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INFLUENZA PREVALENCE IN THE UNITED STATES

Reports from California have indicated an unusual prevalence of influenza in that State since the middle of October. The first cases occurred in the region around San Francisco Bay (see Public Health Reports Nov. 16, 1928, p. 3020). Later reports indicate that the epidemic has passed its peak in San Francisco, but has spread to other parts of the State.

Reports of cases of influenza are incomplete, as many cases are not reported. Sometimes a larger percentage of the cases are reported when the disease is present in epidemic form than are reported when only a few cases exist, but the numbers of reported cases in a community at different times give a rough index of the relative prevalence of the disease.

The following table gives the numbers of cases of influenza reported weekly by the State of California, since October 1, 1928, compared with reports for the corresponding period of the years 1927 and 1926.

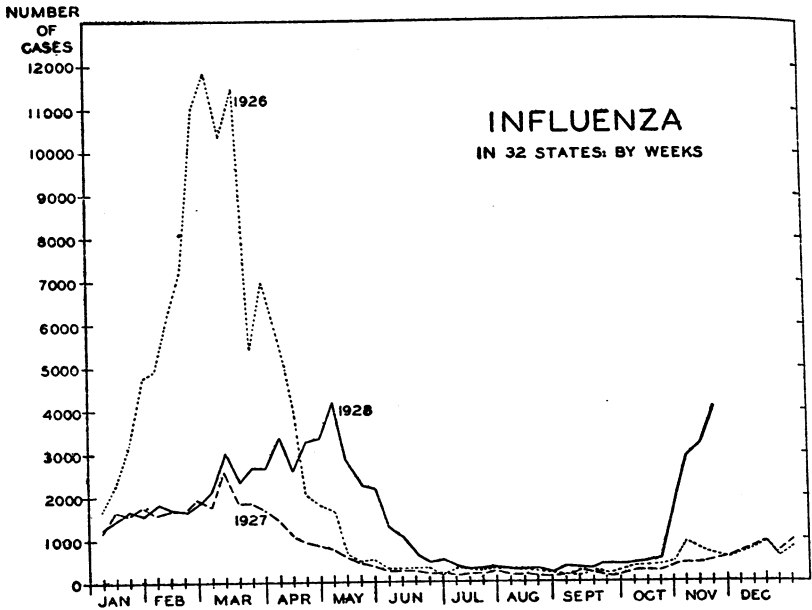
Week ended—	1928	Corresponding week		Week ended—	1928	Corresponding week	
		1927	1926			1927	1926
Oct. 6, 1928.....	27	23	18	Nov. 3, 1928.....	2,389	18	12
Oct. 13, 1928.....	34	19	15	Nov. 10, 1928.....	2,566	14	21
Oct. 20, 1928.....	158	15	10	Nov. 17, 1928.....	3,192	11	17
Oct. 27, 1928.....	1,392	16	21	Nov. 24, 1928.....	4,843	21	18

Reports of influenza from most parts of the United States do not show more than the usual seasonal increase in the number of cases, but the table on page 3272 shows that Oregon reported 250 cases for the week ended November 24, 1928, and 17 cases for the corresponding week in 1927. Montana reported 421 cases for the week this year and did not report any cases one year ago. South Carolina, Georgia, and Alabama have 2,107 cases of influenza in the table this year, as compared with 734 last year.

The accompanying graph gives a comparison of the reports of cases of influenza from 32 States for the years 1926, 1927, and 1928. It should be noted that during the first two of these years the incidence of influenza during the fall months was very low, and that the increase

shown for November, 1928, was influenced largely by the reports from a very few States.

The disease is mild in form, with few deaths as compared with the number of cases, and very few of the cases are complicated by



pneumonia. The following table shows the cases of influenza and the deaths from influenza and from pneumonia in San Francisco and Los Angeles from September 30 to November 24, 1928, inclusive:

	San Francisco			Los Angeles		
	1928	Corresponding week		1928	Corresponding week	
		1927	1926		1927	1926
Influenza cases:						
Week ended Oct. 6, 1928	9	0	1	8	14	5
Week ended Oct. 13, 1928	3	1	2	10	9	3
Week ended Oct. 20, 1928	28	2	0	13	7	4
Week ended Oct. 27, 1928	1,209	0	1	34	11	7
Week ended Nov. 3, 1928	1,114	4	1	46	8	2
Week ended Nov. 10, 1928	716	0	0	98	4	9
Week ended Nov. 17, 1928	992	1	1	241	5	11
Week ended Nov. 24, 1928	327	3	0	802	7	6
Influenza deaths:						
Week ended Oct. 6, 1928	2	0	0	0	0	0
Week ended Oct. 13, 1928	4	1	1	1	0	1
Week ended Oct. 20, 1928	6	4	0	2	0	0
Week ended Oct. 27, 1928	10	1	1	6	2	1
Week ended Nov. 3, 1928	6	0	1	2	2	1
Week ended Nov. 10, 1928	12	0	1	0	0	2
Week ended Nov. 17, 1928	9	0	0	8	1	0
Week ended Nov. 24, 1928	12	2	0	14		0
Pneumonia deaths:						
Week ended Oct. 6, 1928	4	3	3	7	14	11
Week ended Oct. 13, 1928	2	2	7	14	22	9
Week ended Oct. 20, 1928	3	3	5	21	24	19
Week ended Oct. 27, 1928	6	7	4	18	18	18
Week ended Nov. 3, 1928	4	4	1	16	21	13
Week ended Nov. 10, 1928	7	8	3	25	19	19
Week ended Nov. 17, 1928	4	4	2	18	17	14
Week ended Nov. 24, 1928	4	3	10	41		23

A later report from Los Angeles is published on page 3276.

The table on page 3287 shows the death rates per 100,000 population from influenza and pneumonia in 101 cities for five weeks of the years 1927 and 1928. These cities have an aggregate population of about 31,000,000. Although there was a decided increase in the number of cases of influenza during this period of 1928 as compared with 1927, the number of deaths from influenza and pneumonia in the entire group of cities was smaller than the number for 1927.

CURRENT WORLD PREVALENCE OF COMMUNICABLE DISEASES ¹

The United States, October 1-27, 1928

Morbidity from communicable diseases.—The prevalence of certain important communicable diseases as indicated by weekly telegraphic reports from State health departments ² to the Public Health Service from October 1-27 is summarized below.

Meningococcus meningitis.—The relatively high rate of meningococcus meningitis, which had prevailed throughout the year, was maintained during the month of October. For the four weeks ended October 27 there were 304 cases reported, as compared with 180 cases in 1927, and 110 in 1926 during the corresponding period.

Scarlet fever.—The increase in scarlet fever, which began in September, continued in the usual manner through the month of October. The rate of increase, however, was lower than in either of the two preceding years. Significant increases occurred in California, Utah, Iowa, Illinois, New York, Pennsylvania, Georgia, North Carolina, and West Virginia during the four weeks ended October 27.

Smallpox.—Reports indicated a normal seasonal increase in the incidence of smallpox. A slight decrease was noted in some States, but the general tendency was toward an increase. In Montana the cases increased from 17 during the two weeks ended October 13, to 32 for the two weeks ended October 27; in Oregon, from 31 to 59; in Idaho, from 6 to 21; in Wyoming, from 3 to 18; in Illinois, from 10 to 44; in Indiana, from 17 to 34; in West Virginia, from 0 to 9. As compared with the two preceding years the rate of increase was very favorable, slightly lower than in 1927 and but a little higher than in 1926.

¹ From the Office of Statistical Investigations, U. S. Public Health Service.

² The number of States reporting for the various diseases were as follows: Typhoid fever, 41; poliomyelitis, 43; meningococcus meningitis, 42; influenza, 31; smallpox, 42; measles, 38; diphtheria, 42; scarlet fever, 41.

Measles.—The usual seasonal increase in the prevalence of measles began in October and will no doubt continue through the fall and winter months. The rate of increase followed that of the corresponding period in 1927 very closely, but was much lower than in 1926.

Diphtheria.—The diphtheria rate, although experiencing the usual seasonal rise, was considerably below the rate for either of the two preceding years for the month of October. An increase in the number of cases was reported from practically all sections of the country.

Influenza.—In California, there were 1,392 cases of influenza reported during the week ended October 27. Slight increases occurred in a few other States, but no unusual prevalence was noted elsewhere. Reports indicated that the disease was still slightly more prevalent during the current year than in either 1927 or 1926.

Typhoid fever.—A gradual decline in the number of cases of typhoid fever continued; and for the two weeks ended October 27 there were 1,159 cases reported—approximately 600 less than occurred during the preceding two weeks. The decline in prevalence was somewhat general, but the most significant decreases occurred in the Southern States. A lower rate was indicated than during either of the two preceding years.

Poliomyelitis.—The incidence of poliomyelitis declined rapidly during the month of October. The cases reported for the four weeks ended October 27 totaled 592, as against 1,105 for the preceding 4-week period. While the disease was considerably less prevalent during the current year, the rate was almost twice as high as that recorded in 1926. At no time was the high incidence of 1927 reached during the period under consideration.

Mortality from all causes.—The mortality from all causes in 67 large cities rose sharply during the first three weeks of October, but dropped during the fourth week to a lower rate (11.1) than was recorded in either 1927 or 1926 for the corresponding period; the rate for 1927 was 12.1 and for 1926 it was 12.2. Only for two previous weeks of the current year had the mortality rate been as much below the corresponding week of 1927 as it was during the week ended October 27. A slight increase over the preceding week occurred during the week ended November 3, but the rate of 11.7 was still slightly lower than for the same week in either of the two preceding years.

FOREIGN COUNTRIES¹

The general prevalence of certain epidemic diseases in most foreign countries during August and September is summarized below.

Yellow fever.—From 1908 until this year the city of Rio de Janeiro has been practically free from yellow fever. The few cases which

¹ Data from the Monthly Epidemiological Report of the Health Section of the League of Nations' Secretariat, Sept. 15 and Oct. 15, 1928, supplemented by information published in the Public Health Reports.

have been reported during that period were in most instances errors in diagnosis or imported cases from sections of the country where yellow fever was endemic.

The disease reappeared during the second quarter of 1928. The first suspected case was an artilleryman from the Campinho Barracks, near the city, who became sick on May 12 and died May 16; his death certificate, however, showed a different diagnosis.

A typical case of yellow fever was found among the civilian population on May 31, and cases continued to appear in various parts of the city. From the beginning of the outbreak up to October 4 there were 119 cases reported, 66 of which had terminated fatally.²

Dengue.—The outbreak of dengue, which occurred in Athens and Piræus in August and September, is probably the most severe outbreak of the disease on record. A census of persons affected by dengue gave 239,000 cases up to September 4 in the town of Athens alone. It was officially estimated that 90 per cent of the population of Athens and Piræus had been ill with the disease. Dengue is usually a mild disease which normally is not notifiable, and its presence in Mediterranean countries in 1927 had attracted little attention. Early in August it became apparent that the prevailing type of the disease was more severe. In Athens there were 413 deaths reported for the month of August and 218 for the first 20 days of September. In Piræus there were 176 deaths in August; statistics for September had not been received. A number of cases of dengue were reported in various other countries, but there was no epidemic outside of Greece.

Plague.—Plague was, as usual, at its lowest ebb in most countries during August and September. There were, however, some important exceptions to the general low incidence of plague. In southern India the disease usually begins to spread in August, and in the Central Province, where the disease was most prevalent, 533 cases were reported during the two weeks ended August 25, as compared with 59 for the preceding two weeks. There were 358 cases in the Bombay Presidency and 103 in Mysore during these two weeks, as compared with 183 and 55 cases, respectively, during the first two weeks in August.

The Health Service of Argentina, South America, reported on September 24, five cases of pneumonic plague in one center in the Province of Santiago del Estero, and on October 9 it was stated that 11 deaths suspected to be from pneumonic plague had occurred during the month of September in a single area at Carapujio, in the same Province. Plague still continued to increase in Lagos, Nigeria, where it had been unusually prevalent since early in the year.

² A report of the yellow fever epidemic at Rio de Janeiro was published in Public Health Reports for November 23, 1928, pp. 3079-3083.

The North Manchuria Plague Prevention Service stated that there were 160 cases of bubonic plague at Tungliao, in Inner Mongolia, during the week ended September 15. The outbreak continued, and during the two weeks ended September 29, 117 cases were reported. Control stations were organized and the Russo-Mongolian frontier, which had been closed, was reopened.

Two cases of plague were reported in August in inland localities on the island of Hawaii.

Cholera.—Reports from India showed about the same incidence of cholera in July as during the corresponding month of the preceding year, but an average well above that of recent years was maintained throughout the month of August. The 7,548 deaths reported during the week ended August 11 was the highest weekly total recorded since 1924; of these deaths 2,000 occurred in the Madras Presidency. A considerable decrease was noted during the latter part of August. There was a serious outbreak in the Central India Agency, which reached its maximum in the middle of July. The incidence increased slowly during July and August in the Central Province.

A case of laboratory infection was reported at Osaka on October 4. Twenty-three cases of cholera were reported during July and August in various localities in the Philippine Islands.

Typhus fever.—An increase of typhus fever occurred in the Union of Socialist Soviet Republics from February to March; in general, however, the disease has been much less prevalent in 1927 and 1928 than in previous years. The disease was more prevalent in the eastern governments, but there were a few important exceptions in the central and western countries, where some of the governments were considered as having an incidence of typhus fever above the average.

In Lithuania, typhus fever was more prevalent during the first seven months of the year than during the corresponding period of the three preceding years. An increase was reported in Bulgaria, up to September, over the preceding year. During the second half of May an outbreak of typhus began among the Chinese population of the Kwantung Territory; there were 1,775 cases reported up to July 1, 1928. The incidence decreased after the middle of July.

On the other hand, in Rumania, 425 cases were reported from January 1 to August 23, 1928, compared with 2,753 for the same period in 1927. The incidence was lower in Poland during the first two months of 1928 than in any previous year; 1,900 cases and 129 deaths were reported up to July.

Smallpox.—The incidence of smallpox in England and Wales, which, during the first quarter of 1928, was lower than during the corresponding period of the previous year, differed little during the second and third quarters of the current year from its level in 1927.

During the first quarter of 1928 there were 4,711 cases reported. Fifty-five deaths were attributed to smallpox during the first half of 1928, giving a reported case fatality rate of 6.3 per 1,000 cases, as compared with 36 deaths and a fatality rate of 3.6 per 1,000 during the first half of 1927.

The number of cases of smallpox has increased in Canada during the last two years; 2,117 cases were reported during the first half of 1928. Only three of these cases terminated fatally. There has been a marked decrease of alastrim in Jamaica during the last two years; 43 cases were reported during the first six months of 1928.

Diphtheria and scarlet fever.—The incidence of diphtheria and scarlet fever was higher in practically all of the European countries during the year ended June 30, 1928, than in the preceding years. While in some countries the increase was moderate, in others it was very considerable. In Scotland the number of deaths from diphtheria was twice as high as during any of the three preceding years. In Hungary and in Czechoslovakia the number trebled in the course of three years. The increase of scarlet fever was not as universal as that of diphtheria; but in Germany the number of cases reported during the year ended June 30, 1928, was about three times as high as that reported during the year ended June 30, 1927. In the Kingdom of the Serbs, Croats, and Slovenes the number of cases of scarlet fever nearly trebled during the past year.

The case fatality rate of diphtheria showed a tendency to increase during the last year in several countries, noticeable in the Netherlands, Germany, Austria, and Czechoslovakia. It decreased, on the other hand, in Poland, Rumania, and Bulgaria. The case fatality rate of scarlet fever decreased in most countries, being much lower than that of diphtheria in central and eastern Europe, as well as in Japan and New Zealand. In eastern Europe, on the contrary, it approaches that of diphtheria.

Mortality from diphtheria was considerably higher than that caused by scarlet fever in all European towns except those of eastern Europe. A large excess of scarlet fever over diphtheria occurred in Leningrad, Moscow, and Warsaw. In Egypt mortality from diphtheria has been particularly high, while the incidence of scarlet fever has been almost negligible.

Typhoid and paratyphoid fevers.—Typhoid fever was less prevalent up to the middle of September in practically all European countries. The only exceptions were France and England and Wales.

In England there was an increase in the prevalence of paratyphoid fever in London and neighboring localities. The paratyphoid outbreak began very suddenly during the last of July, but was of short duration, having almost subsided by September 15.

Dysentery.—The incidence of dysentery in Europe began, as usual, to increase in August, but was lower in most countries than in previous years. The disease is usually more prevalent in Poland than in other countries of central Europe, but this year its incidence there was much lower than in any previous year. The number of cases reported in August in Rumania, the Kingdom of the Serbs, Croats, and Slovenes, Hungary, and Germany was about the same as in 1927.

There has been a considerable decrease in the incidence of dysentery in Europe. In the Union of Socialist Soviet Republics, where the disease is more prevalent than in the remainder of Europe, the number of cases decreased from 271,000 in 1924 to 135,000 in 1927. In Morocco the number of cases reported during the summer months of the current year was considerably in excess of those reported for the same period in the preceding year. In Japan, where dysentery is fairly widespread, the incidence up to August differed little from that of last year, but was higher than in the six preceding years. The seasonal maximum incidence of dysentery varies in different parts of the country. In Japan, Europe, and the Philippine Islands it occurs in August; on the other hand, in Java, dysentery is usually more prevalent in January and February.

Relapsing fever.—The decrease of relapsing fever in European countries continues, and the disease has become extremely rare. In the Union of Socialist Soviet Republics, where the disease is most prevalent, the number of cases reported during the first quarter of 1928 was considerably less than during the corresponding period of 1927. Minor outbreaks of relapsing fever were reported in West Africa, Nigeria, and the Gold Coast Colony.

CURRENT STATE MORTALITY STATISTICS

For the information of public-health officials and others interested, the data in the following tables have been compiled from the monthly mortality reports of State health departments for the latest month for which published records are available. Statistics of most communicable diseases are not included, since they are available in other tabulations in the Public Health Reports. Statistics of deaths from other causes are limited for the most part to those causes which appear in the State reports. In the case of States which publish detailed mortality reports each month, the record of only the principal groups of causes and certain important specific causes have been used.

For purposes of comparison, the mortality records for a few preceding years are given, the rates being for the month corresponding to the last month for which the 1928 rate is available.

These tabulations will be enlarged as the current data on mortality from additional States become available.

Monthly State mortality statistics

[All rates are on an annual basis, and, with the exception of mortality from all causes and infant mortality, are per 100,000]

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924
ALL CAUSES: ANNUAL RATE PER 1,000													
Alabama:													
White	10.4	10.1	10.7	9.5	9.5	9.6	9.3	8.7	8.7	8.6	8.7		
Colored	14.6	17.3	17.7	17.6	17.8	16.4	16.3	17.1	15.7	14.5	13.7		
California	14.8	15.1	14.7	14.5	13.6								
Connecticut	11.7	12.0	12.0	12.5	13.0	10.5	9.8	9.3		8.4	9.3	9.5	9.6
Indiana	12.4	11.7	13.6	13.6	12.7	11.0	9.9	10.6		10.2	10.7	11.4	10.6
Iowa	10.2	10.2	12.1	11.2	10.9	9.3	9.9						
Kansas	10.9	11.7	13.8	12.4	10.9	9.4							
Louisiana	13.8	13.4	13.7	13.0	12.3	11.1	12.7	12.2					
Michigan							9.9	9.7	10.6				
Minnesota	9.5	9.6	9.6	10.6	10.7	8.3	8.1	8.0	8.1				
Mississippi							13.0	11.9					
Nebraska						8.2	7.9	8.2					
New Jersey	11.3	12.4	13.3	13.8	13.2	11.2	9.9	9.9	9.7	10.4	10.8	10.2	11.1
New York ¹	13.6	14.2	14.4	14.4	14.2	12.8	11.4	11.0		11.0	11.3	11.1	12.8
North Carolina	11.1	12.5	11.2	11.9	11.7	14.3	11.2	11.1	11.0				
Oklahoma	10.5												
Pennsylvania	12.4	13.3	13.8	13.7	13.5	11.2	10.3	10.1		9.6	9.8	11.1	10.3
South Dakota					9.6	8.0							
Tennessee	11.8	12.9	12.3	13.6	12.0	11.5	12.7	11.6		10.9			

INFANT MORTALITY: RATE PER 1,000 LIVE BIRTHS

Alabama:													
White	80	78	78	59	59	64	65	54	57	46	57		
Colored	126	118	109	100	113	83	93	99	99	68	79		
California	63	68	66	59	64								
Connecticut	68	56	66	83	71	56	43	52		52	67	75	68
Indiana	69	60	68	75	69	56	52	63		52	70	84	64
Iowa	75	53	66	58	54	54	48						
Kansas	70	58	74	(?)	53	44							
Louisiana	91	78	89	93	102	81	79	62					
Michigan							49	53	58.1				
Minnesota								44	38				
Nebraska						48	37	45					
New Jersey						52	56						
New York ¹	68	72	73	75	73	67	52	55		49	62	71	60
Oklahoma	86												
Pennsylvania	71	81	83	84	89	59	54	58		52	66	84	(?)
South Dakota					65	47							
Wisconsin	80	60	59	68	75	60	53	47					

INFLUENZA (11)

Alabama:													
White	89.1	83.9	98.8	78.9	67.3	26.8	16.8	11.9	12.3	12.8	11.5		
Colored	86.0	112.8	124.0	107.7	112.1	45.0	29.0	25.1	30.0	12.2	14.9		
California	23.0	25.4	21.4	17.1	15.2								
Connecticut	28.5	25.8	19.7	29.4	71.5	16.6	6.6	2.9		3.7	3.0	2.3	1.6
Indiana	48.1	44.0	69.3	82.0	96.4	27.4	13.7	8.2		7.5	8.3	12.0	3.1
Iowa	32.5	35.8	79.5	87.2	67.9	24.1	19.4						
Kansas	53.3	85.7	139.9	112.7	78.9	23.2							
Kentucky							11.5						
Louisiana	112.3	112.3	125.0	73.0	40.5	28.1	19.9	29.0					
Michigan							9.0	5.4	8.7				
Minnesota	21.2	22.7	29.8	58.1	104.2	24.1	13.8	7.8	8.0				
Mississippi							15.8	19.1					
Nebraska							19.0	8.4	11.7				
New Jersey	12.6	16.1	24.7	28.0	23.7	9.2	3.7	3.4	4.8	3.2	3.0	3.0	1.7
New York ¹	20.0	20.7	25.3	27.0	34.3	18.9	4.4	2.3		3.2	4.1	2.7	1.7
North Carolina	56.9	62.1	63.7	58.0	34.1	22.8	6.8	7.6	6.6				
Oklahoma	21.8												
Pennsylvania	37.3	38.2	51.3	47.1	65.0	28.6	10.3	7.7		5.1	7.1	7.7	5.2
South Carolina	49.9	31.7	132.6	50.9	26.5	20.2	8.8	12.0		4.6			
South Dakota													
Tennessee						98.7	41.5						
Tennessee	77.2	89.5	88.5	112.3	74.4	40.8	16.9	13.2		10.0			
Tennessee	24.7	24.7	30.7	70.9	83.7	25.1	11.6	5.2					
Wisconsin													

¹ Exclusive of New York City.

² Not available

Monthly State mortality statistics—Continued

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924
TUBERCULOSIS, ALL FORMS (31-37)													
Alabama:													
White	58.1	53.9	57.5	48.5	43.5	52.1	50.5	37.8	50.7	45.2	41.2		
Colored	136.9	179.1	162.2	184.0	160.9	182.6	172.7	168.8	128.1	146.8	177.9		
California	135.2	139.2	134.6	153.8	143.4								
Connecticut	63.5	75.1	83.9	77.6	71.5	73.9	68.6	55.4		47.5	74.8	59.3	78.4
Indiana	67.8	67.4	88.2	76.2	81.9	80.6	57.5	58.9		62.4	79.1	60.1	79.9
Iowa	32.0	32.1	38.8	36.6	45.6		38.3						
Kansas	29.5	52.8	49.4	49.1	43.6	39.8							
Kentucky							73.8						
Louisiana	106.9	95.5	106.9	107.3	107.5	96.1	93.0	96.0					
Michigan							62.8	60.8	59.1				
Minnesota	51.5	64.7	60.1	55.0	64.0	47.8	43.7	54.9	50.1				
Mississippi							78.2	82.9					
Nebraska							85.4	20.1	28.4				
New Jersey	65.0	70.8	78.9	83.1	86.3	87.2	68.4	76.1	66.9	60.0	85.3	71.0	87.1
New York ¹	66.5	82.1	82.5	88.5	82.5	82.9	73.2	71.1		75.4	73.7	79.1	94.1
North Carolina	74.1	87.8	86.6	88.2	93.8	106.4	65.7	81.8	77.9				
Oklahoma	59.7												
Pennsylvania	64.7	78.5	78.4	81.9	79.9	68.6	69.0	59.6		65.7	67.6	72.2	70.5
South Carolina	72.6	74.9	87.2	86.8		97.0	80.9	87.8	53.5	69.2			
South Dakota					61.9	57.0							
Tennessee	121.9	150.9	140.7	159.5	104.9	129.8	134.1	112.5		119.4			
Virginia								66.1					
Wisconsin	94.9	63.1	56.2	63.0	79.3	60.1	52.2	52.2					

CANCER, ALL FORMS (43-49)

Alabama:													
White	46.8	36.0	44.9	49.2	44.9	59.4	49.1	62.4	52.1	52.7	45.8		
Colored	41.2	39.5	48.8	36.8	51.4	46.3	48.8	47.5	46.3	62.5	44.8		
California	120.5	148.1	129.2	145.8	148.3								
Connecticut	113.8	106.6	105.8	102.5	84.6	113.8	99.2	55.4		47.5	74.8	59.3	78.4
Indiana	99.3	87.6	117.1	105.3	90.8	104.3	87.1	109.7		99.8	106.7	96.6	102.5
Iowa	103.8	91.2	121.2	104.2	114.0	110.2	115.9						
Kansas	95.6	107.0	104.6	96.8	93.0	98.8							
Kentucky							54.4						
Louisiana	59.8	62.0	56.2	69.9	71.2	61.8	70.6	75.5					
Michigan							92.3	87.5	103.9				
Minnesota	112.0	94.8	115.1	93.0	108.1	110.0	107.3	105.1	110.4				
Mississippi							39.4	50.0					
Nebraska							90.7	87.0					
New Jersey	99.2	102.4	107.9	104.4	120.5	105.4	97.7	99.8	101.9	106.4	106.1	97.3	105.4
New York ¹	127.5	121.2	128.6	122.0	121.8	117.2	123.5	123.5		126.6	119.8	129.0	127.3
Oklahoma	58.7												
Pennsylvania	95.5	102.0	95.4	102.0	95.5	91.8	99.4	99.4		95.2	90.2	94.4	95.7
South Carolina	30.3	39.2	51.2	34.6	50.5	39.2	46.7	34.1	41.1	45.5			
South Dakota					73.6	81.2							
Tennessee	58.8	51.3	53.2	67.6	47.5	73.4	70.6	55.5		54.0			
Wisconsin	94.9	95.9	113.2	106.7			111.6	104.1					

DIABETES (57)

Alabama:													
White	12.8	6.0	9.8	8.0	7.7	7.2	4.2	9.1	15.2	10.5	12.2		
Colored	14.5	14.1	18.5	9.5	7.9	6.8	10.5	5.3	15.0	8.2	8.1		
California	23.3	19.6	25.1	25.9	21.4								
Connecticut			21.9	19.6		18.1	20.4	16.8					
Indiana								14.5					
Iowa	15.5	24.4	19.9	25.6	19.4	12.5	15.0						
Kansas	24.4	17.1	28.9	23.2	18.6	21.9							
Kentucky							9.7						
Louisiana	15.7	12.3	19.3	15.0	8.5	8.1	9.7	13.3					
Michigan							16.9	16.2	18.3				
Minnesota	19.9	19.4	24.7	21.0	25.1	15.2	13.4	12.5	12.5				
Mississippi							5.9	7.2					
Nebraska						15.6	16.7	13.4					
New Jersey							16.0	19.4	21.3				
New York ¹	27.6	27.2	27.4	26.3	28.6	24.6	18.5	24.0		22.5	20.3	22.3	21.4
Oklahoma	12.6												
Pennsylvania	21.7	23.5	27.8	25.3	23.2	19.9	18.6	20.0		15.2	16.5	16.3	14.2
South Carolina	12.6	13.5	11.4	3.3	6.9	4.6	3.8	5.1	6.5	4.6			
South Dakota					13.4	15.6							
Tennessee							6.1	7.1					

¹ Exclusive of New York City.

Monthly State mortality statistics—Continued

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924
DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE (70-86)													
Alabama:													
White							75.0	69.4	72.4				
Colored							118.7	133.2	132.2				
California	138.3	149.2	142.7	132.7	141.1								
Iowa	125.6	145.1	153.2	145.8	142.6	125.3	132.4						
Kansas	146.9	145.4	173.2	171.7	146.3	115.4							
Kentucky							82.1						
Louisiana	96.6	102.0	101.4	110.4	91.8	89.8	102.6	103.3					
Michigan							118.5	103.4	126.4				
Minnesota								76.6	82.7				
Nebraska						102.8	94.5	97.0					
New Jersey	112.5	120.9	126.3	139.5	132.5	110.8	98.6	98.3	95.8	113.3	117.4	115.9	113.3
New York ¹	159.1	160.8	176.1	172.7	159.9	145.7	128.4	120.6		124.5	126.8	163.2	157.6
Oklahoma	114.5						119.4	109.8	103.1				
Pennsylvania							76.0						
South Dakota					98.7								

CEREBRAL HEMORRHAGE, APOPLEXY (74)

Alabama:														
White	42.3	47.2	57.5	48.5	56.1	49.2	45.1	35.7	42.7	42.9	40.5			
Colored	58.1	84.6	87.1	85.9	75.2	69.5	75.2	75.2	80.4	58.5	48.9			
California	95.4	104.7	102.3	94.5	100.5									
Indiana	121.5	122.5	(⁹)	134.1	107.5	95.4	90.8	93.8		91.6	90.5	95.1		
Iowa	97.0	108.3	111.5	102.2	105.7	92.7	91.7							
Kansas	114.2	104.3	141.8	131.9	106.5	91.5								
Kentucky							48.0							
Louisiana	65.8	67.1	74.9	75.5	57.4	63.6		75.5	61.6					
Michigan							83.9	77.2	87.5					
Minnesota								59.3	59.0					
Mississippi							80.4	58.5	59.2					
Nebraska								67.7	75.3					
New Jersey								73.6	70.3	72.0				
New York ¹	121.0	131.8	134.7	135.3	124.6	113.5		95.5	92.0		93.6	93.6	130.2	124.4
Oklahoma	63.6													
Pennsylvania	100.0	101.0	97.2	101.0	88.2	87.8	78.7	76.8		77.1	65.2	48.4		
South Dakota					53.5	38.0								

DISEASES OF THE CIRCULATORY SYSTEM (87-96)

Alabama:														
White							114.9	117.7	106.5					
Colored							184.6	188.5	185.3					
California	371.1	343.4	319.2	318.6	290.0									
Iowa	242.0	253.0	310.8	249.0	238.1	211.5	226.9							
Kansas	213.7	210.6	250.9	236.7	197.0		192.3							
Kentucky							143.0							
Louisiana	227.0	198.8	215.6	213.4	193.2	168.5		191.4						
Michigan								186.6	188.8	222.1				
Minnesota								197.5	145.3	156.0				
Nebraska						176.3		151.4	152.2					
New Jersey	272.7	272.4	281.6	306.6	286.0	231.2	209.2	213.2	215.9	198.0	196.4	186.6	184.8	
New York ¹	375.0	399.7	369.1	387.7	379.4	342.5	301.6	276.5		298.2	245.5	292.3	267.7	
Oklahoma	90.8							247.5	209.1	196.9				
Pennsylvania								279.4	279.4	279.4				
South Carolina	220.5	278.2	277.9	263.7	341.1	152.2		305.1	274.1	283.3	273.0			
South Dakota														

¹ Exclusive of New York City.² Not available.

Monthly State mortality statistics—Continued

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924
DISEASES OF THE HEART (87-90)													
Alabama:													
White	114.7	116.9	96.0	98.5	101.6	109.4	102.3	104.4	99.2	82.8	83.2		
Colored	124.8	150.9	189.9	199.0	188.6	183.9	168.8	180.6	166.2	161.8	118.2		
California	314.3	294.8	278.6	276.7	255.6								
Connecticut	168.5	200.3	198.4	196.8	101.4	160.6	192.6	164.9		138.8	137.5	137.0	126.2
Indiana	198.5	158.1	188.0	194.6	180.2	172.0	149.4	169.1		164.5	132.3	144.6	121.7
Iowa	217.3	225.5	279.8	222.0	215.8	186.9	193.0						
Kansas	181.6	183.8	215.6	214.2	169.4	163.1							
Kentucky							128.7						
Louisiana	215.0	184.6	201.7	200.9	181.7	157.9	172.7	178.7					
Michigan							173.4	163.9	187.9				
Minnesota	156.2	165.5	160.9	125.6	154.4	130.1	120.7	128.5	127.4				
Mississippi							111.1	103.9					
Nebraska							157.3	132.1	136.3				
New Jersey							191.4	196.6	193.3				
New York ¹	328.3	345.5	323.7	342.7	324.3	300.7	257.8			255.2	212.8	249.0	225.9
New York ²	82.0												
Pennsylvania	246.0	256.0	272.0	249.0	233.0	220.9	189.7	176.6		175.0	158.0	144.0	
South Dakota							135.5	115.8					
Tennessee	105.9	137.3	101.9	133.2	122.4	127.9	124.7	122.4					

PNEUMONIA, ALL FORMS (100, 101)

Alabama:													
White	167.6	144.6	162.6	120.2	84.8	48.5	30.1	28.0	29.7	35.4	42.0		
Colored	191.4	200.2	203.1	170.4	184.7	69.5	46.1	44.8	72.2	57.1	46.2		
California	131.3	132.9	115.8	88.9	74.7								
Connecticut	140.8	148.6	151.7	165.1	183.1	72.4	34.3	34.3		44.5	27.2	37.7	27.4
Indiana	137.0	120.1	151.3	173.2	120.5	58.0	30.0	33.7		29.9	22.6	36.9	25.3
Iowa	109.6	91.8	98.4	92.2	80.5	41.1	31.0						
Kansas	105.9	104.9	56.5	96.8	56.5	35.8							
Kentucky							32.7						
Louisiana	164.2	157.5	160.0	119.2	102.6	41.2	46.5	52.5					
Michigan							37.4	21.3	37.6				
Minnesota	80.5	77.7	87.4	102.4	76.1	47.8	30.7	22.9	32.6				
Mississippi							25.0	23.0					
Nebraska						32.0	15.1	18.4					
New Jersey	80.4	108.7	111.2	104.1	86.3	52.2	39.4	36.4	54.1	28.9	24.5	25.3	33.9
New York ¹	120.4	131.3	152.8	152.9	126.3	80.2	36.4	25.1		34.7	33.8	37.6	32.9
North Carolina	150.7	164.5	168.7	125.5	93.4	91.5	40.5	24.8	31.5				
Oklahoma	198.0												
Pennsylvania	131.0	154.0	191.5	166.0	156.0	75.7	45.3	40.4		42.6	42.7	53.5	44.6
South Carolina	178.1	155.3	161.7	124.7	111.2	58.7	44.2	49.9	56.8	56.7			
South Dakota					110.4	55.3							
Tennessee	163.8	163.0	162.8	116.7	104.5	61.3	38.1	39.5		34.6			
Wisconsin	95.3	93.8	83.7	128.5	116.8	99.7	40.7	29.9					

DISEASES OF THE DIGESTIVE SYSTEM (108-127)

Alabama:													
White							171.0	136.7	109.4				
Colored							143.7	147.7	115.8				
Iowa	62.6	62.2	65.5	55.6	61.1	63.1	78.6						
Kansas	62.9	60.4	78.3	69.0	81.5	74.3							
Kentucky							135.6						
Louisiana	86.9	74.9	75.5	91.7	94.2	134.1	125.0	112.3					
Michigan							81.3	95.7	110.5				
Minnesota							50.2	58.6					
Nebraska						73.4	88.6	107.0					
New Jersey	(?)	(?)	(?)	(?)			82.0	101.4	90.7				
New York ¹	69.0	86.2	79.8	72.6	79.5	70.9	68.2	79.8		78.4	96.9	118.8	106.1
Oklahoma	62.1												
Pennsylvania						71.7	79.3	94.7					
South Dakota					61.9	60.5							

¹ Exclusive of New York City.

² Rate previously published was exclusive of infantile diarrhea.

Monthly State mortality statistics—Continued

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924

DIARRHEA AND ENTERITIS UNDER 2 YEARS (113)

Alabama:														
White	11.3	6.0	5.6	10.9	16.8	77.5	89.7	68.7	62.3	29.4	56.5			
Colored	4.8	9.9	9.2	21.8	18.5	59.9	73.8	58.0	53.1	23.1	54.3			
California	8.0	10.2	11.9	14.7	22.2									
Connecticut	9.5	4.8	3.6	6.0	4.4	5.3	3.6	13.9		13.4	41.5	38.5	47.0	
Indiana	7.0	10.7	9.3	6.1	7.8	7.3	20.0	50.4						
Iowa	3.4	1.0	5.8	3.5	3.4	2.5	6.3							
Kansas	7.7	5.5	9.6		6.4	11.3								
Kentucky							70.1							
Louisiana	26.6	17.4	11.5	22.5	29.6	51.8	43.5	30.8						
Michigan							14.6	23.9	38.7					
Minnesota	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4.3	6.7					
Mississippi							77.6	35.5						
Nebraska						9.5	5.9	23.4						
New Jersey	9.6	10.5	10.2	12.7	11.4	10.2	16.6	29.0	24.5	25.0	42.0	54.1	54.2	
New York ¹	10.9	11.5	10.3	12.4	10.9	13.5	8.0	14.5						
North Carolina	12.8	7.7	10.0	7.0	29.7	119.7	97.8	70.9	44.7					
Oklahoma	11.2													
Pennsylvania	16.7	19.0	16.1	16.4	16.5	13.5	18.6	32.1		30.4	52.7	91.2	65.0	
South Carolina	43.8	48.8	48.2	45.9	43.5	48.5	478.3	43.0	436.6	423.4				
South Dakota					1.7	5.2								
Tennessee	4.7	3.5	4.7	3.4	8.9	59.8	94.6	80.5		43.1				
Virginia									40.3					
Wisconsin	9.2	8.1	13.0	16.5	15.0	9.5	12.4	8.8						

NEPHRITIS (128, 129)

Alabama:															
White	74.7	66.7	75.7	73.9	68.0	80.4	74.3	60.3	73.9	73.0	58.0				
Colored	92.1	90.2	91.0	111.8	124.0	113.1	151.6	156.9	137.6	107.4	96.4				
California	114.0	122.4	114.7	128.4	109.6										
Connecticut			71.5	73.1		89.0	67.8	57.6							
Indiana	70.4	86.8	85.6	90.0	83.0	76.1	71.2	77.1		78.5	(?)	76.1			
Iowa	62.0	54.4	53.8	52.6	52.4	56.1	61.6								
Kansas	85.3	96.7	112.9	114.0	94.3	78.9									
Kentucky							71.0								
Louisiana	114.1	127.8	123.2	120.4	131.6	99.2	120.2	102.6							
Michigan							61.3	68.2	62.5						
Minnesota	66.2	62.4	54.5	61.7	54.9	38.0	45.9	45.9	50.5						
Mississippi							101.9	106.5							
Nebraska						44.9	44.3	44.3							
New Jersey	108.5	118.6	124.8	108.6	114.6	98.7	95.2	84.7	90.4	86.3	84.3	69.6	95.0		
New York ¹	121.8	117.6	120.0	127.0	121.4	104.2	93.0	94.1		99.8	95.2	89.5	94.5		
Oklahoma	64.1														
Pennsylvania	117.0	122.0	115.0	122.0	125.0	95.6	93.3	94.2		82.7	79.6	87.6	90.9		
South Carolina	83.4	89.9	108.6	105.7	95.4	106.4	111.8	87.8	92.7	102.9					
South Dakota					46.8	34.6									

PUERPERAL STATE (143-150)

Alabama:															
White		21.0	20.3	18.1	14.7	16.7	34.7	15.4	14.5	13.6	22.1				
Colored		16.9	25.1	31.3	33.0	31.3	34.3	36.9	24.5	21.8	23.1				
California	9.0	11.9	10.9	11.8	10.3										
Connecticut	9.5	8.9	13.1	21.1	8.8	6.0	10.2	8.0		9.6	8.8	9.2	9.4		
Indiana	11.9	8.7	11.5	9.2	13.3	10.8	8.9	11.1							
Iowa	6.8	11.9	11.2	15.0	10.7	9.5	4.8								
Kansas	7.1	21.3	17.3	13.3	22.5	12.6									
Kentucky							6.0								
Louisiana	15.1	24.5	27.2	21.2	22.0	29.3	26.6	19.9							
Michigan							10.8	12.6	7.7						
Minnesota	9.5	10.2	14.3	13.0	12.1	8.0	7.8	7.8	4.0						
Mississippi							22.4	23.0							
Nebraska						14.7	13.4	12.5							
New Jersey							9.6	12.0	10.2						
New York ¹	10.9	13.3	12.0	15.2	12.8	8.5	12.2	9.7		11.1	8.1	11.1	9.7		
Oklahoma	11.6														
Pennsylvania	5.3	5.3	6.6	6.7	7.1	5.8	5.4	4.4		5.2	5.6	4.9	(?)		
South Dakota					10.0	5.2									
Tennessee	7.6	7.4	7.1	7.5	7.5	7.4	5.6	6.6		7.1					

¹ Exclusive of New York City.² Not available.³ Rate previously published was for diarrhea of children under 5 years.⁴ Reported as intestinal diseases of children under 1 year.⁵ Reported as kidney diseases.⁶ Rate per 1,000 total births.⁷ Reported as puerperal septicemia.

Monthly State mortality statistics—Continued

	1928									Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	1927	1926	1925	1924
CONGENITAL MALFORMATION AND DISEASES OF EARLY INFANCY (159-163)													
Alabama:													
White.....	67.2	70.4	69.4	57.9	79.2	73.9	61.0		73.9	86.6	69.5		
Colored.....	69.0	98.7	92.3	80.4	83.1	58.6	60.7		77.7	70.7	65.2		
California.....	52.7	58.3	53.0	50.7	57.4								
Iowa.....	58.7	48.2	61.1	66.6	60.6	66.1	65.5						
Kansas.....	53.9	59.0	65.4	56.4	46.8	40.4							
Louisiana.....	40.5	60.0	70.0	66.1	64.6	49.3	71.2	65.8					
Michigan.....									69.7				
Mississippi.....							55.2	44.0					
Nebraska.....						59.6	51.8	53.5					
New York ¹	65.2	70.2	69.4	66.5	72.4	72.2	60.6	62.7		60.8	62.6	76.7	70.2
Oklahoma.....	86.9												
Pennsylvania.....	* 34.9	* 37.6	* 35.1	* 37.4	* 37.7	* 30.8	* 31.1	* 30.4		* 29.4	* 30.0	* 35.5	(?)
South Dakota.....						57.0							

¹ Exclusive of New York City.

² Not available.

³ Rate per 1,000 live births.

COURT DECISION RELATING TO PUBLIC HEALTH

Ordinance prohibiting bringing decayed fruit and refuse from households, etc., into town held invalid.—(New York Supreme Court; *Donovan v. Town of New Windsor et al.*, 231 N. Y. S. 82; decided September 19, 1928.) A town ordinance provided as follows:

Be it resolved, That the bringing into the town of New Windsor, Orange County, New York, of decayed and spoiled fruit and refuse from households, restaurants and other eating houses, be, and the same is hereby prohibited, and that a violation of this resolution shall constitute a misdemeanor. This resolution shall become effective September 1, 1925.

An action was brought to restrain the enforcement of the ordinance. The plaintiff moved for an injunction *pendente lite*, which was granted, the court saying:

The ordinance in question is unreasonable and oppressive, because it prohibits rather than regulates the carrying of refuse into the town of New Windsor. It is a well-known fact that household refuse, decayed fruit, and garbage may be carried in sealed vehicles or containers without being in any wise offensive or a nuisance. The town board has power, by ordinance, to reasonably regulate the transportation of such materials in or through the town; but this ordinance is prohibitive rather than regulatory, and it is for that reason, in my opinion, invalid and unenforceable.

PUBLIC HEALTH ENGINEERING ABSTRACTS

Experience with Red Water at Southern Pines. C. O. Butler. *Journal of North Carolina Section, American Water Works Association*, vol. 5, No. 1, 1927, pp. 104-118. (Abstract by Chas. R. Cox.)

This article, together with lengthy discussions by several authorities, contains an interesting account of the problem of the prevention of corrosion of distribu-

tion systems. The raw water used at Southern Pines coagulates best at pH 5.2 to 5.4. Such treatment of the water naturally produced a highly corrosive filtered water. The difficulty was temporarily solved by the use of soda ash in sufficient quantities to produce a pH of 6.6 to 7.0. Red-water trouble developed again, however, and finally lime treatment was instigated, using the so-called "marble" test to determine the pH at which the CO_2 would be neutralized by the lime, which was found to be about 8.4 to 8.6. Lime treatment based upon this procedure produced a noticeable coating on the inside of service pipes and prevented further red-water trouble.

One of the discussions of this paper outlined experiments made at the plant to determine the best treatment. These experiments included aftertreatment with lime, soda ash, and caustic soda, coagulation with sodium aluminate and alum, coagulation with lime and iron sulphate, aftertreatment with sodium silicate, pretreatment with calcium chloride and aftertreatment with sodium silicate, and aftertreatment with sodium silicate and lime. It was concluded that sodium silicate and lime was the best combination of chemicals to be used. These laboratory tests were made with the corrosion of iron filings and thus they were made under conditions quite different from those in distribution systems.

Another reviewer of the paper emphasized the importance of considering the problem from the standpoint of plant conditions, and advocated the use of the "marble" test to determine the quantity of lime to be used in aftertreatment.

Dissolved Iron and Manganese in Stored Water at Kernersville. W. H. Weir. *Journal of North Carolina Section, American Water Works Association*, vol. 5, No. 1, 1927, pp. 119-126. (Abstract by Chas. R. Cox.)

This valuable contribution to the limited literature of manganese and iron removal reviews unusual problems developed at Kernersville, N. C., when a new filtration plant designed to treat a typical turbid water of a flowing stream was placed in operation to treat the same water after storage in a shallow reservoir containing large quantities of organic matter. Storage of this water led to a marked change in its quality, leading to the solution of manganese and iron from mineral deposits at the site and to a large increase in the color of the water. Experiments conducted at the plant indicate that aeration of the water failed to precipitate the iron and manganese, probably due to the large organic content.

Prechlorination of the water, however, led to the precipitation of the iron and manganese, but the organic color remained unchanged. Addition of lime to the raw water produced excellent flocculation of the iron and manganese, but no change in the organic color. Subsequent coagulation with alum, however, resulted in a reduction of the color. Experiments were duplicated on a plant scale by the addition of lime to the raw water entering the mixing basin. The dose of lime was determined by the maintenance of a faintly caustic reaction to phenolphthalein. The formation of the iron hydroxide was extremely rapid, allowing the alum solution to be added about half way down the mixing chamber. The alum dose was adjusted to maintain the optimum pH for color coagulation. The sedimentation of the floc, however, was slow so that the settled water was more turbid than desirable, thus requiring frequent washing of the filters and the use of large volumes of wash water.

The above situation indicates the great desirability of thoroughly studying the quality of a raw water to be treated before the final plans for water-purification plants are completed, in order that the plant may be provided with the necessary auxiliary equipment, and for special treatment when such is necessary.

Succinchlorimide Proposed as a Chemical Agent for the Preparation of Potable Water. C. B. Wood. *Military Surgeon*, vol. 63, No. 4, October, 1928, pp. 493-506. (Abstract by C. T. Butterfield.)

A brief historical sketch is given in this article of methods used to render potable water in large and small quantities. Unpublished data are presented showing that "halazone" is quite satisfactory, and "nuklorene" entirely unsuitable for use as a bactericidal agent in water.

A chlorine containing organic compound to be used by the Army for preparing potable water in the field must be: (1) A solid at ordinary temperatures and pressures; (2) capable of prompt reaction in water with bactericidal action; (3) stable over periods of years rather than weeks or months, and (4) nontoxic to the human body.

The qualifications of a number of compounds to meet these conditions are given and discussed. The method of preparation of succinchlorimide and experimental evidence to show that it has the four required qualifications are then presented.

Chemical Engineering Applied in New St. Louis Water Plant. C. W. Cuno. *Chemical and Metallurgical Engineering*, April, 1928, p. 230-1. Abstract by Rudolph E. Thompson in *Water and Water Engineering*, vol. 30, No. 355, July 20, 1928, p. 341.

In this article details are given of the new Howard Bond purification plant on the Missouri River. The river water will be pumped into two primary Dorr clarifiers providing a detention period of 2 hours and 10 minutes at the rated capacity of 55 m. g. d., thence flowing to an S-shaped mixing conduit, milk of lime being added at the inlet and iron sulfate at the outlet. From the mixing conduit the water will be introduced tangentially at the top of circular mixing tanks 65 feet in diameter, flowing through secondary Dorr clarifiers of the same size as the primary ones into coagulation basins. The settled water will be recarbonated with flue gas from the boiler house, treated with alum in a second mixing chamber and settled in secondary coagulation basins. From the latter the water will pass to 20 rapid sand filters, and the effluent will finally be treated with chlorine.

Final Report on Double Coagulation Studies at Cincinnati. Clarence Bahlman and E. B. Evans. *Seventh Annual Report of Ohio Conference on Water Purification*, October, 1927, pp. 60-63. (Abstract by J. K. Hoskins.)

This is a final summary report of double coagulation studies first discussed in the Sixth Annual Report of the Conference. The summarized data of operation are presented in the form of tables which are briefly discussed under headings of (a) general comparison of single and double coagulation, (b) additional safeguards in plant operation, (c) will double coagulation permit temporary elimination of the chlorination process? (d) effect of primary coagulation upon secondary chemical doses, (e) effect upon filter runs and waste water used and (f) costs. The experiments were conducted using alum as a coagulant. The conclusions as drawn by the authors are:

"The process of double coagulation is of great value at times of high turbidity and pollution in the raw water. Plant operation becomes more responsive to control, and additional safeguards are introduced. Combined with excess lime treatment, a means is afforded of eliminating phenol tastes without any depreciation in the bacterial quality of the water. The process gives promise of being of assistance when diatoms seriously interfere with filter operation. For at least 60 per cent of the time this plant can function with single coagulation satisfactorily as in the past. The use of the double process is advisable only under unusual loads. The additional cost then will be but \$6,500 per annum, equivalent to 36 cents per million gallons. This is but slightly more than the present cost of chlorination."

Effects of Water on Teeth in Europe. Frederick S. McKay. *Water Works Engineering*, vol. 81, No. 15, July 18, 1928, pp. 1037-38 and 1051-52. (Abstract by Arthur P. Miller.)

This is a continuation of the discussion of this subject by this author. Other articles have appeared in *Water Works Engineering* for January 15, June 1, July 1, and August 1, 1926.

References to literature bearing on mottled teeth in Italy are cited and the author then presents evidence collected by himself personally during a trip to Italy in August, 1927, which points to a relationship between the mottled teeth of the inhabitants of the area about Naples and some deleterious chemical in the drinking-water supply of those inhabitants. The author states that "not one individual who had used water from these wells [Note: the wells discussed are those suspected of containing deleterious chemicals] during the enamel-growing period had escaped the enamel defect." The evidence as presented is very interesting and without further knowledge of some other factor certainly points toward the water supply.

Chlorination Method Used to Destroy Algæ Growths. L. B. Mangun. *Water Works Engineering*, vol. 81, No. 15, July 18, 1928, p. 1076. (Abstract by Arthur P. Miller.)

At Kansas City, Kans., efforts to destroy *Tetrastrum*, an algæ, in one of the reservoirs with copper sulphate was not successful. Chlorination was then tried with such success that plans to cover the reservoir at an expense of \$146,000 were laid aside.

Within the reservoir near one of the walls there is a well terminating one of the pipes leading from the reservoir to the pumps. Due to the arrangements of sluice gates in this well, it was possible by the proper manipulation of the gates to obtain reasonable rotation of the water in the reservoir. The incoming water carried the chlorine, and this rotation gave good mixing. It should be noted that this was not an effort to chlorinate the incoming water but to chlorinate the water in the reservoir.

Chlorination was done at night about three times a week during the summer. A dose of 1 p. p. m. showed a residual at 6 a. m. of 0.2 p. p. m. at the periphery and 0.02 p. p. m. in the center. By 9 a. m. all traces of chlorine had disappeared. After starting this work no further complaints were received by those getting water from this reservoir.

Innovations Increase Output of Filters. Caleb M. Saville. *Water Works Engineering*, vol. 81, No. 12, June 6, 1928, pp. 779-780 and 857. (Abstract by R. C. Beckett.)

Hartford is adding two $\frac{3}{4}$ -acre slow sand filters to the eight present filters each about one-half acre in extent. Rates of filtration vary from three to five million gallons per acre per day although rates as high as 7.5 million gallons have been maintained. Color is reduced one-third.

Development of a boxless type of ejector used in sand pile enables one man with a fire hose to do work formerly done by six men. Additional Nichols sand separators operated in parallel from the ejector at lower pressures resulted in less loss of sand and more sand handled in less time. Time of washing filters was cut from three to two days. Percentage of wash water used for the year was one-eighth of 1 per cent of the total effluent.

Experiences With Crenothrix in Ground Water Supplies. K. W. Brown. *Municipal News and Water Works*, vol. 75, No. 2, August, 1928, pp. 93-94. (Abstract by J. L. Robertson.)

This article discusses methods for combating *Crenothrix* growth by the application of chemicals. It is pointed out that the possibilities of success are greater

when the supply consists of central pumping stations and purification plants. When the distribution mains are supplied direct from scattered wells, the problem is far more intricate.

Experiences at several supplies are given outlining the application of chlorine and of copper sulphate. Chlorine was applied in one instance at the rate of 0.60 p. p. m. Complaints were received and the rate lowered to 0.40 p. p. m. with good results. Attempts to lower the rate further resulted in a return of obnoxious conditions. Introducing copper sulphate in solution remedied conditions at one infected well, but this procedure is termed as a matter of change. The most obstinate conditions dealt with are at Stockton, California. Treatment of this supply is discussed in detail.

The author summarizes "it appears that *Crenothrix* infections in ground water supplies can be eliminated by application of either copper sulphate or chlorine in those systems operating pumping plants augmented by reservoirs of adequate capacity. It is advisable, however, in order to avoid occurrence of obnoxious conditions, that introduction of the chemical be made prior to the reservoir. For systems operating a series of scattered wells there is apparently little opportunity of destroying filamentous organisms; resorting to chemical treatment will occasion inevitably distressing features the extent of which can not be foretold. Combating algæ by chemical application to water pumped directly to distribution from a system of scattered wells is, therefore, nothing less than a gamble, with odds somewhat in favor of the *Crenothrix* survival."

The Viability of Algæ. Anon. *Science*, vol. 68, No. 1754, August 10, 1928, pp. 134-135. (Abstract by H. V. Pederson.)

When the familiar and widely distributed algæ *sphærella sommerfeldt* becomes lodged upon the surface of the earth in the absence of water the cells change from a green to red color and are provided with a thick wall. These cells retain life for a surprisingly long period of time in a dry condition. Experiments have proved that this algæ has shown signs of life after resting for 75 years. The author of this article describes personal experiments in which he records the following data:

Specimens of algæ were collected and placed in corked bottles. At regular intervals samples were removed and planted in favorable growing conditions. At the start of the experiment the red resting cells became green and motile within 48 hours. As time passed the time of motility increased. After seven years of resting the time required for the specimen under experiment "to come to life" was 6 to 7 days. The author hopes to continue his test for viability on this same culture to ascertain how long the algæ will remain viable.

Ozonizing Water—A French Practice. John H. D. Blanke. *Water Works Engineering*, vol. 81, No. 16, August 1, 1928, pp. 1105-6 and 1125-26. (Abstract by Frank Raab.)

This article is an excellent review of French experience with the use of ozone in the sterilization of public water supplies large and small. It describes four well-known processes, namely, the Chevrier and Salles process, the Begot process, the Van Der Made process and the Otto process. An approximate cost of purifying water by some of these processes is given. Ozonization of water supplies is well established for its effectiveness and its dependability. In 1913 there were 49 water supplies totaling 84,000,000 gallons daily, which were sterilized with ozone. In a number of cases the raw water is filtered before it is treated; in a few cases alum is used for coagulation; but in all cases a pure and palatable water is secured. Besides sterilizing ozone also decolorizes and deodorizes bad-tasting and smelling waters. "Absolutely undrinkable water is made as pure and as good as the best spring water." The cost of ozonization for French conditions is

from one-half to two centimes per cubic meter. Calculating five francs to \$1, this means a cost of about \$3.75 to \$15 per million gallons.

The article also gives the results and observations of the first workers with ozone, as well as the physical and chemical properties of it. (Abstracter's note: Small filter plants which experience great troubles with tastes and odors resulting from algae might well consider the ozonization of their water supply.)

Water Supply. Carl Gross. *Illinois Health News*, vol. 14, No. 5, May, 1928, pp. 154-156. (Abstract by H. M. Freeburn.)

Inspections indicate that less than one-tenth of 2,000 wells inspected at tourist camps, farms, and schools are located and permanently constructed so as to be pollution proof at all times. Water in many school wells is contaminated by filth deposited on poorly constructed well tops. This article advocates proper location and protection of wells at rural schools to serve as models for the repair of defective farm wells and gives graphical diagrams to show results of inspections and bacteriological analyses of 68 school wells in one county. Three of the wells were within 15 feet of chemical toilets. It is stated that wells should never be less than 50 feet from toilets, sewers, and cesspools.

Wells with wooden tops or manholes are not eligible to receive safe water seals because such wood construction necessitates more frequent repairs, gives temporary appearance, and may permit contamination of the well. Of the 68 wells inspected, 27 apparently were substantial and permanent and justified an award of a safe water seal.

Bacteriological analyses of water from 50 wells indicated only two bad and eight doubtful. Most of the supplies inspected were either driven or drilled wells.

Chlorine Absorption of Water. H. Wette. *Arch. f. Hyg.* 1928, 99:143-57. Abstract by Arthur P. Miller in *Bulletin of Hygiene*, vol. 3, No. 8, August, 1928, p. 665.

A measurement of chlorine absorption is useful in providing a better criterion of the presence of certain albuminoid bodies than by the oxygen absorbed test (as measured by the Kubel-Tiemann process) and in giving an indication of the amount of chlorine needed in the disinfecting process of water purification.

Various methods of testing for chlorine absorption, the results of which tests depend somewhat on the method, are discussed. Test samples of boiled tap water to which urea was added were subjected to the following three methods of obtaining chlorine absorption: Froboese method—large excess of reagent and heating; Bruns method—addition of 1-2 p. p. m. of chlorine, reaction in cold followed by titration of excess; Olszewski method—testing for slight excess with benzidine.

It was concluded that albuminoid substances like urea, carbohydrates represented by sugar, and fats represented by olive oil, do not affect the dose required for chlorination. Other experiments indicated that a high bicarbonate content and pH value favor high chlorine absorption.

DEATHS DURING WEEK ENDED NOVEMBER 24, 1928

Summary of information received by telegraph from industrial insurance companies for the week ended November 24, 1928, and corresponding week of 1927. (From the *Weekly Health Index*, November 28, 1928, issued by the Bureau of the Census, Department of Commerce)

	Week ended Nov. 24, 1928	Corresponding week, 1927
Policies in force.....	72, 242, 758	69, 519, 120
Number of death claims.....	14, 333	11, 263
Death claims per 1,000 policies in force, annual rate.....	10. 4	8. 4

Deaths from all causes in certain large cities of the United States during the week ended November 24, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, November 28, 1928, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Nov. 24, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Nov. 24, 1928 ¹
	Total deaths	Death rate ¹		Week ended Nov. 24, 1928	Corresponding week, 1927	
Total (68 cities)	7,227	12.7	11.6	674	612	57
Akron	47			10	3	107
Albany	43	18.7	13.5	0	2	0
Atlanta	83	17.0	15.7	11	14	
White	42		11.0	7	8	
Colored	41	(5)	26.8	4	6	
Baltimore	261	16.4	14.7	25	26	89
White	186		12.5	18	19	72
Colored	75	(5)	27.3	7	7	109
Birmingham	57	13.4	15.6	9	8	77
White	24		12.2	3	3	41
Colored	33	(5)	20.9	6	5	135
Bridgeport	36			1	2	17
Buffalo	153	14.4	11.4	14	8	61
Cambridge	25	10.4	9.7	3	1	54
Camden	40	15.4	11.8	7	2	112
Canton	16	7.2	7.8	1	1	23
Chicago	769	12.7	10.4	49	56	42
Cincinnati	145	18.3	17.3	18	13	107
Cleveland	159	8.2	10.3	20	19	54
Columbus	68	11.9	11.8	4	8	37
Dallas	51	12.2	9.9	5	6	
White	38		7.4	3	5	
Colored	13	(9)	26.6	2	1	
Dayton	46	13.0	12.7	4	4	64
Denver	88	15.6	13.3	5	7	
Des Moines	36	12.4	13.3	4	1	71
Detroit	302	11.5	9.9	45	34	70
Duluth	17	7.6	10.9	2	4	47
El Paso	29	12.9	17.0	5	5	
Erie	18			5	3	0
Fall River	37	14.4	8.7	5	1	91
Flint	24	8.4	8.0	8	2	104
Fort Worth	55	16.9	11.8	5	6	
White	48		9.8	3	6	
Colored	7	(5)	26.6	2	0	
Grand Rapids	35	11.1	9.0	6	5	87
Houston	80			4	2	
White					2	
Colored		(5)			0	
Indianapolis	84	11.5	13.5	7	9	54
White	70		11.9	5	8	45
Colored	14	(5)	25.6	2	1	111
Jersey City	67	10.8	9.4	4	7	31
Kansas City, Kans.	34	15.0	18.2	3	4	67
White	29		15.2	3	3	76
Colored	5	(5)	32.0	0	1	0
Kansas City, Mo.	112	15.0	14.6	9	4	73
Knoxville	36	17.9	12.8	8	3	175
White	30		10.4	5	1	122
Colored	6	(5)	29.9	3	2	635
Los Angeles	307			27	18	77
Louisville	71	11.3	13.2	7	2	57
White	51		10.8	7	2	65
Colored	20	(5)	26.7	0	0	0
Lowell	25	11.9	14.7	5	6	109
Lynn	18	8.9	10.4	1	2	27
Memphis	65	17.9	19.2	6	5	71
White	37		14.9	3	5	57
Colored	28	(5)	27.1	3	5	94
Milwaukee	84	8.1	10.2	12	15	54
Minneapolis	84	9.6	10.5	4	2	24
Nashville	39	14.6	15.1	6	7	100
White	19		17.9	3	1	67
Colored	20	(5)	8.0	3	1	194
New Bedford	30	13.1	13.1	2	0	48
New Haven	37	10.3	14.1	1	5	15
New Orleans	140	17.0	18.2	12	12	60
White	85		14.8	8	5	60
Colored	55	(9)	27.9	4	7	61

(See footnotes at end of table)

Deaths from all causes in certain large cities of the United States during the week ended November 24, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927—Continued.

City	Week ended Nov. 24, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Nov. 24, 1928
	Total deaths	Death rate		Week ended Nov. 24, 1928	Corresponding week, 1927	
New York.....	1,408	12.2	11.1	129	108	52
Bronx Borough.....	209	11.5	8.4	13	7	39
Brooklyn Borough.....	466	10.6	10.0	41	44	41
Manhattan Borough.....	563	16.8	15.0	65	46	77
Queens Borough.....	135	8.3	9.0	10	10	41
Richmond Borough.....	35	12.1	7.5	0	1	0
Newark, N. J.....	104	11.5	8.7	16	10	83
Oakland.....	73	13.9	12.3	5	3	54
Oklahoma City.....	40			2	5	
Omaha.....	54	12.7	9.3	2	2	23
Paterson.....	34	12.3	9.8	2	4	35
Philadelphia.....	512	13.0	10.5	45	59	61
Pittsburgh.....	179	13.9	14.8	22	22	74
Portland, Oreg.....	77			3	3	33
Providence.....	51	9.3	12.3	6	8	52
Richmond.....	57	15.3	12.5	4	2	55
White.....	42		12.3	3	1	63
Colored.....	15	(⁵)	13.1	1	1	39
Rochester.....	79	12.6	10.3	2	6	16
St. Louis.....	231	14.2	12.9	28	9	95
St. Paul.....	63			1	5	10
Salt Lake City.....	46	17.4	9.2	5	7	81
San Antonio.....	61	14.6	12.8	9	6	
San Diego.....	40	17.5	17.2	1	1	19
San Francisco.....	190	17.0	12.2	7	7	44
Schenectady.....	15	8.4	6.7	1	2	31
Seattle.....	78	10.6	6.3	3	1	32
Somerville.....	19	9.7	4.3	1	0	28
Spokane.....	34	16.3	17.7	0	4	0
Springfield, Mass.....	19	6.6	10.6	2	3	33
Syracuse.....	51	13.4	10.6	2	3	24
Tacoma.....	23	10.9	13.1	1	1	26
Toledo.....	75	12.5	12.1	12	7	116
Trenton.....	28	10.5	14.5	5	1	96
Utica.....	40	20.1	14.6	2	1	47
Washington, D. C.....	121	11.5	11.8	10	6	58
White.....	69		10.6	3	3	25
Colored.....	52	(⁵)	15.3	7	3	129
Waterbury.....	14			1	1	25
Wilmington, Del.....	33	13.4	12.8	2	4	49
Worcester.....	43	11.4	13.3	2	5	24
Yonkers.....	19	8.2	10.5	2	1	45
Youngstown.....	45	13.5	7.7	4	2	53

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

³ Data for 69 cities.

⁴ Deaths for week ended Friday, Nov. 23, 1928.

⁵ In 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; For 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.

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 November 24, 1928, and November 26, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 24, 1928, and November 26, 1927

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927
New England States:								
Maine.....	13	3	22		208	104	1	0
New Hampshire.....	5		16		14		0	0
Vermont.....	2	1					0	0
Massachusetts.....	83	115	9	5	485	296	4	0
Rhode Island.....	20	13	4	1	33	5	0	0
Connecticut.....	28	28	4	8	93	36	1	0
Middle Atlantic States:								
New York.....	227	325	120	112	581	133	20	5
New Jersey.....	164	169	5	10	130	63	3	4
Pennsylvania.....	297	263			768	444	5	1
East North Central States:								
Ohio.....	72	291	11	7	123	46	1	0
Indiana.....	59	47	7	21	43	14	0	0
Illinois.....	242	176	20	11	318	32	5	10
Michigan.....	105	102	2	2	30	168	6	2
Wisconsin.....	20	40	38	44	61	85	3	9
West North Central States:								
Minnesota.....	23	33	1	1	26	5	1	0
Iowa.....								
Missouri ¹	62	100	16	6	58	37	5	1
North Dakota.....	17	5	16	1	7	7	3	0
South Dakota.....	3	3		1	2	9	0	0
Nebraska.....	9	16			6	20	1	1
Kansas.....	34	34	2	2	6	17	2	1
South Atlantic States:								
Delaware.....		2		2		4	0	0
Maryland ²	42		13		42		0	0
District of Columbia.....	43	21	3	1	5		0	0
West Virginia.....	46	30	13	31	42	20	0	0
North Carolina.....	199	91			38	642	1	1
South Carolina.....	47	60	1,770	573	3	261	0	0
Georgia.....	31	24	146	94	33	27	0	0
Florida.....	16	22	31	1	4	2	0	1

¹ New York City only.

² Exclusive of Kansas City, Mo.

³ Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 24, 1928, and November 26, 1927—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927
East South Central States:								
Kentucky.....	30				5		0	
Tennessee.....	37	42	97	37		102	1	0
Alabama.....	151	104	191	67	22	40	3	0
Mississippi.....	49	42					0	0
West South Central States:								
Arkansas.....	20	31	89	38	6	6	0	1
Louisiana.....	38	45	22	10	92	17	0	2
Oklahoma ¹	86	82	87	36	9	26	1	1
Texas.....	77	92	19	52	2	23	0	0
Mountain States:								
Montana.....	1	5	421		29	1	3	0
Idaho.....	8	2	14		1	1	3	0
Wyoming.....	4	3	7			11	0	0
Colorado.....	24	30	2		8	17	1	1
New Mexico.....	7	9	42		2	14	0	0
Arizona.....	2	16	4			1	0	0
Utah ²	2	13	168	3		1	1	0
Pacific States:								
Washington.....	16	22	28		1	77	2	4
Oregon.....	21	7	250	17	58	4	4	0
California.....	119	117	4,843	21	20	37	10	0

Division and State	Pollomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927
New England States:								
Maine.....	0	6	40	40	13	0	2	5
New Hampshire.....	0		21		0		0	
Vermont.....	0	0	15	8	2	0	0	0
Massachusetts.....	2	19	202	170	0	0	4	7
Rhode Island.....	1	1	17	17	0	0	0	2
Connecticut.....	3	1	51	36	0	0	3	3
Middle Atlantic States:								
New York.....	6	12	290	273	0	8	20	36
New Jersey.....	0	8	102	114	0	0	8	6
Pennsylvania.....	4	10	404	350	0	0	40	20
East North Central States:								
Ohio.....	5	29	169	209	21	5	21	7
Indiana.....	0	2	84	118	34	93	4	3
Illinois.....	2	4	288	233	40	17	21	19
Michigan.....	2	2	219	156	22	12	12	13
Wisconsin.....	1	7	148	114	18	23	0	1
West North Central States:								
Minnesota.....	2	1	113	134	0	3	1	3
Iowa.....	0	2	84	81	10	88	26	12
Missouri ³	3	0	26	76	0	14	2	5
North Dakota.....	1	1	7	23	10	2	3	2
South Dakota.....	0	8	49	42	14	5	3	3
Nebraska.....	0	3	119	117	49	32	8	7
South Atlantic States:								
Delaware.....	0	1	1	3	0	0	2	0
Maryland ⁴	1		78		0		13	
District of Columbia.....	0	0	14	18	0	0	2	0
West Virginia.....	1	9	75	47	10	5	20	24
North Carolina.....	0	0	149	71	10	28	15	8
South Carolina.....	1	1	11	38	0	5	13	33
Georgia.....	0	0	52	17	0	0	7	9
Florida.....	0	0	12	7	0	0	0	1

¹ Exclusive of Kansas City, Mo.

² Week ended Friday.

³ Figures for 1928 are exclusive of Oklahoma City and Tulsa and for 1927 are exclusive of Tulsa

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 24, 1928, and November 26, 1927—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927	Week ended Nov. 24, 1928	Week ended Nov. 26, 1927
East South Central States:								
Kentucky.....	0		83		8		12	
Tennessee.....	0	1	34	50	3	7	8	18
Alabama.....	0	0	54	20	8	19	32	43
Mississippi.....	0	0	21	30	0	7	17	5
West South Central States:								
Arkansas.....	0	2	17	10	2	2	20	14
Louisiana.....	0	0	27	18	43	8	7	12
Oklahoma ⁴	1	3	45	25	10	36	23	43
Texas.....	0	2	35	66	21	13	8	14
Mountain States:								
Montana.....	1	2	24	12	14	59	3	2
Idaho.....	0	2	10	17	12	8	0	0
Wyoming.....	0	2	24	33	5	10	0	0
Colorado.....	0	0	24	52	1	8	2	11
New Mexico.....	1	2	22	9	0	0	6	16
Arizona.....	0	0	0	0	6	0	1	0
Utah ²	0	2	10	2	1	30	1	2
Pacific States:								
Washington.....	4	0	50	39	52	35	5	5
Oregon.....	0	26	31	9	41	20	3	3
California.....	6	17	178	155	15	5	5	7

³ Week ended Friday.

⁴ Figures for 1928 are exclusive of Oklahoma City and Tulsa and for 1927 are exclusive of Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Men- coc- cus men- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pellag- ra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>September, 1928</i>										
Delaware.....				1	3		1	6	0	3
<i>October, 1928</i>										
Alabama.....	2	447	230	1,332	29	29	14	176	5	132
California.....	13	434	4,255	13	88	3	22	707	101	78
Georgia.....	0	170	337	953	20	24	0	104	3	96
Idaho.....	4	11			7		16	83	34	10
Illinois.....	23	676	61	18	340	4	18	829	65	156
Iowa.....	1	75			4		4	266	34	16
Mississippi.....		233	2,113	10,461	134	663	3	149	2	105
Missouri.....	14	231	23	48	43		1	313	26	91
North Carolina.....	0	957			85		4	558	17	148
Oklahoma ¹	6	353	104	582	18	19	2	162	25	222
Oregon.....	5	66	80		66		13	145	99	16
Rhode Island.....	0	71	5		64		4	54	0	5
South Carolina.....	0	653	2,309	3,935	22	384	6	78	4	180
Wisconsin.....	18	100	127	0	230		2	376	35	18

¹ Exclusive of Oklahoma City and Tulsa.

September, 1928		Lethargic encephalitis:	
	Cases		Cases
Delaware:		California	6
Ophthalmia neonatorum	1	Idaho	1
Whooping cough	7	Illinois	4
		Oregon	1
		Wisconsin	1
		Mumps:	
October, 1928		Alabama	17
Actinomycosis:		California	791
California	1	Georgia	15
Illinois	1	Idaho	1
Anthrax:		Illinois	160
California	1	Iowa	89
Mississippi	2	Mississippi	173
Rhode Island	1	Missouri	37
Chicken pox:		Oklahoma ¹	2
Alabama	25	Oregon	23
California	699	Rhode Island	1
Georgia	16	South Carolina	14
Idaho	16	Wisconsin	119
Illinois	793	Milk sickness:	
Iowa	167	Illinois	1
Mississippi	226	Ophthalmia neonatorum:	
Missouri	152	Illinois	53
North Carolina	161	Mississippi	7
Oklahoma ¹	17	Missouri	1
Oregon	115	North Carolina	1
Rhode Island	8	Rhode Island	2
South Carolina	34	South Carolina	13
Wisconsin	867	Paratyphoid fever:	
Coccidioidal granuloma:		California	2
California	4	Georgia	5
Conjunctivitis:		Idaho	3
Georgia	2	Illinois	1
Dengue:		South Carolina	4
Alabama	10	Puerperal fever:	
Georgia	12	Illinois	13
Mississippi	198	Mississippi	41
Oklahoma ¹	1	Rabies in animals:	
South Carolina	102	California	65
Dysentery:		Illinois	36
California (amebic)	1	Mississippi	5
California (bacillary)	5	Oregon	1
Georgia	23	Rhode Island	14
Illinois	28	South Carolina	7
Mississippi (amebic)	36	Rabies in man:	
Mississippi (bacillary)	350	Georgia	1
Oklahoma ¹	17	Iowa	1
Oregon	1	Scabies:	
German measles:		Oregon	43
California	49	Septic sore throat:	
Illinois	17	Georgia	42
North Carolina	6	Illinois	10
Wisconsin	14	Iowa	1
Hookworm disease:		Missouri	13
Georgia	7	North Carolina	11
Mississippi	286	Oklahoma ¹	14
Oklahoma ¹	1	Oregon	5
South Carolina	82	Tetanus:	
Impetigo contagiosa:		California	4
Oregon	15	Georgia	1
Jaundice:		Illinois	5
California	1	Missouri	1
Lead poisoning:		Oklahoma ¹	2
Illinois	7	South Carolina	1
Leprosy:		Wisconsin	5
California	1		

¹ Exclusive of Oklahoma City and Tulsa.

Trachoma:	Cases	Undulant fever—Continued.	Cases
California.....	177	Iowa.....	6
Idaho.....	1	Oregon.....	1
Illinois.....	11	Whooping cough:	
Mississippi.....	6	Alabama.....	59
Missouri.....	27	California.....	826
Oklahoma ¹	17	Georgia.....	40
Wisconsin.....	5	Idaho.....	2
Tularaemia:		Illinois.....	397
California.....	1	Iowa.....	39
South Carolina.....	1	Mississippi.....	543
Typhus fever:		Missouri.....	122
Alabama.....	2	North Carolina.....	252
Georgia.....	8	Oklahoma ¹	25
Undulant fever:		Oregon.....	8
California.....	1	Rhode Island.....	35
Georgia.....	1	South Carolina.....	148
		Wisconsin.....	414

¹ Exclusive of Oklahoma City and Tulsa.

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of October, 1928, by departments of health of certain States to other State health departments

Disease	California	Illinois	Massachusetts	Minnesota	New Jersey	New York	Washington
Diphtheria.....				1		1	
Encephalitis.....	1						
Malaria.....	2						
Measles.....						2	
Polio-myelitis.....						2	
Scarlet fever.....					1		
Smallpox.....		1			1		
Tuberculosis.....				38			
Tularaemia.....	1						
Typhoid fever.....	3		5	3	1	5	1

¹ Epidemic.

PLAGUE-INFECTED GROUND SQUIRREL IN CALIFORNIA

A ground squirrel which was captured September 12, 1928, 1½ miles south of New Hall tunnel, Los Angeles, Calif., was proved positive for plague September 17, 1928. An intensive eradication campaign was conducted in the vicinity but no other plague-infected squirrel has been found.

INFLUENZA IN LOS ANGELES, CALIF.

A telegram from the health commissioner of Los Angeles, Calif., dated November 28, 1928, states that the onset of the epidemic of influenza occurred November 13. The total number of cases reported from November 1 to 27 was 2,928, with 51 deaths. The disease is mild in type. It is estimated that about one-fifth of the cases are reported.

PATIENTS IN INSTITUTIONS FOR THE FEEBLE-MINDED, APRIL TO JUNE, 1928

Reports for the second quarter of the year 1928 have been received by the Public Health Service from 25 institutions for the care of the feeble-minded, located in 22 States. On June 30, 1928, there were

29,815 patients in these institutions, including those on temporary leave. The first admissions were as follows:

	Male	Female	Total
April.....	173	106	279
May.....	167	117	284
June.....	145	99	244
Total.....	485	322	807

Of the first admissions 60.1 per cent were males and 39.9 were females, the ratio being 151 males per 100 females. On June 30, 1928, there were 15,716 male patients and 14,099 female patients, giving a ratio of 111 males per 100 females.

During the three months 218 patients were discharged, 107 males and 111 females. Two hundred and fifty-four patients died, the death rate being for males, 38.1 per 1,000; for females, 30.8; and for persons, 34.7 per 1,000. These death rates are on an annual basis computed on the estimated population of the institutions as of the middle of May, 1928.

Data showing the numbers of patients on temporary leave are available for 23 institutions for the first six months of the year 1928.

During the first quarter of the year there was a small decrease in the number of patients absent on temporary leave, but during the second quarter the number on leave increased 18.8 per cent, although during these three months the total number on the books increased only 1.4 per cent, and the number in the institutions decreased slightly.

The following table shows the numbers of patients in the institutions and on temporary leave at the end of each month from January to June, 1928, and the percentage of the total patients who were on leave.

	Jan. 31, 1928	Feb. 29, 1928	Mar. 31, 1928	Apr. 30, 1928	May 31, 1928	June 30, 1928
Patients in institutions:						
Male.....	12,438	12,605	12,699	12,769	12,802	12,588
Female.....	11,729	11,770	11,824	11,846	11,839	11,683
Total.....	24,167	24,375	24,523	24,615	24,641	24,271
Patients on temporary leave:						
Male.....	1,993	1,958	1,923	1,957	2,015	2,303
Female.....	1,596	1,497	1,496	1,525	1,561	1,760
Total.....	3,499	3,455	3,419	3,482	3,576	4,063
Total patients on books:						
Male.....	14,431	14,563	14,622	14,726	14,817	14,891
Female.....	13,235	13,267	13,320	13,371	13,400	13,443
Total.....	27,666	27,830	27,942	28,097	28,217	28,334
Per cent of total patients on temporary leave:						
Male.....	13.8	13.4	13.2	13.4	13.6	15.5
Female.....	11.4	11.3	11.2	11.4	11.6	13.1
Total.....	12.6	12.4	12.2	12.4	12.7	14.3

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 97 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,450,000. The estimated population of the 91 cities reporting deaths is more than 30,750,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended November 17, 1928, and November 19, 1927

	1928	1927	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
43 States.....	2,563	3,058	
97 cities.....	953	1,351	1,307
Measles:			
42 States.....	2,591	2,652	
97 cities.....	568	735	
Poliomyelitis:			
44 States.....	68	300	
Scarlet fever:			
42 States.....	3,251	3,581	
97 cities.....	1,015	1,040	1,002
Smallpox:			
43 States.....	389	484	
97 cities.....	21	111	39
Typhoid fever:			
43 States.....	402	486	
97 cities.....	61	89	77
<i>Deaths reported</i>			
Influenza and pneumonia:			
91 cities.....	686	701	
Smallpox:			
91 cities.....	0	1	
Chicago, Ill.....	0	1	

City reports for week ended November 17, 1928

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 1919 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	Population July 1, 1926, estimated	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.....	76,400	2	2	0	0	0	16	1	1
New Hampshire:									
Concord.....	122,546	0	0	0	0	0	0	0	0
Manchester.....	84,000	0	4	5	0	0	0	0	2

¹ Estimated, July 1, 1925.

City reports for week ended November 17, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	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—contd.									
Vermont:									
Barre.....	1 10,008	0	0	0	0	0	0	4	0
Massachusetts:									
Boston.....	787,000	35	48	15	1	2	1	0	7
Fall River.....	131,000	3	5	5	0	0	101	0	1
Springfield.....	145,000	17	4	12	0	0	34	4	0
Worcester.....	193,000	11	7	2	0	0	2	13	0
Rhode Island:									
Pawtucket.....	71,000	2	1	1	0	0	2	1	0
Providence.....	275,000	0	11	20	0	1	3	0	8
Connecticut:									
Bridgeport.....	(²)	2	10	7	2	1	6	0	1
Hartford.....	164,000	13	8	7	0	0	0	1	2
New Haven.....	182,000	14	3	0	0	0	1	2	5
MIDDLE ATLANTIC									
New York:									
Buffalo.....	544,000	32	21	10	0	2	2	1	14
New York.....	5,924,000	162	176	144	16	8	88	0	137
Rochester.....	321,000	26	9	6	0	0	13	5	8
Syracuse.....	185,000	10	7	1	0	0	2	2	7
New Jersey:									
Camden.....	131,000	13	10	8	0	1	1	0	3
Newark.....	459,000	52	14	39	3	2	1	33	11
Trenton.....	134,000	1	5	2	0	1	0	0	0
Pennsylvania:									
Philadelphia.....	2,008,000	106	82	46	0	6	9	5	46
Pittsburgh.....	637,000	60	38	19	0	1	6	5	27
Reading.....	114,000	13	4	1	0	0	20	0	2
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	411,000	14	19	8	0	2	0	1	10
Cleveland.....	960,000	113	63	19	3	2	29	7	7
Columbus.....	285,000	22	16	8	0	0	0	0	5
Toledo.....	295,000	115	16	1	1	1	2	0	5
Indiana:									
Fort Wayne.....	99,900	3	5	5	0	0	0	0	1
Indianapolis.....	367,000	45	14	7	0	0	3	1	11
South Bend.....	81,700	3	3	0	0	0	0	0	1
Terre Haute.....	71,900	0	3	1	0	0	0	0	0
Illinois:									
Chicago.....	3,048,000	145	69	145	18	6	33	11	49
Springfield.....	64,700	1	3	1	1	0	0	0	1
Michigan:									
Detroit.....	³ 1,242,044	168	80	48	2	4	6	21	31
Flint.....	136,000	13	12	3	0	1	1	0	4
Grand Rapids.....	156,000	8	5	0	0	1	0	1	1
Wisconsin:									
Kenosha.....	52,700	10	2	1	0	0	1	0	0
Milwaukee.....	517,000	166	34	4	0	0	48	6	5
Racine.....	69,400	36	3	2	0	0	10	0	0
Superior.....	¹ 39,671	1	0	1	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	113,000	12	1	0	0	0	0	3	2
Minneapolis.....	434,000	171	34	10	0	1	20	16	16
St. Paul.....	248,000	104	19	1	0	1	0	5	6
Iowa:									
Davenport.....	¹ 52,469	0	2	0	0	0	0	0	0
Des Moines.....	146,000	0	6	2	0	0	0	0	0
Sioux City.....	78,000	16	3	0	0	0	0	22	0
Waterloo.....	36,900	9	0	2	0	0	1	46	0

¹ Estimated, July 1, 1925.² No estimate made.³ Special census.

City reports for week ended November 17, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
WEST NORTH CENTRAL—continued									
Missouri:									
Kansas City.....	375,000	16	13	7	0	1	6	1	3
St. Joseph.....	78,400	2	3	0	0	0	1	0	1
St. Louis.....	830,000	20	54	45	0	0	2	1	1
North Dakota:									
Fargo.....	¹ 26,403	11	0	0	0	0	0	0	0
Grand Forks.....	¹ 14,811	1	0	0	0	0	0	0	0
South Dakota:									
Aberdeen.....	¹ 15,036	9	0	1	0	0	0	0	0
Sioux Falls.....	¹ 30,127	0	1	1	0	0	0	0	0
Nebraska:									
Lincoln.....	62,000	4	2	0	0	0	1	0	0
Omaha.....	216,000	1	8	32	0	0	0	0	7
Kansas:									
Topeka.....	56,500	21	3	1	0	0	2	0	0
Wichita.....	92,500	6	8	3	0	0	0	1	1
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	124,000	1	3	0	0	0	19	0	3
Maryland:									
Baltimore.....	808,000	91	37	13	6	3	4	45	21
Cumberland.....	¹ 33,741	1	0	0	0	0	7	0	0
Frederick.....	¹ 12,035		0						
District of Columbia:									
Washington.....	528,000	14	23	38	1	1	0	0	13
Virginia:									
Lynchburg.....	¹ 38,493	3	5	3	0	0	0	12	0
Norfolk.....	174,000	22	5	2	0	0	1	0	2
Richmond.....	169,000	1	20	18	0	0	0	0	3
Roanoke.....	61,900		5						
West Virginia:									
Charleston.....	50,700	20	3	2	0	0	0	0	1
Wheeling.....	¹ 56,208	5	4	1	1	0	17	4	1
North Carolina:									
Raleigh.....	¹ 30,371	0	2	7	0	1	0	0	0
Wilmington.....	37,700	0	1	4	0	1	0	0	2
Winston-Salem.....	71,800	4	6	2	0	0	0	0	4
South Carolina:									
Charleston.....	74,100	0	2	2	29	0	0	0	4
Columbia.....	41,800	4	1	1	0	0	0	3	6
Greenville.....	¹ 27,311	1	2	0	0	1	0	0	0
Georgia:									
Atlanta.....	(²)	0	11	8	26	1	0	0	4
Brunswick.....	¹ 16,809		0						
Savannah.....	94,900	0	3	8	1	0	0	0	1
Florida:									
Miami.....	¹ 131,286	0	2	1	0	0	0	0	1
St. Petersburg.....	¹ 47,629		0	1	0	0	0	0	2
Tampa.....	102,000	0	3	1	0	0	0	0	1
EAST SOUTH CENTRAL									
Kentucky:									
Covington.....	58,500	0	3	0	0	0	0	0	2
Louisville.....	311,000	2	9	2	2	0	3	0	10
Tennessee:									
Memphis.....	177,000	2	11	1	0	0	0	0	8
Nashville.....	137,000	0	6	3	0	1	0	0	3
Alabama:									
Birmingham.....	211,000	3	9	4	11	0	0	2	6
Mobile.....	66,800	0	2	2	2	2	0	1	2
Montgomery.....	47,000	0	3	8	0	0	0	0	0

¹ Estimated July 1, 1925.

² No estimate made.

³ Special census.

City reports for week ended November 17, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	131,643	2	2	2	0	1	2	0	
Little Rock.....	75,900	0	4	3	0	1	1	0	
Louisiana:									
New Orleans.....	419,000	1	13	8	6	5	1	0	12
Shreveport.....	59,500	0	2	1	0	0	0	0	2
Oklahoma:									
Tulsa.....	133,000	6	6	17	0	0	3		
Texas:									
Dallas.....	203,000	0	17	27	0	0	0	0	1
Fort Worth.....	159,090	7	5	20	0	0	0	0	3
Galveston.....	49,100	0	1	1	0	0	0	0	0
Houston.....	164,954	0	8	12	0	0	0	0	2
San Antonio.....	205,000	0	5	6	0	3	0	0	0
MOUNTAIN									
Montana:									
Billings.....	117,971	10	1	0	7	0	0	0	0
Great Falls.....	129,883	47	1	0	0	0	13	4	1
Helena.....	112,037	5	0	0	0	0	3	0	1
Missoula.....	112,668	0	1	0	9	0	0	0	1
Idaho:									
Boise.....	123,042	2	0	0	0	0	0	0	0
Colorado:									
Denver.....	285,000	47	15	27	2	5	23	4	
Pueblo.....	43,600	9	3	0	0	0	1	0	
New Mexico:									
Albuquerque.....	121,000	0	1	1	0	0	0	2	
Utah:									
Salt Lake City.....	133,000	123	5	0	0	4	2	12	4
Nevada:									
Reno.....	112,665	0	0	0	38	0	0	0	2
PACIFIC									
Washington:									
Seattle.....	(?)	20	6	3	0	1	2		
Spokane.....	109,000	61	3	3	0	14	0		
Tacoma.....	106,000		4						
Oregon:									
Portland.....	1282,383	21	11	11	4	0	8	4	7
California:									
Los Angeles.....	(?)	25	51	25	241	8	1	7	18
Sacramento.....	73,400	7	3	2	95	2	1	19	6
San Francisco.....	567,000	6	20	4	992	9	3	3	4

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland.....	2	0	0	0	0	1	0	0	2	16	
New Hampshire:											
Concord.....	0	0	0	0	0	0	0	0	0	10	
Manchester.....	2	6	0	0	0	0	0	0	0	17	
Vermont:											
Barre.....	0	0	0	0	0	1	0	0	0	3	

¹ Estimated, July 1, 1925.² No estimate made.

City reports for week ended November 17, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND—continued											
Massachusetts:											
Boston.....	53	39	0	0	0	14	2	5	0	16	229
Fall River.....	3	5	0	0	0	4	1	0	0	11	20
Springfield.....	6	5	0	0	0	0	0	2	0	1	27
Worcester.....	10	10	0	0	0	0	0	0	0	6	40
Rhode Island:											
Pawtucket.....	0	0	0	0	0	0	0	0	0	4	17
Providence.....	8	13	0	0	0	8	0	0	0	8	72
Connecticut:											
Bridgeport.....	7	3	0	0	0	3	1	0	0	1	37
Hartford.....	5	5	0	0	0	3	0	0	0	2	35
New Haven.....	6	4	0	0	0	1	1	0	0	2	23
MIDDLE ATLANTIC											
New York:											
Buffalo.....	21	15	0	0	0	6	1	0	1	29	139
New York.....	111	98	0	0	0	80	18	17	3	48	1,342
Rochester.....	6	1	0	0	0	3	1	0	0	13	83
Syracuse.....	10	6	0	0	0	0	0	0	0	20	48
New Jersey:											
Camden.....	4	12	0	0	0	2	1	1	0	8	28
Newark.....	16	8	0	0	0	7	1	1	0	22	109
Trenton.....	3	0	0	1	0	0	0	0	1	0	28
Pennsylvania:											
Philadelphia.....	70	37	0	0	0	36	5	0	0	76	516
Pittsburgh.....	39	41	0	0	0	0	0	2	1	15	157
Reading.....	2	3	0	0	0	0	0	0	1	13	19
EAST NORTH CENTRAL											
Ohio:											
Cincinnati.....	13	19	0	0	0	7	1	0	0	9	136
Cleveland.....	26	13	0	0	0	12	2	1	0	69	182
Columbus.....	10	12	0	1	0	9	0	1	0	15	95
Toledo.....	13	8	0	0	0	6	1	0	0	36	83
Indiana:											
Fort Wayne.....	2	6	0	0	0	0	0	0	0	0	32
Indianapolis.....	13	19	3	0	0	10	0	2	1	6	111
South Bend.....	4	0	1	0	0	0	0	0	0	2	11
Terre Haute.....	4	2	0	0	0	0	0	0	0	0	17
Illinois:											
Chicago.....	102	87	1	4	0	54	5	2	0	58	689
Springfield.....	3	11	0	0	0	1	0	2	0	0	18
Michigan:											
Detroit.....	72	106	1	1	0	26	3	0	0	195	307
Flint.....	11	15	0	0	0	1	0	0	0	21	24
Grand Rapids.....	9	5	1	0	0	2	0	0	0	13	35
Wisconsin:											
Kenosha.....	1	2	0	0	0	0	0	0	0	13	-----
Milwaukee.....	18	74	1	0	0	6	0	1	0	84	110
Racine.....	4	2	0	0	0	0	0	0	0	14	10
Superior.....	2	2	1	0	0	0	0	0	0	0	3
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	7	11	0	0	0	0	0	0	0	13	24
Minneapolis.....	44	20	2	0	0	1	0	0	0	18	94
St. Paul.....	19	14	4	0	0	4	0	0	0	27	58
Iowa:											
Davenport.....	0	6	0	1	-----	-----	0	0	-----	0	-----
Des Moines.....	10	13	1	0	-----	-----	0	0	-----	0	31
Sioux City.....	3	0	0	0	-----	-----	0	0	-----	4	-----
Waterloo.....	2	30	1	0	-----	-----	0	0	-----	6	-----
Missouri:											
Kansas City.....	12	20	1	0	0	3	2	1	0	9	75
St. Joseph.....	4	0	0	0	0	0	0	0	0	2	21
St. Louis.....	34	8	0	0	0	9	3	4	0	28	212

1 Nonresident.

City reports for week ended November 17, 1928—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		
WEST NORTH CENTRAL—continued											
North Dakota:											
Fargo.....	3	2	0	0	0	0	0	0	0	5	2
Grand Forks.....	1	3	0	0			0	0		1	
South Dakota:											
Aberdeen.....	0	0	0	0			0	0		2	
Sioux Falls.....	3	0	0	0			0	0		0	10
Nebraska:											
Lincoln.....	2	1	0	0	0	0	0	0	0	0	14
Omaha.....	6	5	2	0	0	3	0	0	0	1	50
Kansas:											
Topeka.....	3	3	0	0	0	0	0	1	0	5	13
Wichita.....	6	2	1	1	0	0	0	1	0	5	28
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	5	0	0	0	0	2	1	0	0	4	28
Maryland:											
Baltimore.....	19	9		0	0	13	4	0	0	53	229
Cumberland.....	1	5	0	0	0	1	0	0	0	4	15
Frederick.....	1		0				0				
District of Columbia:											
Washington.....	16	0	1	0	0	8	2	2	2	1	159
Virginia:											
Lynchburg.....	0	2	0	0	0	0	0	1	0	0	4
Norfolk.....	3	3	0	0	0	1	0	0	1	0	
Richmond.....	9	3	0	0	0	1	0	1	1	1	44
Roanoke.....	3		1				1				
West Virginia:											
Charleston.....	2	4	0	0	0	0	0	1	0	7	20
Wheeling.....	2	0	0	0	0	0	1	0	0	0	16
North Carolina:											
Raleigh.....	2	1	0	0	0	1	0	0	0	0	11
Wilmington.....	1	1	0	0	0	1	0	0	0	0	18
Winston-Salem.....	2	5	1	1	0	0	0	0	0	3	30
South Carolina:											
Charleston.....	1	0	0	0	0	2	0	0	0	0	24
Columbia.....	0	3	0	0	0	0	0	0	0	0	14
Greenville.....	1	0	0	0	0	1	0	0	0	4	9
Georgia:											
Atlanta.....	6	19	0	0	0	3	0	1	2	4	77
Brunswick.....	0	0	0				0				
Savannah.....	1	1	0	0	0	2	0	0	0	3	37
Florida:											
Miami.....	0	5	0	0	0	1	0	0	0	2	25
St. Petersburg.....	0	1	0	0	0	0	0	0	0		6
Tampa.....	0	0	0	0	0	3	0	0	0	0	20
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	1	2	0	1	0	2	0	1	0	0	18
Louisville.....	6	18	0	0	0	7	1	0	1	3	94
Tennessee:											
Memphis.....	6	18	0	0	0	2	2	1	0	0	70
Nashville.....	4	1	0	0	0	2	2	0	0	1	52
Alabama:											
Birmingham.....	4	8	0	0	0	4	1	0	0	9	60
Mobile.....	0	1	0	0	0	0	0	0	1	0	21
Montgomery.....	0	2	0	0			0			0	
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	1	0	0	0			1	0		0	
Little Rock.....	3	17	0	0	0	1	1	0	0	0	
Louisiana:											
New Orleans.....	6	13	0	0	0	14	2	1	0	0	169
Shreveport.....	2	1	0	0	0	2	1	0	0	0	25

City reports for week ended November 17, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- cul- osis, 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		
WEST SOUTH CENTRAL—continued											
Oklahoma:											
Tulsa.....	2	3	0	0			0	0		4	
Texas:											
Dallas.....	6	11	0	0	0	1	0	4	0	0	48
Fort Worth.....	2	9	0	3	0	0	1	0	0	0	26
Galveston.....	1	1	0	0	0	0	1	0	0	0	12
Houston.....	1	5	0	0	0	2	0	0	0	0	66
San Antonio.....	1	1	1	0	0	7	0	0	0	0	48
MOUNTAIN											
Montana:											
Billings.....	1	1	0	0	0	0	0	0	0	2	3
Great Falls.....	1	0	1	0	0	0	0	0	0	0	9
Helena.....	0	3	0	0	0	0	0	0	0	3	
Missoula.....	0	1	0	0	0	0	0	0	0	0	9
Idaho:											
Boise.....	0	0	0	0	0	0	0	0	0	0	5
Colorado:											
Denver.....	10	1	0	0	0	7	1	0	0	1	95
Pueblo.....	0	2	0	0	0	0	1	0	0	0	8
New Mexico:											
Albuquerque.....	0	0	0	0	0	5	1	0	0	2	14
Utah:											
Salt Lake City.....	2	3	2	10	0	2	1	1	0	0	34
Nevada:											
Reno.....	0	0	0	0	0	1	0	0	0	0	10
PACIFIC											
Washington:											
Seattle.....	9	8	2	1			1	1		28	
Spokane.....	9	6	5	0			1	0		0	
Tacoma.....	3						0				
Oregon:											
Portland.....	9	8	4	31	0	2	1	1	0	0	55
California:											
Los Angeles.....	22	16	3	0	0	18	2	0	0	34	
Sacramento.....	2	16	1	0	0	0	1	0	0	2	26
San Francisco.....	12	8	0	0	0	10	1	1	0	7	173

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston.....	0	0	1	0	0	0	2	1	1
Springfield.....	1	0	0	0	0	0	0	0	0
Connecticut:									
Hartford.....	0	0	0	0	0	0	0	1	0
MIDDLE ATLANTIC									
New York:									
New York.....		21	8	3	2	0	0	7	3
New Jersey:									
Trenton.....	0	0	0	0	1	0	0	0	0
Pennsylvania:									
Philadelphia.....	1	0	2	1	0	0	1	0	0
Pittsburgh.....	1	1	2	0	1	0	0	0	0

* Rabies (in man): 1 case and 1 death at Pittsburgh, Pa., and 1 death at Houston, Tex.

City reports for week ended November 17, 1928—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 NORTH CENTRAL									
Ohio:									
Cleveland.....	2	0	1	0	0	0	0	0	0
Illinois:									
Chicago.....	6	4	1	1	1	1	1	1	0
Michigan:									
Detroit.....	3	3	1	1	0	0	0	0	0
Wisconsin:									
Milwaukee.....	3	2	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	0	0	0	1	0	0	0	0	0
Minneapolis.....	0	0	0	0	17	0	0	1	1
Iowa:									
Des Moines.....	0	0	0	0	0	0	0	1	0
Missouri:									
Kansas City.....	2	0	0	1	0	0	0	0	0
St. Louis.....	2	0	1	0	0	0	0	1	0
North Dakota:									
Grand Forks.....	0	0	1	0	0	0	0	0	0
Nebraska:									
Omaha.....	0	1	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	0	0	0	1	1	0	0	0	0
North Carolina:									
Winston-Salem.....	0	0	0	0	0	1	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	2	1	0	0	0
Columbia.....	0	0	0	0	0	1	0	0	0
Georgia:									
Atlanta.....	0	1	0	0	5	3	0	0	0
Savannah ²	0	0	0	0	1	2	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	0	0	0	0	1	0	0	0	0
Alabama:									
Birmingham.....	0	0	0	0	1	1	0	0	0
Mobile.....	0	0	0	0	0	1	0	0	0
WEST SOUTH CENTRAL¹									
Louisiana:									
New Orleans.....	0	0	0	0	1	2	1	0	0
Shreveport.....	0	0	0	0	0	1	0	0	0
PACIFIC									
Washington:									
Seattle.....	2	0	0	0	0	0	1	1	0
Oregon:									
Portland.....	0	0	0	0	0	0	1	1	0
California:									
Los Angeles.....	0	0	1	1	0	0	1	0	0

¹ Rabies (in man): 1 case and 1 death at Pittsburgh, Pa., and 1 death at Houston, Tex.

² Delayed reports.

³ Typhus fever: 2 cases at Savannah, Ga.

The following table gives the rates per 100,000 population for 101 cities for the 5-week period ended November 17, 1928, compared with those for a like period ended November 19, 1927. The popula-

tion figures used in computing the rates are approximate estimates as of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, October 14 to November 17, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927

DIPHTHERIA CASE RATES

	Week ended—									
	Oct. 20, 1928	Oct. 22, 1927	Oct. 27, 1928	Oct. 29, 1927	Nov. 3, 1928	Nov. 5, 1927	Nov. 10, 1928	Nov. 12, 1927	Nov. 17, 1928	Nov. 19, 1927
101 cities.....	* 125	170	131	195	140	213	* 153	* 215	* 158	223
New England.....	145	123	156	135	90	114	122	160	159	163
Middle Atlantic.....	84	142	98	190	110	225	109	204	134	233
East North Central.....	* 133	199	154	232	169	261	169	253	166	251
West North Central.....	127	129	153	139	144	184	210	160	107	152
South Atlantic.....	235	193	179	191	226	154	* 243	189	* 199	216
East South Central.....	190	167	155	259	170	152	180	206	100	238
West South Central.....	196	205	172	234	220	318	272	294	240	343
Mountain.....	62	152	27	99	71	99	71	278	239	206
Pacific.....	72	219	66	151	64	141	79	* 224	7 100	222

MEASLES CASE RATES

101 cities.....	* 39	54	52	70	58	77	* 73	* 96	* 94	124
New England.....	179	186	244	191	333	242	402	342	382	391
Middle Atlantic.....	19	64	25	72	33	72	42	124	69	93
East North Central.....	* 24	21	41	18	39	29	57	27	86	54
West North Central.....	76	22	49	34	68	14	43	16	62	22
South Atlantic.....	32	45	63	106	46	132	* 56	135	* 67	281
East South Central.....	10	51	0	203	10	233	5	76	15	147
West South Central.....	0	37	8	21	8	21	8	12	12	70
Mountain.....	71	72	124	63	80	9	177	18	203	72
Pacific.....	41	50	43	91	15	78	43	* 76	7 54	212

SCARLET FEVER CASE RATES

101 cities.....	* 110	117	114	145	125	148	* 164	* 150	* 169	177
New England.....	152	151	117	212	131	200	175	205	193	249
Middle Atlantic.....	69	73	57	97	69	110	95	110	108	152
East North Central.....	* 137	127	151	166	172	173	223	177	245	201
West North Central.....	138	137	214	247	197	164	253	186	224	232
South Atlantic.....	114	161	107	168	116	189	* 143	182	* 101	155
East South Central.....	130	147	120	137	140	167	160	152	249	112
West South Central.....	72	79	76	124	136	149	176	103	196	103
Mountain.....	88	278	62	143	62	179	88	152	97	233
Pacific.....	161	136	179	97	148	141	169	* 117	7 146	154

* The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1928, and 1927, respectively.

* South Bend, Ind., not included.

* Brunswick, Ga., not included.

* Seattle, Wash., and Spokane, Wash., not included.

* Frederick, Md., Roanoke, Va., Brunswick, Ga., and Tacoma, Wash., not included.

* Frederick, Md., Roanoke, Va., and Brunswick, Ga., not included.

* Tacoma, Wash., not included.

Summary of weekly reports from cities, October 14 to November 17, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

SMALLPOX CASE RATES

	Week ended—									
	Oct. 20, 1928	Oct. 22, 1927	Oct. 27, 1928	Oct. 29, 1927	Nov. 3, 1928	Nov. 5, 1927	Nov. 10, 1928	Nov. 12, 1927	Nov. 17, 1928	Nov. 19, 1927
101 cities.....	13	7	2	7	1	18	4	16	3	19
New England.....	0	0	2	9	0	0	0	0	0	0
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	13	0	3	0	0	6	7	4	4	6
West North Central.....	2	42	2	51	2	58	6	156	2	160
South Atlantic.....	0	7	0	0	2	14	0	5	2	9
East South Central.....	0	5	5	5	5	0	0	0	5	5
West South Central.....	0	0	4	0	4	4	4	4	0	4
Mountain.....	62	72	0	45	0	36	9	27	88	27
Pacific.....	10	21	15	16	5	18	15	3	7	29

TYPHOID FEVER CASE RATES

101 cities.....	18	20	18	17	13	19	9	15	10	15
New England.....	7	16	16	19	7	16	9	16	16	23
Middle Atlantic.....	23	15	18	12	11	20	7	15	10	14
East North Central.....	7	16	10	13	5	7	5	9	6	7
West North Central.....	10	22	14	16	18	24	4	28	14	20
South Atlantic.....	40	32	40	22	32	31	16	20	11	25
East South Central.....	30	30	50	46	35	35	30	5	10	15
West South Central.....	8	29	24	37	20	58	40	33	20	29
Mountain.....	53	81	27	27	18	36	27	9	18	18
Pacific.....	13	16	13	16	5	5	3	7	7	13

INFLUENZA DEATH RATES

95 cities.....	10	9	10	8	10	9	13	8	15	9
New England.....	2	5	5	0	2	5	5	2	9	5
Middle Atlantic.....	7	7	8	4	5	8	12	9	9	7
East North Central.....	7	5	5	5	10	9	9	5	10	2
West North Central.....	8	12	8	6	8	10	2	2	6	10
South Atlantic.....	5	11	11	13	11	7	17	16	14	20
East South Central.....	31	27	5	43	21	16	26	16	16	21
West South Central.....	21	13	12	17	25	25	37	17	33	34
Mountain.....	62	18	44	27	18	18	27	18	53	36
Pacific.....	27	14	54	10	27	7	41	0	69	3

PNEUMONIA DEATH RATES

95 cities.....	102	77	86	91	86	89	91	104	102	112
New England.....	126	86	74	65	90	63	80	95	57	102
Middle Atlantic.....	124	75	92	92	83	87	105	113	124	119
East North Central.....	87	66	79	82	79	93	77	89	82	96
West North Central.....	51	64	41	68	71	62	65	75	73	81
South Atlantic.....	109	70	110	87	93	115	74	117	125	157
East South Central.....	94	133	131	117	131	117	146	144	162	154
West South Central.....	74	85	82	187	119	89	90	127	70	140
Mountain.....	62	143	124	143	97	117	97	143	115	99
Pacific.....	98	100	98	97	88	100	125	100	102	7

¹ South Bend, Ind., not included.

² Brunswick, Ga., not included.

³ Seattle, Wash., and Spokane, Wash., not included.

⁴ Frederick, Md., Roanoke, Va., Brunswick, Ga., and Tacoma, Wash., not included.

⁵ Frederick, Md., Roanoke, Va., and Brunswick, Ga., not included.

⁷ Tacoma, Wash., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities of each group, approximated as of July 1, 1928 and 1927, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1928	1927	1928	1927
Total.....	101	95	31,657,000	31,050,300	30,960,700	30,369,500
New England.....	12	12	2,274,400	2,242,700	2,274,400	2,242,700
Middle Atlantic.....	10	10	10,732,400	10,594,700	10,732,400	10,594,700
East North Central.....	16	16	7,991,460	7,820,700	7,991,400	7,820,700
West North Central.....	12	10	2,683,560	2,634,500	2,566,400	2,518,500
South Atlantic.....	21	21	2,981,900	2,890,700	2,981,900	2,890,700
East South Central.....	7	6	1,048,300	1,028,300	1,006,100	980,700
West South Central.....	8	7	1,307,000	1,260,700	1,274,100	1,227,800
Mountain.....	9	9	591,160	581,600	591,160	581,600
Pacific.....	6	4	2,046,400	1,996,400	1,548,900	1,512,100

FOREIGN AND INSULAR

CANADA

Quebec Province—Communicable diseases—Week ended November 17, 1928.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended November 17, 1928, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	131	Scarlet fever.....	148
Diphtheria.....	70	Smallpox.....	49
German measles.....	6	Tuberculosis.....	34
Influenza.....	16	Typhoid fever.....	14
Measles.....	20	Whooping cough.....	21
Mumps.....	39		

CHINA

Inner Mongolia—Plague.—According to a report issued by the North Manchurian Plague Prevention Service, October 22, 1928, the plague epidemic in the Tungliao district has practically been stamped out. All localities, including Chien Chia Tien, report a clean bill of health, only an occasional case appearing in outlying districts.

The little village of Chien Chia Tien, with its 1,800 inhabitants, has borne the brunt of the attack and lost over one-fifth of its inhabitants. The second center was Chang Yu, while the cases in other cities were mostly among refugees from Chien Chia Tien.

The number of victims of the epidemic has been, roughly, as follows:

	Cases		Cases
Chien Chia Tien.....	340	Cheng Chiatun (railway junction).....	2
Tungliao and adjoining Mongol settlements..	40	Pa Mien Cheng.....	1
Ta Lin.....	12	Other places.....	20
San Lin.....	22		
Chang Yu (not on railway but consisting of 5 Mongol settlements).....	50	Total.....	487

Out of 15 post-mortems performed at Chien Chia Tien only 2 showed complications in the lungs. A second experiment with *Pulex irritans* was successful, the guinea pig dying 19 days after inoculation and showing signs of subacute plague.

During the epidemic strict isolation and rat and flea destruction by sulphur fumigation were practiced. The antiplague organization at Tungliao and Chien Chia Tien is to be maintained during the winter,

watching for any possible development and making preparations for the establishment of a permanent hospital and laboratory at Tungliao under the auspices of the Manchurian Plague Prevention Service early next year.

Manchuria—Communicable diseases, year 1927-28.—According to the annual report of the North Manchurian Plague Prevention Service, for the year ended September 30, 1928, the first cases of plague in the Tung Liao district occurred in August. During that month suspicious deaths were reported in the district, which had recently been opened up for cultivation mainly by the building of the Ssuping-kai-Cheng Chia Tien-Taonan (Ssu-Tao) and Ssuping-kai-Cheng Chia Tien-Tungliao Railways, which branch off at Ssuping-kai from the South Manchurian Trunk Line, and also the completion of the 250-mile track between Tungliao in the north and Tahusan in the south (on the Peking-Mukden Line). This easy access by rail has also introduced attendant dangers of plague from the endemic centers of Outer Mongolia.

On receipt of telegraphic inquiries regarding 20 suspicious deaths at Tungliao early in August, Dr. Wu Lien Teh, director and chief medical officer of the North Manchurian Plague Prevention Service, made a personal investigation. Local doctors had seen some patients complaining of fever, headache, unconsciousness, and sometimes diarrhea, and dying within two or three days after the first appearance of the symptoms.

During the first week of September a request for medical help came from the authorities of the Ssu-Tao Railway, as some suspicious deaths had occurred at Chien Chia Tien, a village 23 miles east of the railway terminus at Tungliao. A medical officer visited the village, and the cases were bacteriologically confirmed as plague.

Precautions in the way of isolating the sick, quarantining the village, rat destruction, rigid control of passenger traffic from the affected district, and systematic vaccination of the inhabitants with antiplague vaccine were observed.

From Urga information was also received of an outbreak of human plague, and the Mongolian and Russian Medical Departments requested medical aid. Vaccine and serum were sent by railway and airplane.

There were no outbreaks of cholera in Manchuria during the year. Several outbreaks of influenza have been reported, as a rule of mild form. Smallpox continues to be endemic, but is rarely fatal among Chinese. Scarlet fever has not been epidemic for several years. There have been, however, an unusually large number of cases of typhus fever, 100 cases being received at the hospital in Dairen and numerous cases being reported during the spring along the route to

Harbin. Typhoid fever and dysentery were present, particularly the latter, which seems to be particularly virulent among Japanese residents.

DENMARK

Communicable diseases—September, 1928.—During the month of September, 1928, communicable diseases were reported in Denmark as follows:

Disease	Cases	Disease	Cases
Broncho-pneumonia.....	907	Paratyphoid fever.....	10
Cerebrospinal meningitis.....	4	Pneumonia.....	195
Chicken pox.....	19	Poliomyelitis.....	25
Diphtheria and croup.....	393	Puerperal fever.....	18
Erysipelas.....	201	Scarlet fever.....	203
Influenza.....	2,366	Tetanus.....	3
Jaundice.....	108	Tuberculosis, pulmonary.....	243
Lethargic encephalitis.....	4	Typhoid fever.....	14
Measles.....	394	Undulant fever.....	29
Mumps.....	292	Whooping cough.....	1,447

FEDERATED MALAY STATES

Vital statistics, 1927.—According to the annual report of the Medical Department of the Federated Malay States, the population of the States, estimated June 30, 1927, was 1,504,832. The following table shows a comparison of the deaths, births, and infant mortality for the years 1926 and 1927:

Year	Deaths	Death rate per 1,000 population	Births	Birth rate per 1,000 population	Deaths under 1 year	Infant mortality rate per 1,000 births
1927.....	48,323	32.11	48,013	31.91	9,752	203.11
1926.....	38,445	29.22	39,834	30.28	193.75

Of the total deaths there were 20,736, or 42.91 per cent, attributed to fevers, most of them probably resulting from malaria. Dysentery and diarrhea accounted for 7.15 per cent of the total deaths, pulmonary tuberculosis for 4.16 per cent, pneumonia for 6.66 per cent, and convulsions for 11.08 per cent.

GREAT BRITAIN

Scotland—Vital statistics—July–September, 1928.—The Registrar General of Scotland has published statistics for the third quarter of 1928, which show that the birth rate for Scotland for that quarter was 19.1 per 1,000 population, the death rate 11.0 per 1,000, and the death rate of infants under 1 year of age was 69 per 1,000 births.

The following items are taken from the quarterly returns of births, deaths, and marriages registered in Scotland during the quarter ended September 30, 1928:

Population, estimated.....	4,868,700	Deaths from—Continued.	
Births.....	23,441	Lethargic encephalitis.....	23
Marriages.....	9,233	Malaria.....	3
Deaths (total).....	13,457	Measles.....	65
Deaths under 1 year.....	1,610	Nephritis (acute).....	47
Deaths from—		Nephritis (chronic).....	355
Bronchitis.....	503	Paratyphoid fever.....	2
Broncho-pneumonia.....	378	Pneumonia.....	483
Cancer.....	1,682	Pollomyelitis.....	13
Cerebrospinal meningitis.....	38	Puerperal septicemia.....	40
Diabetes.....	111	Scarlet fever.....	23
Diarrhea and enteritis (under 2 years).....	235	Syphilis.....	24
Diphtheria.....	72	Tetanus.....	2
Dysentery.....	2	Tuberculosis (pulmonary).....	740
Heart disease.....	1,814	Tuberculosis (all other forms).....	331
Influenza:		Typhoid fever.....	5
Sole cause.....	19	Whooping cough.....	201
With other causes.....	63		

JAMAICA

Communicable diseases—Six weeks ended November 10, 1928.—During the six weeks from September 30 to November 10, 1928, cases of certain communicable diseases were reported from Kingston, Jamaica, and from the Island of Jamaica outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....		5	Paratyphoid fever.....	1	
Chicken pox.....	5	12	Puerperal fever.....		4
Diphtheria.....		1	Tuberculosis (pulmonary).....	76	111
Dysentery.....		38	Typhoid fever.....	43	140
Lethargic encephalitis.....	1				

NEW ZEALAND

Vital statistics—Comparative—Years ended March 31, 1928, and 1927.—According to the annual report of the director general of health of New Zealand, for the year ended March 31, 1928, the mean population of the Dominion was estimated as 1,374,439. The following table shows the vital statistics for the years ended March 31, 1928 and 1927, respectively:

Year	Births	Birth rate per 1,000 population	Deaths	Death rate per 1,000 population	Infant mortality rate per 1,000 births	Marriages
1927.....	27,881	20.29	11,613	8.45	38.74	10,478
1928.....	28,473	21.05	11,819	8.74	39.76	10,680

The most outstanding feature of the report is the extremely low infant mortality rate. The per cent of illegitimate births still continued high.

TUNISIA

Tunis—Vital statistics, 1927.—The following items are taken from a resumé of the demographic and sanitary statistics of the municipality of Tunis which appeared in the *Dépêche Tunisienne* of October 4, 1928.

The population in 1926 was said to be 185,996. Deaths from all causes were 4,853 in 1927, 4,447 in 1926, and 5,765 in 1925. The death rates among the French population were 16.4 per 1,000 in 1927 and 14.5 in 1926. Among the Moslems the death rates were 34 per 1,000 in 1927, and 31 in 1926.

The deaths of children under 10 years of age were said to equal one-third of the births in the French and Italian population, and one-half of the births in the Arab and Jewish population.

Smallpox was responsible for 540 deaths in 1925 and only 10 deaths in 1927. Scarlet fever caused 103 deaths in 1927. Tuberculosis was said to cause one-seventh of the deaths in Tunisia and one-sixth of the deaths among the Moslems.

PLAGUE

Place	Mar. 11- 7, 1928	Apr. 8- May 3, 1928	May 6- June 2, 1928	June 3-30, 1928	July 1-28, 1928	July 29- Aug. 26, 1928	Aug. 26- Sept. 24, 1928	Week ended—											
								October, 1928							November, 1928				
								6	13	20	27	3	10	17	24				
															1928				
Algeria (see also table below):																			
Algiers.....		1																	
Oran.....			1	2															
Philippeville.....																			
Arabis: Adon.....	651	224	7	1															
Adon.....	520	191	6	1															
Argentina:																			
Avelaneda.....			1																
Buenos Aires 1.....			6																
Buenos Aires 2.....			3	2															
Catamarca Province—Reteco.....																			
Cordoba Province.....		5																	
Cañada Honda.....																			
Entre Rios.....				5															
Lerdo.....			3																
Rosario.....			1																
Santa Fe.....				9															
Santiago del Estero.....				10	1														
Suardt.....																			
Azores: St. Michael's Island.....	3	5	2	1															
Belgian Congo: Djuju Ituri.....	2	2	1																
Bolivia: Valle Grande.....																			
Brazil:																			
Bahia.....	28	6	3																
Rio de Janeiro.....	21	6	3																
British East Africa (see also table below):																			
Mombasa.....	3																		
Tanganyika.....																			
Uganda.....		10	84	105															
			70	85															

1 Eleven plague-infected rats were reported at Buenos Aires, Argentina, from July 1 to Oct. 25, 1928.

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

PLAGUE—Continued

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

Place	Janu-ary, March, 1928	April-June, 1928	July, 1928	August, 1928	September, 1928	October, 1928	No-ven-ber, 1928
Algeria (see also table above):							
Algers.....	C						
British East Africa (see also table above):							
Kenya.....	D						
Uganda.....	D						
Ecuador: Guayaquil.....	D						
Plague-infected rats							
Indo-China (see table above).....	C						
Kwangchow-Wan.....	C						
Madagascar (see also table above).....	C						
Ambositra Province.....	D						
Antsirabe Province.....	D						
Itasy Province.....	D						
Majunga.....	D						
Moramanga Province.....	D						
Tamatave.....	D						
Tananarive Province.....	D						
Nigeria (see also table above).....	C						
Peru.....	D						
Lima.....	D						
Senegal (see also table above).....	D						
Baol.....	D						
Cayor.....	D						
Fatick.....	D						
Louga.....	D						
Rufisque.....	D						
Thies.....	D						
Tiaveuane.....	D						
Syria: Beirut.....	C						

PLAGUE RATS ON VESSELS

Steamship Sicily at Liverpool from Buenos Aires and Rosario, June 8, 1928, seven plague-infected rats.

	382	144	226	134	96	65	17	19	10	19	12	8	4	7	13	7
Poland.....	C	D	C	C	C	C					2	2				
Portugal: Oporto.....					1	1		1			2					
Rumania.....	C	C	99	80	33	16	5	3	3	1	2	2				
Syria: Aleppo.....	D	142	8	11	1	1	1	1								
Tunisia.....	C	11	2	2	1	1										
Tunisia: Menzel.....	C	18	7	7		1	7									
Tunisia: Sfax.....	C										11			1	1	
Union of South Africa:																
Cape Province.....	C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
East London.....	C															
Natal.....	C	P	3	P	P											
Orange Free State.....	C	P	P	P	P											
Transvaal.....	C		1		P	P										
Union of Socialist Soviet Republics (see table below).	C															
Yugoslavia (see table below).	C															

Place	Jan-uary, March, 1928	April-June, 1928	July, 1928	Aug-ust, 1928	Sep-tem-ber, 1928	Octo-ber, 1928	No-ven-ber, 1928	Place	Jan-uary, March, 1928	April-June, 1928	July, 1928	Aug-ust, 1928	Sep-tem-ber, 1928	Octo-ber, 1928	No-ven-ber, 1928
Chosen.....	896	633	5					Mexico (see also table above).....	46						
Chernulpo.....	88	75	2					Peru:							
Gausan.....	2	2						Arequipa.....	2	1	1				
Seoul.....	1	1						La Oroya.....	P						
Czechoslovakia.....	10	46	5	1	2			Turkey.....	17	15	6	4	6		
Greece: Athens.....	1	6	2		1			Union of Socialist Soviet Republics:	1	2		2			
Latvia.....	25	33	6		1			Railways, etc.....	199						
Lithuania.....	4	5	1					Transcaucasus, Siberia, and Cen- tral Asia.....							
Japan.....		21						Ukraine.....	17						
Latvia.....	27	7	12	15				Other territories in Europe.....	1,476						
Lithuania.....	223	162	4	2				Yugoslavia.....	5,167	45	12	6			
	22	7							3	6	3				

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

YELLOW FEVER

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

Place	Mar-11-Apr-7, 1928	Apr 9-May 6, 1928	May 6-June 2, 1928	June 2-30, 1928	July 1-26, 1928	July 26-Aug. 25, 1928	Week ended—											
							September, 1928				October, 1928				November, 1928			
							1	8	15	22	29	6	13	20	27	3	10	17
Belgian Congo: Matadi.....	C	2	2															
Brazil:																		
Araçaju.....	D		2	4														
Bahia.....	D														1			
Perambuco: (Recife).....	D			1		1												
Rio de Janeiro.....	D		2	48	40	14		4	1	3								
.....	D		2	22	26	4		2	2	2								
.....	C			P														
Sao Felix.....	C																	
Dahomey:																		
Grand Popo.....	C			3														
.....	D			2														
Outgah Military Camp.....	D																	
Gambia: Bathurst.....	D																	
Gulf Coast.....	C		2													1		
Ivory Coast.....	C																	
.....	D			1												2		
.....	D			1														
Abidjan.....	D			1														
Fort-de-Ségou.....	D																	
On vessel: S. S. Bernini, at Santos, Brazil.....	D					1							4	1				

X