	0	+288	+119	+50	+9	+6	0	+38	+47	0	+8
1924.....	-23	+58	0	+108	0	0	+46	-7	+1	+24	+48	+39
1925.....	+52	-50	-27	+101	+24	+47	-23	+12	0	-39	+93	+7
1926.....	0	+84	+35	0	+1	-17	+23	+18	-36	0	-49	-43
1927.....	-129	-259	+155	-58	-14	+16	-5	-3	+24	+31	+24	0
1928.....	-118	-275	-139	+70	+44	-31	-22	-13	+5	-41	-40	+233
1929.....	+889	-182	-124	-99								
Median:												
1910–1916.....	358	317	346	274	159	70	51	66	35	93	191	273
1921–1927.....	366	521	418	289	192	127	84	69	98	140	207	276
25. Milwaukee, Wis.*												
1910.....	0	-3	0	+27	+47	+15	-5	0	-7	0	+4	-15
1911.....	-62	-37	-61	-3	-27	-38	-1	-5	+7	-28	-20	-84
1912.....	+19	+85	+50	-20	+28	+4	+6	0	+4	0	+28	
1913.....	+59	-14	-59	0	+36	+8	0	+17	-19	-9	+15	-22
1914.....	-20	0	+35	-1	0	-32	-4	-2	-11	-11	-21	0
1915.....	-32	+77	+91	-2	-61	-25	+21	-11	+14	+35	+17	+239
1916.....	+163	+52	+29	+117	+80	0	+9	+16	+2	+14	-30	+66
1917.....	+138	+190	+158	+150	+57	+12	+7	-13	+34	+15	-29	-16
1918.....	-24	-22	-21	+331	+70	-3	+46	-13	+76	+1,302	+823	+1,516
1919.....	+130	+22	+199	+279	+32	+15	+20	+26	+6	+5	+29	+76
1920.....	+568	+706	+8	-4	-11	+17	+14	+2	+10	-19	+22	+14
1921.....	-5	-8	-69	-88	-48	-47	+13	+36	-14	-22	-3	-26
1922.....	-20	0	0	+34	+1	-12	-4	-2	-2	-8	-51	0
1923.....	+54	+291	+44	+10	0	0	-6	-12	+7	+13	+4	-14
1924.....	-19	+3	-30	-13	-12	+6	-1	+14	+4	-15	0	+16
1925.....	+7	+27	+80	+163	+7	-2	+2	+15	0	+36	+11	+24
1926.....	0	-14	+66	+134	+39	+16	+6	0	+18	+12	+17	+45
1927.....	+17	-38	-35	-43	-47	-19	0	-19	-3	0	-1	-4
1928.....	+10	-43	-82	+99	+130	+54	+38	-6	+10	-7	-27	+108
1929.....	+330	+48	-24	-18								
Median:												
1910–1916.....	182	194	245	177	147	82	49	53	52	82	132	153
1921–1927.....	148	150	197	181	141	83	42	34	48	70	94	101
26. Minneapolis, Minn.												
1910.....	-115	-55	0	-43	0	+37	+21	+22	+42	+52	-1	+105
1911.....	+78	0	-15	+44	+16	-44	0	-6	-23	-23	+4	-11
1912.....	-91	-51	-18	+1	-43	-18	-23	-3	0	+21	+1	-7
1913.....	+49	+2	+15	-55	-16	0	-13	0	-2	-3	-28	0
1914.....	0	+5	+77	+51	+6	+5	+18	+2	+8	+13	+3	-10
1915.....	-101	+8	-10	-32	-34	0	+2	-9	+7	0	0	+261
1916.....	+70	-7	+11	0	+48	-9	-15	0	-8	-11	-13	+51
1917.....	+66	-5	+79	-21	+21	0	-29	+2	-6	+4	+28	+7
1918.....	-100	-43	+7	+333	+53	+8	-14	-27	+36	+1,207	+881	+861
1919.....	+200	+160	+254	+93	+15	-23	+1	+6	-17	-9	-3	+52
1920.....	+261	+962	+7	-60	+29	+39	0	-11	-8	-19	-14	+12
1921.....	0	+95	0	-54	-19	-19	-19	-5	+35	+34	-16	0
1922.....	-32	0	+93	-81	0	-1	+13	+24	0	-12	-3	+50
1923.....	-9	+224	+28	-71	-10	-14	-5	-15	-13	-28	+1	-19
1924.....	+20	-8	-29	0	+23	0	0	-7	-2	-14	+2	-41
1925.....	-33	-16	+95	+59	+20	+16	-1	+12	-17	+18	0	+38
1926.....	+24	-15	-13	+41	+72	+48	+34	+17	+13	0	+15	-12
1927.....	+22	+17	-28	+9	-3	+53	+8	0	+8	+40	-10	+45
1928.....	-7	-25	+4	+92	+89	+12	+15	+9	+2	+5	+10	+198
1929.....	+221	+32	-61	-81								
Median:												
1910–1916.....	228	197	140	159	113	71	49	40	50	68	117	140
1921–1927.....	144	114	162	181	85	50	37	32	46	68	100	123

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
27. Nashville, Tenn.												
1910	+183	+102	-105	-8	+56	+68	+45	+98	+79	+12	0	+128
1911	+158	+52	+189	+134	+54	-20	-20	+2	-42	+32	+86	+30
1912	-44	0	+82	0	0	-31	-9	-30	-10	0	+9	+155
1913	-162	+11	-58	-24	-117	+22	+1	-20	+22	-43	+50	-58
1914	-101	-50	+137	+39	+38	+32	0	+32	0	-33	-59	-101
1915	0	-29	0	-101	-118	0	0	-20	+10	+38	-50	0
1916	+121	-109	-43	+36	-108	-11	-1	0	-43	-24	-103	-32
1917	-25	-1	56	-61	-38	-12	-11	-31	-23	+67	+22	+6
1918	+14+	+103	+113	+728	+163	+207	+49	+70	+60	+5, 233	+717	+770
1919	+379	+242	+349	+121	+50	+80	-47	-9	+9	-58	-60	-18
1920	+45	+1, 149	+246	+71	+5	-80	-27	+1	+19	-49	-71	-39
1921	-37	0	-194	-105	-36	-50	-28	0	-2	+29	-62	-51
1922	0	-57	+127	-76	-7	0	+41	-69	-33	-1	-32	-43
1923	+456	+44	0	+288	0	-32	-19	+36	+26	+35	+4	-28
1924	-6	+59	+27	+38	+19	-2	0	-2	-43	-42	-16	+39
1925	-52	-82	-107	0	+20	+6	+11	+25	0	0	+2	+10
1926	+273	+2	+381	+132	+174	+41	+88	-10	+79	-9	+55	0
1927	+13	-114	-180	-136	-24	+14	-7	+15	+61	+16	0	+178
1928	+145	-153	-81	+47	+110	+30	+1	+22	+16	-53	+7	+123
1929	+796	+49	-109	-43								
Median:												
1910-1916	360	405	350	250	200	64	62	51	75	116	209	298
1921-1927	303	360	470	268	144	101	67	79	63	138	194	258
28. Newark, N. J.												
1910	+125	0	+31	+58	+29	-21	0	-16	0	-13	0	+136
1911	+28	0	+8	+21	+12	-23	-4	+30	+5	+19	-37	-7
1912	0	-32	-42	-10	-1	+13	-21	-4	+4	+49	+15	+45
1913	-38	+20	0	-54	-26	+11	+7	-2	-5	-24	+1	-34
1914	-48	+203	+54	0	+87	+54	+24	0	+11	+12	+24	0
1915	-77	-33	-56	+72	-43	0	-5	+5	0	-20	-11	-14
1916	+234	+55	-57	-54	0	-1	+37	+34	-19	0	-10	+58
1917	+150	+104	+39	-43	+27	-6	+26	+2	-5	-5	-1	-35
1918	-21	+86	+255	+116	+27	+34	+30	-22	+48	+3, 929	+996	+633
1919	+453	+297	+188	+10	-22	-57	-18	-2	-3	-25	-3	-3
1920	+196	+914	+88	+47	+40	-9	-7	-17	+14	-20	-22	+24
1921	-19	26	-34	-34	-43	-24	-8	0	-16	-38	-27	-37
1922	+24	+222	+15	-8	0	-30	0	+2	+1	0	+11	+43
1923	+21	+201	+82	0	-23	0	-9	-4	0	+1	-13	0
1924	0	-14	-46	-16	+15	+7	+1	-2	+10	+27	0	+24
1925	-9	0	0	+22	+63	+16	-5	+7	-15	+36	+6	-7
1926	+35	+23	+210	+77	+24	+15	+10	+14	-16	-15	+17	+6
1927	-42	-23	-16	+11	-18	-2	+1	-9	+28	-10	-18	-37
1928	-24	+30	+19	+22	+113	+49	+8	+25	+9	+9	+1	+77
1929	+409	+44	-24	-32								
Median:												
1910-1916	283	220	296	242	157	98	57	63	63	94	157	235
1921-1927	191	170	200	169	104	67	52	42	53	71	107	140
29. New Haven, Conn.												
1910	0	+16	-83	+17	+22	-10	-11	+38	+18	+37	+32	+53
1911	+68	+46	+194	+53	-8	-4	+13	-16	+33	+8	-52	-63
1912	-151	+122	+235	32	+65	+29	-5	0	+22	+14	-62	-2
1913	+32	-72	-10	-82	+10	0	-7	-1	-15	-22	-5	0
1914	-90	-97	0	-21	-18	+48	0	+22	0	0	0	-21
1915	-64	-24	-87	+95	-5	-45	-35	-35	-59	-10	+38	+124
1916	+233	0	+64	0	0	+26	+51	+42	-28	+99	+94	
1917	+112	+5	+40	-55	+26	+94	-13	+17	-6	+31	-1	+41
1918	-2	-36	+40	+163	+67	-48	-21	-45	+62	+4, 125	+1, 304	+94
1919	+481	-26	-92	-148	+12	-4	-16	-2	+11	+18	-17	+95
1920	+105	+1, 151	+104	+61	+10	+76	+20	-10	+3	-70	+71	+41
1921	-78	0	-145	+99	-42	-52	-31	+3	-6	-21	-20	-20
1922	-101	+264	+184	+21	+18	+5	+88	+30	+44	+26	0	+68
1923	+73	+218	+19	+30	+36	-53	+3	+26	+21	-10	+20	+2
1924	-85	+83	0	-78	-26	+23	+2	-26	0	+15	-3	0
1925	+89	-58	-164	-47	-48	0	-25	0	-1	0	+43	+56
1926	0	-84	+79	+81	+74	+46	0	0	-2	+31	-6	-6
1927	+54	-52	-113	0	0	-22	0	-1	+11	-16	+5	-65
1928	-57	-14	-40	+68	+200	+29	+49	+30	+3	-10	+10	-16
1929	+112	+161	-89	-97								
Median:												
1910-1916	404	382	355	337	171	110	81	67	100	121	158	263
1921-1927	283	242	342	237	127	88	45	39	42	92	109	161

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
30. New Orleans, La.												
1910.....	+74	+143	+67	+17	+82	+32	+14	-43	-14	-28	+113	+138
1911.....	0	-106	0	0	-13	-27	+6	+24	+41	+26	-37	-4
1912.....	-101	+42	-24	-55	-55	-38	+25	-21	-9	-40	-28	0
1913.....	-69	+12	-71	-44	+28	+22	0	+11	0	+5	+16	-28
1914.....	+10	0	+184	+62	0	0	-11	-27	+2	0	+13	+51
1915.....	+34	-48	+177	+74	+34	+42	-3	+4	+14	+24	0	+240
1916.....	-72	-164	-83	-67	-51	-32	-23	0	-10	-48	-58	-7
1917.....	+21	+69	-93	-18	-15	-24	-11	-77	-11	-5	-54	+8
1918.....	+122	+150	-120	+15	+39	-31	-6	-53	-22	+5,087	+747	+506
1919.....	+1,803	+268	-15	-67	-28	-13	-11	-17	-17	-66	-91	-32
1920.....	+53	+443	+266	+6	-34	-10	-39	-50	-34	-12	-73	+30
1921.....	-53	-145	-103	-61	-3	-8	-49	-7	-1	-8	-81	-57
1922.....	-79	-96	+92	-84	-19	0	-29	+13	-2	0	-67	0
1923.....	-44	+46	+44	+23	-14	-7	+13	-21	0	-28	+28	-31
1924.....	0	0	0	+37	+7	-1	-5	-30	-13	-32	-49	+22
1925.....	+2	+114	-18	+25	0	+21	+8	0	+10	+18	+16	-13
1926.....	+147	+367	+40	-1	+1	+11	+1	+19	+20	0	+63	+5
1927.....	+26	-90	-53	0	+38	+44	0	+15	+25	+23	0	+113
1928.....	+136	-76	+3	+58	+86	+34	-4	+46	-8	+22	+10	+479
1929.....	+518	-43	-61	-4	-----	-----	-----	-----	-----	-----	-----	-----
Median:												
1910-1916.....	324	355	297	219	160	108	93	112	89	128	220	250
1921-1927.....	268	370	294	172	128	88	103	102	93	124	192	206
31. New York City, N. Y.												
1910.....	+55	0	+3	+43	0	+5	+9	+7	+30	+29	+34	+111
1911.....	+52	+28	+22	+82	+14	-18	0	-3	+12	+21	+19	-12
1912.....	0	-10	-46	0	+18	0	-2	0	0	+36	+5	+2
1913.....	0	+63	+11	-11	+6	+7	0	+4	+7	-4	0	-36
1914.....	-16	+4	-10	-10	-7	-20	-21	-12	-6	-12	-9	-13
1915.....	-8	-58	0	+99	-4	+23	-9	-8	-2	0	-3	+83
1916.....	+153	-24	-75	-38	-20	-16	+3	+5	-4	-3	-15	0
1917.....	+171	+35	-89	-26	-11	-27	-39	-18	-2	+10	+19	-4
1918.....	+36	+1	+171	+107	-52	-62	-46	-33	+56	+3,213	+723	+233
1919.....	+652	+249	+180	+28	-58	-82	+5	-1	+1	-8	-21	+6
1920.....	+381	+795	+15	-5	-10	-3	-2	-2	-1	-9	-10	+4
1921.....	-6	0	-10	-34	-32	-10	-3	+1	0	0	-14	0
1922.....	+69	+218	+13	-11	+16	-8	-3	-4	-1	0	+16	+27
1923.....	0	+229	+65	-25	-21	-4	-3	0	-2	-6	-6	-4
1924.....	-4	-7	0	+10	+11	+22	+7	0	+8	+35	+34	+56
1925.....	+19	-11	-24	-20	0	+12	0	+6	+5	+18	+4	-2
1926.....	+11	+31	+273	+103	+14	+14	+8	+0	+7	+12	0	+21
1927.....	-13	-34	-19	0	-6	0	+1	-5	-2	-11	-21	-18
1928.....	-12	-1	+53	+122	+149	+62	+15	+20	+14	+33	+10	+61
1929.....	+319	+117	+4	-32	-----	-----	-----	-----	-----	-----	-----	-----
Median:												
1910-1916.....	273	201	341	261	226	157	117	101	97	126	178	256
1921-1927.....	198	222	223	195	145	84	58	57	62	85	122	143
32. Oakland, Calif.*												
1910.....	+14	+6	0	-7	+1	+93	-5	+26	-3	0	-23	-73
1911.....	-1	0	-35	+43	+4	-5	0	0	-14	+18	+51	+3
1912.....	0	+15	+47	+23	0	+37	+69	-31	+28	+6	0	-11
1913.....	+81	+104	+20	+11	+16	-9	+10	+8	+10	+15	-32	+36
1914.....	-60	-65	-18	0	-14	+63	+7	+12	0	-22	+6	-71
1915.....	+25	-25	+35	+36	-24	0	-8	-35	-9	-44	+48	0
1916.....	-19	-12	-74	-19	-2	-21	-27	-6	-7	-64	-8	+31
1917.....	+11	+54	-5	+9	-17	-4	-17	-20	+23	-12	-24	-90
1918.....	-29	-3	+186	+112	-14	0	+17	-10	-4	+2,208	+1,568	+627
1919.....	+1,582	+36	+5	+65	+22	+4	+58	+26	+12	+12	-4	-6
1920.....	+183	+833	+131	-21	+20	+8	-9	-8	+27	+21	+44	+2
1921.....	-14	-23	-18	+14	+12	0	0	+1	-2	-2	-19	-17
1922.....	-43	+136	+90	0	+20	-33	+4	-21	+29	+17	0	+20
1923.....	-7	+144	-9	-43	-2	+1	-16	-7	-9	+29	+3	-23
1924.....	+48	0	+55	+10	+30	-16	+12	+26	+15	+8	+21	-20
1925.....	0	-56	+12	-8	-1	+12	-4	0	0	-3	-30	0
1926.....	+55	+27	0	-15	-34	-19	0	-5	-1	0	-12	+34
1927.....	+2	-16	-65	+1	0	+3	+39	+2	+21	-19	+4	+21
1928.....	-49	-4	+11	-1	-6	+6	+7	-16	+64	+58	+96	+91
1929.....	+41	-3	+16	-8	-----	-----	-----	-----	-----	-----	-----	-----
Median:												
1910-1916.....	172	123	117	95	100	59	52	67	75	101	103	190
1921-1927.....	139	138	127	99	66	70	36	46	34	54	73	111

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
33. Omaha, Nebr.												
1910	-24	-54	+20	+23	+81	+20	-14	+55	-15	0	+3	+17
1911	+230	+119	+75	+35	-46	+17	0	0	-39	-24	-	-133
1912	-10	-18	-57	-46	+50	0	-8	-1	+6	+27	+5	0
1913	0	9	-11	-27	-70	-32	-24	-10	-25	-5	-14	-107
1914	+9	-28	-51	0	0	-23	+4	+11	+18	-34	-24	-94
1915	-52	+97	0	-33	-10	-27	+16	+2	+30	+110	+37	+103
1916	+162	+147	+57	+97	+83	+35	+15	-12	0	+5	-15	+77
1917	+105	+235	+183	+98	+83	+56	+31	+6	+24	+59	+13	+51
1918	91	+30	+33	+259	+31	-12	-15	-27	+9	+2,446	+1,199	+2,070
1919	+234	+38	+282	+235	-21	-6	+8	-24	+17	-3	-8	0
1920	+205	+386	+53	+50	+81	+65	+7	-12	+3	-35	-8	-22
1921	-1	0	-91	-5	0	-67	0	+11	+8	0	+15	0
1922	+89	+113	0	+10	+27	+12	+28	+15	+1	+51	0	+91
1923	+38	+318	+59	0	-21	-25	-2	-3	0	-27	+28	+29
1924	0	-23	-110	-43	+74	+21	-2	-27	+10	-17	-27	-31
1925	-4	+5	+48	+103	-24	-10	+41	+12	-3	+59	-12	+72
1926	+9	-35	+5	+53	+62	+35	+24	0	-9	+2	+54	-4
1927	-83	-20	-139	-46	-38	0	-15	-12	-4	-43	-4	-44
1928	-34	-56	-56	+51	+30	-12	+16	+3	-5	-44	+15	+511
1929	+72	+4	-34	-77								
Median:												
1910–1916	211	201	214	162	114	77	58	46	63	70	134	201
1921–1927	204	192	252	190	102	67	42	55	60	102	115	173
34. Paterson, N. J.*												
1910	+30	-7	0	0	-35	-35	-26	+21	-9	0	+25	-7
1911	0	+1	-12	+74	-73	-17	-16	-17	-48	-19	-15	-93
1912	+62	0	+24	+54	0	+20	+29	-8	0	-11	-25	-23
1913	-33	+57	-16	-101	+26	+29	+28	+47	+27	-21	-17	+5
1914	-72	-56	+18	-92	-21	0	0	-27	+23	+33	+29	+12
1915	-2	-157	-137	+9	+5	-9	-18	+36	+7	+59	0	+55
1916	+256	+87	+183	-39	+48	-10	+35	0	-3	+22	+92	0
1917	+135	+67	-43	+14	+2	+71	-19	-28	-4	+30	+117	-64
1918	-53	+74	-9	+66	+1	-12	-46	+7	+83	+4,088	+1,003	+775
1919	+415	+793	+75	-17	-113	-48	+35	-34	+28	+13	-24	-56
1920	+126	+678	+65	+7	-29	+10	+1	-8	+1	-48	+20	-13
1921	+2	-21	+11	-13	+4	0	+18	+68	0	-33	-34	-15
1922	0	+392	+77	-49	-65	+26	-33	0	+17	-32	+115	+27
1923	+176	+123	0	+11	+10	-1	0	-1	+8	+10	0	0
1924	-120	+77	-26	+1	-99	-7	+17	-26	+43	+9	+43	+49
1925	+37	-35	-53	0	0	+32	-17	+15	-18	0	+7	+5
1926	-73	0	+202	+75	+15	-36	-9	-10	-10	-9	-11	-45
1927	-17	-47	-30	-70	-10	-28	+24	+6	-19	+15	-20	-54
1928	-132	-44	+34	+47	+87	+14	-26	+6	-2	-10	+13	-39
1929	+399	+31	-17	-72								
Median:												
1910–1916	316	266	290	242	157	75	72	63	86	103	130	241
1921–1927	246	201	186	172	133	62	42	43	44	83	96	169
35. Philadelphia, Pa.												
1910	+46	+83	+30	-1	0	+23	+13	-6	0	-12	+61	-16
1911	-46	-1	+53	+38	+16	-12	+15	0	+16	+11	-5	+45
1912	0	-46	-67	-47	-32	-4	-4	+6	-8	0	-28	0
1913	-43	+42	-6	-39	-4	+1	+3	+6	+7	-1	-8	-22
1914	+19	+21	+82	+80	+7	0	0	0	0	+1	+21	-26
1915	-70	-78	-22	+142	-8	+1	-12	-15	-4	-12	0	+427
1916	+195	0	0	+16	-6	-8	+15	+15	+26	+18	+31	+121
1917	+205	+150	+90	+68	+60	+33	+3	0	+1	+38	+66	+109
1918	+176	+122	+186	+119	+57	+23	+37	+3	+351	+7,499	+221	+99
1919	+300	+331	+120	+63	+18	-20	-5	-15	+14	-5	-41	-26
1920	+70	+900	+50	+41	+27	+5	+12	-	0	0	-8	-1
1921	0	0	0	-33	-43	-11	-17	-13	-3	-17	-18	-32
1922	-25	+17	+49	-20	-28	-15	0	+3	-10	+2	+25	+96
1923	+194	+73	+45	+55	+12	-5	+1	+7	-6	-1	-31	-3
1924	-10	-113	-1	+69	+1	+6	+7	0	-7	0	0	+52
1925	+29	-79	-72	-12	0	+12	-4	+5	+11	+8	+16	+1
1926	+10	+68	+262	+60	+4	+1	+7	0	0	+10	+9	0
1927	-33	-148	-2	0	-52	0	-4	-22	0	-19	-32	-52
1928	-65	-142	+36	+53	+30	+16	+17	-10	-1	-15	-32	+169
1929	+236	-103	-46	-34								
Median:												
1910–1916	280	283	268	199	145	90	63	64	63	94	130	223
1921–1927	247	330	251	175	140	87	50	64	62	94	151	182

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
36. Pittsburgh, Pa.*												
1910.....	+54	+16	+338	+262	+140	+59	+13	+4	-11	0	0	0
1911.....	-3	-4	-92	-71	-16	-58	-15	-47	-21	-67	-91	-51
1912.....	-6	0	0	0	-10	+21	+2	0	0	+52	+5	+125
1913.....	0	0	-90	-37	+190	+111	+37	+52	+100	+55	+27	-78
1914.....	+19	+75	+124	-16	-11	-25	-18	-37	-16	-38	-129	-104
1915.....	-146	-49	-21	+106	0	0	-29	+18	-42	-70	+176	
1916.....	+629	+55	+11	+90	+71	-18	-11	+4	+43	+21	+81	+208
1917.....	+270	+167	+94	+76	+69	+59	+45	-4	+142	+61	+171	+238
1918.....	+300	+156	+154	+897	+115	+23	+56	-17	+52	+4, 956	+3, 786	+1, 004
1919.....	+755	+838	+634	+103	+35	-18	+10	0	+3	-34	-95	+22
1920.....	+53	+1, 777	-11	-1	+118	-9	+33	+15	+16	+49	-52	+6
1921.....	+8	0	-45	+18	+18	-2	-19	-7	-45	0	0	+40
1922.....	-31	+318	-158	-138	0	0	0	-2	0	+74	-9	+132
1923.....	+242	+651	+98	-29	+31	+28	+34	+36	+64	+74	+5	+14
1924.....	0	+66	+321	+124	+54	+23	+46	+21	+20	+37	+1	0
1925.....	+20	-10	+26	0	-28	+1	-8	+27	+9	-9	+8	-50
1926.....	-173	-192	0	+115	-4	-12	-12	-22	-39	-68	-119	-57
1927.....	-107	-215	-212	-146	-18	-31	+6	0	-4	-20	-106	-106
1928.....	-145	-218	-208	-69	+146	+9	+15	-15	-1	-55	-77	+810
1929.....	+697	-105	-187	-213	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910-1916.....	397	371	423	359	243	162	117	119	129	222	312	330
1921-1927.....	424	452	530	406	252	172	97	103	126	197	289	292
37. Portland, Oreg.*												
1910.....	0	-33	-16	+38	-13	+25	+21	+11	+13	+35	+9	0
1911.....	+30	+2	+65	+92	+29	0	+3	-12	-11	0	-27	-8
1912.....	-22	-56	-19	0	0	-6	-8	+26	0	+10	0	-32
1913.....	+12	+50	+17	-7	+40	+26	+1	-13	-1	+36	+15	+19
1914.....	-44	-11	-1	+50	+16	-14	-5	+7	+9	-3	-20	+15
1915.....	-20	+32	+18	-26	-52	+33	0	-14	+8	-9	-21	-2
1916.....	+81	0	-23	-48	-11	-12	-8	-20	0	-10	+32	+36
1917.....	+39	-67	+32	-6	-20	-12	-8	-20	0	-11	+109	-76
1918.....	-77	+5	+123	+106	+124	+84	+1	-1	+29	+1, 280	+1, 749	+999
1919.....	+1, 641	+95	+134	+98	+5	+11	-34	-19	+28	+15	+1	-9
1920.....	+104	+658	+78	-1	+7	+30	-12	-15	+3	+4	-3	-13
1921.....	-14	-69	-26	-16	-26	-31	-17	+6	-2	-24	+4	+11
1922.....	-3	+225	+247	0	+33	+9	0	-8	+6	-7	-2	+43
1923.....	+21	+17	+127	+64	+1	-23	+3	0	-3	+17	+23	-57
1924.....	-10	-68	+2	-37	0	+15	-19	0	+22	0	0	+26
1925.....	0	-57	0	+51	+27	+1	+5	+28	0	-10	-2	-18
1926.....	+51	0	-39	-23	-31	0	-12	+27	+16	+10	0	0
1927.....	+28	+90	-36	+9	-28	-26	+8	-2	-5	+29	+11	-25
1928.....	+46	27	-69	-21	-29	+35	-17	+5	-6	+28	+2	+198
1929.....	+179	+22	+11	+26	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910-1916.....	147	114	73	73	87	51	41	34	34	44	73	124
1921-1927.....	119	166	140	102	96	67	52	42	34	63	104	129
38. Providence, R. I.*												
1910.....	+63	+35	+80	+45	+53	+30	+3	0	-46	0	+45	0
1911.....	-54	-7	0	0	+5	-3	-3	-5	-9	+10	+6	-48
1912.....	-34	-14	-17	-77	+14	+13	+13	0	+23	-6	0	-2
1913.....	0	0	-76	-100	-13	-9	+2	+41	+17	+24	-7	+6
1914.....	+49	+10	-53	+15	-39	-15	-4	+4	+1	+18	-18	-46
1915.....	-55	-71	+88	+160	-4	0	0	-27	-21	-29	-3	+19
1916.....	+274	+60	+46	-14	0	-25	-1	+10	+10	-24	+54	+8
1917.....	+199	+98	+3	+4	+109	+40	-26	-12	+25	+1	+21	-34
1918.....	-4	-59	+116	+183	+48	+3	+29	-2	+355	+4, 259	+743	+635
1919.....	+849	+192	+98	-92	-18	-28	+15	-2	-1	-16	+5	+22
1920.....	+69	+1, 267	+12	+90	+34	+17	+24	+17	-32	-37	+14	+10
1921.....	-1	-22	-125	-65	+16	0	-11	+16	+17	-19	+11	+20
1922.....	+41	+289	+23	-20	-10	-35	+12	0	+6	-35	+4	+68
1923.....	+54	+115	+118	0	-12	-3	+15	-14	0	0	-8	-33
1924.....	0	+58	-119	+20	0	+37	-4	+30	-10	-15	+4	0
1925.....	-70	0	0	+16	+50	+17	0	+3	-6	+18	-2	+37
1926.....	+38	-96	+142	+91	+29	+10	-5	-20	-12	+11	0	-19
1927.....	-60	-104	-140	-23	-11	-9	+3	-16	+1	+1	-41	-68
1928.....	-63	-80	-98	-51	+78	+33	+6	+4	0	+24	+14	-16
1929.....	+261	+159	-86	+4	.....	.....	.....	.....	.....	.....	.....	.....
Median:												
1910-1916.....	309	336	339	318	157	105	86	52	79	105	145	115
1921-1927.....	211	224	312	179	108	74	35	37	47	96	93	152

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
39. Richmond, Va.												
1910	+69	0	-30	-16	+67	+24	-8	+57	+43	+19	+58	+63
1911	-57	-36	-10	+26	0	-25	0	0	-15	-29	+17	-88
1912	-45	-51	+1	-53	-3	-35	-10	-37	-15	+67	+41	+59
1913	-51	+58	-76	-102	-32	+17	+7	+5	+2	-7	-26	0
1914	+36	-62	+97	0	0	-20	-3	+3	+27	0	-46	-14
1915	0	+51	0	+109	-28	0	+21	-53	0	-16	0	+129
1916	+39	+41	+10	+66	+51	+20	+64	-25	-23	+5	-40	-44
1917	+146	+46	-40	-88	+47	-18	+26	-54	+42	-40	+76	-56
1918	-87	+126	-31	-47	-34	-19	+46	-41	+77	+3,645	+653	+1,240
1919	+676	+119	+116	-8	-1	+37	+30	+33	+20	-12	+20	+46
1920	+141	+664	+68	-43	+50	+20	+83	+11	+5	+28	+10	+37
1921	-74	-91	-6	-45	+74	+32	-20	-10	-2	-28	+7	0
1922	-17	+22	+23	+14	-34	-11	+12	-18	+45	+37	+5	-10
1923	+64	+39	0	+65	+10	+1	+11	+14	-10	-3	-51	-12
1924	+15	-82	+22	+15	-49	0	+35	0	+9	+34	0	+38
1925	+10	0	-96	-34	0	-8	-23	-1	+15	0	-22	+72
1926	0	+588	+114	-55	-20	+11	-12	+29	-5	+68	+53	+6
1927	-84	-132	-45	0	+16	-16	0	+4	0	-33	-32	-2
1928	-98	-90	-25	-21	+8	+8	-25	+3	+6	+33	-52	+154
1929	+366	-58	-38	-42								
Median:												
1910-1916	354	325	361	272	153	99	45	90	61	119	160	277
1921-1927	268	343	241	184	107	86	74	64	44	88	159	158
40. Rochester, N. Y.												
1910	+12	0	+81	0	-49	-26	-25	-22	-11	+38	+44	0
1911	0	-46	-43	-5	0	-39	+5	+9	+9	-28	+1	-23
1912	+41	+81	-68	+23	+1	+7	-6	+23	+2	+27	+14	+63
1913	+18	-5	+26	-23	+75	+70	+17	+41	0	+43	-32	+22
1914	-1	+72	+15	+64	+23	0	0	0	+12	-4	-7	-76
1915	-94	-37	0	+102	-19	-2	-1	-20	-13	-20	-43	-8
1916	-81	0	-93	-27	-41	+9	+29	-25	-10	0	0	+103
1917	+86	+70	-84	+47	+52	+6	+31	+5	+20	+20	-27	-25
1918	-45	+26	+41	+223	-34	-14	+8	+12	+22	+2,248	+967	+1,049
1919	+118	+49	+45	+101	+43	+60	+29	+4	+21	+23	+14	+11
1920	+143	+396	-10	+38	+48	-19	+5	-16	-21	-6	-36	-66
1921	-17	0	-60	-25	-17	-40	-4	-17	-10	-15	0	-23
1922	+81	+64	+112	+30	+21	0	0	-5	-14	0	+7	+10
1923	+90	+199	+35	0	-11	+3	-16	+13	-30	-8	-26	-34
1924	-21	-16	-68	-2	-12	-10	-5	+5	+1	+7	-15	-20
1925	-56	-59	-55	0	+51	-38	+10	+12	0	+47	+23	+2
1926	+9	+70	+362	+21	+38	+38	+9	-7	+15	-6	-5	0
1927	0	-13	0	-7	0	+14	+16	0	+3	+23	+2	+24
1928	+14	-9	-49	0	+50	+2	+1	-4	+2	+18	-3	-13
1929	+168	+91	-65	-28								
Median:												
1910-1916	224	196	241	161	162	93	52	43	66	85	144	161
1921-1927	123	117	189	134	87	76	31	44	46	50	77	110
41. St. Louis, Mo.*												
1910	-13	+88	+70	-5	+29	+20	-9	+3	-8	-1	+26	0
1911	+76	-23	-7	0	+10	-20	-1	+20	-1	-14	+19	-68
1912	-39	+83	0	+3	-36	0	0	+1	0	0	-32	+66
1913	0	-14	-28	-12	-15	+30	+14	0	0	+3	0	-105
1914	+3	+16	+16	+72	+3	+18	+12	-1	-2	-8	-22	-80
1915	-12	0	-31	+9	-50	-6	-11	-21	+7	+4	-59	+93
1916	+367	-6	+31	-4	0	-27	+23	-15	+23	+25	+12	+7
1917	+178	+133	+146	+136	+75	+26	+25	-19	+20	+44	+19	-12
1918	+39	+104	+105	+196	+55	+2	+21	+20	+16	+1,029	+1,276	+1,571
1919	+148	+132	+359	+56	-39	-11	-10	-46	-7	-33	-57	+41
1920	+467	+894	-80	+5	+51	-1	+5	+13	+10	-2	-49	-18
1921	-34	+3	-124	-90	-33	0	+11	+10	-7	-21	-27	-22
1922	+7	+162	+78	-53	-5	-1	-18	-19	-29	+6	-35	0
1923	+84	+176	0	0	+20	+13	-2	0	+28	+25	+35	-8
1924	-61	0	-86	+120	+8	+26	-4	+18	+14	0	6	+70
1925	+29	-14	+3	+18	-5	-5	0	+13	0	0	+75	+38
1926	0	-55	+86	+129	+35	-12	+29	-12	+6	+7	+31	+47
1927	-32	-116	-159	-77	0	+16	+1	-27	0	-14	-13	-52
1928	-75	+4	+66	+71	+61	+12	+20	+13	-15	-2	-26	+168
1929	+167	+27	-102									
Median:												
1910-1916	316	251	282	185	145	81	53	64	66	107	172	260
1921-1927	248	236	334	212	121	87	62	60	70	105	171	187

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
42. St. Paul, Minn.												
1910	-31	-100	-12	-19	+45	+76	+45	+8	0	+3	+18	-25
1911	+71	+1	+9	-9	0	-15	+28	+2	-6	-9	-5	-53
1912	-6	-69	-25	+2	-33	-4	-5	-14	-7	-9	0	0
1913	+8	-8	0	0	-45	-16	0	-9	+9	+6	-6	-34
1914	-14	+8	+46	+102	+7	+44	0	+27	+25	0	+75	+2
1915	0	+59	+50	-2	-73	+59	+15	-5	+14	+41	+25	+179
1916	+20	0	-24	+2	+5	0	-11	0	-13	-6	-13	+36
1917	+130	+1	+20	-10	-27	-6	+24	-26	+8	+29	+13	+9
1918	-25	-77	+44	+194	+38	+30	+4	-11	-8	+837	+2,071	+1,050
1919	+236	+112	+189	+123	-44	-2	-13	-20	-45	+5	-53	+24
1920	+127	+68	+12	-36	+17	-11	+2	-10	-29	-56	-1	-57
1921	-60	+10	-4	-53	-39	+9	-3	0	+1	-17	-8	-83
1922	-41	-2	+146	-59	0	-17	-3	-6	+11	-27	-34	+49
1923	+31	+159	+115	-14	+9	-3	-4	+38	0	+2	+31	-30
1924	+5	-2	-18	0	-1	-28	+11	-1	-35	-42	0	-26
1925	-30	-31	0	+102	+17	+11	+29	-6	-10	0	-36	+6
1926	+2	0	-16	+41	+40	+6	+24	+46	+14	+38	+3	0
1927	0	+88	+7	+30	-13	0	0	+7	-1	+32	+12	+37
1928	+56	+110	+29	+48	+193	+126	+84	+49	+23	+116	+50	+298
1929	+248	+80	+41	+41								
Median:												
1910–1916	162	161	154	132	130	54	32	36	40	63	72	140
1921–1927	169	105	158	150	93	68	28	35	50	81	110	147
43. San Francisco, Calif.												
1910	-10	-15	0	+17	+26	+12	+23	+41	-11	+4	-5	-90
1911	-4	0	-34	-63	-15	+49	+1	+12	+27	+18	+19	+62
1912	+25	+41	+12	0	-20	-43	-36	-4	-6	-30	+22	-11
1913	+48	+41	+23	+11	+15	0	-21	0	0	+10	-6	-16
1914	-21	-20	+7	0	0	-7	-10	-9	+3	-44	-19	+19
1915	0	-14	-53	-8	+5	+9	+2	+38	+38	0	0	0
1916	+29	+13	-10	+10	-6	-8	0	-1	-23	-27	+26	+9
1917	-5	+32	-42	-13	+16	-20	-9	+4	+16	-17	+26	-45
1918	-33	+28	+77	+118	+16	+36	-13	-16	-7	+3,061	+1,722	+941
1919	+1,758	+64	0	+126	+53	+34	+12	-8	-34	+4	-11	-7
1920	+183	+850	+127	-19	+10	-6	+8	-9	-18	-11	-20	-18
1921	-15	47	0	+12	-7	-19	0	-12	-12	-21	-10	+5
1922	-46	+340	+110	0	+7	+8	+6	0	-9	0	+4	-18
1923	+2	+123	-65	-35	-1	0	-11	-10	-5	-19	0	+70
1924	+29	0	-14	+6	0	+3	+8	-26	+3	+32	+1	+28
1925	0	-32	+22	+23	+7	-3	-6	+18	+10	+19	+12	0
1926	+105	+4	-4	-18	+14	-1	-1	+2	0	-9	-20	-8
1927	37	-33	-2	-3	-4	+10	+4	+13	+2	+4	-5	-2
1928	-115	-113	-66	-86	-32	-39	-21	-33	-32	+49	+19	+12
1929	-73	-86	-92	-56								
Median:												
1910–1916	210	149	169	131	106	90	87	71	96	114	115	208
1921–1927	186	182	143	119	82	68	61	69	82	78	106	131
44. Scranton, Pa.*												
1910	+33	-64	+20	+41	+38	-42	-60	-8	-8	+47	0	-28
1911	-41	-6	0	-8	0	+41	-24	0	-8	-8	+36	-20
1912	-114	+118	+88	0	-73	+31	-6	-27	0	0	-123	+24
1913	0	-6	-76	-76	-65	7	+82	+17	+146	-1	+50	+22
1914	-99	+67	+11	+77	+101	+92	+36	-2	+44	+24	+12	+55
1915	+75	-3	-62	+157	-6	-9	+35	+6	+43	-29	-144	-8
1916	+162	+127	-80	-62	+2	0	0	+6	-48	+15	-36	0
1917	+97	+147	+39	+70	0	-46	+34	-12	-12	+39	-65	-28
1918	+34	+173	+62	+389	+76	+51	-10	-21	-4	+4,823	+2,313	+1,230
1919	+304	+180	+25	+92	-3	-56	+44	+2	+40	-41	-11	+111
1920	+54	+1,323	+40	-16	-29	+10	+44	+28	-22	+61	-12	+104
1921	0	-40	-73	-25	+3	0	+1	+10	+12	0	+13	0
1922	+32	+163	+153	-20	-40	-18	0	-33	-15	+33	-40	+210
1923	+14	+96	0	-30	-41	-79	0	-8	-32	-18	-41	-27
1924	-163	+18	-26	+64	0	+50	0	0	+97	+57	+36	+140
1925	+18	0	+29	+121	+65	+23	+16	+8	+35	+22	+18	+137
1926	-148	-121	+101	0	+80	+56	+73	-17	-33	-61	0	-37
1927	-59	-113	-146	-129	-36	-29	-2	+7	0	-37	-35	-14
1928	-158	-120	+8	+22	+4	-38	+47	+39	+25	-37	-36	-6
1929	+172	-61	-35	-156								
Median:												
1910–1916	311	285	369	315	243	145	105	99	120	143	262	236
1921–1927	313	312	310	281	200	114	67	75	93	127	162	169

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
45. Seattle, Wash.*												
1910.....	-25	0	-33	+6	+27	+38	+30	+30	+43	+41	+27	+2
1911.....	0	+44	+22	-47	+4	-8	0	0	0	-5	-36	-73
1912.....	+6	-63	0	-1	-2	0	-6	-1	-6	+21	-22	-56
1913.....	-38	+26	+19	+38	+22	+27	-11	+11	+21	+1	-19	0
1914.....	-14	-2	-24	+3	-6	-15	+1	+6	+6	0	+2	-21
1915.....	+50	+24	+3	0	0	-3	-8	-16	-4	-6	0	+23
1916.....	+5	-10	-53	-58	-22	+9	+4	-17	-9	-3	+6	+44
1917.....	-30	-9	-42	-5	-27	+12	+7	-13	-2	0	+8	-24
1918.....	-17	+14	+22	+153	+53	+31	+37	+18	+29	+1,454	+912	+1,328
1919.....	+726	+238	+42	+162	+88	+23	-6	+42	+14	+12	+69	+39
1920.....	+50	+839	+135	+75	+18	+24	+1	+4	-10	-30	-7	-5
1921.....	+11	-77	-30	0	+23	-7	0	-15	0	-10	-12	0
1922.....	-2	+182	+24	+20	0	0	-15	-12	-1	0	-10	-6
1923.....	0	0	0	+21	+2	-1	+8	+8	-19	+26	+14	-45
1924.....	+2	-64	+1	-9	-17	-2	-6	0	+8	-3	-19	+21
1925.....	-4	-71	-57	+36	+38	+14	-11	-24	-13	-27	+6	-15
1926.....	+49	+31	+28	-46	-32	+10	+2	+8	+3	+1	+11	+29
1927.....	-1	+7	-31	-1	-1	+42	+23	+7	+15	+22	0	+17
1928.....	+41	-26	-5	-35	-21	+12	+12	-12	+8	-20	+34	+292
1929.....	+144	+38	-8	-17	-1							
Median:												
1910-1916.....	114	93	102	96	67	33	29	29	39	48	70	110
1921-1927.....	79	125	113	89	67	33	40	37	37	60	68	96
46. Spokane, Wash.*												
1910.....	0	+38	-11	+11	+12	+47	+34	+45	+70	+12	0	+56
1911.....	+214	+63	0	+116	+23	0	+34	+34	+11	0	+47	+11
1912.....	-12	-16	+46	0	-11	-35	-34	-34	-24	-22	-46	-79
1913.....	+56	+50	+12	+46	-22	-11	-11	0	-24	0	-58	-68
1914.....	-23	-50	-67	-35	0	0	0	-11	0	+11	+58	-45
1915.....	-23	0	0	-24	-33	-11	-22	-11	0	+11	+58	0
1916.....	+56	-28	-101	-35	23	+24	+23	+11	-35	-56	-23	+46
1917.....	+124	+50	-67	+58	45	-23	+11	-34	-35	+11	-35	+16
1918.....	-78	+25	-11	+69	+12	+35	-34	0	0	+846	+1,992	+1,645
1919.....	+665	+189	+463	+58	-45	+24	+22	-9	0	-96	+46	-51
1920.....	+114	+1,416	+55	-27	+30	+86	+22	-9	-23	-40	-23	-55
1921.....	+90	-78	-47	-63	+18	+27	-23	+36	+82	+73	0	0
1922.....	+113	+171	+77	+19	+97	+4	-23	-20	0	-40	-70	-45
1923.....	-11	-53	+32	-39	-50	-54	0	-32	-46	+5	-35	-45
1924.....	0	-119	-92	-4	+18	-31	0	-13	0	-6	-35	-56
1925.....	-5	0	0	+67	-10	+23	+8	0	-24	+86	+16	+25
1926.....	-5	+95	+54	0	-75	0	-57	0	-13	0	+83	+53
1927.....	+178	+168	-65	0	0	0	+8	-21	+20	-54	+39	+47
1928.....	+81	-29	-10	+22	+26	+23	+29	+22	+20	+32	+39	+643
1929.....	+178	+120	+86	-90	-32							
Median:												
1910-1916.....	102	137	180	82	101	58	45	34	47	90	128	158
1921-1927.....	135	203	216	179	140	89	68	43	58	119	140	158
47. Syracuse, N. Y.*												
1910.....	0	+148	+41	0	-1	-34	+3	+20	-7	+34	-4	+13
1911.....	-64	0	-57	-74	-22	-36	-7	-15	0	+5	+53	0
1912.....	-51	-82	-77	+66	+49	+13	0	0	+32	+52	+32	-11
1913.....	+143	+156	+23	+83	+27	+43	+14	+14	+13	0	+20	+8
1914.....	+57	+2	-37	+36	0	0	+44	+11	+3	-18	0	-59
1915.....	-116	-71	+49	-1	-42	-18	-19	-34	-38	-35	-11	+63
1916.....	+89	-64	0	-36	0	+49	-27	+39	0	-22	6	-40
1917.....	-27	-6	+110	+12	+11	+9	-6	+8	+13	-16	-24	+53
1918.....	-3	-26	+132	+285	+36	-16	+14	-7	+209	+4,374	+303	+117
1919.....	+152	+161	+62	-4	-10	-39	+2	-17	-5	-1	+5	-18
1920.....	+277	+1,173	+58	+83	+92	+12	+1	+10	+9	-37	-10	+8
1921.....	-39	-21	0	-60	+1	-73	0	+9	-13	-51	-53	-28
1922.....	0	0	-61	+29	0	-5	-13	-5	0	+15	+8	-9
1923.....	+150	+173	+49	0	-61	+1	0	+21	0	0	0	+23
1924.....	-9	+26	-51	+46	+44	+14	-27	+5	+19	0	+47	+8
1925.....	-37	+31	+90	+17	+9	0	-1	+7	-8	+31	+25	0
1926.....	+18	-1	+257	-32	-12	-9	+43	0	+11	-16	-4	-21
1927.....	+92	-51	-68	-20	-18	+17	+2	-8	+1	-15	-59	+14
1928.....	-53	-101	-46	+119	+93	+28	+37	+21	+18	+19	+82	+126
1929.....	+351	+37	+87	+31								
Median:												
1910-1916.....	222	230	215	212	155	96	57	57	69	103	136	166
1921-1927.....	153	177	188	150	120	94	40	38	55	105	102	129

TABLE A.—*Excess monthly death rates (annual basis) per 100,000 from influenza and pneumonia in each of 50 cities in the United States, 1910–1929—Continued*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
43. Toledo, Ohio												
1910	-3	-15	+17	+31	+133	+32	-17	0	+19	+23	-51	+16
1911	+78	-7	-5	-4	-10	+13	-12	-22	+50	+16	0	-37
1912	-27	-47	0	+4	0	-10	0	+3	0	-46	+9	+29
1913	+18	+21	-39	-73	+2	0	-33	-43	-9	-29	-63	-52
1914	0	0	-9	+53	-44	-28	+3	+4	-29	-32	-27	-44
1915	-63	+58	+83	-37	-34	-12	+12	-21	-24	+24	+10	+78
1916	+185	+70	+43	0	+75	+29	+14	+15	+29	0	+7	0
1917	+132	+134	+134	+59	+74	+14	-19	-8	+5	-19	-68	-58
1918	+2	+29	+18	+199	-12	-62	-20	-15	-8	+1,421	+829	+916
1919	+184	+83	+498	+224	+15	-12	-19	-7	-12	-47	+14	-20
1920	+74	+767	+36	+23	+25	-25	-25	-12	-12	+19	+7	-81
1921	-64	-21	-91	-20	-62	-3	-11	+6	-4	-16	0	-22
1922	+1	-24	+155	-4	0	0	+24	-22	+5	+10	-25	+20
1923	+26	+238	+70	-31	-7	-11	0	+8	-1	+21	0	-7
1924	-23	0	-53	0	+32	+34	+7	-7	-7	-28	+11	0
1925	-74	+28	0	+51	-17	-6	+14	-3	0	+57	-4	+17
1926	+14	-33	+35	+50	+80	+41	-3	0	+20	-10	+15	+21
1927	0	+27	-30	+12	+1	+6	0	+3	+2	0	+20	-35
1928	-34	+57	-71	+60	+78	+43	+6	+39	+5	+2	+49	+468
1929	+196	+71	-23	+9								
Median:												
1910–1916	155	184	205	162	103	83	45	55	60	97	144	156
1921–1927	189	144	184	135	99	70	39	36	42	62	72	143
49. Washington, D. C.												
1910	+133	+118	+102	-17	+24	+32	-16	+14	+28	-25	+46	+28
1911	+55	+90	+9	+10	+13	+3	+10	-19	-3	+66	+8	0
1912	0	-23	-16	0	-23	-11	-13	-8	+28	0	+4	-6
1913	-60	-53	-92	-20	-17	+4	+6	-2	-4	-23	-11	-28
1914	-19	-56	0	+23	-23	-27	+1	0	+1	0	-5	-106
1915	-80	+129	+167	+78	-1	-17	0	+11	0	-7	+106	
1916	+143	-5	-29	0	+14	0	-5	+27	+26	+20	+2	-40
1917	+106	+79	-50	-75	+36	-30	-21	-10	-18	+34	-6	+26
1918	+180	+113	+147	+77	+53	-20	+9	-3	+157	+4,306	+355	+974
1919	+829	+121	+25	-85	-23	-27	+15	+1	+15	-9	-17	+78
1920	+573	+651	+1	-5	-16	+11	+13	-6	+19	0	-6	+42
1921	-53	-34	-15	-55	0	0	+6	+19	+6	-2	-28	+21
1922	+11	-5	0	-18	-41	-5	-6	-6	-16	-39	+46	+55
1923	+245	+343	+183	+60	+46	+40	+31	+20	+39	+16	+22	-6
1924	-53	+3	+18	+13	+7	+2	+5	+10	+13	0	+7	+18
1925	-114	-81	-30	+1	-14	-29	-2	+1	0	+7	0	-14
1926	+28	+221	+39	-24	+33	+5	-1	0	-2	-14	-17	-28
1927	0	0	0	-43	-51	-49	0	-2	-7	+9	-17	-23
1928	-47	-49	+2	+23	+18	-10	-3	+14	+10	+7	-12	+53
1929	+251	+22	-43	-46								
Median:												
1910–1916	256	277	340	229	110	92	58	53	60	78	151	209
1921–1927	242	246	220	165	112	83	48	54	50	85	116	137
50. Worcester, Mass.												
1910	-4	-132	-3	+4	0	+39	+53	-4	+54	+52	+45	+6
1911	-34	-40	-18	-20	-13	-30	+60	-5	+35	-14	0	-88
1912	+22	+53	0	-73	+37	0	+35	+9	+9	-15	-35	+65
1913	+36	+106	+20	-32	-29	+35	-13	0	0	-10	-53	-85
1914	0	0	-79	0	+4	-14	-14	+6	-40	+39	-56	0
1915	-100	-38	+103	+16	-30	-47	0	+33	-11	0	+2	+124
1916	+361	+160	+60	+40	+23	+3	-23	-25	-4	+62	+43	-38
1917	+23	+74	+32	+11	+108	-65	-10	+16	+15	+10	-47	-62
1918	-45	+14	+25	+284	+7	-31	+9	-30	+16	-30	+290	+608
1919	+698	+243	+92	-69	-44	-40	+21	-30	+48	+4,312	+290	+91
1920	+13	+834	+268	+05	+11	+52	+14	+55	+48	+28	-49	+3
1921	-62	+15	+10	+31	-23	+44	-19	+15	+1	0	+23	-81
1922	0	+245	-31	-44	+59	-23	0	+21	0	-26	-25	-3
1923	+35	+261	+34	-0	-25	+3	-7	+33	+32	+36	0	-73
1924	-42	-46	-47	-27	-26	-11	+17	-6	-1	-15	+4	+62
1925	-119	-83	0	+35	+41	-12	+17	0	-1	+40	-36	+16
1926	+2	-31	+143	+300	+32	0	+37	+3	-1	+26	-36	-22
1927	+11	0	-35	+35	+176	+77	+67	-21	-31	+16	0	-1
1928	-134	-21	+35	+176	-60	-49	-20					
1929	0	+74	+2	-60	-49							
Median:												
1910–1916	301	292	292	295	209	143	65	60	70	100	154	235
1921–1927	242	213	228	182	126	69	45	43	46	90	143	154

TABLE B.—*Excess¹ weekly death rates (annual basis) per 100,000 from EPIDEMIC*

Week ending	(1) Albany*	(2) Atlanta	(3) Baltimore	(4) Birmingham	(5) Boston	(7) Buffalo	(8) Cambridge*	(9) Chicago	(10) Cincinnati	(11) Cleveland	(12) Columbus	(13) Dayton*
Sept. 14	+37	+117	-23	-16	+208	+13	+247	-53	+2	-24	-28	+24
21	+2	+2	-49	-19	+1,745	+51	+94	-50	-19	-5	+38	-14
28	+31	+20	+62	+65	+5,341	+89	+4,921	+77	-1	+2	+81	+14
Oct. 5	+29	+89	+872	+392	+8,436	+422	+6,587	+720	+148	+51	+167	+109
12	+2,036	+698	+4,590	+1,744	+7,111	+1,800	+5,381	+1,967	+778	+194	+570	+1,018
19	+5,069	+2,058	+11,217	+3,216	+4,013	+5,506	+2,883	+4,063	+2,405	+991	+1,588	+4,653
26	+8,609	+2,578	+8,830	+3,897	+1,445	+7,544	+864	+4,573	+3,553	+3,001	+2,584	+4,744
Nov. 2	+7,148	+1,891	+3,162	+2,428	+810	+4,683	+759	+2,774	+3,104	+4,557	+2,052	+3,952
9	+2,320	+656	+1,056	+1,229	+375	+1,645	+80	+1,301	+1,979	+3,467	+1,040	+2,238
16	+508	+528	+235	+1,213	+163	+706	+261	+592	+1,103	+2,273	+709	+595
23	+42	+428	+218	+1,138	+194	+201	+249	+300	+1,193	+1,500	+846	+22
30	+493	+679	+107	+1,962	+178	+199	+147	+218	+1,053	+1,192	+1,294	+301
Dec. 7	+144	+718	+239	+2,501	+223	+119	+83	+295	+1,764	+1,144	+2,039	+494
14	+308	+1,107	+301	—	+345	+468	+450	+591	+2,529	+1,364	+1,630	+1,001
21	+278	+558	+328	+3,644	+673	+442	+579	+731	+1,929	+1,454	+1,127	+1,273
28	+351	+589	+159	+1,329	+1,143	+505	+997	+598	+867	+1,090	+239	+445
1919												
Jan. 4	+273	+790	+2	+764	+1,416	+286	+1,601	+323	+429	+697	+116	+193
11	+250	+794	+175	+982	+1,289	+483	+784	+189	-13	+448	+96	+175
18	+53	+1,165	+224	+1,201	+806	+723	+686	+295	-27	+437	+9	+236
25	+189	+1,239	+707	+863	+772	+1,064	+496	+321	+70	+438	+234	+64
Feb. 1	+513	+1,153	+632	+497	+472	+720	-25	+199	+27	+544	+213	+138
8	+377	+458	+558	+251	+327	+562	+219	+42	+232	+490	+35	+37
15	+426	+272	+498	+451	+202	+142	-109	+126	+336	+354	+121	+147
22	+150	+349	+296	+361	+206	+125	+33	+125	+738	+357	+227	+154
Mar. 1	+243	-25	+127	-78	+187	+221	-165	+120	+896	+427	+373	+333
8	+197	-20	+8	-74	+175	-34	-80	+89	+1,119	+663	+364	+237
15	+243	-119	+69	-37	+5	-8	-89	+129	+1,044	+661	+1,094	—
22	+939	-124	-83	-166	-8	-44	+99	+111	+1,037	+671	+851	+384
29	+253	-165	-124	-110	-40	-28	-134	+78	+517	+433	+371	+240
Apr. 5	+585	-95	-143	-43	-71	+34	-29	+31	+286	+255	+434	+488
12	+136	-179	-98	+45	-3	+106	-17	-28	+86	+368	+241	+239
19	+247	-179	-145	+115	-59	-16	-193	-41	+60	+382	+83	+208
26	+267	-129	-32	+142	-60	-36	+12	-112	-1	+108	+44	+48
May 3	+288	-139	-81	+191	+37	-73	-66	-83	+4	+121	-39	-5
10	+263	-16	-17	+4	-50	-4	-48	-75	-94	+117	+119	+22
17	-87	-179	-152	-13	-57	-38	+21	-118	-63	+7	+54	+23
24	+119	+115	-62	+89	-90	-60	-102	-59	-74	+28	-3	-19
31	-45	-71	-18	+33	-37	-7	-35	-68	-39	-51	+16	—

Cities marked with asterisk () are not included in the group of 35 cities because continuous weekly data from 1918 to 1930 were not available.

¹ Excess over the estimated median rate for corresponding weeks for the period 1910-1916. The monthly median rates (annual basis) for each city were plotted and a smooth line passing through each of the 12 monthly medians was drawn to represent the seasonal curve of mortality from influenza and pneumonia. From this graph the approximate medians for each week were read.

^a Pneumonia only.

^b Influenza only.

Leaders indicate no data available; 0 means no excess over median rate.

September 26, 1930

influenza and pneumonia in certain large cities in the United States

OF 1918-19

(14) Denver	(15) Detroit	(16) Fall River	(17) Grand Rapids	(18) Indianapolis	(19) Jersey City*	(20) Kansas City, Mo.	(21) Los Angeles	(22) Louisville	(23) Lowell*	(24) Memphis	(25) Milwaukee*
+1	-11	0	+60	+8	-62	+28	+30	+23	-16	-3	
-9	-18	+279	+39	+39	+7	-12	-12	+151	+675	+5	
+85	+15	+759	+7	+103	+271	+104	-41	+29	+1,414	+94	
+305	+13	+4,106	+74	+338	+1,066	+549	+77	+239	+4,252	+111	
+1,129	+244	+8,622	+218	+710	+3,993	+1,527	+608	+1,965	+6,483	+2,753	+735
+2,783	+933	+8,232	+336	+2,113	+2,273	+2,723	+1,205	+3,913	+5,308	+6,334	+1,238
+2,950	+186	+4,106	+790	+1,881	+7,424	+3,129	+2,762	+3,910	+3,806	+5,745	+1,949
+2,132	+2,734	+1,631	+630	+1,339	+8,184	+3,613	+1,406	+1,277	+2,368	+1,352	
+1,984	+1,626	+926	+434	+683	+2,185	+2,903	+1,148	+243	+1,372	+989	
+1,480	+791	+481	+1,054	+699	+1,203	+2,803	+710	+233	+419	+689	
+2,116	+403	+285	+780	+630	+925	+1,779	+613	+362	+431	+437	
+2,600	+164	+135	+622	+1,577	+1,467	+1,482	+1,210	-76	-10	+889	
+3,666	+263	+539	+1,086	+1,087	+2,807	+1,064	+1,049	+276	+325	+1,083	
+4,004	+616	-13	+1,897	+975	+1,69	+3,952	+1,136	+846	+253	+693	+1,978
+3,195	+891	+342	+1,382	+569	+2,660	+1,193	+1,039	+129	+734	+1,786	
+1,572	+730	+494	+783	+632	+203	+1,171	+953	+630	+242	+531	+1,066
+1,094	+675	+131	+557	+350	+241	+564	+731	+281	+312	+356	+578
+710	+634	+463	+161	+438	+270	+565	+1,207	+225	+1,157	+794	+145
+455	+709	+369	+152	+181	+1,355	+852	+1,455	+237	+614	+793	+48
+223	+593	+268	+226	+232	+233	+477	+1,448	+433	+891	+1,286	+33
+331	+530	+386	0	+186	+200	+689	+778	+208	+205	+705	-50
+354	+356	+372	-63	+160	+81	+397	+261	+182	+38	+1,761	+53
+503	+304	+271	+15	+248	+286	+578	+33	+178	+564	+342	-64
+345	+398	+340	-62	+332	+286	+496	-71	+567	-96	+374	-13
+310	+486	+145	-30	+334	+151	+649	-2	+483	+306	+195	-38
+316	+234	+22	+8	+334	+151	+525	-44	+1,668	+112	-20	+21
+528	+360	+174	+113	+436	+739	+468	+14	+2,194	-76	+150	+115
+455	+251	+146	+91	+436	+77	+1,637	+77	+73	+500	+265	
+302	+89	+108	+111	+589	+286	+505	+102	+712	-49	+266	+235
+272	+19	-286	+93	+346	+143	+386	+86	+90	+28	+102	+333
+141	+71	-112	+67	+167	+76	+540	+106	+62	+48	+191	+498
+136	+16	+218	-25	+40	+44	+338	+134	-86	+40	-26	+307
+30	+42	-74	+102	+90	+92	+127	-23	-34	+64	-72	+202
+4	-36	-144	+148	+34	+194	+43	-4	-61	-84	+429	
+81	-8	-130	-1	-22	+6	-15	+19	+21	+45	+68	+89
+49	-11	-120	+2	+47	-3	+7	-43	-47	-76	+13	+48
+23	-29	-149	+4	+32	-44	+49	-19	+122	0	-20	+11
-83	+9	-181	-30	-22	+8	+57	-38	+64	-83	+175	-19

TABLE B.—*Excess¹ weekly death rates (annual basis) per 100,000 from EPIDEMIC*

Week ending—	(26) Minneapolis	(27) Nashville	(28) Newark	(29) New Haven	(30) New Orleans	(31) New York	(32) Oakland *	(33) Omaha	(34) Philadelphia	(35) Pittsburgh *	(36) Portland, Oreg.
1918											
Sept. 14	+18	+23									
21		+13		+0	+22	+24	+99	+32	+3	+15	+43
28	+103	+48	+33	+391	+54	+6	+30	+12	+154	+153	+27
Oct.	+127	+128	+604	+1,078	+296	+592	+6	+127	+901	+445	+25
12.	+618	+5,650	+2,344	+2,426	+1,865	+1,904	+372	+1,835	+7,623	+829	+125
19.	+1,335	+8,494	+5,001	+4,892	+8,441	+3,898	+977	+4,411	+13,362	+3,280	+805
26.	+2,046	+5,531	+5,442	+5,908	+9,218	+4,830	+3,404	+4,040	+8,741	+4,940	+1,888
Nov.	+1,808	+2,253	+4,722	+5,404	+4,398	+4,039	+5,908	+2,546	+3,408	+5,404	+1,195
9.	+1,244	+2,181	+2,145	+2,559	+1,971	+2,008	+3,879	+1,889	+974	+6,897	+3,163
16.	+1,202	+459	+1,282	+1,426	+828	+832	+1,670	+1,217	+344	+4,483	+1,731
23.	+603	+478	+739	+490	+284	+440	+848	+913	+150	+152	+1,679
30.	+515	+767	+542	+605	+359	+202	+176	+1,148	+103	+2,357	+691
Dec.	+850	+883	+537	+347	+339	+205	+245	+2,391	+110	+1,490	+1,383
7.	+872	+960	+805	+754	+690	+215	+301	+4,144	+97	+1,493	+1,271
14.	+1,217	+992	+723	+1,437	+694	+262	+648	+2,021	+189	+963	+1,303
21.	+805	+664	+656	+860	+503	+393	+824	+1,386	+121	+796	+820
1919											
Jan. 4	+325	+550	+652	+919	+990	+447	+1,432	+473	+143	+518	+982
11.	+415	+403	+565	+832	+1,607	+583	+2,074	+473	+279	+535	+1,912
18.	+110	+566	+446	+469	+2,414	+667	+2,549	+257	+371	+598	+2,357
25.	+215	+552	+400	+438	+2,389	+845	+1,479	+263	+454	+899	+2,341
Feb.	+201	+362	+374	+250	+1,349	+801	+780	+101	+597	+818	+881
8.	+208	+263	+332	-1	+435	+552	+301	+130	+467	+918	+176
15.	+11	+302	+184	-28	+310	+444	+68	+74	+382	+1,087	+84
22.	+289	+611	+362	-183	+243	+438	-45	+127	+382	+854	+137
Mar.	+70	+441	+452	+51	+60	+498	-16	+39	+314	+820	+49
8.	+249	+413	+220	+27	+30	+381	+13	+228	+247	+633	+80
15.	+327	+122	+267	-1	+91	+326	+11	+335	+198	+638	+103
22.	+192	+632	+245	-28	-47	+185	-34	+448	+177	+598	+294
29.	+233	+214	+240	-121	+1	+167	-32	+349	+111	+548	+113
Apr.	+75	+237	+76	-215	-46	+134	+19	+360	+43	+264	+155
12.	+208	+128	-9	-148	-96	+72	+46	+401	+117	+346	+94
19.	+54	+150	+82	-174	-	+72	+218	+499	+79	+253	+29
26.	+74	-15	+178	-217	-	+3	+48	-9	+84	+92	+149
May	+3	+40	+171	-146	-143	-	-18	+49	-	+214	+125
10.	+9	-130	-140	-74	-	-	0	+51	+23	+83	+60
17.	+8	+195	-135	+112	-	-	-39	+78	+11	+54	-25
24.	+20	+151	0	-67	-	-	-58	-40	-2	+112	+37
31.	+17	+63	-	+6	+1	-	-63	-32	0	+27	+24

* Cities marked with asterisk (*) are not included in the group of 35 cities because continuous weekly data from 1918 to 1930 were not available.

¹ Excess over the estimated median rate for corresponding weeks for the period 1910-1916. The monthly median rates (annual basis) for each city were plotted and a smooth line passing through each of the 12 monthly medians was drawn to represent the seasonal curve of mortality from influenza and pneumonia. From this graph the approximate medians for each week were read.

² Pneumonia only.

³ Influenza only.

Leaders indicate no data available; 0 means no excess over median rate.

September 26, 1930

influenza and pneumonia in certain large cities in the United States—Continued

OF 1918-19

	(38) Providence	(39) Richmond	(40) Rochester	(41) St. Louis *	(42) St. Paul	(43) San Francisco	(44) Seattle *	(45) Spokane *	(46) Syracuse	(47) Toledo	(48) Washington, D. C.	(49) Worcester
+13	+60	+43	+17	+28	-30	+31	+56	0	-15	+62	+140	
+138	+27	+50	+19	+48	+6	-6	-9	+1,112	+43	+46	+436	
+400	+51	+55	+60	+19	+51	+27	-9	+1,112	+43	+353	+2,939	
+2,102	+1,191	+27	+87	-29	+46	+58	-19	+4,273	-6	+2,070	+5,861	
+4,026	+3,973	+583	+393	+1,316	+86	+242	+121	+6,776	+123	+5,964	+6,778	
+5,549	+6,011	+1,821	+1,169	+1,628	+1,260	+808	+858	+7,837	+1,010	+7,618	+4,678	
+4,724	+3,853	+3,908	+1,477	+1,221	+5,726	+2,696	+1,896	+4,267	+2,991	+4,722	+2,552	
+2,877	+2,070	+3,822	+1,627	+2,232	+7,695	+1,814	+839	+2,021	+2,450	+2,131	+1,643	
+1,315	+723	+1,831	+1,419	+2,389	+4,268	+1,397	+3,427	+756	+1,793	+551	+1,031	
+660	+555	+844	+1,398	+2,971	+1,973	+1,117	+2,171	+587	+885	+369	+238	
+530	+225	+615	+1,123	+1,905	+828	+506	+1,363	+76	+796	+290	+596	
+344	+544	+556	+1,416	+1,462	+449	+718	+1,555	+69	+478	+339	+410	
+573	+642	+780	+2,362	+1,424	+351	+1,220	+2,546	+94	+653	+313	+123	
+689	+1,488	+1,078	+2,988	+1,338	+550	+1,901	+3,937	+120	+442	+857	+45	
+786	+1,306	+1,484	+1,757	+1,302	+1,236	+1,653	+1,040	+175	+1,727	+1,267	+774	
+1,188	+1,250	+1,202	+605	+775	+1,663	+1,223	+1,047	+73	+1,033	+1,652	+696	
+770	+1,207	+850	+155	+714	+1,793	+803	+361	+60	+259	+1,436	+896	
+1,003	+453	+243	+253	+397	+2,702	+1,055	+683	+207	+172	+1,062	+763	
+1,055	+686	+77	+195	+148	+3,005	+839	+747	-77	+253	+1,028	+989	
+1,022	+564	+150	+173	+106	+1,347	+843	+794	+220	+275	+609	+344	
+440	+356	-2	+211	+176	+433	+344	+735	+333	+153	+445	+376	
+327	0	+80	+83	+137	+268	+567	+226	+82	-44	+222	+320	
+280	-50	+86	+181	+95	+57	+256	+236	+77	+57	+189	+382	
-96	-50	+110	+192	+118	+37	+108	+207	+199	+267	+31	+150	
+123	-24	-101	+304	+183	+65	+108	+145	+355	+109	+95	-56	
+452	+238	+100	+379	+156	+66	+209	+731	+267	+289	+117	+295	
+146	-54	+25	+548	+109	+9	+34	+371	+56	+405	+56	+177	
-70	-23	+105	+549	+177	-33	-18	+520	-67	+450	-40	+68	
0	-16	+33	+276	+272	-7	+68	+678	-68	+761	+15	+57	
-17	-121	+10	+138	+350	+126	+34	+47	-42	+554	-117	+32	
-164	-65	+52	+183	+226	+209	+18	-12	-107	+457	-132	-60	
+8	-96	+18	+79	+115	+189	+70	+117	-46	+339	-70	-164	
-50	-34	+142	+77	+26	+176	+327	+67	-128	+220	-32	+138	
-20	-97	+178	+1	+71	+129	+215	+14	+10	+89	-110	-89	
+38	-159	+106	+23	-63	+42	+138	+43	-124	+3	-85	+50	
-40	0	+24	+27	-41	+36	+130	+61	+19	+64	-51	+43	
-46	-48	+46	+15	+32	+114	+72	-50	-58	-14	+9	+121	
+34	+92	+26	-1	+68	+97	+97	-15	+36	-10	-84		

TABLE C.—*Excess¹ weekly death rates (annual basis) per 100,000 from*

Week ending—	(1) Albany*	(2) Atlanta	(3) Baltimore	(4) Birmingham	(5) Boston	(6) Bridgeport*	(7) Buffalo	(8) Cambridge*	(9) Chicago	(10) Cincinnati	(11) Cleveland	(12) Columbus
EPIDEMIC												
Dec. 1919												
6.	+30	+92	-50	+239	-102		+36	-87	+1	-84	+19	-19
13.	+66	+50	-11	-65	-30		-34	-97	+42	-42	-17	+43
20.	+56	+33	+2	+13	0		-49	+36	+59	0	+13	+16
27.	+93	+124	-44	-48	-34		+21	-70	+51	+16	-52	-33
Jan. 1920												
3.	+63	+138	-53	+1	-38		-7	+15	+49	+23	+31	-43
10.	-63	+133	-144	+1	-18		-41	+191	+60	-33	-20	+166
17.	-113	+58	-58	+97	-24		-78	+132	+140	-64	-2	+34
24.	-78	+69	-148	+140	+90		+44	+169	+745	-4	-2	+14
31.	+421	+56	+87	+81	+365		+18	+444	+1,955	+94	+84	+340
Feb. 1920												
7.	+683	+494	+523	+308	+870		+527	+823	+1,751	+248	+832	+1,123
14.	+1,004	+1,406	+1,547	+191	+1,540		+1,279	+1,103	+764	+504	+1,469	+2,406
21.	+816	+1,947	+1,279	+1,367	+1,267		+1,317	+871	+274	+803	+937	+1,275
28.	+673	+1,361	+515	+1,679	+707		+835	+399	+62	+1,037	+596	+884
Mar. 1920												
6.	+213		+214	+1,851	+315		+404	-25	+24	+695	+243	+253
13.	+170	+356	+113	+960	+93		+218	+27	-1	+189	+153	+144
20.	-93	+117	-95	+552	+17		+74	+83	+21	+230	+125	+36
27.	+100	+157	-61	+139	+108		+82	+184	-33	+97	+64	+79
Apr. 1920												
3.	+18	-87	+225	-55			+80	+47	-38	-84	+68	+57
EPIDEMIC												
Nov. 1928												
3.	+106	-41	-38	-21	-9	+2	-13	-12	+16	+14	-3	-60
10.	+12	-65	-50	-4	-50	+137	+38	-105	-21	+64	+3	+17
17.	+4	-108	+1	-100	+7	+94	+50	-32	-5	+16	-47	-23
24.	+167	-123	+29	+120	+11	+122	+7	-37	+20	+39	-28	-33
Dec. 1928												
1.	+200	+4	+1	-41	-31	-33	+25	-45	+27	+36	-33	-33
8.	+277	+117	+44	-23	-9	+71	+20	-94	+47	-12	-22	-25
15.	+51	+229	+57	+4	-8	-11	+107	-21	+153	+29	-22	-48
22.	+257	+633	-8	-123	+62	-58	+233	-72	+303	+31	+169	+243
29.	+421	+1,328	+181	+107	+13	+114	+239	+83	+413	+235	+442	+685
Jan. 1929												
5.	+499	+727	+336	+1,719	+75	+174	+394	+114	+315	+1,148	+730	+1,008
12.	+664	+551	+592	+3,237	+250	+345	+671	+101	+198	+992	+818	+1,127
19.	+961	+358	+471	+1,717	+407	+917	+506	+461	+118	+786	+542	+568
26.	+1,167	+185	+359	+1,782	+565	+1,165	+477	+575	+31	+454	+103	+223
Feb. 1929												
2.	+1,076	-106	+97	+309	+601	+689	+360	+813	+1	+147	+67	+161
9.	+421	+110	+114	-91	+308	+363	+170	+359	-36	+29	-7	+31
16.	+328	+5	+58	+141	+238	+110	+186	-13	-9	+99	+78	+101
23.	-108	-55	+13	-166	+87	+213	+63	+111	-25	+109	+1	+153
Mar. 1929												
2.	+190	+93	+99	+179	+199	-43	+13	-53	-5	+55	-30	+101
9.	+230	+62	-18	-31	+59	-7	+11	-8	-42	+113	-50	-3
16.	-72	+136	-32	-31	+20	+172	+26	+245	-54	+37	-55	+14
23.	+60	-134	-78	+11	+27	-76	+44	-78	-57	+39	-86	-55
30.	+67	-97	-115	-36	-7	+71	+61	+53	-88	-77	-4	-3
Apr. 1929												
6.	+82	-82	-42	-130	-150	-108	+96	+306	-43	-13	-72	-73

* Cities marked with asterisk (*) are not included in the group of 35 cities because continuous weekly data from 1918 to 1930 were not available.

¹ Excess over the estimated median rate for corresponding weeks for the period 1921-1927. The monthly median rates (annual basis) for each city were plotted and a smooth line drawn to pass through all of the 12 monthly medians except the very irregular points. From this line representing the seasonal curve of mortality from influenza and pneumonia the approximate medians for each week were read.

^a Pneumonia only.

^b Influenza only.

Leaders indicate no data available; 0 means no excess over median rate.

influenza and pneumonia in certain large cities in the United States

(13) Dayton*	(14) Denver	(15) Detroit *	(16) Fall River	(17) Grand Rapids	(18) Indianapolis	(19) Jersey City*	(20) Kansas City, Mo.	(21) Los Angeles	(22) Louisville	(23) Lowell*	(24) Memphis	(25) Milwaukee*
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O F 1920

-85	-9	-32	-32	+25	-21	-62	-14	+2	+95	+28	+60	+12	
+78	-96	+45	-30	-19	+25	+157	+60	-24	-2	+21	+148	-36	
+33	-67	+35	+46	+53	+37	-119	-10	+13	-74	-77	-8	+130	
-110	+23	+50	-50	-29	+43	+149	+10	-90	+52	+54	-29	+53	
+89	+7	+141	-65	+3	-131	+14	-9	+8	+19	-47	+149	+40	
-13	+113	+76	+98	-74	+105	+37	-6	-18	+30	+41	+33	+148	
+86	+45	+118	+213	+33	+62	+27	+236	-10	+17	-9	+8	+5	
+288	+159	+277	-14	-45	+134	+198	+1,290	-7	-17	-104	-54	+361	
+1,393	+653	+2,428	-105	+100	+370	+889	+1,656	+10	+169	+124	-111	+1,443	
+1,429	+2,860	+2,730	-23	+1,037	+1,279	-	+3,234	+179	+644	+348	+252	+1,926	
+920	+2,875	+2,272	+437	+1,258	+1,790	-	+2,382	+585	+897	+254	+1,577	+1,207	
+645	+1,005	+734	+816	+1,067	+926	+1,122	+890	+456	+807	+1,450	+1,483	+297	
+66	+547	+303	+547	+384	+543	+406	+544	+325	+405	+1,127	+1,012	+176	
-6	+83	+101	+469	+266	+412	+247	+153	+264	+185	+1,033	+900	-1	
+23	-18	+165	+323	+38	+71	+155	+50	+22	+144	+526	+341	-27	
+124	+2	+34	+289	-37	+125	+75	+235	+43	+21	+113	+147	+14	
+23	+83	+42	-85	+43	+170	-39	-3	+25	+53	+23	+50	-	
	+206	+47	+93	-67	-27	+85	+41	-4	+26	-48	-16	+80	-

O F 1928-29

-16	-23	-21	-67	+35	-20	-11	+21	+96	+43	+56	-66	+3	
-22	-33	-13	-112	-33	-70	-35	-63	+72	-30	-42	81	+17	
+169	-64	+17	-87	-7	+15	+56	-87	+73	+26	-47	+17	-47	
-39	-8	-28	-19	+82	+118	+62	-78	+259	-61	-10	+26	-68	
-80	+267	+29	-143	+10	+42	-44	+60	+625	-34	-62	-126	-24	
+106	+649	+24	+5	+100	+145	+10	+199	+794	+71	-70	+266	-7	
-45	+1,667	+7	-122	+411	+370	+64	+683	+720	0	+11	-79	-38	
+114	+1,107	+148	+23	+660	+638	+164	+782	+396	-5	+50	+68	+194	
+278	+546	+507	+285	+718	+682	+119	+94	+281	+67	-90	+321	+319	
+304	+324	+778	+115	+175	+664	+222	+225	+196	+420	+35	+1,502	+472	
+500	+203	+605	+415	+363	+395	+354	+94	+122	+550	-14	+1,454	+620	
+414	+195	+219	+400	+41	+113	+616	+121	+33	+884	+334	+687	+307	
+44	-60	+6	+815	+102	+185	+501	-36	+48	+636	+507	+743	+196	
-70	-105	+69	+539	+65	+39	+400	+56	+31	+244	+328	+35	+77	
+11	+27	-76	+452	-64	+70	+298	+112	+43	+216	+498	+15	+102	
+347	+110	+60	-23	-69	+97	+122	-31	-57	-2	+188	-82	+67	
-52	-9	+50	+45	+23	-10	+69	-19	+46	+27	-34	-162	-81	
-1	+32	-8	-81	+16	+175	+34	+48	+76	+261	-34	-154	+54	
-6	+6	+36	-125	-115	+40	0	-122	+1	+105	+8	-194	-39	
-95	+16	+30	-164	-55	-12	+43	+31	+75	-18	+95	-15	-51	
-67	-35	-35	-157	-118	-7	-46	-62	+211	+8	-78	-258	+49	
-62	-68	-6	-181	-50	-50	-6	-26	+127	-93	-76	-92	-28	
	+4	-114	+22	-163	+113	-104	+4	-37	+32	-130	-68	-116	+16

TABLE C.—*Excess¹ weekly death rates (annual basis) per 100,000 from influ*

Week ending—	(26) Minneapolis	(27) Nashville	(28) Newark	(29) New Haven	(30) New Orleans	(31) New York	(32) Oakland*	(33) Omaha	(34) Paterson*	(35) Philadelphia	(36) Pittsburgh*
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EPIDEMIC

1919											
Dec. 6	-46	+158	-16	+49	-53	-12	+49	-45	-6	+31	
13	+72	+187	+25	+39	+7	-11	+58	-33	-33	-54	
20	+25	+42	-36	+89	-73	-6	-42	-15	+7	-63	
27	+8	-103	-46	+14	+38	-4	+2	+144	-81	-34	
1920											
Jan. 3	+133	-114	+17	+155	-4	+2	+36	-60	-38	+115	
10	+27	-27	+27	-14	+96	+13	-40	-90	-79	+28	
17	-2	+173	-3	+39	+81	+42	+50	-13	-37	+63	
24	-18	-60	+194	+88	+61	+268	+332	+145	+36	+63	
31	+714	+192	+504	+364	+113	+993	+427	+1,003	+149	+235	
Feb.	7	+2,132	+1	+1,262	+286	+152	+1,615	+1,166	+1,459	+520	+1,035
14	+1,549	+645	+1,583	+1,647	+495	+1,431	+1,142	+1,483	+1,397	+3,217	
21	+570	+1,681	+970	+1,889	+866	+694	+1,288	+446	+1,459	+2,083	
28	+24	+2,325	+484	+700	+165	+247	+365	+535	+768	+1,216	
Mar.	6	-47	+1,036	+234	+426	+46	+115	+274	+289	+341	+431
13	+84	+722	+109	+240	+489	+67	+326	+72	+179	+184	
20	-70	+291	+209	+179	+434	+39	+22	+152	+33	-31	
27	+35	+274	+65	+60	+111	+23	+75	-87	+24	+21	
Apr.	3	-48	+231	-5	+48	+222	+41	+80	+110	+30	+35

EPIDEMIC

1928											
Nov. 3	+6	+18	0	+71	+44	0	+68	-58	-18	-44	-135
10	+10	+117	-29	-22	+32	+18	+63	+6	+84	-29	-96
17	+96	-46	-4	+23	+34	+5	+96	+45	+3	-9	-49
24	-59	-61	-2	-42	-24	+17	+89	-11	-43	-24	-19
Dec.	1	-19	+1	-22	-52	+62	+12	+328	+23	-22	-14
8	+79	+207	+24	-90	+40	+22	+73	+78	-4	+42	-146
15	-8	+192	-19	+67	+129	+38	+64	+624	-54	+70	+115
22	+272	+105	+4	+24	+492	+48	+131	+707	+35	+226	+88
29	+406	+167	+82	-42	+942	+64	+126	+771	-123	+251	+1,936
1929											
Jan. 5	+415	+306	+313	+27	+1,523	+130	+174	+249	+474	+442	+2,184
12	+469	+1,339	+631	+99	+752	+300	+93	-58	+715	+400	+1,081
19	+147	+994	+459	+145	+301	+423	+107	+148	+602	+284	+467
26	+122	+794	+435	+296	+88	+472	-105	+28	+462	+179	+35
Feb.	2	+8	-74	+246	+92	+60	+321	+28	+47	+287	-41
9	-17	+22	+57	+276	-88	+198	-45	+138	+185	-81	+8
16	-31	-253	+21	+266	-20	+136	+12	-5	+10	-89	-176
23	+92	+64	-102	+31	+162	+20	-60	-54	+267	-91	-205
Mar.	2	-49	+272	+74	-36	-112	+48	+76	+107	+58	-117
9	-41	-115	+8	-18	+36	+39	+98	+10	-44	-56	-78
16	-35	-48	+41	-23	+3	+1	+84	-15	-6	-26	-149
23	-51	-151	-80	-76	-190	-5	+32	+55	+69	-33	-143
30	-111	-236	-31	-41	-44	-21	-58	+11	+73	-46	-195
Apr.	6	-124	-5	-37	-132	+34	+7	+23	-26	-31	-62

* Cities marked with asterisk (*) are not included in the group of 35 cities because continuous weekly data from 1918 to 1930 were not available.

¹ Excess over the estimated median rate for corresponding weeks for the period 1921-1927. The monthly median rates (annual basis) for each city were plotted and a smooth line drawn to pass through all of the 12 monthly medians except the very irregular points. From this line representing the seasonal curve of mortality from influenza and pneumonia the approximate medians for each week were read.

^a Pneumonia only.

^b Influenza only.

Leaders indicate no data available; 0 means no excess over median rate.

September 26, 1930

Influenza and pneumonia in certain large cities in the United States—Continued

(37) Portland, Oreg.	(38) Providence	(39) Richmond	(40) Rochester	(41) St. Louis	(42) St. Paul	(43) San Francisco	(44) Seattle*	(45) Spokane*	(46) Syracuse	(47) Toledo	(48) Washington, D. C.	(49) Worcester	(50) Worcester
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OF 1920

-57	-89	-83	+46	-2	+24	-16	+1	0	+1	-55	+19	+160	
-20	-11	-34	+20	-12	-118	-16	+63	-53	-4	+14	+81	+111	
+56	+62	-172	-21	+21	+34	-26	+27	+95	-74	+22	+118	-6	
+94	+72	-159	-44	+27	+6	+4	+22	-57	+44	-95	-16	-17	
-55	-49	-59	+20	+95	0	+37	+51		+35	+4	+172	-59	
+122	+73	-195	+104	+154	67	-36	-67	+35	+120	+18	+34	+71	
+20	+81	-4	-3	+38		+80	-39	-20	+83	-6	-83	+34	
+35	-40	-109	+78	+247	+420	+305	+8	-28	+140	+12	+713	-32	
+192	+81	+328	+265	+1,332	+995	+417	+88	+414	+765	+200	+1,887	+169	
+267	+618	+740	+732	+2,430	+1,615	+990	+416	+1,406	+2,501	+961	+1,685	+198	
+988	+1,681	+830	+762	+1,622	+1,239	+1,217	+1,504	+2,995	+2,166	+877	+838	+1,032	
+886	+1,758	+539	+318	+587	+420	+982	+1,173	+1,440	+690	+877	+407	+1,2	
+671	+982	+102	+173	+116	+155	+745	+860	+639	+505	+370	+118	+747	
+416	+537	+29	+46	-60	-44	+396	+447	+289	+140	+137	+41	+1,467	
+258	+53	-44	+97	-77	+66	+184	+133	+139	-10	+97	+14	+2	
+162	+80	-54	-23	-72	+90	+95	+22	-55	+203	-69	+49	+125	
+55	-33	-160	-3	-60	+136	+171	+77	+50	+150	+4	+143	+250	
-15	+123	-147	-28	-79	-39	+74	+117	+93	-20	+80	-91	+61	

OF 1928-29

-15	-59	-40	-16	-49	+91	+57	+44	+13	-16	+79	+51	-86	
-40	-27	-130	-36	-96	-17	+107	+1	-87	+109	-25	-51	-20	
+20	+56	-89	+52	-39	-5	+67	-29	-45	+104	-2	+17	-135	
+34	-60	+8	+13	-30	+9	+85	+34	+46	+99	+76	+3	-40	
+8	+40	-31	+21	-34	-1	+116	+69	+44	+68	+61	-55	-100	
-30	-6	-41	-50	-44	-29	+67	+120	+327	+113	+96	+3	-83	
+230	-34	0	+6	+20	+148	+110	+238	+800	-22	+327	+12	-170	
+207	-13	+385	-15	+6	+329	+73	+290	+798	+22	+579	+47	-182	
+380	+30	+262	+43	+226	+531	+79	+421	+538	+278	+936	+60	-140	
+393	+20	+589	+54	+277	+608	+64	+282	+364	+534	+400	+77	-45	
+267	+82	+868	+83	+209	+443	-37	+226	+216	+789	+393	+359	-5	
+54	+342	+420	+97	+192	+196	+64	+153	+164	+339	+190	+368	-93	
+66	+457	+58	+376	+76	+72	-34	+41	-130	+127	+71	+269	-154	
+63	+447	+16	+292	+56	-11	-78	+134	+6	+76	+86	+209	-75	
-47	+292	-208	+224	-45	+134	-41	+50	-49	+39	+86	+151	-75	
+111	+100	-74	+45	+24	+93	+24	+34	+86	+8	+86	-38	-153	
+127	+17	+203	+21	-33	+72	-63	+48	+173	+81	-14	-61	-153	
+8	+98	+4	+16	+27	+93	-30	+61	+28	-28	-14	+1	-46	
+137	+18	+51	-20	-111	+72	-48	+129	+124	+71	+86	+43	-44	
+16	-3	-95	+9	-10	-31	-62	-6	-19	+149	-39	-4	-41	
+56	-107	-75	-52	+1	+95	+78	-42	-62	+74	+8	-50	-141	
-55	-107	-60	-63	-97	+54	-28	-64	-9	+81	-99	-123	-183	
+96	+64	-73	-102	-14	+36	-23	-44	+45	+195	-37	-110	-40	

TABLE D.—*Populations of the 50 cities considered in this study*

City	Enumerated population according to the census of—		Estimated population as of July 1, 1928
	Apr. 15, 1910	Jan. 1, 1920	
1. Albany*	100,253	113,344	120,400
2. Atlanta	154,839	200,616	255,100
3. Baltimore	558,485	733,826	830,400
4. Birmingham	132,635	178,806	222,400
5. Boston	670,585	749,060	799,200
6. Bridgeport*	102,064	143,555	179,884
7. Buffalo	423,715	506,775	555,800
8. Cambridge*	104,839	109,604	125,800
9. Chicago	2,185,283	2,701,705	3,157,400
10. Cincinnati	353,591	401,247	413,700
11. Cleveland	560,663	769,841	1,010,300
12. Columbus	181,511	237,031	299,000
13. Dayton*	116,577	152,559	184,500
14. Denver	213,331	256,491	294,236
15. Detroit*	465,788	993,678	1,378,900
16. Fall River	119,295	120,485	134,300
17. Grand Rapids	112,571	137,634	164,200
18. Indianapolis	233,650	314,194	382,100
19. Jersey City*	267,779	298,103	324,653
20. Kansas City, Mo.	248,381	328,410	390,976
21. Los Angeles	319,198	576,673	792,870
22. Louisville	223,928	234,891	329,400
23. Lowell*	106,294	112,759	118,419
24. Memphis	131,105	162,351	190,200
25. Milwaukee*	373,857	457,147	544,200
26. Minneapolis	301,408	380,582	455,900
27. Nashville	110,364	118,342	139,600
28. Newark	347,469	414,524	473,600
29. New Haven	133,605	162,537	187,868
30. New Orleans	339,075	387,219	429,370
31. New York	4,766,883	5,620,048	6,017,500
32. Oakland*	150,174	216,261	274,123
33. Omaha	124,096	191,601	222,800
34. Paterson*	125,600	135,875	144,900
35. Philadelphia	1,549,008	1,823,779	2,064,341
36. Pittsburgh*	533,905	588,343	673,800
37. Portland, Oreg.	207,214	258,288	299,907
38. Providence	224,326	237,595	286,300
39. Richmond	127,628	171,667	194,400
40. Rochester	218,149	295,750	328,200
41. St. Louis*	687,029	772,897	848,078
42. St. Paul	214,744	234,698	252,169
43. San Francisco	416,912	506,676	585,269
44. Scranton*	129,867	137,783	144,700
45. Seattle*	237,194	315,312	383,200
46. Spokane*	104,402	104,437	109,100
47. Syracuse	137,249	171,717	199,300
48. Toledo	168,497	243,164	313,200
49. Washington, D. C.	331,069	437,571	552,000
50. Worcester	145,936	179,754	197,600

* Cities marked with an asterisk (*) are not included in the group of 35 cities, because continuous weekly data from 1918 to 1930 were not available.

DEATHS DURING WEEK ENDED SEPTEMBER 6, 1930

Summary of information received by telegraph from industrial insurance companies for the week ended September 6, 1930, and corresponding week of 1929. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Sept. 6, 1930	Corresponding week, 1929
Policies in force.....	75,680,042	74,659,729
Number of death claims.....	10,059	10,366
Death claims per 1,000 policies in force, annual rate.....	6.9	7.2

Deaths¹ from all causes in certain large cities of the United States during the week ended September 6, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census. The rates are not exactly comparable with similar rates published in the Public Health Reports earlier than the issue of August 22, 1930, which were based upon estimates made before the 1930 census was taken]

City	Week ended Sept. 6, 1930				Corresponding week, 1929		Death rate ² for first 36 weeks	
	Total deaths	Death rate ³	Deaths under 1 year	Infant mortal- ity rate ⁴	Death rate ³	Deaths under 1 year	1930	1929
Total (77 cities).....	6,779	10.3	625	4.50	11.0	802	12.2	13.1
Akron.....	50	10.3	5	46	6.6	5	8.0	9.6
Albany ⁵	38	15.5	3	62	16.5	6	15.3	16.5
Atlanta.....	69	13.4	9	92	12.5	4	16.3	16.2
White.....	32		4	63		3		
Colored.....	37	(6)	5	144	(6)	1	(6)	(6)
Baltimore ⁶	196	12.7	24	83	11.4	20	14.3	15.2
White.....	146		12	53		13		
Colored.....	50	(6)	12	192	(6)	7	(6)	(6)
Birmingham.....	91	18.3	11	106	13.0	7	14.2	16.8
White.....	48		5	79		2		
Colored.....	43	(6)	6	147	(6)	5	(6)	(6)
Boston.....	179	11.9	16	46	12.8	29	14.3	15.7
Bridgeport.....	34	12.0	6	103	9.6	4	11.3	12.6
Buffalo.....	154	14.0	16	71	13.3	23	13.3	14.5
Cambridge.....	17	7.8	1	20	8.3	2	11.9	13.0
Camden.....	28	12.5	4	70	11.1	1	14.1	14.8
Canton.....	14	6.9	1	27	5.5	3	10.3	11.7
Chicago ⁷	579	8.9	45	40	9.3	49	10.6	11.6
Cincinnati.....	123	14.2	12	71	17.4	12	15.8	17.6
Cleveland.....	171	9.9	13	39	12.2	22	11.4	13.0
Columbus.....	58	10.4	11	108	14.6	3	16.1	15.3
Dallas.....	48	9.5	5		9.7	5	11.9	12.0
White.....	35		3			5		
Colored.....	13	(6)	2		(6)	0	(6)	(6)
Dayton.....	38	9.8	4	60	10.3	5	10.6	11.7
Denver.....	73	13.2	12	131	14.4	19	14.8	15.2
Des Moines.....	25	9.1	0	0	8.5	2	12.1	11.8
Detroit.....	211	7.0	25	38	10.0	62	9.6	11.6
Duluth.....	17	8.8	3	81	10.8	3	11.3	11.8
El Paso.....	33	16.8	9		12.4	4	18.1	20.6
Erie.....	19	8.5	2	44	6.8	0	11.5	12.8
Fall River ⁸	15	6.8	1	23	6.8	1	12.3	14.6
Flint.....	25	8.3	4	47	8.9	8	9.4	10.8
Fort Worth.....	26	8.4	0		12.1	5	11.3	13.0
White.....	22		0			3		
Colored.....	4	(6)	0		(6)	2	(6)	(6)
Grand Rapids.....	28	8.6	4	60	7.8	2	10.5	10.3
Houston.....	51	9.1	6		10.4	6	12.4	13.0
White.....	31		6			5		
Colored.....	20	(6)	0		(6)	1	(6)	(6)
Indianapolis.....	97	13.8	9	68	16.3	17	15.0	15.1
White.....	80		9	78		12		
Colored.....	17	(6)	0	0	(6)	5	(6)	(6)
Jersey City.....	60	9.9	7	61	8.6	9	11.6	12.9
Kansas City, Kans.....	34	14.5	4	93	7.3	0	11.6	13.8
White.....	26		4	110		0		
Colored.....	8	(6)	0	0	(6)	0	(6)	(6)
Kansas City, Mo.....	92	12.2	8	67	11.4	6	13.7	14.4

See footnotes at end of table.

Deaths¹ from all causes in certain large cities of the United States during the week ended September 6, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929—Continued

City	Week ended Sept. 6, 1930				Corresponding week, 1929		Death rate ² for first 36 weeks	
	Total deaths	Death rate ³	Deaths under 1 year	Infant mortality rate ⁴	Death rate ³	Deaths under 1 year	1930	1929
Knoxville.....	8	3.9	1	23	9.5	1	14.0	13.9
White.....	7		1	26	0	0		
Colored.....	1	(*)	0	0	(*)	1	(*)	(*)
Los Angeles.....	191	8.0	10	29	12.9	27	11.2	11.6
Louisville.....	57	9.7	3	26	10.5	6	13.9	15.4
White.....	45		3	30		4		
Colored.....	12	(*)	0	0	(*)	2	(*)	(*)
Lowell ⁵	20	10.4	4	106	10.8	3	13.8	14.7
Lynn.....	13	6.6	1	28	8.7	0	10.7	11.6
Memphis.....	59	12.2	5	59	23.5	7	17.8	19.6
White.....	31		2	36		4		
Colored.....	28	(*)	3	101	(*)	3	(*)	(*)
Milwaukee.....	101	9.2	14	61	9.2	17	9.9	11.3
Minneapolis.....	92	10.3	6	39	9.0	9	10.8	11.2
Nashville.....	38	13.5	6	94	17.4	5	17.7	19.6
White.....	17		5	105		4		
Colored.....	21	(*)	1	62	(*)	1	(*)	(*)
New Bedford ⁷	14	6.5	2	51	6.4	1	11.1	13.0
New Haven.....	27	8.7	1	15	10.9	2	13.2	13.7
New Orleans.....	135	15.4	6	33	15.0	15	17.9	18.0
White.....	80		4	34		7		
Colored.....	55	(*)	2	32	(*)	8	(*)	(*)
New York.....	1,227	9.2	96	40	9.9	146	11.1	11.7
Bronx Borough.....	186	7.6	6	17	7.5	24	8.1	8.5
Brooklyn Borough.....	386	7.7	33	35	8.4	56	10.0	10.6
Manhattan Borough.....	475	13.4	41	53	13.9	52	16.6	17.0
Queens Borough.....	125	6.0	13	52	7.9	9	7.2	7.9
Richmond Borough.....	55	18.1	3	58	17.2	5	14.8	16.3
Newark, N. J.....	88	10.3	5	26	11.3	8	12.3	13.3
Oakland.....	51	9.3	2	25	10.5	2	11.1	11.6
Oklahoma City.....	36	10.1	4	72	8.9	2	10.8	10.9
Omaha.....	46	11.2	4	49	10.3	4	13.9	14.1
Paterson.....	37	13.9	5	87	14.3	7	12.6	13.7
Philadelphia.....	401	10.6	45	67	11.2	48	12.8	13.5
Pittsburgh.....	134	10.4	16	57	11.9	23	14.0	15.2
Portland, Oreg.....	50	8.7	2	25	10.9	4	12.5	13.1
Providence.....	49	10.2	5	46	10.0	1	13.4	15.0
Richmond.....	47	13.4	6	87	13.5	5	15.3	16.8
White.....	29		2	44		3		
Colored.....	18	(*)	4	171	(*)	2	(*)	(*)
Rochester.....	74	11.8	7	62	10.7	5	11.9	12.9
St. Louis.....	183	11.6	12	42	10.3	13	14.6	15.2
St. Paul.....	51	9.8	2	20	8.2	2	10.3	10.8
Salt Lake City ⁶	26	9.6	5	79	8.3	4	12.7	13.2
San Antonio.....	53	10.8	9	29	10.3	12	15.8	15.1
San Diego.....	43	15.0	3	63	11.6	1	14.6	15.6
San Francisco.....	177	14.7	8	51	11.9	7	13.3	13.4
Schenectady.....	20	10.9	0	0	11.5	1	11.5	12.8
Seattle.....	64	9.2	3	30	9.6	2	11.1	11.3
Somerville.....	12	6.0	3	25	8.6	3	10.0	9.5
Spokane.....	29	13.1	1	26	13.6	0	12.4	13.1
Springfield, Mass.....	22	7.6	1	17	10.5	1	12.4	13.1
Syracuse.....	40	10.0	3	37	16.3	6	12.0	13.7
Tacoma.....	19	9.3	1	27	11.8	0	12.8	11.9
Toledo.....	59	10.5	5	46	12.5	9	12.8	13.9
Trenton.....	35	14.9	4	77	14.1	2	17.1	17.5
Utica.....	22	11.2	3	83	11.2	3	15.0	15.8
Washington, D. C.....	131	14.0	13	76	13.7	24	15.5	15.8
White.....	81		7	61		9		
Colored.....	50	(*)	6	107	(*)	15	(*)	(*)
Waterbury.....	13	6.7	2	49	8.3	3	10.0	9.8
Wilmington, Del. ⁷	26	12.9	4	96	13.9	8	14.8	14.2
Worcester.....	42	11.1	4	53	10.7	5	13.1	13.0
Yonkers.....	24	9.2	3	71	11.4	4	8.2	9.5

¹ Deaths of nonresidents are included. Stillbirths are excluded.

² These rates represent annual rates per 1,000 population, as estimated for 1930 and 1929 by the arithmetical method.

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

⁴ Data for 72 cities.

⁵ Deaths for week ended Friday.

⁶ For the cities for which deaths are shown by color the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 28; Richmond, 32; and Washington, D. C., 25.

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

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended September 13, 1930, and September 14, 1929

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 13, 1930, and September 14, 1929

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929
New England States:								
Maine.....	1	2	1		15	21	0	0
New Hampshire.....	2	2	5			1	0	0
Vermont.....	1						0	0
Massachusetts.....	40	57	1		30	31	0	3
Rhode Island.....	4	9			1	2	1	0
Connecticut.....	7	19	1	1	4	5	1	0
Middle Atlantic States:								
New York.....	48	53	16	12	53	69	13	16
New Jersey.....	35	60	1		15	18	1	2
Pennsylvania.....	94	107			81	39	5	5
East North Central States:								
Ohio.....	31	36	14	14	12	19	6	5
Indiana.....	11	17			2	2	4	0
Illinois.....	88	108	3	2	7	41	4	5
Michigan.....	38	67	2	2	6	48	6	22
Wisconsin.....	8	14	12	16	27	34	3	1
West North Central States:								
Minnesota.....	13	11	1	1	2	2	0	1
Iowa.....	2	2			2	2	1	1
Missouri.....	19	28	3	11	7	4	5	6
North Dakota.....	6	14				4	0	4
South Dakota.....	25	2			1	1	0	0
Nebraska.....	2	4			1	8	0	0
Kansas.....	15	3	1	1	9	14	1	2
South Atlantic States:								
Delaware.....	4	1			2		0	0
Maryland ¹	12	8	5	1	3	1	1	1
District of Columbia.....	10	20			2		0	0
Virginia.....								
West Virginia.....	14	19	4	14	6	22	0	3
North Carolina.....	118	206	24		5	1	2	4
South Carolina.....	41	86	177				2	0
Georgia.....	23	18	21	10	6	4	1	0
Florida.....	8	4					0	1
East South Central States:								
Kentucky.....		22					0	0
Tennessee.....	12	36	4		7	4	2	4
Alabama.....	27	60	6	2	2	2	1	2
Mississippi.....	18	43					0	

¹ New York City only.

² Week ended Friday.

*Cases of certain communicable diseases reported by telegraph by State health officers
for weeks ended September 13, 1930, and September 14, 1929—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929
West South Central States:								
Arkansas	1	8		3		1	1	0
Louisiana	12	24	9	2	3	4	0	0
Oklahoma	15	19	6	11	1	4	2	4
Texas	25	30	30	8	1	6	1	0
Mountain States:								
Montana					2	11	1	1
Idaho					2	1	0	2
Wyoming		1			1		2	1
Colorado	6	2			3	6	1	1
New Mexico	5	5			1		0	0
Arizona	2	4	3			2	1	6
Utah		1	2	13	2		0	7
Pacific States:								
Washington	6	8			10	13	0	1
Oregon	4	3	8	2	11	1	0	0
California	24	20	13	11	47	25	5	3
Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929
New England States:								
Maine	10	2	4	16	0	0	2	0
New Hampshire	1	3	3	7	0	4	0	1
Vermont	0	1	2		0	0	0	0
Massachusetts	21	7	55	64	0	0	14	11
Rhode Island	1	3	4	1	0	0	3	2
Connecticut	0	0	14	7	0	0	12	3
Middle Atlantic States:								
New York	60	43	72	72	0	3	66	58
New Jersey	3	4	23	29	0	0	21	18
Pennsylvania	8	11	83	80	0	3	103	33
East North Central States:								
Ohio	65	14	85	81	31	9	79	47
Indiana	13	4	25	23	13	17	11	6
Illinois	36	1	75	101	13	6	41	31
Michigan	10	12	79	83	0	12	20	11
Wisconsin	8	0	22	34	4	6	7	11
West North Central States:								
Minnesota	28	3	23	59	0	0	4	5
Iowa	20	3	2	11	11	8	0	42
Missouri	12	2	18	24	0	5	28	5
North Dakota	1	1	7	10	0	4	11	1
South Dakota	7	0	10	10	3	10	0	0
Nebraska	17	0	14	11	14	3	4	7
Kansas	71	1	39	37	2	3	13	13
South Atlantic States:								
Delaware	0	1	4		0	0	12	7
Maryland	0	1	11	13	0	0	58	24
District of Columbia	0	0	3	1	0	0	5	1
Virginia		10						
West Virginia	3	8	22	42	3	3	54	44
North Carolina	5	2	47	95	0	4	17	42
South Carolina	1	1	19	25	0	0	60	87
Georgia	1	2	22	21	0	0	46	29
Florida	0	0	3	6	0	0	1	1
East South Central States:								
Kentucky	1	1	14	23	1	0	31	50
Tennessee	2	1	22	18	1	0	41	63
Alabama	0	2	22	36	0	0	22	27
Mississippi	1	0	11	16	1	0	22	22

² Week ended Friday.

³ Figures for 1930 are exclusive of Oklahoma City and Tulsa and for 1929 are exclusive of Tulsa only.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 13, 1930, and September 14, 1929—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929	Week ended Sept. 13, 1930	Week ended Sept. 14, 1929
West South Central States:								
Arkansas	2	0	0	6	0	0	27	22
Louisiana	7	0	5	20	0	1	19	27
Oklahoma	11	2	15	26	2	2	39	52
Texas	2	0	4	17	12	23	13	17
Mountain States:								
Montana	0	0	15	16	0	3	4	18
Idaho	0	1	5	1	0	0	2	1
Wyoming	2	0	2	1	0	7	0	4
Colorado	1	0	6	4	0	1	14	8
New Mexico	0	0	1	1	0	3	13	5
Arizona	0	0	7	6	0	0	5	3
Utah ²	0	0	3	6	0	0	3	2
Pacific States:								
Washington	2	1	29	23	12	11	5	4
Oregon	1	0	4	9	0	9	9	6
California	56	6	37	51	11	20	17	12

² Week ended Friday.

³ Figures for 1930 are exclusive of Oklahoma City and Tulsa and for 1929 are exclusive of Tulsa only.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin-gococcus menin-gitis	Diph-theria	Influenza	Malaria	Measles	Pella-gra	Polio-myelitis	Scarlet fever	Small-pox	Ty-phoid fever
<i>August, 1930</i>										
Arkansas		5	21	269		95	24	14	12	126
Indiana	25	45	16	25		15	15	73	116	68
Iowa	4	12	10	4		16	27	43	8	
Maine	1	15	4	17		1	14	44	0	13
New Hampshire	6	14	10	4	165		2	6	0	4
New Jersey	20	145	10	4	15		10	76	0	64
North Dakota	4	8	183	0	495	6	4	29	30	25
Pennsylvania	44					31	31	232	0	206
Porto Rico	28	17	1,407	14	27	2	0		0	29
Tennessee	16	43	12	355	58	6	6	76	9	529
Vermont	3				18	0	0	11	0	2

	August, 1930		Cases
Anthrax:			
Tennessee.....	1	Maine.....	7
Vermont.....	1	New Jersey.....	3
Chicken pox:		Porto Rico.....	4
Arkansas.....	18	Puerperal septicemia:	
Indiana.....	8	Pennsylvania.....	19
Iowa.....	7	Porto Rico.....	10
Maine.....	12	Rabies in man:	
New Jersey.....	30	Pennsylvania.....	1
North Dakota.....	4	Tennessee.....	5
Pennsylvania.....	159	Septic sore throat:	
Tennessee.....	10	Maine.....	9
Vermont.....	19	Tennessee.....	2
Dysentery:		Sprue:	
New Jersey.....	2	Tennessee.....	1
Pennsylvania.....	3	Tetanus:	
Porto Rico.....	13	New Jersey.....	2
Tennessee.....	21	Pennsylvania.....	6
Filariasis:		Porto Rico.....	5
Porto Rico.....	2	Tennessee.....	3
German measles:		Tetanus, infantile:	
Maine.....	3	Porto Rico.....	23
New Jersey.....	13	Trachoma:	
Pennsylvania.....	42	Arkansas.....	5
Hookworm disease:		Indiana.....	1
Arkansas.....	4	Pennsylvania.....	1
Impetigo contagiosa:		Tennessee.....	12
Tennessee.....	6	Tularaemia:	
Lead poisoning:		Tennessee.....	1
New Jersey.....	6	Undulant fever:	
Pennsylvania.....	2	Indiana.....	8
Lethargic encephalitis:		Iowa.....	8
Maine.....	1	Maine.....	1
North Dakota.....	2	Pennsylvania.....	3
Pennsylvania.....	9	Tennessee.....	3
Tennessee.....	2	Vermont.....	2
Mumps:		Vincent's angina:	
Arkansas.....	4	Iowa.....	1
Indiana.....	11	Maine.....	7
Iowa.....	9	Tennessee.....	2
Maine.....	1	Whooping cough:	
New Jersey.....	43	Arkansas.....	44
North Dakota.....	34	Indiana.....	109
Pennsylvania.....	168	Iowa.....	38
Porto Rico.....	4	Maine.....	142
Tennessee.....	14	New Jersey.....	272
Vermont.....	16	North Dakota.....	64
Ophthalmia neonatorum:		Pennsylvania.....	829
New Jersey.....	6	Porto Rico.....	50
Pennsylvania.....	4	Tennessee.....	115
Porto Rico.....	2	Vermont.....	63
Tennessee.....	7		

**Cases of Certain Communicable Diseases Reported for the Month of May, 1930,
by State Health Officers**

State	Chick-en-pox	Diph-theria	Measles	Mumps	Scarlet fever	Small-pox	Tuber-culosis	Ty-phoid and paraty-phoid fever	Whoop-ing cough
Maine.....	109	13	402	426	132	0	64	22	105
New Hampshire.....		5			61	0		0	
Vermont.....	131	4	255	16	18	4	16	0	20
Massachusetts.....	848	236	6,448	667	947	0	636	12	1,171
Rhode Island.....	108	22	75	2	93	0	39	9	51
Connecticut.....	331	54	232	173	287	0	150	2	171
New York.....	2,072	507	10,613	2,310	1,974	29	1,864	73	1,644
New Jersey.....	721	379	5,564		853	1	503	11	342
Pennsylvania.....	2,360	527	6,805	1,529	1,843	2	1,675	53	1,013
Ohio.....	1,513	200	3,193	670	1,023	502	755	44	682
Indiana.....	292	60	800	55	594	680	279	18	173
Illinois.....	1,180	544	2,602	897	1,640	451	1,086	44	736
Michigan.....	985	260	7,309	925	1,056	269	547	16	863
Wisconsin.....	1,245	72	3,516	1,036	822	68	216	11	847
Minnesota.....	570	48	882		475	31	286	12	202
Iowa.....	227	26	1,551	136	248	429	39	1	65
Missouri.....	383	160	617	268	618	292	297	38	181
North Dakota.....	42	19	74	198	80	145	25	3	116
South Dakota.....	70	15	409	36	58	171	14	0	59
Nebraska.....	312	61	1,685	65	254	288	14	1	125
Kansas.....	309	41	2,654	370	237	221	122	22	387
Delaware.....	19	8	50	2	38	0	25	0	21
Maryland.....	661	83	382	95	334	0	286	22	161
District of Columbia.....	122	36	229		55	0	95	6	21
Virginia.....	579	68	2,505		104	23	205	33	803
West Virginia.....	204	37	416		107	159	115	57	201
North Carolina.....	641	94	210		113	47		29	1,380
South Carolina.....	378	112	284	200	25	16	187	108	611
Georgia.....	129	23	1,000	242	65	7	90	47	208
Florida.....	126	22	860	359	13	5	82	10	13
Kentucky ¹									
Tennessee.....	167	27	1,180	102	215	83	206	59	119
Alabama.....	186	30	554	103	47	25	407	43	161
Mississippi.....	679	35	660	801	22	56	279	54	1,491
Arkansas.....	61	11	207	33	21	21	117	8	117
Louisiana.....	83	50	134	24	58	61	1,223	93	39
Oklahoma ¹	52	41	977	9	85	362	55	21	80
Texas ¹									
Montana.....	42	4	79	165	111	17	17	3	36
Idaho.....	67	5	201	39	30	25	8	2	28
Wyoming.....	68	9	178	42	27	41	2	0	13
Colorado.....	301	37	3,632	703	85	46	177	13	332
New Mexico.....	56	18	210	188	42	38	107	11	8
Arizona.....	76	12	761	103	58	52	182	15	70
Utah ²									
Nevada.....	19		82	37		51	14	0	17
Washington.....	344	28	2,807	437	130	221	197	11	395
Oregon.....	198	19	420	128	71	106	50	6	214
California.....	1,391	225	8,858	2,762	531	259	974	55	1,088

¹ Pulmonary² Reports received weekly.³ Exclusive of Oklahoma City and Tulsa.

Case Rates per 1,000 Population (Annual Basis) for the Month of May, 1930

State	Chick-en-pox	Diph-theria	Measles	Mumps	Scarlet fever	Small-pox	Tuber-culosis	Ty-phoid and paraty-phoid fever	Whoop-ing cough
Maine.....	1.61	0.19	5.92	6.28	1.95	.00	0.94	0.32	1.55
New Hampshire.....		.13			1.57	.00		.00	
Vermont.....	4.38	.13	8.52	.53	.60	.13	.53	.00	.67
Massachusetts.....	2.28	.63	17.31	1.79	2.54	.00	1.71	.03	3.14
Rhode Island.....	1.72	.35	1.19	.03	1.48	.00	.62	.14	.81
Connecticut.....	2.25	.37	1.58	1.18	1.95	.00	1.02	.01	1.16
New York.....	2.07	.51	10.58	2.30	1.97	.03	1.86	.07	1.64
New Jersey.....	2.14	1.13	16.53		2.53	.00	1.49	.03	1.02
Pennsylvania.....	2.75	.61	7.93	1.78	2.15	.00	1.79	.06	1.18
Ohio.....	2.52	.33	5.33	1.12	1.71	.84	1.26	.07	1.14
Indiana.....	1.07	.22	2.92	.20	2.17	2.51	1.02	.07	.63
Illinois.....	1.83	.84	4.03	1.39	2.54	.70	1.68	.07	1.14
Michigan.....	2.42	.64	17.96	2.27	2.59	.66	1.34	.04	2.12
Wisconsin.....	4.85	.28	13.69	4.04	3.20	.26	.84	.04	3.30
Minnesota.....	2.40	.20	3.72		2.00	.13	1.21	.05	.85
Iowa.....	1.10	.13	7.50	.66	1.20	2.08	.18	.00	.31
Missouri.....	1.27	.53	2.05	.89	2.05	.97	.99	.13	.60
North Dakota.....	.77	.35	1.36	3.64	1.47	2.66	.46	.06	2.13
South Dakota.....	1.14	.25	6.69	.59	.95	2.80	.23	.00	.96
Nebraska.....	2.57	.50	13.85	.53	2.09	2.37	.12	.01	1.03
Kansas.....	1.97	.26	16.90	2.36	1.51	1.41	.78	.14	2.46
Delaware.....	.91	.38	2.39	.10	1.82	.00	1.20	.00	1.01
Maryland.....	4.71	.59	2.72	.68	2.38	.00	2.04	.16	1.15
District of Columbia.....	2.47	.73	4.63		1.11	.00	1.92	.12	.42
Virginia.....	2.59	.30	11.20		.47	.10	.92	.15	3.79
West Virginia.....	1.35	.24	2.75		.71	1.05	.76	.38	1.33
North Carolina.....	2.50	.37	.82		.44	.18		.11	5.38
South Carolina.....	2.34	.69	1.76	1.20	.15	.10	1.16	.67	3.78
Georgia.....	.46	.08	3.66	.87	.23	.03	.32	.17	.75
Florida.....	.98	.17	6.95	2.80	.10	.04	.64	.08	.10
Kentucky ¹									
Tennessee.....	.78	.13	5.48	.47	1.00	.39	.96	.27	.55
Alabama.....	.84	.13	2.49	.43	.21	.11	1.83	.19	.72
Mississippi.....	4.46	.23	4.34	5.27	.14	.37	1.83	.36	9.80
Arkansas.....	.36	.07	1.23	.20	.12	.12	1.10	.05	.69
Louisiana.....	.49	.30	.80	.14	.34	.36	1.32	.55	.23
Oklahoma ².....	.28	.22	5.22	.05	.45	1.93	.29	.11	.43
Texas ²									
Montana.....	.90	.09	1.60	3.54	2.38	.36	.36	.06	.77
Idaho.....	1.38	.10	4.15	.81	.62	.52	.17	.04	.58
Wyoming.....	3.09	.41	8.09	1.91	1.23	1.86	.09	.00	.59
Colorado.....	3.16	.39	38.11	7.38	.89	.48	1.86	.14	3.48
New Mexico.....	1.63	.52	6.12	5.48	1.22	1.11	3.12	.32	.23
Arizona.....	1.78	.28	17.78	2.41	1.35	1.21	4.25	.35	1.64
Utah ²									
Nevada.....	.29		1.25	.56		.78	1.06	.00	.26
Washington.....	2.47	.20	20.19	3.14	.94	1.59	1.42	.08	2.84
Oregon.....	2.52	.24	5.34	1.63	.90	1.35	.64	.08	2.72
California.....	3.41	.55	21.72	6.77	1.30	.64	2.39	.13	2.67

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

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 96 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 32,050,000. The estimated population of the 90 cities reporting deaths is more than 30,500,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended September 6, 1930, and September 7, 1929

		1930	1929	Estimated expectancy
<i>Cases reported</i>				
Diphtheria:				
46 States		770	1,015	
96 cities		254	385	489
Measles:				
45 States		414	485	
96 cities		151	75	
Meningococcus meningitis:				
46 States		72	118	
96 cities		24	59	
Poliomyelitis:				
46 States		420	145	
Scarlet fever:				
46 States		946	1,025	
96 cities		264	314	301
Smallpox:				
46 States		175	202	
96 cities		19	24	6
Typhoid fever:				
46 States		1,073	931	
96 cities		131	100	175
<i>Deaths reported</i>				
Influenza and pneumonia:				
90 cities		337	348	
Smallpox:				
90 cities		0	0	

City reports for week ended September 6, 1930

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 nonepidemic 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 1921 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	0	0
New Hampshire:								
Concord	0	0	0	0	0	0	0	0
Manchester	0	0	0		0	0	0	0
Vermont:								
Barre	0	0	0	0	0	0	0	0
Burlington	0	1	0		0	0	0	0
Massachusetts:								
Boston	4	18	4		0	11	1	15
Fall River	1	1	3		0	0	0	0
Springfield	0	1	1		0	0	1	0
Worcester	2	3	1		0	2	0	0
Rhode Island:								
Pawtucket	0	0	0		0	0	0	3
Providence	0	3	4		0	0	0	3
Connecticut:								
Bridgeport	0	3	0		0	0	0	0
Hartford	0	2	3		0	2	1	2
New Haven	0	1	0		0	0	3	0

City reports for week ended September 6, 1930—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			
MIDDLE ATLANTIC								
New York:								
Buffalo	5	8	7	0	0	2	0	13
New York	15	76	31	3	2	30	9	81
Rochester	0	3	1	0	0	1	1	1
Syracuse	2	2	0	0	0	1	1	1
New Jersey:								
Camden	2	2	0	0	0	3	0	3
Newark	3	7	14	0	0	2	2	3
Trenton	0	2	1	2	1	0	0	1
Pennsylvania:								
Philadelphia	2	28	7	3	4	10	8	20
Pittsburgh	0	12	2	0	0	1	0	18
Reading	0	1	1	0	0	0	0	2
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	0	5	2	1	0	0	0	4
Cleveland	17	22	4	5	1	2	2	7
Columbus	4	2	0	0	1	0	0	4
Toledo	1	4	0	0	0	0	0	1
Indiana:								
Fort Wayne	0	2	0	0	0	0	0	1
Indianapolis	1	3	2	0	0	0	0	6
South Bend	0	1	1	1	0	0	0	2
Terre Haute	0	0	0	0	0	0	0	0
Illinois:								
Chicago	12	53	40	4	0	6	10	20
Springfield	0	1	0	0	0	0	0	1
Michigan:								
Detroit	13	28	22	2	0	4	3	7
Flint	3	2	0	0	0	3	0	2
Grand Rapids	1	1	1	0	0	0	0	0
Wisconsin:								
Kenosha	1	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	0	0
Milwaukee	7	7	5	0	0	3	7	3
Racine	0	0	1	0	0	0	0	0
Superior	0	1	0	0	0	0	0	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth	0	0	0	0	0	0	0	1
Minneapolis	3	13	4	1	0	0	3	4
St. Paul	6	7	2	0	0	0	1	4
Iowa:								
Davenport	0	1	0	0	0	0	0	0
Des Moines	0	1	0	0	0	0	0	0
Sioux City	1	0	0	0	0	0	0	0
Waterloo	0	1	1	0	0	0	0	0
Missouri:								
Kansas City	1	2	1	0	0	2	0	3
St. Joseph	0	1	0	0	0	0	0	1
St. Louis	0	18	9	0	0	12	5	0
North Dakota:								
Fargo	0	0	0	0	0	0	21	0
South Dakota:								
Sioux Falls	0	0	0	0	0	0	0	0
Nebraska:								
Omaha	1	4	1	0	0	0	0	3
Kansas:								
Topeka	0	0	0	1	1	2	0	0
Wichita	0	2	0	0	0	0	1	1
SOUTH ATLANTIC								
Delaware:								
Wilmington	1	0	0	0	0	0	0	2
Maryland:								
Baltimore	1	14	7	0	0	0	1	14
Cumberland	0	0	0	0	0	0	0	0
Frederick	0	0	0	0	0	0	0	0
District of Columbia:								
Washington	1	8	8	1	1	9	0	3

City reports for week ended September 6, 1930—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			
SOUTH ATLANTIC—con.								
Virginia:								
Lynchburg	0	1	2		0	0	0	1
Norfolk	1	0	0		0	0	0	1
Richmond	1	12	6		0	1	0	2
Roanoke	0	3	1		0	0	0	2
West Virginia:								
Charleston	0	1	0		0	0	0	0
Wheeling	0	1	0		0	0	0	0
North Carolina:								
Raleigh	0	2	0		0	0	0	0
Wilmington	0	1	2		0	0	0	1
Winston-Salem	0	2	2	1	1	0	0	1
South Carolina:								
Charleston	0	1	0	16	0	0	1	1
Columbia	1	1	1		0	4	2	2
Georgia:								
Atlanta	0	6	4	4	1	4	0	2
Brunswick	0	0	0		0	0	0	0
Savannah	0	1	0	1	1	0	0	3
Florida:								
Miami	0	1	0		0	1	0	0
St. Petersburg	0	0					0	0
Tampa	0	1	0		0	0	0	0
EAST SOUTH CENTRAL								
Kentucky:								
Covington	0	0	0		0	0	0	2
Tennessee:								
Memphis	3	3	5		0	0	0	3
Nashville	0	3	0		0	1	0	5
Alabama:								
Birmingham	0	4	2		0	3	2	2
Mobile	0	1	0		0	0	0	2
Montgomery	0	2	1		0	0	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	0		0	0	0	
Little Rock	0	0	0		0	0	0	2
Louisiana:								
New Orleans	0	7	8	1	1	0	0	6
Shreveport	0	1	0		0	0	1	0
Oklahoma:								
Oklahoma City	0	2	3		1	0	0	1
Tulsa	0	1	0		0	0	0	
Texas:								
Dallas	0	6	3	1	1	0	0	1
Fort Worth	0	2	2		0	0	0	1
Galveston	0	0	3		0	0	0	0
Houston	0	4	2		0	0	0	3
San Antonio	0	2	0		1	0	0	2
MOUNTAIN								
Montana:								
Billings	0	0	0		0	0	0	0
Great Falls	0	0	0		0	0	0	0
Helena	0	0	0		0	0	0	0
Missoula	0	0	0		0	1	0	0
Idaho:								
Boise	0	0	0		0	0	0	0
Colorado:								
Denver	1	9	5		0	1	1	5
Pueblo	2	1	0		0	2	0	0
New Mexico:								
Albuquerque	0	0	2		0	0	0	1
Arizona:								
Phoenix	0	0	1		0	1	0	2
Utah:								
Salt Lake City	2	3	0		1	2	2	1
Nevada:								
Reno	0	0	0		0	0	0	0

City reports for week ended September 6, 1930—Continued

Division, State and city	Scarlet fever		Smallpox			Tuber- culosis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
EAST NORTH CENTRAL—continued											
Illinois:											
Chicago.....	29	35	0	0	0	39	6	6	1	38	570
Springfield.....	1	0	0	0	0	1	0	0	0	4	13
Michigan:											
Detroit.....	25	14	0	1	0	19	4	3	2	62	211
Flint.....	5	3	0	0	0	3	1	1	0	4	25
Grand Rapids.....	3	4	0	0	0	0	0	0	0	7	28
Wisconsin:											
Kenosha.....	0	0	1	0	0	0	0	0	0	4	2
Madison.....	1	2	0	0	0	0	0	0	0	12	—
Milwaukee.....	10	8	0	0	0	4	0	5	0	36	101
Racine.....	2	5	0	0	0	0	1	0	0	10	13
Superior.....	1	1	0	1	0	0	0	0	0	7	—
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	4	3	0	0	0	0	0	0	0	5	17
Minneapolis.....	14	2	0	0	0	3	1	1	1	2	92
St. Paul.....	6	0	0	0	0	5	1	1	0	6	54
Iowa:											
Davenport.....	1	0	0	4	0	0	0	0	0	0	—
Des Moines.....	2	2	0	0	0	0	0	0	0	0	29
Sioux City.....	0	0	0	0	0	0	1	0	0	2	—
Waterloo.....	0	1	0	0	0	0	0	0	0	2	—
Missouri:											
Kansas City.....	3	4	0	0	0	4	2	0	1	7	92
St. Joseph.....	1	3	0	0	0	1	0	0	0	2	14
St. Louis.....	10	10	0	5	0	10	7	4	0	0	183
North Dakota:											
Fargo.....	0	0	0	0	0	0	1	0	0	4	4
South Dakota:											
Sioux Falls.....	1	0	0	0	0	0	0	0	0	0	8
Nebraska:											
Omaha.....	1	5	0	2	0	0	1	0	0	0	46
Kansas:											
Topeka.....	2	1	0	0	0	0	0	0	0	5	18
Wichita.....	2	1	0	0	0	0	2	1	1	0	30
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	0	0	0	0	0	0	0	0	0	0	26
Maryland:											
Baltimore.....	6	9	0	0	0	10	9	7	1	19	196
Cumberland.....	0	0	0	0	0	0	0	0	0	0	10
Frederick.....	0	0	0	0	0	0	0	0	0	0	—
District of Columbia:											
Washington.....	5	4	0	0	0	9	4	2	3	1	131
Virginia:											
Lynchburg.....	0	1	0	0	0	1	1	1	0	0	12
Norfolk.....	0	2	0	0	0	2	0	6	0	0	—
Richmond.....	3	8	0	0	0	4	3	3	1	0	47
Roanoke.....	1	0	0	2	0	0	0	1	0	2	21
West Virginia:											
Charleston.....	2	2	0	0	0	1	2	1	2	0	25
Wheeling.....	1	0	0	0	0	1	1	0	0	0	19
North Carolina:											
Raleigh.....	0	1	0	0	0	0	0	0	1	1	16
Wilmington.....	0	1	0	0	0	1	0	0	0	1	7
Winston-Salem.....	1	4	0	0	0	3	0	1	1	0	22
South Carolina:											
Charleston.....	0	2	0	0	0	1	3	0	0	0	21
Columbia.....	1	0	0	0	0	3	1	1	0	0	—
Georgia:											
Atlanta.....	5	3	0	0	0	6	4	2	0	4	69
Brunswick.....	0	0	0	0	0	0	0	0	0	0	5
Savannah.....	0	1	0	0	0	3	1	0	1	0	29
Florida:											
Miami.....	0	0	0	0	0	1	1	0	0	0	28
St. Petersburg.....	0	0	0	0	0	0	0	1	0	0	4
Tampa.....	0	0	0	0	0	1	0	1	0	1	18

¹ Includes nonresidents.² Nonresidents.

City reports for week ended September 6, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox		Tuber- culosis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
EAST SOUTH CENTRAL										
Kentucky:										
Covington.....	1	0	0	0	0	0	0	1	0	28
Tennessee:										
Memphis.....	1	5	0	0	0	6	6	2	0	59
Nashville.....	1	0	0	0	0	2	6	4	0	33
Alabama:										
Birmingham..	3	4	1	0	0	6	5	2	0	91
Mobile.....	1	0	0	0	0	1	0	0	0	29
Montgomery..	6	1	0	0	0	1	0	0	4	
WEST SOUTH CENTRAL										
Arkansas:										
Fort Smith.....	0		0			0				
Little Rock.....	1	0	0	0	0	5	2	1	0	
Louisiana:										
New Orleans.....	1	14	0	0	0	13	4	9	1	135
Shreveport.....	1	0	0	0	0	0	1	2	0	22
Oklahoma:										
Oklahoma City.....	2	3	0	0	0	3	3	0	3	33
Tulsa.....	1	3	1	0	0	2	2	2	4	
Texas:										
Dallas.....	2	1	0	0	0	4	1	0	0	48
Fort Worth.....	0	1	0	1	0	1	1	0	2	26
Galveston.....	0	0	0	0	0	0	0	0	0	17
Houston.....	1	2	0	0	0	2	1	0	0	51
San Antonio.....	1	1	0	0	0	9	0	0	0	53
MOUNTAIN										
Montana:										
Billings.....	0	1	0	0	0	0	0	0	2	3
Great Falls.....	0	3	0	0	0	0	0	0	0	5
Helena.....	0	0	0	0	0	0	0	0	0	4
Missoula.....	0	0	0	0	0	0	1	1	0	7
Idaho:										
Boise.....	0	0	0	0	0	0	0	0	0	4
Colorado:										
Denver.....	3	0	0	0	0	1	1	0	1	17
Pueblo.....	0	0	0	0	0	0	1	0	0	8
New Mexico:										
Albuquerque.....	0	0	0	0	0	3	1	2	0	3
Arizona:										
Phoenix.....	1	0	0	0	0	3	0	0	0	
Utah:										
Salt Lake City.....	1	0	0	0	0	0	2	0	0	15
Nevada:										
Reno.....	0	0	0	0	0	0	0	0	0	3
PACIFIC										
Washington:										
Seattle.....	3	8	0	0	0	2	0	0	30	
Spokane.....	2	0	0	2			1		1	
Tacoma.....	1	0	1	1	0	0	2	0	0	19
Oregon:										
Portland.....	3	3	3	1	0	1	0	0	2	50
Salem.....	0	0	1	0	0	0	0	0	1	
California:										
Los Angeles.....	9	4	1	1	0	29	3	2	0	18
Sacramento.....	1	0	0	0	0	1	0	0	0	0
San Francisco.....	6	2	1	2	0	11	1	1	13	160

City reports for week ended September 6, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
							Cases, estimated expectancy	Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths			
NEW ENGLAND									
Maine:									
Portland.....	0	0	0	0	0	0	0	7	1
Massachusetts:									
Boston.....	0	0	4	0	0	0	3	6	1
Worcester.....	0	0	0	0	0	0	0	1	0
MIDDLE ATLANTIC									
New York:									
Buffalo.....	0	0	0	0	0	0	1	5	3
New York.....	6	3	3	2	1	0	17	0	0
Rochester.....	0	0	0	0	0	0	0	2	2
Syracuse.....	0	0	0	0	0	0	2	7	2
New Jersey:									
Newark.....	0	0	0	0	0	0	1	1	0
Trenton.....	1	0	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia.....	1	5	0	0	1	0	1	8	0
Pittsburgh.....	0	0	0	1	0	0	1	0	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	1	1	0	0	0	0	0	3	1
Cleveland.....	0	1	0	0	0	0	1	13	2
Toledo.....	1	0	0	0	0	0	1	2	0
Illinois:									
Chicago.....	1	0	1	0	1	1	3	10	2
Springfield.....	0	0	0	0	0	0	0	1	0
Michigan:									
Detroit.....	4	4	1	1	0	0	3	6	0
Flint.....	1	1	0	0	0	0	0	1	0
Grand Rapids.....	0	0	0	0	0	0	1	1	0
Wisconsin:									
Milwaukee.....	0	0	0	0	0	0	1	3	0
Racine.....	0	0	0	0	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis.....	1	0	0	0	0	0	0	0	0
Iowa:									
Des Moines ¹	0	0	0	0	0	0	1	1	0
Waterloo.....	1	0	0	0	0	0	0	6	0
Missouri:									
Kansas City.....	0	3	0	0	0	0	0	2	0
St. Louis.....	2	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	1	0	0	0	0	0	1	0	0
Kansas:									
Topeka.....	0	0	0	0	0	0	0	1	0
Wichita.....	0	0	0	0	0	0	0	7	1
SOUTH ATLANTIC¹									
Delaware:									
Wilmington.....	0	0	0	0	0	0	0	1	0
District of Columbia:									
Washington.....	0	0	2	1	0	0	0	1	0
Virginia:									
Norfolk.....	0	0	0	0	0	1	0	0	0
West Virginia:									
Wheeling.....	0	0	0	0	0	0	0	1	0
North Carolina:									
Raleigh.....	0	0	0	0	1	2	0	0	0
Wilmington.....	0	0	0	0	0	1	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	2	0	0	1	0
Columbia.....	1	0	0	0	0	0	0	0	0
Georgia:									
Atlanta.....	0	0	1	1	0	0	0	0	0
Savannah ¹	0	0	0	0	1	1	0	0	0

¹ Typhus fever, 5 cases; 1 case at Des Moines, Iowa; 1 case at Cumberland, Md.; 2 cases at Savannah Ga.; and 1 case at Tampa, Fla.

City reports for week ended September 6, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	0	1	0	0	0	0	0	1	0
Alabama:									
Birmingham.....	0	1	0	0	2	2	0	1	0
Mobile.....	0	1	0	0	0	0	0	0	0
Montgomery.....	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans.....	0	0	0	0	2	2	0	1	0
Oklahoma:									
Tulsa.....	0	0	0	0	0	0	0	2	0
Texas:									
Dallas.....	0	0	0	0	0	2	0	1	0
Houston.....	0	0	0	0	0	0	0	1	0
MOUNTAIN									
Montana:									
Great Falls.....	0	0	0	0	0	0	0	1	0
Colorado:									
Denver.....	1	1	0	0	0	1	0	1	2
New Mexico:									
Albuquerque.....	1	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Spokane.....	0	0	0	0	0	0	0	1	0
California:									
Los Angeles.....	0	0	0	0	0	1	2	17	2
Sacramento.....	1	0	0	0	0	0	0	0	0
San Francisco.....	0	0	0	0	0	0	1	5	0

¹ Typhus fever, 5 cases; 1 case at Des Moines, Iowa; 1 case at Cumberland, Md.; 2 cases at Savannah, Ga.; and 1 case at Tampa, Fla.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended September 6, 1930, compared with those for a like period ended September 7, 1929. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 32,000,000. The 91 cities reporting deaths have more than 30,500,000 estimated population.

September 26, 1930

Summary of weekly reports from cities, August 3 to September 6, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929

DIPHTHERIA CASE RATES

	Week ended—									
	Aug. 9, 1930	Aug. 16, 1929	Aug. 16, 1930	Aug. 17, 1929	Aug. 23, 1930	Aug. 24, 1929	Aug. 30, 1930	Aug. 31, 1929	Sept. 6, 1930	Sept. 7, 1929
98 cities.....	38	63	31	61	34	61	40	62	41	64
New England.....	31	45	40	38	40	63	53	45	35	46
Middle Atlantic.....	34	70	23	59	28	58	31	54	31	45
East North Central.....	48	81	36	86	41	60	46	75	49	86
West North Central.....	28	31	27	23	25	25	27	25	34	38
South Atlantic.....	16	30	35	47	37	75	60	90	60	92
East South Central.....	20	30	34	82	13	55	13	116	54	75
West South Central.....	52	118	52	122	67	141	71	137	61	133
Mountain.....	17	35	17	44	43	26	70	17	43	70
Pacific.....	66	43	35	31	26	29	19	27	38	34

MEASLES CASE RATES

98 cities.....	50	30	33	24	28	20	20	14	25	12
New England.....	91	31	60	29	60	38	19	20	33	21
Middle Atlantic.....	65	15	41	15	33	13	23	8	28	7
East North Central.....	28	58	19	35	21	33	8	22	13	16
West North Central.....	51	33	30	13	19	8	27	8	30	2
South Atlantic.....	22	9	22	15	18	0	30	13	26	2
East South Central.....	20	7	20	0	7	14	13	7	27	14
West South Central.....	11	19	7	23	0	4	11	8	40	4
Mountain.....	112	61	43	52	26	52	35	44	51	26
Pacific.....	73	24	50	46	47	39	35	19	40	46

SCARLET FEVER CASE RATES

98 cities.....	32	44	31	39	33	41	42	41	43	52
New England.....	42	52	51	49	47	45	53	38	55	83
Middle Atlantic.....	21	23	18	17	27	15	28	16	25	25
East North Central.....	46	72	39	50	35	63	48	63	47	70
West North Central.....	27	44	28	40	34	58	42	44	57	67
South Atlantic.....	18	41	26	73	27	34	67	45	66	64
East South Central.....	13	15	54	14	34	68	115	34	67	41
West South Central.....	37	42	34	38	37	65	15	72	69	34
Mountain.....	69	44	43	78	86	44	88	61	34	17
Pacific.....	45	56	38	53	33	51	31	46	33	77

SMALLPOX CASE RATES

98 cities.....	3	5	3	7	2	3	2	4	3	4
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	0	0	0	3	0	0	0	0	0	0
East North Central.....	6	12	3	16	0	4	0	10	3	10
West North Central.....	6	10	6	4	8	6	8	4	13	2
South Atlantic.....	2	0	0	2	0	0	0	0	4	0
East South Central.....	0	7	7	0	0	0	0	0	0	0
West South Central.....	7	0	4	0	7	8	4	4	0	0
Mountain.....	0	0	0	9	0	26	0	0	0	9
Pacific.....	5	17	14	12	17	12	12	14	14	14

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimates as of July 1, 1930, and 1929, respectively.

² Montgomery, Ala., not included.

³ Hartford, Conn., Columbia, S. C., and Helena, Mont., not included.

⁴ Fort Smith, Ark., not included.

⁵ Pawtucket, R. I., not included.

⁶ Hartford, Conn., not included.

⁷ Columbia, S. C., not included.

⁸ Helena, Mont., not included.

Summary of weekly reports from cities, August 3 to September 6, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Aug. 9, 1930	Aug. 16, 1929	Aug. 18, 1930	Aug. 17, 1929	Aug. 23, 1930	Aug. 24, 1929	Aug. 30, 1930	Aug. 31, 1929	Sept. 6, 1930	Sept. 7, 1929
98 cities.....	17	17	21	20	19	30	25	27	21	18
New England.....	4	13	4	11	16	27	12	29	11	12
Middle Atlantic.....	10	11	15	19	14	34	21	28	22	20
East North Central.....	11	11	10	5	9	12	10	18	12	13
West North Central.....	19	15	28	6	21	13	19	22	13	12
South Atlantic.....	60	22	40	39	55	51	82	53	58	34
East South Central.....	67	45	148	123	88	103	47	168	84	55
West South Central.....	15	61	45	46	26	88	71	50	50	15
Mountain.....	34	9	26	61	26	70	44	17	9	44
Pacific.....	12	20	14	17	7	5	9	12	9	14

INFLUENZA DEATH RATES

91 cities.....	8	1	1	3	3	3	4	2	3	13
New England.....	0	0	0	0	0	2	0	0	0	12
Middle Atlantic.....	2	1	2	2	3	3	3	2	3	2
East North Central.....	1	1	0	2	1	4	4	2	2	6
West North Central.....	3	6	3	3	0	0	3	0	6	0
South Atlantic.....	9	0	0	0	7	2	7	2	7	4
East South Central.....	0	0	0	22	0	0	7	6	11	7
West South Central.....	0	0	0	12	4	8	8	4	11	0
Mountain.....	17	0	0	17	9	9	0	0	9	0
Pacific.....	6	0	0	3	9	0	3	0	0	3

PNEUMONIA DEATH RATES

91 cities.....	53	53	55	57	46	54	53	55	55	157
New England.....	42	38	38	52	51	25	48	49	51	44
Middle Atlantic.....	59	60	72	71	55	60	60	61	68	75
East North Central.....	47	43	28	35	28	47	50	51	26	44
West North Central.....	44	45	27	33	35	48	38	33	50	57
South Atlantic.....	66	41	68	62	48	73	52	56	62	64
East South Central.....	52	60	59	90	74	37	52	52	103	75
West South Central.....	57	121	92	78	61	66	38	26	54	31
Mountain.....	69	61	120	35	51	52	53	44	51	52
Pacific.....	43	41	49	72	49	50	55	28	34	31

² Montgomery, Ala., not included.³ Hartford, Conn., Columbia, S. C., and Helena, Mont., not included.⁴ Fort Smith, Ark., not included.⁵ Pawtucket, R. I., not included.⁶ Hartford, Conn., not included.⁷ Columbia, S. C., not included.⁸ Helena, Mont., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended August 30, 1930.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended August 30, 1930, as follows:

Province	Cerebro-spinal fever	Influenza	Lethargic encephalitis	Poliomyelitis	Smallpox	Typhoid fever
Prince Edward Island ¹						
Nova Scotia.....						2
New Brunswick.....						2
Quebec.....	1		1	1		28
Ontario.....	2	2		50	2	28
Manitoba.....				2	1	3
Saskatchewan.....	1				3	
Alberta.....					18	
British Columbia.....						4
Total.....	4	2	1	74	3	68

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

Quebec Province—Communicable diseases—Week ended September 6, 1930.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended September 6, 1930, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	4	Poliomyelitis.....	3
Diphtheria.....	21	Scarlet fever.....	38
Erysipelas.....	2	Tuberculosis.....	51
Measles.....	5	Typhoid fever.....	18
Mumps.....	5	Whooping cough.....	32
Ophthalmia neonatorum.....	1		

CUBA

Habana—Communicable diseases—August, 1930.—During the month of August, 1930, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chicken pox.....	1		Paratyphoid fever.....	1	
Diphtheria.....	8		Scarlet fever.....	7	
Leprosy.....	2		Tuberculosis.....	34	5
Malaria.....	12		Typhoid fever.....	19	4

Provinces—Communicable diseases—Four weeks ended August 2, 1930.—During the four weeks ended August 2, 1930, cases of certain communicable diseases were reported in the Provinces of Cuba, as follows:

Disease	Pinar del Rio	Habana	Matan- zas	Santa Clara	Cama- guey	Oriente	Total
Cancer		2		2			4
Chicken pox		2	1	1			4
Diphtheria	1	16	3	2	3	4	23
Malaria	3	15		1	7	46	72
Measles		1					1
Paratyphoid fever	1	3		4		2	10
Poliomyelitis		1					1
Scarlet fever		8	1	2	1		12
Typhoid fever	4	36	13	62	17	29	161

ITALY

Communicable diseases—Four weeks ended May 11, 1930.—During the four weeks ended May 11, 1930, certain communicable diseases were reported in Italy, as follows:

	Apr. 14-20		Apr. 21-27		Apr. 28-May 4		May 5-11	
	Cases	Com- munes affected	Cases	Com- munes affected	Cases	Com- munes affected	Cases	Com- munes affected
Anthrax	18	16	18	17	15	14	28	18
Cerebrospinal meningitis	13	9	15	14	23	19	12	11
Chicken pox	403	147	272	120	307	114	405	157
Diphtheria and croup	587	286	494	278	360	240	531	290
Dysentery	4	2	2	2	7	5	5	4
Lethargic encephalitis					3	3	1	1
Measles	2,919	398	3,188	449	3,328	427	3,182	505
Poliomyelitis	6	6	2	2	3	3	5	4
Scarlet fever	445	145	329	138	331	118	446	154
Typhoid fever	239	133	218	134	254	141	296	177

YUGOSLAVIA

Communicable diseases—July, 1930.—During the month of July, 1930, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Diseases	Cases	Deaths
Anthrax	90	9	Poliomyelitis	2	
Cerebrospinal meningitis	5	6	Puerperal sepsis	7	4
Diphtheria and croup	558	80	Rabies	2	2
Dysentery	302	15	Scarlet fever	836	118
Erysipelas	191	15	Tetanus	51	23
Lethargic encephalitis	1		Typhoid fever	382	38
Measles	362	14			

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

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

CHOLERA

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

Place	Mar. 9- Apr. 6- May 4-31, 1930		Apr. 5- May 3- 1930		June, 1930		July, 1930		August, 1930		September, 1930	
	C	D	C	D	C	D	C	D	C	D	C	D
Afghanistan.....	0	0	0	0	0	0	0	0	0	0	0	0
China, Canton.....	0	0	0	0	0	0	0	0	0	0	0	0
Shanghai.....	0	0	0	0	0	0	0	0	0	0	0	0
Swatow.....	0	0	0	0	0	0	0	0	0	0	0	0
India.....	10,817	41,463	56,311	10,088	10,162	6,726	6,728	6,520	6,701	1	1	1
Bassein.....	6,886	27,906	44,878	7,802	7,110	6,446	4,344	3,712	6,046	6,133	1	1
Bombay.....	0	0	0	0	0	0	0	0	0	0	0	0
Calcutta.....	354	647	600	78	78	64	77	81	53	49	37	18
Nagapattinam.....	220	414	372	44	30	36	68	44	26	22	23	7
Rangoon.....	0	0	0	0	0	0	0	0	0	0	0	0
India (French); Chander Nagar.....	0	0	0	0	0	0	0	0	0	0	0	0
Karikal.....	0	0	0	0	0	0	0	0	0	0	0	0
Indo-China (see also table below); Phnom Penh.....	0	0	0	0	0	0	0	0	0	0	0	0
Saigon and Cholon.....	0	0	0	0	0	0	0	0	0	0	0	0
	D	D	D	D	D	D	D	D	D	D	D	D

¹An outbreak of cholera was reported in June, 1930, in Afghanistan.

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

CHOLERA—Continued

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

Place	Mar. 9 Apr. 6- May 4-31 1930	May 6- May 8 1930	Week ended—						September, 1930							
			June, 1930			July, 1930			August, 1930			September, 1930				
	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	
Philippine Islands:																
Ports—																
Cebu.....					1	20	13	13	5	4				1	1	
Iloilo.....					9	7	12	8	4	4				1	1	
Manila.....					1	1	11	17	9	10	32	4	4	1	1	
Provinces—									10	18	19	9	4	5	2	
Antique.....									1		16	13	18	13	6	1
Bohol.....											1			6	6	
Bulacan.....														1	1	
Cavite.....														1	1	
Cebu.....	1															
Iloilo.....	13	26	118	18	313	222	115	63	55	37	4			1	1	
La Union.....	11	23	50	86	131	83	60	32	27	3				1	1	
Leyte.....			1	1	20	46	159	143	227	176	88	74	66	57	44	37
Mabata.....					1	10	23	64	96	77	164	119	64	51	44	
Misamis, Occidental.....						21	26	11								
Negros, Occidental.....						12	7	11								
Negros, Oriental.....						10	14	32	26	21	15	27				
Nueva Acija.....						3	2	18	6	10	6	11				

Place	February, 1930			March, 1930			April, 1930			May, 1930			June, 1930			July, 1930			August, 1930		
	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	
Indo-China (French) (see also table above):																					
Annam ¹	C	4	62	60	20	3	2	14													
Cambodia ¹	C	90	81	24	31	62	56	88													
Cochin-China ¹	C	65	82	48	188	224	259	147	126												
Songkla.	D																				
On vessel: S. S. <i>Sassari</i> at Massena, from Jeddah	D																				
On small boat at Port Cebu, from Bantayan Island---D	D																				
Pangasian.	D																				
Pangasinan.	D																				
Rizal.	D																				
Sanar.	D																				
Surigao.	D																				
Tarlac.	D																				
Siam.	D																				
Bangkok.	D																				
Nagara Pathom.	D																				
Songkhla.	D																				

¹ Reports incomplete.
² Figures for cholera in the Philippine Islands are subject to correction.

PLAQUE

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

Place	Week ended—												September, 1930		
	Mar. 9- Apr. 5, 1930			Apr. 6- May 3, 1930			May 4-31, 1930			June, 1930			July, 1930		
	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13
Algeria:															
Algiers.....	C														
Constantine.....	CC				1				1						
Oran.....	CCC								1						
Phillipville.....	CCCC								1						
Azores: Ponta Delgada.....	CCCCC				8										
Belgian Congo.....	CCCCD				6										
British East Africa (see also table below):	D														
Tanganyika.....	CD														
Uganda.....	DD														
Canary Islands: Las Palmas.....	DD														
Ceylon:															
Colombo.....	CC	1	6	1					1						
Plague-infected rats.....	CD	4	1	5	1				1						
Ohlie: Antofagasta.....	CCC	2	4	1	1										
Dutch East Indies:															
Batavia and West Java.....	CC	124	87	82	19	27	28	24	19	25	18	22	19		
Plague-infected rats.....	CD	122	83	82	19	27	23	24	19	25	18	22	19		
Java and Madura.....	CCC	3	8	5	3	1								1	
Ecuador (see table below):	D	223	173	183	40	45	63	34	56	56	68	48	46	51	
Egypt:															
Alexandria.....	CC	4	2	13	3	6	6	4	8	8	3	4	2	4	3
Assiout.....	CD	1	2	3	2	3	2	3	2	3	2	3	1	3	1
Bahrain:	CC	4	14	20	4	2	1	1	2	1	1	1			1
Ban-Suei:	CC	4	6	6	1	1	1	1	1	1	1	1			

PLAQUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLACET=Continued

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

Place	March, 1930			April, 1930			May, 1930			June, 1930			July, 1930			August, 1930		
	British East Africa (see also table above):	Keny.	Ecuador:	Guayaquil	C	O	D	O	C	O	D	O	C	O	D	O	C	
Plague-infected rats					85	16	171	107	97									
Greece (see also table above)					O	2	0	0	0									
Indo-China (see also table above):					D	0	0	0	0									
Madagascar (see also table above):					C	2	0	0	0									
Ambositra Province					O	27	4	1	1									
Antsirabe Province					D	38	46	19	3									
Itasy Province					O	36	45	19	3									
Miarinarivo Province					O	4	4	1	1									
					D	14	1	5	1									
					D	14	1	5	1									
Madagascar (see also table above)—Con:																		
Moramanga Province						O	O	O	O	O	O	O	O	O	O	O	O	
Tanantative Province						D	D	D	D	D	D	D	D	D	D	D	D	
Senegal:						D	D	D	D	D	D	D	D	D	D	D	D	
Bao1						D	D	D	D	D	D	D	D	D	D	D	D	
Dakar1						D	D	D	D	D	D	D	D	D	D	D	D	
Louga1						D	D	D	D	D	D	D	D	D	D	D	D	
Thies1						D	D	D	D	D	D	D	D	D	D	D	D	
Tivouane 1						D	D	D	D	D	D	D	D	D	D	D	D	

¹Incomplete reports.

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

SMALLPOX

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

	C	D	38	26	18	23	12	9	2	1	1	1	2	P	P	P	P	P	P	P	P	P	P
	O	O			1		20	4	11	6			1										
Hong Kong	—	—																					
Manchuria—																							
Harbin	—	—																					
Kwantung—Dairen	—	—																					
Nanking	—	—																					
Shanghai—																							
Foreigners only—	C	2	3																				
Including natives	D	10	10	3	10	5	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Swatow	D	6	6	3	6	6	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Tientsin	D	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chosen (see table below),																							
Colombia:																							
Barranquilla	C	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buenaventura	C	—	—	15	4	—	—	4	—	4	—	4	—	4	—	4	—	4	—	4	—	4	—
Costa Rica:	C	—	—	—	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Port Limon	C	10	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
San Jose	C	14	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Curacao (Alstrim)	C	185	90	16	2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Dutch East Indies:	D	12	31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Borneo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Java—																							
Batavia and West Java	D	78	64	12	1	4	6	2	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1
East Java and Madura	D	6	11	7	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sanggi Islands	C	5	160	26	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sumatra	D	48	24	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Egypt: Port Said	C	—	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Britain:	C	1,700	1,427	1,417	337	266	241	182	166	138	126	109	109	109	109	109	109	109	109	109	109	109	109
England and Wales	C	10	18	17	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4
London under Lynn	C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bradford	C	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cardiff	C	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Leeds	C	710	602	637	130	126	125	107	84	62	62	48	36	36	36	36	36	36	36	36	36	36	36
London	C	1,239	1,066	1,078	197	208	190	158	127	96	102	83	61	73	73	73	73	73	73	73	73	73	73
London and Great Towns	C	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sheffield	C	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Skegness-Trent	C	122	85	62	3	10	16	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scotland	C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Honduras: Naco	C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

¹¹ From Jan. 1 to May 31, 1930, 44 deaths from smallpox were reported in La Paz, Bolivia.

¹⁶ Cases of smallpox were reported Apr. 14, 1930, in Costa Rica outside of city of San Jose.

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

SMALLPOX—Continued

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

Place	Mar. 9- Apr. 6, 1930	Apr. 6- May 3, 1930	May 4-31, 1930	Week ended—							Sept. 1930	
				June, 1930			July, 1930					
				7	14	21	28	5	12	19		
India.....	39,329	34,848	22,835	3,686	3,550	3,174	2,552	2,258	2,006	1,853	.....
Bombay.....	9,109	6,983	5,451	1,005	913	905	648	733	580	577	.....
Calcutta.....	718	530	218	36	23	19	17	15	11	7	2	
Calcutta.....	431	270	161	27	23	19	10	13	9	2	2	
Cochin.....	381	495	302	46	45	46	26	27	19	13	14	
Karachi.....	305	403	258	80	37	29	30	17	17	12	12	
Karachi.....	291	183	37	4	1	10	1	1	4	10	4	
Karachi.....	35	18	8	2	1	1	1	1	2	2	4	
Karachi.....	38	30	14	5	2	1	1	1	1	1	1	
Karachi.....	47	17	17	4	2	1	1	1	1	2	2	
Madras.....	173	133	72	9	10	8	6	10	17	10	9	
Myitkyina.....	36	27	15	6	3	1	4	1	3	4	3	
Myitkyina.....	146	43	89	9	6	6	4	10	3	1	2	
Negapatam.....	41	7	21	1	3	3	1	3	4	1	1	
Rangoon.....	10	4	1	1	1	1	1	2	1	2	1	
Rangoon.....	5	6	1	1	1	1	1	1	1	1	1	
Tuticorin.....	69	6	5	1	1	1	1	1	1	1	1	
Vizagapatam.....	18	2	3	1	1	1	1	1	1	1	1	
India (French): Chander Nagor.....	6	10	24	4	8	5	2	3	1	1	1	
Kartikai.....	24	19	12	4	3	2	1	3	1	1	1	
Pondicherry Province.....	7	8	3	2	2	1	1	3	1	1	1	
India (Portuguese): Indo-China (see also table below): Phnompenh.....	13	24	40	4	4	9	6	4	9	8	8	
Salgon and Cholon.....	88	44	20	36	4	4	9	6	3	8	7	
Salgon and Cholon.....	2	8	47	3	3	18	7	1	1	1	1	
Salgon and Cholon.....	3	5	8	8	2	2	2	2	2	1	1	

Iraq: Baghdad.....	C	8	1	1	1	1	1	1
Barra.....	CD	1	1					
Mossoul Liwa.....	CC	22	21	1	3	47	20	
Ivory Coast (see table below).	CD	3	3	1	19	1		
Jumata (Mistirum).....	CC			2				
Japan: Tokyo.....	CCD	1	2					
Macao.....	CD	3	2	1				
Mexico (see also table below); Jalisco (State) Guadalajara.....	DD	22	20	7	4	6	3	1
Juarez.....	CD	2		1				
Mexico City and surrounding territory.....	CD	106	98	30	17	20	12	4
Progress.....	CD	31	47	33	5	4	3	1
Morocco (see table below).	CC	1		1				
Nigeria: Lagos.....	CC	1	1			1		
Poland.....	CC	7	7	3				
Portugal: Lisbon.....	CC	7	8	8	1	2	7	7
Oporto.....	CC							
Rumania.....	CC	2						
Siam.....	CC							
Somaliland, British: Boelles.....	CC	2	4			2	4	3
Spain: Straits Settlements.....	CC	6						
Sudan (Anglo-Egyptian).....	CC	5	5	11	4	1	8	
Sudan (French) (see table below).	CC	60	42	2	3	1	2	1
Switzerland: Berner Canon.....	CC	5	4	19	4	8	1	1
Syria (see table below).	C			2				
Taiwan: Taihoku (see table below).	C							
Tunisia: Tunis.....	C	3	4	2		2		
Turkey (see table below).	C							
Union of South Africa: Cape Province.....	CC	P	P					
Orange Free State.....	CC	P	P					
Transvaal.....	CC	P	P					
Upper Volta.....	CC	2	3	1		8	6	
Zambia.....	CC	13						
On vessel:								
S.S. Elvira, at Port Sudan, from Bombay.....	C			1				
S.S. Naidera, at Port Said.....	C				1			
S.S. Manoa, from Honolulu to San Francisco.....	C							1

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

SMALLPOX—Continued

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

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

TYPHUS FEVER

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

Place	Week ended—										July, 1930					August, 1930				
	Feb. 9, Mar. 8, 1930	Mar. 9, Apr. 5, 1930	Mar. 9, Apr. 5, 1930	Apr. 6, May 4, 1930	May 4, May 8, 1930	7	14	21	28	6	12	19	26	2	9	16	23	30	Sept. 6, 1930	
Algeria:																				
Algiers.	C	4	6	8	15	2				1										
Constantine Department.	D	5	11	15	6	11				1										
Oran.	C																			
Arabia: Aden.	D																			1
Bolivia: La Paz. ¹	C																			
Brazil: Porto Alegre.	C	2																		
Bulgaria.	D	1	13	9	15	6	1			1										
China (see also table below):	C																			
Manduria—Harbin.	D																			
Shanghai.	C	1	4	83	13	3	8	2												
Chosen (see table below).	D																			
Czechoslovakia (see table below).	C																			
Egypt:																				
Alexandria.	C																			
Bahr el Bahr Province.	D																			
Cairo.	C	18	2	2	49	17	16	7			6	1								1
Port Said.	D	6				13	1				2									9
Great Britain: Scotland—	C																			1
Dunfermline.	C																			2
Glasgow.	D																			4
Greece (see table below).	D																			5
Iraq: Baghdad Liwa.	C																			1
																				12

¹ 12 deaths from typhus fever were reported in La Paz, Bolivia, from Jan. 1 to May 31, 1930.

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

TYPHUS FEVER—Continued

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

	Place	Janu- ary 1930	Febru- ary 1930	March 1930	April, 1930	May, 1930	June, 1930	Place	Janu- ary 1930	Febru- ary 1930	March 1930	April, 1930	May, 1930	June, 1930	
Turkey (see table below).															
Union of South Africa:															
Cape Province:	C	P	P	P	P	P	P	P	P	P	P	P	P	P	1
Natal:	C	3	P	P	P	P	P	P	P	P	P	P	P	P	1
Orange Free State	C	P	P	P	P	P	P	P	P	P	P	P	P	P	1
Transvaal	C	P	P	P	P	P	P	P	P	P	P	P	P	P	1
Yugoslavia (see table below).															
China: Harbin (see also table above)	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chosen: Seoul	C	17	37	204	240	43	43	1	1	5	6	4	4	4	27
Czechoslovakia	C	10	2	42	29	12	12	1	1	2	3	1	3	3	2
Greece: Athens	C	12	6	3	1	3	3	3	3	33	46	22	16	16	6
Latvia	C	18	0	0	0	0	0	0	0	3	5	2	4	4	1

YELLOW FEVER

Place	Cases	Gold Coast:	Cases
Mato Grosso on the Leopoldina Railway, between Rio de Janeiro and Niteroy, Apr. 22, 1930	2	July 10, 1930.	1
Campos, Rio de Janeiro Province, May 23, 1930.	1	Aliboco, Aug. 5, 1930 (death)	1
Faro, June 23, 1930.	2	Liberia, Monrovia, June 3, 1930	1
		Nigeria, Lagos, July 12, 1930 (Probably laboratory infection)	1

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