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VARIATIONS IN CASE FATALITY DURING THE INFLUENZA EPIDEMIC OF 1918.[1]

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In order to determine whether or not the case fatality rate of influenza showed any variation during the course of the 1918 epidemic, and if so, whether this variation bore any relation to the morbidity incidence curve of the epidemic, the data gathered in surveys [2] made by the Public Health Service in 18 widely scattered localities were subjected to analysis from this point of view.

As stated in previous publications,[3] house-to-house canvasses were made of sample areas in these localities [4] immediately after the subsidence of the epidemic in 1918. In two of these localities (Baltimore and San Francisco) recanvasses of the same households were made after the recrudescence of the epidemic in January and February, 1919, and in one (Charles County, Md.) the canvass included the entire population and was made in the early spring of 1919. In these canvasses an enumeration by color, sex, age, and certain other conditions was made of the entire population in the areas selected, and a record, based on statements of responsible persons in each household, was secured of the occurrence of influenza, specifying for each case the date of onset, duration of, and severity of, the attacks, and the date of death in fatal cases.

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[1] From the Statistical Office, United States Public Health Service, in cooperation with Field Investigations of Influenza. Acknowledgments for assistance in the preparation of this paper are made to Miss Mary L. King, of the Statistical Office, and to Mr. Rollo H. Britten, Assistant Statistician for the Influenza Commission, Metropolitan Life Insurance Co. Preliminary data upon which the conclusions in this paper are based were presented before the Vital Statistics Section of the American Public Health Association at New Orleans in October, 1919.

[2] Previous papers bearing on these surveys are:

Influenza in Maryland: Preliminary Statistics of Certain Localities, by W. H. Frost and Edgar Sydenstricker. Public Health Reports, vol. 34, No. 11, Mar. 14, 1919. Reprint No. 510.

The Epidemiology of Influenza, by W. H. Frost. Jour. Am. Med. Assn., vol. 73, No. 5, Aug. 2, 1919. Reprinted in Public Health Reports, vol. 34, No. 33, Aug. 15, 1919. Reprint No. 550.

Statistics of Influenza Morbidity: With Special Reference to Certain Factors in Case Incidence and Case Fatality, by W. H. Frost. Public Health Reports, vol. 35, No. 11, Mar. 12, 1920. Reprint No. 586.

[3] See especially Statistics of Influenza Morbidity: With Special Reference to Certain Factors in Case Incidence and Case Fatality, by W. H. Frost. Public Health Reports, vol. 35, No. 11, Mar. 12, 1920. Reprint No. 586.

[4] New London, Conn., Baltimore, Quantico, Linganore, Frederick, Salisbury, Cumberland, Downsville, Lonaconing, and Charles County, Md., Little Rock, Ark., San Francisco, Calif., San Antonio, Tex., Louisville, Ky., Spartanburg, S. C., Des Moines, Iowa, Macon and Augusta, Ga.

In the analysis presented here the procedure followed was to compute the case fatality rate for as short successive periods of time as the data permitted and to determine as accurately as we could the trend of case fatality during the epidemic.[5] Because of a tendency for cases to be reported as occurring on easily remembered dates, and because of small numbers of deaths by days, the smallest division of time which could be employed satisfactorily was the week. To determine the true weekly case fatality, deaths were necessarily allocated to the week in which the fatal cases had their onset. The weekly case fatality rate for all surveyed localities combined could be carried only through the week ending December 14, since the epidemic had ended by that time in some of the localities and the rates for succeeding weeks, therefore, would be based on those localities only in which the epidemic persisted beyond that date.

In Table I and in Figure 1 are given the weekly fatality rates in all surveyed localities combined. Some irregularity due to small numbers of cases and deaths will be noted. The same irregularity is present in the other fatality data given in this article and has made it desirable to employ a method of smoothing to indicate what appeared to be the general trend of the rates. Accordingly, curves were fitted to the data by the method of least squares.[6] The smoothed rates are included in the table and graph.

TABLE I.—*Influenza case fatality by weeks from Sept. 1 to Dec. 14, 1918, among canvassed persons in all surveyed localities.*[a]

Week ended—	Cases.	Deaths (by week of onset of case).	Fatality rate per 100 cases.	
			Actual.	Smoothed.
Sept. 7	290	4	1.38	0.97
14	298	3	1.01	1.58
21	747	12	1.61	1.93
28	1,338	36	2.69	2.06
Oct. 5	5,369	110	2.05	2.08
12	5,851	127	2.17	2.00
19	5,273	82	1.56	1.88
26	3,001	58	1.93	1.73
Nov. 2	2,278	33	1.45	1.60
9	1,286	18	1.40	1.48
16	1,787	21	1.18	1.42
23	1,285	18	1.40	1.38
30	1,820	34	1.87	1.37
Dec. 7	2,307	25	1.08	1.38
14	1,029	15	1.46	1.39

[a] Including only persons of known ages.

[5] The relative importance of pneumonia as a fatal sequela to influenza in successive periods of the epidemic could not be determined with a degree of accuracy to warrant any conclusion because of the small number of deaths when subdivisions into short periods were made and because of the doubtful accuracy of the individual records with respect to this point.

[6] The formula used in this case and in the succeeding cases was $y=a+bx+cx^2+dx^3+ex^4$, x being the interval in weeks from the central point of the series, y the fatality rate for the given week, and a, b, c, d, and e constants determined directly from the data. Owing to irregularity at the ends of each series, it was found advisable to average the last two items at either end and replace each of these items with this average. In some instances it seemed desirable, for the same reason, to eliminate the extreme items at either end of the smoothed series.

It will be noted that there was a sharp rise in case fatality at the beginning of the epidemic, that a peak was reached in the week ended October 5, and that after that time the fatality rate gradually fell.

Comparison with the morbidity curve of the epidemic is immediately suggested. In determining the case rates by weeks, account must be taken of the fact that, when a person develops the disease, he is temporarily eliminated from the susceptible population. In calculating the rates for each week, therefore, all cases which had

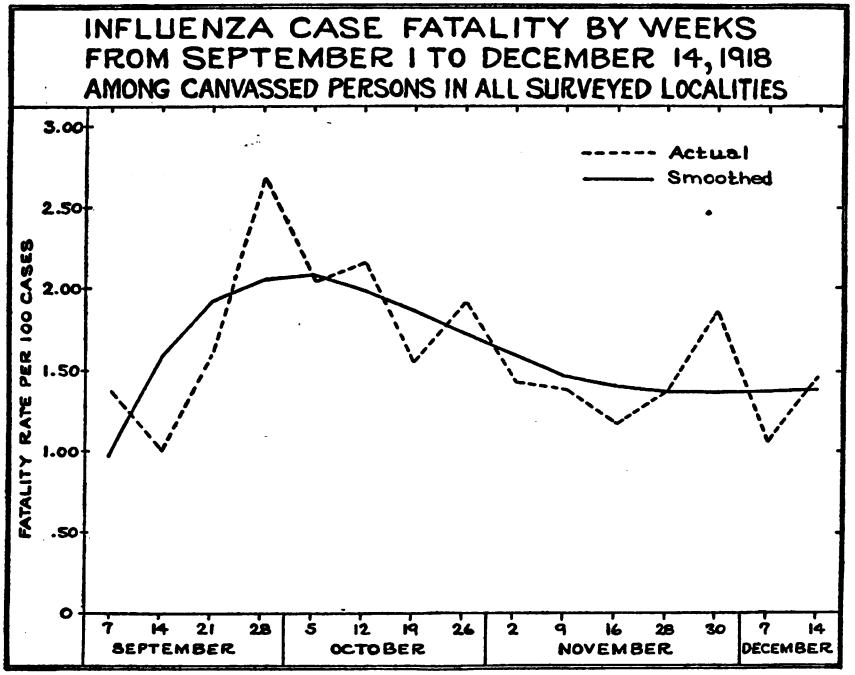

FIG. 1.

occurred during the epidemic prior to that week were deducted from the population. To make the case fatality and case incidence curves comparable, the rates were divided by their respective arithmetic averages. Table II presents the actual case rates by weeks from September 1 to December 14, the fatality rates already presented, and the smoothed indices based on these data.

TABLE II.—*Influenza case incidence and case fatality by weeks from Sept. 1 to Dec. 14, 1918, among canvassed persons in all surveyed localities.*[a]

Week ended—	Weekly case rate per 1,000 persons.	Fatality rate per 100 cases (smoothed).	Indices.	
			Case incidence.	Case fatality (smoothed).
Sept. 7	2.04	0.97	0.11	0.69
14	2.10	1.58	.12	.98
21	5.29	1.93	.29	1.19
28	9.52	2.06	.53	1.27
Oct. 5	38.56	2.08	2.14	1.28
12	42.79	2.00	2.43	1.22
19	41.18	1.88	2.29	1.16
26	34.45	1.73	1.26	1.07
Nov. 2	19.02	1.60	1.06	.99
9	16.95	1.48	.01	.91
16	15.28	1.42	.28	.88
23	11.23	1.38	.22	.85
30	16.09	1.37	.89	.85
Dec. 7	20.73	1.38	1.15	.85
14	9.44	1.39	.53	.86

[a] Including only persons of known ages.

Figure 2 presents the smoothed curves. It is suggested that there was a definite relation between the stage of the epidemic and its fatality, but no such conclusion is justified without considering two factors: (a) differences in age incidence as the epidemic progressed (which may have been responsible in part or in whole for the changes in case fatality); and (b) the stage of the epidemic in each locality.

With respect to the first point, (1) case fatality of epidemic influenza, as is now well known, varied according to age in a marked and characteristic manner, and (2) analyses of influenza case incidence in specific age groups at successive periods of the epidemic in the surveyed localities have shown that there was a gradual change in incidence in the different ages. Incidence in the age groups up to 15 years was relatively lower in the earlier stages of the epidemic than in the later stages. It is evident that, even if the fatality in the individual age groups remained constant as the epidemic progressed, the fatality rates for all ages would be affected to some extent by changes in the relative incidence of the cases in the different age groups. It was therefore thought advisable to adjust the case fatality rates to a standard age distribution of cases.[7] The data are too meager to permit such adjustment for each week. The adjustment, therefore, has been made for groups of weeks, each period containing approximately one-fourth of the cases occurring in all localities during the epidemic. The actual and adjusted case fatality rates (all known ages) for these groups are compared in Table III.

[7] What was desired was to determine what the fatality rates would be at successive periods, if there were assumed a constant distribution of cases in separate age groups at these periods. In other words, the case fatality rates were adjusted to a standard distribution, not of population, but of cases. For convenience, the percentage distribution of cases in each age group for the whole epidemic in all surveyed localities was used as the standard.

TABLE III.—*Actual and adjusted (for age) case fatality of influenza for four periods of epidemic in all surveyed localities.*[1]

Period ended—	Cases.	Deaths (by date of onset of case).	Fatality rate per 100 cases.	
			Actual.	Adjusted for age.
Oct. 5	8,042	165	2.05	2.00
Oct. 19	11,124	209	1.88	1.92
Nov. 30	11,457	182	1.58	1.57
Feb. 1	8,066	128	1.59	1.59

[1] It may noted that the division of cases and deaths into what are practically quartile periods does not afford a true picture of the case fatality curve, as a reference to Tables I and II and Figures 1 and 2 will show.

While the specific morbidity rates were found to differ considerably in the four periods, these differences in case incidence did not

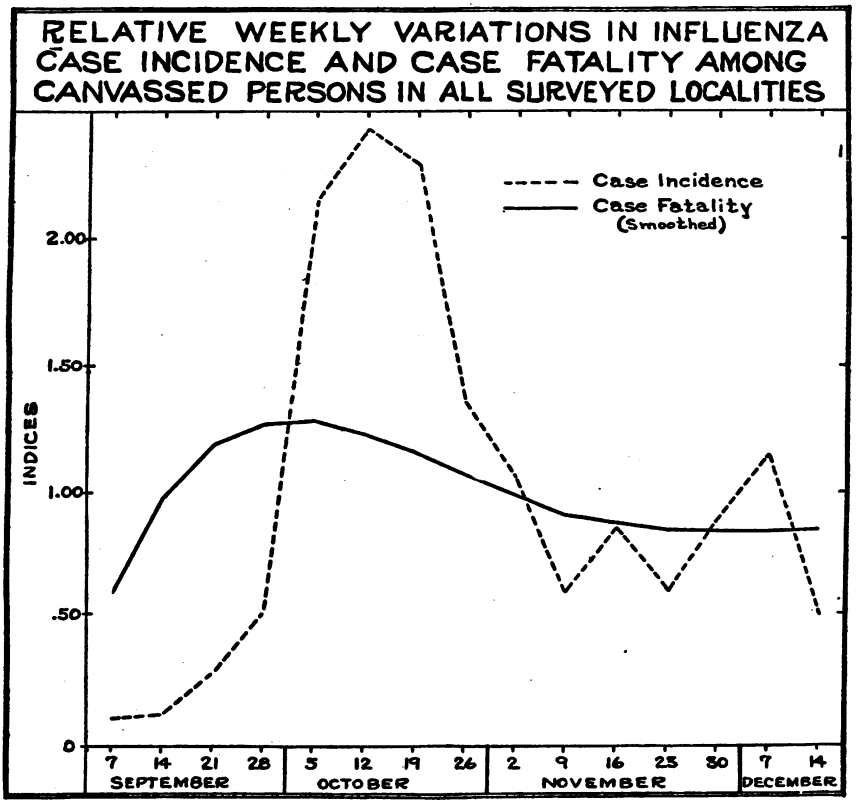

FIG. 2.

affect materially the case fatality rates. The differences shown by the adjustments are negligible, and for this reason the factor of age may be safely disregarded.[8]

[8] The same adjustment for Baltimore alone gave a similar result.

The other point requiring consideration is the stage of the epidemic in individual localities. The grouping of localities in Tables I and II did not take into account differences in the behavior of the epidemic from the point of view of *time*, and the epidemic curves differed widely in their general character. Most of the localities surveyed showed two somewhat clearly defined waves, but the relations which these waves bore to each other were quite dissimilar. In some cases the second peak occurred two or three weeks after the first; in others, months separated the two peaks. In some cases the incidence was greater in the first wave, in others in the second wave. A few of the localities had a single explosive wave. Furthermore, the crest of the epidemic was reached at different times in the various localities. In view of these facts, it seemed desirable to compare the case fatality and case incidence rates in the individual localities for different *periods* of the epidemic. In Table IV a preliminary comparison is made for the period up to and including the date when one-half of the cases had occurred in each locality and for the period after this "median" date.

TABLE IV.—*Influenza case fatality before and after "median" date among canvassed persons in all surveyed localities.*

Locality.	"Median" date.	Cases.		Deaths (by date of onset of case).		Fatality rate per 100 cases.	
		Up to and including "median" date.	After "median" date.	Up to and including "median" date.	After "median" date.	Up to and including "median" date.	After "median" date.
All localities		21,299	21,025	419	298	1.97	1.42
New London, Conn	Sept. 30	713	725	22	22	3.09	3.03
Baltimore, Md	Oct. 10	4,066	4,115	108	63	2.66	1.53
Minor Maryland towns [1]	Oct. 8	2,380	2,669	49	35	2.06	1.31
Charles County, Md	Dec. 2	3,198	3,016	75	60	2.35	1.99
Little Rock, Ark	Oct. 10	1,782	1,734	21	18	1.18	1.04
San Francisco, Calif	Oct. 30	2,060	1,916	54	36	2.62	1.88
San Antonio, Tex	do	3,270	3,376	35	19	1.07	.56
Louisville, Ky	Nov. 1	945	843	16	9	1.69	1.07
Spartanburg, S. C	Nov. 5	560	559	7	3	1.25	.54
Des Moines, Iowa	Nov. 23	656	675	12	10	1.83	1.48
Macon, Ga	Nov. 15	945	726	13	12	1.38	1.65
Augusta, Ga	Dec. 16	724	671	7	11	.97	1.64

[1] Cumberland, Frederick, Salisbury, Lonaconing, Quantico, Linganore, and Downsville.

In 10 of the 12 localities the fatality was higher in the first half of the epidemic. The two exceptions—Macon and Augusta—are localities in which the epidemic curve was quite unique in that the peak did not occur until practically the end of the epidemic.

The small size of the canvassed populations makes it impossible to determine the rates in individual localities for more finely divided periods. To obtain weekly rates it has been necessary to combine the localities, having regard to the character of the epidemic curve in each. Those localities in which there was one sharply explosive

wave (New London, minor Maryland towns, and Little Rock) have been placed in one class, while other localities, in which there were two waves (more or less clearly defined), have been placed in another class.[9] To allow for the difference in time at which the peaks occurred the peak weeks have been placed together. In the second group the peaks of the two waves have been considered separately, one half of the weeks intervening between the two peaks having been arbitrarily placed in the first wave and the other half in the second wave. As before, cases occurring previously have been eliminated from the population before calculating the case rates for each week.[10]

The case rates and the fatality rates for the successive weeks have been reduced to a comparable basis by dividing them by their respective arithmetic averages. The case fatality indices were smoothed by the method previously referred to, and the smoothed figures have been introduced into the tables which follow.

TABLE V.—*Influenza case incidence and case fatality, by weeks, during 1918 epidemic in canvassed populations of surveyed localities with a single explosive peak,*[a] *the peak weeks having been placed together.*

Week.	Persons canvassed.	Cases.	Deaths (by date of onset of case).	Case rate per 1,000 persons.	Fatality rate per 100 cases.	Indices.	
						Case incidence.	Case fatality (smoothed).
5 weeks prior to peak week	22,388	28	1	1.25	1.25	0.05	0.76
4 weeks prior to peak week	22,360	52	0	2.33		.09	
3 weeks prior to peak week	30,240	148	2	4.89	1.35	.19	1.08
2 weeks prior to peak week	30,092	374	6	12.43	1.60	.47	1.22
1 week prior to peak week	29,718	1,963	45	66.05	2.29	2.52	1.25
Peak week	27,755	2,874	52	103.55	1.81	3.95	1.20
1 week subsequent to peak week	24,881	1,801	21	72.38	1.17	2.76	1.12
2 weeks subsequent to peak week	23,080	819	15	35.49	1.83	1.35	1.03
3 weeks subsequent to peak week	22,261	519	10	23.31	1.93	.89	.95
4 weeks subsequent to peak week	21,742	246	2	11.31	.81	.43	.90
5 weeks subsequent to peak week	21,496	214	1	9.96	.47	.38	.88
6 weeks subsequent to peak week	21,282	174	4	8.18	2.30	.31	.87
7 weeks subsequent to peak week	21,108	187	3	8.86	1.60	.34	.86
8 weeks subsequent to peak week	20,921	146	1	6.98	.68	.27	.84

[a] New London, minor Maryland towns, Little Rock.

[9] One locality (Macon) has been omitted entirely because of the fact that its curve does not strictly fall into either of the two classes mentioned.

[10] It is obvious that at the beginning and end of each series of weeks certain localities will not be represented, and therefore the population of these localities has been deducted from the total before computing rates for those weeks.

TABLE VI.—*Influenza case incidence and case fatality by weeks during 1918 epidemic in canvassed populations of surveyed localities with two waves,[1] the peak weeks having been placed together.*

FIRST WAVE.

Week.		Persons canvassed.	Cases.	Deaths (by date of onset of case).	Case rate per 1,000 persons.	Fatality rate per 100 cases.	Indices.	
							Case incidence.	Case fatality (smoothed).
Weeks prior to peak week	6	57,287	170	2	2.97	1.18	0.19	.....
	5	90,460	252	2	2.79	.79	.18	0.49
	4	107,467	399	5	3.62	1.29	.23	.69
	3	107,078	486	6	4.54	1.23	.29	.89
	2	106,592	1,376	30	12.91	2.18	.82	1.24
	1	105,216	2,271	91	31.09	2.78	1.97	1.36
Peak week		101,945	4,488	101	44.02	2.25	2.79	1.30
Weeks subsequent to peak week	1	97,457	2,820	46	28.94	1.63	1.84	1.13
	2	94,637	1,872	25	19.78	1.34	1.26	.95
	3	92,765	1,216	19	13.11	1.56	.83	.92
	4	76,983	738	19	9.59	2.57	.61	.....

SECOND WAVE.

Weeks prior to peak week	4	72,063	609	9	8.45	1.48	0.62	.....
	3	84,131	1,247	9	14.82	.72	1.09	0.74
	2	88,290	1,264	16	14.32	1.27	1.05	.91
	1	87,026	1,530	24	17.58	1.57	1.29	1.13
Peak week		85,496	2,547	40	29.79	1.57	2.19	1.25
Weeks subsequent to peak week	1	82,949	1,350	27	16.28	2.00	1.20	1.23
	2	81,599	852	12	10.44	1.41	.77	1.09
	3	70,312	389	1	5.53	.26	.41	.93
	4	34,548	174	4	5.04	2.30	.37	.90

[1] Baltimore, Charles County, Md., San Francisco, San Antonio, Louisville, Spartanburg, Des Moines, and Augusta, Ga.

Figure 3 presents the smoothed indices for the one-peak and two-peak cities, respectively.

In forming a judgment as to the significance of the relations brought out in these statistics, it must be borne in mind that near the close of the epidemic, when the number of cases was relatively small, deaths from non-influenza pneumonia may have been sufficient to raise the case fatality to some extent.

Allowing for certain irregularities that apparently are caused by small numbers, the curves presented in Figure 3 suggest that:

1. A distinct rise and fall in case fatality occurred during the course of the epidemic.

2. This change bore a fairly definite relation to the rise and fall in case incidence. The correspondence is especially clear in those cities in which two peaks occurred, and is shown in both waves.

3. Case fatality seemed to rise during the first part of each wave of the epidemic, tending to reach its highest point during the period in which the epidemic was spreading most rapidly, but showing a tendency to decline immediately before or coincident with the peak in incidence.

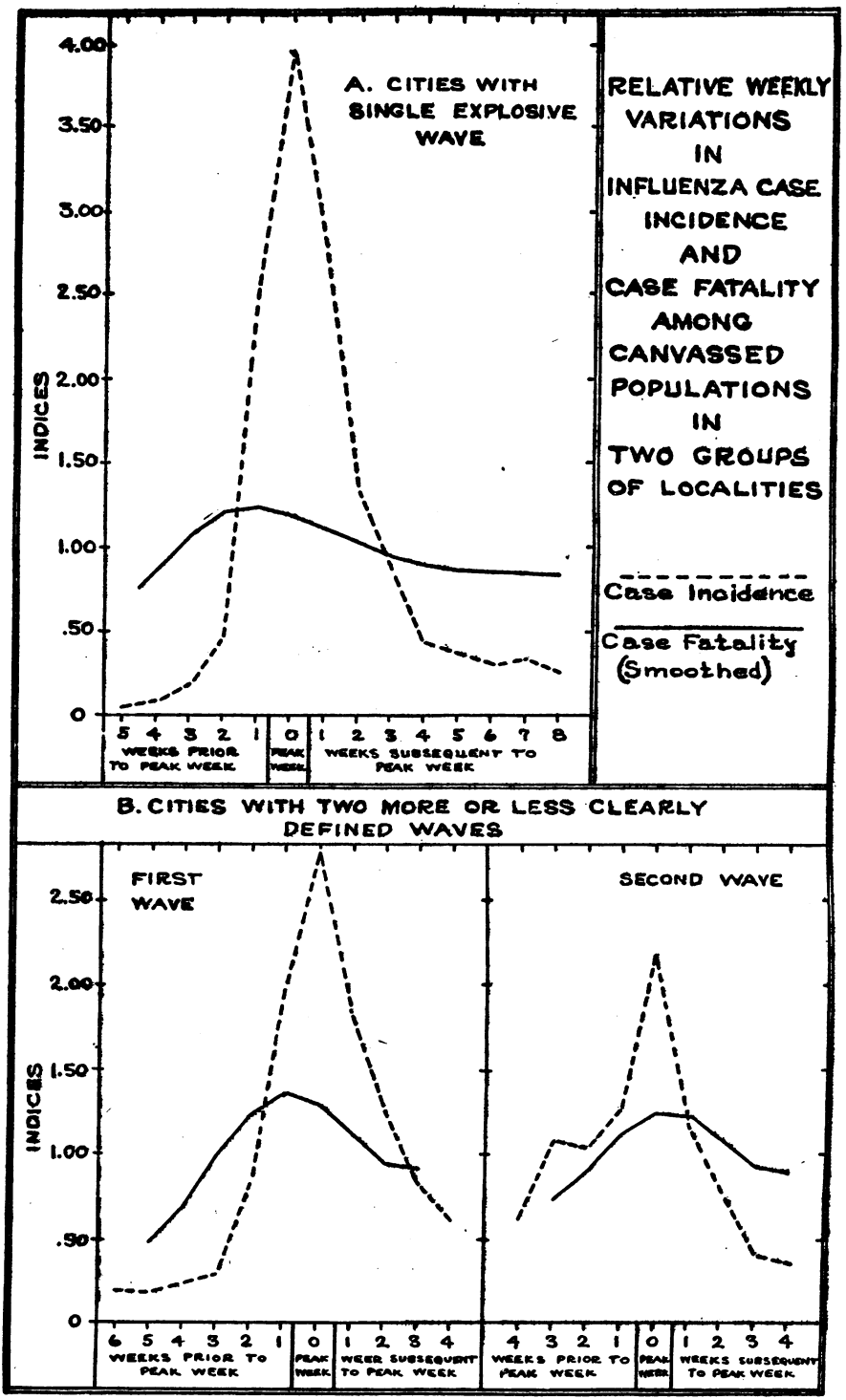
A. CITIES WITH SINGLE EXPLOSIVE WAVE
INDICES
4.00
3.50
3.00
2.50
2.00
1.50
1.00
.50
0
5 4 3 2 1 0 1 2 3 4 5 6 7 8
WEEKS PRIOR TO PEAK WEEK
PEAK WEEK
WEEKS SUBSEQUENT TO PEAK WEEK
RELATIVE WEEKLY VARIATIONS IN INFLUENZA CASE INCIDENCE AND CASE FATALITY AMONG CANVASSED POPULATIONS IN TWO GROUPS OF LOCALITIES
Case Incidence
Case Fatality (Smoothed)
B. CITIES WITH TWO MORE OR LESS CLEARLY DEFINED WAVES
FIRST WAVE
SECOND WAVE
INDICES
2.50
2.00
1.50
1.00
.50
0
6 5 4 3 2 1 0 1 2 3 4
WEEKS PRIOR TO PEAK WEEK
PEAK WEEK
WEEK SUBSEQUENT TO PEAK WEEK
4 3 2 1 0 1 2 3 4
WEEKS PRIOR TO PEAK WEEK
PEAK WEEK
WEEKS SUBSEQUENT TO PEAK WEEK

FIG. 3.

These results at least indicate that for the cases observed there was a variation in fatality, particularly during the period of greatest prevalence.

A number of explanations at once suggest themselves for consideration. It is possible that there was a difference in the degree of care given patients at different periods of the epidemic. It is also possible that a selection may have resulted from a tendency for the least resistant to come down with the disease first, or that there was a change in the virulence of the disease during the epidemic. The present data, however, do not assist us in an interpretation beyond suggesting that some relation existed between the variations in case fatality and the curve of epidemic case incidence.

CONTROL OF VENEREALLY DISEASED PERSONS IN INTERSTATE COMMERCE.

By DAVID ROBINSON, United States Public Health Service.

The apprehension, isolation, and treatment of persons infected with a venereal disease are generally matters for State or city action. Enforcement of State laws, or regulations of State boards of health or city ordinances on the subject of the spread of contagious diseases is usually sufficient to prevent a venereally diseased person from spreading his disease.

There are times when an infected person will escape the jurisdiction of a State which is enforcing rigidly the quarantine laws and venereal disease control laws and will flee to another jurisdiction where the health authorities are not so vigorous in enforcing laws directed against the spread of venereal diseases.

The Federal Government has but little power to control the spread of diseases in the States. The Government has, however, exercised the power given to it under the Constitution to regulate commerce between the States and between this country and foreign countries by passing, from time to time, laws which have for their object the prevention of the spread of contagious diseases in interstate commerce.

In addition to the enactment of certain statutes, Congress has authorized the Secretary of the Treasury to promulgate regulations to prevent the spread of contagious diseases in interstate commerce. Acting on this authority, the Secretary of the Treasury promulgated the Interstate Quarantine Regulations controlling the spread of contagious diseases from one State to another, and on November 19, 1918, there was added Amendment No. 7 to these Interstate Quarantine Regulations, said amendment being regulations for interstate travel of venereally infected persons.

It is not the object of Federal or State health officers to prevent the travel of venereally diseased men or women who go from one State to another in search of medical treatment. Persons seeking the attention of specialists in other States are given every encouragement to go. If adequate facilities and expert care are not available in the place of domicile of a venereally diseased person, he should be encouraged and assisted to go to places where this expert care and facilities for treatment are offered.

There are, however, venereally diseased men and women who are a menace in their home communities and in such other places as they may travel to. The procurer, the vagrant, the prostitute who is in an infectious state of syphilis or gonorrhea and who not only refuses or neglects to take treatment, but deliberately exposes others to infection, are of this class. When enforcement of laws against prostitution or venereal disease control laws render it impossible or exceedingly unprofitable for them to engage in spreading their disease in the State of their domicile, they journey to neighboring or distant jurisdictions and, until apprehended, create a burden of disease and suffering with all the sequelæ of syphilis and gonorrhea. They are, therefore, a menace, not only to their home State, but to the country at large. This is a menace which is cognizable by the Federal Government and punishable in the Federal courts.

In combating the spread of venereal diseases it is necessary that every avenue through which these diseases are spread should be closed if possible. Every discouragement which can be placed upon persons who make a business of spreading these diseases should be invoked. If State laws or city ordinances are insufficient to accomplish this purpose and Federal laws can be invoked which will aid materially in this problem, utilization should be made thereof.

Prostitutes and those who associate with them who are venereally diseased must be taught that serious punishment awaits them if they infect others with these diseases. If it should become general knowledge among this class, that travel from one State to another while they are venereally diseased will lead to apprehension, speedy trial, and severe punishment, an added inducement for voluntary treatment will be afforded. This will be an additional measure to accomplish the much desired end that every venereally diseased person place himself under the care of a skilled physician of his own selection for treatment.

Some of the States which have adequate follow-up systems have notified other States directly or through the Public Health Service when an infected person ceased treatment without permission of the attending physician and went into another State. In most of these instances no difficulty was experienced in inducing the person to resume treatment.

It is thought, however, that a large number of persons who are in an infectious state of venereal disease never receive proper treatment either in the State of their domicile or in States to which they travel. Again, there are many communities which do not have adequate detention hospital facilities for the isolation of such persons as are a menace to the community and who can not be trusted to remain under treatment and refrain from exposing others to infection while they are receiving treatment. If any of this class are convicted of violating the Interstate Quarantine Regulations, they will be detained and treated at the expense of the United States Government.

Frequently inquiries are received from city and State health officers asking for information as to the procedure of invoking the amendment to the Interstate Quarantine Regulations governing the travel of venereally diseased persons. On account of certain difficulties experienced heretofore in securing prompt cooperation from some Federal law-enforcing officials, due to the lack of familiarity with this regulation and the law under authority of which it was promulgated, it is thought desirable to set forth this procedure in detail. It may happen that the United States attorney to whom request is made for institution of proceedings is not familiar with the law, under authority of which the regulations are promulgated. To insure prompt action, the health officer requesting assistance should be able to advise the United States attorney when necessary of the necessary citations to code, regulations, and court decisions.

The Interstate Quarantine Regulations are promulgated by the Secretary of the Treasury, under authority of the act of Congress approved February 15, 1893 (27 Stat., ch. 114, p. 449). When this act was passed by Congress, no penalty was provided for the violation thereof, or for the violation of any regulations promulgated under the authority thereof. This defect was remedied when the act was amended by the act of March 3, 1901 (31 Stat., ch. 836, p. 1086). Section 10 of the act as amended reads:

"* * * Any person violating * * * any rule or regulation made in accordance with this act * * * relating to the prevention of the introduction of contagious or infectious diseases * * * shall be deemed guilty of a misdemeanor."

Opposition to enforcement of this regulation may be anticipated from the same class of people who resist enforcement of venereal disease control regulations in the States and who desire to engage in prostitution unhampered by these restrictive measures. It may be urged by attorneys for these people that the regulations are insufficient or defective, or that insufficient authority exists for their promulgation. The argument might also be made that Congress has no power to delegate legislative authority. These objections are without merit. The act of the Secretary of the Treasury in establishing

rules and regulations is an administrative act properly authorized by Congress in the act of February 15, 1893. The penalty is provided by Congress and not by the Secretary for the violation of the act or any regulations established under the authority of the act. This principle of law has been passed upon and upheld by the Federal courts in many decisions.

The following can be considered leading cases interpreting this principle of law.

"The courts of the United States take judicial notice of rules and regulations prescribed by the Department of the Interior in respect of contests before the land office.

"Wherever by the express language of any act of Congress power is intrusted to either of the principal departments of Government to prescribe rules and regulations for the transaction of business in which the public is interested, and in respect to which they have a right to participate, and by which they are to be controlled, the rules and regulations prescribed in pursuance of such authority become a mass of that body of public records of which the courts take judicial notice." (Caha *v.* U. S., 152 U. S. 211.)

"Regulations prescribed by the President and by the heads of departments, under authority granted by Congress, may be regulations prescribed by law, so as to lawfully support acts done under them and in accordance with them, and may thus have, in a proper sense, the force of law." (U. S. *v.* Eaton, 144 U. S. 677.)

"While it is difficult to define the line which separates legislative power to make laws and administrative authority to make regulations, Congress may delegate power to fill up details where it has indicated its will in the statute, and it may make violations of such regulations punishable as indicated in the statute." (U. S. *v.* Grimaud, 220 U. S. 506. *See also* U. S. *v.* Bailey, 9 Pet. 238; Cosmos Company *v.* Gray Eagle Co., 190 U. S. 309; Oceanic Navigation Co. *v.* Stranahan, 214 U. S. 333; Roughton *v.* Knight, 219 U. S. 537; Smith *v.* Whitney, 116 U. S. 167; Ex parte Reed, 100 U. S. 22; Gratiot *v.* U. S., 4 Howard 81.)

"Regulations made by an executive department in pursuance of authority delegated by Congress have the force of law, and the courts will take judicial notice of their existence and provisions; hence an indictment charging a violation of such a regulation which is made an offense by statute need not set out such regulation, but is sufficient if it avers that an act done in pursuance of such regulation was done under the requirements of law." (Wilkins *v.* U. S., 96 Fed. 837.)

This, in effect, and for the purposes discussed in this article, gives the regulations the same dignity as a Federal statute on this subject would be entitled to.

Recently the Public Health Service requested the Attorney General of the United States to notify United States attorneys in the various jurisdictions of the amendment to the Interstate Quarantine Regulations discussed herein. On April 18, 1921, the Attorney General sent a letter to all United States attorneys advising them of the

law and the regulations on this subject, transmitted a copy of the amendment governing the interstate travel of venereally infected persons, and concluded the letter with the following paragraph:

"The Public Health Service, cooperating with State boards of health, is striving to reduce the spread of venereal diseases. You are requested to give your full cooperation by prosecuting vigorously proper cases presented to you for action."

This splendid cooperation is very encouraging and should be taken advantage of by State and local health officers when the occasion warrants.

The regulations governing the interstate travel of venereally infected persons do not absolutely prohibit such travel. Such a person is permitted to go from one State to another providing he complies with the regulations by first securing a permit from the local health officer under whose jurisdiction he resides. This permit must state that in the opinion of the health officer such travel is not dangerous to the public health. He must inform the local health officer of the place where he intends to reside and must agree in writing to report in person to the proper health officer within one week after arrival at his new residence.

It is the duty of the health officer who issued the release to promptly notify the health officer under whose jurisdiction the infected person is to enter, of its issue. The receiving health officer shall, in turn, report the arrival of the infected person to the health officer who issued his release and notify the State health officer of his State that a person infected with venereal disease has come into the State. The infected person must agree to continue treatment under the direction of a reputable physician until the health officer shall have certified that he is no longer infectious.

When it comes to the knowledge of a health officer that a person in an infectious stage of venereal disease and who is liable to be a menace has left the State of his domicile or has entered the jurisdiction of such health officer from another State without first securing a release, as provided in the regulations, the health officer should present such facts to the United States attorney in either jurisdiction, who will advise the proper procedure in regard to all details of apprehension and trial of the accused person.

Prosecutions of persons who violated the amendment to the Interstate Quarantine Regulations, dealing with the travel of venereally infected persons, were instituted this year in Fort Smith, Ark. Eight persons were convicted of coming into the State of Arkansas from the State of Oklahoma without complying with these regulations and were sentenced to six months imprisonment in a reformatory situated in the State of Iowa. Not only is the public protected from the disease-spreading activities of these defendants, but they are now

receiving proper medical care at the expense of the United States Government.

In giving authority for the promulgation of regulations governing interstate travel of persons infected with contagious diseases, Congress made it possible for these regulations to be enforced by State or municipal health officers. If the State or municipal health officer should fail or refuse to enforce these regulations, the law declares that the President should enforce them.

In the act creating the Division of Venereal Diseases of the Public Health Service, Congress specified as one of the duties of the division 'to control and prevent the spread of venereal diseases in interstate, traffic." While it is possible from time to time for officers of the Division of Venereal Diseases to assist the States in preventing the interstate travel of venereally infected persons who are a menace, it is not intended or contemplated that either the Public Health Service or the State boards of health should police the boundary lines of all States. The provisions of State laws requiring that physicians should report names and addresses and other facts relating to venereally infected patients who refuse to continue treatment or who conduct themselves in a manner conducive to the spread of their infection, have been used effectively by many conscientious physicians who heretofore have been helpless when their patients ceased treatment with harmful results to such patients and danger to the community.

Many physicians have been successful in inducing patients to remain under treatment by calling attention to the provisions of these laws. It would be well if all physicians as well as local health officers would be apprised of the Federal Interstate Quarantine Regulations. Conscientious physicians could, by reference to these regulations, deter many persons who seek to escape the public health laws of their own State by traveling to a State where these laws are not so comprehensive, or where they are not as rigidly observed.

CARBON MONOXIDE POISONING IN CLOSED GARAGES.

The occurrence of fatalities as the result of carbon monoxide poisoning from the exhaust gas of automobile engines running in small, closed garages is a frequent item of news during the winter season; and the public, particularly automobile owners and garage workers, should be warned of the danger involved in running a gasoline engine in a small closed space, and advised to see that the garage is well ventilated by open doors or windows before permitting an engine to run for any considerable period of time. The principal toxic substance in the exhaust gas of gasoline engines is carbon

monoxide, which quickly overcomes persons exposed to it above certain concentrations.

Some interesting experiments on this subject have recently been carried on in connection with a preliminary study of the problem of ventilation involved in the proposed vehicular tunnel under the Hudson River.[1] These experiments were made in especially prepared gassing chambers and relate principally to (1) the length of time it is safe to be exposed to various concentrations of carbon monoxide; (2) the comparative toxicity of pure carbon monoxide, illuminating gas, exhaust gas from gasoline and coal distillate, and (3) the amount of carbon monoxide given off in the exhaust of automobile engines. Human beings, horses, and dogs were used as experimental subjects.

As regards the rate of absorption of carbon monoxide into the blood, the authors state as follows:

"The body of an adult man of average weight contains enough hemoglobin to hold about 600 c. c. of oxygen. If completely saturated, it would hold the same amount of carbon monoxide, one molecule of carbon monoxide replacing one molecule of oxygen in the blood. The absorption of 6 c. c. of carbon monoxide from the lungs produces, then, 1 per cent of saturation and abolishes 1 per cent of the oxygen capacity.

"The unit in which various concentrations of carbon monoxide are commonly measured and expressed for purposes of ventilation is one 'part,' or a certain number of 'parts,' of this gas mixed with 10,000 times as much air. A part is a hundredth of 1 per cent of an atmosphere. A man at rest breathes about 8,000 c. c. of air per minute, of which about 6,000 c. c. reach his lungs, or 60 liters in 10 minutes. Let us suppose that this air contains one part of carbon monoxide, or 6 c. c. in 60 liters, and that all of this 6 c. c. is absorbed. The blood would then become saturated at the rate of 1 per cent every 10 minutes per 'part' of carbon monoxide in the air. Evidently the duration of exposure is a limiting factor in the amount absorbed, for one can not absorb more than one inhales.

"It appears that when a man begins breathing any low concentration of carbon monoxide mixed with air, absorption at very nearly this rate does occur, but only at first. Then the rate becomes slower. Even if the exposure is prolonged, carbon monoxide merely displaces oxygen from the blood up to a point of equilibrium depending upon the relative amounts or mass actions, of carbon monoxide and oxygen in the air breathed and the intensity of the affinities of the two gases for hemoglobin. If thereafter the pressure of oxygen is high enough and that of the carbon monoxide is low, or absent as in pure air,

[1] Physiological Effects of Automobile Exhaust Gas and Standards of Ventilation for Brief Exposures. Yandell Henderson, Howard W. Haggard, Merwyn C. Teague, Alexander L. Prince, and Ruth M. Wunderlich. Jour. Ind. Hyg., July, 1921, pp. 79-92, and August, 1921, pp. 137-146.

oxygen can likewise displace carbon monoxide and thus completely restore the oxygen-carrying power of the hemoglobin. The blood is neither directly changed nor injured by the process.

"Hemoglobin attracts carbon monoxide about 300 times as strongly as it does oxygen. Thus, if To_2 and Tco are the pressures of oxygen and carbon monoxide, and Hbo_2 and Hbco the amounts of oxyhemoglobin and carbon monoxide hemoglobin in the blood, the relations are expressed by the formula:

$$\frac{To_2}{Tco \times 300} = \frac{Hbo_2}{Hbco}, \text{ or}$$

$$\text{percentage Hbco} = \frac{Tco \times 300}{To_2 + (Tco \times 300)};$$

or, more specifically, if there are 1,500 parts of oxygen and 2 of carbon monoxide, the formula works out to:

$$\frac{2 \times 300}{1500 + (2 \times 300)} = 28.5 \text{ per cent}$$

saturation with carbon monoxide.

"The air in the lungs contains about 1,500 parts of oxygen in 10,000. (It is actually somewhat less than 15 per cent of oxygen. The affinity of hemoglobin for carbon monoxide may also be less, or more, than 300. We are here using round numbers merely to illustrate the principle without attempting mathematical precision.) We may calculate the blood equilibrium for any concentration of carbon monoxide in the air, and from such data we may obtain the carbon monoxide dissociation curve of the blood. This curve indicates that, if the air containing two parts of carbon monoxide in 10,000 is breathed for a time long enough to attain equilibrium, the blood should become about 28 per cent saturated; with four parts, 44 per cent; with six parts, 54 per cent; and so on. In the curve it is to be seen that, for instance, the equilibrium value for 10 parts of carbon monoxide in 10,000 of air is 66.6 per cent saturation, which is a sufficient degree of saturation to render a man unconscious and totally helpless. If continued, the asphyxia might lead to serious permanent injury or even death.

"The question of greatest practical importance is: How long a time would be required to attain this on any other definite percentage of saturation? In other words, what is the physiological law defining the rate of absorption of carbon monoxide into the blood? From the simple calculation, given previously, regarding the oxygen capacity of the body and the volume of air drawn into the lungs, it appears that a man breathing 10 parts of carbon monoxide would inhale enough of the gas to become 66.6 per cent saturated in 66.6 minutes. But, as already indicated, the more carbon monoxide the blood contains the greater becomes the force with which this gas

tends to diffuse out again into the air. The more nearly this tendency equals and counterbalances the pressure of gaseous carbon monoxide in the lungs the slower the absorption of more carbon monoxide becomes. Thus, to attain a condition of complete blood equilibrium many hours would be actually required; indeed, the time is indeterminate. Doubtless other factors also play a part in retarding and stopping absorption.

"It appears to us, however, that *a definite quantity for determination would be the time required for attainment of a percentage saturation of one-half the equilibrium values.* Thus, in an atmosphere containing two parts of carbon monoxide, for which the blood equilibrium is about 28 per cent, how long a time would be required for the blood to become 14 per cent saturated? How long with four parts and an equilibrium value of 44 to attain 22 per cent saturation; or with six parts and an equilibrium of 54, to reach 27 per cent? The answer to this question is the principal practical contribution to knowledge which we have to make—namely, that *the time for attainment of half equilibrium for persons sitting at rest and breathing concentrations of carbon monoxide up to seven parts is never considerably less than one hour.* This fact is, we believe, of fundamental importance for ventilation engineering."

The following are the principal conclusions reached by the experimenters:

"When the time [of exposure] in hours multiplied by the concentration of carbon monoxide in parts per 10,000 of air equals 3, there is no perceptible physiological effect; when it equals 6, there is a just perceptible effect; when it equals 9, headache and nausea are induced; when it equals 15 or more, the conditions are dangerous to life.[1]

"If the volume of breathing is increased by exercise (even by slow walking and correspondingly more physical work), the rate of absorption of carbon monoxide is increased proportionately.

"After return to fresh air, the elimination of carbon monoxide through the lungs proceeds at a rate of from 30 to 60 per cent reduction of the blood saturation per hour.

"In the exhaust gas from gasoline, carbon monoxide is the only considerable toxic constituent. In the exhaust gas from coal distillate (benzol, etc.) and illuminating gas there are present accessory toxic substances."

In testing the exhaust of an automobile engine for the total amount of gas discharged per minute and the percentage of carbon monoxide it contained, a special building was erected with a cubic capacity approximately that of a section of the proposed vehicular tunnel

[1] EDITORIAL NOTE.—This statement is obviously restricted to certain limits as regards both time of exposure and concentration of CO. For example, exposure for a number of years to relatively pure air containing a trace of CO would give factors the product of which would indicate dangerous conditions according to the above formula.

which would contain one car under active traffic conditions. A small automobile, rated at 23 horsepower, was used. The power was employed in part to turn large paddle wheels which mixed the air in the chamber. Practically uniform concentrations of exhaust gas were found simultaneously in all parts of the chamber. It was found that the engine discharged a total of approximately 25 cubic feet of exhaust gas per minute; and samples of the exhaust gas unmixed with air gave from 5.5 to 6.8 per cent of carbon monoxide, an average of about 6 per cent, from which it appeared that approximately 1.5 cubic feet of carbon monoxide were produced by the car per minute.

If, then, a car while "warming up" should give off 1 cubic foot of carbon monoxide per minute in a closed room 10 by 10 by 20 feet, the atmosphere would reach the dangerous concentration of 15 parts in 10,000 in three minutes.

REPORT OF A HUMAN PLAGUE CASE IN SAN BENITO COUNTY, CALIF.

By W. T. Harrison, Passed Assistant Surgeon, United States Public Health Service.

The patient in the case here reported (R. S.) was a white schoolboy eight years of age, residing in the Bitterwater Valley, San Benito County, Calif. He became sick on the afternoon of June 8, 1921, and came home from school with fever, headache, malaise, and vomiting. There were severe pain and swelling in the right axillary region. He was taken to Hollister on June 10, at 2.30 p. m., and was seen by Dr. O'Bannon, who made a provisional diagnosis of plague.

On June 11, at 5 a. m., his temperature was 104.5° F. There were swelling and induration of entire right shoulder, great tenderness, mild delirium, and great prostration. On the lower border of the right scapula were two spots slightly inflamed which appeared to be insect bites. One drop of serum was withdrawn from edematous shoulder and inoculated on agar slants. At 1 p. m. on June 11, 90 c. c. of Pasteur plague serum was administered, 10 c. c. intravenously and 80 c. c. subcutaneously; on June 12, at 2 a. m., 60 c. c., subcutaneously; at 8 a. m., 40 c. c.; and on June 13, at 8 p. m., 40 c. c.

On the morning of June 15 the temperature was normal and the induration of the shoulder was rapidly subsiding.

On June 17 there was a severe serum rash, which continued for three days, with an elevation of temperature to 104° F. The temperature subsided June 20, and the induration of the shoulder disappeared.

Cultures from the serum withdrawn on June 11 were entirely negative. On June 14, after considerable induration had disappeared, additional cultures were made from an enlarged lymphatic gland, which

by this time could be distinctly felt. After 48 hours' growth, these tubes were inoculated intraperitoneally into two guinea pigs. Both pigs were dead within 48 hours. The peritoneum was intensely injected and covered with a sticky exudate. Bipolar organisms were present in enormous numbers. Plate cultures from this exudate yielded an organism showing the following characteristics: Minute colorless colonies on agar in 24 hours, becoming slightly grayish in 48 to 72 hours; very slight turbidity in broth; no stalactites were observed; involutional forms on 2.5 per cent salt agar; very slightly on acid in glucose broth.

Inoculation of additional guinea pigs by vaccination and pocket yielded typical gross lesions of plague from which the organism was recovered in pure culture.

SUMMARY.

This case of human plague originated in an old squirrel plague-focus in the Bitterwater Valley, San Benito County. The patient was seen and large doses of serum were administered 68 hours after onset, which probably explains the fairly rapid recovery. Credit for the fortunate outcome is due Dr. O'Bannon, of Hollister, for his prompt diagnosis, and Fred I. Lackenbach, of San Francisco, for keeping in stock a potent plague serum for which there is very little demand.

PROMPT MOSQUITO CONTROL BY USE OF THE TOP MINNOW, GAMBUSIA.

Ichthyologist Samuel F. Hildebrand recently made the following report on the prompt control of mosquito production by employment of *Gambusia* in large numbers:

Unusually heavy rains were experienced around Augusta, Georgia, early in July. As a result, many temporary ponds were formed. A pond, covering about one-fourth acre of ground, was observed on July 18 to contain mosquito larvæ in countless numbers. Culicine larvæ predominated, but many anopheline larvæ were also found. The mosquito larvæ were uniformly distributed over the pond. Previous to the July rains this depression was completely dry, but it gave evidence of having been under water for a considerable period of time since aquatic plants, cat-tails, and arrowheads were well established. Smart-weed, Bermuda grass, and foxtail occurred along the edges of the water. On July 19, approximately 2,000 *Gambusia* were introduced. On the evening of July 20 no wiggletails were visible in open water, but they were exceedingly numerous in the vegetation where they had gone for protection. On and after July 26 only an occasional small wiggletail could be found.

As the fish were obtained from an abundantly stocked pond only about 300 yards distant, they were transferred about 500 at a time in a wooden tub, the work requiring less than half a day's time of one laborer. The cost in this instance for complete, prompt and continuous control of mosquito production was not more than $1.

PREVALENCE OF POLIOMYELITIS.

The following table gives the number of cases of poliomyelitis (infantile paralysis) reported to the Public Health Service by State health officers from May 29 to September 3, 1921, inclusive. These reports are preliminary and necessarily incomplete.

Poliomyelitis (infantile paralysis)—Number of cases of poliomyelitis occurring in various States, as reported to the Public Health Service by the State health officers in weekly telegraphic or mail reports.

[States omitted are those from which no reports have been received or which have reported no poliomyelitis during the period covered. Leaders indicate that reports were received, but no cases of poliomyelitis were reported.]

State.	Week ended (1921)—												
	June—			July—					August—				September—
	11	18	25	2	9	16	23	30	6	13	20	27	3
Arkansas	.....	.....	1	.....	.....	.....	.....	.....	.....	7	7	.....	2
California	1	2	5	.....	3	3	6	10	4	9	4	6	9
Colorado [1]	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	1	1
Connecticut	.....	.....	6	2	3	2	4	5	1	4	5	6	8
District of Columbia	.....	.....	.....	.....	3	4	3	7	3	.....	2	2	.....
Florida	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Georgia	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....
Illinois	2	4	5	10	12	15	24	39	38	27	28	25	16
Indiana	.....	2	1	1	1	.....	6	8	5	2	3	2	7
Iowa	.....	.....	.....	1	1	3	1	1	7	6	16	14	8
Kansas	1	.....	.....	.....	2	2	.....	1	.....	1	3	3	6
Kentucky	1	.....	.....	1	2	2	1	.....	.....	.....	1	.....	.....
Louisiana	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Maine	3	.....	.....	.....	.....	1	.....	1	.....	.....	1	3	1
Maryland	1	2	3	4	1	4	8	7	6	10	16	10	10
Massachusetts	2	.....	1	4	3	6	4	10	10	12	18	16	14
Minnesota	1	1	2	10	1	3	5	101	81	48	62	50	48
Mississippi	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Missouri	.....	(2)	6	.....	(2)	8	3	4	5	3	2	2	5
Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	1
Nebraska	1	.....	.....	3	.....	1	2	2	.....	4	5	2	1
New Jersey	2	1	1	2	(2)	3	1	6	7	6	8	4	12
New York [3]	.....	.....	1	.....	2	4	10	15	24	27	41	34	40
North Carolina	.....	3	.....	4	3	1	.....	.....	1	2	2	.....	2
Ohio	(2)	(2)	(2)	(2)	(2)	(2)	(2)	27	(2)	(2)	(2)	(2)	(2)
South Dakota	.....	.....	.....	.....	.....	3	.....	.....	2	.....	1	1	.....
Texas	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....
Vermont	.....	.....	.....	.....	3	1	.....	3	3	2	4	.....	2
Virginia	(2)	(2)	1	.....	(2)	2	1	2	(2)	(2)	1	(2)	.....
Washington	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	39	22
West Virginia	.....	.....	.....	.....	.....	.....	.....	.....	2	3	.....	3	1
Wisconsin	.....	.....	.....	1	4	9	14	12	21	16	15	14	17

[1] Exclusive of Denver. [2] No report received. [3] Exclusive of New York City.

SEMIANNUAL MEETING OF THE AMERICAN CONFERENCE ON HOSPITAL SERVICE.

The semiannual meeting of the American Conference on Hospital Service will be held September 12–16, 1921, at West Baden, Ind., in conjunction with the meeting of the American Hospital Association.

The American Conference on Hospital Service, an association organized "for the betterment of hospital service in the United States and Canada," is composed of the following 15 national hospital and health organizations:

American Association of Industrial Physicians and Surgeons.
American Association of Hospital Social Workers.
American Dietetic Association.
American Hospital Association.
American Medical Association.
American Nurses Association.
Association of American Medical Colleges.
Catholic Hospital Association of the United States and Canada.
Federation of State Medical Boards of the United States.
Medical Department of the United States Army.
Bureau of Medicine, United States Navy.
National League of Nursing Education.
National Tuberculosis Association, Inc.
National Organization for Public Health Nursing.
United States Public Health Service.

The following program has been prepared for Thursday, September 15, 1921:

10 a. m.: Opening Session, Assembly Hall.

Opening remarks. By Frank Billings, M. D., president.

Report of the Hospital Library and Service Bureau. By Donelda R. Hamlin, director, Chicago, Ill.

Report of the Treasurer. By Harry E. Mock, M. D., treasurer, Chicago, Ill.

Report of the Trustees. By A. R. Warner, M. D., acting secretary, Chicago, Ill.

Report of the special committee to work out the procedure in the determination of policies as to hospital service.

2 p. m.: Joint General Session, Convention Hall.

Frank Billings, M. D., president of the Conference, presiding.

American Conference on Hospital Service.

American Hospital Association.

Address by John G. Bowman, chancellor of the University of Pittsburgh, Pittsburgh, Pa.

Discussion.

A Method of Increasing Medical Efficiency Within the Hospital.—Frank R. Nuzum, medical director, Santa Barbara Cottege Hospital, Santa Barbara, Calif.

Discussion.

HOSPITAL LIBRARY AND SERVICE BUREAU EXHIBIT.

Realizing the important service which is being rendered by the Hospital Library and Service Bureau, whose headquarters are at 22 East Ontario Street, Chicago, the American Hospital Association has invited the Library to have an exhibit at the convention. The Association has contributed sufficient space to permit of a very comprehensive exhibit.

Since the subject of hospital construction is one upon which the Library has received a great many inquiries, a large portion of the exhibit will be made up of floor plans of hospitals, sanatoriums, health centers, dispensaries, nurses' homes, and allied institutions. Plans of over 300 institutions will be shown. In connection with the plans, it is expected that the list of architects specializing in hospital construction will be freely used. This list, giving, as it does, the institution designed by the various architects, enables the user to form a fairly accurate opinion of the type of work being done by individual architects.

Complete subjects, author, title, and analytical indexes are being prepared of the various hospital journals. Such parts of these indexes as are complete will be included in the exhibit, together with copies of the journals indexed. Complete sets of record forms used in hospitals of various types and sizes will also be shown, together with books on the classification of diseases. A limited number of books, journals, reprints, and pamphlets on the various phases of hospital construction, equipment, and administration will also be shown.

The material being assembled by the Hospital Library and Service Bureau is so varied in type and so extensive that only a very small portion of it can be included in the exhibit. The object in having such an exhibit is rather to bring the hospitals in contact with the service being rendered and to acquaint them more fully with the purpose and scope of the Hospital Library and Service Bureau and the manner in which it functions.

DEATHS DURING WEEK ENDED AUG. 27, 1921.

Summary of information received by telegraph from industrial insurance companies for week ended Aug. 27, 1921, and corresponding week, 1920. (From the Weekly Health Index, Aug. 30, 1921, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Aug. 27, 1921.	Corresponding week, 1920.
Policies in force	47,478,259	43,890,895
Number of death claims	7,145	6,847
Death claims per 1,000 policies in force	7.8	8.1

Deaths from all causes in certain large cities of the United States during the week ended Aug. 27, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the Weekly Health Index, Aug. 30, 1921, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population, July 1, 1921.	Week ended Aug. 27, 1921. Total deaths.	Death rate.[1]	Average annual death rate per 1,000.[2]	Deaths under 1 year. Week ended Aug. 27, 1921.	Previous year or years.[2]	Infant mortality rate, week ended Aug. 27, 1921.[3]
Akron, Ohio	229,195	29	6.6	[4]8.8	10	[4]4	96
Albany, N. Y	115,071	32	14.5	C 13.3	3	C 3	67
Atlanta, Ga	207,473	58	14.6	C 14.9	2	C 7	.....
Baltimore, Md	752,863	158	10.9	A 17.0	26	A 51	73
Birmingham, Ala	186,133	45	12.6	A 19.8	11	A 9	.....
Boston, Mass	757,634	174	12.0	A 14.6	38	A 46	103
Bridgeport, Conn	149,987	30	10.4	A 14.7	4	A 12	80
Buffalo, N. Y	519,008	100	10.0	C 11.1	24	C 27	93
Cambridge, Mass	110,444	18	8.5	A 12.6	4	A 9	72
Camden, N. J	119,672	27	11.8	.....	10	.....	149
Chicago, Ill	2,789,655	510	9.6	A 13.4	94	A 164	.....
Cincinnati, Ohio	403,418	108	14.0	C 11.0	11	C 9	73
Cleveland, Ohio	831,138	149	9.3	C 9.6	23	C 21	62
Columbus, Ohio	245,358	54	11.5	C 9.8	8	C 5	99
Dallas, Tex	165,282	34	10.7	A 11.2	8	A 4	.....
Dayton, Ohio	158,119	35	11.5	C 7.1	9	C 3	148
Denver, Colo	263,152	63	12.5	A 11.7	11	.....	.....
Detroit, Mich	1,070,450	193	9.4	C 10.5	49	C 39	93
Fall River, Mass	120,668	30	13.0	C 10.4	8	C 11	120
Grand Rapids, Mich	141,197	27	10.0	C 8.6	4	C 3	66
Houston, Tex	144,340	41	14.8	.....	10	.....	.....
Indianapolis, Ind	325,215	69	11.1	C 10.3	11	C 15	85
Jersey City, N. J	302,788	64	11.0	C 11.0	9	C 14	62
Kansas City, Kans	103,884	26	13.1	C 14.8	3	C 7	72
Kansas City, Mo	326,157	78	12.1	C 11.0	17	C 12	.....
Los Angeles, Calif	611,921	157	13.4	A 11.4	16	A 10	76
Louisville, Ky	236,083	48	10.6	C 13.7	1	C 4	12
Lowell, Mass	113,757	22	10.1	A 16.6	2	A 13	32
Memphis, Tenn	165,389	57	18.0	C 13.4	9	C 6	.....
Milwaukee, Wis	463,386	76	8.5	A 10.1	14	A 24	68
Minneapolis, Minn	392,845	66	8.8	C 7.0	11	C 7	63
Nashville, Tenn	122,036	49	20.9	C 20.6	7	C 4	.....
New Bedford, Mass	125,012	24	10.0	A 14.7	7	A 13	168
New Haven, Conn	167,007	26	8.1	C 8.9	0	C 3	0
New Orleans, La	394,657	150	19.8	A 17.4	16	A 15	.....
New York, N. Y	5,751,367	1,056	9.6	C 10.0	199	C 237	78
Newark, N. J	424,585	71	8.7	C 10.5	19	C 27	84
Norfolk, Va	121,260	31	13.3	.....	4	.....	71
Oakland, Calif	226,472	53	12.2	A 10.1	3	A 4	35
Omaha, Nebr	197,066	47	12.4	.....	4	.....	46
Paterson, N. J	137,463	44	16.7	.....	11	.....	196
Philadelphia, Pa	1,868,212	411	11.5	[4]14.9	76	[4]119	92
Pittsburgh, Pa	602,452	114	9.9	C 11.6	25	C 28	39
Portland, Oreg	264,359	38	7.5	C 8.2	3	C 2	39
Providence, R. I	239,645	59	12.8	C 10.5	10	C 10	84
Richmond, Va	175,686	36	10.7	C 14.8	7	C 11	84
Rochester, N. Y	305,229	75	12.8	C 7.9	19	C 8	148
St. Louis, Mo	786,164	173	11.5	C 9.2	20	C 19	.....
St. Paul, Minn	237,781	43	9.4	C 10.2	6	C 4	60
Salt Lake City, Utah	121,505	24	10.3	A 10.3	3	.....	46
San Francisco, Calif	520,546	110	11.0	C 10.7	5	C 8	29
Seattle, Wash	327,227	42	6.7	A 8.0	3	A 6	25
Springfield, Mass	135,477	21	8.1	C 12.7	2	C 8	30
Syracuse, N. Y	177,265	33	9.7	C 15.3	5	C 20	60
Toledo, Ohio	253,606	50	10.3	A 15.3	11	A 16	111
Trenton, N. J	122,760	26	11.0	A 20.6	5	A 10	76
Washington, D. C	454,026	101	11.6	A 13.4	2	A 16	47
Wilmington, Del	113,498	34	15.6	C 14.5	2	.....	.....
Worcester, Mass	184,972	35	9.9	C 11.5	3	C 4	32
Yonkers, N. Y	103,394	15	7.6	A 12.1	3	A 5	68

[1] Annual rate per 1,000 population.
[2] "A" indicates data for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1920.
[3] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1920. Cities left blank are not in the registration area for births.
[4] Data based on statistics of 1915, 1916, and 1917.

PREVALENCE OF DISEASE.

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

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended Sept. 3, 1921.

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

ALABAMA.

	Cases.
Cerebrospinal meningitis	1
Diphtheria	55
Hookworm disease	8
Malaria	18
Scarlet fever	31
Smallpox	5
Tetanus	1
Tuberculosis	16
Typhoid fever	62
Whooping cough	3

ARKANSAS.

Cerebrospinal meningitis	1
Chicken pox	5
Diphtheria	20
Influenza	6
Malaria	372
Measles	1
Ophthalmia neonatorum	2
Pellagra	70
Poliomyelitis	2
Scarlet fever	17
Smallpox	1
Trachoma	3
Tuberculosis	7
Typhoid fever	56
Whooping cough	3

CALIFORNIA.

Cerebrospinal meningitis:	
Oakland	2
Influenza	1
Lethargic encephalitis:	
Stockton	1
Poliomyelitis:	
Modesto	1
Napa	1
Oakland	1
Sacramento	6
Smallpox:	
Lemoore	9
Scattering	6
Typhoid fever	18

COLORADO.

(Exclusive of Denver.)

	Cases.
Cerebrospinal meningitis	1
Chicken pox	1
Diphtheria:	
Pueblo	42
Scattering	10
Influenza	1
Measles	1
Mumps	1
Poliomyelitis	1
Scarlet fever	7
Smallpox	1
Tuberculosis	194
Typhoid fever	19

CONNECTICUT.

Cerebrospinal meningitis	3
Chicken pox	1
Diphtheria:	
Hartford	10
New Haven	11
Scattering	36
Dysentery (bacillary)	1
Lethargic encephalitis	1
Malaria	1
Measles	14
Mumps	1
Paratyphoid fever	1
Pneumonia (lobar)	2
Poliomyelitis	8
Scarlet fever	17
Smallpox	1
Tuberculosis (pulmonary)	33
Typhoid fever:	
Enfield	10
New Haven	12
Scattering	11
Whooping cough	44

DELAWARE.

Cerebrospinal meningitis:	
Houston	1
Little Creek	1

DELAWARE—continued.

	Cases.
Diphtheria	6
Malaria	1
Measles	1
Scabies	1
Scarlet fever	1
Tuberculosis:	
Wilmington	9
Scattering	2
Typhoid fever	7
Whooping cough	2

FLORIDA.

Diphtheria	11
Influenza	13
Malaria	18
Scarlet fever	3
Smallpox	9
Typhoid fever	6

GEORGIA.

Cerebrospinal meningitis	1
Diphtheria	60
Dysentery (amebic)	2
Dysentery (bacilliary)	2
German measles	1
Hookworm disease	14
Influenza	2
Malaria	90
Measles	3
Paratyphoid fever	1
Pellagra	1
Pneumonia	1
Scarlet fever	30
Septic sore throat	1
Smallpox	7
Tuberculosis (all forms)	7
Typhoid fever	65
Whooping cough	13

ILLINOIS.

Cerebrospinal meningitis:	
Chicago	2
Elgin	1
Kane County—	
Virgil Township	1
Montgomery County—	
Pitman Township	1
Diphtheria:	
Chicago	85
Peoria	9
Scattering	64
Influenza	9
Lethargic encephalitis:	
Chicago	1
Peoria	1
Pneumonia	80
Poliomyelitis:	
Alton	1
Antioch	1
Chicago	5
East St. Louis	1
Fayette County—	
Seminary Township	1
La Salle	1
Lee County—	
Amboy Township	1

ILLINOIS—dontinued.

Poliomyelitis—continued.	Cases.
Macon County—	
Harristown Township	1
Marine	1
Murphysboro	1
Oak Park	1
Peru	1
Scarlet fever:	
Chicago	43
Scattering	56
Smallpox	4
Typhoid fever:	
Chicago	9
Scattering	42

INDIANA.

Diphtheria	41
Poliomyelitis:	
Allen County	1
Elkhart County	2
Howard County	1
Kosciusko County	1
Lawrence County	1
White County	1
Rabies in animals:	
Marion County	1
Vigo County	1
Scarlet fever	37
Smallpox	11
Typhoid fever	47

IOWA.

Cerebrospinal meningitis:	
West Point	1
Diphtheria	15
Poliomyelitis:	
Ames	1
Calmar	1
Des Moines	1
Fort Dodge	1
Lakota	1
Oelwein	2
Roland	1
Scarlet fever	15
Smallpox	10

KANSAS.

Cerebrospinal meningitis	4
Diphtheria	78
Influenza	1
Malaria	2
Measles	8
Mumps	3
Ophthalmia neonatorum	1
Pneumonia	3
Poliomyelitis	6
Scarlet fever	90
Smallpox	10
Tuberculosis	33
Typhoid fever	63
Whooping cough	28

LOUISIANA.

Diphtheria	9
Pellagra	6
Scarlet fever	3
Smallpox	2
Typhoid fever	20

MAINE.

	Cases.
Diphtheria	6
Measles	3
Poliomyelitis	1
Scarlet fever	15
Smallpox	3
Tuberculosis	7
Typhoid fever	14
Whooping cough	13

MARYLAND.[1]

Cerebrospinal meningitis	1
Chicken pox	2
Diphtheria	29
Dysentery	5
Influenza	2
Malaria	19
Measles	11
Mumps	6
Ophthalmia neonatorum	1
Pellagra	1
Pneumonia (all forms)	22
Poliomyelitis	10
Scarlet fever	23
Trachoma	2
Tuberculosis	41
Typhoid fever	63
Whooping cough	44

MASSACHUSETTS.

Cerebrospinal meningitis	3
Chicken pox	2
Conjunctivitis (suppurative)	11
Diphtheria	115
Dysentery	1
German measles	2
Influenza	4
Lethargic encephalitis	1
Measles	36
Mumps	19
Ophthalmia neonatorum	26
Pneumonia (lobar)	24
Poliomyelitis	14
Scarlet fever	52
Septic sore throat	1
Tetanus	1
Trachoma	2
Tuberculosis (all forms)	156
Typhoid fever	24
Whooping cough	58

MINNESOTA.

Diphtheria	95
Measles	2
Poliomyelitis:	
St. Paul	5
Scattering	43
Scarlet fever	65
Smallpox	12
Tuberculosis	197
Typhoid fever	15
Whooping cough	4

MISSISSIPPI.

Diphtheria	60
Scarlet fever	16
Smallpox	2
Typhoid fever	37

MISSOURI.

	Cases.
Cerebrospinal meningitis	2
Chicken pox	6
Diphtheria	69
Epidemic sore throat	8
Measles	2
Mumps	3
Ophthalmia neonatorum	1
Poliomyelitis	5
Scarlet fever	34
Smallpox	6
Trachoma	2
Tuberculosis	49
Typhoid fever	35
Whooping cough	12

MONTANA.

Diphtheria	3
Poliomyelitis:	
Stevensville	1
Rocky Mountain spotted or tick fever:	
Lavina	1
Smallpox	9
Typhoid fever	5

NEBRASKA.

Diphtheria	5
Poliomyelitis:	
Cedar Bluffs	1
Scarlet fever	2
Smallpox	9
Tuberculosis	9
Whooping cough	3

NEW JERSEY.

Cerebrospinal meningitis	1
Chicken pox	2
Diphtheria	83
Influenza	2
Malaria	2
Measles	12
Paratyphoid fever	1
Pneumonia	34
Poliomyelitis	12
Scarlet fever	45
Typhoid fever	97
Whooping cough	96

NEW MEXICO.

Chicken pox	1
Diphtheria	13
Mumps	1
Pellagra	1
Scarlet fever	2
Trichinosis	1
Tuberculosis	101
Typhoid fever	10
Whooping cough	7

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis	4
Diphtheria	113
Influenza	3
Lethargic encephalitis	4
Measles	33
Pneumonia	42

[1] Week ended Friday. The case of lethargic encephalitis reported for week ended Aug. 26, 1921, Public Health Reports Sept. 2, 1921, p. 2131, should have been reported as meningitis.

NEW YORK—continued.

	Cases.
Poliomyelitis:	
Utica	11
Scattering	29
Scarlet fever	67
Smallpox	4
Tetanus	2
Typhoid fever	63
Whooping cough	108

NORTH CAROLINA.

Diphtheria	192
Measles	10
Poliomyelitis	2
Scarlet fever	78
Septic sore throat	7
Smallpox	13
Typhoid fever	82
Whooping cough	65

SOUTH DAKOTA.

Diphtheria	7
Measles	1
Scarlet fever	14
Smallpox	5
Trachoma	1
Typhoid fever	4

TEXAS.

Diphtheria	30
Pellagra	5
Scarlet fever	15
Typhoid fever	32
Whooping cough	6

VERMONT.

Chicken pox	6
Diphtheria	2
Measles	10
Mumps	4
Poliomyelitis	2
Scarlet fever	21
Typhoid fever	1
Whooping cough	13

VIRGINIA.

	Cases.
Smallpox:	
Rockbridge County	1

WASHINGTON.

Chicken pox	11
Diphtheria	8
Measles	5
Mumps	3
Poliomyelitis	22
Scarlet fever	12
Smallpox	5
Tuberculosis	36
Typhoid fever	16
Whooping cough	16

WEST VIRGINIA.

Cerebrospinal meningitis:	
Charleston	1
Diphtheria	17
Poliomyelitis:	
New Martinsville	1
Scarlet fever	15
Typhoid fever	13

WISCONSIN.

Milwaukee:	
Chicken pox	1
Diphtheria	5
Measles	1
Poliomyelitis	2
Scarlet fever	10
Smallpox	2
Tuberculosis	6
Typhoid fever	2
Whooping cough	17
Scattering:	
Chicken pox	4
Diphtheria	49
Measles	10
Poliomyelitis	15
Scarlet fever	40
Smallpox	2
Tuberculosis	6
Typhoid fever	13
Whooping cough	42

Report for Week Ended Aug. 27, 1921.

DISTRICT OF COLUMBIA.

	Cases.		Cases.
Diphtheria	1	Scarlet fever	2
Influenza	1	Tuberculosis	21
Measles	1	Typhoid fever	7
Poliomyelitis	2	Whooping cough	12

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921.

ANTHRAX.

City.	Cases.	Deaths.
Tennessee:		
Memphis	1	1

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.
California:			
Los Angeles	1	1	
Oakland	0	1	
Connecticut:			
Bristol			1
New Haven	0	1	1
Illinois:			
Chicago	2	1	
Freeport	0	1	
Oak Park			1
Indiana:			
Gary	0	1	
Marion	0		1
Maine:			
Portland	0		1
Massachusetts:			
Boston	0	2	1
Framingham	1	1	1
Leominster	0		1
Springfield	0	1	
Michigan:			
Ironwood	0	1	1
Kalamazoo	0	2	2
Port Huron	0	1	1
Minnesota:			
Duluth	0		1
Minneapolis	0	1	
New Jersey:			
Atlantic City	0	1	
Bayonne	0	1	
Orange	0		1
Trenton	0	1	
New York:			
Newburgh			1
New York	5	11	3
Niagara Falls	0		1
Ohio:			
Lima	0	1	1
Pennsylvania:			
Philadelphia	1	1	
Utah:			
Salt Lake City	0		1
Virginia:			
Richmond	0		1
Roanoke	0	1	1

DIPHTHERIA.

See p. 2235; also Telegraphic weekly reports from States, p. 2225.

INFLUENZA.

City.	Cases.	Deaths.
Arizona:		
Tucson		1
California:		
Los Angeles	6	
District of Columbia:		
Washington	1	
Illinois:		
Chicago	6	1
Indiana:		
Terre Haute		1
Louisiana:		
New Orleans		1
Maryland:		
Baltimore	1	
Minnesota:		
Minneapolis		1
New Jersey:		
Jersey City	1	
New York:		
New York	6	1
Ohio:		
Toledo		1
Pennsylvania:		
Philadelphia	1	

LETHARGIC ENCEPHALITIS.

Massachusetts:			Nebraska:		
Northampton		1	Omaha		1

MALARIA.

Alabama:			Arkansas:		
Anniston	3		Little Rock	10	
Birmingham	2		North Little Rock	1	
Montgomery	3	1	California:		
Tuscaloosa	2		Sacramento	1	

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

MALARIA—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Connecticut:			Pennsylvania:		
Greenwich	1		Philadelphia		1
New Britain	1		South Carolina:		
Georgia:			Charleston		1
Atlanta	4		Tennessee:		
Brunswick	2		Memphis	6	3
Savannah	7	1	Texas:		
Valdosta		1	Austin		1
Illinois:			Beaumont		1
East St. Louis	1		Dallas	5	
Louisiana:			Waco		1
New Orleans	2		Virginia:		
New York:			Richmond	1	
New York	5				

MEASLES.

See p. 2235; also Telegraphic weekly reports from States, p. 2225.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Massachusetts:		
Birmingham	1		Waltham	1	1
Montgomery		1	North Carolina:		
Arkansas:			Raleigh		1
Little Rock	1		Winston-Salem	1	1
District of Columbia:			Oklahoma:		
Washington	1		Tulsa	1	
Georgia:			Tennessee:		
Atlanta		1	Memphis	1	1
Brunswick	2		Virginia:		
Kansas:			Portsmouth		2
Parsons	1				
Louisiana:					
Baton Rouge	1				
New Orleans	2	2			

PNEUMONIA (ALL FORMS).

Alabama:			Illinois—Continued.		
Birmingham	1		Elgin	1	
Montgomery		2	Oak Park		2
Arizona:			Peoria		2
Tucson		3	Rockford		1
California:			Springfield	1	1
Alameda	1		Indiana:		
Berkeley	1		Gary		1
Long Beach	2	1	Indianapolis		4
Los Angeles	47	10	South Bend		1
Oakland	2	2	Kansas:		
Pasadena		1	Kansas City	1	
Riverside		1	Kentucky:		
San Diego	1	1	Covington		2
Santa Cruz	2		Lexington		2
Stockton		1	Louisville	1	1
Colorado:			Paducah	1	
Denver		6	Louisiana:		
Connecticut:			New Orleans		8
Bridgeport	1		Maryland:		
District of Columbia:			Baltimore		15
Washington		3	Massachusetts:		
Georgia:			Arlington	1	
Atlanta		8	Belmont		1
Brunswick		1	Boston		8
Savannah		1	Cambridge	1	1
Illinois:			Chelsea	1	
Alton	1		Easthampton	1	1
Aurora		1	Fall River		2
Chicago	54	13	Framingham		2
Danville	1	1	Holyoke		1

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.
Massachusetts—Continued.		
Lawrence	1	
Lowell	1	1
Methuen		1
New Bedford		1
Somerville	1	
Springfield	2	
Watertown		1
Woburn		1
Worcester		1
Michigan:		
Detroit	12	9
Grand Rapids	1	
Hamtramck		1
Highland Park	1	
Ironwood	1	1
Ishpeming	1	1
Kalamazoo	2	1
Pontiac	1	
Minnesota:		
Minneapolis		3
St. Paul		4
Missouri:		
Kansas City		4
Nebraska:		
Lincoln		2
Omaha		2
New Jersey:		
Bloomfield	1	
Elizabeth		2
Irvington	1	
Jersey City	1	
Kearny		3
Orange	2	2
Perth Amboy	1	
Summit	1	1
Trenton	3	
New York:		
Albany	3	
Buffalo		6
Elmira	2	
Geneva		1
Jamestown	1	
Lackawanna	3	
Middletown	1	1
Mount Vernon	2	1
New York—Continued.		
New York	135	47
Niagara Falls		1
Peekskill	1	
Rochester	5	3
Schenectady	2	2
Syracuse	3	
White Plains	1	
Yonkers	1	
North Carolina:		
Charlotte		3
Ohio:		
Akron	2	
Cincinnati		4
Cleveland	11	
Columbus	1	1
Dayton	1	
Findlay	1	1
Lima		1
Springfield		1
Toledo		2
Youngstown	1	
Zanesville		1
Oklahoma:		
Oklahoma City		3
Pennsylvania:		
Philadelphia	29	17
Rhode Island:		
Providence		4
Tennessee:		
Memphis		9
Nashville		1
Texas:		
Dallas		1
El Paso		3
Utah:		
Salt Lake City		2
Vermont:		
Rutland		1
Virginia:		
Richmond		3
West Virginia:		
Parkersburg		1
Wheeling		3
Wisconsin:		
Racine		2

RABIES IN ANIMALS.

City.	Cases.
California:	
Pasadena	1
Illinois:	
East St. Louis	1
Massachusetts:	
Winthrop	2
New Jersey:	
Rahway	2
Ohio:	
Ironton	1

SCARLET FEVER.

See p. 2235; also Telegraphic weekly reports from States, p. 2225.

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.
California:			
Los Angeles	0	1	
Oakland	0	1	
Sacramento	0	3	
Colorado:			
Trinidad		1	
Connecticut:			
Bridgeport	0	1	1
Fairfield		1	1
Greenwich	0	1	
District of Columbia:			
Washington	0	2	
Illinois:			
Alton	0	2	
Bloomington	0	1	
Chicago	6	2	3
La Salle	0	1	
Mattoon		1	
Peoria	0	1	1
Rockford	0	2	
Springfield	0	1	
Indiana:			
South Bend	0	1	1
Iowa:			
Davenport	0	1	1
Des Moines	0	1	1
Dubuque	0	1	
Sioux City	0	1	
Waterloo		1	1
Kentucky:			
Covington	0	1	
Maryland:			
Baltimore	12	2	
Massachusetts:			
Boston	1	2	
Lynn	0	1	
Methuen	0	1	1
Pittsfield	0	3	
Springfield	0	1	
Waltham	0	1	
Michigan:			
Ann Arbor	0	1	
Battle Creek	0	1	
Detroit	0	10	
Grand Rapids	0	1	1
Highland Park	0	1	
Minnesota:			
Minneapolis	0	5	
Rochester		1	
St. Paul	0	2	
Missouri:			
St. Louis	0	3	1
New Jersey:			
Paterson		4	
West Orange		1	1
New York:			
Buffalo	0	1	1
New York	10	2	
Port Chester		1	
Poughkeepsie	0	1	
Schenectady	0	1	
Ohio:			
Akron	0	2	
Chillicothe	0	1	
Cleveland	0	2	
Lorain	0	1	
Youngstown	0	2	1
Pennsylvania:			
Philadelphia	0	1	
Washington:			
Everett	0	1	
Seattle	0	1	
West Virginia:			
Bluefield	0	1	
Wisconsin:			
Kenosha	0	3	1
Milwaukee	0	2	
Racine	0	1	

TETANUS.

City.	Cases.	Deaths.
Alabama:		
Mobile		1
Arkansas:		
North Little Rock	1	
Illinois:		
Chicago	2	1
Maine:		
Portland	1	
Michigan:		
Detroit	3	1
Minnesota:		
St. Paul		1
New York:		
Schenectady	1	1
Texas:		
Corpus Christi	1	
West Virginia:		
Charleston		1

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.
Alabama:			
Birmingham	0	1	
Mobile	0	1	
California:			
Berkeley	0	1	
Sacramento	0	2	
San Diego	0	1	
Colorado:			
Denver	7	8	
District of Columbia:			
Washington	0	2	
Georgia:			
Savannah	0	1	
Illinois:			
Aurora	0	1	
Indiana:			
Marion	0	3	
Iowa:			
Sioux City	1	2	
Kansas:			
Atchison	1	1	
Hutchinson	1	1	
Louisiana:			
New Orleans	0	1	
Michigan:			
Battle Creek	0	1	
Minnesota:			
Duluth	0	4	
Hibbing	0	1	
Minneapolis	2	2	
St. Paul	1	3	
Montana:			
Great Falls	0	1	
Nebraska:			
Omaha	3	2	
New Hampshire:			
Manchester		1	
New York:			
Jamestown	0	1	
North Tonawanda		1	
North Carolina:			
Winston-Salem	0	3	
Ohio:			
Barberton	0	1	
Marion	1	2	
New Philadelphia	0	2	
South Carolina:			
Charleston	0	1	
Tennessee:			
Knoxville	0	1	
Nashville	0	1	
Utah:			
Salt Lake City	3	4	
Washington:			
Seattle	5	3	
Spokane	5	3	
Tacoma	1	2	
Vancouver	0	1	

TUBERCULOSIS.

See p. 2235; also Telegraphic weekly reports from States, p. 2225.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.
Alabama:			
Birmingham	11	7	1
Mobile	2	1	
Montgomery	1	1	
Arizona:			
Tucson	0		1
Arkansas:			
North Little Rock	0	2	
California:			
Alameda	0	2	
Long Beach	0	2	
Los Angeles	4	4	2
Oakland	2	6	1
California—Continued.			
Richmond		2	
Sacramento	1	4	
Stockton	2		1
Colorado:			
Denver	5	4	1
Connecticut:			
Danbury	0	1	
New Haven	2	7	
New London	0		1
Waterbury	0	2	
District of Columbia:			
Washington	11	7	

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.
Georgia:			
Atlanta	5	6	
Brunswick	0	1	
Macon	0	1	2
Savannah	3	3	1
Illinois:			
Bloomington	0	1	
Chicago	14	5	
Danville	0	1	
Freeport	0	1	
La Salle	1	1	
Springfield	1	3	
Indiana:			
Huntington	0	3	
Indianapolis	3	5	
Kokomo	0		4
Logansport	0	1	
Marion	1	2	
Iowa:			
Mason City	0	3	
Kansas:			
Coffeyville	2	1	
Kansas City	2	2	
Wichita	6	21	2
Kentucky:			
Covington	0	2	2
Lexington	1	2	1
Louisville	8	1	
Paducah	1	3	
Louisiana:			
Baton Rouge	0	1	
New Orleans	9	1	1
Maine:			
Bangor	1	2	
Biddeford	0	1	1
Lewiston		1	
Maryland:			
Baltimore	17	13	
Cumberland	2	4	1
Massachusetts:			
Adams	0	1	
Boston	4	3	1
Chicopee	0	1	
Fall River	7	2	
Holyoke	0	2	
Lawrence	1	2	
Lowell	1	1	
Newburyport	0	1	
Springfield	1		1
Michigan:			
Ann Arbor	1	1	
Battle Creek	0	2	
Detroit	9	61	1
Grand Rapids	0	1	
Marquette	0	3	
Muskegon		1	1
Minnesota:			
Minneapolis	3	3	
St. Paul	0	1	
Missouri:			
Cape Girardeau	6	1	
Joplin	0	1	
Kansas City	7	5	
St. Joseph	1	1	
St. Louis	14	9	2
Montana:			
Great Falls	2	2	
Nebraska:			
Lincoln	0	3	
Omaha	2		2
Nevada:			
Reno	1	2	
New Hampshire:			
Berlin	0	2	
Dover	0	4	
New Hampshire—Contd.			
Keene	0	1	
Manchester	0	1	
New Jersey:			
Atlantic City	1	1	
Bayonne	0	2	
Hoboken	0	1	
Jersey City	2	5	
Perth Amboy	0	1	
Plainfield	0	2	
Trenton	1	4	
New Mexico:			
Albuquerque		2	
New York:			
Albany	0	2	
Auburn	0	3	
Buffalo	4	7	1
Cohoes	0	1	
Elmira	0	1	
Ithaca	0	1	
Lockport	0	1	
Newburgh	0	2	
New York	42	41	3
Rochester	0	1	
Syracuse	1	24	
Troy	1	3	
North Carolina:			
Charlotte	1	1	
Durham	2	2	
Winston-Salem	5	1	
Ohio:			
Akron	2	6	
Bucyrus		1	
Canton	0	1	
Chillicothe	0	2	
Cincinnati	4	9	
Cleveland	6	9	
Columbus	2	3	
Dayton	1	4	
Findlay	0	1	
Hamilton	0	1	
Kenmore		1	
Lima	1	2	
Lorain	0	1	1
Mansfield		1	
Marion	0	1	
Middletown	0	2	
New Philadelphia	0	1	
Niles		3	
Piqua	0	1	
Portsmouth	0	1	
Springfield	1	3	
Youngstown	1	7	
Oklahoma:			
Oklahoma City	1	1	1
Tulsa	6	6	
Pennsylvania:			
Philadelphia	22	15	1
Rhode Island:			
Pawtucket	0	1	
Tennessee:			
Knoxville	3	2	
Memphis	10	2	
Nashville	12	5	1
Texas:			
Dallas	5	3	3
El Paso	0	2	1
Utah:			
Salt Lake City	2	1	1
Vermont:			
Burlington	0	1	
Virginia:			
Danville	1	3	1
Lynchburg	4	3	
Norfolk	5	1	

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Aug. 20, 1921.		City.	Median for previous years.	Week ended Aug. 20, 1921.	
		Cases.	Deaths.			Cases.	Deaths
Virginia—Continued.				West Virginia—Contd.			
Petersburg	0	2	1	Huntington	2	2	.....
Portsmouth	3	3	.....	Martinsburg	0	.....	1
Roanoke	3	5	.....	Morgantown	0	3	.....
Washington:				Parkersburg	0	3	.....
Seattle	1	4	.....	Wheeling	2	1	.....
Tacoma	1	1	.....	Wisconsin:			
West Virginia:				Green Bay	0	2	.....
Bluefield	1	1	.....	Sheboygan	0	1	.....
Charleston	8	3	.....				

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston	17,734	.....	1	.....	.....	.....	.....	.....	.....	.....
Birmingham	178,270	42	6	.....	30	.....	5	.....	.....	5
Mobile	60,151	13	1	.....	.....	.....	2	.....	.....	1
Montgomery	43,464	27	2	.....	.....	.....	.....	.....	1	3
Tuscaloosa	11,996	.....	.....	.....	.....	.....	.....	.....	1	.....
Arizona:										
Tucson	20,292	22	.....	1	.....	.....	.....	.....	.....	4
Arkansas:										
Fort Smith	28,811	.....	2	.....	.....	.....	.....	.....	.....	.....
Little Rock	64,997	.....	6	.....	.....	.....	1	.....	1	.....
North Little Rock	14,048	.....	1	.....	.....	.....	.....	.....	1	.....
California:										
Alameda	28,806	3	.....	1	.....	.....	1	.....	.....	.....
Bakersfield	18,638	7	.....	.....	.....	.....	.....	.....	.....	1
Berkeley	55,886	12	.....	.....	.....	.....	.....	.....	.....	.....
Eureka	12,923	3	.....	.....	.....	.....	.....	.....	.....	1
Long Beach	55,593	13	4	.....	.....	.....	3	.....	.....	.....
Los Angeles	576,673	143	48	.....	1	.....	7	.....	20	21
Oakland	216,361	43	.....	.....	1	.....	.....	.....	6	4
Pasadena	45,354	15	.....	.....	2	.....	1	.....	.....	1
Richmond	16,843	1	1	.....	.....	.....	.....	.....	.....	.....
Riverside	19,341	7	16	.....	.....	.....	.....	.....	.....	3
Sacramento	65,857	28	2	.....	.....	.....	1	1	1	1
San Bernardino	18,721	4	1	.....	.....	.....	.....	.....	.....	1
San Diego	74,683	25	1	.....	.....	.....	.....	.....	5	1
Santa Cruz	10,917	2	1	.....	.....	.....	.....	.....	1	1
Stockton	40,296	11	2	.....	.....	.....	.....	.....	.....	.....
Vallejo	21,107	3	.....	.....	.....	.....	.....	.....	.....	.....
Colorado:										
Colorado Springs	30,105	14	3	2	.....	.....	.....	.....	7	3
Denver	256,369	64	5	.....	.....	.....	3	.....	.....	7
Connecticut:										
Bridgeport (town)[1]	143,538	16	3	.....	1	.....	2	.....	7	1
Bristol (town)[1]	20,620	2	1	.....	.....	.....	.....	.....	2	.....
Danbury (city)	18,943	6	.....	.....	.....	.....	1	.....	.....	.....
Derby (town)[1]	11,238	7	.....	.....	.....	.....	.....	.....	.....	.....
Fairfield (town)	11,475	1	1	.....	.....	.....	.....	.....	.....	.....
Greenwich (town)	22,123	.....	2	.....	2	.....	.....	.....	.....	.....
Manchester (town)	18,370	1	.....	.....	.....	.....	1	.....	.....	.....
Meriden (city)	29,842	.....	1	.....	.....	.....	.....	.....	1	.....
Milford (town)	10,193	4	.....	.....	.....	.....	.....	.....	.....	.....
New Haven (town)[1]	162,519	.....	10	1	.....	.....	.....	.....	4	.....
New London (town)[1]	25,688	7	.....	.....	.....	.....	.....	.....	.....	.....
Norwalk (town)[1]	27,700	5	.....	.....	.....	.....	.....	.....	.....	.....
Norwich (city)	22,304	4	1	.....	.....	.....	.....	.....	1	.....
Waterbury (town)[1]	91,410	13	2	.....	.....	.....	.....	.....	4	1
Delaware:										
Wilmington	110,168	22	3	.....	.....	.....	1	.....	.....	2

[1] Coextensive with city of same name.

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
District of Columbia:										
Washington	437,571	102	2	1	1		2		15	9
Georgia:										
Atlanta	200,616	46	4				5		1	2
Brunswick	14,413	4			1		1			
Macon	52,995	5	1	1			2			2
Savannah	83,252	45	6				2		1	5
Valdosta	10,783	3	2				2		1	
Idaho:										
Boise	21,393	7					1			
Illinois:										
Alton	24,682	3								
Aurora	36,397	7	6	1			1		8	
Bloomington	28,725	10							1	2
Blue Island	11,424	1					2			
Centralia	12,491	5								
Chicago	2,701,705	474	100	10	6	1	29	1	218	29
Cicero	44,995	7	1		1				4	1
Danville	33,750	10		1						1
East St. Louis	66,740	11							3	1
Elgin	27,454	8	1				1		1	
Evanston	37,215	9					1			
Forest Park	10,768	3	1				1			
Freeport	19,669	5								
Galesburg	23,834	3	1							
Jacksonville	15,713	6								
Kewanee	16,026	3	1							
La Salle	13,050	3							3	2
Mattoon	13,552	4								
Oak Park	39,830	9			1					1
Pekin	12,086		2							
Peoria	76,121	19	8	1			3		1	1
Quincy	35,978	6	2						1	
Rockford	65,651	18	2				2			2
Rock Island	35,177	7								1
Springfield	59,183	17	2	1			2			1
Indiana:										
Crawfordsville	10,139	1							1	
East Chicago	35,967	4								
Elkhart	24,277	10					1			
Fort Wayne	36,549	7	4						6	
Frankfort	11,585	4					3			
Gary	55,378	12	1				1			3
Hammond	36,004	6	6				2			
Huntington	14,000	2								
Indianapolis	314,194	69	8		1				13	8
Kokomo	30,067	7								
La Fayette	22,486	5	3						1	
Logansport	21,626	6								
Marion	23,747	5	3				3			
Mishawaka	15,195	2								1
Muncie	36,624	8							1	1
Richmond	26,765	4					1		2	
South Bend	70,983	7	2				1		1	
Terre Haute	66,083	20								2
Iowa:										
Burlington	24,057	9								
Cedar Rapids	45,566		5							
Davenport	56,727		1				1			
Des Moines	126,468	1	2							
Dubuque	39,141		1				1			
Mason City	20,065	4					2			
Muscatine	16,068	2								
Sioux City	71,227		3				1			
Waterloo	36,230						1			
Kansas:										
Atchison	12,630	1	4	1					2	
Coffeyville	13,452	5	3	1			2		1	
Fort Scott	10,693	4					3			
Hutchinson	23,298		2							
Kansas City	101,177		7				2		6	
Lawrence	12,456	3					1			
Leavenworth	16,912	2	1							
Parsons	16,028	6	2						4	

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Kansas—Continued.										
Salina	15,085	3								
Topeka	50,022	6	15				4		2	1
Wichita	72,128	21	4				11			
Kentucky:										
Covington	57,121	17	1				1		2	2
Lexington	41,534	15								
Louisville	234,891	65	5		10		1		6	8
Paducah	24,735		1						2	
Louisiana:										
Baton Rouge	21,782	6	2				1		1	1
New Orleans	387,219	130	3				1		21	15
Maine:										
Auburn	16,985	5								
Bangor	25,978								2	
Bath	14,731	2								
Biddeford	18,008	3	2				1		6	
Lewiston	31,791	1					1			
Portland	69,272	21	3							
Sanford	10,691	2	1							
Maryland:										
Baltimore	733,826	197	12	2	5		6		27	18
Cumberland	29,837	10	2				2		2	
Massachusetts:										
Adams	12,967								1	
Arlington	18,665	1								
Attleboro	19,731	2							1	1
Belmont	10,749	1								
Beverly	22,561	5							1	
Boston	748,060	194	30	5	16	2	14	2	39	18
Braintree	10,580	2								1
Brookline	37,748	3					1		1	1
Cambridge	109,694	24	2		3		3		6	
Chelsea	43,184	14	1				3		2	2
Chicopee	36,214	8	1							1
Dedham	10,792	3								1
Easthampton	11,261	1								
Everett	40,120	3	2				3			
Fall River	120,485	26	3				1		4	2
Framingham	17,033	7	1							
Gardner	16,971	5					2		2	1
Greenfield	15,462	2					2			
Holyoke	60,203	12							1	
Lawrence	94,270	21	4	1					6	1
Leominster	19,744	3	1				1			
Lowell	112,479	27	1						10	1
Lynn	99,148	23	4		3		3		1	
Malden	49,103	9	1		5		1		1	1
Medford	39,038	8								
Methuen	15,189	6	1	1					1	
New Bedford	121,217	22	1						7	2
Newburyport	15,618	5					1			
Northampton	21,951	8			1					
Norwood	12,627	1								
Peabody	19,552	3					1		1	
Pittsfield	41,751	8							2	2
Plymouth	13,045	2								
Quincy	47,876	7			3					
Salem	42,529	12	1						1	
Saugus	10,874	2								
Somerville	93,091		5	1					2	
Springfield	129,563	37	1						3	3
Taunton	37,137	7							1	1
Wakefield	13,025	3	1							1
Waltham	30,915	8					1			
Watertown	21,457	2	1						2	
Westfield	18,604	2	1							
Winthrop	15,455	3								
Woburn	16,574	3								
Worcester	179,754	39	4						7	3

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Michigan:										
Alpena	11,101						1			
Ann Arbor	19,516	16							3	
Battle Creek	36,164		3							
Benton Harbor	12,233		1							
Detroit	993,739	198	54	7	3	1	20	1	57	12
Grand Rapids	137,634	31	5	1	1		1		4	1
Hamtramck	48,615	7	4						2	1
Highland Park	46,499	8	2				1		1	
Holland	12,166	2	2							
Ironwood	15,739	4								
Ishpeming	10,300	2								
Kalamazoo	48,858	18	4				2			
Marquette	12,718	3								
Muskegon	36,570	12								
Pontiac	34,273	5	6				3		1	
Port Huron	25,944	6							2	1
Sault Ste. Marie	12,096	4					1			
Minnesota:										
Austin	10,118	1								
Duluth	98,917	17	3	1	1		9			
Hibbing	15,089						1			
Mankato	12,469								1	
Minneapolis	380,582	56	7	2			16		43	5
Rochester	13,722	12			1				1	
St. Paul	234,595	35	8				4		15	1
Winona	19,143	4					7			
Missouri:										
Independence	11,686	2								1
Joplin	29,855		1							
Kansas City	324,410	15	9				3		7	9
St. Joseph	77,939	35			2		3			2
St. Louis	772,897	145	26	2	1		2		29	19
Springfield	39,631	12								
Montana:										
Anaconda	11,668								1	
Billings	15,100	4								
Great Falls	24,121	5								1
Missoula	12,668	6					1		1	
Nebraska:										
Lincoln	54,934	9	2							
Omaha	191,601	51	17	3			1			3
Nevada:										
Reno	12,016	2								
New Hampshire:										
Concord	22,167	10					1			
Dover	13,029	2								
Keene	11,210	1								
Manchester	78,384	23	3				1			1
Nashua	28,379	10	2							
New Jersey:										
Asbury Park	12,400	3							3	
Atlantic City	50,682	15	1						11	
Bayonne	76,754		3				1		2	
Belleville	15,660								1	
Bloomfield	22,019	2			2				1	
Clifton	26,470	6							1	
East Orange	50,710	3	1		1					
Elizabeth	95,682		4		5		4		1	
Englewood	11,627	2								
Gloucester City	12,162		1							
Harrison	15,721		1						2	
Hoboken	68,166	7	2				2		1	1
Irvington	25,480		2				1			
Jersey City	297,864		7		2		1			
Kearny	26,724	7					1		1	
Montclair	28,810	3	1						1	1
Morristown	12,548	4								
Orange	33,268	8			1		2		3	
Passaic	63,824	11	4	1			2			
Paterson	135,866		2		1		1		6	
Perth Amboy	41,707	7	8				2		1	
Phillipsburg	16,923	5								

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey—Continued.										
Plainfield	27,700	8	2				3			1
Rahway	11,042	1								
Roosevelt	11,047	5		1						
Summit	10,174	1					1			
Trenton	119,289	38							4	4
West Hoboken	40,068	7	1						1	
West New York	29,926	3			2		1			
West Orange	15,573	3								
New Mexico:										
Albuquerque	15,157	10							2	1
New York:										
Albany	113,344		11				1		2	
Auburn	36,192	4	1		1					
Buffalo	506,775	107	18	2			5		12	15
Cohoes	22,987	3	1							
Elmira	45,305	9							2	
Geneva	14,648	4								1
Glens Falls	16,638	7							2	
Hudson	11,745	6	2				1		1	1
Ithaca	17,004	3								
Jamestown	38,917	8	1				1			
Lackawanna	17,918	4					4		2	
Lockport	21,308	6							1	
Middletown	18,420								1	
Mount Vernon	42,726	3	1	1						
Newburgh	30,366	4			1					
New York	5,621,151	1,086	102	9	68	3	40	2	[1] 198	[1] 103
Niagara Falls	50,760	11	3				3		1	
North Tonawanda	15,482	5								1
Olean	20,506	6								1
Peekskill	15,868	2							1	
Port Chester	16,573	2								
Poughkeepsie	35,000	12							2	
Rochester	295,750	61	20	1			2		8	3
Saratoga Springs	13,181	9								
Schenectady	88,723	14	6							
Syracuse	171,717	51	17	3	3		5		2	4
Troy	72,013	19							1	
Watertown	31,285						1			
Watervliet	16,073	4								
White Plains	21,031	5								
Yonkers	100,226	13	1							1
North Carolina:										
Charlotte	46,338	12	4	1					2	
Durham	21,719	3	2							
Greensboro	19,861	2								
Raleigh	24,418	6					1			
Rocky Mount	12,742	2								
Wilmington	33,372	5								1
Winston-Salem	48,395	11	2						1	1
North Dakota:										
Fargo	21,961		2				4			
Grand Forks	14,010		1				2			
Ohio:										
Akron	208,435	31	3				9		3	
Barberton	18,811	3					1			
Bucyrus	10,425	2								
Canton	87,091	6	1				3		1	
Chillicothe	15,831	4							1	1
Cincinnati	401,247	106	9	1	1		6		30	8
Cleveland	796,836		20		1		12			
Columbus	237,031	40	5				5		5	5
Coshocton	10,847				1					
Dayton	152,559	30	3				3			
East Cleveland	27,292	4							3	1
Findlay	17,021	5								
Hamilton	39,675	6	1				1			1
Ironton	14,007	3								
Lancaster	14,703	11								1
Lima	41,305	10	3						3	2
Lorain	37,295	9	2		1		2		1	

[1] Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Ohio—Continued.										
Mansfield	27,824	7								1
Marion	27,891						1			
Middletown	23,594	2							2	1
Newark	26,718	7								
New Philadelphia	10,718		1							
Niles	13,080	8		1			2	1		
Norwood	24,966								1	
Piqua	15,044	1								
Portsmouth	33,011	9							2	1
Sandusky	22,897	3							1	
Springfield	60,840	14	23		1		1			1
Tiffin	14,375	3								
Toledo	243,109	52	24	2			4	1	2	5
Youngstown	132,358	18	4		1		7			1
Zanesville	29,569	7	1							
Oklahoma:										
Oklahoma City	91,258	16	6				1		3	1
Tulsa	72,075		3		1					
Pennsylvania:										
Philadelphia	1,823,158	396	34	1	1		20		34	34
Rhode Island:										
Cranston	29,407	4	1							
Newport	30,255	4								
Pawtucket	64,248	10	2							
Providence	237,595	58	1	1	1					4
South Carolina:										
Charleston	67,957	30								5
Columbia	37,524		1				1			
South Dakota:										
Sioux Falls	25,176	3					1			
Tennessee:										
Knoxville	77,818		1	1	1		1		3	
Memphis	162,351	47	9				3		1	1
Nashville	118,342	39	3				1		1	4
Texas:										
Austin	34,876	12								1
Beaumont	40,422	8	1							
Corpus Christi	10,522	2	1							
Dallas	158,976	35	1		1		1		2	2
El Paso	77,543	47	1				1			4
Galveston	44,255	16								1
Waco	38,500	11		1						
Utah:										
Salt Lake City	118,110	19	2		1		1		2	1
Vermont:										
Barre	10,008		1	1	1		1			
Burlington	22,779	7	3				2			1
Rutland	14,954	1								
Virginia:										
Alexandria	18,060	4								
Danville	21,539	4	2		2					1
Lynchburg	29,956		2							
Norfolk	115,777		2	1					4	1
Petersburg	31,002	6	2				1			1
Portsmouth	54,987	14							2	2
Richmond	171,667	46	7		1		3		6	
Roanoke	50,842	13	13				2			1
Washington:										
Aberdeen	15,337	2								
Seattle	315,652		13		4		3			
Spokane	104,437		2				8			
Tacoma	96,965								4	
West Virginia:										
Bluefield	15,282		1							
Charleston	39,608	14					2		1	2
Fairmont	17,851		1							
Huntington	50,177	16								1
Martinsburg	12,515	1								
Morgantown	12,127						7			
Moundsville	10,669	2	2							
Parkersburg	20,050	5	3							
Wheeling	54,322	19	6		4		3			1

CITY REPORTS FOR WEEK ENDED AUG. 20, 1921—Continued.

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

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Wisconsin:										
Beloit	21,284	2			1					
Eau Claire	20,880		2				1			
Fond du Lac	23,427	11	1						2	
Green Bay	31,017	6	5	2					1	1
Janesville	18,293	2	1							
Kenosha	40,472	4	2							
Madison	38,378	8	1							
Marinette	13,610						1			
Milwaukee	457,147		15		1		3			
Oshkosh	38,162	14	2							1
Racine	58,593	13					3			1
Sheboygan	30,955								1	
Superior	39,624	6					3			
Wyoming:										
Cheyenne	13,829	2								

FOREIGN AND INSULAR.

CANADA.

Communicable Diseases—Province of Ontario—July, 1921.

Information received under date of August 5, 1921, relative to the occurrence of communicable diseases in the Province of Ontario, Canada, during the month of July, 1921, shows a total of 1,158 cases, with 292 deaths, as compared with 2,348 cases, with 288 deaths, reported for the same period in the year 1920. A marked decrease was noted in smallpox prevalence, 104 cases, with 1 death, having been reported, as against 142 cases for the corresponding month of the preceding year. A decrease of 69 cases was noted in the incidence of scarlet fever.

Venereal diseases.—The number of venereal diseases reported by the medical health officers was 367, an increase of 101 cases over the number for July, 1920. The increase was stated to be attributable to the fact that physicians are now making prompt returns of such cases to the provincial health department.

Typhoid Fever Outbreak—London.

Under date of August 23, 1921, an outbreak of typhoid fever was reported at London, Canada, with a total of 77 cases, with 2 deaths, notified during the week ended August 20, 1921. The outbreak occurred in the Ontario Hospital for the Insane and was stated to be caused by infected water supply. The water supply of the hospital was stated not to be connected with that of the city of London.

CAPE VERDE ISLANDS.

Plague—St. Vincent.

Plague was reported present, August 18, 1921, at St. Vincent, Cape Verde Islands, with six cases and two deaths.

CUBA.

Communicable Diseases—Habana.[1]

Communicable diseases have been reported at Habana as follows:

Disease.	June 21–30, 1921. New cases.	June 21–30, 1921. Deaths.	Remaining under treatment June 30, 1921.	Disease.	June 21–30, 1921. New cases.	June 21–30, 1921. Deaths.	Remaining under treatment June 30, 1921.
Chicken pox	1		3	Paratyphoid fever	1		1
Leprosy			11	Scarlet fever	3	1	5
Malaria	39		[1] 37	Smallpox	7		[2] 12
Measles	1		2	Typhoid fever	19	6	[3] 31

[1] From the interior, 27. [2] From the interior, 2. [3] From the interior, 17.

Quarantine Against Arrivals from Belize.

Under date of August 26, 1921, quarantine on account of yellow fever was ordered into effect at Cuban ports against arrivals from Belize, British Honduras.

DOMINICAN REPUBLIC.

Smallpox.

Smallpox has been reported in the Dominican Republic, under date of August 25, 1921, as follows: In eastern Provinces, 2,000 cases, estimated; present at La Romana with many cases; at San Pedro de Macoris, during week ended August 25, 1921, 40 cases with 2 deaths, and in the same Province 400 cases present on sugar estates.

JAMAICA.

Infectious Disease (Alastrim or Kaffir Pox).

During the three weeks ended August 13, 1921, 370 cases of alastrim or Kaffir pox were reported in the island of Jamaica.

Typhoid Fever—Kingston.

During the period under report 26 cases of typhoid fever were reported at Kingston, Jamaica.

MEXICO.

Plague—Plague-Infected Rodents—Tampico.

During the week ended August 21, 1921, one case of and one death from plague were reported at Tampico, Mexico. During the same period 1,900 rodents were taken and 15 rodents were found plague infected.

[1] In sequence with report for June 11–20, 1921, Public Health Reports, July 8, 1921, p. 1584.

During the week ended August 28, 1921, no new cases of plague or deaths therefrom were reported. During that period 1,700 rodents were captured and 10 were found plague infected.

Yellow Fever—District of Tuxpam.

Six fatal cases of yellow fever have been reported in the district of Tuxpam, Mexico, occurring as follows: July 14, 1921, one case at Zapotal; July 19, four cases at Alamo; July 25, one case at Tuxpam. The cases were stated to have originated at Alamo, a camp situated 30 kilometers from Tuxpam.

Yellow Fever—Territory of Quintana Roo.

Under date of August 23, 1921, a case of yellow fever was reported as having occurred at Playa Obispo, Territory of Quintana Roo, situated on the eastern coast of the Yucatan peninsula, Mexico. The patient was stated to be a soldier stationed in garrison.

POLAND.

Plague.

According to information dated August 9, 1921, eight cases of plague have been reported in a border province of Poland.

PORTO RICO.

Plague—Caguas.

During the period August 7 to 13, 1921, three cases of plague, with two deaths, were reported at Caguas, Porto Rico.

UNION OF SOUTH AFRICA.

Influenza—Uitenhage.[1]

Information received under date of July 1, 1921, shows the occurrence at Uitenhage, Cape Province, Union of South Africa, of about 600 cases of influenza, including 12 cases with pneumonic complications, among Europeans, from the beginning of the outbreak in May, 1921, to June 25, 1921.

[1] Public Health Reports, Aug. 19, 1921, p. 2028.

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

Reports Received During Week Ended Sept. 9, 1921.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India				June 5–25, 1921: Deaths, 32,103.
Bombay	July 3–9	4	2	
Calcutta	June 26–July 2	51	46	
Karachi	July 17–23	12	12	
Rangoon	July 10–16	2	2	
Siam:				
Bangkok	June 26–July 2	2		

PLAGUE.

British East Africa:				
Kenya Colony—				
Kisumu	June 26–July 2			Present.
Cape Verde Islands:				
St. Vincent	Aug. 12–18	6	3	
Ceylon:				
Colombo	July 9–16		1	Rodent plague, 2 cases.
India				July 3–16, 1921: Cases, 572; deaths, 493.
Bombay	July 3–9	7	5	
Madras presidency	July 17–23	38	21	
Rangoon	July 10–16	63	57	
Mexico:				
Tampico	Aug. 15–21	1	1	Aug. 15–28, 1921: Rats taken, 3,600; rats found plague infected, 25.
Poland				In border province, Aug. 9, 1921: Cases, 8.
Porto Rico:				
Caguas	Aug. 7–13	3	2	
Portuguese West Africa:				
Angola—				
Loanda	June 5–18	5		
Straits Settlements:				
Singapore	June 26–July 2	2	2	
Syria:				
Alexandretta	July 31–Aug. 6	1		

SMALLPOX.

Brazil:				
Rio de Janeiro	July 10–16	3		
Sao Paulo	June 13–26	4	2	
Do	June 27–July 10	5	2	
Canada:				
New Brunswick—				
Madawaska County	Aug. 7–13	1		
Colombia:				
Santa Marta	do			Present.
Cuba:				
Cienfuegos	do	1		
Dominican Republic				In eastern Provinces, Aug. 25, 1921, 2,000 cases, estimated.
La Ramona	Aug. 25			Cases numerous.
San Pedro de Macoris	Aug. 19–25	40	2	On sugar estates in same Province, about 400 cases.
India				June 5–25, 1921: Deaths, 958.
Bombay	July 3–9	11	7	
Calcutta	June 26–July 2	3	3	
Madras	July 17–23	5		
Rangoon	July 10–16	1		
Mexico:				
Vera Cruz	Aug. 1–7		1	
Portugal:				
Lisbon	July 24–Aug. 6	15		
Portuguese East Africa:				
Lourenco Marques	July 10–16	4		
Spain:				
Barcelona	July 7–20		4	
Valencia	July 31–Aug. 6	1		

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

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

Reports Received During Week Ended Sept. 9, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Straits Settlements:				
Singapore	July 10–16	1	1	
Tunis:				
Tunis	Aug. 6–12	1	2	
Turkey:				
Constantinople	July 24–30	1		
Union of South Africa:				
Cape Province	June 19–25			Outbreaks.
Do	June 26–July 2			Do.
Natal	June 19–25			Do.
Orange Free State	do			Do.
On vessel:				
S. S. Niagara	June 15	1		At Sydney, Australia, from Vancouver, via Fiji and New Zealand (Public Health Reports, Aug. 26, 1921, p. 2086).

TYPHUS FEVER.

Egypt:				
Alexandria	July 30–Aug. 5	8	3	
Tunis:				
Tunis	July 30–Aug. 5		1	
Turkey:				
Constantinople	July 17–30	12	1	
Union of South Africa:				
Cape Province	June 19–25			Outbreaks.
Do	June 26–July 2			Do.

YELLOW FEVER.

Mexico:				
Quintana Roo—				
Playa Obispo	Aug. 23	1		Territory on Yucatan Peninsula.
Tuxpam district				Cases all stated to have originated at Alamo.
Alamo	July 19	4	1	
Tuxpam	July 25	1	1	
Zapotal	July 14	1	1	

Reports Received from July 2 to Sept. 2, 1921.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy	July 3–9		3	
India				Mar. 6–June 4, 1921: Deaths, 43,178.
Bombay	May 1–June 18	11	10	
Do	June 26–July 2	8	4	
Calcutta	May 8–June 25	507	521	
Do	June 26–July 2	51	46	
Karachi	July 10–16	10	10	
Madras	May 15–June 25	3	2	
Do	June 26–July 16	6	2	
Rangoon	Apr. 24–June 25	18	17	
Do	June 26–July 9	10	5	
Indo-China				Jan. 1–31, 1921: Cases, 80; deaths, 15. May 29–June 12, 1921: Cases, 251; deaths, 202.
City—				
Cholon	June 6–12	5	4	
Saigon	May 9–June 12	65	44	
Province—				
Anam	Jan. 1–31	42		In January, 1920: No cases.
Cambodia	do	8	2	January, 1920: Cases, 27; deaths, 14.
Cochin-China	do	18	9	January, 1920: Cases, 13; deaths, 10.
Tonkin	do	12	4	January, 1920: No cases.

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila	May 22–June 25	4		
Do	July 3–9	7		
Province—				
Batangas	June 12–18	2	1	
Laguna	June 19–25	1		
Pampanga	June 5–11	1	1	
Tarlac	June 19–25	1	1	
Poland:				
Baranowicze	Aug. 18			Present.
Bialystok	July 25			Do.
Pinsk	do			Do.
Russia				Jan. 1–July 13, 1921; Cases, 27,779. Of these, 24,000 reported in June, 1921.
Districts—				
Kazan	Jan. 1–July 13	434		
Kharkov	do	257		
Kursk	do	526		
Moscow	do	296		City, 192 cases.
Orel	do	140		Volga region.
Rjasan	do	129		
Saratov	do	7,005		Do.
Simbirsk	do	814		
Tambov	do	1,396		Do.
Voronezh	do	2,653		
Don Territory	do	2,356		
Kuban Territory	do	1,718		Black Sea region.
Petrograd	July 6	6		
Rostov-on-Don	June 1	747		Present on Orenburg-Tashkent line, and at Cheljabinsk, Perm, Petropavlosk, Ufa, and in Smolensk and Vitebsk districts during period under report.
Siam:				
Bangkok	Apr. 24–June 11	19	4	
Straits Settlements:				
Singapore	June 12–18	1	1	

PLAGUE.

Algeria:				
Aumale district	May 31–July 3	71	22	Native district about 140 kilometers from Algiers.
Asia Minor:				
Smyrna	June 19–25	1		In suburbs.
Do	July 3–30	3		
Azores:				
St. Michael's Island	Aug. 13	5	3	At two localities, vicinity of Ponta Delgada.
Brazil:				
Bahia	May 15–June 18	3	2	
Maranhao	June 28	1	1	
British East Africa:				
Kenya Colony—				
Kisumu	Apr. 24–May 21			Present.
Ceylon:				
Colombo	May 8–June 11	2	2	
Do	June 26–July 9	2	1	Two cases rodent plague.
China:				
Amoy	May 15–June 25	7	2	
Do	July 3–9		3	
Foochow	May 15–21			Present.
Hongkong	Apr. 24–June 25	81	59	May 1–7, 1921: Plague rat found.
Manchuria—				
Harbin	May 3–22	46		
Ecuador:				
Guayaquil	May 1–June 15	10	1	
Egypt				Jan. 1–July 21, 1921: Cases, 220; deaths, 96.
City—				
Alexandria	May 21–June 24	10	3	
Do	July 1–18	13	3	
Port Said	June 16–27	4	2	
Do	July 1–20	9	4	
Suez	May 20–June 30	9	5	One case pneumonic.
Do	July 1–18	5	3	

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt—Continued.				
Province—				
Assiout	May 24–June 16	9	1	One case septicemic.
Beni-Souef	July 10	1		
Gharbieh	June 2–5	7		
Do	July 9–17	7		
Girgeh	July 6–13	5	4	
Minieh	May 28–June 10	2	1	
Do	July 13–20	5	3	
Hawaii:				
Kalopa	July 15–19	1	1	
Paauhau	May 21	1		
India				May 1–June 25, 1921: Cases, 2,093; deaths, 1,624. June 26–July 2, 1921: Cases, 177; deaths, 96.
Bombay	May 1–June 25	287	204	
Do	June 26–July 2	8	5	
Calcutta	May 8–June 18	11	11	
Karachi	May 8–June 25	18	14	
Do	June 26–July 2	1	1	
Madras Presidency	May 22–June 25	112	72	
Do	June 26–July 16	101	59	
Rangoon	Apr. 24–June 25	162	142	
Do	June 26–July 9	88	68	
Indo-China				Jan. 1–31, 1921: Cases, 57; deaths, 51.
Saigon	May 23–June 12	4	1	May 8–15, 1921: 1 plague rat.
Madagascar:				
Tananarive	July 11			Present.
Mesopotamia:				
Bagdad	Apr. 1–May 31	32	35	
Mexico:				
Ciudad Victoria	June 7	1		In State of Tamaulipas: Case confirmed June 20, 1921.
Tampico	June 11–30	36		
Do	July 1–Aug. 7	20	7	Infected rodents found, July 1–Aug. 7, 1921: 91.
Peru				Mar. 1–31, 1921: Cases, 76; deaths, 44. Apr. 1–30, 1921: Cases, 43; deaths, 20. June 1–30, 1921: Cases, 14; deaths, 10. July 1–15, 1921: Cases, 9; deaths, 3.
Department—				
Arequipa	Mar. 1–31	2		At Mollendo.
Callao	do	7	1	At Callao.
Lambayeque	do	2	1	At Chiclayo.
Libertad	do	12	7	In 5 localities.
Lima	do	32	16	At Lima city, 20, cases, 13 deaths.
Piura	do	21	19	At Payta, Piura, and Sullana.
Ancachs	Apr. 1–30	4	1	At Huarmey.
Arequipa	do	3	3	At Mollendo.
Callao	do	8		At Callao.
Lambayeque	do	1	1	At Chiclayo.
Libertad	do	16	5	In 5 localities.
Lima	do	6	3	In Lima city, 3 cases; 1 death.
Piura	do	5	7	At Payta, Sullana, and Talara.
Libertad—				
Salaverry	June 1–15	1		
Trujillo	do	2	3	
Lima—				
Lima	do	2	3	
Piura—				
Piura	do	1		
Talara	do	4	3	
Callao—				
Callao	June 16–30	1		
Do	July 1–15	5	1	
Lima—				
Lima	June 16–30	3	1	
Do	July 1–15	2	2	
Mollendo	do	2		Department of Arequipa.
Porto Rico				Total plague-infected rats found from beginning of outbreak to July 9, 1921: 90.
Manati	July 17–23	1	1	
Martin Pena	July 3–9	1		Suburb coextensive with Santurce.
Russia:				
Siberia—				
Vladivostok	May 1–31	141	145	

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Senegal:				
Dakar	May 1-31	5	5	
Do	June 26-July 2	49	42	
Siam:				
Bangkok	Apr. 24-June 18	7	6	
Straits Settlements:				
Singapore	May 8-June 18	5	5	
Syria:				
Alexandretta	July 10-23	17	4	
Beirut	May 31-June 30	2	.....	
Do	July 1-10	1	.....	
Turkey:				
Constantinople	July 10-16	1	.....	
On vessels:				
S. S. Kishenev	May 2	1	.....	At Chefoo, China. Plague death en route. Vessel sent to quarantine, Kentucky Island, where to May 6 a total of 16 deaths was reported. (Public Health Reports, July 1, 1921, p. 1534.)
S. S. Oreland	.....	.....	.....	At Genoa, Italy, June 12, 1921, from La Plata, Argentina. Two fatal cases plague in crew en route.
S. S. Ralph Moller	June 8	4	1	At Chefoo, China, from Vladivostok, Siberia. Three fatal cases en route. One case with fatal termination removed at Vladivostok.
S. S. Tenyo Maru	.....	.....	.....	En route between Nagasaki and Kobe, Japan, June 28, 1921, 1 fatal case.

SMALLPOX.

Algeria:				
Algiers	May 1-June 30	3	.....	
Asia Minor:				
Smyrna	May 22-28	1	.....	On the s. s. Nicholas.
Do	July 24-30	2	.....	
Australia:				
Victoria—				
Geelong	May 5-16	2	.....	Mild.
Melbourne	Apr. 9-23	4	1	Mild epidemic.
Bolivia:				
La Paz	Apr. 1-30	5	4	
Brazil:				
Pernambuco	Mar. 28-May 22	28	4	
Rio de Janeiro	May 8-June 18	11	2	
Do	June 26-July 2	1	.....	
Sao Paulo	May 23-June 12	3	.....	
British East Africa:				
Kenya Colony—				
Zanzibar	May 8-14	12	4	Origin, India.
Bulgaria:				
Sofia	May 15-31	6	.....	
Canada:				
Alberta—				
Calgary	May 26-June 18	3	.....	
British Columbia—				
Vancouver	May 28-June 25	8	.....	
Manitoba—				
Winnipeg	....do	6	.....	
Do	June 26-Aug. 3	5	.....	
New Brunswick—				
Charlotte County	July 10-16	7	.....	
Restigouche County	June 19-25	1	.....	
Westmoreland County	June 26-July 2	2	.....	
Nova Scotia—				
Sydney	June 5-18	2	.....	
Do	June 26-July 2	4	.....	

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario—				
Fort William and Port Arthur	Aug. 7–13	1		
Hamilton	June 12–18	3		
Do	July 3–9	1		
Kingston	June 5–11	1		At two localities in vicinity, 2 cases.
London	June 5–25	2		
Montreal	June 12–18	1		
Do	July 17–23	1		
North Bay	June 11–25	3		
Do	June 26–July 9	2		
Ottawa	June 12–25	21		
Do	June 26–Aug. 13	35		
Chile:				
Antofagasta	May 16–June 19	228	100	
Arica	May 31	2		
Mejillones	May 30–June 5			Present. Also at interior nitrate plants.
Valparaiso	June 26–July 2		4	
China:				
Amoy	May 8–June 4		4	June 5–25: Present.
Do	June 26–July 2		1	July 3–9: Present.
Antung	May 16–June 26	12	2	
Canton	Apr. 1–30			Present.
Chungking	May 1–June 25			Do.
Do	June 26–July 2			Do.
Foochow	May 8–June 25			Do.
Do	June 26–July 2			Do.
Hankow	May 15–21	4	1	
Do	July 10–16	1		
Hongkong	Apr. 24–June 25	99	84	
Manchuria—				
Dairen	May 9–June 26	44	5	
Do	June 27–July 10	6		
Harbin	May 16–June 13	5		
Do	June 27–July 10	2		
Mukden	May 22–June 11			Do.
Do	July 3–9			Do.
Nanking	May 8–June 25			Do.
Do	June 26–July 16			Do.
Shanghai	June 20–26	1		
Do	July 3–9		1	
Tientsin	May 8–June 25	31		Mission hospital.
Do	June 26–July 9	5	1	
Tsingtau	May 9–June 12	4	1	
Chosen (Korea):				
Chemulpo	May 1–June 30	11	3	
Fusan	do	12	3	
Gensan	do	5	2	
Seoul	do	3		
Colombia:				
Santa Marta	June 5–25			Present.
Do	June 26–Aug. 5			Do.
Cuba:				
Antilla	June 5–25	7		
Do	June 26–Aug. 5	56		
Cienfuegos	do	1		
Matanzas	June 12–18	1	1	
Do	July 3–31	4	2	
Nuevitas	July 4–10	6		
Santiago	June 1–30	28	2	
Do	July 1–31	20	1	
Ecuador:				
Guayaquil	May 1–June 30	31		
Do	July 1–15	10		
Egypt:				
Cairo	Mar. 19–Apr. 29	2	1	
Port Said	Apr. 2–May 20	10		
Finland	May 1–15	1		
France:				
Brest	May 22–June 4	18		
Rouen	May 1–29	2		
Germany				Apr. 24–May 28, 1921: Cases, 12. Additional, Apr. 17–May 7, 1921: Cases, 57; deaths, 7.

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Nottingham	May 29-June 4	1		
Do	July 3-16	6		
Queenstown	July 3-9	1		
Southampton	June 26-July 2	1		
Greece:				
Saloniki	June 6-12		1	
Haiti:				
Cape Haitien	June 19-25	24	2	
Do	June 26-Aug. 6	96	7	
India				Mar. 20-May 21, 1921: Deaths, 3,232.
Bombay	May 1-June 25	84	50	
Do	June 26-July 2	8	8	
Calcutta	May 8-June 25	8	8	
Do	June 26-July 2	3	3	
Karachi	May 29-June 25	25	17	
Do	June 26-July 2	2	2	
Madras	May 8-June 25	33	11	
Do	June 26-July 16	12	7	
Rangoon	Apr. 24-June 4	20	3	
Indo-China				Jan. 1-31, 1921: Cases, 102; deaths, 15.
City—				
Saigon	May 9-15	2	1	
Province—				
Anam	Jan. 1-31	35		January, 1920: Cases, 16; deaths, 3.
Cambodia	do	21	3	January, 1920: Cases, 139; deaths, 54.
Cochin China	do	19	12	January, 1920: Cases, 8; deaths, 1.
Tonkin	do	27		January, 1920: Cases, 224; deaths, 43.
Italy:				
Catania				Province: June 6-20, 1921: Cases, 5.
Do	July 18-24			In Province: Cases, 6.
Genoa	Apr. 1-May 31	11		
Do	July 4-10	2		
Messina	May 23-June 26	2	1	
Do	July 11-17	1		In Province, July 4-17, 1921: Cases. 9.
Palermo	May 18-June 21	7	1	
Milan	Apr. 1-30	2		
Japan:				
Kobe	May 24-June 26	3		
Nagasaki	May 23-June 26	6	1	
Taiwan Island	July 1-10	1		
Java:				
East Java—				
Surabaya	June 19-25	2		
West Java—				
Bandoeng	May 27-June 3	1		
Batavia	May 6-June 23	17	15	
Do	July 1-7	2	2	
Buitenzorg	Apr. 29-June 23	16		
Garoet	May 6-12	1		
Krawang	Apr. 29-June 30	33	5	
Lebak	Apr. 29-May 26	12	2	
Pandeglang	June 3-30	2	1	
Jugoslavia				Mar. 14-May 13, 1921: Cases, 334; deaths, 83. June 27-July 10, 1921: Cases, 111; deaths, 27.
Mesopotamia:				
Bagdad	Apr. 1-May 31	3	1	
Mexico:				
Tampico	July 11-20	1		
Chihuahua	May 23-June 27		3	
Mexico City	May 15-June 25	246		Including municipalities in Federal District.
Do	June 26-July 23	96		Do.
San Luis Potosi	July 17-Aug. 6		2	
Vera Cruz	June 13-19		1	
Do	July 11-17		1	
Panama				Jan. 1-July 25, 1921: Cases, 200, of which 33 were non-residents
Canal Zone	Jan. 1-June 10	2		
Colon	do	111		
Panama	Jan. 1-July 25	54		

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland				Mar. 1-Apr. 30, 1921; Cases, 1,117; deaths, 142.
District—				
Bialystok	Mar. 1-Apr. 30	3		
Cracovia	do	36	6	
Kielce	do	130	26	
Leopol	do	52	16	
Lodz	do	72	9	
Lublin	do	397	30	
Posen	do	26	2	
Silesia	do	10		In Teschen.
Stanislawow	do	30	5	
Tarnopol	do	156	31	
Warsaw	do	38	4	
Warsaw City	do	99	18	
Portugal:				
Lisbon	May 15-June 25		34	
Do	June 26-July 2		2	
Oporto	June 19-25	1		
Portuguese East Africa:				
Lourenco Marques	May 8-28	8		
Rumania:				
District—				
Hotin	Apr. 1-30	40	9	
Orhei	Mar. 1-31	2		
Russia:				
Province—				
Esthonia	Apr. 1-June 30	9		
Latvia—				
Riga	Apr. 1-May 31	41		
Siberia—				
Vladivostok	June 1-30	1		
Senegal:				
Dakar	May 1-31	1	1	
Spain:				
Barcelona	May 12-June 22		13	
Madrid	June 1-30	2		
Malaga	May 1-June 30		57	
Tarragona	May 9-15		1	
Valencia	May 22-28	1		
Do	July 2-23	6	1	
Straits Settlements:				
Singapore	June 12-18	1		
Switzerland:				
Zurich	May 28-June 11	10		
Do	July 3-16	3		
Syria:				
Aleppo	Apr. 9-16			Present.
Beirut	May 10-30	1	1	
Tunis:				
Tunis	May 30-June 17	2	3	
Do	July 2-29	6	4	
Turkey:				
Constantinople	June 12-25	5		
Do	June 26-July 2	6		
Union of South Africa:				
Cape Province	Apr. 24-June 4			Outbreak.
Natal	Apr. 24-June 18			Do.
Orange Free State	May 29-June 18			Do.
Transvaal	May 22-June 18			Do.
On vessel:				
S. S. Niagara	June 1	1		At Sydney, Australia, from Vancouver, via Fiji and New Zealand.

TYPHUS FEVER.

Algeria:				
Algiers	May 1-June 30	109	25	
Oran	May 22-June 30	35	28	
Do	July 1-31	15	12	
Asia Minor:				
Smyrna	June 12-18	1		In district.
Bolivia:				
La Paz	Apr. 1-30	32	20	

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

Reports Received from July 2 to Sept. 2, 1921—Continued

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia	June 19–25	1	1	
Porto Alegre	do		3	
Chile:				
Concepcion	Apr. 12–June 30		8	
Valparaiso	Mar. 27–May 28		4	
Do	June 26–July 2		2	
China:				
Antung	May 30–June 5	1		
Do	June 27–July 10	6		
Hankow	May 22–June 11	3		
Manchuria—				
Harbin	May 23–29	1		
Do	July 4–10	1		
Chosen (Korea):				
Chemulpo	June 1–30	2		
Fusan	May 1–31	1		
Gensan	May 1–June 30	4		
Seoul	May 1–31	1		
Czechoslovakia:				
Prague	June 5–26	5	2	
Egypt:				
Alexandria	May 21–June 23	21	8	
Do	June 24–July 22	12	4	
Cairo	Mar. 19–May 27	657	62	
Port Said	Apr. 2–May 13	8	2	
Finland	May 1–15	5		
Germany				Apr. 24–June 4, 1921: Cases, 7.
Hamburg	May 27–June 4	1		
Great Britain:				
Dublin	May 29–June 4	1		
Greece:				
Saloniki	May 23–June 26	21	6	
Do	June 27–July 3	1		
Hungary				Jan. 1–July 13, 1921: Cases, 71, occurring in four counties.
Japan:				
Nagasaki	May 23–June 5	7	2	
Jugoslavia				Jan. 30–Mar. 26, 1921: Cases, 242; deaths, 36. June 27–July 10, 1921: Cases, 23; deaths, 7.
Belgrade	May 1–14	6		
Zagreb	June 19–25	3		
Do	July 10–16	2		
Mesopotamia:				
Bagdad	May 1–31	1	3	
Mexico:				
Mexico City	May 15–June 25	102		Including municipalities in Federal District.
Do	June 26–July 23	69		Present.
San Luis Potosi	July 31–Aug. 6			Mar. 1–Apr. 20, 1921: Cases, 11,489; deaths, 1,131.
Poland				
District—				
Bialystok	Mar. 1–Apr. 20	853	45	
Cracovia	do	663	90	
Kielce	do	848	62	
Leopol	do	2,508	277	
Lodz	do	521	53	
Lublin	do	1,446	83	
Posen	do	77	5	
Silesia	do	26		In Teschen.
Stanislawow	do	1,557	232	
Tarnopol	do	1,855	194	
Warsaw	do	972	61	
Warsaw city	do	223	29	
Portugal:				
Oporto	July 12–18	1		
Rumania:				
District—				
Hotin	Apr. 1–30	107	10	
Kishinev	Apr. 1–June 30	89		
Orhei	Mar. 1–May 30	146		
Russia:				
Province—				
Esthonia	Apr. 1–June 30	113		
Latvia	Apr. 1–May 31	417		
Siberia—				
Vladivostok	Mar. 1–June 30	5	3	
Spain:				
Madrid	May 1–June 30		3	

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

Reports Received from July 2 to Sept. 2, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Syria:				
Beirut	May 20–June 10	1	1	
Tunis:				
Tunis	June 11–17		3	
Turkey:				
Constantinople	May 22–June 18	11		
Do	June 26–July 9	7		
Union of South Africa:				
Cape Province				Apr. 24–June 25, 1921: Outbreaks.
Capetown	May 13–19	10	3	At native cantonment in vicinity.
East London	May 22–June 18	1	1	
Orange Free State				Apr. 24–May 28, 1921: Outbreaks.
Venezuela:				
Maracaibo	June 21–27		1	
On vessel:				
S. S. Norden	Aug. 18	1		At Marcus Hook Quarantine, Pa., from Tampico, Mexico, via Nuevitas, Cuba.

YELLOW FEVER.

British Honduras:				
Belize	Aug. 22	3	1	
Mexico:				
Alamo	June 1–30	10		State of Vera Cruz.
Tampico	July 11–17	3	2	
Vera Cruz	June 13–27	7		
Do	July 25–31		1	
Peru				Mar. 1–31, 1921: Cases, 66; deaths, 25. Apr. 1–30, 1921: Cases, 106; deaths, 32, in 13 localities. June 1–30, 1921: Cases, 25; deaths, 13. July 1–15, 1921: Cases, 2.
Department—				
Lambayeque—				
Chiclayo	Mar. 1–31	20	10	
Chongollape	do	2	2	
Ferrenafe	do		1	
Lambayeque	do	15	5	
Monsefu	do	18	4	
Motupe	do	1	1	
Pomalca	do	5	1	
Villa Eten	do	5	1	
Callao—				
Callao	Apr. 1–30	1		At quarantine station. From Chiclayo.
Lambayeque—				
Chiclayo	do	23	5	
Chongollape	do	10	1	
Jayanca	do	5	2	
Lambayeque	do	5	2	
Monsefu	do	8	5	
Motupe	do	45	11	
Olmos	do	2	4	
Villa Eten	do	2		
Zana	do	1		
Libertad—				
Guadalupe	do	2		
Pueblo Nuevo	do	1	1	
Trujillo	do	1	1	Country.
Lambayeque—				
Chiclayo	June 1–15	4	3	
Monsefu	do	3		
Pacora	do	1		
Libertad—				
Casa Grande	do	1		Farm.
Pacanga	do	1	1	
Paijan	do	3	4	
Trujillo	do	1	1	
Libertad—				
Pacasmayo	July 1–15	1		
Pacanga	June 16–30	1	1	
Paijan	do	10	3	
Do	July 1–15	1		