

PUBLIC HEALTH REPORTS

VOL. 44

JULY 26, 1929

NO. 30

POINTS TO BE CONSIDERED IN CASE OF A POLIOMYELITIS EPIDEMIC¹

By J. P. LEAKE, *Surgeon, United States Public Health Service*

In connection with plans to combat and to care for an epidemic, one of our first concerns is the recognition of an approaching outbreak. The Public Health Service is analyzing the figures available from that point of view, and at present it may be considered that throughout the greater part of the country we may expect about 1 paralytic case per 100,000 population between the 1st of December and the 1st of June each year, and in the other six months about 4 to 14 cases if the reporting is very thorough. The maximum incidence, an average of 2 cases in three weeks per 100,000, is reached in mid-September.

Ever since 1916 we have looked with especial concern on a definite rise during the month of June, but there have been several examples of a notable increase in reporting which was not paralleled by any such actual increase in incidence. In the warmer parts of the United States fewer cases occur, though the distribution follows about the same proportion by seasons as in the North. On the Pacific coast the rise appears to begin a few weeks earlier and reach a less abrupt peak somewhat later, with a relatively high prevalence maintained longer than is usual elsewhere. It would seem that other places which have a comparatively even temperature range throughout the year, with a slightly retarded maximum, should show the same characteristics.

All recent information has only emphasized the view previously expressed that not much in the way of prevention can be expected by too rigid or prolonged quarantine of the reported case.

Every facility and encouragement should be given to early reporting, and the affliction of such an infection should be mitigated as much as possible in families where it occurs. The usual quarantine of three weeks from date of onset is reasonable in that the patient should be kept absolutely quiet for that length of time. Many of

¹ Read at the Twenty-seventh Annual Conference of State and Territorial Health Officers with the United States Public Health Service, Washington, D. C., June 4, 1929.

the cases of supposed secondary infection turn out to be simultaneous infections, and the incubation period is more likely to be two weeks than less than one week in length. There is some evidence of infectiousness during this incubation period, but I see no reason for retracting the opinion that the disease is spread largely by healthy carriers—acute carriers rather than chronic—and by human contact rather than by food or water supplies. It has been proved that poliomyelitis has no necessary connection with summer insects. Contact includes infection by way of the mouth (though wholesale infection of a food supply appears to be rare); and we should remember that the initial symptoms are likely to be referable to the digestive tract in the unrecognized cases.

The only measures through which we should expect any real diminution of incidence are those which diminish human contacts in general, but the drastic closing of all places of assembly is justifiable only early in the season with a very high incidence of, say, five or ten times the usual, and even in such a case the long incubation period would make it likely that in a restricted community the actual spread of the infection had begun to diminish before the alarm was sufficient to resort to such extremes.

Every help should be given to the medical profession and the public to aid in the prompt and accurate diagnosis of the cases. Pamphlets are available for distribution to physicians to refresh their memories on the early suspicious and characteristic signs of the disease.

Organization for treatment of preparalytic cases by convalescent serum is one of the first measures to be considered. Since, however, this is adapted more for metropolitan areas than for widely scattered settlements, it is probable that in most cases it will be a function of medical societies, medical schools, and local health authorities rather than of the State. There are measures of support and coordination in this mode of treatment, however, which may well be undertaken by the State department of health. In any case, favorable as the results appear to be, we must remember that the method is still on trial, and every effort possible should be used to secure its practical evaluation.

Probably the greatest good that the State department of health can do is in the prevention of deformities and crippling as an aftermath of recognized paralytic cases. The early treatment should certainly be under the control of the local physician. In connection with the circularization and publicity, to aid in the early diagnosis, emphasis should be placed on the necessity of absolute and prolonged rest in bed, in a position to forestall and prevent any tendency to deformity, by fixation if necessary. There comes a time in practically every case, however, and it may come very soon, when the proper care becomes too irksome for the family to carry on without the moral support and

stimulus of some such agency as a consultant orthopedist with nurses or physiotherapists particularly skilled and trained in this disease; and it is a rare family which can afford the expense of such prolonged, continuous, and special skill unless the treatment is supervised under some such auspices as those of the State or municipal department of health. Adequate hospitalization of these cases is out of the question. One especially useful aid is the pamphlet on muscle training by Miss Wilhelmine C. Wright, which is now available as a reprint from the Public Health Reports. Since paralysis of the lower limbs is the most dangerous form as regards permanent crippling, I would also mention a useful short article on crutch walking, by the same writer, in the *Annals of Surgery* for December, 1926.

In closing, I would urge that both of these programs—that for the distribution, use, and evaluation of convalescent serum, and that for aftercare and muscle training—be made permanent, for if they are not organized until an outbreak becomes apparent half the damage will have been done before the machines begin to function.

ECONOMIC STATUS AND THE INCIDENCE OF ILLNESS¹

Hagerstown Morbidity Studies No. X: Gross and Specific Illness Rates by Age and Cause Among Persons Classified According to Family Economic Status²

By EDGAR SYDENSTRICKER, *Statistician, United States Public Health Service*

When the preliminary canvass was made in the Hagerstown morbidity study in the autumn of 1921 for the purpose of enumerating the population to be observed for morbidity incidence, each of the approximately 1,800 households visited was classified according to economic status. This classification, after having been discussed

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

² Other Hagerstown Morbidity Studies published are—

I. A Study of Illness in a General Population Group: Method of Study and General Results. Pub. Health Rep., Vol. 41, No. 39 (Sept. 24, 1926), pp. 2069-2068. (Reprint No. 1113.)

II. The Reporting of Notifiable Diseases in a Typical Small City. Pub. Health Rep., Vol. 41, No. 41 (Oct. 8, 1926), pp. 2186-2191. (Reprint No. 1116.)

Supplement to Study No. II: Completeness of Reporting of Measles, Whooping Cough, and Chicken Pox at Different Ages. Pub. Health Rep., Vol. 44, No. 26 (June 28, 1929), pp. 1537-1543. (Reprint No. 1294.)

III. The Extent of Medical and Hospital Service in a Typical Small City. Pub. Health Rep., Vol. 42, No. 2 (Jan. 14, 1927), pp. 121-131. (Reprint No. 1134.)

IV. The Age Curve of Illness. Pub. Health Rep., Vol. 42, No. 23 (June 10, 1927), pp. 1565-1576. (Reprint No. 1163.)

V. A Comparison of the Incidence of Illness and Death. Pub. Health Rep., Vol. 42, No. 25 (June 24, 1927), pp. 1689-1701. (Reprint No. 1167.)

VI. The Illness Rate Among Males and Females. Pub. Health Rep., Vol. 42, No. 30 (July 29, 1927), pp. 1939-1957. (Reprint No. 1172.)

VII. The Causes of Illness at Different Ages. Pub. Health Rep., Vol. 43, No. 18 (May 4, 1928), pp. 1067-1074. (Reprint No. 1225.)

VIII. The Incidence of Various Diseases According to Age. Pub. Health Rep., Vol. 43, No. 19 (May 11, 1928), pp. 1124-1156. (Reprint No. 1227.)

IX. Sex Differences in the Incidence of Certain Diseases at Different Ages. Pub. Health Rep., Vol. 43, No. 21 (May 25, 1928), pp. 1259-1276. (Reprint No. 1229.)

and checked by some 10 members of the statistical staff who personally visited the households, was allowed to stand during the succeeding period of observation, when a different staff (with one exception) recorded the illnesses during 28 subsequent months.

Classification of families according to economic status.—The classification employed admittedly is a rough one; but since the range of income included the richest as well as the poorest families in the town, it was deemed accurate enough for broad distinctions. It provided for five categories, as follows: “well-to-do,” “comfortable,” “moderate,” “poor,” and “very poor.”

At the same time that the families were classified according to economic status certain other observations were made which, it was hoped, might aid in defining or describing the economic categories used. Thus, the number of rooms occupied by the family (or household) was recorded. The average number of persons per room according to economic status is shown in Table 1.

TABLE 1.—Persons per room in Hagerstown households, classified according to economic status, 1921

Economic status	Persons per room	Number of persons
Well-to-do.....	0.43	158
Comfortable.....	.45	640
Moderate.....	.63	3,378
Poor.....	.81	3,030
Very poor.....	1.18	268

The usual association of “crowding” with economic status thus appeared in this typical small inland city of the middle eastern section.

An attempt was made also to classify the households roughly according to “sanitary condition.” This was based upon the impression gained by the visitor as to cleanliness of the household, orderliness, method of excreta disposal, etc., and in no sense was a sanitary survey of the home. The distributions are given for what they are worth in Table 2.

TABLE 2.—Distribution of 1,710 Hagerstown households according to “sanitary condition” and “economic status,” 1921

Economic status	Sanitary condition				
	Excel- lent	Good	Fair	Poor	Very poor
Well-to-do.....	26	9			
Comfortable.....	57	186	12	1	
Moderate.....	37	365	361	26	
Poor.....	2	122	308	188	21
Very poor.....				8	39

The association of the visitor's impressions as to sanitary condition of the houses with impressions as to economic status of the family was, as may be expected, very marked.

The method of excreta disposal in Hagerstown in 1921 was not a modern one, and the economic status of the family was definitely correlated with the type of disposal, as the classification in Table 3 shows:

TABLE 3.—*Distribution of 1,740 Hagerstown households according to method of excreta disposal and economic status*

Economic status	Excreta disposal		
	Flush toilet ¹	Pit privy	Surface privy
Well-to-do.....	35		
Comfortable.....	176	1	
Moderate.....	598	199	28
Poor.....	213	331	112
Very poor.....	7	19	21

¹ Practically all connected with cesspools.

Although some of the poorer families did not have as regular a supply of milk as the richer, most of them had a milk supply regardless of economic condition, as Table 4 indicates.

TABLE 4.—*Distribution of 1,744 Hagerstown households according to general type of milk supply and economic status*

Economic status	Supply of fresh milk		Canned milk	None
	Regular	Irregular		
Well-to-do.....	34	1		
Comfortable.....	173	1		2
Moderate.....	786	29	9	
Poor.....	575	44	16	27
Very poor.....	33	7	2	5

The character of the water supply varied so greatly with season, since not all houses were connected with the public supply, that it was impracticable to make any classification of the households according to the usual source that would be useful for consideration with the gross incidence rate of illness.

Prevalence of sickness in December, 1921, in different economic groups.—At the time when this preliminary canvass was made, the visitor inquired into the prevalence of illness at the time of the visit. The frequency of cases in households in each of three economic classes is shown in the summary in Table 5.

TABLE 5.—Prevalence of illness among 7,524 white persons classified according to family economic status as ascertained by a canvass in December, 1921, in Hagerstown, Md.

Economic status	Cases of sickness per 1,000 persons	Number of cases	Number of persons
Well-to-do and comfortable.....	32.2	26	898
Moderate.....	37.6	128	3,400
Poor and very poor.....	40.1	133	3,316

The ratio of the illness prevalence rate among the "poor" and "very poor" groups combined to that for the "well-to-do" and "comfortable" groups was 1.25 to 1 and for the "moderate" group was 1.17 to 1. It should be kept in mind that this prevalence rate includes relatively more illnesses of long duration than an attack or incidence rate includes.

TABLE 6.—Number of years of life observed and of illnesses recorded from different causes in a white-population group, classified according to age and economic status, during the period December 1, 1921–March 31, 1924, in Hagerstown, Md.

Disease	All ages	Age group						
		0-4	5-9	10-14	15-24	25-44	45-64	65+
WELL-TO-DO AND COMFORTABLE								
Years of life observed.....	1,591.3	84.2	127.0	134.6	192.2	451.1	454.7	147.4
All diseases.....	1,510	153	219	170	144	331	339	154
Total respiratory (excluding operations) (11, 31, 97-107, 109).....	922	86	115	98	103	232	201	87
Influenza and gripe (11).....	199	11	22	15	21	68	50	12
Diseases of pharynx and larynx (98, 109).....	109	10	16	16	25	18	18	6
Colds (including head, chest, and bronchial conditions).....	562	46	78	57	54	134	129	64
Epidemic, endemic, and infectious diseases (1-42, excluding 11, 31).....	101	32	53	3	3	4	4	2
Measles (7).....	30	10	17	2	1			
Whooping cough (9).....	26	13	13					
Chicken pox (25).....	22	7	15					
General diseases (43-69).....	43	1	1		3	7	20	11
Rheumatism (51, 52).....	31		1		2	5	13	10
Diseases of nervous system (70-84, part 205).....	64			9	5	12	27	11
Headache (part of 82 and 205).....	17			6	3	2	6	
Diseases of eyes and annexa (85).....	14	1	1	6	1	1	2	3
Diseases of ears and mastoid process (86).....	20	2	9	4	2	3		
Diseases of the heart (87-90).....	27			3		1	13	10
Other diseases of circulatory system (91-96).....	25	2	1	1		2	9	10
Diseases and disorders of digestive system (110-127, part of 108 and 205).....	162	11	21	31	16	24	47	12
Appendicitis (117).....	14		2	2	1	3	6	
Diarrhea (113, 114).....	19	4		3	1	6	3	2
Stomach upset, indigestion, etc. (112).....	75	6	13	17	11	6	19	3
Other digestive diseases.....	54	1	6	9	3	9	19	7
Diseases of teeth and gums (108).....	4			1		3		
Diseases of kidney and annexa (128-134).....	25	4				2	11	8
Diseases of skin and cellular tissue (151-154, part 205).....	29		4	4	3	8	8	2
External causes (165-203).....	50	6	8	5	4	11	9	7

¹ Does not include unknown ages.

TABLE 6.—Number of years of life observed and of illnesses recorded from different causes in a white-population group, classified according to age and economic status, during the period December 1, 1921–March 31, 1924, in Hagerstown, Md.—Contd.

Disease	All ages	Age group						
		0-4	5-9	10-14	15-24	25-44	45-64	65+
MODERATE								
Years of life observed.....	6,378.9	561.6	726.1	560.1	1,028.7	1,978.9	1,151.5	372.1
All diseases.....	1,647	936	1,143	660	709	1,690	1,132	377
Total respiratory (excluding operations) (11, 31, 97-107, 109).....	4,225	584	690	420	492	1,157	675	207
Influenza and grippe (11).....	937	82	124	99	113	309	157	53
Diseases of pharynx and larynx (98, 109).....	462	34	110	95	71	107	38	7
Colds (including head, chest, and bronchial conditions).....	2,726	449	430	231	297	720	455	144
Epidemic, endemic, and infectious diseases (1-42, excluding 11, 31).....	461	178	218	26	15	13	7	4
Measles (7).....	166	67	91	7	-----	1	-----	-----
Whooping cough (9).....	112	58	45	5	1	1	2	-----
Chicken pox (25).....	92	41	47	4	-----	-----	-----	-----
General diseases (43-69).....	136	2	3	8	7	34	58	24
Rheumatism (51, 52).....	100	-----	2	5	3	26	45	19
Diseases of nervous system (70-84, part 205).....	326	2	13	30	31	112	109	29
Headache (part of 82 and 205).....	91	1	5	13	9	33	27	3
Diseases of eyes and annexa (85).....	57	6	13	11	8	10	8	1
Diseases of ears and mastoid process (86).....	72	23	23	10	7	5	3	1
Diseases of the heart (87-90).....	81	-----	1	3	10	18	25	24
Other diseases of circulatory system (91-96).....	78	6	8	4	4	14	24	18
Diseases and disorders of digestive system (110-127, part 108 and 205).....	628	90	109	85	56	125	126	37
Appendicitis (117).....	36	1	1	4	11	15	4	-----
Diarrhea (113, 114).....	64	27	7	5	3	11	7	4
Stomach upset and indigestion, etc. (112).....	333	46	68	42	26	58	72	21
Other digestive diseases.....	195	16	33	34	16	41	43	12
Diseases of teeth and gums (108).....	59	-----	8	10	9	20	11	1
Diseases of kidney and annexa (128-134).....	111	7	5	3	4	21	40	31
Diseases of skin and cellular tissue (151-154, part of 205).....	92	17	27	17	6	14	6	5
External causes (165-203).....	230	17	41	21	23	51	62	15
POOR AND VERY POOR								
Years of life observed.....	8,107.1	1,119.2	1,235.9	1,014.1	1,290.1	2,192.5	965.3	289.9
All diseases.....	1,927.3	1,739	1,810	1,196	981	2,139	1,066	342
Total respiratory (excluding operations) (11, 31, 97-107, 109).....	5,613	990	1,130	803	634	1,247	632	177
Influenza and grippe (11).....	1,205	111	197	164	136	377	176	44
Diseases of pharynx and larynx (98, 109).....	687	69	245	166	90	88	28	1
Colds (including head, chest, and bronchial condition).....	3,545	756	662	463	373	749	416	126
Epidemic, endemic, and infectious diseases (1-42, excluding 11, 31).....	891	419	339	58	22	36	15	2
Measles (7).....	368	194	151	19	3	1	-----	-----
Whooping cough (9).....	235	139	83	7	2	3	1	-----
Chicken pox (25).....	117	58	52	6	-----	1	-----	-----
General diseases (43-69).....	187	3	10	6	13	56	71	28
Rheumatism (51, 52).....	146	-----	8	6	12	38	56	26
Diseases of the nervous system (70-84, part 205).....	395	8	34	50	36	145	89	33
Headache (part of 82 and 205).....	141	1	26	33	6	45	26	4
Diseases of eyes and annexa (85).....	65	8	19	12	3	14	7	2
Diseases of ears and mastoid process (86).....	154	46	46	31	11	16	3	1
Diseases of the heart (87-90).....	102	-----	4	11	8	28	27	26
Other diseases of circulatory system (91-96).....	72	14	9	9	6	12	15	7
Diseases and disorders of digestive system (110-127, part of 108 and 205).....	875	181	182	107	83	181	108	33
Appendicitis (117).....	45	-----	6	7	19	7	6	-----
Diarrhea (113, 114).....	136	74	9	9	12	21	11	-----
Stomach upset, indigestion, etc. (112).....	461	83	123	66	31	93	42	23
Other digestive diseases.....	233	24	44	25	21	60	49	10
Diseases of teeth and gums (108).....	73	2	13	21	12	19	5	1
Diseases of kidney and annexa (128-134).....	96	6	7	8	7	27	27	14
Diseases of skin and cellular tissue (151-154, part of 205).....	197	56	53	35	18	26	5	4
External causes (165-203).....	352	28	46	48	55	89	70	16

¹ Does not include unknown ages.

Incidence of illness in different economic groups.—Of far greater interest are the attack or incidence rates, and it is with these results

that the remainder of this report is concerned. The numbers in either extreme class were too small to permit age-specific rates to be used; and in the final tabulation of most of the results we combined the first two and the last two classes, thus providing for three economic categories instead of five. It should not be understood that the class denoted as "poor and very poor" included poverty-stricken persons only, in the sense in which that term is commonly used; on the contrary, only a small proportion were actually regarded as "very poor." The designations must be considered as relative rather than as defined by statistical determinations of actual income as was done in the epidemiological studies of pellagra in South Carolina (1).

The data upon which the incidence rates are based are presented in Table 6 in such detail as seems necessary. They include the "years of life observed" for illness during the period December 1, 1921, to March 31, 1924, subdivided according to age for each of the three economic classes, and number of illnesses, classified according to cause, as recorded for each age-economic group. The manifold classification made necessary the use of rather broad groups of causes or kinds of illness, with certain exceptions.

TABLE 7.—*Distribution of persons (in terms of "years of life observed") included in the Hagerstown morbidity study classified according to family economic status*

Age	Number			Per cent		
	Well-to-do and comfortable	Moderate	Poor and very poor	Well-to-do and comfortable	Moderate	Poor and very poor
All ages.....	1, 591	6, 379	8, 107	100.0	100.0	100.0
0-4.....	84	562	1, 119	5.3	8.8	13.8
5-9.....	127	726	1, 236	8.0	11.4	15.2
10-14.....	135	560	1, 014	8.5	8.8	12.5
15-24.....	192	1, 029	1, 290	12.1	16.1	15.9
25-44.....	451	1, 979	2, 193	28.3	31.0	27.1
45-64.....	455	1, 152	965	28.6	18.1	11.9
65+.....	147	372	290	9.2	5.8	3.6

Before comparing the gross illness rates of persons of different economic status, we examined the age distributions of the three economic groups (Table 7). As was anticipated and as surveys of other populations have indicated, the age distributions of the different economic classes were distinctly different. That moiety of the population classifiable roughly as "fairly well off," i. e., "well-to-do" and "comfortable," was found, even in a small city, to contain relatively more middle-aged and old persons and fewer children than the poorer contingent. Aside from any sociological implications of this fact, with which we are not immediately concerned here, these differences in age distributions must be taken into account before the illness rates of the three groups can be compared. Accordingly, the crude rates were corrected³ for age and are shown in Table 8.

³ The correction was made by the method of expected cases, adjusting to a standard rate, the total for all economic groups being the standard used. For details of method used see "Medical Biometry and Statistics," by Raymond Pearl, pp. 198-202, and other standard textbooks on statistics.

Although the effect of correcting the rates is to make them more similar for the three economic classes, a consistent association of illness with economic status is indicated in the following ratio: Well-to-do and comfortable=100; moderate=108; poor and very poor=112.

The differences are not large. In view of previous findings (2) the smallness of the differences may be partially ascribed to the absence of sharply differentiated economic extremes.

TABLE 8.—*Illness rate in a white-population group, classified according to family economic status, during the period December 1, 1921–March 31, 1924, in Hagerstown, Md.*

Economic status	Annual rate per 1,000	
	Crude	Corrected for age
Well-to-do and comfortable	949	991
Moderate	1,042	1,068
Poor and very poor	1,144	1,113

The corrected differential rates may also be compared for certain kinds or causes of illness, using broad groups only, as is done in Table 9. It is clearly obvious that no consistency in the association of illness and poor economic status was found. An association is indicated, in a general way, for respiratory illness (specifically for influenza or grippe and for colds, but not diseases of the pharynx and larynx); rheumatism, headache, as well as other nervous conditions; and for accidents. The commoner infectious diseases—measles, whooping cough, and chicken pox—were not respecters of persons, nor were diseases and conditions of the eyes and ears, and of the circulatory, digestive, and eliminatory systems.

TABLE 9.—*Illness rates from various causes in a white-population group, classified according to family economic status, during the period December 1, 1921–March 31, 1924, in Hagerstown, Md., the rates having been corrected for differences in age distributions*

Disease	"Well-to-do" and "comfortable" economic status	"Moderate" economic status	"Poor" and "very poor" economic status
Total respiratory (11, 31, 97–107, 109)	611.8	679.5	672.3
Grippe and influenza (11)	123.7	146.8	149.0
Diseases of pharynx and larynx (98, 109)	83.4	77.4	78.1
Colds (including head, chest, and bronchial conditions)	373.7	439.7	423.3
Epidemic and infectious diseases (1–42, excluding 11, 31)	103.6	84.3	92.8
Measles (7)	33.8	31.0	37.6
Whooping cough (9)	29.4	21.1	23.9
Chicken pox (25)	24.5	17.3	12.0
General diseases (43–69)	19.1	19.5	27.1
Rheumatism (51, 52)	13.6	14.3	21.4
Diseases of nervous system, (70–84, part 205)	32.8	48.5	53.2
Headache (part of 82 and 205)	9.7	14.1	17.9
Diseases of the eyes (85)	9.6	9.3	7.6
Diseases of the ears (86)	18.0	12.8	16.5
Diseases of the circulatory system (87–96)	24.2	23.4	24.3
Diseases of the digestive system (110–127, part 108 and 205)	105.6	101.5	104.6
Diseases of kidney and annexa (128–134)	11.4	16.3	13.6
Diseases of skin and cellular tissue (151–154)	22.7	15.7	22.2
External causes (165–203)	29.3	35.8	44.2

The comparison of the gross illness rate at different ages for the three economic classes, as shown in Table 10 and Figure 1, reveals the rather interesting facts that the association of illness with economic condition, to which reference has been made, appears only in the adult ages and that precisely the contrary condition is indicated for childhood. The possibility at once suggests itself that this contrary

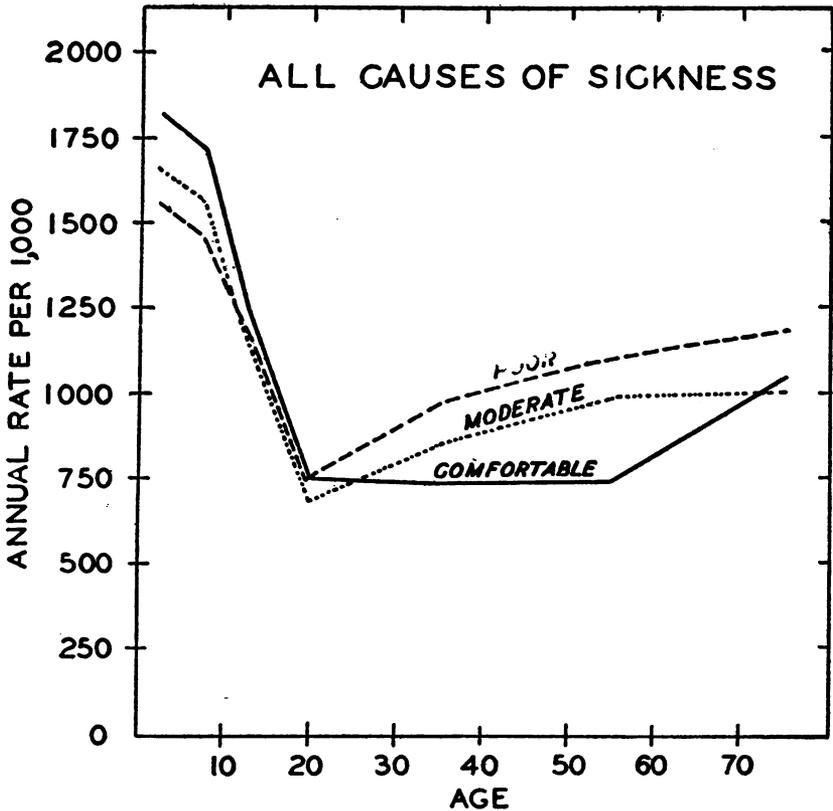


FIGURE 1.—Incidence of illness from all causes among persons of different family economic status in Hagerstown, Md., December 1, 1921, to March 31, 1924

indication in younger ages may have been due, at least partially, to more nearly complete reports on illnesses of children in the richer families than in the poorer families. It will be necessary, therefore, to examine the age-specific rates for different diseases and groups of conditions, as well as the extent to which the illnesses of the three economic classes were attended by physicians.

TABLE 10.—*Illness rates from various causes among persons of different ages classified according to family economic status during the period December 1, 1921–March 31, 1924, in Hagerstown, Md.*

Disease	Economic status ¹	Age group						
		0-4	5-9	10-14	15-24	25-44	45-64	65+
All diseases	Comfortable	1,817	1,724	1,269	749	739	746	1,045
	Moderate	1,667	1,574	1,178	689	854	983	1,073
	Poor	1,554	1,465	1,179	760	976	1,104	1,180
Total respiratory (excluding operations) (11, 31, 97-107, 109).	Comfortable	1,021	906	726	536	514	442	590
	Moderate	1,040	959	750	478	865	586	558
	Poor	885	974	792	497	569	655	611
Influenza and grippe (11)	Comfortable	131	173	111	109	151	110	81
	Moderate	145	171	177	110	156	136	142
	Poor	99	159	162	105	172	182	152
Diseases of pharynx and larynx (93, 109).	Comfortable	119	126	119	130	40	40	41
	Moderate	61	152	170	69	54	33	19
	Poor	62	198	164	70	40	29	3
Colds (including head, chest, and bronchial conditions).	Comfortable	546	614	424	281	297	284	434
	Moderate	800	592	412	289	364	395	387
	Poor	676	536	457	289	342	431	435
Epidemic, endemic, and infectious diseases (1-42 excluding 11, 31).	Comfortable	369	417	22	16	9	9	14
	Moderate	317	300	46	15	7	6	11
	Poor	374	274	57	17	16	16	7
Measles (7)	Comfortable	119	124	15	5			
	Moderate	119	125	13		1		
	Poor	173	122	19	2	1		
Whooping cough (9)	Comfortable	154	102					
	Moderate	103	62	9	1	1	2	
	Poor	124	67	7	2	1	1	
Chicken pox (25)	Comfortable	83	118					
	Moderate	73	65	7				
	Poor	52	42	6		1		
General diseases (43-69)	Comfortable	12	8		16	16	44	75
	Moderate	4	4	14	7	17	50	65
	Poor	3	8	6	10	26	74	97
Rheumatism (51, 52)	Comfortable		8		10	11	29	68
	Moderate		3	9	3	13	39	51
	Poor		7	6	9	17	58	90
Diseases of the nervous system (70-84, part of 205).	Comfortable			67	26	27	59	75
	Moderate	4	18	54	30	57	95	78
	Poor	7	28	49	28	66	92	114
Headache (part of 82 and 205)	Comfortable			45	16	4	13	
	Moderate	2	7	23	9	17	23	8
	Poor	1	21	33	5	21	27	14
Diseases of the eyes and annexa (85)	Comfortable	12	8	45		2	4	20
	Moderate	11	18	20	8	5	7	3
	Poor	7	15	12	2	6	7	7
Diseases of the ears and mastoid process (86).	Comfortable	24	71	30	10	7		
	Moderate	41	32	18	7	3	3	3
	Poor	41	37	31	9	7	3	3
Diseases of the heart (87-90)	Comfortable			22		2	29	68
	Moderate		1	5	10	9	22	65
	Poor		3	11	6	12	28	90
Other diseases of the circulatory system (91-96).	Comfortable	24	8	7		4	20	68
	Moderate	11	11	7	4	7	21	48
	Poor	13	7	9	5	6	16	24
Diseases and disorders of digestive system (110-127 and part of 108 and 205).	Comfortable	131	165	230	83	53	103	81
	Moderate	160	150	152	54	63	109	99
	Poor	162	147	106	64	83	112	114
Appendicitis (117)	Comfortable		16	15	5	7	13	
	Moderate	2	1	7	11	8	4	
	Poor		5	7	15	3	6	
Diarrhea (113, 114)	Comfortable	48		22	5	13	7	14
	Moderate	48	10	9	3	6	6	11
	Poor	66	7	9	9	10	11	
Stomach upset, indigestion, etc. (112)	Comfortable	71	102	126	57	13	42	20
	Moderate	82	94	75	25	29	63	56
	Poor	74	100	65	24	42	44	79
Other digestive diseases	Comfortable	12	47	67	16	20	42	48
	Moderate	29	45	61	16	21	37	32
	Poor	21	36	25	16	27	51	35
Diseases of the teeth and gums (108)	Comfortable			7				
	Moderate		11	18	9	10	10	3
	Poor	2	11	21	9	9	5	3
Diseases of the kidney and annexa (128-134).	Comfortable	48				4	24	54
	Moderate	13	7	5	4	11	25	83
	Poor	5	6	8	5	12	28	48
Diseases of the skin and cellular tissue (151-154, part of 205).	Comfortable		22	26	16	18	18	14
	Moderate	30	37	30	6	7	5	13
	Poor	50	43	25	14	13	5	14
External causes (165-203)	Comfortable	71	63	37	21	24	20	48
	Moderate	30	57	29	22	26	54	40
	Poor	25	37	47	43	41	73	55

¹ "Comfortable" includes "well-to-do" and "comfortable," "poor" includes "poor" and "very poor".

We have, therefore, computed the age-specific rates for the various groups of diseases and kinds of illness, utilizing the data given in Table 6. For convenience in studying these rates, diagrams have been prepared showing the age curve for each economic class for certain disease groups. (Figs. 2 and 3.) It does not appear that the higher rate among children of the well-to-do as compared with the rates

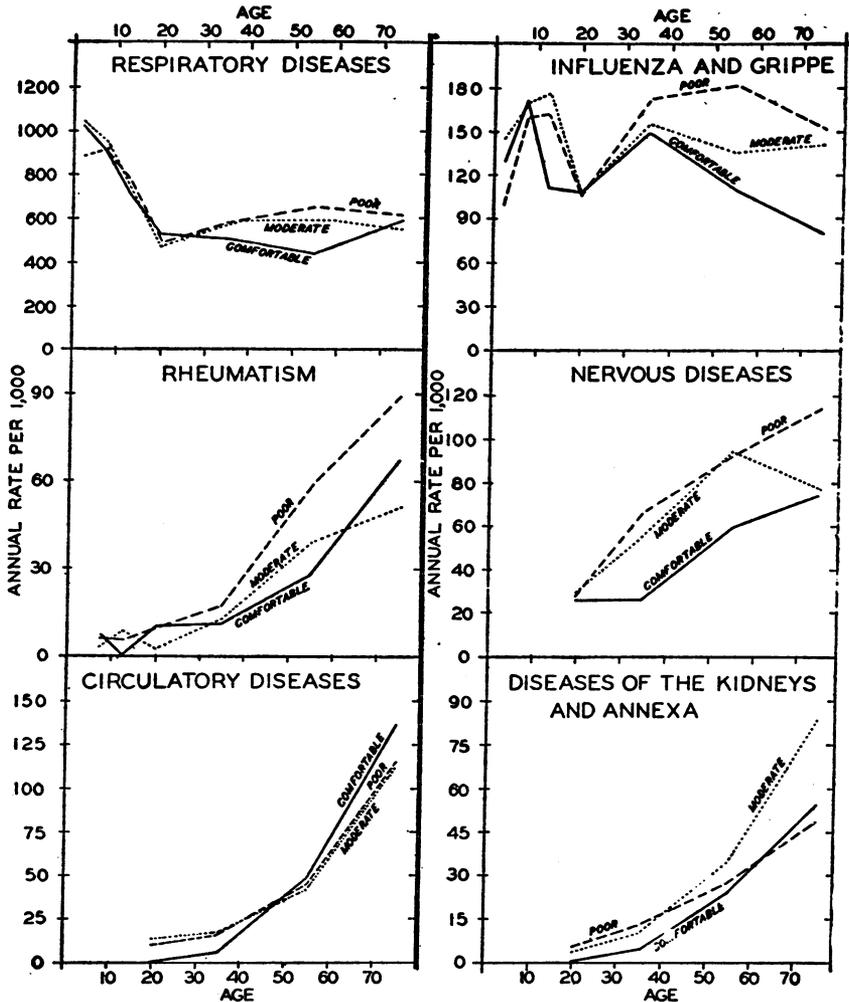


FIGURE 2.—Incidence of illness from certain causes among persons of different family economic status in Hagerstown, Md., December 1, 1921, to March 31, 1924

among children of the poor was wholly due to the possibly better reporting of minor ailments by the well to do parents, although this explanation may be suggested by the higher accident rates, for example. On the contrary, the rate for infectious diseases, particularly whooping cough and chicken pox, was definitely higher among children of the well-to-do parents than among poorer children. This

fact should not be interpreted necessarily as indicating a greater susceptibility on the part of well-to-do children, since these children may have had a greater opportunity for contracting diseases that happened to be epidemic at the particular time in that part of the city in which they resided.

TABLE 11.—*Proportion of cases of illnesses attended by physician compared for persons of different economic status in a white population group in Hagerstown, Md., December 1, 1921–March 31, 1924*

Disease	Per cent of cases attended by physician				
	Well to do	Com- fortable	Moder- ate	Poor	Very poor
All diseases.....	70	53	47	44	43
Diseases of respiratory system (11, 31, 97–107, 109).....	63	41	35	31	32
Epidemic, endemic, and infectious diseases (1–42, excluding 11, 31).....	83	75	67	57	47
General diseases (43–69).....	50	69	71	66	57
Diseases of nervous system (70–84, part of 205).....	50	52	54	43	56
Diseases of eyes and annexa (85).....	100	88	65	53	29
Diseases of ears and mastoid process (86).....	57	75	83	55	60
Diseases of circulatory system (87–96).....	100	82	88	81	53
Diseases of digestive system (110–127, part 108 and 205).....	88	66	55	58	51
Diseases of teeth and gums (108).....	100	100	63	55	33
Diseases of kidney and annexa (128–134).....	100	72	90	87	88
Nonvenereal diseases of genito-urinary system (135–142).....	100	90	77	76	100
Puerperal state (143–150).....	100	100	100	99	90
Diseases of skin and cellular tissue (151–154).....	80	77	53	55	44
Diseases of bones and organs of locomotion (155–158 and part of 205).....		60	60	68	60
Congenital malformations and early infancy (159–163).....			86	100	80
Senility (164).....			80	60	60
External causes (165–203).....	80	74	72	74	68
Ill defined and unknown.....		38	46	53	50

The proportion of all cases attended by physicians, on the other hand, was distinctly higher in those groups designated by the terms "well-to-do" and "comfortable" than in the poorer families (Table 11). The economic ability to secure medical attention by the more fortunate families did not manifest itself for all kinds of illness, however. For the so-called general diseases, diseases of the nervous system, diseases of the ear and mastoid process, nonvenereal diseases of the genito-urinary system, and diseases of the bones and organs of locomotion, the proportion attended by the physicians was as great among the poorer families as among those of higher economic status. One reason for this apparent equality, perhaps, was the fact that certain of these diseases could only have been diagnosed by physicians, and could not otherwise have been classified. In the large group of diseases of the respiratory system, on the other hand, the families in the "well-to-do" and "comfortable" classes had a relatively greater amount of medical attention. This was true also of the infectious diseases, diseases of the eyes, circulatory system, digestive system, and skin. Here, again, consideration should be given to the possibility that some of these diseases were better defined among the well-to-do

classes than among the poorer, because of the fact that a larger proportion of the cases were attended by physicians. The rate for operations, as shown in Table 12, was definitely higher for the "well-to-do" and "comfortable" than for the "poor" and "very poor." In this table we give separately tonsillectomies and appendectomies; although the rates for these operations indicate in a general way association with economic condition, the rate is even higher for other

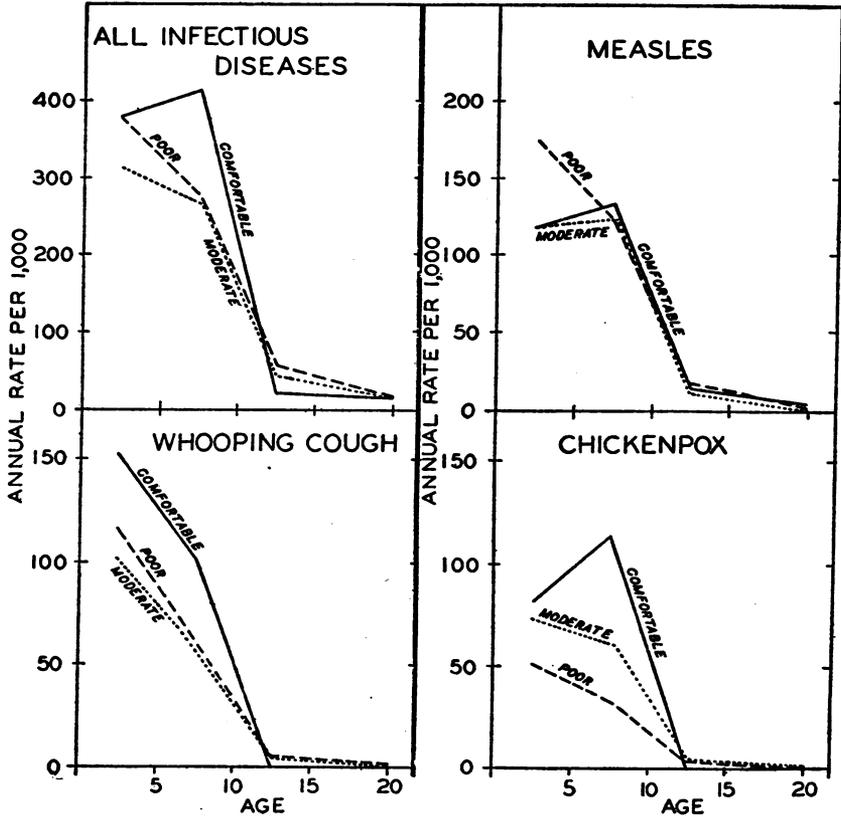


FIGURE 3.—Incidence of illness from certain infectious diseases among children of different family economic status in Hagerstown, Md., December 1, 1921, to March 31, 1924

operations among those better able to afford them. It is difficult, of course, to evaluate precisely the influence of the greater opportunity for better diagnosis among the well-to-do than among the poor upon differential morbidity rates. In opposition to its effect in increasing the recorded rates from certain causes for the richer members of the population, must be considered the possibility that ill health, as manifested by the so-called minor illnesses, may have been more nearly completely reported for the richer than for the poorer.

TABLE 12.—Operation rates per 1,000 in a white population in Hagerstown, Md., December 1, 1921, to March 31, 1924, classified by economic status, the rates having been corrected for differences in age distribution

Operation	Number			Rate per 1,000		
	Well-to-do and comfortable	Moderate	Poor and very poor	Well-to-do and comfortable	Moderate	Poor and very poor
Total.....	42	129	132	27.0	20.4	15.9
Tonsillectomy.....	12	58	50	10.7	10.0	5.4
Appendectomy.....	4	10	18	3.0	1.4	2.0
Other operations.....	26	61	66	13.3	9.0	8.5

Two facts remain fairly clear, however—one is that the illness rate as observed was higher for the poor than for those economically better off; the other is that, in general, those families which were definitely above the average of this community in economic condition had medical attention to a considerably greater extent than the remainder of the population.

ACKNOWLEDGMENTS

The continuous field observations upon which the foregoing report is based were made by the following assistants: F. Ruth Phillips, Mrs. Mary King Phillips, Louise Simmons, Mrs. Clara Bell Ledford, Clarice Buhrman, and Mrs. Alcesta Owen, under the immediate supervision of Passed Asst. Surg. R. B. Norment, jr., Acting Asst. Surg. A. S. Gray, and, later, Surg. C. V. Akin.

In the analysis of the data I am especially indebted to Miss Phillips and to Associate Statistician S. D. Collins and Assistant Statistician Dorothy G. Wiehl, and other members of the statistical staff, as well as to several officers of the Public Health Service for constant advice on medical points.

REFERENCES

(1) Sydenstricker, Edgar, and King, Willford I.: A Method of Classifying Families according to Incomes in Studies of Disease Prevalence. Pub. Health Rep., Vol. 35, No. 48 (November 26, 1920). Reprint No. 623.

(2) Collins, Selwyn D.: Economic Status and Health. The results of previous studies are here summarized and discussed. U. S. Public Health Bulletin No. 165.

THE HEALTH OF WORKERS IN DUSTY TRADES

Exposure of Workers to Siliceous Dust in the Granite Industry

A second bulletin dealing with the health of workers in dusty trades has just been issued by the Public Health Service,¹ presenting a study of the exposure of workers to siliceous dust in the granite-cutting industry (Barre, Vt.). This dust was found to contain about 35 per cent free silica in the form of quartz.

The report brings out clearly the extent of the hazard under such conditions as existed in the plants studied. Of particular importance is the fact that it was possible, by differentiating occupations on the basis of the amount of dust exposure, to determine within broad

¹ Public Health Bulletin No. 187: The Health of Workers in Dusty Trades. II. Exposure to Siliceous Dust (Granite Industry). The first bulletin in this series was Public Health Bulletin No. 176: The Health of Workers in Dusty Trades. I. Health of Workers in a Portland Cement Plant.

limits how much dust of the composition studied can be tolerated by workers without serious deleterious effects. The conclusion was reached that a maximum of dust exposure falling somewhere between 10 and 20 million particles per cubic foot of air is a desirable limit for dust containing about 35 per cent free silica in the form of quartz. It was also concluded, on the basis of a study made in other plants having local exhaust ventilation systems, that this limit could be reached by the use of economically practicable ventilating devices of this character. The recommendation was made that occupational processes in which little dust is produced be segregated in separate rooms of buildings.

It should be pointed out that the limit established was not found to prevent the occurrence of silicosis. It was found, however, that there seemed to be no particular liability to pulmonary tuberculosis where the concentration of dust was within this limit.

The study was of such a character as to present a rather definite picture of what happens to men working for many years under a dust hazard of the extent described. The salient points may be summarized as follows:

(a) The long period of service before the liability to tuberculosis becomes manifest (generally 20 years or more).

(b) The sharp correlation between the length of exposure to the dust and the prevalence of tuberculosis and also the death rate from this disease.

(c) The close relation between the extent of dust exposure and the health of the men.

(d) The universal occurrence of silicosis among the workers.

(e) The large proportion of workers finally succumbing to tuberculosis.

(f) The almost invariably fatal form of the disease within a short time after the onset.

(g) The different character of silicosis as manifested by X-rays compared with that shown where there is exposure to a dust with a much higher content of free silica.

(h) The location of the tuberculous lesion, usually basal, where the disease complicates silicosis.

(i) The absence of deaths from silicosis per se, tuberculosis apparently always intervening.

(j) The failure of workers to recover from their condition upon going into nondusty trades.

(k) The high incidence of sickness of a severe nature from causes other than tuberculosis.

(l) The rising sickness and mortality rates from tuberculosis due to longer use of the hand-pneumatic tool.

(m) The high death rates at the present time from tuberculosis, compared with normal industrial experience.

This investigation paralleled in its method the studies which are being conducted in other dusty trades and included a record of the sickness and mortality occurring among granite cutters for a period of more than two years, complete physical examinations with special reference to the development of tuberculosis, X-rays, sputum analyses, and autopsies, together with a careful analysis of the atmospheric dustiness under varying conditions. A study of mortality among such workers based on death certificates was also made.

The bulletin is of particular interest because of the large number of excellent X-rays, photomicrographs of the lungs, detailed histories of individual cases, as well as the extensive clinical discussions and the detailed analyses of the statistical findings.

COURT DECISIONS RELATING TO PUBLIC HEALTH

Teacher contracting tuberculosis through negligence of school district denied damages.—(Minnesota Supreme Court; *Bang v. Independent School Dist. No. 27 of St. Louis County*, 225 N. W. 449; decided May 17, 1929.) An action was brought by plaintiff, who had been employed as a teacher in a school of the defendant district, to recover damages on the ground that she had contracted tuberculosis through defendant's negligence. Plaintiff's predecessor had been required by the school district officers to cease teaching because she was tuberculous. The plaintiff took over the position of teacher immediately following her predecessor's discontinuance. The school district did not clean or disinfect the building or the papers, books, and apparatus, including a pitch pipe, which had been used by plaintiff's predecessor. The plaintiff used cloths which had been used in cleaning and dusting before she came. After teaching for a little less than a month and a half, the plaintiff secured another position. Five months later she learned that she had tuberculosis.

The trial court directed a verdict for the school district and plaintiff appealed. The supreme court stated that "The evidence was such as to justify a jury in finding that the district was negligent." The judgment of the lower court, however, was affirmed because the school district, a quasi public corporation and a governmental agency in the furnishing of educational facilities, had exercised governmental and not proprietary functions. The court said that a school district, in the exercise of its governmental functions, was not liable for negligence unless liability was imposed by statute.

Section 5385, General Statutes 1923, required the renovation and disinfection of apartments or premises which had been vacated because of the removal therefrom of a tuberculous person. The plaintiff made something of this section, but the court held that a

reading of the statute indicated that it applied to houses or apartments or dwellings and not to schoolhouses.

In disposing of plaintiff's claim that a nuisance was maintained, it was stated in the opinion that "There is nothing in the evidence from which we are able to see more than negligence."

The plaintiff also claimed that liability rested upon the school district for its negligence under section 3098, General Statutes 1923, which provided that an action could be brought against a school district upon a contract or "for an injury to the rights of the plaintiff arising from some act or omission." But the court adhered to former decisions in which the construction of the statute had been that the legislature "did not intend to change the rule relative to the non-liability of a school district in the exercise of a governmental function."

Birth registration law held valid.—(Michigan Supreme Court; *People v. Cramer*, 225 N. W. 595; decided June 3, 1929.) The defendant, a physician, was convicted of violating Act No. 343 of 1925, which provided for the registration of births. On appeal to the supreme court the statute was assailed on constitutional grounds. The defendant's contentions as to the invalidity of the act were as follows:

(a) The time limit of five days within which a physician was required to file a report of a birth was so short that it was unreasonable.

(b) Inasmuch as unintentional violations of the act subjected an offender to a penalty, it resulted in cruel and unusual punishment.

(c) Since no fee was provided for making a report, it was an attempt to compel service to the State without compensation, thereby depriving the party rendering such service of property without due process of law.

(d) Physicians as a class were deprived of equal protection of the laws.

(e) There was an unwarranted delegation of legislative power to the State health department, this contention being based upon the assumption that the State health commissioner was vested with unlimited powers in determining what information could be required to be included in the reports.

All of these claims were rejected by the supreme court, and the trial court's judgment was affirmed.

DEATHS DURING WEEK ENDED JULY 13, 1929

Summary of information received by telegraph from industrial insurance companies for the week ended July 13, 1929, and corresponding week of 1928. (From the Weekly Health Index, July 17, 1929, issued by the Bureau of the Census, Department of Commerce)

	Week ended July 13, 1929	Corresponding week, 1928
Policies in force.....	74, 515, 561	71, 546, 274
Number of death claims.....	12, 174	12, 737
Death claims per 1,000 policies in force, annual rate.....	8. 5	9. 3

Deaths from all causes in certain large cities of the United States during the week ended July 13, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, July 17, 1929, issued by the Bureau of the Census, Department of Commerce)

City	Week ended July 13, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate, week ended July 13, 1929 ¹
	Total deaths	Death rate ¹		Week ended July 13, 1929	Corresponding week, 1928	
Total (65 cities).....	6,404	11.2	11.2	617	661	52
Akron.....	36			4	5	41
Albany ⁴	32	13.9	20.4	0	4	0
Atlanta.....	71	14.6	13.9	10	12	104
White.....	36			4	2	
Colored.....	35	(⁵)	(⁵)	6	10	
Baltimore ⁴	209	13.2	12.3	20	17	64
White.....	163			9	12	36
Colored.....	46	(⁵)	(⁵)	11	5	174
Birmingham.....	69	16.2	14.8	9	10	81
White.....	32			6	3	90
Colored.....	37	(⁵)	(⁵)	3	7	69
Boston.....	169	11.1	12.5	16	27	44
Bridgeport.....	32			5	1	86
Buffalo.....	113	10.6	11.7	10	23	43
Cambridge.....	19	7.9	14.5	3	4	54
Camden.....	27	10.4	7.7	2	3	35
Canton.....	17	7.6	11.6	3	6	71
Chicago ⁴	661	10.9	10.2	63	44	56
Cincinnati.....	133			9	10	53
Cleveland.....	155	8.0	9.5	11	21	32
Columbus.....	72	12.6	12.9	3	4	28
Dallas.....	51	12.2	10.6	5	5	
White.....	34			4	4	
Colored.....	17	(⁵)	(⁵)	1	1	
Dayton.....	30	8.5	11.1	1	4	16
Denver.....	59	10.5	11.6	6	4	58
Des Moines.....	32	11.0	8.6	3	1	54
Detroit.....	252	9.6	9.2	29	34	47
Duluth.....	19	8.5	10.7	0	2	0
El Paso.....	36	16.0	14.6	11	5	
Erie.....	23			1	1	20
Fall River ⁴	17	6.6	8.6	6	2	113
Flint.....	27	9.5	10.5	6	3	73
Fort Worth.....	36	11.0	10.1	4	4	
White.....	31			4	4	
Colored.....	5	(⁵)	(⁵)	0	0	
Grand Rapids.....	27	8.6	10.2	9	4	136
Houston.....	55			6	9	
White.....	36			3	6	
Colored.....	19	(⁵)	(⁵)	3	3	
Indianapolis.....	99	13.5	9.6	8	5	64
White.....	83			6	4	56
Colored.....	16	(⁵)	(⁵)	2	1	119
Jersey City.....	74	11.9	11.3	6	11	46
Kansas City, Kans.....	40	17.7	14.6	4	6	88
White.....					1	
Colored.....		(⁵)	(⁵)		5	
Kansas City, Mo.....	104	13.9	11.1	11	3	93
Knoxville.....	38	18.9	16.4	10	5	219
White.....	27			7	4	171
Colored.....	11	(⁵)	(⁵)	3	1	633
Los Angeles.....	240			17	21	50
Louisville.....	88	14.0	9.7	3	5	24
White.....	69			3	4	28
Colored.....	19	(⁵)	(⁵)	0	1	0
Lowell.....	18			4	5	91
Lynn.....	20	9.9	8.9	3	2	82
Memphis.....	56	15.4	22.8	5	15	59
White.....	24			1	7	19
Colored.....	32	(⁵)	(⁵)	4	8	125
Milwaukee.....	85	8.2	10.5	13	15	57
Minneapolis.....	81	9.3	8.9	8	10	49
Nashville.....	61	22.8	17.6	10	8	161
White.....	37			9	7	196
Colored.....	24	(⁵)	(⁵)	1	1	63
New Bedford.....	18			2	3	43
New Haven.....	35	9.7	11.1	0	2	0
New Orleans.....	117	14.2	16.9	13	12	65

See footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended July 13, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, July 17, 1929, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended July 13, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under-1 year		Infant mortality rate, week ended July 13, 1929
	Total deaths	Death rate		Week ended July 13, 1929	Corresponding week, 1928	
New Orleans—Continued.						
White	64			7	9	49
Colored	53	(³)	(³)	6	3	101
New York	1,269	11.0	10.7	95	123	39
Bronx Borough	134	7.4	8.5	16	9	47
Brooklyn Borough	431	9.8	9.5	36	49	37
Manhattan Borough	530	15.8	14.9	36	56	44
Queens Borough	127	7.8	6.7	3	6	12
Richmond Borough	47	16.3	15.6	4	3	72
Newark, N. J.	97	10.7	8.5	12	10	63
Oakland	51	9.7	9.5	1	5	11
Oklahoma City	42			5	6	100
Omaha	60	14.1	11.3	4	3	47
Paterson	32	11.5	11.9	7	2	124
Philadelphia	462	11.7	11.0	46	50	65
Pittsburgh	139	10.8	12.2	15	13	52
Portland, Ore.	48			3	4	34
Providence	66	12.1	9.5	5	8	44
Richmond	61	16.4	13.7	4	6	56
White	31			1	2	21
Colored	30	(³)	(³)	3	4	123
Rochester	69	11.0	11.6	9	7	78
St. Louis	206	12.7	13.2	14	13	47
St. Paul	43			2	6	21
Salt Lake City ¹	34	12.9	10.6	4	4	62
San Antonio	52	12.5	16.8	15	12	
San Diego	33			2	3	38
San Francisco	100	8.9	12.4	7	5	45
Schenectady	24	13.4	9.0	4	0	127
Seattle	57	17.8	9.3	3	3	32
Somerville	14	7.1	9.7	2	1	72
Spokane	15	7.2	11.5	2	2	52
Springfield, Mass.	34	11.9	12.9	1	2	17
Syracuse	38	10.0	12.1	2	5	24
Tacoma	17	8.0	9.9	0	0	6
Toledo	78	13.0	13.2	9	8	84
Trenton	49	18.4	12.8	4	2	72
Utica	30	15.1	17.1	3	3	76
Washington, D. C.	129	12.2	11.5	16	14	94
White	89			8	7	68
Colored	40	(³)	(³)	8	7	152
Waterbury	20			1	1	25
Wilmington, Del.	32	13.0	13.4	0	3	6
Worcester	48	12.7	7.1	5	6	63
Yonkers	14	6.0	7.8	1	6	23
Youngstown	29	8.7	12.3	3	3	43

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 73 cities.

⁴ Deaths for week ended Friday.

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; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 28; Nashville, 30; New Orleans, 26; 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 condition 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 July 13, 1929, and July 14, 1928

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 13, 1929, and July 14, 1928

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928
New England States:								
Maine.....	6	4	1	9	34	21	1	1
New Hampshire.....	1	2			12	25	0	0
Vermont.....	1	1				66	0	0
Massachusetts.....	60	35	3	6	263	384	1	3
Rhode Island.....	3	11			44	141	0	0
Connecticut.....	17	17	1	1	36	192	1	1
Middle Atlantic States:								
New York.....	181	191	15	14	403	1,045	26	11
New Jersey.....	75	106		2	75	432	3	3
Pennsylvania.....	83	93			427	874	8	1
East North Central States:								
Ohio.....	45	58	10	19	439	573	12	3
Indiana.....	11	9		3	43	68	1	0
Illinois.....	148	74	2	40	560	90	7	6
Michigan.....	74	27			309	336	17	4
Wisconsin.....	13	13	6	30	482	24	3	4
West North Central States:								
Minnesota.....	11	17	1	5	79	18	2	4
Iowa.....	3	2			21	7	3	0
Missouri ¹	34	21	1	3	19	55	4	5
North Dakota.....	5	8		3	25	10	0	1
South Dakota.....	7	3			4	9	0	0
Nebraska.....	3	10		3	57	2	0	0
Kansas.....	3	4			114	19	0	0
South Atlantic States:								
Delaware.....	2				2	8	0	0
Maryland ²	9	14	5	2	12	60	0	0
District of Columbia.....	4	13	1	1	7	26	0	0
West Virginia.....	8	3		22	64	32	0	0
North Carolina.....	26	14				85	0	1
South Carolina.....	15	31	104	202	2	17	0	0
Georgia.....	6	9	5	18		25	3	0
Florida.....	3	6	1	39	4	3	3	1

¹ New York City only.

² Figures for 1929 are exclusive of St. Joseph.

³ Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 13, 1929, and July 14, 1928—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928
East South Central States:								
Kentucky.....		2				39	9	1
Tennessee.....	4	2	6	5	15	37	2	0
Alabama.....	7	7	4	48	10	43	0	1
Mississippi.....	12	4					0	0
West South Central States:								
Arkansas.....	1	6		11	6	10	0	0
Louisiana.....	12	9	5	6	8	16	3	1
Oklahoma.....	8	19	18	40	9	25	2	2
Texas.....	17	7	8	13	34	55	0	0
Mountain States:								
Montana.....	2					38	2	0
Idaho.....		8	2		7		1	0
Wyoming.....		2			6		0	0
Colorado.....	10	11			7	49	0	0
New Mexico.....		1			7	10	1	0
Arizona.....	1				5	44	0	0
Utah.....			2	4	4	4	10	0
Pacific States:								
Washington.....	7	3			56	18	2	1
Oregon.....	2	9	6	5	28	23		0
California.....	48	67	6	8	76	20	5	1

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928
New England States:								
Maine.....	0	1	11	9	0	0	6	8
New Hampshire.....	0	1	6	1	0	0	0	0
Vermont.....	0	0	0	2	1	0	0	0
Massachusetts.....	0	1	78	95	0	0	1	11
Rhode Island.....	0	1	3	6	0	0	0	2
Connecticut.....	0	0	19	24	0	0	2	1
Middle Atlantic States:								
New York.....	12	8	126	106	1	4	26	26
New Jersey.....	1	2	38	44	0	0	19	8
Pennsylvania.....	1	0	112	104	0	0	15	33
East North Central States:								
Ohio.....	1	3	146	54	43	6	23	14
Indiana.....	0	0	46	18	31	43	3	9
Illinois.....	1	4	111	110	27	20	16	22
Michigan.....	0	1	170	96	42	37	1	7
Wisconsin.....	0	0	52	54	8	26	2	1
West North Central States:								
Minnesota.....	0	2	37	54	4	0	3	2
Iowa.....	0	0	26	16	21	7	4	2
Missouri.....	0	0	14	31	6	12	11	11
North Dakota.....	0	4	3	45	3	1	1	2
South Dakota.....	0	0	2	6	13	0	0	0
Nebraska.....	0	0	10	15	20	13	1	0
Kansas.....	1	1	31	22	18	55	10	6
South Atlantic States:								
Delaware.....	0	0	1		0	0	1	1
Maryland.....	0	1	10	19	9	3	25	14
District of Columbia.....	0	0	7	10	0	0	0	1
West Virginia.....	0	0	11		16	19	12	9
North Carolina.....	6	2	20	19	17	8	45	84
South Carolina.....	4	0	7	5	1	0	87	120
Georgia.....	1	0	12	7	9	0	54	38
Florida.....	0	0	1	5	0	0	3	16

† Figures for 1929 are exclusive of St. Joseph.

‡ Week ended Friday.

§ Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 13, 1929, and July 14, 1928—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928	Week ended July 13, 1929	Week ended July 14, 1928
East South Central States:								
Kentucky.....	0	0	24	4	5	2	7	5
Tennessee.....	4	0	3	8	1	4	43	66
Alabama.....	1	1	15	5	1	2	24	49
Mississippi.....	0	2	2	4	1	0	40	48
West South Central States:								
Arkansas.....	0	0	1	4	0	6	2	17
Louisiana.....	0	0	9	1	1	1	29	27
Oklahoma.....	0	0	10	12	12	31	30	38
Texas.....	1	2	22	21	24	5	9	24
Mountain States:								
Montana.....	0	0	6	3	2	19	1	0
Idaho.....	0	0	2	1	11	9	1	0
Wyoming.....	0	0	2	4	5	1	1	0
Colorado.....	0	0	7	15	17	2	8	5
New Mexico.....	1	0	9	7	0	6	5	7
Arizona.....	1	1	2	2	0	0	0	0
Utah.....	0	0	3	9	4	4	4	1
Pacific States:								
Washington.....	0	1	10	10	12	32	10	8
Oregon.....	1	0	4	5	27	24	4	1
California.....	6	6	98	68	14	4	13	13

¹ Week ended Friday.

² Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

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	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Meas- les	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>June, 1929</i>										
Dist. of Columbia.....		37	2		76		2	37	0	3
Georgia.....	3	26	72	706	141	149	0	40	3	132
New Jersey.....	20	353	6	2	745		4	311	0	20
Ohio.....	34	185	40	1	3,322		5	530	285	38
South Carolina.....		105	810	2,255	14	1,937	5	23	20	309
Tennessee.....	11	32	46	386	87	81	8	69	43	150
Vermont.....					5		1	24	4	

<i>June, 1929</i>		<i>June, 1929</i>	
Chicken pox:	Cases	German measles:	Cases
District of Columbia.....	46	New Jersey.....	63
Georgia.....	33	Ohio.....	7
New Jersey.....	1,128	Hookworm disease:	
Ohio.....	1,155	Georgia.....	20
South Carolina.....	173	South Carolina.....	165
Tennessee.....	71	Lead poisoning:	
Vermont.....	61	New Jersey.....	4
Conjunctivitis:		Ohio.....	13
Georgia.....	6	Lethargic encephalitis:	
Dengue:		Ohio.....	7
Georgia.....	3	South Carolina.....	1
South Carolina.....	25	Mumps:	
Dysentery:		Georgia.....	50
Georgia.....	208	Ohio.....	251
Tennessee.....	70	South Carolina.....	143
Foot and mouth disease:		Tennessee.....	105
Ohio.....	1	Vermont.....	34

June, 1929		June, 1929	
Ophthalmia neonatorum:	Cases	Trachoma:	Cases
New Jersey.....	1	Ohio.....	3
Ohio.....	81	Tennessee.....	11
South Carolina.....	21	Trichinosis:	
Tennessee.....	2	Georgia.....	1
Paratyphoid fever:		Tularaemia:	
Georgia.....	1	South Carolina.....	1
New Jersey.....	1	Tennessee.....	4
Ohio.....	2	Typhus fever:	
South Carolina.....	12	District of Columbia.....	3
Puerperal septicaemia:		Georgia.....	5
Ohio.....	3	Undulant fever:	
Rabies in animals:		Ohio.....	6
South Carolina.....	13	South Carolina.....	1
Septic sore throat:		Whooping cough:	
Georgia.....	12	District of Columbia.....	79
Ohio.....	37	Georgia.....	265
Tennessee.....	3	New Jersey.....	882
Tetanus:		Ohio.....	1,707
Ohio.....	8	South Carolina.....	1,161
Tennessee.....	4	Tennessee.....	342
		Vermont.....	66

PLAGUE-INFECTED GROUND SQUIRRELS IN CALIFORNIA

The director of public health of the State of California reports that on July 8, 1929, plague infection was proved by animal inoculation in one lot of three ground squirrels which had been shot on June 29, 3 miles south of Hollister, San Benito County.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,565,000. The estimated population of the 91 cities reporting deaths is more than 29,995,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended July 6, 1929, and July 7, 1928

	1929	1928	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	971	1,015	
98 cities.....	543	523	591
Measles:			
45 States.....	5,001	6,222	
98 cities.....	1,188	1,945	
Meningococcus meningitis:			
45 States.....	137	64	
98 cities.....	71	29	
Poliomyelitis:			
46 States.....	43	39	
Scarlet fever:			
46 States.....	1,387	1,357	
98 cities.....	534	440	466
Smallpox:			
46 States.....	647	487	
98 cities.....	93	34	30
Typhoid fever:			
46 States.....	515	525	
98 cities.....	59	84	85
<i>Deaths reported</i>			
Influenza and pneumonia:			
91 cities.....	373	459	
Smallpox:			
91 cities.....	0	0	

City reports for week ended July 6, 1929

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1920 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, 1928, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Meas-les, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated expect-ancy	Cases re-ported	Cases re-ported	Deaths re-ported			
NEW ENGLAND									
Maine:									
Portland.....	78,600	1	1	0	0	0	9	0	0
New Hampshire:									
Concord.....	(¹)	0	0	1	0	0	4	0	0
Nashua.....	(¹)	0	0	0	0	0	0	0	0
Vermont:									
Barre.....	(¹)	2	0	0	0	0	0	0	0
Massachusetts:									
Boston.....	799,200	33	34	20	0	32	36	9	
Fall River.....	134,300	0	2	1	0	0	0	1	
Springfield.....	149,800	0	2	1	0	1	0	0	
Worcester.....	197,600	7	1	0	0	17	0	0	
Rhode Island:									
Pawtucket.....	73,100	0	0	0	0	0	0	0	
Providence.....	286,300	0	3	4	0	19	0	1	
Connecticut:									
Bridgeport.....	(¹)	0	4	4	0	5	0	1	
Hartford.....	172,300	4	3	0	0	6	1	8	
New Haven.....	187,900	9	1	0	0	0	0	2	
MIDDLE ATLANTIC									
New York:									
Buffalo.....	555,800	8	8	6	0	28	2	20	
New York.....	6,017,500	77	175	144	10	37	103	65	
Rochester.....	328,200	3	6	0	0	9	4	3	
Syracuse.....	199,300	16	3	0	1	1	11	6	
New Jersey:									
Camden.....	135,400	1	4	2	0	0	0	0	
Newark.....	473,600	18	9	30	0	10	16	2	
Trenton.....	139,000	3	2	0	0	14	0	5	
Pennsylvania:									
Philadelphia.....	2,064,200	24	44	17	4	11	7	21	
Pittsburgh.....	673,800	3	13	9	1	47	0	16	
Reading.....	115,400	2	2	2	0	1	0	0	
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	413,700	3	4	2	0	2	2	6	
Cleveland.....	1,010,300	38	19	5	1	58	3	11	
Columbus.....	299,000	7	3	1	0	58	0	5	
Toledo.....	313,200	17	3	2	0	82	12	3	
Indiana:									
Fort Wayne.....	105,300	1	1	5	0	5	0	1	
Indianapolis.....	382,100	3	2	0	0	19	0	7	
South Bend.....	86,100	0	1	0	0	0	0	0	
Terre Haute.....	73,500	0	0	0	0	0	0	0	
Illinois:									
Chicago.....	3,157,400	37	55	138	3	341	10	39	
Springfield.....	67,200	0	1	0	0	10	0	0	
Michigan:									
Detroit.....	1,378,900	22	32	42	0	115	12	12	
Flint.....	148,800	7	2	2	0	5	0	1	
Grand Rapids.....	164,200	1	1	0	0	5	0	1	

¹ No estimate of population made.

City reports for week ended July 6, 1929—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chick- en pox, cases re- ported	Diphtheria		Influenza		Meas- les, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths re- ported
			Cases, esti- mated expect- ancy	Cases re- ported	Cases re- ported	Deaths re- ported			
EAST NORTH CENTRAL— continued									
Wisconsin:									
Kenosha.....	56,500	7	1	0	0	0	24	1	1
Milwaukee.....	544,200	35	10	5	0	0	91	6	4
Racine.....	74,400	7	1	0	0	0	0	0	0
Superior.....	(¹)	0	0	0	0	0	10	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	116,800	1	0	2	0	0	6	1	1
Minneapolis.....	455,900	19	10	7	0	0	9	3	2
St. Paul.....	(¹)	1	7	2	0	0	10	3	2
Iowa:									
Davenport.....	(¹)	0	0	3	0	0	0	1	0
Des Moines.....	151,900	0	1	0	0	0	1	0	0
Sioux City.....	80,000	1	0	0	0	0	0	0	0
Waterloo.....	37,100	1	0	0	0	0	3	2	0
Missouri:									
Kansas City.....	391,000	5	2	0	0	0	0	0	8
St. Joseph.....	78,500	0	0	0	0	0	5	0	1
St. Louis.....	848,100	5	20	26	0	0	7	13	0
North Dakota:									
Fargo.....	(¹)	0	0	0	0	0	2	0	0
Grand Forks.....	(¹)	1	0	0	0	0	2	0	0
South Dakota:									
Aberdeen.....	(¹)	0	0	0	0	0	2	0	0
Sioux Falls.....	(¹)	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	222,800	1	2	3	0	0	11	0	6
Kansas:									
Topeka.....	62,800	6	0	0	0	0	0	2	1
Wichita.....	99,300	2	0	0	0	0	6	3	0
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	128,500	0	1	1	0	0	4	0	1
Maryland:									
Baltimore.....	830,400	12	12	10	1	1	4	74	10
Cumberland.....	(¹)	0	0	0	0	0	0	0	1
Frederick.....	(¹)	0	0	0	0	0	0	0	0
District of Columbia:									
Washington.....	552,000	5	5	2	0	0	6	0	8
Virginia:									
Lynchburg.....	38,600	0	0	0	0	0	0	25	1
Norfolk.....	184,200	1	0	0	0	0	7	2	2
Richmond.....	194,400	0	1	0	0	0	7	4	0
Roanoke.....	64,600	1	0	0	0	0	1	0	1
West Virginia:									
Charleston.....	55,200	1	0	0	0	0	2	0	1
Wheeling.....	(¹)	1	0	0	0	0	13	0	1
North Carolina:									
Raleigh.....	(¹)	1	0	0	0	0	0	0	0
Wilmington.....	39,100	0	0	0	0	0	0	0	1
Winston-Salem.....	80,000	0	0	1	0	0	0	0	1
South Carolina:									
Charleston.....	75,900	0	0	1	7	0	0	0	4
Columbia.....	50,600	4	0	0	0	0	0	1	1
Georgia:									
Atlanta.....	255,100	0	1	0	2	0	1	0	5
Brunswick.....	(¹)	0	0	0	0	0	0	0	1
Savannah.....	99,900	0	1	2	7	0	0	0	0
Florida:									
Miami.....	156,700	1	1	0	0	0	3	2	0
St. Petersburg.....	53,300	0	0	0	0	0	0	0	0
Tampa.....	113,400	0	0	1	0	0	1	0	0

¹ No estimate of population made.

City reports for week ended July 6, 1929—Continued

Division, State, and city	Population, July 1, 1928, 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			
EAST SOUTH CENTRAL									
Kentucky:									
Covington.....	59,000	0	0	0	-----	0	0	0	0
Tennessee:									
Memphis.....	190,200	1	0	2	-----	0	0	0	1
Nashville.....	139,600	0	0	0	-----	1	2	0	4
Alabama:									
Birmingham.....	222,400	3	1	1	1	1	2	5	4
Mobile.....	69,600	0	0	1	-----	0	0	0	1
Montgomery.....	63,100	1	0	0	0	-----	0	0	-----
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	(¹)	0	0	0	-----	0	0	0	-----
Little Rock.....	79,200	0	0	0	-----	0	0	0	6
Louisiana:									
New Orleans.....	429,400	1	4	4	1	1	2	0	11
Shreveport.....	81,300	2	0	0	-----	0	2	0	2
Oklahoma:									
Oklahoma City.....	(¹)	0	1	3	6	0	0	0	0
Texas:									
Dallas.....	217,800	1	3	4	-----	0	13	1	1
Fort Worth.....	170,600	2	1	1	-----	0	0	0	4
Galveston.....	50,600	0	0	0	-----	0	0	0	1
Houston.....	(¹)	1	2	5	-----	0	1	0	1
San Antonio.....	218,100	0	1	6	-----	0	0	0	6
MOUNTAIN									
Montana:									
Billings.....	(¹)	0	0	0	-----	0	7	0	0
Great Falls.....	(¹)	9	0	0	-----	0	5	13	1
Helena.....	(¹)	0	0	0	-----	0	0	0	0
Missoula.....	(¹)	0	0	0	-----	0	0	0	1
Idaho:									
Boise.....	(¹)	0	0	0	-----	0	1	0	0
Colorado:									
Denver.....	294,200	16	8	1	-----	0	1	5	5
Pueblo.....	44,200	2	1	0	-----	0	1	1	0
New Mexico:									
Albuquerque.....	(¹)	0	0	0	-----	0	0	0	0
Utah:									
Salt Lake City.....	138,000	20	3	2	-----	0	2	50	0
Nevada:									
Reno.....	(¹)	1	0	0	-----	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	383,200	15	4	0	-----	6	12	-----	-----
Spokane.....	109,100	9	1	4	-----	16	0	-----	-----
Tacoma.....	110,500	3	2	0	-----	0	3	1	0
Oregon:									
Portland.....	(¹)	3	5	3	-----	0	10	1	7
Salem.....	(¹)	0	0	0	-----	0	0	0	0
California:									
Los Angeles.....	(¹)	28	37	8	4	0	16	12	5
Sacramento.....	75,700	5	2	2	-----	0	11	0	0
San Francisco.....	585,300	6	10	4	-----	0	5	7	5

¹ No estimate of population made.

City reports for week ended July 6, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland.....	0	3	0	0	0	0	1	0	0	3	14
New Hampshire:											
Concord.....	0	1	0	0	0	0	0	0	0	0	7
Nashua.....	0	0	0	0	0	0	0	0	0	0	8
Vermont:											
Barre.....	0	0	0	0	0	0	0	0	0	0	2
Massachusetts:											
Boston.....	31	17	0	0	0	7	2	2	1	43	161
Fall River.....	2	7	0	0	0	0	1	0	0	1	21
Springfield.....	2	2	0	0	0	2	0	0	0	0	29
Worcester.....	4	0	0	0	0	4	0	0	0	13	42
Rhode Island:											
Pawtucket.....	0	2	0	0	0	0	0	0	0	0	10
Providence.....	4	5	0	0	0	2	0	0	0	4	43
Connecticut:											
Bridgeport.....	3	3	0	0	0	7	0	0	0	0	19
Hartford.....	2	0	0	0	0	1	0	0	0	5	31
New Haven.....	1	0	0	0	0	3	0	0	0	0	40
MIDDLE ATLANTIC											
New York:											
Buffalo.....	11	10	0	0	0	11	1	0	0	10	125
New York.....	82	41	0	0	0	98	16	10	2	77	1,161
Rochester.....	5	1	0	0	0	0	0	0	0	9	46
Syracuse.....	3	2	0	0	0	0	0	0	0	14	36
New Jersey:											
Camden.....	2	1	0	0	0	1	0	0	0	2	22
Newark.....	10	2	0	0	0	6	1	1	0	35	77
Trenton.....	1	0	0	0	0	5	0	0	0	5	28
Pennsylvania:											
Philadelphia.....	38	20	0	0	0	22	4	1	0	80	319
Pittsburgh.....	14	17	0	0	0	6	1	1	0	26	132
Reading.....	1	2	0	0	0	1	0	0	0	4	17
EAST NORTH CENTRAL											
Ohio:											
Cincinnati.....	6	17	1	2	0	12	1	0	0	2	114
Cleveland.....	16	30	0	0	0	11	2	0	0	61	149
Columbus.....	3	6	0	4	0	4	0	0	0	17	63
Toledo.....	5	8	1	0	0	3	0	0	0	35	55
Indiana:											
Fort Wayne.....	1	0	0	0	0	0	0	1	0	1	22
Indianapolis.....	3	9	3	4	0	3	0	0	0	15	80
South Bend.....	1	0	0	0	0	0	0	0	0	0	12
Terre Haute.....	0	0	0	0	0	0	0	0	0	0	24
Illinois:											
Chicago.....	53	115	1	0	0	43	3	4	3	59	613
Springfield.....	1	0	0	1	0	1	0	0	0	4	25
Michigan:											
Detroit.....	38	60	2	0	0	26	3	0	0	103	285
Flint.....	4	14	0	54	0	0	0	0	0	4	21
Grand Rapids.....	4	5	0	0	0	0	1	0	0	22	30
Wisconsin:											
Kenosha.....	0	1	0	0	0	0	0	1	0	7	7
Milwaukee.....	11	11	1	0	0	5	0	0	0	81	91
Racine.....	2	1	0	0	0	5	0	0	0	1	17
Superior.....	2	2	0	0	0	0	0	0	0	2	5
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	4	1	0	0	0	1	0	0	0	1	16
Minneapolis.....	15	4	1	0	0	5	1	0	0	10	69
St. Paul.....	8	5	1	0	0	4	1	0	1	38	54
Iowa:											
Davenport.....	0	0	1	1	-----	-----	0	0	-----	0	-----
Des Moines.....	1	5	0	1	-----	-----	0	0	-----	2	29
Sioux City.....	0	1	0	0	-----	-----	0	0	-----	4	-----
Waterloo.....	0	2	0	5	-----	-----	0	0	-----	1	-----

City reports for week ended July 6, 1920—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 CEN- TRAL—continued											
Missouri:											
Kansas City.....	3	3	0	1	0	2	1	3	0	16	101
St. Joseph.....	0	0	1	1	0	0	0	0	0	3	23
St. Louis.....	10	3	0	0	0	11	3	4	0	41	216
North Dakota:											
Fargo.....	0	1	0	0	0	0	0	0	0	0	3
Grand Forks.....	0	0	0	0	0	0	0	0	0	0	0
South Dakota:											
Aberdeen.....	0	0	0	0	0	0	0	0	0	0	0
Sioux Falls.....	0	0	0	3	0	0	0	0	0	0	3
Nebraska:											
Omaha.....	1	0	2	0	0	3	0	0	0	1	48
Kansas:											
Topeka.....	0	0	0	0	0	0	1	0	0	32	14
Wichita.....	1	0	0	0	0	2	1	0	0	12	28
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	1	0	0	0	0	0	0	0	0	0	17
Maryland:											
Baltimore.....	9	18	0	0	0	10	3	8	0	96	152
Cumberland.....	0	0	0	0	0	0	0	0	0	0	5
Frederick.....	0	0	0	0	0	1	0	0	0	0	4
District of Col.:											
Washington.....	7	7	0	0	0	6	2	1	1	7	114
Virginia:											
Lynchburg.....	0	0	0	0	0	0	0	0	0	12	10
Norfolk.....	0	1	1	0	0	3	1	3	0	15	0
Richmond.....	1	1	0	0	0	8	2	1	0	6	44
Roanoke.....	0	0	0	0	0	0	0	0	0	2	14
West Virginia:											
Charleston.....	0	0	0	1	0	1	1	1	0	9	17
Wheeling.....	1	0	0	0	0	1	0	1	0	2	9
North Carolina:											
Raleigh.....	0	0	0	0	0	0	0	0	0	7	5
Wilmington.....	0	0	0	0	0	0	0	0	0	0	10
Winston-Salem.....	0	0	1	0	0	3	1	0	0	38	12
South Carolina:											
Charleston.....	0	1	0	0	0	2	1	2	0	1	22
Columbia.....	0	0	0	0	0	1	1	0	0	27	15
Georgia:											
Atlanta.....	2	5	1	0	0	6	4	1	0	10	74
Brunswick.....	0	0	0	0	0	0	0	0	0	0	4
Savannah.....	0	0	0	0	0	1	2	2	0	1	36
Florida:											
Miami.....	0	0	0	0	0	1	2	1	0	2	15
St. Petersburg.....	0	0	0	0	0	2	0	0	0	10	10
Tampa.....	1	0	0	0	0	1	1	0	0	0	21
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	0	0	0	3	0	0	0	0	0	0	9
Tennessee:											
Memphis.....	1	2	0	0	0	5	6	1	0	15	65
Nashville.....	1	0	0	0	0	0	5	0	0	7	44
Alabama:											
Birmingham.....	1	2	1	0	0	7	3	0	0	6	76
Mobile.....	0	1	0	0	0	0	0	2	0	0	27
Montgomery.....	0	3	0	0	0	0	1	4	0	0	0
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	0	0	0	0	0	0	1	0	0	0	0
Little Rock.....	0	0	0	0	0	4	1	0	0	1	0
Louisiana:											
New Orleans.....	2	0	0	0	0	11	3	0	0	0	139
Shreveport.....	0	0	1	0	0	0	1	0	0	0	28

City reports for week ended July 6, 1920—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:									
Cincinnati.....	0	1	0	0	0	0	0	0	0
Cleveland.....	2	1	0	0	0	0	0	1	0
Indiana:									
Indianapolis.....	0	2	0	0	0	0	0	0	0
Illinois:									
Chicago.....	3	4	1	0	0	0	0	1	0
Michigan:									
Detroit.....	15	10	3	1	0	0	0	1	0
Flint.....	1	0	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee.....	1	0	0	0	0	0	0	0	0
Superior.....	1	0	1	1	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis.....	0	0	0	1	0	0	0	0	0
St. Paul.....	1	0	0	0	0	0	0	0	0
Iowa:									
Des Moines.....	3	0	0	0	0	0	0	0	0
Missouri:									
St. Louis.....	4	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	1	0	0	0	0	0	0	1	0
District of Columbia:									
Washington.....	0	0	0	0	0	0	0	1	1
Virginia:									
Richmond.....	0	0	0	0	0	1	0	0	0
North Carolina:									
Wilmington.....	0	0	0	0	0	1	0	0	0
Winston-Salem.....	0	0	0	0	1	0	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	0	1	0	0	0
Georgia:									
Savannah.....	0	0	0	0	2	0	0	1	1
Florida:									
Miami.....	0	0	0	0	1	0	0	0	0
Tampa ¹	1	1	0	0	0	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Nashville.....	1	1	0	0	0	0	0	0	0
Alabama:									
Birmingham.....	0	0	0	0	4	3	0	0	0
Mobile.....	0	0	0	0	0	2	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock.....	0	0	0	0	0	1	0	0	0
Louisiana:									
New Orleans.....	2	1	0	0	0	1	0	0	0
Shreveport.....	0	0	0	0	0	1	0	0	0
Oklahoma:									
Oklahoma City.....	0	0	0	1	0	0	0	0	0
Texas:									
Dallas.....	0	0	0	0	0	1	0	0	0
Fort Worth.....	0	0	0	0	0	1	0	0	0
Galveston.....	0	0	0	0	0	1	0	0	0
San Antonio.....	0	0	0	0	0	1	0	0	0

¹ Typhus fever; 1 case at Tampa, Fla.

City reports for week ended July 6, 1929—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
MOUNTAIN									
Montana:									
Helena.....	1	1	0	0	0	0	0	0	0
Idaho:									
Boise.....	1	0	0	0	0	0	0	0	0
Colorado:									
Denver.....	3	1	0	1	0	0	0	0	0
Utah:									
Salt Lake City.....	1	0	0	0	0	0	0	0	0
PACIFIC									
Oregon:									
Portland.....	1	0	0	0	0	0	0	0	1
California:									
Los Angeles.....	2	2	0	0	0	0	0	2	0
Sacramento.....	3	2	0	0	0	0	0	0	0
San Francisco.....	3	0	0	0	0	0	0	0	0

¹ Nonresidents.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended July 6, 1929, compared with those for a like period ended July 7, 1928. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have estimated aggregate populations of more than 31,000,000. The 91 cities reporting deaths have nearly 30,000,000 estimated population. 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, June 2 to July 6, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928 ¹

DIPHTHERIA CASE RATES

	Week ended—									
	June 8, 1929	June 9, 1928	June 15, 1929	June 16, 1928	June 22, 1929	June 23, 1928	June 29, 1929	June 30, 1928	July 6, 1929	July 7, 1928
98 cities.....	110	136	107	146	112	119	² 111	115	90	88
New England.....	72	97	79	115	72	78	95	64	70	62
Middle Atlantic.....	148	221	131	242	125	185	144	187	101	148
East North Central.....	123	108	145	123	164	118	131	116	127	79
West North Central.....	96	53	65	68	87	63	85	53	77	29
South Atlantic.....	54	107	64	67	64	61	³ 34	40	34	55
East South Central.....	20	28	41	28	34	14	34	7	27	21
West South Central.....	91	61	87	53	67	53	71	49	75	16
Mountain.....	61	35	35	44	26	35	⁴ 28	35	26	27
Pacific.....	57	115	35	110	60	72	87	74	45	49

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1929 and 1928, respectively.

² Charleston, W. Va., and Great Falls, Mont., not included.

³ Charleston, W. Va., not included.

⁴ Great Falls, Mont., not included.

Summary of weekly reports from cities, June 2 to July 6, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928—Continued

MEASLES CASE RATES

	Week ended—									
	June 8, 1929	June 9, 1928	June 15, 1929	June 16, 1928	June 22, 1929	June 23, 1928	June 29, 1929	June 30, 1928	July 6, 1929	July 7, 1928
98 cities.....	737	1, 026	484	866	424	663	268	500	196	327
New England.....	606	952	339	996	391	934	213	911	210	722
Middle Atlantic.....	169	1, 771	143	1, 403	123	1, 106	99	655	76	456
East North Central.....	1, 825	687	1, 151	677	1, 009	423	619	473	474	266
West North Central.....	1, 059	597	561	534	504	342	256	383	113	172
South Atlantic.....	238	892	241	606	129	513	138	375	73	256
East South Central.....	41	435	41	442	41	512	7	175	27	56
West South Central.....	415	61	217	113	190	45	162	32	71	20
Mountain.....	192	735	261	682	218	337	129	399	148	354
Pacific.....	422	174	397	110	364	143	214	95	142	38

SCARLET FEVER CASE RATES

98 cities.....	209	193	189	167	149	144	113	104	88	74
New England.....	192	290	206	223	158	170	120	189	90	122
Middle Atlantic.....	135	191	129	162	100	146	72	100	46	59
East North Central.....	321	237	321	220	260	181	191	116	173	95
West North Central.....	165	164	110	155	77	139	104	113	38	90
South Atlantic.....	300	157	133	109	78	98	63	73	60	65
East South Central.....	95	49	75	77	88	49	34	21	54	35
West South Central.....	79	93	111	45	91	45	43	41	24	36
Mountain.....	78	106	70	71	96	27	65	71	44	27
Pacific.....	279	156	259	156	217	161	170	87	140	61

SMALLPOX CASE RATES

98 cities.....	8	11	16	10	9	7	15	10	15	6
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	17	9	28	11	18	8	38	8	41	6
West North Central.....	12	22	12	23	6	23	19	31	13	16
South Atlantic.....	2	31	4	13	6	4	0	2	2	8
East South Central.....	14	35	54	56	0	28	7	14	20	7
West South Central.....	8	24	43	20	4	24	4	8	12	4
Mountain.....	52	71	44	44	61	9	120	142	35	44
Pacific.....	15	13	47	18	32	15	15	20	25	15

TYPHOID FEVER CASE RATES

98 cities.....	8	9	9	7	8	7	12	16	10	14
New England.....	7	2	11	2	5	9	9	23	5	9
Middle Atlantic.....	5	10	3	2	2	1	7	8	6	9
East North Central.....	3	7	4	3	4	2	3	6	4	4
West North Central.....	8	4	17	4	19	4	15	12	13	8
South Atlantic.....	17	11	11	17	13	13	31	34	32	21
East South Central.....	27	14	34	42	54	49	34	140	48	91
West South Central.....	28	32	20	36	36	28	36	41	8	65
Mountain.....	0	9	9	9	9	9	46	27	17	9
Pacific.....	12	10	20	20	5	15	20	8	7	26

¹ Charleston, W. Va., and Great Falls, Mont., not included.

² Charleston, W. Va., not included.

³ Great Falls, Mont., not included.

Summary of weekly reports from cities, June 2 to July 6, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928—Continued

INFLUENZA DEATH RATES

	Week ended—									
	June 8, 1929	June 9, 1928	June 15, 1929	June 16, 1928	June 22, 1929	June 23, 1928	June 29, 1929	June 20, 1928	July 6, 1929	July 7, 1928
91 cities.....	7	18	6	12	6	6	5	7	2	9
New England.....	2	14	7	14	2	5	2	5	0	9
Middle Atlantic.....	5	19	4	11	3	9	4	6	3	10
East North Central.....	6	17	8	14	8	6	4	5	1	3
West North Central.....	3	21	9	6	6	0	0	12	0	12
South Atlantic.....	7	10	2	8	6	8	3	6	2	6
East South Central.....	22	77	7	31	15	0	15	54	15	31
West South Central.....	16	33	12	17	16	4	4	12	4	25
Mountain.....	35	0	0	9	0	0	4	18	6	18
Pacific.....	16	7	7	7	7	3	3	3	0	0

PNEUMONIA DEATH RATES

91 cities.....	91	130	86	115	82	87	64	77	68	73
New England.....	66	168	86	136	54	90	59	71	50	51
Middle Atlantic.....	105	148	98	132	89	110	65	89	67	80
East North Central.....	96	115	82	111	76	59	69	63	56	67
West North Central.....	81	95	54	129	48	64	48	70	63	55
South Atlantic.....	67	122	88	80	84	94	63	71	69	61
East South Central.....	59	161	104	115	118	46	74	123	74	69
West South Central.....	93	108	65	75	85	87	69	71	114	68
Mountain.....	61	89	113	53	78	115	111	71	61	53
Pacific.....	72	81	62	88	108	84	39	81	33	78

¹ Charleston, W. Va., and Great Falls, Mont., not included.

² Charleston, W. Va., not included.

³ Great Falls, Mont., not included.

Number of cities included in summary of weekly reports and aggregate population of cities of each group, approximated as of July 1, 1929 and 1928, 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	
			1929	1928	1929	1928
Total.....	98	91	31,568,400	31,052,700	29,995,100	29,496,600
New England.....	12	12	2,305,100	2,273,900	2,305,100	2,273,900
Middle Atlantic.....	10	10	10,809,700	10,702,200	10,809,700	10,702,200
East North Central.....	16	16	8,181,900	8,001,300	8,181,900	8,001,300
West North Central.....	12	9	2,712,100	2,673,300	1,736,900	1,708,100
South Atlantic.....	19	19	2,783,200	2,732,900	2,783,200	2,732,900
East South Central.....	6	5	767,900	745,500	704,200	682,400
West South Central.....	8	7	1,319,100	1,289,900	1,285,000	1,256,400
Mountain.....	9	9	598,800	590,200	598,800	590,200
Pacific.....	6	4	2,090,600	2,043,500	1,590,300	1,551,200

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended June 29, 1929.—The Department of Pensions and National Health reports cases of certain communicable diseases from five Provinces of Canada for the week ended June 29, 1929, as follows:

Disease	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Total
Cerebrospinal fever.....	-----	-----	1	-----	-----	1
Poliomyelitis.....	-----	1	-----	-----	-----	2
Smallpox.....	1	9	-----	1	6	17
Typhoid fever.....	9	18	6	-----	6	39

Ontario—Communicable diseases (comparative)—Five weeks ended June 29, 1929.—The following table shows the number of cases of certain communicable diseases, with deaths from these diseases, for the five weeks ended June 29, 1929, as compared with the corresponding period of the year 1928:

5 weeks ended June 29

Disease	1929		1928	
	Cases	Deaths	Cases	Deaths
Actinomycosis.....	-----	-----	1	-----
Cerebrospinal meningitis.....	4	5	6	4
Chancroid.....	6	-----	2	-----
Chicken pox.....	1,366	-----	1,043	-----
Diphtheria.....	239	14	216	15
Dysentery.....	-----	-----	1	-----
Erysipelas.....	2	-----	2	-----
German measles.....	36	-----	15	-----
Gonorrhœa.....	189	-----	166	-----
Goiter.....	1	-----	1	1
Influenza.....	17	2	61	44
Lethargic encephalitis.....	2	1	5	3
Measles.....	3,077	2	2,403	3
Mumps.....	463	-----	1,063	-----
Paratyphoid fever.....	2	-----	-----	-----
Pneumonia.....	-----	158	-----	166
Poliomyelitis.....	2	2	1	1
Puerperal fever.....	-----	1	-----	1
Scarlet fever.....	446	2	378	2
Septic sore throat.....	-----	-----	1	-----
Smallpox.....	87	-----	41	-----
Syphilis.....	158	2	131	-----
Tetanus.....	-----	-----	-----	1
Tuberculosis.....	171	44	164	81
Typhoid fever.....	66	-----	38	2
Typhus fever.....	1	-----	-----	-----
Whooping cough.....	550	1	310	6

Quebec Province—Vital statistics—April, 1929.—Births, deaths, and marriages for the month of April, 1929, with deaths from certain principal causes are shown in the following table:

Estimated population.....	2,691,000	Deaths from—Continued.	
Births.....	6,623	Influenza.....	136
Birth rate per 1,000 population.....	29.9	Lethargic encephalitis.....	1
Deaths.....	3,103	Measles.....	35
Death rate per 1,000 population.....	14.0	Pneumonia.....	317
Infant mortality rate.....	132.0	Poliomyelitis.....	5
Marriages.....	1,627	Scarlet fever.....	18
Deaths from—		Smallpox.....	1
Cancer.....	156	Syphilis.....	6
Cerebrospinal meningitis.....	13	Tuberculosis (pulmonary).....	222
Diabetes.....	20	Tuberculosis (other forms).....	63
Diarrhea.....	96	Typhoid fever.....	21
Diphtheria.....	39	Violence.....	87
Heart disease.....	361	Whooping cough.....	14

Quebec Province—Communicable diseases—Week ended July 6, 1929.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended July 6, 1929, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	1	Mumps.....	7
Chicken pox.....	26	Scarlet fever.....	57
Diphtheria.....	40	Smallpox.....	2
German measles.....	12	Tuberculosis.....	49
Influenza.....	1	Typhoid fever.....	6
Measles.....	37	Whooping cough.....	23

CHINA

Meningitis.—During the week ended July 6, 1929, 16 cases of meningitis, with 16 deaths, were reported in Canton, China. One admission to the hospital and 5 deaths from meningitis were reported at Shanghai during the same week.

CZECHOSLOVAKIA

Communicable diseases—May, 1929.—During the month of May, 1929, communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	11		Puerperal fever.....	47	21
Cerebrospinal meningitis.....	40	19	Scarlet fever.....	1,336	47
Diphtheria.....	880	76	Trachoma.....	423	
Dysentery.....	9		Typhoid fever.....	312	28
Malaria.....	57		Typhus fever.....	18	1
Paratyphoid fever.....	7	1			

DENMARK

Communicable diseases—January, 1929.—During the month of January, 1929, communicable diseases were reported in Denmark as follows:

Disease	Cases	Disease	Cases
Broncho-pneumonia.....	3, 520	Paratyphoid fever.....	8
Cerebrospinal meningitis.....	13	Pneumonia.....	421
Chicken pox.....	48	Polio-myelitis.....	2
Diphtheria.....	624	Puerperal fever.....	20
Erysipelas.....	303	Recurrent fever.....	3
German measles.....	2	Scabies.....	1, 247
Influenza.....	63, 420	Scarlet fever.....	210
Jaundice.....	146	Tuberculosis.....	305
Lethargic encephalitis.....	15	Typhoid fever.....	9
Measles.....	829	Undulant fever ¹	32
Mumps.....	2, 033	Whooping cough.....	1, 603

¹ Reported from the State Serum Institute. Population, 3,537,805.

MEXICO

Vera Cruz—Communicable diseases—Six weeks ended June 29, 1929.—During the six weeks ended June 29, 1929, cases of certain communicable diseases were reported in Vera Cruz, Mexico, as follows:

Disease	Weeks ended—					
	May 25	June 1	June 8	June 15	June 22	June 29
Bronchitis.....		1				1
Cancer.....		2				1
Cerebrospinal meningitis.....				3	1	1
Dysentery.....				2		1
Gastrointestinal disorders.....	12	17	11	7	8	13
Hook worm disease.....						1
Influenza.....		1				
Malaria.....	3	1	1	3	3	1
Pneumonia.....	3	4	1	3	1	3
Syphilis.....				1		
Tetanus.....				2	1	1
Tuberculosis.....	5	8	7	5	9	7
Typhoid fever.....			2	1	4	
Whooping cough.....						1

YUGOSLAVIA

Communicable diseases—May, 1929.—During the month of May, 1929, communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	35	3	Measles.....	1, 482	22
Cerebrospinal meningitis.....	18	13	Scarlet fever.....	742	113
Diphtheria.....	195	40	Tetanus.....	32	14
Dysentery.....	26		Typhoid fever.....	106	17
Glanders.....	1	2	Typhus fever.....	19	1

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

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

CHOLERA

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

Place	Week ended—																	
	1928			1929			1929			1929			1929					
	Dec. 16, 1928	Jan. 12, 1929	Jan. 13, 1929	Feb. 10, 1929	Mar. 9, 1929	Mar. 10, 1929	April, 1929	May, 1929	June, 1929	July 6, 1929	29	22	15	8	1	22	29	
Ceylon.....	7	4	4	4														
Colombo.....	3	2																
China:																		
Amoy.....	3																	
Canton.....	1																	
Swatow.....																		
India.....	17,038	12,566	7,027	7,027	9,046	3,110	4,231	5,107	6,073	6,979	7,973							
Bassain.....	10,807	7,912	4,425	4,425	4,997	1,886	2,362	2,866	3,855	4,469	4,990							
Bombay.....					45	26	47	23	22	23	13							
Calcutta.....					6	2	1											
Madras.....	103	129	261	154	184	172	278	274	245	244	244							
Moulmein.....	61	85	144	307	96	97	109	159	166	171	103							
Negapatam.....	16	4	9															
Rangoon.....	17	5	4															
Tuticorin.....	6	18	3															
India (French):	6	15	13															
Chandermagor.....	6	5	9															
Karikal.....	115	85	6															
Pondicherry Provinces.....	61	52	4															
Indo-China (see also table below):																		
Pnompenh.....	4																	
Saigon.....	6	2	42	13	3	8	3	1	5	3	1	5	3	1	6	2	2	5
	1	1	36	10	1	5	2	2	4	1	1	5	1	1	4	1	1	2
	6	6	6	12	3	3	3	3	4	17	15	20	19	43	73	65	17	0
	4	8	8	2	2	1	3	2	2	15	9	9	9	29	53	49	8	8

Slam.....	224	195	165	397	175	85	114	245	310	196	113	121	67	122	159
Anthoeng.....	4	1	3	2	2		3	24	2			14		11	
Ayudhaya.....	16	4	4	1	2	1	3	13	2			5		8	
Bangkok.....	22	4	4	38	15	16	41	39	69	36	20	7	8	9	6
Charoengso.....	6	0	36	21	10	13	31	20	34	22	17	4	4	5	2
Dhannapuri.....	16	9	1		2			15	1	1					
Lobpur.....	10	2	3		1			6							
Nagara Pathom.....	74		3		1										
Nondpur.....	61		1		1			36	13	13					
Pradhundham.....	4		2					20	10	10					
Singhapuri.....	17	1	1												
Simud Prakar.....	12	6	1												
	30	7	1												
	10	8	1												

On vessel:

S. S. Angby, at Saigon-Cholon.....													1	1	
S. S. Cap. St. Jacques at Singapore from Saigon-Cholon.....															
S. S. Ekms, at Penang from Singapore.....			P												
S. S. Elephanat, at Penang from Calcutta.....				P											
S. S. Eripur, at Madras.....															
S. S. Medie, at Colombo from Calcutta.....										1	2				
S. S. Sata Maru, at Calcutta.....										6					
S. S. Tilawa, at Penang from Singapore.....				P										2	
S. S. Tokushima, at Hong Kong.....														2	

Place	December, 1928		January, 1929		February, 1929			March, 1929			April, 1929			May, 1929	
					1-10	11-20	21-28	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20
Indo-China (French) (see also table above):															
Annam.....	C														5
Cambodia.....	C	25	79	29	40				3	3			7	15	188
Cochin-China.....	C	697	660	107	115				26	3			40	27	42
Tonkin.....	C								13	170			51	81	2

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

SMALLPOX—Continued

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

Place	Week ended—													
	April, 1929			May, 1929			June, 1929			July, 1929				
	13	20	27	4	11	18	25	1	8	15	22	29	6	13
Great Britain:														
England and Wales.....	C													
Birmingham.....	890	1,083	1,156	339	374	354	356	277	362	298	242	272	191	166
Bradford.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bristol.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cardiff.....	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Castleford.....	48	85	56	5	14	5	7	7	5	5	2	2	2	2
Hull.....	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Leeds.....	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Liverpool.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
London.....	54	54	58	29	49	56	67	50	52	53	38	69	41	40
London and Great Towns.....	433	425	598	206	250	203	229	159	198	171	128	166	120	113
Newcastle-on-Tyne.....	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Nottingham.....	6	6	6	1	2	2	2	1	1	1	1	1	1	1
Stoke-on-Trent.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scotland—	14	18	72	42	30	27	34	12	41	18	15	24	9	13
Aberdeen.....														
Glasgow.....	1	12	1	1	1	1	1	1	1	1	1	1	1	1
Greece (see table below).....														
Hedjaz.....	153	108	84	23	22	13	9	23	7	10	23	19	22	19
Honduras: Puerto Castilla.....	56	40	52	16	14	10	12	13	4	7	11	12	16	14
India.....														
Bombay.....	12,531	14,850	19,120	5,694	5,169	6,194	5,499	5,105	4,653	34	50	38	42	36
Calcutta.....	3,045	3,285	3,963	1,291	1,106	1,359	1,304	1,354	1,173	70	34	22	27	23
Karachi.....	158	397	441	104	57	85	69	54	70	22	33	22	27	23
Madras.....	78	188	206	46	30	48	51	30	46	6	8	7	4	8
Punjab.....	32	104	127	34	24	25	18	5	16	5	10	7	4	7
Rangoon.....	16	29	77	26	16	16	16	5	16	6	10	7	4	6
Siam.....	5	147	206	29	57	33	25	23	22	17	22	8	13	10
Yokohama.....	223	14	70	8	22	17	12	15	11	11	21	6	8	7
Madras.....	35	260	392	107	87	70	63	60	53	37	24	21	17	28
Bombay.....	6	61	83	20	26	22	16	14	23	11	13	6	8	4

Place	De- cem- ber, 1928	Janu- ary, 1929	Feb- ru- ary, 1929	March, 1929	April, 1929	May, 1929	June, 1929	Place	De- cem- ber, 1928	Janu- ary, 1929	Feb- ru- ary, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Dublin.....	C	1	1												
Kerry County— Dingle.....	D														
Killarney.....	C		2		1										
Tyrone County, Strabane 1 Lithuania (see table below). Mexico (see also table below): Aguascalientes.....	C														1
Chihuahua.....	D	5													
Mexico City, including municipalities in Fed- eral District.....	D														
San Luis Potosi.....	D														
Norway: Oslo.....	C	9	11	7	4	3	1								
Palestine.....	C	2	3	2	1										
Poland.....	D	1	20	17	19	8	12								
Portugal:.....	D	4													
Lisbon.....	D	2	3	2	2	1	2								
Oporto.....	C	203	222	202	295	67	79	88	80	85	56	43	78	35	2
Rumania.....	C	16	15	18	20	2	3	7	13	7	8	3	1	2	
Tunisia.....	C														
Turkey (see table below). Union of South Africa: Cape Province.....	C	187	173	211	220										1
Natal.....	C	11	23	28	30	3	2	11	10	9	12				
Orange Free State.....	C		2	3	20	7	2	8	2	1	1	10	13	8	3
Transvaal.....	C	P	P	P	P	P	P	P	P	P	P				
Yugoslavia (see table below).	C	P	P	P	P	P	P	P	P	P	P				

1 During the period from Apr. 14 to May 21, 1929, 18 cases of typhus fever with 4 deaths were reported in Strabane, Tyrone County, Ireland.

Place	De- cem- ber, 1928	Janu- ary, 1929	Feb- ru- ary, 1929	March, 1929	April, 1929	May, 1929	June, 1929	Place	De- cem- ber, 1928	Janu- ary, 1929	Feb- ru- ary, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Canada: Ontario.....	C	3	4	3	2		1	Lithuania.....	C	11	32	24	02	101	63
Chosen: Seoul.....	C	6	7	41	25	18		Mexico (see also table above):	D	3	3	3	7	5	4
Czechoslovakia.....	D	1	1	1	1	1		Sonora.....	D	1	1	1	3		
Greece: Athens.....	D	13	4	4	2			Turkey.....	C	19	1	11	3		7
Indo-China: Tonkin.....	D	5						Yugoslavia.....	D	7	15	13	7	19	1
Latvia.....	C			1	10				C	7	15	13	7	19	1

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

YELLOW FEVER

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

Place	Jan. 13- Feb. 9, 1929	Feb. 10- Mar. 9, 1929	Mar. 10- Apr. 6, 1929	Week ended—													
				April, 1929			May, 1929			June, 1929			July, 1929				
				13	20	27	4	11	18	25	1	8	15	22	29	6	13
Belgian Congo: Tumba.....																	
Brazil:																	
Bahia.....			1					1									1
Guaratingueta.....		1	1														1
Para.....		1	5														
Pernambuco.....			4														
Porto Alegre.....																	
Rio de Janeiro ¹	16	92	252		11	11		11	11	24	22	17	7	5	2		1
Sao Paulo.....	17	67	132					17	18	11	11	6	3	3	2		
Colombia: Socorro ²	1																
Liberia: Monrovia.....	3	7	10														6
On vessel:	2	4	4														4
S. S. Skogland, at Porto Alegre, from Rio de Janeiro....									1								

¹ Imported.
² 39 cases of yellow fever with 14 deaths were reported at Rio de Janeiro during January, 1929, mostly suburban.
³ From June 19 to July 8, 1929, 41 cases of yellow fever with 23 deaths were reported in Socorro, Colombia.